Planning Commission
MEETING AGENDA

Thursday, March 20, 2025 - 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 February 20, 2025 meeting.

3. Old Business

a.

Application Number:	2023 - 0989
Applicant:	Far Eastern Shore Winery
Location:	8370 & 8374 Ocean Gateway Tax Map 0103, Grid 00EA, Parcel 2952
Zoning District:	CG
Request:	Amendment to a previously approved master signage plan for a free-standing sign located on a multi-building property.

4. New Business

a.

Application Number:	2025 - 1408
Applicant:	Rauch Inc.
Location:	9095 Mistletoe Drive (Easton Volunteer Fire Dept.) Tax Map 0025, Grid 0016, Parcel 0138, Lot 8
Zoning District:	I
Request:	Supplemental waiver request from Section 28 - 1014.7.A.1, the minimum bufferyard requirements for all intense land uses.

b.

Application Number:	2025 - 1369
Applicant:	Lane Engineering LLC
Location:	28580 Mary's Court (Somerset Well Drilling) Tax Map 0025, Parcel 0046, Lots 16 & 20

	Zoning District:	BC
	Request:	Sketch site plan approval for the addition of two (2) pole buildings with associated stormwater management facilities and other facility improvements.
c.	**Application Number:**	2025 - 1391
	Applicant:	Lane Engineering LLC
	Location:	8275 Ocean Gateway Tax Map 0103, Grid 00EA, Parcel 2861
	Zoning District:	CG
	Request:	Architectural approval for the redevelopment of the existing property and structure to be converted to a fast-food establishment (Zaxbys). The Applicant is also seeking a supplemental waiver from the minimum landscaping and bufferyard requirements of Section 28-1014.6.E and Section 28-1014.7.E of the Zoning Code.

5. Discussion Item

a. Pattern Books and Design Guidelines: A discussion with Jay Corvan on developing and incorporating a pattern book for development.

6. Adjournment

Town of Easton Planning Commission
Draft Decision Summary
Thursday, February 20, 2024 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 (eastonmd.gov)

Attendance:

Commission Members:
Philip Toussaint, Chairperson
Michael Ports, Vice Chairperson
Tom Klein
Victoria McAndrews
William Ryall
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, Town Engineer
Samantha Smith, Administrative Specialist

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

2. **Decision Summary Review** —

   Commissioner Ryall moved to approve the December 19, 2024 Decision Summary. Vice Chairperson Ports seconded the motion.

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

3. **Old Business** — None

4. **New Business**

   a. **File No.: 2025 - 1372**

Applicant: **Shore Health System Inc.**
% Ryan D. Showalter, *Esq*.
Location: 10028 Ocean Gateway, Easton, MD 21601
Tax Map 0017, Grid 0018, Parcel 0038
Zoning: GI
Request: The Applicant is seeking approval for the relocation of the existing monument sign of the Talbot County Community Center (TCCC) in connection with the reconfiguration of the TCCC entrance.

Staff Presentation:
Joseph Mayer, Plan Reviewer
Lynn Thomas, Town Planner
Sharon Van Emburgh, Esq. Town Attorney

Applicant Presentation:
Ryan D. Showalter, *Esq*.
Patrick W. Thomas, *Esq*.

Public Comment — None
Public Comment Written — None

Commissioner Ryall moved to approve the signage request as submitted. Commissioner Klein seconded the motion.

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

b. File No.: **2025 - 1370**
Applicant: **Easton Crossing LLC**
% Gavin Daniels
Location: 505 Brookletts Avenue, Easton, MD 21601
Tax Map 0104, Grid 00EA, Parcels 1823, 1826 & 1833
Zoning: BC with a PRD Overlay
Request: The Applicant is seeking site plan approval for the construction of mixed commercial and residential buildings, consisting of 123 multi-family units with associated site improvements including the demolition of the existing abandoned silos, storage buildings and a gravel road on the property, associated parking and stormwater management facilities. The Applicant is also seeking a supplemental waiver from the landscaping and bufferyard requirements of Section 28-1014.7.E.3(a) & (b)1 and Section 28-1014.7.E.5.(a) through (c) of the Zoning Code.

Staff recommend the following conditions:

1. The Applicant is to address all remaining Easton Staff Development Review comments.

2. Please obtain approval from the Maryland Department of Transportation, Office of Rail & Intermodal Freight prior to Development Site Plan approval. The following conditions below are relevant to the railroad corridor:

    a. Presently, TOE has the ability to make improvements to the railroad corridor for trail development, but any final design for improvements on the corridor property are subject to MTA engineering review under the MDOT trail use agreement.

        i. The applicant avoid the installation of permanent surface structures on the corridor*

        ii. Features should be confined to one property or the other, and the applicant shall not place any physical features or structures which sit on the property line itself, IE, a sidewalk which is partially on each property. The use of surfaces and lines for sidewalks specifically could be used to achieve this purpose, as long as it's clear which segments are on which parcel.

    b. The installation of utility crossings of the corridor require a property agreement with the MTA and will be subject to the terms of that agreement.**

    c. The use of the overhead gantry on the site requires the assignment of the existing property agreement to the applicant under terms provided by MTA, the creation of a new agreement, or the removal of the structure.

* "Permanent" meaning structures which would cause practical issues to surrounding infrastructure if they were to be removed to facilitate the return of railroad operations, IE utility access, buildings, or emergency access to buildings.
** To be determined between MDOT and the Town whether the utility agreements will be with the town, or the applicant.

Staff Presentation:
Joseph Mayer, Plan Reviewer
Lynn Thomas, Town Planner
Miguel Salinas, Director of Planning and Zoning
Sharon Van Emburgh, Esq. Town Attorney
Rick Van Emburgh, Town Engineer

Applicant Presentation:
Ross Benincasa, Chesapeake Community Development
Virginia Richardson, RAUCH Inc.
Brian Fitzgerald, RAUCH Inc.
Zachary A. Smith, *Esq*.

Public Comment:
Lynn Mielke, 28415 Pinehurst Road
Julie Lowe, Talbot Interfaith Shelter
Eric Vance, 210 Brookletts Avenue
Joseph Minarick, East End Neighborhood Association
Maury Schlesinger, 304 Winton Avenue
Tom Ledvina, 7585 Polly's Hill Lane

Public Comment Written:
Maury Schlesinger, 304 Winton Avenue
Tom Ledvina, 7585 Polly's Hill Lane
Carolyn Jaffe
Bob Porter

Vice Chairperson Ports moved to approve the sketch site plan and waiver requests for Buildings #411, Building #505, Building #507 and Building #509 subject to the following conditions:

1. **The Applicant shall return to receive sketch site plan approval for Building #409. The Commission requests that the Applicant consider the architectural and design compatibility of Building 409 with the adjacent Hill Neighborhood.**

2. **The Commission has requested a site design with components that incorporate bird ~~strike mitigation~~ building collision features.**

3. **The Applicant shall address all remaining Easton Staff Development Review (ESDR) comments.**

4. **The Applicant shall obtain approval from the Maryland Department of Transportation, Office of Rail & Intermodal Freight prior to Development Site Plan approval. The following conditions below are relevant to the railroad corridor:**

    a. **The Town of Easton has the ability to make improvements to the railroad corridor for trail development, but any final design for improvements on the corridor property are subject to MTA engineering review under the MDOT trail use agreement.**

i. The Applicant shall avoid the installation of permanent surface structures on the corridor*

ii. Features should be confined to one property or the other, and the Applicant shall not place any physical features or structures which sit on the property line itself, i.e., a sidewalk which is partially on each property. The use of surfaces and lines for sidewalks specifically could be used to achieve this purpose, as long as it's clear which segments are on which parcel.

b. The installation of utility crossings of the corridor require a property agreement with the MTA and will be subject to the terms of that agreement**

c. The use of the overhead gantry on the site requires the assignment of the existing property agreement to the Applicant under terms provided by MTA, the creation of a new agreement, or the removal of the structure.

*** "Permanent" meaning structures which would cause practical issues to surrounding infrastructure if they were to be removed to facilitate the return of railroad operations, i.e., utility access, buildings, or emergency access to buildings.**

**** To be determined between MDOT and the Town whether the utility agreements will be with the town, or the Applicant.**

Commissioner Ryall seconded the motion.

Vote	4 - 0 - 1
FOR:	4 - Toussaint, Ports, McAndrews, Ryall
AGAINST:	1 - Klein
ABSTAIN:	0
ABSENT:	0

c. File No.: **2025 - 1371**
Applicant: **Town of Easton**
Location: 801 Port Street, Easton, MD 21601
Tax Map 0034, Parcel 0171
Zoning: MXW
Request: The Applicant is seeking sketch site plan approval for the construction of a new boat ramp and public restroom with associated parking, stormwater management and landscaping on the existing Town of Easton Point Park. The Applicant is also seeking a landscape and buffering waiver from Section 28-1001.3.L of the Zoning Code, and a setback waiver from Section 28-312.5 (E) of the Zoning Code.

Staff recommend the following condition:

1. The Applicant will coordinate with the Town of Easton and the Critical Area Commission to submit a Buffer Management Plan prior to development site plan approval.

Staff Presentation:
Joseph Mayer, Plan Reviewer
Sharon Van Emburgh, *Esq*. Town Attorney

Applicant Presentation:
Rick Van Emburgh, Town Engineer

Public Comment — None
Public Comment Written — None

Commissioner Klein moved to approve the sketch site plan and waiver requests subject to the following condition:

1. **The Applicant shall coordinate with the Town of Easton and the Critical Area Commission to submit a Buffer Management Plan prior to development site plan approval.**

Chairperson Toussaint seconded the motion.

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

5. Discussion Items

a. Design review and approval of the graphics and mechanical equipment screening on a previously approved kitchen facility on the existing property located at 625 Dover Road (Rise Up Coffee Roasters) —

At their October 19, 2023 meeting, the Commission reviewed an amendment to a previously approved Planned Unit Development (application *2023 - 0870*) for the addition of an 8’ x 12’ walk-in cooler to the existing kitchen unit, and the addition of a 12’ x 24’ storage shed to the existing property. The Commission moved via a 5-0 vote to approve the application and to forward a favorable recommendation to the Town Council subject to a condition that the applicant shall return to the Planning Commission to review and/or determine if a redesign of the graphics

and/or additional screening of mechanical components is necessary. On December 21, 2023 the Commission moved via a 5-0 vote to continue the request for design review and approval of the kitchen facility with a request for the applicant to return with enhanced renderings and elevations of the additional structure, where an evaluation regarding the necessity of the mechanical equipment screenings would be determined at that time.

Mr. Zachary A. Smith *Esq*. and Mr. Ozzie Jimenez were in attendance on behalf of Rise Up Coffee Roasters to present a new design pursuant to Commission's approval of the graphics and mechanical equipment screening. Mr. Smith described the modified features of the design; noting that the secondary structure will not contain mechanical equipment. Mr. Smith remarked on the positive feedback received from the public on the design of the existing container, and how the proposed graphics for the secondary container incorporate familiar elements of Rise Up's branding. Staff clarified that the PUD regulations would classify the proposed graphics as signage.

Vice Chairperson Ports moved to approve the graphics of the secondary structure as submitted. Commissioner Ryall seconded the motion

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

b. Pattern Books and Design Guidelines: A discussion with Jay Corvan on developing and incorporating a pattern book for development — The discussion on pattern books and design guidelines was withdrawn from the February 20, 2025 Planning Commission agenda, and will be rescheduled for a subsequent meeting.

c. Planned Redevelopment (PR) Overlay District revisions — Pursuant to the Town's ongoing discussion regarding growth and the future annexation of properties (for the purpose of residential development), the Town Council will hold a workshop on March 3, 2025 to discuss the intended use for the Planned Redevelopment (PR) Overlay District, and alternative options to improve or remove the overlay district. In the workshop, Planning and Zoning staff will present the Council with options to revise the PR District such as imposing limits on what type of relief can be requested (anything beyond the threshold could only be considered pursuant to a PUD application with a Council Hearing and action) or to rescind the PR Overlay altogether. The Commission explored additional mechanisms to extend the Council's oversight with the suggested appointment of a liaison, or member of the Town Council as a voting or non-voting ex-officio

member of the Commission.

6. **Election of 2025 Officers** —

Michael Ports nominated Philip Toussaint as Chairperson. Tom Klein seconded the nomination. Philip Toussaint accepted the nomination.

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

Tom Klein nominated Michael Ports as Vice Chairperson. Philip Toussaint seconded the nomination. Michael Ports accepted the nomination.

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

Tom Klein nominated William Ryall as Chair Pro Tem. Michael Ports seconded the nomination. William Ryall accepted the nomination.

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

7. **Adjournment** — Vice Chairperson Ports moved to adjourn. Commissioner Ryall seconded the motion. The meeting was adjourned at 4:35 p.m.

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

Date of Meeting: March 20, 2025

3a

PLANNING COMMISSION
SUPPLEMENTAL ITEM

SUBJECT:	**8370 & 8374 Ocean Gateway - Far Eastern Shore Winery**
ELECTION WARD:	Ward 1
CRITICAL ACTION DATE:	At the pleasure of the Commission
STAFF CONTACTS:	Joseph Mayer, Plan Reviewer Miguel Salinas, Director of Planning and Zoning
DOCUMENT CREATED ON:	March 11, 2025

PURPOSE: The applicant is seeking approval from the Planning Commission for the revised Master Signage Plan and Free-Standing Sign. The "readerboard" attached to the free-standing sign will be replaced with three (3) horizontal panels, one each for each tenant in the 8374 Ocean Gateway building. The "Far Eastern Shore" sign is fifty square feet and the combined total of the three tenant signs are fifty square feet, for a total of one-hundred square feet. In addition, the applicant is removing the letters from the awnings and the awnings will be all one solid color. The front building sign, just above the first floor windows, is being changed from "Winery & Tasting Room" to read "Far Eastern Shore Winery* Distillery". The lettering has a total area of forty-eight (48) square feet, with dimensions of two (2) feet high and twenty-four (24) feet long.

RECOMMENDATION:

Planning Commission: The Commission, at their September 21, 2023 meeting, moved (4-0-1) to approve the Master Signage Plan to allow a non-conforming freestanding sign in a multi-building property with the condition that the applicant shall obtain appropriate building permits for the installation of the signs. The applicant is to coordinate with the Planning Zoning Department prior to approval of Sign Application for the proposed illumination of the signs.

Staff: Should the Planning Commission (Commission) approve the application, staff recommends approval with one condition (see below).

ISSUES: There are no outstanding issues.

RECOMMENDED CONDITIONS:

Staff recommends the Planning Commission approve the revised Master Signage Plan to allow a non-conforming freestanding sign in a multi-building property with the following condition:

- Obtain appropriate building permits for the installation of the signs and coordinate with the Planning Zoning Department prior to approval of Sign Application for the proposed illumination of the signs.

DRAFT MOTIONS:

1. I move that the Planning Commission approve the request subject to staff's Condition of Approval.
2.

OR

3. I move that the Planning Commission forward the application to April 17th. Commission meeting for further discussion.

OR

4. I move an alternate motion.

ATTACHMENTS:
1. 2023.08.30 TOE Staff Report 8374 Ocean Gateway, paper copy & PDF
2. 2023.09.21 PC Outcome Letter, paper copy & PDF
3. 2025.03.03 Owner Authorization Letter, paper copy & PDF
4. 2025.03.03 PC Concept Use Design Application, paper copy & PDF
5. 2025.03.04 Subject Property Notice 2025.03.04, paper copy & PDF
6. 2025.03.05 PC 400' Notice Letter, paper copy & PDF
7. 2025.03.06 Amended Drawings and Rendering (Attachments A-E), paper copy & PDF
8. 2025.03.06 Amended Sign Plan Executive Summary, paper copy & PDF
9. 2025.03.11 Master Signage Plan, paper copy & PDF

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

Date of Hearing: September 21, 2023

4b

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT:	**8374 Ocean Gateway - Far Eastern Shore Winery**
ELECTION WARD:	Ward 1
CRITICAL ACTION DATE:	At the pleasure of the Commission
STAFF CONTACTS:	Joseph Mayer, Plan Reviewer Miguel Salinas, Director of Planning and Zoning
APPLICANT:	Far Eastern Shore Winery

DOCUMENT CREATED ON: September 6, 2023

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

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

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

PARCELS/ACREAGE:

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

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

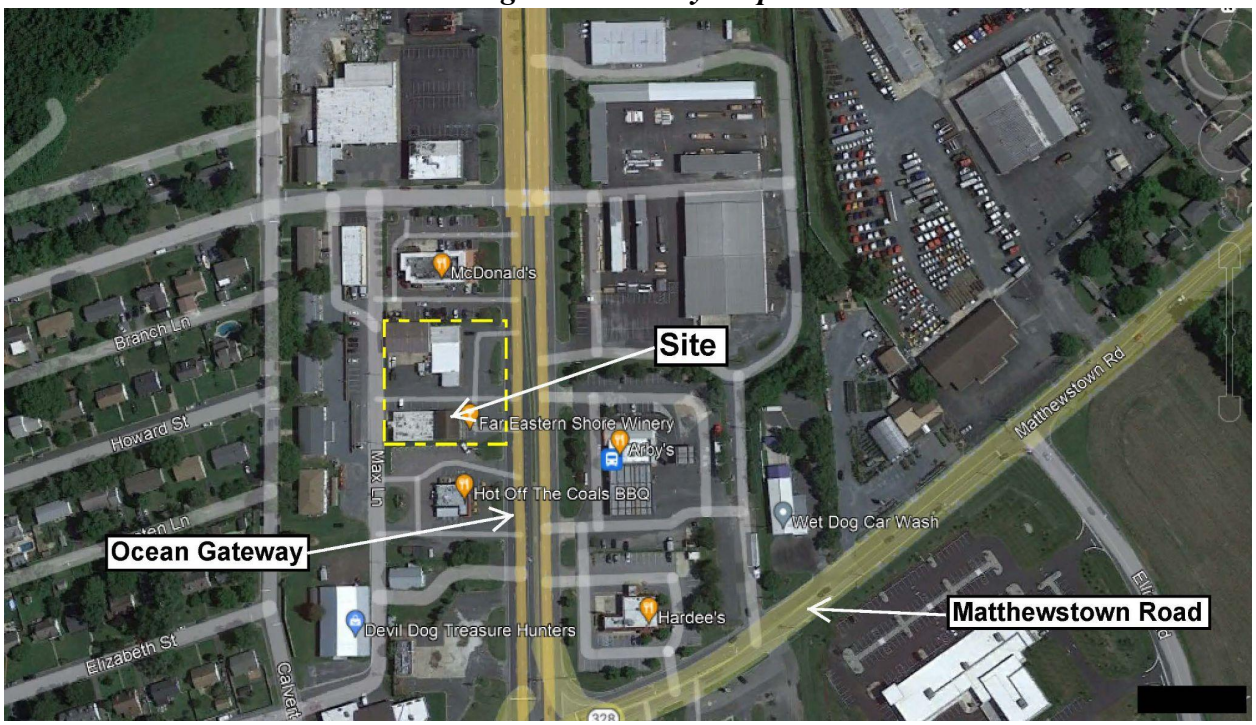
CONTEXT:
Location/Site Access – The subject property is located along the Northwest side of Ocean Gateway, fronting on the southbound lane.

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

Surrounding Properties

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

Figure 1: Vicinity Map



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

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

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

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

ZONING ANALYSIS:

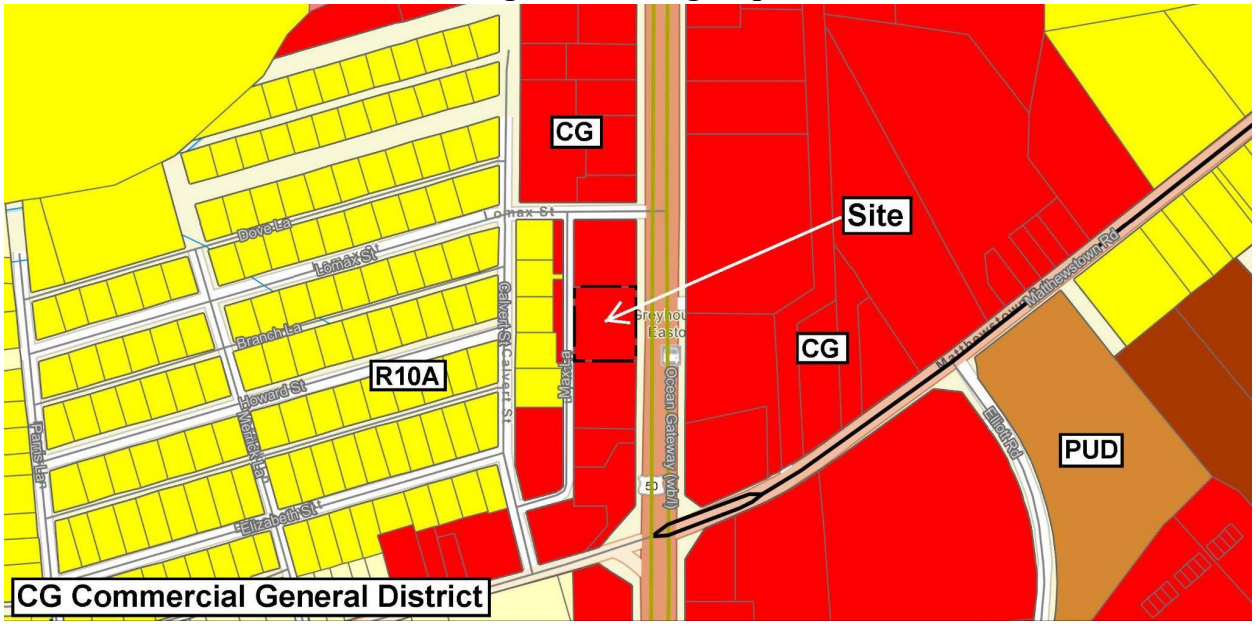
28-1007.2.A.26 (c) Commercial Uses

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

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

POLICY ANALYSIS:

Figure 2: Zoning Map



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

DRAFT MOTIONS:

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

OR

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

OR

3. I move an alternate motion.

ATTACHMENTS:

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

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

RECEIVED
MAR 0 3 2025
TOWN OF EASTON

Planning Commission Concept, Use, and Design Application

Site Information

Structure's Floor Area			Structure's Square Feet	15,287	
Area of Disturbance			Number of Dwelling Units	0	
Property Size	Acres		Square Feet	33,000	
Address	8370 and 8374 Ocean Gateway				
Tax Map	0103	Grid 000 EA	Parcel 2952	Lot	
Zoning District		Historic District Y ☐ N ☐		PRD Y ☐ N ☒	
Other Information	Sign Plan Amendment				
Existing Use	Commercial				

Owner

Name	Carol Prettyman / Rejoice LLC		
Mailing Address	30360 Kings Meadow Pl, Easton MD 21601		
Telephone No.	410 829 3993	Email	carolprettyman@yahoo.com

Applicant / Agent

Name	Tien-Seng Chiu / Far Eastern Shore Winery		
Mailing Address	P.O. Box 747 / 8370 Ocean Gateway, Easton MD 21601		
Telephone No.	410 829 2119	Email	tschiu@feswinery.com

General Information:

Amendment to Sign Plan previously approved August 2023

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

Signature of Applicant or Agent: Tien Seng Chiu

Date: 2/28/2025

Printed Name of Applicant or Agent: Tien-Seng Chiu

For Office Use Only

Planned Commission Meeting Date	03/20/2025
Review Fee Amount	$250.00
Review Fee Paid Date	03/03/2025
ESDR Y / N Date	-

2023 - 0989

Revised 02-2019

Sign Plan Amendment

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

Executive Summary

Documents design change and fabrication details for free-standing sign located on the multi-building property located at 8370 and 8374 Ocean Gateway, Easton MD 21601. This document also refines the building signage (lettering) for the building at 8370 Ocean Gateway, Easton MD 21601.

As-Approved Review

The as-approved free-standing sign design is depicted in Attachment A (prior Attachment E), submitted for reference.

The as-approved front view of the 8370 Ocean Gateway building is depicted in Attachment B, (prior Attachment F), submitted for reference.

Amendments to Plan

Free-standing sign:

The "readerboard" shown in Attachment A will be replaced with three (3) horizontal panels, one each for each of the tenants in the 8374 Ocean Gateway building. The final design is depicted in Attachment C. The "Far Eastern Shore" sign is 50 sq ft, and the combined total of the three other tenant signs is 50 sq ft, for a total of 100 sq ft.

All of the sign panels will be fabricated with acrylic sheets, mounted on a metal cabinet. To approximate the signage on adjacent properties and the general Route 50 corridor, all sign panels will be internally illuminated (using LED technology), and the panel marking will be either vinyl, painted, or silk screened. To readily accommodate tenant changes, there will be a total of eight (8) separate panels, split into four (4) front/rear pairs. Fabrication varies from the available methods stated in 28-1101.5.A.4.

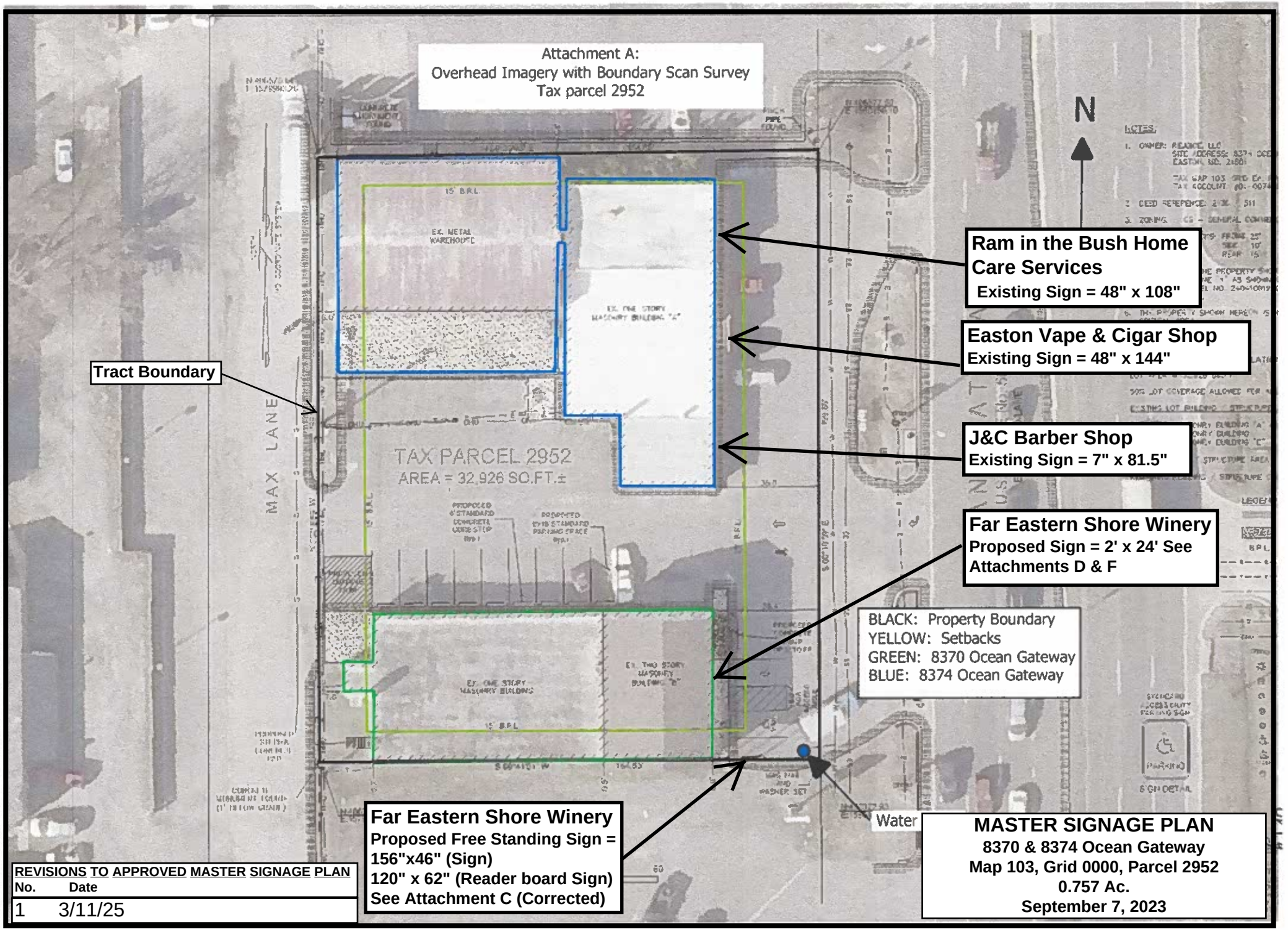
The two (2) 8-inch Schedule 40 support pipes are adequate to withstand the required wind loading.

Building lettering:

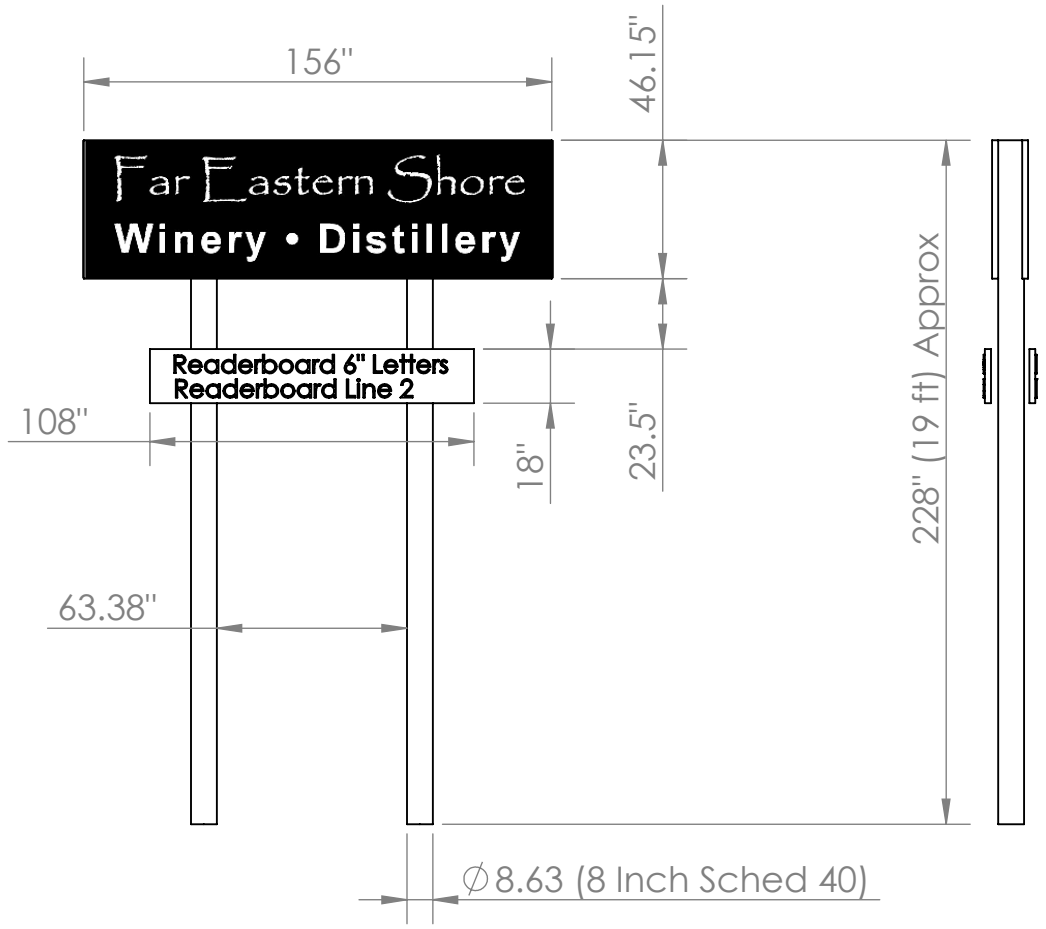
Remove lettering from the awnings. The awnings will be all one solid color.

Change the text from "Winery & Tasting Room" to read "Far Eastern Shore Winery * Distillery". This is depicted in Attachment D, with fabrication detail outlined in Attachment E. Overall dimensions of the lettering are 2 ft high x 24 ft width.

The lettering will be of an LED-based internally-illuminated design with perforated front panel so they appear black in daylight and will be white at night. Letters will be mounted on a 'pan', nominally fabricated with aluminum and color-matched to the building paint.


Attachment A:
Overhead Imagery with Boundary Scan Survey
Tax parcel 2952
N
Ram in the Bush Home Care Services
Existing Sign = 48" x 108"
Easton Vape & Cigar Shop
Existing Sign = 48" x 144"
J&C Barber Shop
Existing Sign = 7" x 81.5"
Far Eastern Shore Winery
Proposed Sign = 2' x 24' See Attachments D & F
Tract Boundary
MAX LANE
TAX PARCEL 2952
AREA = 32,926 SQ.FT.±
BLACK: Property Boundary
YELLOW: Setbacks
GREEN: 8370 Ocean Gateway
BLUE: 8374 Ocean Gateway
Water
Far Eastern Shore Winery
Proposed Free Standing Sign = 156"x46" (Sign)
120" x 62" (Reader board Sign)
See Attachment C (Corrected)
MASTER SIGNAGE PLAN
8370 & 8374 Ocean Gateway
Map 103, Grid 0000, Parcel 2952
0.757 Ac.
September 7, 2023
REVISIONS TO APPROVED MASTER SIGNAGE PLAN
No. Date
1 3/11/25





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

PROPRIETARY AND CONFIDENTIAL

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

Amendment Attachment A

TITLE: Original
Attachment E:
Rebuilt sign

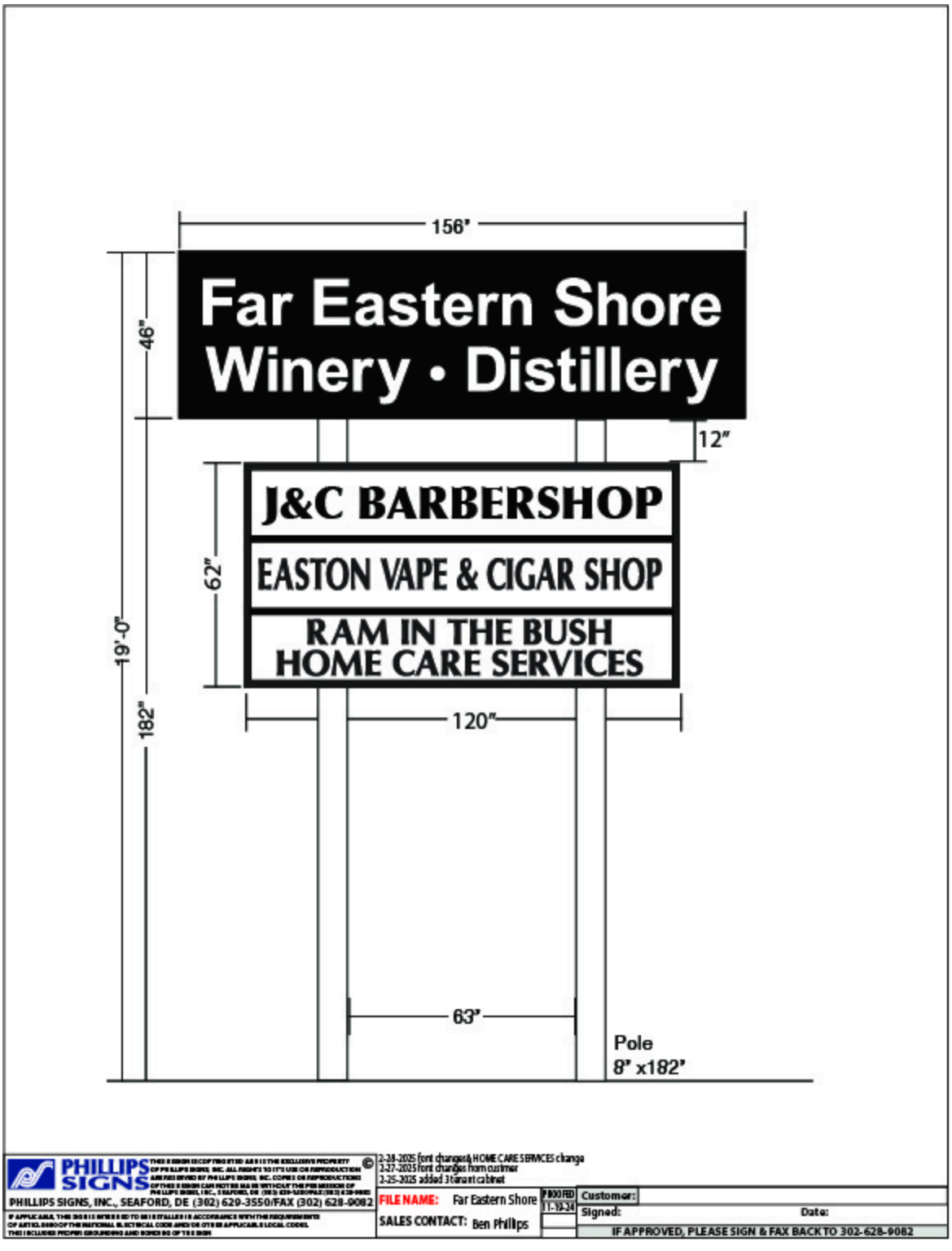
SIZE	DWG. NO.	REV
A	Sign 5	

SCALE: 1:64 WEIGHT: SHEET 1 OF 1



Attachment B

Prior Attachment E
Submitted for Reference



Attachment C (Corrected)



Attachment D

330"

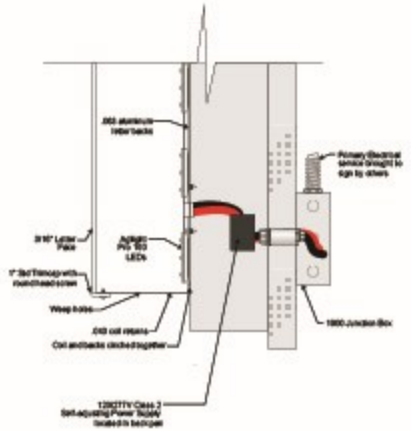
26'-1.38" / 313.38"

28"

15"

Far Eastern Shore Winery • Distillery

SCOPE OF WORK:
ILLUMINATED CHANNEL LETTERS
FACES: WHITE ACRYLIC
WITH APPLIED BLACK DAY / WHITE NIGHT PERFORATED VINYL
TRIM CAPS: BLACK
CANS: BLACK
MOUNTED ON BACK PAN, PTD. TO MATCH BLDG.
DISTANCE AROUND OBJECTS: 1,656 inches





3-3-2025 changed to illum chan letters on back pan
2-27-2025 customer changed font

PHILLIPS SIGNS

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PHILLIPS SIGNS, INC., SEAFORD, DE (302) 629-3550/FAX (302) 628-9082

IF APPLICABLE, THIS SIGN IS INTENDED TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 600 OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER APPLICABLE LOCAL CODES. THIS INCLUDES PROPER GROUNDING AND BONDING OF THE SIGN

CUSTOMER INFORMATION	
Customer:	FAR EASTERN SHORE
Address:	WINERY
	EASTERN, MD.
Date:	11-19-2024
Sales:	Ben Phillips

IF APPROVED, PLEASE SIGN & FAX BACK TO 302-628-9082

Customer:

Signed: Date:

Attachment E

TOWN OF EASTON

Planning & Zoning Department
P.O. Box 520
Easton, Maryland 21601

September 26 2023

Tien-Seng Chiu
Far Eastern Shore Winery
P.O. Box 747
Easton, Maryland 21601

Re: Planning Commission Application: 2023-989
8370 & 8374 Ocean Gateway
Tax Map 103, Grid 0EA, Parcel 2952
Easton, Maryland 21601

Dear Mr. Chiu:

At their regularly scheduled meeting on September 21, 2023, the Town of Easton Planning Commission reviewed a signage permit application to request approval of a Master Sign Plan to allow a non-conforming freestanding sign in a multi-building property.

The Commission voted 4-0-1 to approve the Master Signage Plan with the condition that the applicant shall obtain the appropriate building permits for the installation of the signs.

Any person aggrieved by this decision may, within thirty (30) days of the Planning Commission's decision, file an appeal with the Town Planner and with the Board of Zoning Appeals specifying the grounds thereof. Should you have questions concerning the above finding, please contact this office at 410-822-1943.

Sincerely,

Samantha N. Smith

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

CC: Rejoice, LLC

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

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

Februry 28, 2025

To Whom This May Concern

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

Carol Prettyman

Carol E. Prettyman

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

March 5, 2025

Dear Resident,

The Easton Planning Commission (Commission) will hold a public meeting on **Thursday, March 20, 2025 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that an amendment to a previously approved master signage plan (application 2023 - 0989) has been filed on behalf of Far Eastern Shore Winery (Applicant). On September 21, 2023 the Town of Easton Planning Commission approved a master sign plan to permit a non-conforming 19’ tall freestanding sign, a 156" x 46.15” sign, and a 108” x 18” readerboard sign to be installed on a multi-building property. The Applicant is now proposing an amendment to this approval that includes revisions to the design of the readerboard, and changes to the illuminated channel letter sign to be mounted to the building. The property is located at 8370 and 8374 Ocean Gateway, also known as Tax Map 0103, Grid 00EA, Parcel 2952. The property is owned by Rejoice, LLC.

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

Samantha N. Smith

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



Subject property posting pursuant to Section 28-901.2.H.2 of the Town of Easton Zoning Code - March 4, 2025

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

Date of Hearing: March 20, 2025

4a

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT: **9095 Mistletoe Drive, Lot 8 – EVFD**

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: EVFD - Town of Easton

DOCUMENT CREATED ON: March 11, 2025

PURPOSE: EVFD - Town of Easton (Applicant), is seeking from the Planning Commission, a landscape and buffering waiver from Chapter 28-1014.7.E.5(c)1-3 of the Zoning Code.

RECOMMENDATION: Staff supports Planning Commission approval of the proposed site plan subject to conditions (see below).

APPLICATION INFORMATION:	
APPLICANT: EVFD - Town of Easton	**REPRESENTATIVE:** Rauch Inc.: Casey Rauch EVFD - Town of Easton

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 025, Grid 0016, Parcel 0138, Lot 8	2.742

ACCEPTANCE DATE: March 3, 2025	**LOCATION:** 9095 Mistletoe Drive
EXISTING ZONING I	**EXISTING LAND USE:** Vacant parcel within the Mistletoe Hall Commerce Business Park.
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Industrial

CONTEXT:
Location/Site Access – The subject property is located within the "Mistletoe Hall Commerce Business Park", fronting on the north side of Mistletoe Drive.

Existing Conditions – The subject property is currently unimproved.

Surrounding Properties
- Parcel 138, Goldsborough Neck Road – I
- 9102 Mistletoe Drive – I
- 28849 Fausley Wood Court – I
- 29137 Newnam Road – Talbot County, Maryland



***Figure 1**: Vicinity Map*

PROPOSAL: The applicant is seeking a landscape and buffer waiver from Chapter 28-1014.7.E.5(c)1-3 of the Zoning Code. The application proposes to remove the existing trees along the Northeast property bordering the Talbot County Airport. They are asking that nothing be planted and request a waiver on the Bufferyard 'E' requirement of the property line due to safety concerns. Additionally, the applicant stresses that a planted bufferyard in that location does not provide substantial value or benefit between the two uses (fire training and airport). Per Chapter 28-1014.7.A.1 of the Zoning Ordinance, bufferyards are intended to screen negative aspects of the more intense land uses from less intense land uses. Both land uses are intense in this instance and the bufferyard provides little benefit with the increased fire hazard (trees catching fire).

BACKGROUND: The applicant submitted an application to the Easton Staff Development Review Committee (ESDR) on January 26, 2022. On September 15, 2022 the Planning Commission approved a parking waiver for fifteen additional spaces. Development Site Plan approval was approved on February 5, 2025.

OUTSTANDING ISSUES:

There are no outstanding issues.

A. Industrial District Development Standards

Table 1. Development Standards		
I Zoning District	**Standard**	**Proposed**
Setbacks	Front = 25 feet Side = 10 feet Side = 25 feet if adjacent to residentially zoned properties. Rear = 30 feet	Front = 40 feet Side = 10 feet Side – Not applicable. Rear = 30 feet
Lot Size (min.)	40,000 square feet	114,877 square feet
Lot Frontage (min.)	100 feet	432 feet
Building Envelope (min.)	30 feet x 80 feet	286 feet X 498 feet
Lot Coverage (max.)	50% (Lot Area)	4% (Lot Area)
Height (max.)	40 feet	Not exceeding 40’
Bufferyard	Per the provisions of Section 28-1014 of the Zoning Ordinance.	Natural Bufferyard provided via Forest Conservation areas adjacent to the side and rear property lines. Requesting waiver from Bufferyard ‘E’.

Development within the Industrial District shall also meet these additional requirements:

- ***Off-street parking shall be provided in accordance with the provisions of Section 28 – 1001.***
- ***All storage areas shall be adequately screened and landscaped in accordance with provisions of Section 28 – 1014 of this Ordinance.***
- ***All on-site lighting unless approved otherwise by the Planning and Zoning Commission shall be low cut-off shielded luminaries at 18’ height and light shall not shine off-site at levels greater than 1-foot candle.***
- ***All off-street loading and unloading areas shall be screened from view by permanent decorative screens or natural planting, either of which shall be a minimum of eight (8) feet in height, in accordance with the provisions of Section 28 – 1014 of this Ordinance.***
- ***All areas not devoted to buildings or parking areas shall be landscaped and maintained in a suitable manner, in accordance with the provisions of Section 28 – 1014 of this Ordinance.***
- ***Sidewalks shall be constructed along any public right-of-way (except for alleys) adjacent to the site along the entire frontage(s) of the property. To the extent practicable, walkways***

shall be constructed on the site to tie building entrances and/or pedestrian pathway systems into existing or proposed public sidewalk systems.

Analysis - The site falls under the I - Industrial District Area and meets the 28-309 Development Standards. Development Site Plans were approved on February 5, 2025.

B. Forest Conservation

Easton Forest Conservation Ordinance #718, Article III,* § 31-3.1 *Relevance

A. Any person making an 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 this Ordinance.

Analysis - The site is located within the Mistletoe Hall Commerce-Business Park. Forest Conservation was approved at the original Subdivision Plat (Plat KMD 87/124).

POLICY ANALYSIS:

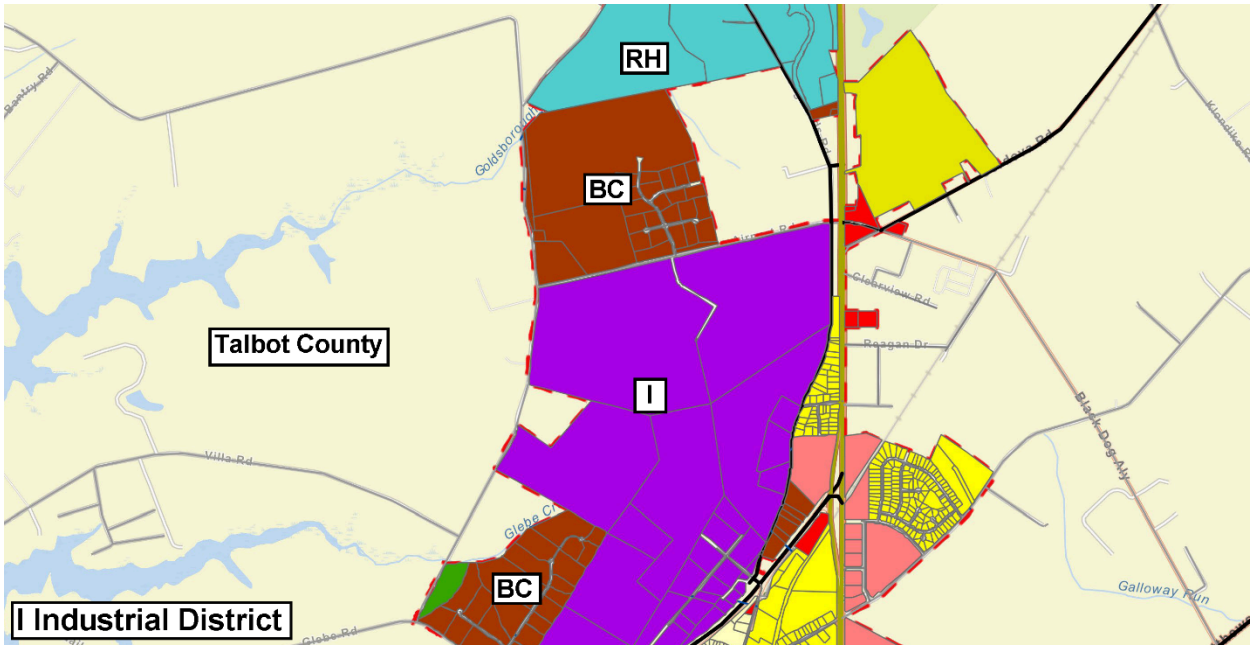


Figure 2: Zoning Map

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

1. The site plan meets the design principles and standards and required improvements set forth in this Ordinance, the Town Comprehensive Plan, the Town of Easton Subdivision

Regulations, and other ordinances, regulations, and policies established by the Town of Easton.

Analysis -

Town of Easton 2010 Comprehensive Plan Design Principles (Principle #1) - Integrated uses are desirable. *Staff notes that the proposed development fits within the industrial nature of this business park.*

(Principle #2) Natural features should determine design. *Staff notes that there are no compelling natural features on site. Forest Conservation was approved at the original Subdivision Plat (Plat KMD 87/124).*

(Principle #3) Automobiles should not determine design. *Staff notes that the applicant received Planning Commission approval on September 15, 2022 for a parking waiver of 15 additional parking spaces to accommodate scheduled training events.*

(Principle #4) Ample Open Space should be provided within & around neighborhoods *Staff notes that open space is provided within the business park and was approved at the original Subdivision Plat (Plat KMD 87/124).*

(Principle #5) Architecture should respect Easton's Historical Development. *Staff notes that the architecture is compatible with Easton and the Mistletoe Hall Commerce-Business Park's architectural palette.*

(Principle #6) Signs should inform but not dominate *Staff notes that any proposed monument sign will require a Signage Application to be submitted prior to installation. Signs should inform but not dominate the area.*

(Principle #7) Neighborhoods should contain a diversity of housing types. *Staff note that this is not applicable to this application.*

(Principle #8) Residential neighborhoods should be interesting places. *Staff note that this is not applicable to this application.*

(Principle #9) Neighborhoods should connect. *Staff notes that although this Principle generally applies to residential subdivisions, Mistletoe Hall does connect to the adjacent Talbot Commerce Park and provides two means of access.*

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

Analysis - The proposed site is not within the Historic District or the Critical Area. This Development Site Plan, approved on February 5, 2025, will be utilized as a training facility for

the Easton Volunteer Fire Department and provide improved amenities; adequate parking, stormwater management facilities and landscaping.

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

Analysis - The proposed use and activity will not increase traffic hazards in the surrounding area. Adequate off-street parking is provided. The applicant received Planning Commission approval on September 15, 2022 for a parking waiver of 15 additional parking spaces to accommodate scheduled training events.

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

Analysis - There would be no adverse impacts. The existing property is located within an industrial zoned commerce park. The proposed use is a training facility for the Easton Volunteer Fire Department with an associated manufacturing/wholesale building, adequate parking, landscaping features and stormwater management facilities.

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

Analysis - Stormwater management was approved under the Development Site Plan on February 5, 2025.

G. Supplemental Waiver Request: Landscaping & Buffering

28 – 1014.7.E.5(c)1-3 BUFFERYARD STANDARDS

Bufferyard 'E' (along non-street, exterior property lines adjoining more or less intense zoning or land use) The Planning and Zoning Commission may require additional buffering above the minimum standards listed below when the proposed or adjoining land uses are substantially incompatible.

a. 10' width
b. Plant unit: 1 shade/canopy and 3 evergreen trees
c. Option:
1. *2 shade/canopy trees and 8 large evergreen shrubs*
2. *4 evergreen trees*
3. *wall/fence with 3 large evergreen shrubs*

Analysis - The applicant has requested a landscape and buffering waiver from Chapter 28-1014.7.E.5(c)1-3 of the Zoning Code.The applicant proposes removing the existing trees along the Northeast property line bordering the Talbot County Airport and requests a waiver on the Bufferyard 'E' requirement due to safety concerns. The applicant argues that a planted bufferyard or existing trees in that location does not provide substantial value or benefit between

the two uses (fire training and airport) and stresses that the bufferyard provides little benefit and comes with an increased fire hazard (trees catching fire). They are asking that nothing be planted back. Per Chapter 28-1014.7.A.1 of the Zoning Ordinance, bufferyards are intended to screen negative aspects of the more intense land uses from less intense land uses. Both land uses are intense in this instance.

The staff supports the waiver request of the removal of Bufferyard "E" along the Northeast property line to ensure fire safety measures and a clear sightline for the safety of aircraft operation.

Staff also notes that a letter of support of this request was submitted by the Airport Manager.

RECOMMENDED CONDITIONS:

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

- Upon Planning Commission approval, the applicant is required to submit a revised Site Plan for review/approval prior to removing any trees.

DRAFT MOTIONS:

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

OR

2. I move that the Planning Commission table the application to the April 17th Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:
1. 2025.02.00 EVFD - Waiver Request Exhibit, paper copy & PDF
2. 2025.02.06 EVFD - Town of Easton Mail, paper copy & PDF
3. 2025.02.11 EVFD - Waiver Request Form, paper copy & PDF
4. 2025.03.04 EVFD - Easton Airport - Letter of Support, paper copy & PDF

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

2025 - 1408 / W 25 - 05

Supplemental Waiver Request Application

Waiver Request Type

Sidewalk ☐	Parking Spaces ☐	Parking/Aisle Dimension ☐
Landscaping & Buffering ☒	Signage ☐	Other ☐

Project Information

Address	9095 MISTLETOE DRIVE, EASTON, MARYLAND 21601						
Tax Map	25	Grid	16	Parcel	138	Lot	8
Zoning District	I-INDUSTRIAL	PC Meeting Date	3/20/2025	Historic District	Yes ☐	No ☒	
Owner or Agent	TOWN OF EASTON						
Mailing Address	P.O. BOX 520						
Telephone No.	410-822-1943	Email					

Request Details

Please attach a detailed description of the waiver request(s) being made and the justification(s) for requesting said waiver(s).

Remove the existing trees along SW property bordering the Talbot County Airport. Asking nothing be planted back and for waiver on the bufferyard requirement of that property line.
Justification: After tree removal, no replanting of the area for safety concerns. Additionally, a planted bufferyard in this location does not provide substantial value or benefit between the two uses (fire training and airport). Finally, per the zoning ordinance, bufferyards are intended to screen negative aspects of more intense lands usees from less intense land uses. Both land uses are intense in this instance and the bufferyard provides little benefit with increased fire hazard (trees catching fire).

X Ordinance Section Supporting Waiver Request. 28 - 1014.7.A.1

Any modifications during review shall warrant an updated application.

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

Signature of Applicant or Agent

Date 2-11-2025

Printed Name of Applicant or Agent CASEY RAUCH

Sierra Clem <sclem@eastonmd.gov>

Re: [External]RE: [External]EVFD - LOD

4 messages

Brian Fitzgerald Thu, Feb 6, 2025 at 2:26 PM
To: Robert Saia , Joe Mayer <jmayer@eastonmd.gov>, Lynn Thomas <lthomas@eastonmd.gov>
Cc: Casey Rauch, Miguel Salinas <msalinas@eastonmd.gov>, Rick VanEmburgh <rvanemburgh@eastonmd.gov>, Sierra Clem <sclem@eastonmd.gov>, Nancy Pinkney <npinkney@eastonmd.gov>, "J.W. Lewis", Jimi Harrison

I've copied the Town Planning Department to this email.
EVFD wants the trees along the East property line removed. It would be best to remove these now as the site contractor is mobilized and before the SWM facility goes in, utilities, concrete, etc. Also, the trees may be a fire hazard during fire training exercises.

My first question is, did this project need to go to planning commission since it was a Town project? If no, then does it even need to go to planning commission if we do apply for a waiver, or can the waiver be approved by staff? If we do need to go through planning commission for a waiver approval, here are the options as I understand them from the Town:

- Clear trees now, apply for waiver for bufferyard E plantings (Joe/Town to confirm trees can be cleared now)
- Clear trees now, replant with one of the 4 zoning ordinance options for Bufferyard E below (each planting unit would be every 50' of property line):

5. Bufferyard 'E' (along non-street, exterior property lines adjoining more or less intense zoning or land use) The Planning and Zoning Commission may require additional buffering above the minimum standards listed below when the proposed or adjoining land uses are substantially incompatible.

   a. 10' width

   b. Plant unit: 1 shade/canopy and 3 evergreen trees

10-90

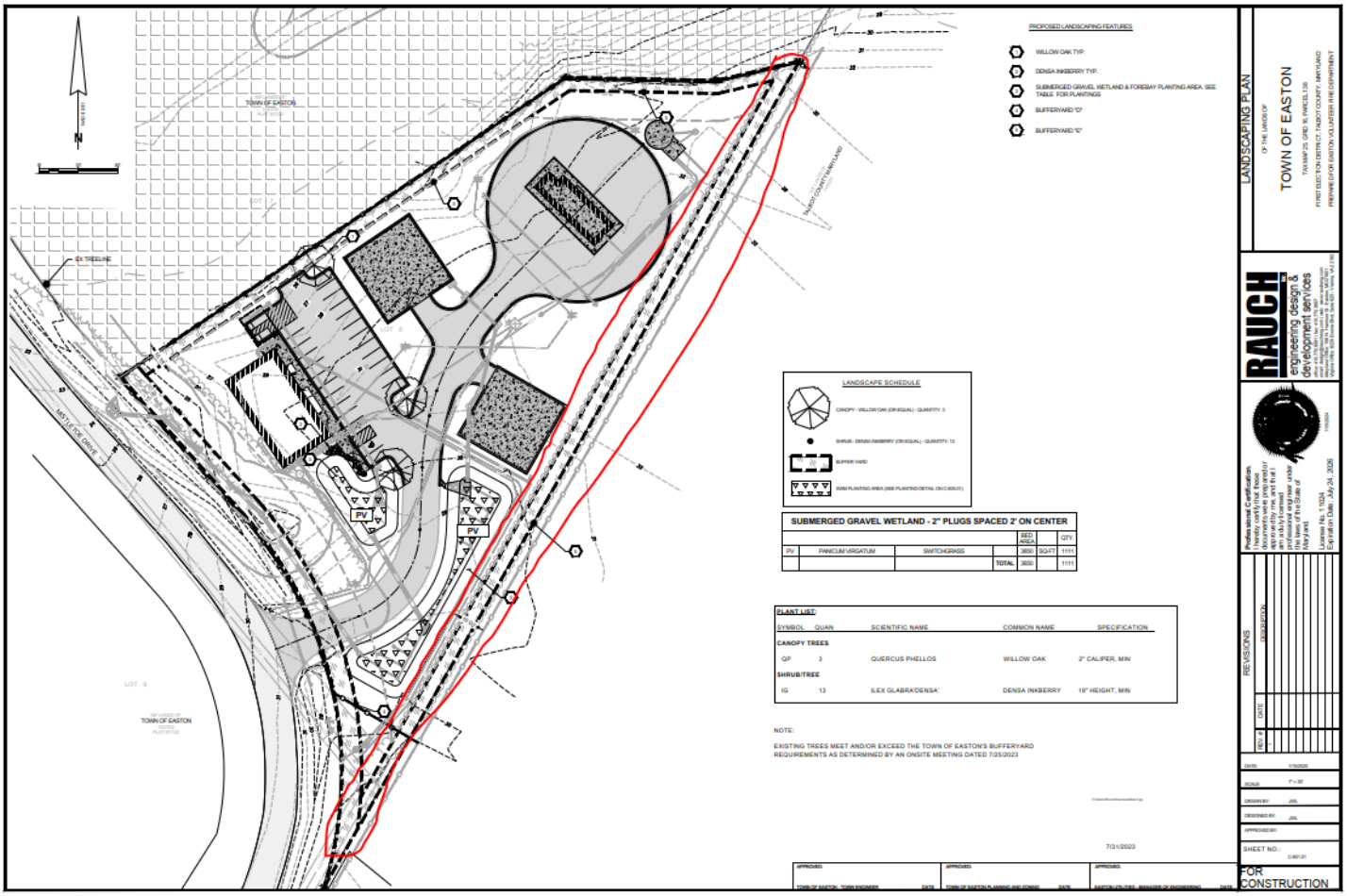
Effective 12/05/21
ARTICLE X

[redacted]

c. Option:

   1. 2 shade/canopy trees and 8 large evergreen shrubs
   2. 4 evergreen trees
   3. wall/fence with 3 large evergreen shrubs

Location of trees to be cleared:



From: Robert Saia
Sent: Thursday, February 6, 2025 1:52 PM
To: Brian Fitzgerald ; J.W. Lewis
Subject: [External]RE: [External]EVFD - LOD

Brian,

EVFD (Brett & Daryl) are requesting that they be removed. Do they need to apply for the waiver or can Rauch?

Thanks,

Robert Saia

Project Manager

WILLOW CONSTRUCTION
SINCE 1973 INTEGRITY, QUALITY & SERVICE

Office: (410) 822-6000 ext. 130

Mobile: (410) 443-7390

www.willowconstruction.com

From: Brian Fitzgerald
Sent: Thursday, February 6, 2025 12:06 PM
To: Robert Saia ; J.W. Lewis
Subject: Re: [External]EVFD - LOD

The trees are required for bufferyard 'E' compliance. They need to remain or we'd need to ask planning and zoning commission for a waiver approval on the bufferyard.

From: Robert Saia
Sent: Thursday, February 6, 2025 11:47 AM
To: J.W. Lewis ; Brian Fitzgerald
Subject: [External]EVFD - LOD

Rauch team,

The question was asked today by the customer if there was any reason that the trees on the site along the airport fence-line couldn't be removed. Were they excluded in establishing the LOD or do they need do stay as a buffer, or can they be fell?

Thanks,

Robert Saia

Project Manager

WILLOW CONSTRUCTION
INTEGRITY, QUALITY & SERVICE
SINCE 1973

Office: (410) 822-6000 ext. 130

Mobile: (410) 443-7390

www.willowconstruction.com

Brian Fitzgerald, PE
Vice President of Engineering

brian@raucheng.com

106 N. Harrison St.

Easton, MD, 21601

Office: (410) 770-9081

Mobile: (410) 490-4980

rauch-inc.com

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[CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]

Joe Mayer <jmayer@eastonmd.gov> Thu, Feb 6, 2025 at 3:24 PM
To: Brian Fitzgerald
Cc: Robert Saia, Lynn Thomas <lthomas@eastonmd.gov>, Casey Rauch, Miguel Salinas <msalinas@eastonmd.gov>, Rick VanEmburgh <rvanemburgh@eastonmd.gov>, Sierra Clem <sclem@eastonmd.gov>, Nancy Pinkney <npinkney@eastonmd.gov>, "J.W. Lewis", Jimi Harrison, Nicholas Johnson <njohnson@eastonmd.gov>, Samantha Smith <ssmith@eastonmd.gov>

Brian,

The Planning & Zoning Department has reviewed the applicant's request to cut down the existing trees within Bufferyard "E" on the Northeast side of the property. The staff determined that there are two options:

1. If the applicant wants to remove all the existing trees within Bufferyard "E" and not provide any bufferyard requirements, they need to apply for a Supplemental Waiver Request Application for Landscaping & Buffering and obtain approval from the Planning Commission. In addition, upon Planning Commission approval the applicant needs to submit a revised Site Plan for review/approval. The next available Planning Commission meeting is March 20, 2025.
2. The applicant can remove the existing trees and propose a revised Bufferyard "E" that meets Chapter 28-1014.7.E.5(a),(b) & (c).1 through 3 of the Zoning Code. Prior to any removal of existing trees the applicant is to submit a revised Site Plan and obtain approval from all review agencies.

Please contact me with any questions or concerns.

Regards,
Joe
[Quoted text hidden]
--
Regards,
Joseph A. Mayer
Plan Reviewer
Town of Easton
14 South Harrison Street
Easton, MD 21601
410-822-1943

Brian Fitzgerald Thu, Feb 6, 2025 at 3:32 PM
To: Joe Mayer <jmayer@eastonmd.gov>
Cc: Robert Saia , Lynn Thomas <lthomas@eastonmd.gov>, Casey Rauch, Miguel Salinas <msalinas@eastonmd.gov>, Rick VanEmburgh <rvanemburgh@eastonmd.gov>, Sierra Clem <sclem@eastonmd.gov>, Nancy Pinkney <npinkney@eastonmd.gov>, "J.W. Lewis", Jimi Harrison , Nicholas Johnson <njohnson@eastonmd.gov>, Samantha Smith <ssmith@eastonmd.gov>

Thank you, Joe.
We will discuss the options with our team and keep you updated on what path we plan to proceed with.

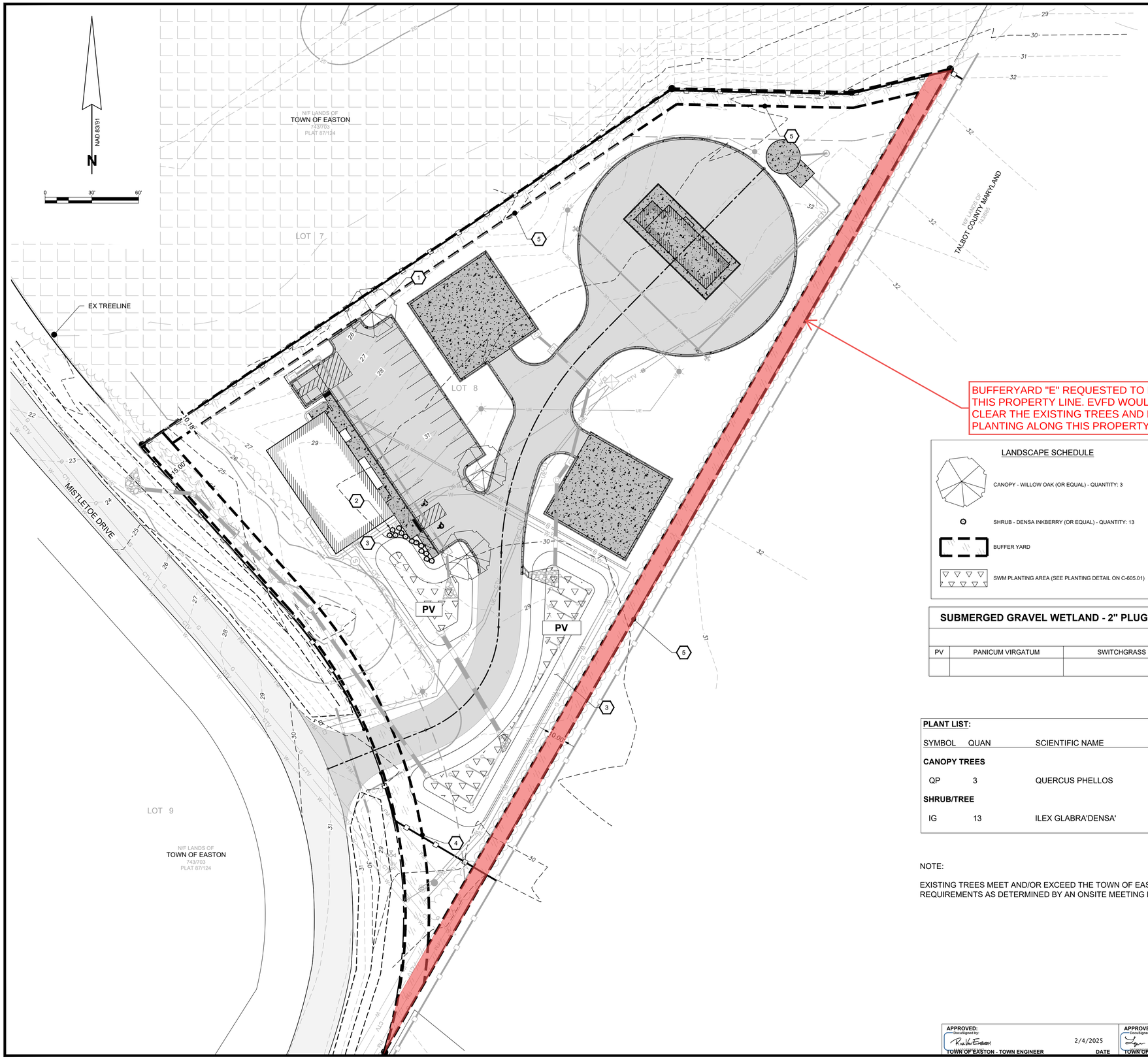
From: Joe Mayer <jmayer@eastonmd.gov>
Sent: Thursday, February 6, 2025 3:24 PM
To: Brian Fitzgerald
Cc: Robert Saia ; Lynn Thomas <lthomas@eastonmd.gov>; Casey Rauch ; Miguel Salinas <msalinas@eastonmd.gov>; Rick VanEmburgh <rvanemburgh@eastonmd.gov>; Sierra Clem <sclem@eastonmd.gov>; Nancy Pinkney <npinkney@eastonmd.gov>; J.W. Lewis; Jimi Harrison ; Nicholas Johnson <njohnson@eastonmd.gov>; Samantha Smith <ssmith@eastonmd.gov>
Subject: [External]Re: [External]RE: [External]EVFD - LOD

[Quoted text hidden]

Joe Mayer <jmayer@eastonmd.gov> Thu, Feb 6, 2025 at 4:02 PM
To: Brian Fitzgerald
Cc: Robert Saia, Lynn Thomas <lthomas@eastonmd.gov>, Casey Rauch, Miguel Salinas <msalinas@eastonmd.gov>, Rick VanEmburgh <rvanemburgh@eastonmd.gov>, Sierra Clem <sclem@eastonmd.gov>, Nancy Pinkney <npinkney@eastonmd.gov>, "J.W. Lewis" , Jimi Harrison , Nicholas Johnson <njohnson@eastonmd.gov>, Samantha Smith <ssmith@eastonmd.gov>

Sounds good, thank you.
[Quoted text hidden]

Docusign Envelope ID: C4CD0D56-4D06-41D1-A8CE-E4CBA357036E



PROPOSED LANDSCAPING FEATURES

1. WILLOW OAK TYP.
2. DENSA INKBERRY TYP.
3. SUBMERGED GRAVEL WETLAND & FOREBAY PLANTING AREA. SEE TABLE FOR PLANTINGS
4. BUFFERYARD "D"
5. BUFFERYARD "E"

LANDSCAPE SCHEDULE

- CANOPY - WILLOW OAK (OR EQUAL) - QUANTITY: 3
- SHRUB - DENSA INKBERRY (OR EQUAL) - QUANTITY: 13
- BUFFER YARD
- SWM PLANTING AREA (SEE PLANTING DETAIL ON C-605.01)

SUBMERGED GRAVEL WETLAND - 2" PLUGS SPACED 2' ON CENTER

				BED AREA		QTY.
PV	PANICUM VIRGATUM	SWITCHGRASS		3850	SQ-FT	1111
			TOTAL	3850		1111

PLANT LIST:

SYMBOL	QUAN	SCIENTIFIC NAME	COMMON NAME	SPECIFICATION
CANOPY TREES				
QP	3	QUERCUS PHELLOS	WILLOW OAK	2" CALIPER, MIN
SHRUB/TREE				
IG	13	ILEX GLABRA'DENSA'	DENSA INKBERRY	18" HEIGHT, MIN

NOTE:

EXISTING TREES MEET AND/OR EXCEED THE TOWN OF EASTON'S BUFFERYARD REQUIREMENTS AS DETERMINED BY AN ONSITE MEETING DATED 7/25/2023

C:\Users\JWLewis\Downloads\Seal-2.jpg

7/31/2023

APPROVED:		
DocuSigned by: Richard Emerson	2/4/2025	TOWN OF EASTON - TOWN ENGINEER
DocuSigned by: Lynn D. Thomas Jr.	2/3/2025	TOWN OF EASTON PLANNING AND ZONING
DocuSigned by: Karen Geller	2/5/2025	EASTON UTILITIES - MANAGER OF ENGINEERING

LANDSCAPING PLAN

OF THE LANDS OF

TOWN OF EASTON

TAX MAP 25, GRID 16, PARCEL 138

FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND

PREPARED FOR EASTON VOLUNTEER FIRE DEPARTMENT

RAUCH INC.
engineering design & development services
office: 410.770.8581 | fax: 410.770.3567
email: design@raucheng.com | web: www.raucheng.com
Main Office: 16 N. Washington St. | Easton, MD 21601
Virginia Office: 8229 Boone Blvd, Suite 625 | Vienna, VA 22182

Professional Certification.
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 11024
Expiration Date: July 24, 2026

11/5/2024

REVISIONS

REV. #	DATE	DESCRIPTION
1		

DATE: 1/15/2025
SCALE: 1" = 30'
DRAWN BY: JWL
DESIGNED BY: JWL
APPROVED BY:
SHEET NO.: C-601.01

FOR CONSTRUCTION

EASTON AIRPORT
AVIATION GATEWAY TO THE EASTERN SHORE

410-770-8055
www.EastonAirport.com
29051 Corkran Road, Easton, MD 21601

March 4, 2025

Town of Easton
Easton Volunteer Fire Dept.
P.O. Box 520
Easton, MD 21601

Re: Supplemental Waiver Request from EVFD

Easton Airport strongly supports the permanent removal of trees along the fence line of this site. Due to the Airfield Modernization Program, the sightline from the Air Traffic Control Tower to the approach end of Runway 4 will shift in 2026.

Maintaining a clear sightline will help our air traffic controllers ensure the safety of aircraft operations.

Feel free to contact me if you have any questions.

Thank you,

Micah Risher
Manager, Easton Airport
410-770-8055
mrisher@talbotcountymd.gov

CC: Town of Easton - Engineering, Planning and Zoning

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

March 5, 2025

Dear Resident,

The Easton Planning Commission (Commission) will hold a public meeting on **Thursday, March 20, 2025 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that Rauch Inc. (Applicant) has filed application 2025 - 1408 on behalf of the Town of Easton (Owner) to request a supplemental waiver from Section 28-1014.7.A.1, the minimum bufferyard requirements for all intense land uses. In order to mitigate potential fire and safety hazards, the Applicant is seeking to remove the existing trees along the southwest property line of the new Easton Volunteer Fire Department training facility that borders the Talbot County Airport. The property is located at 9095 Mistletoe Drive, also known as Tax Map 0025, Grid 0016, Parcel 0138, Lot 8.

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

Samantha N. Smith

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



Subject property posting pursuant to Section 28-901.2.H.2 of the Town of Easton Zoning Code - March 4, 2025

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

Date of Hearing: March 20, 2025

4b

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT:	**28580 Mary's Court**
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:	Somerset Well Drilling Co., Inc.% Mike Hall

DOCUMENT CREATED ON: March 3, 20025

PURPOSE: Somerset Well Drilling Co., Inc.(Applicant), is seeking a sketch site plan and architectural approval of Phase I for the construction of two (2) 9,700 square foot pole buildings (Buildings 'A' and 'B') for storage and associated gravel access and stormwater management. The site improvements include the abandonment of two existing sewage reserve areas and the removal of an existing septic system to be replaced with a grinder pump and force main to serve existing and proposed buildings.

RECOMMENDATION: Staff supports Planning Commission approval of the proposed site plan subject to conditions (see below).

APPLICATION INFORMATION:	
APPLICANT: Somerset Well Drilling Co., Inc.% Mike Hall	**REPRESENTATIVE:** Lane Engineering, LLC.: Brittany Wallace Somerset Well Drilling Co., Inc.% Mike Hall

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 0025, Grid 0022, Parcel 0046, Lots 16 & 20	13.999

ACCEPTANCE DATE: March 3, 2025	**LOCATION:** 28580 Mary's Court
EXISTING ZONING BC	**EXISTING LAND USE:** Lot 16 is a developed lot with a semi-detached warehouse storage building. Lot 20 is a vacant lot.
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Business Commercial

CONTEXT:
Location/Site Access – The subject property is located at the end of Mary's Court.

Existing Conditions – Lot 16 is a developed lot with a semi-detached warehouse storage building. Lot 20 is currently vacant with a Stormwater Management Facility.

Surrounding Properties

- 28580 Mary's Court, Lot 16 - BC
- 28577 Mary's Court, Lot 17 - BC
- 8900, 8936 & 8938 Goldsborough Neck Road - Talbot County, MD
- 9002 Goldsborough Neck Road - Talbot County, MD
- 9047 Goldsborough Neck Road - Talbot County, MD
- 28527 Glebe Road - Talbot County, MD

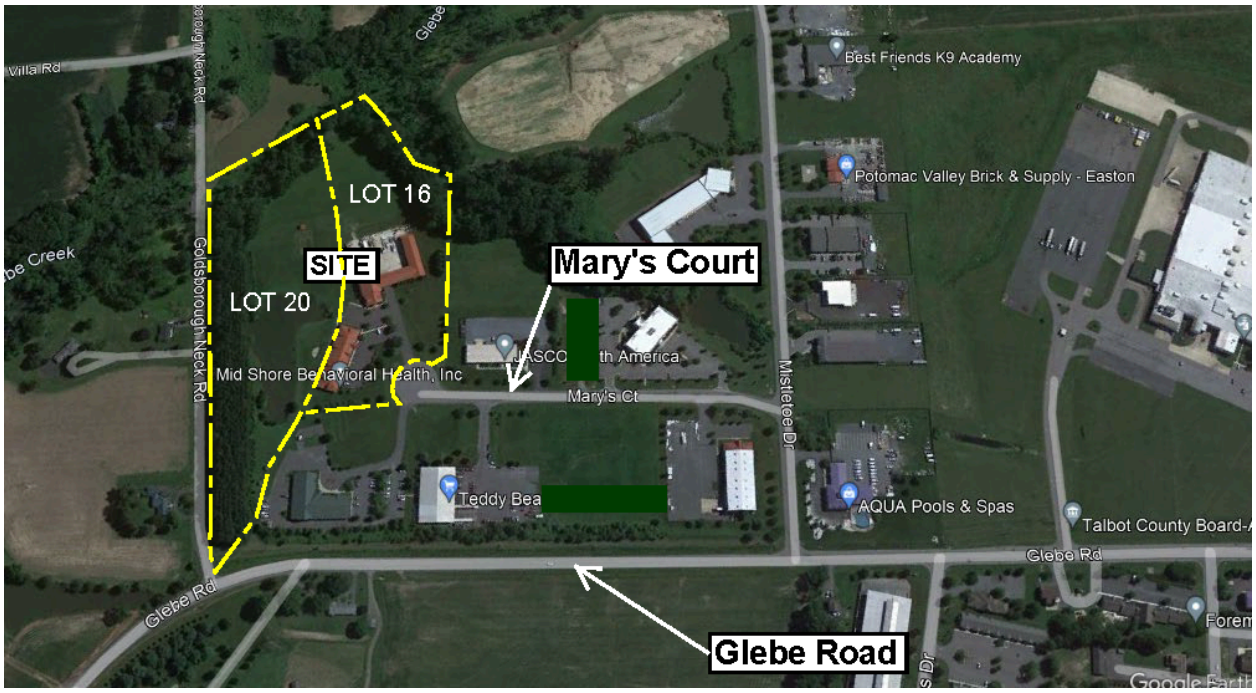


***Figure 1**: Vicinity Map*

PROPOSAL: The applicant, Somerset Well Drilling Co., Inc., is proposing to construct two (2) 9,700 square foot pole buildings (Buildings 'A' and 'B') for storage and associated gravel access and stormwater management. The site improvements include the abandonment of two existing sewage reserve areas and the removal of an existing septic system to be replaced with a grinder pump and force main to serve existing and proposed buildings. Development of the two (2) 8,010 square foot single-story office buildings (Building 'C' and 'D') with associated parking lots and stormwater management areas are to be constructed in a future second phase and will be submitted to the Planning Commission for sketch site plan and architectural review and approval at that time. Somerset Well Drilling Co., Inc. is seeking a sketch site plan and architectural approval of Phase I.

BACKGROUND: Ordinance No. 807 (growth allocation request) was adopted by the Town Council on January 2, 2024 and Bill No. 1551 (granting supplemental growth allocation to the Town) was adopted by the Talbot County Council on April 23, 2024. On July 29, 2024, Critical Area Commission staff received the Town's request to reclassify via growth allocation of 8.348 acres of land from Resource Conservation Area (RCA) to Intensely Developed Area (IDA) on Tax Map 25, Grid 22, Parcel 46, Lot 20 to construct commercial buildings and associated improvements.

On August 28, 2024, the applicant submitted an application to the Easton Staff Development Review Committee for review of a Zoning Amendment application. On September 19, 2024, the Planning Commission granted a positive recommendation to the Town Council for the text amendment to rezone the property from 'A-1' to 'BC'.

On November 6, 2024, the Critical Area Commission determined that the growth allocation request could be reviewed as a refinement to the Town's Critical Area program. At that same meeting, the growth allocation request to redesignate 8.348 acres of land from Resource Conservation Area (RCA) to Intensely Developed Area (IDA), as provided on the site plan and accompanying materials accepted by Commission staff on August 13, 2024, was approved with the following conditions:

1. All areas of forest on Lots 16 and 20 shall be placed in a Forest Protection Area Easement (excluding the existing Drainage Easement and Stormwater Management Easement).
2. The remaining areas of Buffer on Lot 16 shall be fully established in accordance with COMAR 27.01.09 and §28-401.4 of the Town of Easton's Zoning Code.
3. Within 120 days of Commission approval, the Town shall submit the following to Commission staff:

    a. A copy of the recorded line revision plat showing:
        i. The consolidation of Lots 20 and 16;
        ii. The new zoning designation of revised Lot 16; and
        iii. The revised Forest Protection Area encompassing all existing forest onsite (excluding the existing Drainage Easement and Stormwater Management Easement) and the area of Buffer establishment on Lot 16.

    b. A Buffer Management Plan in accordance with COMAR 27.01.09 showing full Buffer establishment on Lot 16 and its inclusion in the Forest Protection Area and a signed Planting Agreement Form.

    c. A copy of all final reviews or authorizations regarding stormwater management, sediment and erosion control, and DNR Wildlife and Heritage Service (WHS).

Ordinance No. 836 (text amendment-rezoning request) was adopted by the Town Council on November 18, 2024, 2024. On January 22, 2025, the applicant submitted an application to the Easton Staff Development Review Committee for review of sketch site plan and architectural drawings for Phase I. The Committee determined that the applicant should return to ESDR with revisions. On February 5, 2025, the applicant submitted a Lot Line Revision Plat for the consolidation of Lots 16 & 20 and a Buffer Management Plan for review. Somerset Well Drilling Co., Inc resubmitted an application to ESDR on February 26, 2025. On February 26, 2025, the Town of Easton Planning & Zoning Department requested a 90-day extension to the 120 days requested for completion of the Critical Area Commission conditions (See attached letter). The Critical Area Commission added the 90 day extension request to the March 12th CAC Commission meeting agenda under Old Business.

ZONING ANALYSIS:

A. Permissible Land Uses

28-201 Table 2.1									BC			
217	Office	--	SE	SE	--	P	P	P	P	--		

28-201 Table 2.1									BC			
506	Contractor's Office w/ outside storage	--	--	--	--	–	SE	–	P	P		

28-201 Table 2.1									BC			
520	Warehousing, Wholesale, storage & distribution	--	--	--	--	–	P	SE	P	P		

Analysis – The proposed project is presented and described by the Applicant as two (2) pole buildings (Buildings 'A' and 'B') for storage and associated gravel access. Buildings C and D are to be constructed as one-story office buildings in the future as Phase 2.The project is categorized as *"Office", Contractor's Office w/ outside storage" & "Warehousing, Wholesale, storage & distribution"*. The proposed uses are permitted within Table 2.1 Table of Permissible Uses.

B. Off-Street Parking

For the purposes of off-street parking calculations, the use is considered *"Office or Bank without Drive-Thru"* and *"Construction-related businesses"* has the following requirements:

28-1001.3 Parking Requirements

	Use/Activity	Minimum Vehicle Spaces	Maximum Vehicle Spaces	Minimum Bicycle Spaces	Notes
	Commercial Buildings				
14	Office or Bank without Drive-Thru	1 per 250 sf GFA	1 per 140 sf GFA	1 per 10 vehicle spaces	Minimum 5 stacking spaces per drive-thru stall required.
	Industrial Buildings				
38	Construction-related businesses	1 per 1000 sf GFA	1 per 200 sf GFA	–	–

Total Site Parking Required:

Existing Buildings:

Office (Without Drive): 1 per 250 sf GFA required-Minimum
12,150 sf/250 = 49 spaces required-Minimum
1 per 140 sf GFA required-Maximum
12,150 sf/140 = 87 spaces required-Maximum
Total spaces provided: **49**

Bicycle Spaces: 1 per 10 vehicle spaces required
49 existing spaces/10 = 5 bicycle space-Minimum
Total bicycle spaces provided: **5**

Construction Office: 1 per 1000 sf GFA required-Minimum
4,600 sf/1000 = 5 spaces required-Minimum
1 per 200 sf GFA required-Maximum
4,600 sf/200 = 23 spaces required-Maximum
Total spaces provided: **5**

Warehouse: 1 per 1000 sf GFA required-Minimum
8,010 sf/1000 = 8 spaces required-Minimum
1 per 200 sf GFA required-Maximum
8,010 sf/200 = 40 spaces required-Maximum
Total spaces provided: **8**

Proposed Buildings:

Construction Related Business:
1 per 1000 sf GFA required-Minimum
18,000 sf/1000 = 18 spaces required-Minimum
1 per 200 sf GFA required-Maximum
18,000 sf/200 = 90 spaces required-Maximum
Total spaces provided: **18**

Future Buildings:

Construction Related Business:
1 per 1000 sf GFA required-Minimum
16,000 sf/1000 = 16 spaces required-Minimum
1 per 200 sf GFA required-Maximum
16,000 sf/200 = 80 spaces required-Maximum
Total future spaces: **64**

Total spaces provided: 80 spaces (62 Existing Spaces +18 Proposed Spaces)
64 Future Spaces (Phase II)
Total bicycle spaces provided: 5

Analysis- The applicant has provided eighty (80) off-street parking spaces; sixty-two (62) spaces are existing and eighteen spaces (18) are proposed. The proposed Phase I site meets the

minimum space requirement. The proposed Future Phase II will include 64 parking spaces, falling within the minimum and maximum requirements.

C. Commercial General District Development Standards

Table 1. Development Standards		
BC Zoning District	**Standard**	**Proposed**
Setbacks	Front = 40 feet Side = 10 feet Rear = 30 feet	Front = 40 feet Side = 10 feet Rear – 30 feet
Lot Size (min.)	40,000 square feet	609,796.44 square feet
Lot Frontage (min.)	100 feet	213 feet
Building Envelope (min.)	30 feet x 80 feet	450 feet X 640 feet
Lot Coverage (max.)	50% (Lot Area)	19.14% (Lot Area)
Height (max.)	35 feet	Not to exceed 35 feet

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

- ***Off-street parking shall be provided in accordance with the provisions of Section 28 – 1001.***
- ***There shall be no open storage on any lot or open areas, nor shall any products be displayed in open areas. All outside storage shall be adequately screened and landscaped in accordance with provisions of Section 28 – 1014 of this Ordinance.***
- ***All on-site lighting unless approved otherwise by the Planning and Zoning Commission shall be low cut-off shielded luminaries at 18' height and light shall not shine off-site at levels greater than 1-foot candle.***
- ***All off-street loading and unloading areas shall be screened from view by permanent decorative screens or natural planting, either of which shall be a minimum of eight (8) feet in height, in accordance with the provisions of Section 28 – 1014 of this Ordinance***
- ***All areas not devoted to buildings or parking areas shall be landscaped and maintained in a suitable manner, in accordance with the provisions of Section 28 – 1014 of this Ordinance***.

Analysis - The site falls under the BC - Business Commercial District Area and meets the § 28-308.2 Development Standards. Any remaining comments or concerns from the ESDR review letters will be addressed during the Development Site Plan review.

D. Forest Conservation

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

Analysis - The development of this site has already been mitigated for Forest Conservation under the 1997 Forest Conservation Plan, recorded on record plat MAS 4/35G. Any impact into the existing Forest Conservation area would require an updated plan. **See the Critical Area Commission requirements below for the Forest Protection Areas.**

Critical Area Commission

On November 6, 2024, the Critical Area Commission concurred that the growth allocation request could be reviewed as a refinement to the Town's Critical Area program. At that same meeting, the growth allocation request to redesignate 8.348 acres of land from Resource Conservation Area (RCA) to Intensely Developed Area (IDA), as provided on the site plan and accompanying materials accepted by Commission staff on August 13, 2024, was approved with the following conditions:

1. All areas of forest on Lots 16 and 20 shall be placed in a Forest Protection Area easement (excluding the existing Drainage Easement and Stormwater Management Easement).

2. The remaining areas of Buffer on Lot 16 shall be fully established in accordance with COMAR 27.01.09 and §28-401.4 of the Town of Easton's Zoning Code.

3. Within 120 days of Commission approval, the Town shall submit the following to Commission staff:

a. A copy of the recorded line revision plat showing:

I. The consolidation of Lots 20 and 16;

Ii. The new zoning designation of revised Lot 16; and

Iii. The revised Forest Protection Area encompassing all existing forest onsite (excluding the existing Drainage Easement and Stormwater Management Easement) and the area of Buffer establishment on Lot 16.

b. A Buffer Management Plan in accordance with COMAR 27.01.09 showing full Buffer establishment on Lot 16 and its inclusion in the Forest Protection Area and a signed Planting Agreement Form.

c. A copy of all final reviews or authorizations regarding stormwater management, sediment and erosion control, and DNR Wildlife and Heritage Service (WHS).

POLICY ANALYSIS:

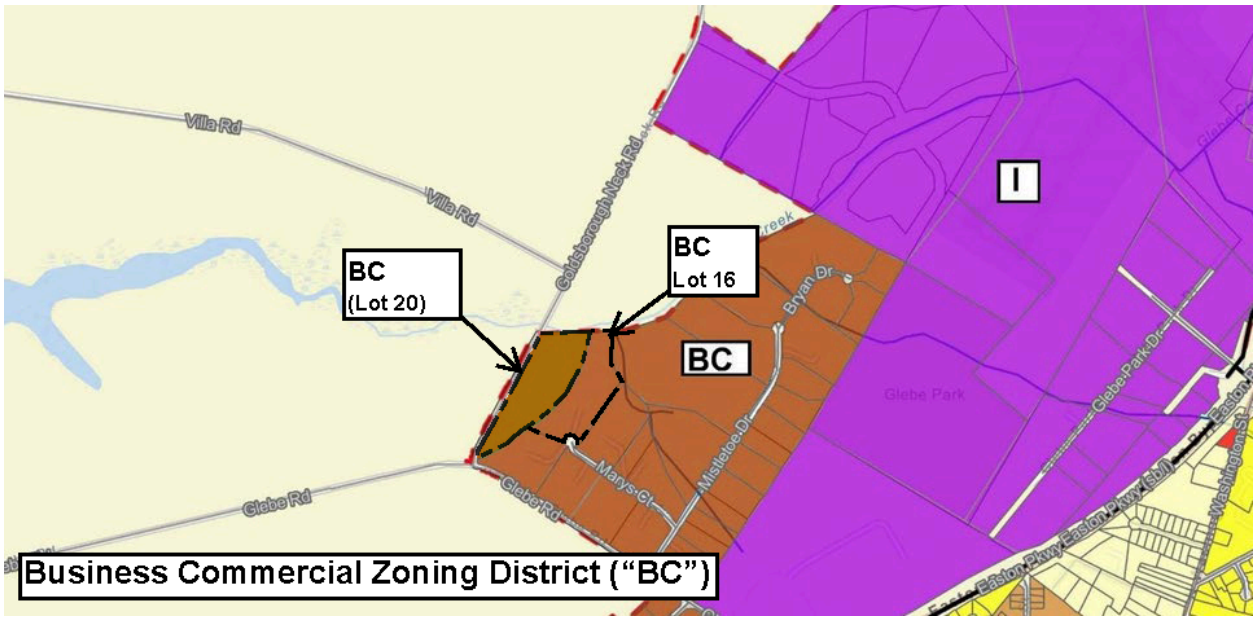


Figure 2: Zoning Map

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

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

Town of Easton 2010 Comprehensive Plan Design Principles (Principle #1) Integrated uses are desirable- Applicant's response: *This development proposal provides additional storage space for existing businesses in the mixed business park.*

Staff notes that the proposed development fits within the nature of the business commercial district.

(Principle #2) Natural features should determine design – *Applicant's response: No compelling natural features; proposed improvements are configured to create cohesive site layout upon completion and take advantage of natural drainage patterns.*

Staff notes that the site is within the IDA (Intensely Developed Area) Critical Area.

(Principle #3) Automobiles should not determine design – *Applicant's response: Parking for office users and customers provides for convenience with the bulk of parking to the front or rear of building.*

Staff notes that there will be no adverse impacts to the existing or proposed transportation patterns occurring as a result of the rezoning classification. All ingress and egress to the property is through existing Mary's Court.

(Principle #4) Ample Open Space should be provided within & around neighborhoods – *Applicant's response: Unable open space is not applicable to this project.*

Staff notes that open space is not applicable.

(Principle #5) Architecture should respect Easton's Historical Development – *Applicant's response: Proposed architecture matches existing buildings in design and is compatible with the park's architectural palette.*

Staff notes that the proposed buildings are comparable and consistent to the architecture.

(Principle #6) Signs should inform but not dominate – *Applicant's response: No new signage is proposed.*

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

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

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

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

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

Analysis - The proposed site, located within the Critical Area but not the Historic Area, will feature two 9,750 square foot pole buildings with improved amenities, adequate parking, and

landscaping. The project aims to create a cohesive site layout that complements the existing business park and utilizes natural features.

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

Analysis - The proposed use will not adversely impact existing or proposed transportation patterns. Ingress and egress to the property will remain through Mary's Court.

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

Analysis - The applicant has demonstrated that a substantial change in the character of the neighborhood has occurred since the Town's previous rezoning included the award of Growth Allocation to convert the property from Resource Conservation Area ("RCA") to Intensely Developed Area ("IDA"). Surrounding parcels within the neighborhood are classified as IDA and zoned BC. With the award of Growth Allocation by the CAC, the property is classified as IDA and the recent zoning reclassification of the property from A-1 to BC is consistent with the surrounding neighborhood. There would be no adverse impacts associated with property.

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

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

RECOMMENDED CONDITION:

Staff recommends the Planning Commission approve the proposed sketch site plan and its architecture with the following conditions:

- The applicant is to address all remaining ESDR review comments and submit a Development Site Plan for review.
- Coordinate with the Critical Area Commission and meet all required conditions set forth within the November 6, 2024 determination of the growth allocation.
- Future Phase II will require a submission to the Planning Commission fo review and approval.

DRAFT MOTIONS:

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

OR

2. I move that the Planning Commission table the application to the April 17th Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:
1. 2024.11.08 CAC Approval Letter_Cohee Growth Allocation, paper copy & PDF
2. 2024.12.19 Building Plans, paper copy & PDF
3. 2025.01.08 Environmental Health Comments, paper copy & PDF
4. 2025.01.18 EVFD Comments, paper copy & PDF
5. 2025.02.01 Concept SWM Narrative, paper copy & PDF
6. 2025.02.04 ESDR Comment Response Letter, paper copy & PDF
7. 2025.02.04 Illustrative Plan, paper copy & PDF
8. 2025.02.04 Sketch Site Plan, paper copy & PDF
9. 2025.02.05 ESDR Application, paper copy & PDF
10. 2025.02.05 Site Plan Application, paper copy & PDF
11. 2025.02.26 CAC Request for Extension, paper copy & PDF
12. 2025.02.26 ESDR Determination Letter 28580 Mary's Court, paper copy & PDF
13. 2025.03.04 Subject Property Notice, paper copy & PDF
14. 2025.03.06 PC 400' Notice Letter, paper copy & PDF

TALBOT COUNTY HEALTH DEPARTMENT

OFFICE OF ENVIRONMENTAL HEALTH
215 BAY STREET, SUITE 4, EASTON, MD 21601
Karine Ireland, Interim Health Officer
Brennan E. Greene, LEHS, Director

PHONE: (410) 770-6880

FAX: (410) 770-6888

MEMORANDUM

TO: Samantha Smith
Town of Easton, Planning and Zoning Department

FROM: Brennan E. Greene, LEHS BEG
Director of Environmental Health

DATE: January 8, 2025

SUBJECT: Site Plan Review, St. Mary's Court, Somerset Well Drilling
28580 St. Mary's Court, Easton, MD 21601
Tax Map: 25, Parcels: 46, Lots 16 & 20

RE: January 2025 Review and Comments

Based on review of the above referenced site plan that has been completed by this office, the following comments are provided:

1. Sewage Disposal Areas (SDAs) should be abandoned prior to issuance of building permits that may infringe upon the SDAs. As per COMAR 26.04.02.04(E) any SDAs shall be "*...exclusive of easements, rights-of-way, buildings, and any other permanent or physical objects…*"
2. Abandonment of the on-site sewage disposal system (OSDS) on lot 16 should be accomplished by a licensed septic installer in Talbot County. A list of licensed septic installers can be found on our website here: https://talbothealth.org/environmental-health/septic-systems-sewage/
    a. Additionally, abandonment of the OSDS should only be performed under permit of a sanitary construction permit. Applications can be found on the website above and have no cost for the purposes of abandonment. Inspection should still be completed by a licensed environmental health specialist from this Office after the sanitary construction permit is issued.
3. The existing drinking water supply well should be abandoned by a licensed well driller. A copy of the abandonment report should be submitted to this Office for review.
4. A lot line revision for the removal of the lot line between lots 16 & 20, as well as the abandonment of the SDAs, should be submitted to this Office for review and comment. The cost of a minor line revision plat by this office is $100 at this time.

Please contact this office with any questions concerning the above referenced comments.

Re: Quick Update: 28580 Mary's Court (Somerset Well Drilling) January ESDR

1 message

Daryl Caldwell <1st.lieutenant@eastonvfd.org> Sat, Jan 18, 2025 at 11:14 AM
To: Samantha Smith <ssmith@eastonmd.gov>

Good Morning

I am (Assist Chief Daryl Caldwell) from the Easton Vol. Fire Department. We only have a few concerns about the project. The following concerns will be listed.

1.). Please make sure the Sprinkler system and please make sure the connection.

2.) Make sure it is MARKED and VISIBLE for the Sprinkler system.

3.) Make sure the electrical room is MARKED AND VISIBLE.

4.) Make sure the roads are wide enough for our fire apparatus.

5.) A sign that indicates NOT TO BLOCK THE SPRINKLER CONNETION.

Thank you

Assist Chief Daryl Caldwell
Easton Vol. Fire Department.

---- On Thu, 02 Jan 2025 12:51:09 -0500 **Samantha Smith via Smartsheet <user@app.smartsheet.com>** wrote ---

Good afternoon,

Please find the submission items for "28580 Mary's Court - Somerset Well Drilling" for January ESDR review. All comments are due by January 20th. Paper copies will be provided for EUC and TCHD.

Thanks,

Sam

28580 Mary's Court - Somerset Well Drilling

Row 32

Primary Column	Application and Plans
Date Received	01/02/25
Date Due	
Date Completed	
Item Status	
Item Complete	☐

Attachments

- 2024.12.19 Building Plans.pdf (3M) (Row 32)
- 2025.01.01 Illustrative Site Plan.pdf (2M) (Row 32)
- 2025.01.01 Sketch Site Plan.pdf (1M) (Row 32)
- 2025.01.02 ESDR Application.pdf (357k) (Row 32)
- 2025.01.02 Site Plan Application.pdf (249k) (Row 32)
- 2025.01.02 Sketch Site Plan Checklist.pdf (75k) (Row 32)
- 2025.01.02 Sketch SWM Plan Checklist.pdf (136k) (Row 32)
- December 2024 Concept SWM Narrative.pdf (3M) (Row 32)

View in Smartsheet

Sent using Smartsheet - the leading work execution platform that empowers teams and organizations to move their ideas to impact - fast.
Sent by ssmith@eastonmd.gov
File links in this email will be active until February 1, 2025
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Town of Easton
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

RECEIVED
FEB 05 2025
TOWN OF EASTON

Easton Staff Development Review

Property Information

Address	28520 MARYS COURT						
Tax Map	25	Grid		Parcel	46	Lot	16 & 20
Deed Refernce:	Liber	3111	Folio	84			
Plat Reference:	Liber	4	Folio	35G			
Base Zoning District	A1 & BC	Historic District Y ☐ N ☑		Planning Redevelopment Y ☐ N ☑			

Purpose of Application / Description of Work:

ADDITION OF TWO POLE BUILDINGS FOR STORAGE AND ASSOCIATED GRAVEL ACCESS AND STORMWATER MANAGEMENT, REMOVAL OF EXISTING SEPTIC SYSTEM, INSTALLATION OF NEW GRINDER PUMP AND FORCE MAIN SYSTEM, ABANDONMENT OF TWO EXISTING SEWAGE RESERVE AREAS

Owner

Name	SOMERSET WELL DRILLING CO, INC. C/O MIKE HALL		
Mailing Address	P.O. BOX 67, WESTOVER, MD 21871		
Telephone No.	443-783-9950	Email	mike@somersetwell.com

Applicant / Agent

Name	LANE ENGINEERING, LLC C/O BRITTANY WALLACE		
Mailing Address	410-822-8003		
Telephone No.	410-822-8003	Email	BWALLACE@LEINC.COM

Surveyor / Engineer

Name	BRITTANY WALLACE	License No.	60891	Expiration Date	4/13/25
Mailing Address	117 BAY STREET, EASTON, MD 21601				
Telephone No.	410-822-8003	Email	BWALLACE@LEINC.COM		

Any modifications during review shall warrant an updated application.

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

Signature of Applicant or Agent: BJ Wallace

Date: 12/16/24 2/4/25

Printed Name of Applicant or Agent: BRITTANY M WALLACE

For Office Use Only

Easton Staff Development Review Meeting Required Y ☒ N ☐ **ESDR 25-01 / 2025-1369**

Easton Staff Development Review Meeting Date 02/26/2025

Completeness Check Date 02/05/2025

Revisions/Resubmissions Required Y ☒ N ☐

Resubmission Date 02/05/2025 Documents Received Y ☒ N ☐

Staff Determination

January 22, 2025 Easton Staff Development Review : Resubmission required.

Scheduled for February 26, 2025 Easton Staff Development Review

Scheduled for March 20, 2025 Planning Commission

Planning Commission Requir(Y ☒ N ☐

BOZA Required Y ☐ N ☒

Historic District Commission Required Y ☐ N ☒

Resubmission for ESDR Required Y ☐ N ☒

Staff Signature Samantha N. Smith Date **02/05/2025**

Revised 02-2019

Lane Engineering, LLC

Established 1986

Civil Engineering • Land Planning • Land Surveyors

15 Washington Street
Cambridge, Maryland 21613
Tel 410-221-0818
Fax 410-476-9942

117 Bay Street
P.O. Box 1767
Easton, Maryland 21601
Tel 410-822-8003
Fax 410-822-2024

354 Pennsylvania Avenue
Centreville, Maryland 21617
Tel 410-758-2095
Fax 410-758-4422

February 4, 2025

Mr. Joeseph Mayer
Plan Reviewer
Town of Easton
14 South Harrison Street
Easton, MD 21601

Subject: 28580 Mary's Court – Somerset Well Drilling Co, Inc.
Lane Project No. 240060
Lane File No. A037

Dear Mr. Mayer,

The following is a point-by-point response to the comment letters dated January 22, 2025. On behalf of our client, we are pleased to provide the Town with our detailed responses to comments which correspond to our re-submission of revised site construction plans and other miscellaneous attachments.

For ease of reference, the Town's comments have been reiterated below with our detailed responses included in *italics*.

ENGINEERING DEPT COMMENTS:

1. POI#3 indicates an increase in runoff . Please revise.

The proposed grading has been modified to reduce the overall drainage area to POI #3, resulting in a decrease in post-development runoff for all storm events.

2. Provide Critical Area 10% Rule Calculations in the form of the State Spreadsheet for each of the 3 Drainage Areas. The RR Required and Provided should be added to the ESD SUMMARY CHART on Sheet 2 of 2.

The CAC spreadsheet is now included in the stormwater narrative. A digital copy is also included in the submittal package

PLANNING & ZONING DEPT COMMENTS:

1. Per Appendix B, Sketch Plan Submittal Checklist requires conceptual building elevations or renderings illustrating the character, scale, and materials of all proposed structures. Such elevations or renderings shall be sealed by a licensed professional as described above. Provide a color elevation for the exterior of the proposed buildings.

Building elevations illustrating character, scale and materials have been provided.

2. The ESDR Application indicates two three-sided pole buildings. The architectural plans depict a four-sided building with garage doors. Please revise.

Apologies. The building labels, project notes, and applications have all been updated to remove references to a 3-sided pole building.

3. Per Appendix B, Sketch Plan Submittal Checklist, show the location of the refuse collection for the proposed buildings.

A location for refuse collection for Buildings C and D is shown and labeled on the plans. Buildings A and B will utilize the existing refuse collection for the existing adjacent buildings.

4. Per Chapter 28-1007.3.A.6 of the Zoning Code, Include a statement regarding "the nature of the proposed use, its expected impact on its surrounding area, expected truck traffic, and any other information necessary to provide a fair and accurate assessment of the impacts of the proposed use on the subject property and the surrounding area".

Information regarding the nature of the proposed use for improvements in both phases was included in the 'Proposed Development' section of the Project Data. A statement regarding the impact on the surrounding areas and expected truck traffic resulting from Phase 1 has been added. A similar statement for the Phase 2 improvements will be provided at the time of development.

5. Show the truck loading space location and its dimensions on the sketch plan. Each loading space shall be not less than ten (10) feet in width and forty-five (45) feet in length, and shall have a minimum overhead clearance of fourteen (14) feet.

Truck loading space location is now shown and labeled.

6. Per item #8 on the Appendix B-1 Submittal Checklist and Chapter 28-901.3 A 1 of the Zoning Code, show the location of proposed fencing on the sketch plan. Indicate the type of fencing and its minimum height.

The fencing is now called out as being 8' tall vinyl on the plans.

7. Show all entrance and garage locations to proposed buildings on all plan views.

All doors and associated landing pads have been added to the plans.

8. Provide dimensions between the building units (existing, proposed & future) and property lines.

Dimensions from all buildings to the property lines have been added to a table within the project data on sheet 1.

9. Label all existing road paving widths on all plan views.

Existing road widths have been labeled on sheet 1 of 2.

10. Dimension the width of the proposed gravel pavement.

This dimension has been added.

11. Revise Development Data *Note on Existing Conditions Plan, sheet 1 of 2, to reference the Critical Area Commission's condition of obtaining approval within the 120 days of the Commission's approval dated November 6, 2024.

*The *Note has been updated to specify that the approval letter dictates that the map designation change must be reflected on the Town's critical area map within 120 days from the date of the letter.*

12. Revise Development Data Phasing Note on Existing Conditions Plan, sheet 1 of 2, elaborate more in detail if the drive aisles and parking facilities for future buildings 'C' and 'D' will be constructed during Phase 2.

The note has been revised to explain that Buildings C and D and their associated parking lots and stormwater facilities are to be constructed in a future second phase.

13. The Project Notes and Comprehensive Plan Design Principles Response Narrative have overlapping text on the Existing Conditions Plan, sheet 1 of 2. Revise text for legibility.

This has been corrected. Apologies.

14. Per Appendix B, Sketch Plan Submittal Checklist, general location and description (r.e. intended function, proposed species, etc.) of proposed landscaping. Describe the species for the proposed shrub hedge.

Potential Proposed Native Species have been added to the Landscape Legend in regard to the shrub hedge.

15. There are two designated existing parking facilities. The minimum number of accessible parking spaces must be determined separately for each parking facility. (§ 208.3 from the ADA Standards for Accessible Design). Show the existing parking spaces for the two parking facilities and provide the minimum number of accessible parking spaces (§ 208.2). Please revise all site plan views. In addition, will the required parking for proposed building 'A' and 'B' be utilized within the existing parking lots?

The required parking for buildings 'a' and 'b' will be utilized within the concrete pad in the existing storage yard and the proposed gravel parking. The required ADA space will be striped and signage provided on the concrete pad in the existing storage yard. Lane Engineering has field verified the slope compliance at the proposed location.

Existing ADA ramps are located at the entrances of both existing buildings, however, we are proposing new striping and signage to be installed as part of the Phae 1 construction. Lane Engineering has field verified the slope compliance at these locations.

16. Revise the Parking Required within the Development Data on the Existing Conditions Plan, sheet 1 of 2, to include the existing parking requirements.

Parking requirements for the existing buildings is now included in the Project Data.

17. Prior to Development Site Plan approval, verify and add slope information for all ADA spaces, ramps, access aisles and landing areas. Check all ADA related spot elevations and obtain approval from the Building Inspection Department.

Acknowledged. Detailed grading information for ADA spaces and ramps will be shown prior to Development Site Plan approval.

18. Prior to Development Site Plan approval, provide Van Accessible ADA Parking Sign Detail to include the sign "No Parking in Access Aisle" with an arrow pointing to the access aisle, place bollards at ADA aisles adjacent to the buildings with details and dimension between the bollards to verify ADA access.

Acknowledged. Details for ADA parking space signage will be shown prior to Development Site Plan approval.

BUILDING INSPECTION AND PERMIT DEPT COMMENTS:

1. Construction Documents (3 sets) for any new construction will be required. Documents must be prepared by a registered Maryland Registered Architect, with original plans signed and sealed. A code analysis completed by a Registered Maryland Architect including, classification (use group), construction type, and occupant loads must be completed and included with the application materials.

Acknowledged.

2. An appointment may be set up with this department to review your permit application materials prior to permit application submission.

Acknowledged.

EASTON UTILITIES COMMENTS:

1. Sheet 2 of 2: See electric comments.

A note to this effect will be included on detailed grading plan on the subsequent Site Construction Plans.

OFFICE OF ENVIRONMENTAL HEALTH COMMENTS:

1. Sewage disposal areas (SDA) should be abandoned prior to issuance of building permits that may infringe upon the SDAs. As per COMAR 26.04.02.04(E) any SDAs shall be "… exclusive of easements, right-of-ways, buildings, and any other permanent or physical objects…".

Understood. A line revision plat has been submitted to the Town and will call out the abandonment of the existing SDAs.

2. Abandonment of the on-site sewage disposal system (OSDS) on lot 16 should be accomplished by a licensed septic installer in Talbot County. A list of licensed septic installers can be found on our website here: https://talbothealth.org/environmental-health/septic-systems-sewage/
    a. Additionally, abandonment of the OSDS should only be performed under permit of a sanitary construction permit. Applications can be found on the website above and have no cost for the purposes of abandonment. Inspection should still be completed by a licensed environmental health specialist from this Office after the sanitary construction permit is issued.

The owner will be submitting the required application to the Health Department.

3. The existing drinking water supply well should be abandoned by a licensed well driller. A copy of the abandonment report should be submitted to this Office for review.

The owner wishes to retain the existing water supply well while also connecting the site to the available public water system, as the Health Department indicated in previous discussions that this would be possible.

4. A lot line revision for the removal of the lot lines between lots 16 & 20, as well as the abandonment of the SDAs, should be submitted to this office for review and comment. The cost of a minor line revision plat by this office is $100 at this time.

A copy of the line revision plat will be submitted to the Health Department under separate cover.

FIRE DEPARTMENT COMMENTS:

1. Please make sure the sprinkler system and please make sure the connection.

None of the existing buildings have a sprinkler system. Per the architect, a sprinkler system is not required for the Phase 1 pole buildings.

2. Make sure it is MARKED and VISIBLE for the sprinkler system.

See previous response.

3. Make sure the electrical room is MARKED and VISIBLE.

See previous response.

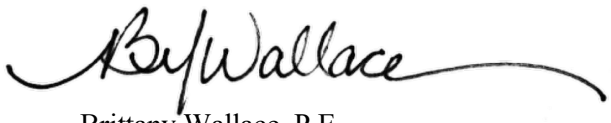
4. Make sure the roads are wide enough for our fire apparatus.

See previous response.

5. A sign that indicates NOT TO BLOCK THE SPRINKLER CONNECTION.
See previous response.

Should you have any questions, please feel free to contact me at (410) 822-8003.

Sincerely,
LANE ENGINEERING, LLC



Brittany Wallace, P.E.

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

Easton Staff Development Review Worksheet

Date: February 26, 2025
Project: 28580 Mary's Court
To: Brittany Wallace, Lane Engineering, LLC.
CC: Somerset Well Drilling Co., Inc % Mike Hall

The Easton Staff Development Review (ESDR) Committee meeting was held on February 26st at 11:00 am. Staff reviewed the proposed Site Sketch Plan for a proposed addition of two pole buildings for storage and gravel access with associated SWM, removal of existing septic system, installation of a new grinder pump and force main system and abandonment of two existing sewage reserve areas, located at 28580 Mary's Court, Lots 16 & 20, also known as Tax Map 025, Parcel 46.

The Committee determined that the project will need to address all agency comments as specified in the attached review letters and at ESDR. It was determined by the Committee that the application may be scheduled for Planning Commission review. Please submit all revised documents.

At this time, based on the ESDR sketch plan submission, Staff did not identify any constraints which would require action by the Board of Zoning Appeals.

The next Planning Commission meeting is scheduled for **Thursday, March 20, 2025 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, March 3rd at 1:00 pm. All files for presentation at the Planning Commission, as described under ***§****Section 28-901.3.A.(1 through 13) of the Town's Zoning Ordinance,* need to be provided on a flash drive. In addition, provide a digital submittal (via email) of all supporting documents necessary for the Planning Commission's review, including **six paper copies**.

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: **February 24, 2025**
TO: **Brittany Wallace –** Lane Engineering, LLC. (Agent)
Mike Hall - % Somerset Well Drilling Co., Inc. (Owner)
Cc: **Miguel Salinas –** Director of Planning & Zoning Department
Rick VanEmburgh – Town Engineer

FROM: **Joseph A. Mayer -** Plan Reviewer, Planning & Zoning Department
SUBJECT: **28580 Mary's Court, Lots 16 & 20**

We reviewed the **February 5, 2025** Sketch Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan Review #1

1. Ensure an accessible route between the proposed ADA parking spaces and proposed Buildings A and B.
2. The Sketch Site Plan should be verified and coordinated with the Maryland Department of Environment to confirm the presence of Non-Tidal Wetlands on the northeast side of the property, as indicated in the Conceptual Site Plan dated October 6, 2022.
3. Revise the side building restriction line to ten (10') on the plan view per the setback requirements within the Business Commercial District.

Plan Review Status

Sketch Site Plan Review			Comments
Plans Approved	☐Y	☒ N	Please review the comments above. Revise and resubmit.
Forest Stand Delineation & Forest Conservation Plan			
☐ Required ☐ Submitted ☒ **Approved**			***The Easton Forest Conservation Requirements of the Town Code, Article III, § 31-3.1 Relevance, states that the requirements are applicable to any person making application for a subdivision, project plan, grading, or sediment and erosion control approval on units of land 40,000 square feet or greater after the effective date of the Ordinance.*** **Analysis** - The development of this site has already been mitigated for Forest Conservation under the 1997 Forest Conservation Plan, recorded on record plat MAS 4/35G. Any impact into the existing Forest Conservation area would require an updated plan. **See the Critical Area Commission requirements below for the Forest Protection Areas.**
Other			
☒ **Required** ☐ Submitted ☐ Approved			**IMPACT FEES** **Please note, any future buildings will require Impact Fees. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with appropriate use for calculation of Impact Fee.** **Any required Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.** **Demolition Permit Application** To be submitted to the Building Inspection Division for review. **Fence Permit Application** To be submitted to the Building Inspection Division for review. **Critical Area Commission** ***On November 6, 2024, the Critical Area Commission concurred that the growth allocation request could be reviewed as a refinement to the Town's Critical Area program. At that same meeting, the growth allocation request to redesignate 8.348 acres of land from Resource Conservation Area (RCA) to Intensely Developed Area (IDA), as provided on the site plan and accompanying materials accepted by Commission staff on August 13, 2024, with the following conditions:*** ***1. All areas of forest on Lots 16 and 20 shall be placed in a Forest Protection Area easement (excluding the existing Drainage Easement and Stormwater Management Easement).*** ***2. The remaining areas of Buffer on Lot 16 shall be fully established in accordance with COMAR 27.01.09 and §28-401.4 of the Town of Easton's Zoning Code.*** ***3. Within 120 days of Commission approval, the Town shall submit the following to Commission staff:*** ***a. A copy of the recorded line revision plat showing:***

	I. The consolidation of Lots 20 and 16; ***Ii. The new zoning designation of revised Lot 16; and*** ***Iii. The revised Forest Protection Area encompassing all existing forest onsite (excluding the existing Drainage Easement and Stormwater Management Easement) and the area of Buffer establishment on Lot 16.*** ***b. A Buffer Management Plan in accordance with COMAR 27.01.09 showing full Buffer establishment on Lot 16 and its inclusion in the Forest Protection Area and a signed Planting Agreement Form.*** ***c. A copy of all final reviews or authorizations regarding stormwater management, sediment and erosion control, and DNR Wildlife and Heritage Service (WHS).*** **Analysis -** Please submit all required items and obtain approval/recordation prior to the 120 days of Critical Area Commission approval dated November 6, 2024.

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

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**February 28th, 2025**
TO:	**Brittany Wallace - Lane Engineering**
cc:	**Rick Van Emburgh, P.E. – Town Engineer**
FROM:	**Sierra Clem - Town of Easton**
SUBJECT:	**Somerset Well Drilling** **Sketch Site Plan &** **Sketch Stormwater Management Plan**

Our office has reviewed the revised Application for the Subject project received on 2/26/2025.

The **Sketch Site Plan** is acceptable to the Engineering Department.

The **Sketch Stormwater Management Plan** is approved.

Please submit a Preliminary Site Plan and a Preliminary Stormwater Management Plan for review.

END OF DOCUMENT

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

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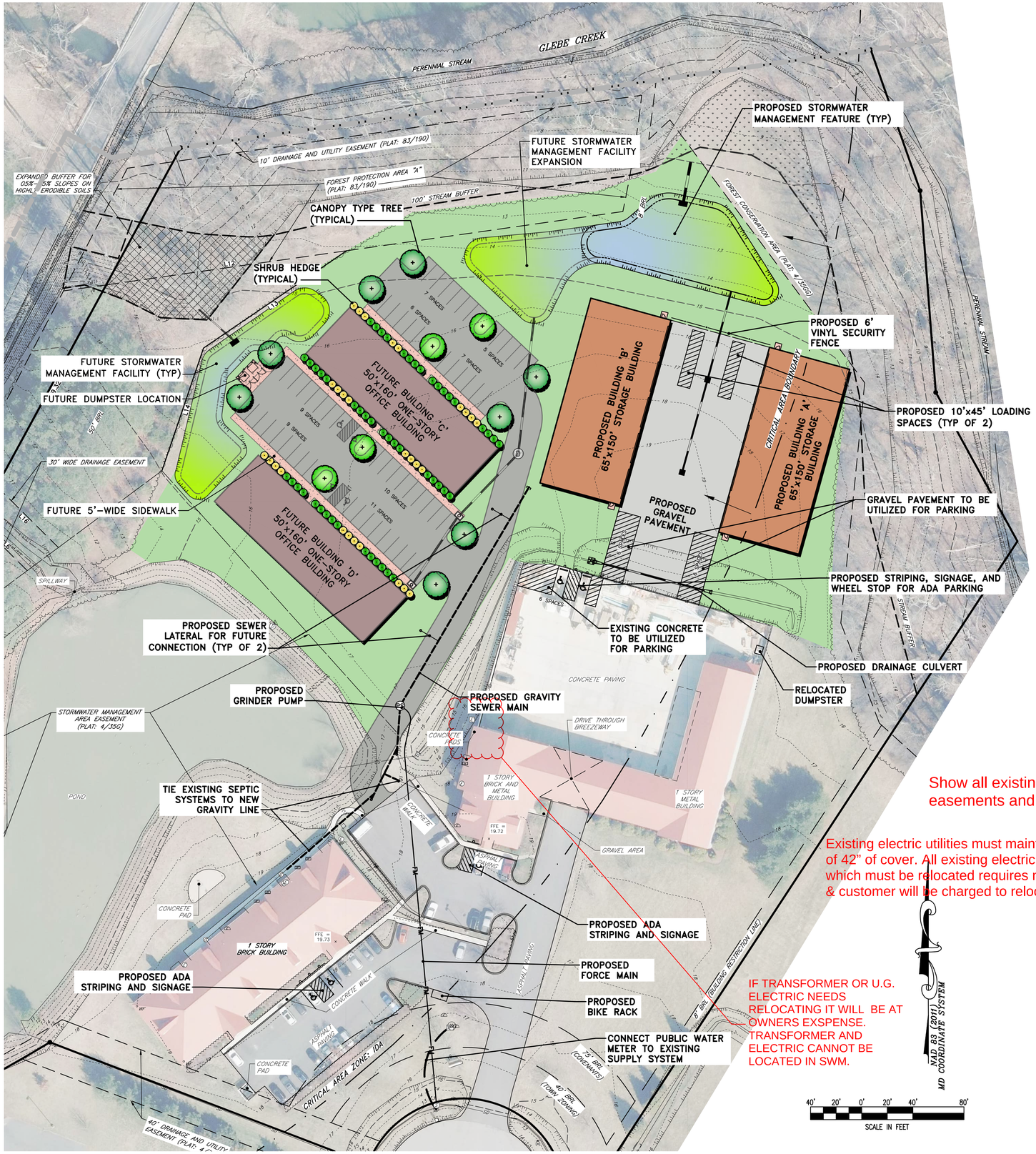
Easton Utilities Commission

Plan Review Comments

Date: Thursday, February 20, 2025
To: Sierra Clem, Nancy Pinkney
From: Kia Gibbs on behalf of Aaron Goller, PE **No. of Pages:** 3
Regarding: 28580 Mary's Court
Phase: Sketch Site Plan **SUBM:** 1 **Status:** Approved as Noted

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

ITEM:	DRAWING / PAGE	COMMENTS:
1	1 of 1	Install 2" communications conduit to each building
2	1 of 1	See attached drawings for additional comments.



Show all existing utilities, easements and rights-of-way.

Existing electric utilities must maintain a minimum of 42" of cover. All existing electric in easements which must be relocated requires new easements & customer will be charged to relocate.

IF TRANSFORMER OR U.G. ELECTRIC NEEDS RELOCATING IT WILL BE AT OWNERS EXSPENSE. TRANSFORMER AND ELECTRIC CANNOT BE LOCATED IN SWM.

NOTE: THE LAYOUT AND POTENTIAL FUTURE LAYOUT AS SHOWN HEREON IS CONCEPTUAL ONLY AND NOT INTENDED TO BE UTILIZED FOR DESIGN OR CONSTRUCTION PURPOSES.

LANDSCAPE REQUIREMENTS § 1014.6.C. (STREET TREES)

1. 1 TREE PER 70' STREET FRONTAGE = 231'± (ALONG MARYS COURT) LESS ENTRANCE (40') = 173'/70' = 3 TREES REQUIRED – 3 EXISTING TREES PROVIDED

LANDSCAPE REQUIREMENTS § 1014.6.F. (ON-SITE)

1. OVERALL TREES– 1 TREE/3000 SF OF DISTURBED AREA– 147,554 SF±/3000 SF = 50 TREES REQUIRED; EXISTING TREES ON-SITE MEET OR EXCEED THE REQUIREMENT; NONE REQUIRED.

2A. INTERIOR PARKING LOT PLANTINGS– 1 TREE PER 10 SPACES; 57 SPACES/ 10 = 6 TREES REQUIRED/ PROVIDED

2B. PARKING HEDGE– SHALL BE PROVIDED.

2C. BUILDING FAÇADE PLANTINGS– 1 TREE/20' OF AFFECTED FAÇADE; NOT APPLICABLE, FACADE OF PROPOSED AND FUTURE BUILDINGS ARE SHIELDED BY EXISTING BUILDINGS AND LANDSCAPE.

2D. SERVICE/ LOADING AREAS– TOWN COMPLIANT ENCLOSURE, SCREENED AS SHOWN HEREON.

2F. BUFFERYARDS: NONE REQUIRED.

LANDSCAPE KEY

2" CALIPER MINIMUM CANOPY OR STREET TREES (OAK, MAPLE TYPES)

SHRUB HEDGE (BAYBERRY, INKBERRY TYPES)

STORMWATER MANAGEMENT ESD LANDSCAPING MASS / PERENNIAL MIX WITH SHRUBS AND GRASSES

NOTE:

THE MAJORITY OF THE PROPOSED PLANTING SHALL BE NATIVE.

LEGEND

- HVAC UNIT
- SANITARY SEWER CLEAN OUT
- SANITARY SEWER MANHOLE
- TELEPHONE PEDESTAL
- FIRE HYDRANT
- DRINKING WATER SUPPLY WELL
- WATER METER
- WATER VALVE
- WATER FAUCET
- ELECTRIC OUTLET
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- ELECTRIC HANDHOLE
- LAMP POLE
- UTILITY POLE
- OHU — OVER HEAD UTILITY LINES
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR
- MINOR CONTOUR
- APPROXIMATE TREE LINE
- TOWN ZONING LINE
- COMPUTED POINT
- IRON ROD FOUND
- IRON ROD SET
- SEWAGE DISPOSAL AREA
- PROPOSED E-ONE GRINDER PUMP
- FM — PROPOSED FORCE MAIN

APPROVED:
PLANS ARE ISSUED FOR REVIEW ONLY
TOWN OF EASTON – TOWN PLANNER DATE

APPROVED:
TOWN OF EASTON – TOWN ENGINEER DATE

APPROVED:
PLANS ARE NOT APPROVED FOR CONSTRUCTION
EASTON PLANNING COMMISSION DATE

REVISIONS

No.	DATE	DESCRIPTION	BY

WARNING!!
THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL TEST PIT AND LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY DEPT. OF PUBLIC WORKS OF ANY POSSIBLE CONFLICT AND REQUEST THE RELOCATION OF THE EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING ANY WORK ON-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RELOCATION EXPENSE.

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

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

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 60891 , Expiration Date: 04/13/2025.

SEAL
STATE OF MARYLAND · BRITTANY M. WALLACE · 60891 · PROFESSIONAL ENGINEER
DATE

ILLUSTRATIVE SITE PLAN

SOMERSET WELL DRILLING
28580 MARYS COURT

IN THE TOWN OF EASTON, WARD 1
TALBOT COUNTY, MARYLAND
TAX MAP 25, PARCEL 46, LOTS 16 & 20

ISSUED FOR:	DATE:	BY:
ESDR REVIEW	01/01/25	JSC
ESDR REVIEW	02/04/25	JSC

SHEET No. 1 OF 1
DATE: 02/04/25
JOB No. 240060
SCALE: AS NOTED
FILE No. A037

© LANE ENGINEERING, LLC

Date: 02/04/2025 - 3:24pm User: bwallace Project Manager: TWG
Drawing Path: J:\2024\0000\240060\Civil3D-240060\Dwg\Plots\CSK-PLTS-240060.dwg | ILLUSTRATIVE
XREF File(s): CSK-BASE-240060\HATCH-BASE-240060\YLD-BASE-240060\VSF-BASE-240060\CBS-BASE-2438-240060\RAR-BASE-240060\CEC-BASE-240060\LUP-BASE-240060\XRN-BASE-240060

DEVELOPMENT DATA

PROPERTY: TAX MAP 25, PARCEL 46, LOT 16
PLAT 4/35G
28580 MARYS CT
EASTON, MD 21601

TAX MAP 25, PARCEL 46, LOT 20
PLAT 83/190
GOLDSBOROUGH NECK RD
EASTON, MD 21601

OWNER: SOMERSET WELL DRILLING CO, INC.
C/O MICHAEL HALL
P/O BOX 67
WESTOVER, MD 21871
(443) 783-9950

DEVELOPER: SAME AS OWNER

ZONING: BC – BUSINESS COMMERCIAL

SITE AREA: LOT 16 – 6.556 ACRES±
LOT 20 – 7.443 ACRES±
TOTAL – 13.999 ACRES±

*NOTE: A REVISION PLAT TO COMBINE LOTS 16 AND 20 WILL BE REVIEWED BY THE TOWN OF EASTON AS REQUIRED BY THE GROWTH ALLOCATION APPROVAL LETTER DATED NOVEMBER 8, 2024, AS ISSUED TO MIGUEL SALINAS BY ERIC FISHER OF THE MD CRITICAL AREA COMMISSION. THE REVISION PLAT WILL INCLUDE RESPONSES TO THE CONDITIONS ISSUED IN THE APPROVAL LETTER. THE RESULTING SITE AREA IS 13.999 AC±. THE APPROVAL LETTER DICTATES THAT THE MAP DESIGNATION CHANGE MUST BE REFLECTED ON THE TOWN'S CRITICAL AREA MAP WITHIN 120 DAYS FROM THE DATE OF THE LETTER.

BUILDING SETBACKS:

		EXISTING:			PROPOSED:		FUTURE:	
		OFFICE	CONSTRUCTION OFFICE	STORAGE	A	B	C	D
FRONT – 40'		161.5'	200.0'	241.0'	488.8'	484.0'	472.5'	364.0'
REAR – 30' (OR TO AIRPORT CLEAR ZONE – SEE PLAT 4/35G)		555.1'	481.5'	457.1'	219.3'	163.6'	142.2'	246.6'
SIDE – 10'		22.0'	195.0'	68.4'	202.3'	70.5'	162.9'	155.3'
NTW – 25'								
SDA – 20'								
STREAM – 100'								

EXISTING CONDITIONS: DEVELOPED LOT CONTAINING A 12,150 SF OFFICE BUILDING WITH ASPHALT PARKING LOT AND A 4,600 SF OFFICE BUILDING WITH 8,010 SF OF SEMI-DETACHED WAREHOUSE STORAGE SPACE AND A 25,250 SF CONCRETE PAD FOR EQUIPMENT STORAGE.

PROPOSED DEVELOPMENT: (2) 9,750 SF POLE BUILDINGS (BUILDINGS 'A' AND 'B') FOR STORAGE AND ASSOCIATED GRAVEL ACCESS AND STORMWATER MANAGEMENT, THE ABANDONMENT OF TWO EXISTING SEWAGE RESERVE AREAS AND REMOVAL OF AN EXISTING SEPTIC SYSTEM TO BE REPLACED WITH A GRINDER PUMP AND FORCE MAIN TO SERVE EXISTING AND PROPOSED BUILDINGS. THE IMPROVEMENTS WILL NOT GENERATE ANY INCREASED TRUCK TRAFFIC TO OR FROM THE SITE AND IS NOT EXPECTED TO HAVE ANY IMPACT ON THE SURROUNDING AREA.
DEVELOPMENT OF TWO 8,000 SF SINGLE-STORY OFFICE BUILDINGS (BUILDINGS 'C' AND 'D') AND ASSOCIATED PARKING LOTS AND STORMWATER MANAGEMENT AREAS TO BE CONSTRUCTED IN A FUTURE SECOND PHASE.

MINIMUM LOT SIZE: 40,000 SF
MAXIMUM BUILDING HEIGHT: 35'
PROPOSED BUILDING HEIGHT: PROPOSED BUILDING NOT TO EXCEED 35'

TOTAL LOT COVERAGE PERMITTED: 50% (BUILDINGS & STRUCTURES ONLY)

*NOTE: EXISTING AND PROPOSED LOT COVERAGES LISTED BELOW WERE CALCULATED USING THE TOTAL COMBINED SITE AREA OF 13.999 AC±

TOTAL EXISTING LOT COVERAGE: 13.3%
TOTAL LOT COVERAGE: 50% PERMITTED (BUILDINGS & STRUCTURES ONLY)
PHASE 1 BUILDINGS (CONSTRUCTION RELATED BUSINESS):
STORAGE BUILDING A: 9,750 SF
STORAGE BUILDING B: 9,750 SF
PHASE 2 BUILDINGS (CONSTRUCTION RELATED BUSINESS):
1-STORY OFFICE BUILDING C: 8,000 SF
1-STORY OFFICE BUILDING D: 8,000 SF
TOTAL BUILDING: 35,500 SF PROPOSED (5.84%)

PHASING NOTE: ALL IMPROVEMENTS AS SHOWN HEREON SHALL BE COMPLETED IN PHASE 1 WITH THE EXCEPTION OF FUTURE BUILDINGS C & D WHICH SHALL BE CONSTRUCTED IN PHASE 2.

PARKING REQUIRED:
EXISTING BUILDINGS
OFFICE – OFFICE OR BANK WITHOUT DRIVE THRU @ 1/250 GFA: 12,150 SF/250 = 49 SPACES MINIMUM
1 BIKE SPACE PER 10 VEHICLE SPACES: 49/10 = 5 BIKE SPACES MINIMUM
OFFICE OR BANK WITHOUT DRIVE THRU @ 1/140 GFA: 12,150 SF/140 = 87 SPACES MAXIMUM
1 BIKE SPACE PER 10 VEHICLE SPACES: 87/10 = 9 BIKE SPACES MAXIMUM
CONSTRUCTION OFFICE – CONSTRUCTION RELATED BUSINESS @ 1/1000 GFA: 4,600 SF/1000 = 5 SPACES MINIMUM
CONSTRUCTION RELATED BUSINESS @ 1/200 GFA: 4,600 SF/200 = 23 SPACES MAXIMUM

WAREHOUSE – CONSTRUCTION RELATED BUSINESS @ 1/1000 GFA: 8,010 SF/1000 = 8 SPACES MINIMUM
CONSTRUCTION RELATED BUSINESS @ 1/200 GFA: 8,010 SF/200 = 40 SPACES MAXIMUM

PROPOSED BUILDINGS
A & B – CONSTRUCTION RELATED BUSINESS @ 1/1000 GFA: 18,000 SF/1000 = 18 SPACES MINIMUM (INCL 1 ADA SPACE)
CONSTRUCTION RELATED BUSINESS @ 1/200 GFA: 18,000 SF/200 = 90 SPACES MAXIMUM (INCL 4 ADA SPACES)

FUTURE BUILDINGS
C & D – CONSTRUCTION RELATED BUSINESS @ 1/1000 GFA: 16,000 SF/1000 = 16 SPACES MINIMUM (INCL 1 ADA SPACE)
CONSTRUCTION RELATED BUSINESS @ 1/200 GFA: 16,000 SF/200 = 80 SPACES MAXIMUM (INCL 4 ADA SPACES)
TOTAL SPACES REQUIRED = 34 SPACES (MINIMUM)

PARKING PROVIDED:
EXISTING BUILDINGS
62 EXISTING SPACES, INCLUDING 3 ADA SPACES (NOTE-SLOPE COMPLIANCE OF EXISTING ADA SPACES HAS BEEN FIELD VERIFIED BY LANE ENGINEERING)
5 BIKE SPACES (BIKE RACK TO BE INSTALLED AS PART OF PHASE 1 CONSTRUCTION)

PROPOSED BUILDINGS
18 PROPOSED SPACES PROVIDED, INCLUDING 1 VAN ACCESSIBLE ADA SPACE

FUTURE BUILDINGS
64 PROPOSED SPACES PROVIDED, INCLUDING 2 ADA SPACES AND 2 VAN ACCESSIBLE ADA SPACES

STORMWATER MANAGEMENT: QUANTITY MANAGEMENT IS ADDRESSED BY AN EXISTING REGIONAL STORMWATER FACILITY. STORMWATER QUALITY MANAGEMENT WILL BE ADDRESSED THROUGH ESD FEATURES AS REQUIRED AND SHOWN HEREON APPROXIMATELY.

FOREST CONSERVATION: PREVIOUSLY SATISFIED UNDER ORIGINAL SUBDIVISION APPROVAL (PLAT PC 4/35G)

LIGHTING: ALL LIGHTING WILL BE SCREENED FROM VIEW OR DIRECTED DOWNWARD AND SHIELDED, AT A MAXIMUM HEIGHT OF 18', AND NOT EXCEED LEVELS GREATER THAN 1-FOOT CANDLE AT PROPERTY LINES

SIGNAGE: EXISTING SIGN TO BE UTILIZED, NO NEW SIGNAGE PROPOSED WITH THIS DEVELOPMENT.

REFUSE/TRASH: BUILDINGS 'A' AND 'B' WILL UTILIZE THE DUMPSTER ALREADY IN PLACE FOR THE EXISTING STORAGE YARD. A PROPOSED DUMPSTER LOCATION FOR BUILDINGS 'C' AND 'D' IS SHOWN.

PROJECT NOTES

1. PROPERTY BOUNDARY AND EXISTING CONDITIONS SURVEYED BY LANE ENGINEERING, LLC ON AUGUST 2023.
2. SITE TOPOGRAPHY AS SHOWN HEREIN WAS DERIVED FROM A FIELD SURVEY BY LANE ENGINEERING, LLC DATED AUGUST 2023.
3. THE ELEVATIONS SHOWN HEREON ARE NAVD 1988 DATUM.
4. THE COORDINATES SHOWN HEREON ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM NAD83 (2011).
5. THE SITE IS LOCATED PARTIALLY WITHIN OF THE CHESAPEAKE BAY CRITICAL AREA.
6. THERE ARE NO KNOWN HISTORIC STRUCTURES OR ARCHEOLOGICALLY SIGNIFICANT RESOURCES, STREAMS, TIDAL WETLANDS/NON-TIDAL WETLANDS OR KNOWN HABITAT PROTECTION AREAS IN PROXIMITY TO THE PROPOSED SITE IMPROVEMENTS.
7. PUBLIC WATER AND SEWER SERVICES ARE PROVIDED BY THE TOWN OF EASTON.
8. FAA DETERMINATION OF NO HAZARD TO AIR NAVIGATION SHALL BE REQUIRED.

COMPREHENSIVE PLAN DESIGN PRINCIPLES RESPONSE NARRATIVE

PRINCIPLE #1– INTEGRATED USES ARE DESIRABLE– THIS DEVELOPMENT PROPOSAL PROVIDES ADDITIONAL STORAGE SPACE FOR EXISTING BUSINESSES IN THIS MIXED BUSINESS PARK

PRINCIPLE #2– NATURAL FEATURES SHOULD DETERMINE DESIGN– NO COMPELLING NATURAL FEATURES; PROPOSED IMPROVEMENTS ARE CONFIGURED TO CREATE COHESIVE SITE LAYOUT UPON COMPLETION AND TAKE ADVANTAGE OF NATURAL DRAINAGE PATTERNS

PRINCIPLE #3– AUTOMOBILES SHOULD NOT DETERMINE DESIGN– PARKING FOR OFFICE USERS AND CUSTOMERS PROVIDED FOR CONVENIENCE WITH BULK OF PARKING TO FRONT OR REAR OF BUILDING

PRINCIPLE #4– AMPLE COMMUNITY OPEN SPACE– USABLE OPEN SPACE IS NOT APPLICABLE TO THIS PROJECT

PRINCIPLE #5– ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT– PROPOSED ARCHITECTURE MATCHES EXISTING BUILDINGS IN DESIGN AND IS COMPATIBLE WITH THE COMMERCE PARK'S ARCHITECTURAL PALETTE

PRINCIPLE #6– SIGNS SHOULD INFORM BUT NOT DOMINATE– NO NEW SIGNAGE IS PROPOSED

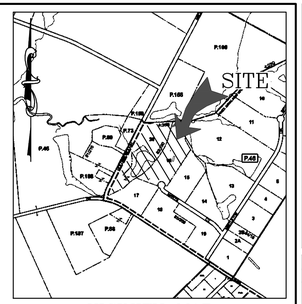
PRINCIPLE #7– NEIGHBORHOODS SHOULD CONTAIN A DIVERSITY OF HOUSING TYPES– NOT APPLICABLE TO THIS PROJECT

PRINCIPLE #8 RESIDENTIAL NEIGHBORHOODS SHOULD BE INTERESTING PLACES– NOT APPLICABLE TO THIS PROJECT

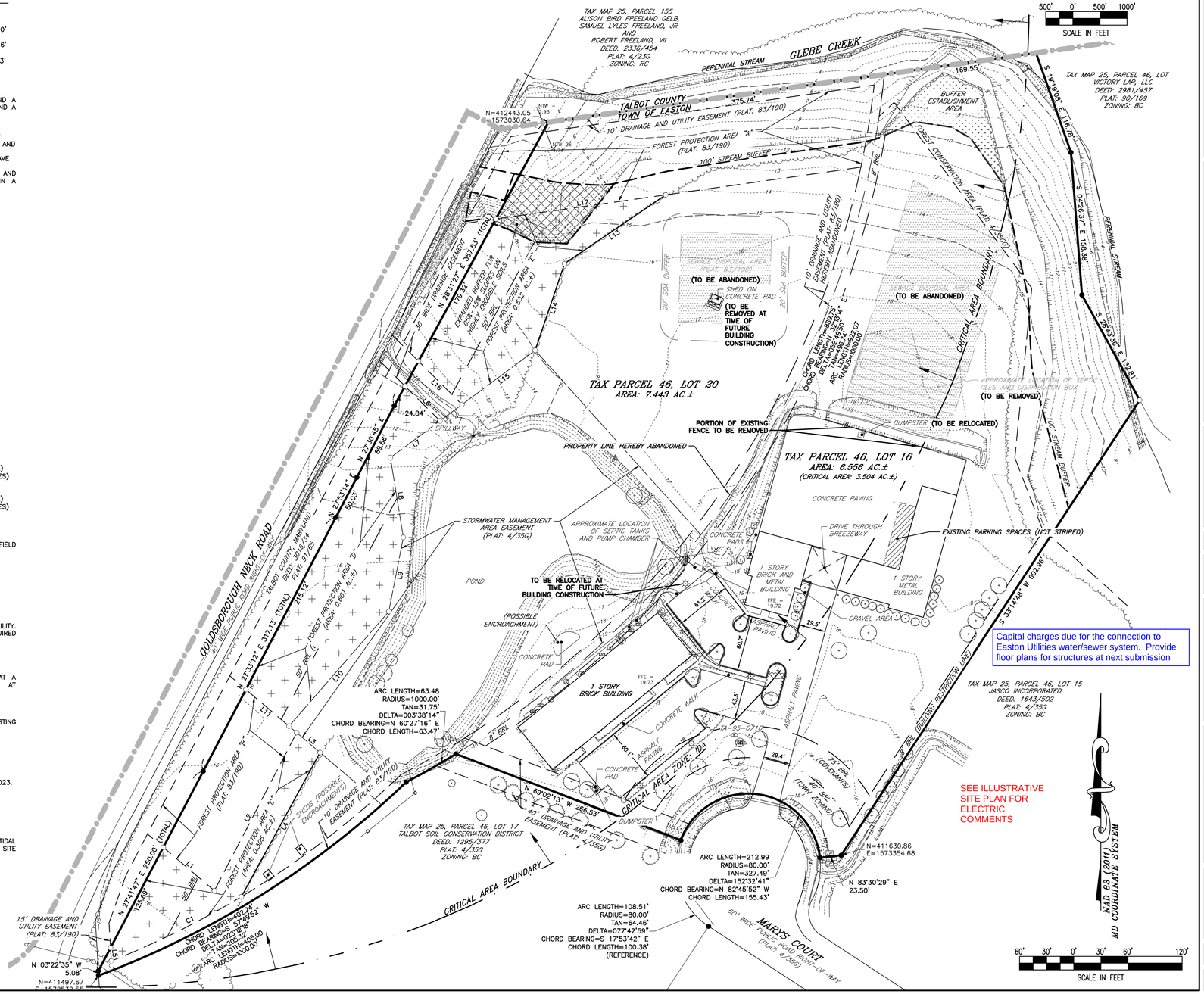
PRINCIPLE #9– NEIGHBORHOODS SHOULD CONNECT– NOT APPLICABLE TO THIS PROJECT

LEGEND

HVAC UNIT	LAMP POLE
SANITARY SEWER CLEAN OUT	UTILITY POLE
SANITARY SEWER MANHOLE	OHU OVER HEAD UTILITY LINES
TELEPHONE PEDESTAL	TOP OF BANK
FIRE HYDRANT	BOTTOM OF BANK
DRINKING WATER SUPPLY WELL	MAJOR CONTOUR
WATER METER	MINOR CONTOUR
WATER VALVE	APPROXIMATE TREE LINE
WF WATER FAUCET	TOWN ZONING LINE
ELECTRIC OUTLET	COMPUTED POINT
ELECTRIC TRANSFORMER	IRON ROD FOUND
ELECTRIC METER	IRON ROD SET
ELECTRIC HANDHOLE	SEWAGE DISPOSAL AREA



VICINITY MAP
SCALE: 1" = 1,000'



APPROVED:
PLANS ARE ISSUED FOR REVIEW ONLY
TOWN OF EASTON – TOWN PLANNER DATE
APPROVED:
TOWN OF EASTON – TOWN ENGINEER DATE
APPROVED:
PLANS ARE NOT APPROVED FOR CONSTRUCTION
EASTON PLANNING COMMISSION DATE

REVISIONS

No.	DATE	DESCRIPTION	BY

WARNING!!
THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL TEST PIT AND LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY DEPT. OF PUBLIC WORKS OF ANY POSSIBLE CONFLICT AND REQUEST THE RELOCATION OF THE EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING ANY WORK ON-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RELOCATION EXPENSE.

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

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

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 60891, Expiration Date: 04/13/2025.

SEAL
STATE OF MARYLAND
BRIAN W. WALLACE
60891
PROFESSIONAL ENGINEER
04/25
DATE

EXISTING CONDITIONS PLAN

SOMERSET WELL DRILLING
28580 MARYS COURT

IN THE TOWN OF EASTON, WARD 1
TALBOT COUNTY, MARYLAND
TAX MAP 25, PARCEL 46, LOTS 16 & 20

ISSUED FOR:	DATE:	BY:
ESDR REVIEW	01/01/25	JSC
ESDR REVIEW	02/04/25	JSC

SHEET No. 1 OF 2
DATE: 02/04/25
JOB No. 240060
SCALE: AS NOTED
FILE No. A037

Date: 02/05/2025 - 8:50am User: bwallace Project Manager: TWG
Drawing Path: J:\2024\0000\240060\Civil3D-240060\Dwg\Plats\CSK-PLTS-240060.dwg | 1 OF 2
XREF File(s): CSK-BASE-240060/HATCH-BASE-240060/VLD-BASE-240060/VSF-BASE-240060/CBS-BASE-2436-240060/RAR-BASE-240060/CEC-BASE-240060/LLP-BASE-240060/XRN-BASE-240060

TOWN OF EASTON

PO Box 520
Easton, Maryland 21601
(410)-822-2526 Fax (410)-822-8738

Office of Building Inspection.

ESDR- Building Inspection and Permit Department Comments

Date: January 21, 2025

Project; 28520 Mary's Court Somerset Well Drilling Co.

A Town of Easton Building Permit is required for all new construction.
Information regarding Building Construction is not the same as listed in your application.

Contact this Department and verify current Building Codes including the Town of Easton's modifications prior to preparation of Building plans.

The following lists items required on the construction drawings in order to apply for a Building Permit for a three sided open storage building.

- Construction Documents (3 sets) for any new construction will be required. Documents must be prepared by a registered Maryland Registered Architect, with original plans signed and sealed. A code analysis completed by a Registered Maryland Architect including, classification (use group), construction type, and occupant loads must be completed and included with the application materials.
- An appointment may be set up with this department to review your permit application materials prior to permit application submission.

Joe Mayer <jmayer@eastonmd.gov>

Somerset Well Drilling - 28580 Mary's Court

5 messages

Ann Sekerak -DNR- <ann.sekerak@maryland.gov> Fri, Jan 24, 2025 at 11:18 AM
To: Joe Mayer <jmayer@eastonmd.gov>
Cc: Margaret White -DNR- <margaret.white@maryland.gov>

Hi Joe -

Thank you for providing information regarding the above-referenced site plan to our office for review. We note that this site was approved for growth allocation per the letter dated November 8, 2024 (attached). The applicant cannot receive a permit for the proposed project until all conditions of approval, as outlined in the attached letter, have been met.

In addition, we note that the project must meet all Critical Area requirements for development in the Intensely Developed Area (IDA), including the 10% Rule.

Please accept this email as our official review. Let me know if you have any questions.

Thank you!
Annie

Critical Area Commission for the
Chesapeake & Atlantic Coastal Bays
dnr.maryland.gov/criticalarea

Annie Sekerak, AICP
Natural Resources Planner
Critical Area Commission for the
Chesapeake & Atlantic Coastal Bays
1804 West Street, Suite 100
Annapolis, MD 21401
410-260-3466 (office)
667-500-2027 (cell)
ann.sekerak@maryland.gov

CAC Approval Letter_Cohee Growth Allocation.pdf
145K

Joe Mayer <jmayer@eastonmd.gov> Fri, Jan 24, 2025 at 11:24 AM
To: Ann Sekerak -DNR- <ann.sekerak@maryland.gov>
Cc: Margaret White -DNR- <margaret.white@maryland.gov>, Miguel Salinas <msalinas@eastonmd.gov>

Thank you!
[Quoted text hidden]
--
Regards,
Joseph A. Mayer
Plan Reviewer
Town of Easton
14 South Harrison Street
Easton, MD 21601
410-822-1943

Ann Sekerak -DNR- <ann.sekerak@maryland.gov> Tue, Feb 11, 2025 at 11:20 AM
To: Joe Mayer <jmayer@eastonmd.gov>
Cc: Margaret White -DNR- <margaret.white@maryland.gov>

Hi Joe - Thank you for submitting additional information regarding the site plan, line revision plat, and Buffer Management Plan!

The concept plans that we reviewed as part of the growth allocation request showed a nontidal wetland buffer onsite, which does not appear to be included on the revised plans. We note that authorization by the Maryland Department of the Environment may be required if any portion of the proposed Limit of Disturbance (LOD) will impact a nontidal wetland and/or its buffer, including the LOD associated with the stormwater management and erosion and sediment control plans.

Provided the proposed plans meet all other applicable requirements per the Town's Critical Area program, we have no additional comments at this time.

Please be sure to upload copies of the final/signed plans once they are available, including the line revision plat, Buffer Management Plan, Planting Agreement, stormwater management plan, and erosion and sediment control plan.

Also, has the Critical Area designation for the growth allocation area been updated on the Town's maps? If so, can you please forward an electronic file of the mapping layer to lisa.hoerger@maryland.gov and bob.cicconetti@maryland.gov so that we can update the map on our website? If you've already done this, just let me know!

Thank you!
Annie

Critical Area Commission for the
Chesapeake & Atlantic Coastal Bays
dnr.maryland.gov/criticalarea

Annie Sekerak, AICP
Natural Resources Planner
Critical Area Commission for the
Chesapeake & Atlantic Coastal Bays
1804 West Street, Suite 100
Annapolis, MD 21401
410-260-3466 (office)
667-500-2027 (cell)
ann.sekerak@maryland.gov

[Quoted text hidden]

Joe Mayer <jmayer@eastonmd.gov> Tue, Feb 11, 2025 at 1:47 PM
To: Ann Sekerak -DNR- <ann.sekerak@maryland.gov>
Cc: Margaret White -DNR- <margaret.white@maryland.gov>, Nicholas Johnson <njohnson@eastonmd.gov>, Lisa Hoerger -DNR- <lisa.hoerger@maryland.gov>, bob.cicconetti@maryland.gov

Hi Annie,

Thank you for your email. The Critical Area designation for the growth allocation area has been updated on the Town's interactive map "Eye Over Easton". Please see the link below.

https://experience.arcgis.com/experience/6e4fcffdb826413c8398b8b9913545d2/#data_s=id%3AdataSource_add_from_url_entry-d52cd62e811645f0944145893ffea270-18969959bcd-layer-60%3A20

I've also attached a pdf copy of the designated area.

Regards,
Joe
[Quoted text hidden]
[Quoted text hidden]

2025.02.11 CAC Map Update.pdf
556K

Ann Sekerak -DNR- <ann.sekerak@maryland.gov> Tue, Feb 11, 2025 at 4:40 PM
To: Joe Mayer <jmayer@eastonmd.gov>
Cc: Margaret White -DNR- <margaret.white@maryland.gov>, Nicholas Johnson <njohnson@eastonmd.gov>

Thank you, Joe, this is very helpful!

Critical Area Commission for the
Chesapeake & Atlantic Coastal Bays
dnr.maryland.gov/criticalarea

Annie Sekerak, AICP
Natural Resources Planner
Critical Area Commission for the
Chesapeake & Atlantic Coastal Bays
1804 West Street, Suite 100
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ann.sekerak@maryland.gov

[Quoted text hidden]

Joe Mayer <jmayer@eastonmd.gov>

Re: Quick Update: ESDR Determination

1 message

Daryl Caldwell <1st.lieutenant@eastonvfd.org> Mon, Mar 3, 2025 at 7:20 PM
To: Joseph Mayer <jmayer@eastonmd.gov>

Good Morning

The fire department only has a few concerns. Fire Department concerns are listed below.

1.) If not already, please make sure the building is sprinklered. Also make sure the sprinkler room is clearly marked and also on the first floor if possible. Also make sure the sprinkler connection is clearly marked on the outside.

2.) IF possible had a standpipe system, if not in the building. We do understand it might not have a standpipe system, if not the department can work around it.

3.) Make sure all the exits and emergency back-up lighting is working.

4.) Make sure if the building has a alarm system, that the room is marked clearly. IF possible please have the alarm room on the first floor.

5.). IF the building has a elevator, please make sure the elevator room is marked and please make sure the elevator key is in the elevator room.

6.) Is there an access from the inside to the roof of the building?

7.) Knox box for the building is in clear view.

8.) Make sure there is access to the sally port, either key or key code. Placing a separate Knox box at sally port, might not be a bad idea.

Thank you

Assist Chief Daryl Caldwell
Easton Vol. Fire Department.
410-822-4848.

---- On Fri, 28 Feb 2025 11:08:25 -0500 **Joseph Mayer via Smartsheet <user@app.smartsheet.com>** wrote ---

Attached, please find the ESDR Determination Letter for "28580 Mary's Court".

28580 Mary's Court

Row 123

Primary Column	ESDR Determination
Date Received	02/28/25
Date Due	
Date Completed	02/28/25
Item Status	Complete (Comments Attached)
Item Complete	true

Attachments

2025.02.26 ESDR Determination Letter 28580 Mary's Court.pdf (3M) (Row 123)

View in Smartsheet

Sent using Smartsheet - the leading work execution platform that empowers teams and organizations to move their ideas to impact - fast.
Sent by jmayer@eastonmd.gov
File links in this email will be active until March 30, 2025
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Town of Easton
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

RECEIVED
FEB 05 2025
TOWN OF EASTON

Site Plan, PUD, Planned Healthcare Application

Application Type

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

Subdivision Information

Name	MARY'S COURT / TALBOT COMMERCE PARK				
Original Property Size	Acres		Square Feet		
Telephone No.		Email			

Site Plan Information

Property Size	Acres	13.99 AC	Square Feet	609,801 SF	
Structure's Floor Area	34,000 SF		Structure's Square Feet	34,000 SF	
Area of Disturbance	147,554 SF		Number of Dwelling Units	0	

Property Information

Address	28520 MARY'S COURT						
Tax Map	25	Grid		Parcel	46	Lot	16 & 20
Deed Refernce:	Liber	3111	Folio	84			
Plat Reference:	Liber	4	Folio	35G			
Base Zoning District	BC & A1	Historic	Y ☐	N ☒	Planned Redevelopment	Y ☐	N ☒
Source of Electricity	EASTON						

Owner

Name	SOMERSET WELL DRILLING CO, INC. C/O MIKE HALL		
Mailing Address	P.O. BOX 67, WESTOVER, MD 21871		
Telephone No.	443-786-9950	Email	MIKE@SOMERSETWELL.COM

Applicant or Agent

Name	LANE ENGINEERING, LLC C/O BRITTANY WALLACE		
Mailing Address	117 BAY STREET, EASTON, MD 21601		
Telephone No.	410-822-8003	Email	BWALLACE@LEINC.COM

Surveyor / Engineer

Name	BRITTANY WALLACE	License No.	60891	Expiration Date	4/13/25
Mailing Address	117 BAY STREET, EASTON, MD 21601				
Telephone No.	410-822-8003	Email	BWALLACE@LEINC.COM		

Any modifications during review shall warrant an updated application.

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

Signature of Applicant or Agent	
Date	2/4/25
Printed Name of Applicant or Agent	BRITTANY M WALLACE

For Office Use Only

Planning Commission Required	Y ☒ N ☐		
Planning Commission Meeting Date	03/20/2025		
Sketch Approval Date		Project No.	ESDR 25 - 01
Prelim/Dev. Approval Date		Application No.	2025-1369
Final Approval Date		Sketch Fee Paid	-
Recordation Date		Develop. Fee Paid	

Revised 02-2019

DEVELOPMENT DATA

PROPERTY: TAX MAP 25, PARCEL 46, LOT 16
PLAT 4/35G
28580 MARYS CT
EASTON, MD 21601

TAX MAP 25, PARCEL 46, LOT 20
PLAT 83/190
GOLDSBOROUGH NECK RD
EASTON, MD 21601

OWNER: SOMERSET WELL DRILLING CO, INC.
C/O MICHAEL HALL
P/O BOX 67
WESTOVER, MD 21871
(443) 783-9950

DEVELOPER: SAME AS OWNER

ZONING: BC – BUSINESS COMMERCIAL

SITE AREA: LOT 16 – 6.556 ACRES±
LOT 20 – 7.443 ACRES±
TOTAL – 13.999 ACRES±

*NOTE: A REVISION PLAT TO COMBINE LOTS 16 AND 20 WILL BE REVIEWED BY THE TOWN OF EASTON AS REQUIRED BY THE GROWTH ALLOCATION APPROVAL LETTER DATED NOVEMBER 8, 2024, AS ISSUED TO MIGUEL SALINAS BY ERIC FISHER OF THE MD CRITICAL AREA COMMISSION. THE REVISION PLAT WILL INCLUDE RESPONSES TO THE CONDITIONS ISSUED IN THE APPROVAL LETTER. THE RESULTING SITE AREA IS 13.999 AC±. THE APPROVAL LETTER DICTATES THAT THE MAP DESIGNATION CHANGE MUST BE REFLECTED ON THE TOWN'S CRITICAL AREA MAP WITHIN 120 DAYS FROM THE DATE OF THE LETTER.

BUILDING SETBACKS:

		EXISTING:			PROPOSED:		FUTURE:	
		OFFICE	CONSTRUCTION OFFICE	STORAGE	A	B	C	D
FRONT – 40'		161.5'	200.0'	241.0'	488.8'	484.0'	472.5'	364.0'
REAR – 30' (OR TO AIRPORT CLEAR ZONE – SEE PLAT 4/35G)		555.1'	481.5'	457.1'	219.3'	163.6'	142.2'	246.6'
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NTW – 25'								
SDA – 20'								
STREAM – 100'								

EXISTING CONDITIONS: DEVELOPED LOT CONTAINING A 12,150 SF OFFICE BUILDING WITH ASPHALT PARKING LOT AND A 4,600 SF OFFICE BUILDING WITH 8,010 SF OF SEMI-DETACHED WAREHOUSE STORAGE SPACE AND A 25,250 SF CONCRETE PAD FOR EQUIPMENT STORAGE.

PROPOSED DEVELOPMENT: (2) 9,750 SF POLE BUILDINGS (BUILDINGS 'A' AND 'B') FOR STORAGE AND ASSOCIATED GRAVEL ACCESS AND STORMWATER MANAGEMENT, THE ABANDONMENT OF TWO EXISTING SEWAGE RESERVE AREAS AND REMOVAL OF AN EXISTING SEPTIC SYSTEM TO BE REPLACED WITH A GRINDER PUMP AND FORCE MAIN TO SERVE EXISTING AND PROPOSED BUILDINGS. THE IMPROVEMENTS WILL NOT GENERATE ANY INCREASED TRUCK TRAFFIC TO OR FROM THE SITE AND IS NOT EXPECTED TO HAVE ANY IMPACT ON THE SURROUNDING AREA.
DEVELOPMENT OF TWO 8,000 SF SINGLE-STORY OFFICE BUILDINGS (BUILDINGS 'C' AND 'D') AND ASSOCIATED PARKING LOTS AND STORMWATER MANAGEMENT AREAS TO BE CONSTRUCTED IN A FUTURE SECOND PHASE.

MINIMUM LOT SIZE: 40,000 SF
MAXIMUM BUILDING HEIGHT: 35'
PROPOSED BUILDING HEIGHT: PROPOSED BUILDING NOT TO EXCEED 35'

TOTAL LOT COVERAGE PERMITTED: 50% (BUILDINGS & STRUCTURES ONLY)

*NOTE: EXISTING AND PROPOSED LOT COVERAGES LISTED BELOW WERE CALCULATED USING THE TOTAL COMBINED SITE AREA OF 13.999 AC±

TOTAL EXISTING LOT COVERAGE: 13.3%
TOTAL LOT COVERAGE: 50% PERMITTED (BUILDINGS & STRUCTURES ONLY)
PHASE 1 BUILDINGS (CONSTRUCTION RELATED BUSINESS):
STORAGE BUILDING A: 9,750 SF
STORAGE BUILDING B: 9,750 SF
PHASE 2 BUILDINGS (CONSTRUCTION RELATED BUSINESS):
1-STORY OFFICE BUILDING C: 8,000 SF
1-STORY OFFICE BUILDING D: 8,000 SF
TOTAL BUILDING: 35,500 SF PROPOSED (5.84%)

PHASING NOTE: ALL IMPROVEMENTS AS SHOWN HEREON SHALL BE COMPLETED IN PHASE 1 WITH THE EXCEPTION OF FUTURE BUILDINGS C & D WHICH SHALL BE CONSTRUCTED IN PHASE 2.

PARKING REQUIRED:
EXISTING BUILDINGS
OFFICE – OFFICE OR BANK WITHOUT DRIVE THRU @ 1/250 GFA: 12,150 SF/250 = 49 SPACES MINIMUM
1 BIKE SPACE PER 10 VEHICLE SPACES: 49/10 = 5 BIKE SPACES MINIMUM
OFFICE OR BANK WITHOUT DRIVE THRU @ 1/140 GFA: 12,150 SF/140 = 87 SPACES MAXIMUM
1 BIKE SPACE PER 10 VEHICLE SPACES: 87/10 = 9 BIKE SPACES MAXIMUM
CONSTRUCTION OFFICE – CONSTRUCTION RELATED BUSINESS @ 1/1000 GFA: 4,600 SF/1000 = 5 SPACES MINIMUM
CONSTRUCTION RELATED BUSINESS @ 1/200 GFA: 4,600 SF/200 = 23 SPACES MAXIMUM

WAREHOUSE – CONSTRUCTION RELATED BUSINESS @ 1/1000 GFA: 8,010 SF/1000 = 8 SPACES MINIMUM
CONSTRUCTION RELATED BUSINESS @ 1/200 GFA: 8,010 SF/200 = 40 SPACES MAXIMUM

PROPOSED BUILDINGS
A & B – CONSTRUCTION RELATED BUSINESS @ 1/1000 GFA: 18,000 SF/1000 = 18 SPACES MINIMUM (INCL 1 ADA SPACE)
CONSTRUCTION RELATED BUSINESS @ 1/200 GFA: 18,000 SF/200 = 90 SPACES MAXIMUM (INCL 4 ADA SPACES)

FUTURE BUILDINGS
C & D – CONSTRUCTION RELATED BUSINESS @ 1/1000 GFA: 16,000 SF/1000 = 16 SPACES MINIMUM (INCL 1 ADA SPACE)
CONSTRUCTION RELATED BUSINESS @ 1/200 GFA: 16,000 SF/200 = 80 SPACES MAXIMUM (INCL 4 ADA SPACES)
TOTAL SPACES REQUIRED = 34 SPACES (MINIMUM)

PARKING PROVIDED:
EXISTING BUILDINGS
62 EXISTING SPACES, INCLUDING 3 ADA SPACES (NOTE-SLOPE COMPLIANCE OF EXISTING ADA SPACES HAS BEEN FIELD VERIFIED BY LANE ENGINEERING)
5 BIKE SPACES (BIKE RACK TO BE INSTALLED AS PART OF PHASE 1 CONSTRUCTION)

PROPOSED BUILDINGS
18 PROPOSED SPACES PROVIDED, INCLUDING 1 VAN ACCESSIBLE ADA SPACE

FUTURE BUILDINGS
64 PROPOSED SPACES PROVIDED, INCLUDING 2 ADA SPACES AND 2 VAN ACCESSIBLE ADA SPACES

STORMWATER MANAGEMENT: QUANTITY MANAGEMENT IS ADDRESSED BY AN EXISTING REGIONAL STORMWATER FACILITY. STORMWATER QUALITY MANAGEMENT WILL BE ADDRESSED THROUGH ESD FEATURES AS REQUIRED AND SHOWN HEREON APPROXIMATELY.

FOREST CONSERVATION: PREVIOUSLY SATISFIED UNDER ORIGINAL SUBDIVISION APPROVAL (PLAT PC 4/35G)

LIGHTING: ALL LIGHTING WILL BE SCREENED FROM VIEW OR DIRECTED DOWNWARD AND SHIELDED, AT A MAXIMUM HEIGHT OF 18', AND NOT EXCEED LEVELS GREATER THAN 1-FOOT CANDLE AT PROPERTY LINES

SIGNAGE: EXISTING SIGN TO BE UTILIZED, NO NEW SIGNAGE PROPOSED WITH THIS DEVELOPMENT.

REFUSE/TRASH: BUILDINGS 'A' AND 'B' WILL UTILIZE THE DUMPSTER ALREADY IN PLACE FOR THE EXISTING STORAGE YARD. A PROPOSED DUMPSTER LOCATION FOR BUILDINGS 'C' AND 'D' IS SHOWN.

PROJECT NOTES

1. PROPERTY BOUNDARY AND EXISTING CONDITIONS SURVEYED BY LANE ENGINEERING, LLC ON AUGUST 2023.
2. SITE TOPOGRAPHY AS SHOWN HEREIN WAS DERIVED FROM A FIELD SURVEY BY LANE ENGINEERING, LLC DATED AUGUST 2023.
3. THE ELEVATIONS SHOWN HEREON ARE NAVD 1988 DATUM.
4. THE COORDINATES SHOWN HEREON ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM NAD83 (2011).
5. THE SITE IS LOCATED PARTIALLY WITHIN OF THE CHESAPEAKE BAY CRITICAL AREA.
6. THERE ARE NO KNOWN HISTORIC STRUCTURES OR ARCHEOLOGICALLY SIGNIFICANT RESOURCES, STREAMS, TIDAL WETLANDS/NON-TIDAL WETLANDS OR KNOWN HABITAT PROTECTION AREAS IN PROXIMITY TO THE PROPOSED SITE IMPROVEMENTS.
7. PUBLIC WATER AND SEWER SERVICES ARE PROVIDED BY THE TOWN OF EASTON.
8. FAA DETERMINATION OF NO HAZARD TO AIR NAVIGATION SHALL BE REQUIRED.

COMPREHENSIVE PLAN DESIGN PRINCIPLES RESPONSE NARRATIVE

PRINCIPLE #1– INTEGRATED USES ARE DESIRABLE– THIS DEVELOPMENT PROPOSAL PROVIDES ADDITIONAL STORAGE SPACE FOR EXISTING BUSINESSES IN THIS MIXED BUSINESS PARK

PRINCIPLE #2– NATURAL FEATURES SHOULD DETERMINE DESIGN– NO COMPELLING NATURAL FEATURES; PROPOSED IMPROVEMENTS ARE CONFIGURED TO CREATE COHESIVE SITE LAYOUT UPON COMPLETION AND TAKE ADVANTAGE OF NATURAL DRAINAGE PATTERNS

PRINCIPLE #3– AUTOMOBILES SHOULD NOT DETERMINE DESIGN– PARKING FOR OFFICE USERS AND CUSTOMERS PROVIDED FOR CONVENIENCE WITH BULK OF PARKING TO FRONT OR REAR OF BUILDING

PRINCIPLE #4– AMPLE COMMUNITY OPEN SPACE– USABLE OPEN SPACE IS NOT APPLICABLE TO THIS PROJECT

PRINCIPLE #5– ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT– PROPOSED ARCHITECTURE MATCHES EXISTING BUILDINGS IN DESIGN AND IS COMPATIBLE WITH THE COMMERCE PARK'S ARCHITECTURAL PALETTE

PRINCIPLE #6– SIGNS SHOULD INFORM BUT NOT DOMINATE– NO NEW SIGNAGE IS PROPOSED

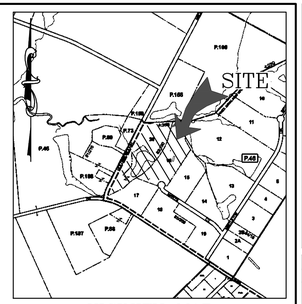
PRINCIPLE #7– NEIGHBORHOODS SHOULD CONTAIN A DIVERSITY OF HOUSING TYPES– NOT APPLICABLE TO THIS PROJECT

PRINCIPLE #8 RESIDENTIAL NEIGHBORHOODS SHOULD BE INTERESTING PLACES– NOT APPLICABLE TO THIS PROJECT

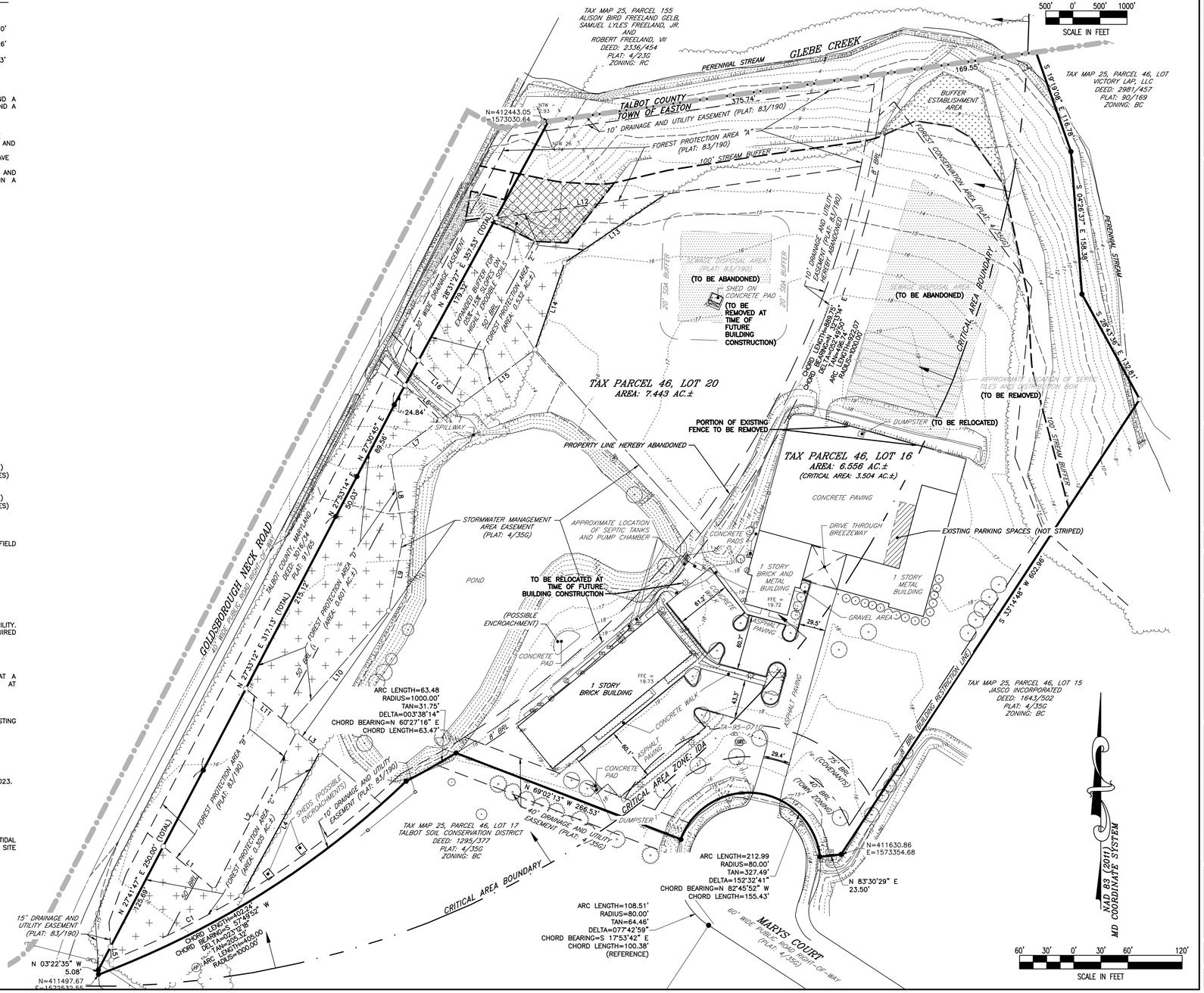
PRINCIPLE #9– NEIGHBORHOODS SHOULD CONNECT– NOT APPLICABLE TO THIS PROJECT

LEGEND

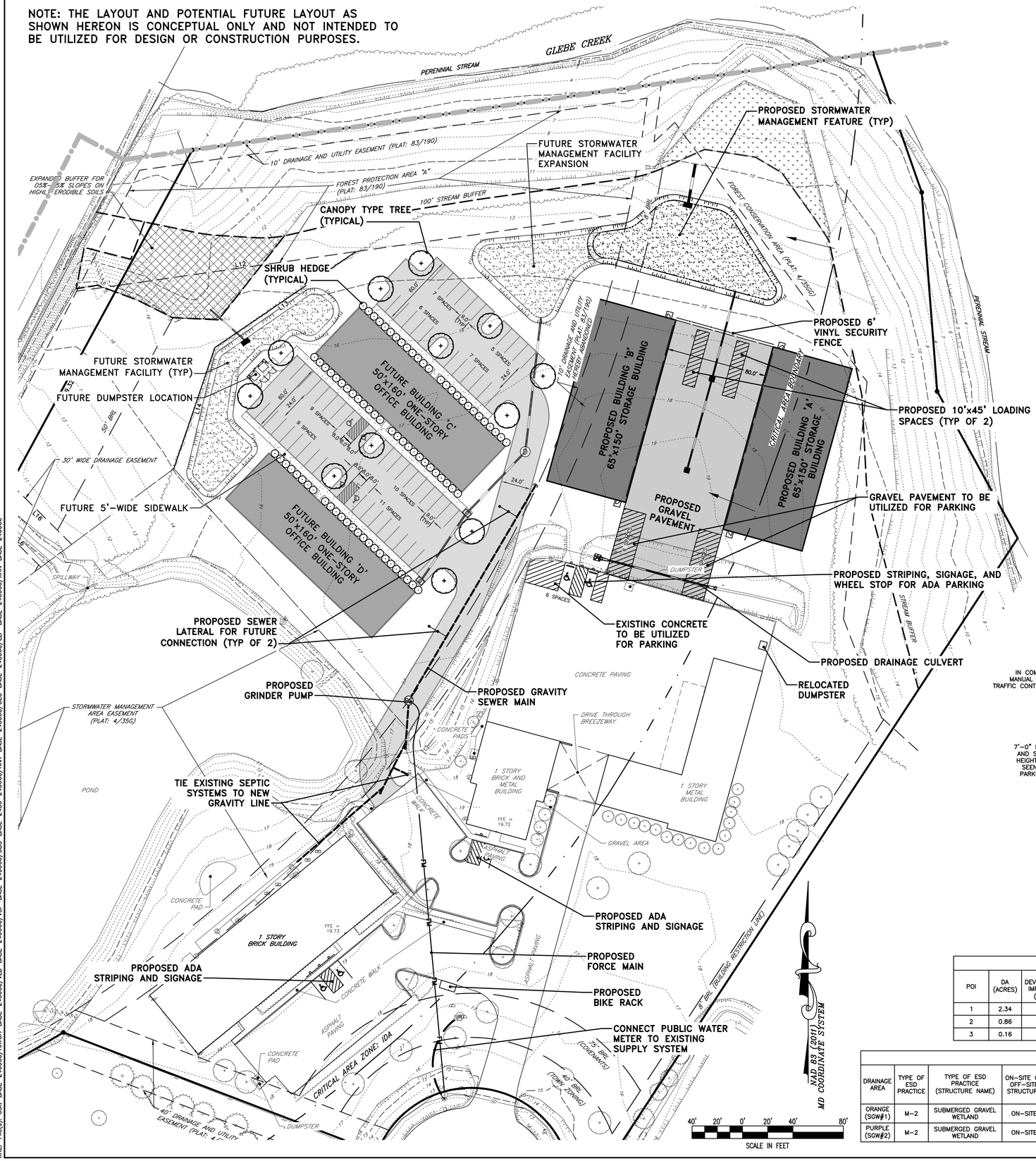
HVAC UNIT	LAMP POLE
SANITARY SEWER CLEAN OUT	UTILITY POLE
SANITARY SEWER MANHOLE	OVER HEAD UTILITY LINES
TELEPHONE PEDESTAL	TOP OF BANK
FIRE HYDRANT	BOTTOM OF BANK
DRINKING WATER SUPPLY WELL	MAJOR CONTOUR
WATER METER	MINOR CONTOUR
WATER VALVE	APPROXIMATE TREE LINE
WATER FAUCET	TOWN ZONING LINE
ELECTRIC OUTLET	COMPUTED POINT
ELECTRIC TRANSFORMER	IRON ROD FOUND
ELECTRIC METER	IRON ROD SET
ELECTRIC HANDHOLE	SEWAGE DISPOSAL AREA



VICINITY MAP
SCALE: 1" = 1,000'


TAX MAP 25, PARCEL 155
ALISON BIRD FREELAND GELB, SAMUEL LYLES FREELAND, JR. AND ROBERT FREELAND, VII
DEED: 2336/454
PLAT: 4/35G
ZONING: RC
GLEBE CREEK
PERENNIAL STREAM
TALBOT COUNTY
TOWN OF EASTON
N=412443.05
E=1573030.64
10' DRAINAGE AND UTILITY EASEMENT (PLAT: 83/190)
FOREST PROTECTION AREA "A" (PLAT: 83/190)
100' STREAM BUFFER
TAX MAP 25, PARCEL 46, LOT VICTORY LAP, LLC
DEED: 2981/457
PLAT: 90/169
ZONING: BC
BUFFER ESTABLISHMENT AREA
FOREST CONSERVATION AREA (PLAT: 4/35G)
S 18°10'05" E 116.78'
S 04°26'37" E 158.28'
S 28°43'35" E 132.81'
PERENNIAL STREAM
169.55
375.74'
GOLDSBOROUGH NECK ROAD
50' WIDE PUBLIC ROAD RIGHT-OF-WAY
TALBOT COUNTY, MARYLAND
DEED: 1616/94
PLAT: 91/65
N 27°41'47" E 250.00' (TOTAL)
N 27°35'14" E 317.13' (TOTAL)
N 27°35'14" E 315.12'
N 27°35'14" E 69.66'
N 27°35'14" E 50.03'
N 26°31'37" E 357.53' (TOTAL)
179.32'
735.69'
24.84'
30' WIDE DRAINAGE EASEMENT
DRAINAGE BUFFER AS SHOWN ON PLAT 4/35G
HIGHLY ERODIBLE SOILS
50' BRL
FOREST PROTECTION AREA (AREA: 0.532 AC.±)
FOREST PROTECTION AREA (AREA: 0.305 AC.±)
FOREST PROTECTION AREA (AREA: 0.601 AC.±)
FOREST PROTECTION AREA 75'
SHEDS (POSSIBLE ENCROACHMENTS)
10' DRAINAGE AND UTILITY EASEMENT (PLAT: 83/190)
SEWAGE DISPOSAL AREA (PLAT: 4/35G)
(TO BE ABANDONED)
SHED (ON CONCRETE PAD)
(TO BE REMOVED AT TIME OF FUTURE BUILDING CONSTRUCTION)
20' SDA BUFFER
10' DRAINAGE AND UTILITY EASEMENT (PLAT: 83/190) HEREBY ABANDONED
CHORD LENGTH=389.75'
CHORD BEARING=S 37°30'34" E
DELTA=28°08'24"
ARC LENGTH=392.07'
RADIUS=1000.00'
CRITICAL AREA BOUNDARY
(TO BE ABANDONED)
APPROXIMATE LOCATION OF SEPTIC TILES AND DISTRIBUTION BOX
(TO BE REMOVED)
DUMPSTER (TO BE RELOCATED)
PORTION OF EXISTING FENCE TO BE REMOVED
PROPERTY LINE HEREBY ABANDONED
TAX PARCEL 46, LOT 20
AREA: 7.443 AC.±
TAX PARCEL 46, LOT 16
AREA: 6.556 AC.±
(CRITICAL AREA: 3.504 AC.±)
CONCRETE PAVING
DRIVE THROUGH BREEZEWAY
EXISTING PARKING SPACES (NOT STRIPED)
STORMWATER MANAGEMENT AREA EASEMENT (PLAT: 4/35G)
APPROXIMATE LOCATION OF SEPTIC TANKS AND PUMP CHAMBER
CONCRETE PADS
1 STORY BRICK AND METAL BUILDING
FFE = 19.72
1 STORY METAL BUILDING
GRAVEL AREA
POND
TO BE RELOCATED AT TIME OF FUTURE BUILDING CONSTRUCTION
(POSSIBLE ENCROACHMENT)
CONCRETE PAD
ASPHALT PAVING
1 STORY BRICK BUILDING
FFE = 19.73
CONCRETE WALK
ARC LENGTH=63.48
RADIUS=1000.00'
TAN=31.75'
DELTA=003°38'14"
CHORD BEARING=N 60°27'16" E
CHORD LENGTH=63.47'
CRITICAL AREA ZONE: 10A
TA-95-07
N 69°02'13" W 266.53'
40' DRAINAGE AND UTILITY EASEMENT (PLAT: 4/35G)
TAX MAP 25, PARCEL 46, LOT 17
TALBOT SOIL CONSERVATION DISTRICT
DEED: 1295/377
PLAT: 4/35G
ZONING: BC
DUMPSTER
75' BRL (COMMERCIAL)
40' BRL (TOWN ZONING)
8" BRL
TAX MAP 25, PARCEL 46, LOT 15
JASCO INCORPORATED
DEED: 1643/502
FLAT: 4/35G
ZONING: BC
N=411630.86
E=1573354.68
N 83°30'29" E
23.50'
ARC LENGTH=212.99
RADIUS=80.00'
TAN=327.49'
DELTA=152°32'41"
CHORD BEARING=N 82°45'52" W
CHORD LENGTH=155.43'
ARC LENGTH=108.51'
RADIUS=80.00'
TAN=64.46'
DELTA=077°42'59"
CHORD BEARING=S 17°53'42" E
CHORD LENGTH=100.38'
(REFERENCE)
MARYS COURT
60' WIDE PUBLIC ROAD RIGHT-OF-WAY (PLAT: 4/35G)
CRITICAL AREA BOUNDARY
15' DRAINAGE AND UTILITY EASEMENT (PLAT: 83/190)
CHORD LENGTH=40.24'
CHORD BEARING=S 57°59'52" W
DELTA=023°05'32"
ARC LENGTH=405.00
RADIUS=1000.00'
N 03°22'35" W
5.08'
N=411497.67
E=1572632.55
S 32°14'48" W 602.98'
1 STORY BRICK BUILDING
FFE = 19.73
CONCRETE PAD
ASPHALT PAVING
CONCRETE PADS
61.2'
60.7'
29.5'
60.1'
29.4'
43.3'
L1
L2
L3
L4
L5
L6
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NOTE: THE LAYOUT AND POTENTIAL FUTURE LAYOUT AS SHOWN HEREON IS CONCEPTUAL ONLY AND NOT INTENDED TO BE UTILIZED FOR DESIGN OR CONSTRUCTION PURPOSES.



LANDSCAPE REQUIREMENTS § 1014.6.C. (STREET TREES)

1. 1 TREE PER 70' STREET FRONTAGE = 231'± (ALONG MARYS COURT) LESS ENTRANCE (40') = 173'/70' = 3 TREES REQUIRED – 3 EXISTING TREES PROVIDED

LANDSCAPE REQUIREMENTS § 1014.6.F. (ON-SITE)

1. OVERALL TREES– 1 TREE/3000 SF OF DISTURBED AREA– 147,554 SF±/3000 SF = 50 TREES REQUIRED; EXISTING TREES ON-SITE MEET OR EXCEED THE REQUIREMENT; NONE REQUIRED.

2A. INTERIOR PARKING LOT PLANTINGS– 1 TREE PER 10 SPACES; 57 SPACES/ 10 = 6 TREES REQUIRED/ PROVIDED

2B. PARKING HEDGE– SHALL BE PROVIDED.

2C. BUILDING FAÇADE PLANTINGS– 1 TREE/20' OF AFFECTED FAÇADE; NOT APPLICABLE, FACADE OF PROPOSED AND FUTURE BUILDINGS ARE SHIELDED BY EXISTING BUILDINGS AND LANDSCAPE.

2D. SERVICE/ LOADING AREAS– TOWN COMPLIANT ENCLOSURE, SCREENED AS SHOWN HEREON.

2F. BUFFERYARDS: NONE REQUIRED.

LANDSCAPE KEY

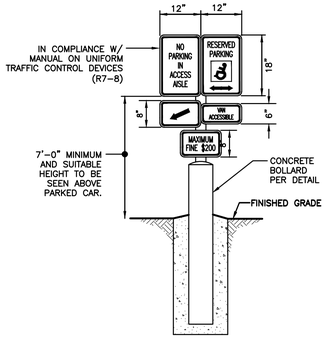
2" CALIPER MINIMUM CANOPY OR STREET TREES (OAK, MAPLE TYPES)

SHRUB HEDGE (BAYBERRY, INKBERRY TYPES)

STORMWATER MANAGEMENT ESD LANDSCAPING MASS / PERENNIAL MIX WITH SHRUBS AND GRASSES

NOTE:

THE MAJORITY OF THE PROPOSED PLANTING SHALL BE NATIVE.



VAN ACCESSIBLE ADA PARKING SIGN DETAIL
NOT TO SCALE

LEGEND

- HVAC UNIT
- SANITARY SEWER CLEAN OUT
- SANITARY SEWER MANHOLE
- TELEPHONE PEDESTAL
- FIRE HYDRANT
- DRINKING WATER SUPPLY WELL
- WATER METER
- WATER VALVE
- WATER FAUCET
- ELECTRIC OUTLET
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- ELECTRIC HANDHOLE
- LAMP POLE
- UTILITY POLE
- OHU — OVER HEAD UTILITY LINES
- TOP OF BANK
- BOTTOM OF BANK
- MAJOR CONTOUR
- MINOR CONTOUR
- APPROXIMATE TREE LINE
- TOWN ZONING LINE
- COMPUTED POINT
- IRON ROD FOUND
- IRON ROD SET
- SEWAGE DISPOSAL AREA
- PS — PROPOSED E-ONE GRINDER PUMP
- FM — PROPOSED FORCE MAIN

SWM QUANTITY SUMMARY CHART

POI	DA (ACRES)	POST DEVELOPMENT IMPERVIOUS (ACRES)	RCN	Tc (MINUTES)	PRE 2 YEAR	POST 2 YEAR	WSE	PRE 10 YEAR	POST 10 YEAR	WSE	PRE 100 YEAR	POST 100 YEAR	WSE
1	2.34	1.46	--	--	2.22	0.00	--	4.69	0.92	--	7.86	5.76	--
2	0.86	0.42	--	--	0.45	0.00	--	0.95	0.11	--	1.60	2.17	--
3	0.16	0.03	--	--	0.36	0.32	--	0.76	0.62	--	1.27	1.00	--

ESD SUMMARY CHART

DRAINAGE AREA	TYPE OF ESD PRACTICE	TYPE OF ESD PRACTICE (STRUCTURE NAME)	ON-SITE OR OFF-SITE STRUCTURE	RUNOFF CURVE NUMBER (RCN) WEIGHTED	MARYLAND GRID COORDINATE NAD 83 METERS NORTHING	MARYLAND GRID COORDINATE NAD 83 METERS EASTING	ESD PRACTICE TOTAL DRAINAGE AREA (ACRES)	ESD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES)	SURFACE AREA OF ESD PRACTICE (ACRES)	TARGET PE (IN)	ACTUAL PE (IN)	TARGET ESDv (FT³)	ACTUAL ESDv (FT³)
ORANGE (SGW#1)	M-2	SUBMERGED GRAVEL WETLAND	ON-SITE	89	401492.7738'	1580118.8427'	2.34	1.46	0.23	2.0	2.0	10,406	10,651
PURPLE (SGW#2)	M-2	SUBMERGED GRAVEL WETLAND	ON-SITE	86	401537.4268'	1579725.9363'	0.86	0.42	0.09	1.8	3.0	2764	4,607

APPROVED:
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TOWN OF EASTON – TOWN PLANNER DATE

APPROVED:
PLANS ARE NOT APPROVED FOR CONSTRUCTION
TOWN OF EASTON – TOWN ENGINEER DATE

REVISIONS

No.	DATE	DESCRIPTION	BY

WARNING!!
THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL TEST PIT AND LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY DEPT. OF PUBLIC WORKS OF ANY POSSIBLE CONFLICT AND REQUEST THE RELOCATION OF THE EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING ANY WORK ON-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RELOCATION EXPENSE.

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

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

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 60891 , Expiration Date: 04/13/2025.

SEAL
STATE OF MARYLAND BRIAN W. WALLACE 60891 PROFESSIONAL ENGINEER
DATE 8/25

SKETCH SITE PLAN

SOMERSET WELL DRILLING
28580 MARYS COURT

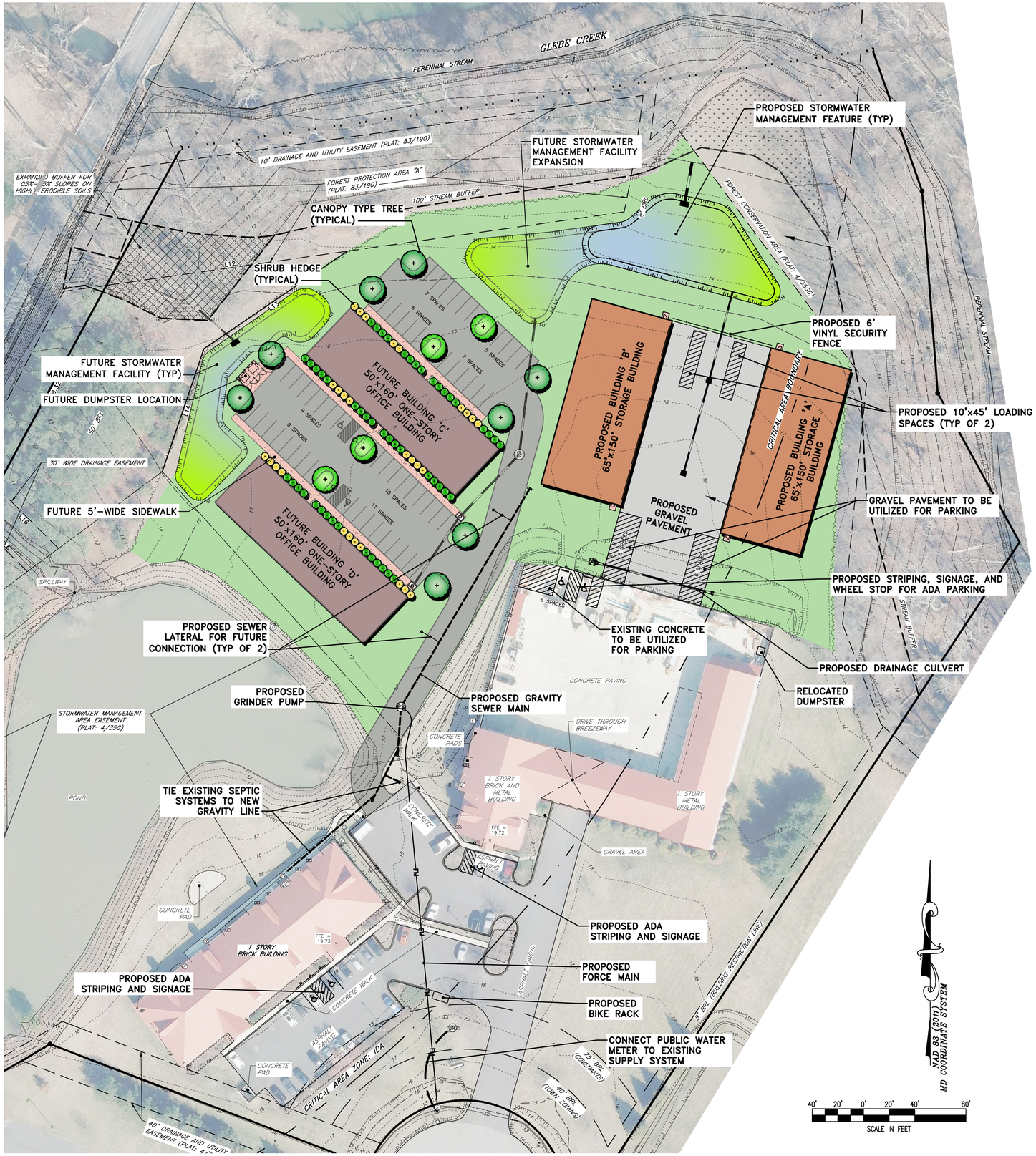
IN THE TOWN OF EASTON, WARD 1
TALBOT COUNTY, MARYLAND
TAX MAP 25, PARCEL 46, LOTS 16 & 20

ISSUED FOR:	DATE:	BY:
ESDR REVIEW	01/01/25	JSC
ESDR REVIEW	02/04/25	JSC

SHEET No. 2 OF 2
SCALE: AS NOTED
DATE: 02/04/25
JOB No. 240060
FILE No. A037

© LANE ENGINEERING, LLC

Date: 02/04/2025 - 3:24pm User: bwallace Project Manager: TWG
Drawing Path: J:\2024\0000\240060\Civil3D-240060\Dwg\Plots\CSK-PLTS-240060.dwg | 2 OF 2
XREF File(s): CSK-BASE-240060/MATCH-BASE-240060/MLD-BASE-240060/VSF-BASE-240060/CBS-BASE-2438-240060/RAR-BASE-240060/CEC-BASE-240060/LLP-BASE-240060



Date: 02/04/2025 - 3:24pm User: bwallace Project Manager: TWG
Drawing Path: J:\2024\0000\240060\Civil3D-240060\Dwg\Plots\CSK-PLTS-240060.dwg | ILLUSTRATIVE
XREF File(s): CSK-BASE-240060/MATCH-BASE-240060/YLD-BASE-240060/VSF-BASE-240060/CBS-BASE-2438-240060/RAR-BASE-240060/CEC-BASE-240060/LUP-BASE-240060/XRN-BASE-240060

LANDSCAPE REQUIREMENTS § 1014.6.C. (STREET TREES)

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2A. INTERIOR PARKING LOT PLANTINGS– 1 TREE PER 10 SPACES; 57 SPACES/ 10 = 6 TREES REQUIRED/ PROVIDED

2B. PARKING HEDGE– SHALL BE PROVIDED.

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2D. SERVICE/ LOADING AREAS– TOWN COMPLIANT ENCLOSURE, SCREENED AS SHOWN HEREON.

2F. BUFFERYARDS: NONE REQUIRED.

LANDSCAPE KEY

2" CALIPER MINIMUM CANOPY OR STREET TREES (OAK, MAPLE TYPES)

SHRUB HEDGE (BAYBERRY, INKBERRY TYPES)

STORMWATER MANAGEMENT ESD LANDSCAPING MASS / PERENNIAL MIX WITH SHRUBS AND GRASSES

NOTE:

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LEGEND

- HVAC UNIT
- SANITARY SEWER CLEAN OUT
- SANITARY SEWER MANHOLE
- TELEPHONE PEDESTAL
- FIRE HYDRANT
- DRINKING WATER SUPPLY WELL
- WATER METER
- WATER VALVE
- WATER FAUCET
- ELECTRIC OUTLET
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- ELECTRIC HANDHOLE
- LAMP POLE
- UTILITY POLE
- OHU — OVER HEAD UTILITY LINES
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- IRON ROD FOUND
- IRON ROD SET
- SEWAGE DISPOSAL AREA
- PROPOSED E-ONE GRINDER PUMP
- FM — PROPOSED FORCE MAIN

NOTE: THE LAYOUT AND POTENTIAL FUTURE LAYOUT AS SHOWN HEREON IS CONCEPTUAL ONLY AND NOT INTENDED TO BE UTILIZED FOR DESIGN OR CONSTRUCTION PURPOSES.

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TOWN OF EASTON – TOWN PLANNER DATE

APPROVED:
TOWN OF EASTON – TOWN ENGINEER DATE

APPROVED:
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EASTON PLANNING COMMISSION DATE

REVISIONS

No.	DATE	DESCRIPTION	BY

WARNING!!

THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL TEST PIT AND LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY DEPT. OF PUBLIC WORKS OF ANY POSSIBLE CONFLICT AND REQUEST THE RELOCATION OF THE EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING ANY WORK ON-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RELOCATION EXPENSE.

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

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

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 60891 , Expiration Date: 04/13/2025.

SEAL
STATE OF MARYLAND · BRITTANY M. WALLACE · 60891 · PROFESSIONAL ENGINEER
DATE

ILLUSTRATIVE SITE PLAN

SOMERSET WELL DRILLING
28580 MARYS COURT

IN THE TOWN OF EASTON, WARD 1
TALBOT COUNTY, MARYLAND
TAX MAP 25, PARCEL 46, LOTS 16 & 20

ISSUED FOR:	DATE:	BY:
ESDR REVIEW	01/01/25	JSC
ESDR REVIEW	02/04/25	JSC

SHEET No. 1 OF 1	DATE: 02/04/25
SCALE: AS NOTED	JOB No. 240060
	FILE No. A037

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NEW BUILDING FOR

MIKE HALL

28580 MARY'S COURT
EASTON, MARYLAND

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

CODE INFORMATION

CODE INFORMATION

BUILDING AREA –9,750 SQUARE FEET
SHELL BUILDING, UNCONDITIONED

I. INTERNATIONAL BUILDING CODE – 2021
A. OCCUPANCY CLASSIFICATION –
MODERATE HAZARD STORAGE GROUP S–1

B. INCIDENTAL USE AREAS
1. BOILER AND FURNACE ROOMS – NOT APPLICABLE
2. STORAGE ROOMS OVER 100 SQ. FT. – NOT APPLICABLE

C. GENERAL BUILDING HEIGHTS AND AREAS
1. HEIGHT –
GROUP S–1 – 1 STORY, 40' PERMITTED
HEIGHT MODIFICATIONS NOT REQUIRED
2. AREA –
GROUP S–1 – 9,000 SQUARE FEET PERMITTED
OPEN SPACE AT BUILDING PERIMETER = 30 FT. OR GREATER
FRONTAGE INCREASE = 500/500 – .25 X 30/30 = .75
9000 + (9000 X .75) = 9000 + 6750 = 15750
AREA MODIFICATIONS ALLOW 15750 SQUARE FEET

D. TYPE OF CONSTRUCTION – CONSTRUCTION TYPE **VB**
1. STRUCTURAL FRAME – 0 HOUR
2. BEARING WALLS, EXTERIOR – 0 HOUR
3. BEARING WALLS, INTERIOR – 0 HOUR
4. NONBEARING WALLS, EXTERIOR – 0 HOUR
5. NONBEARING WALLS, INTERIOR – 0 HOUR
6. FLOOR CONSTRUCTION – 0 HOUR
7. ROOF CONSTRUCTION – 0 HOUR
8. FIRE SEPARATION DISTANCE,
GREATER THAN 30 FT. – 0 HOUR
9. UNPROTECTED WALL OPENING,
GREATER THAN 30 FT. – UNLIMITED AREA

E. INTERIOR FINISHES –
1. WALLS AND CEILINGS –
EXIT ACCESS CORRIDORS – CLASS C
ROOMS AND ENCLOSED SPACES – CLASS C
2. FLOOR FINISH – CLASS II
3. DECORATIONS AND TRIM – FLAME RESISTANT

F. MEANS OF EGRESS
1. OCCUPANT LOAD –
WAREHOUSE –
500 SQUARE FEET PER OCCUPANT = 20 PEOPLE
2. EGRESS WIDTH –
STAIRWAYS – .3" PER OCCUPANT
OTHER EGRESS COMPONENTS – .2" PER OCCUPANT
3. ACCESSIBLE MEANS OF EGRESS –
TWO REQUIRED
TWO PROVIDED
4. SPACES WITH ONE MEANS OF EGRESS –
MAXIMUM OCCUPANT LOAD – 50
MAXIMUM TRAVEL DISTANT – 75'
5. LENGTH OF EXIT ACCESS TRAVEL –
200 FEET MAXIMUM ALLOWED
50 FEET MAXIMUM PROVIDED
6. SIZE OF DOORS – 32 " MINIMUM
EGRESS WIDTH PER OCCUPANT = .2"/PERSON, 34 X .2" =
170 PEOPLE PER DOOR
7. PANIC HARDWARE – NOT REQUIRED
8. LIGHTED EXIT SIGNS REQUIRED

II. NFPA 101 – 2021
A. CLASSIFICATION OF OCCUPANCY –
STORAGE

B. CLASSIFICATION OF HAZARD OF CONTENTS – ORDINARY HAZARD

C. MINIMUM CONSTRUCTION REQUIREMENTS – NO REQUIREMENT

D. OCCUPANT LOAD – 20 PEOPLE

E. MEANS OF EGRESS –
1. ALL EXITS LOCATED AT LEVEL OF EXIT DISCHARGE
2. TWO EXITS REQUIRED
2. DOORS
a. 32" MINIMUM CLEAR WIDTH
b. MAXIMUM FLOOR VARIATION BOTH SIDES OF DOOR – 1/2"
c. SWING IN DIRECTION OF EGRESS TRAVEL
3. PANIC HARDWARE AT EXIT DOORS FROM BUILDING NOT REQUIRED
4. TRAVEL DISTANCE TO EXITS – 150 FEET MAXIMUM
5. EMERGENCY LIGHTS AND LIGHTED EXIT SIGNS

F. PROTECTION –
1. INTERIOR WALL AND CEILING CLASS A, CLASS B OR CLASS C
2. SMOKE DETECTORS AND FIRE ALARM SYSTEM NOT REQUIRED

IV. ADA

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

NOTES:

1. ALL DOORS TO BE EQUIPPED WITH LEVER TYPE LOCK AND LATCHSETS. UNLESS NOTED OTHERWISE

INDEX OF DRAWINGS

T1.1	TITLE SHEET, INDEX AND CODE INFORMATION
A1.1	FLOOR PLANS AND NOTES
A2.1	ELEVATIONS
A2.2	ELEVATIONS
A3.1	WALL SECTIONS

GENERAL CONTRACTOR
POLE BUILDINGS
UNLIMITED

W.F.HORN
ARCHITECT, INC.
30093 W. BARRIER REEF BLVD. LEWES, DELAWARE
PHONE: 302-674-1620 302-231-2176

NEW BUILDING FOR:
MIKE HALL
28580 MARY'S COURT
EASTON, MARYLAND

PRINTED 12/23/24 – FOR CONSTRUCTION

TITLE SHEET, INDEX
AND CODE INFORMATION

STATE OF MARYLAND
WILLIAM FREDERICK HORN
12319
ARCHITECT

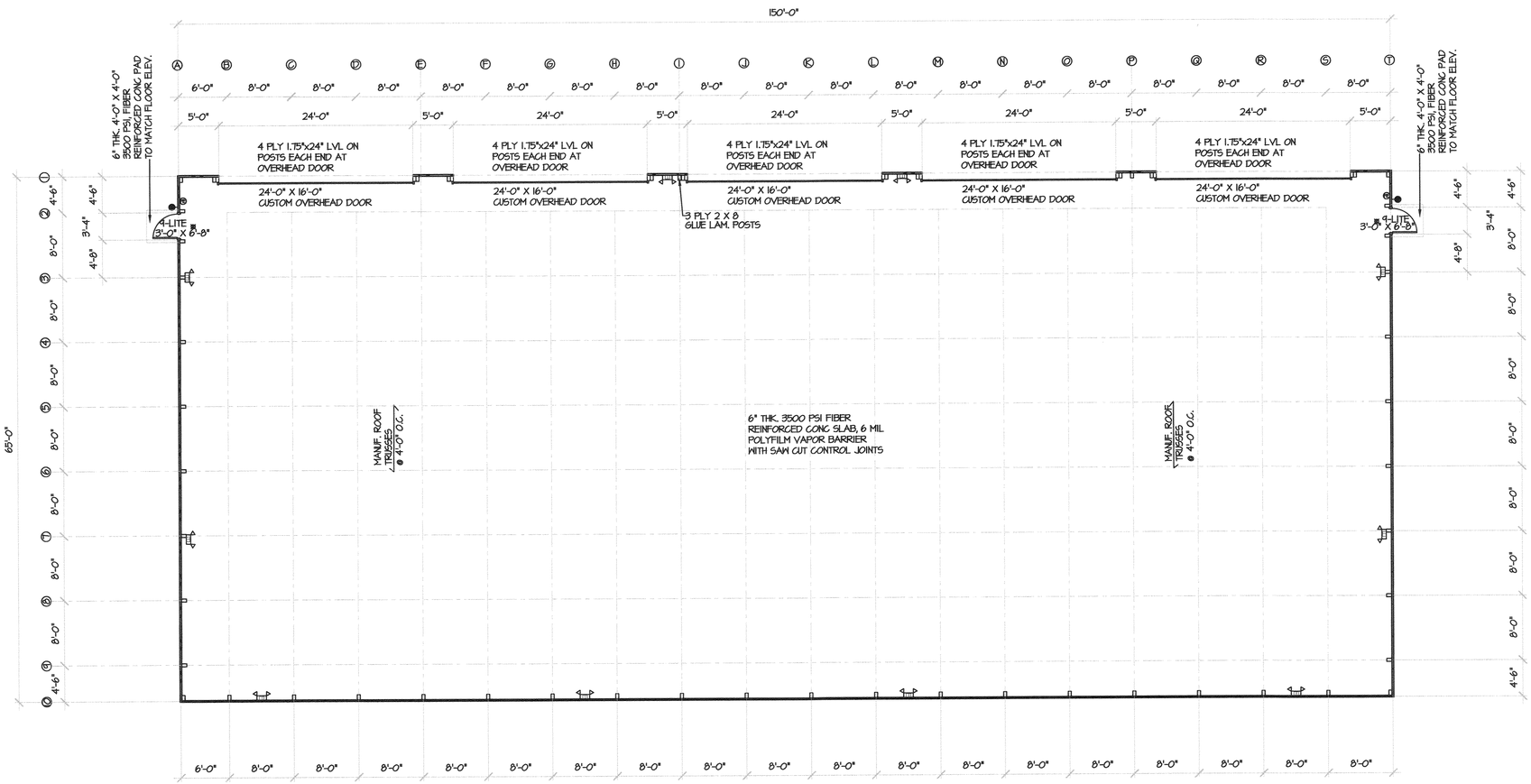
PROFESSIONAL CERTIFICATION

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 12319, EXPIRATION DATE 1/6/2026.

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

DESIGNED	WFH
DRAWN	PAH
CHECKED	WFH
DATE	12/19/24
PROJ. NO.	32469
SCALE	AS NOTED
SHEET NO.	T1.1

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1 FLOOR PLAN
1/8" = 1'-0"

FOUNDATIONS

1. PRESUMPTIVE BEARING CAPACITY: 2000 PSF

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

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

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

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

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

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

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

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

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

CONCRETE

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

2. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE:

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

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

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

GENERAL NOTES

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

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

3. 12" OVERHANG EAVES AND GABLES.

4. EXTERIOR FIBERGLASS SMOOTH SKIN PLASTPRO 2000 INSULATED 9 LITE ENTRANCE DOOR AND PLASTPRO PF JAMB W/ LEVER TYPE LOCKSET, ANSI F109.

SYMBOLS

- DENOTES FIRE EXTINGUISHER LOCATION. FIRE EXTINGUISHER SHALL BE 2A:10B:C MOUNTED AT 48" TO TOP.
- DENOTES EMERGENCY LIGHT WITH BATTERY BACK UP
- DENOTES LIGHTED EXIT SIGNS
- DENOTES EXTERIOR EMERGENCY LIGHT WITH BATTERY BACK UP

W.F.HORN ARCHITECT, INC.
30093 W. BARRIER REEF BLVD. LEWES, DELAWARE
PHONE: 302-874-1920 302-231-2178

GENERAL CONTRACTOR
POLE BUILDINGS UNLIMITED

NEW BUILDING FOR:
MIKE HALL
28580 MARY'S COURT
EASTON, MARYLAND

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FLOOR PLAN AND NOTES

THE STATE OF MARYLAND · WILLIAM FREDERICK HORN · 12319 · REGISTERED ARCHITECT

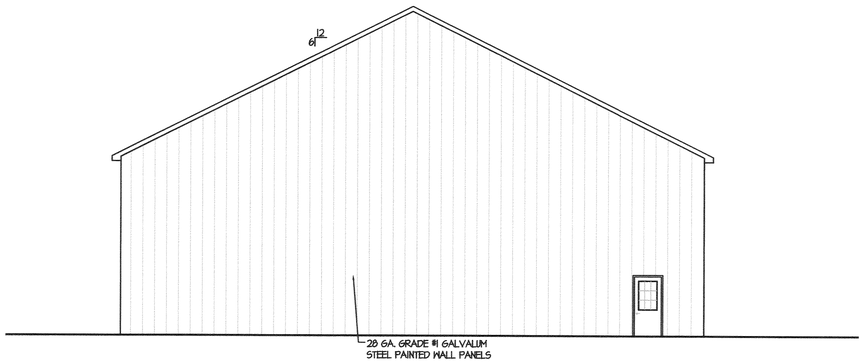
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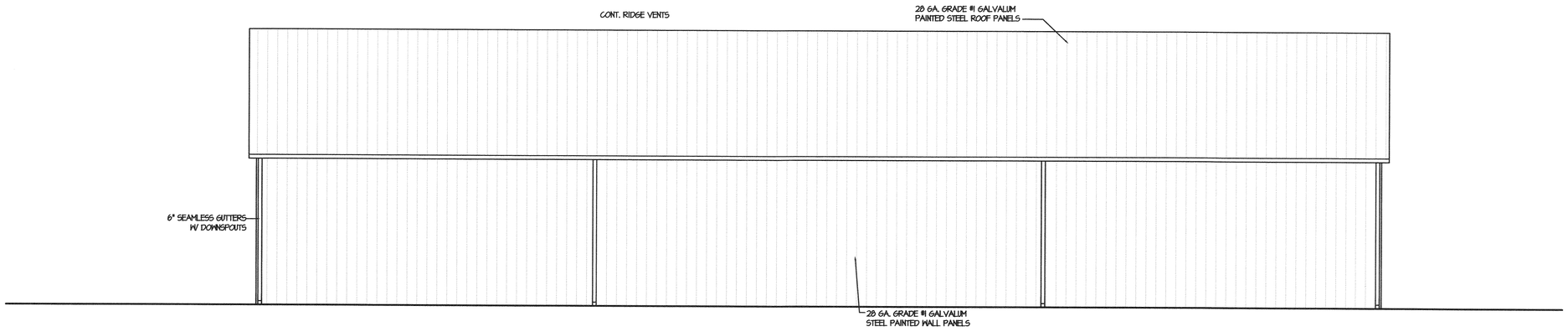
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1 FRONT ELEVATION
1/8" = 1'-0"



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

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ELEVATIONS

STATE OF MARYLAND
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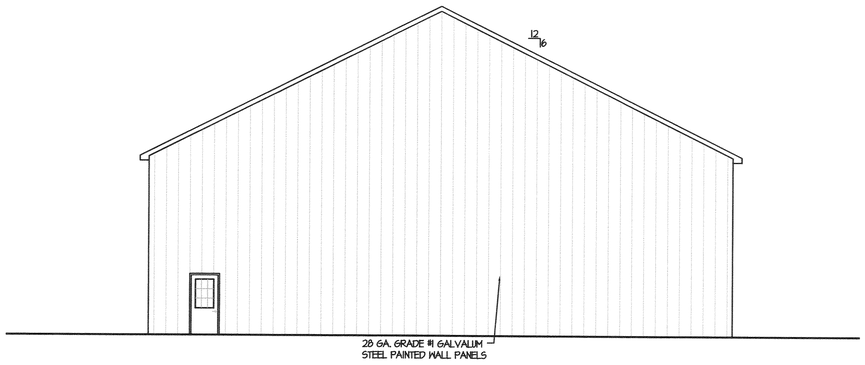
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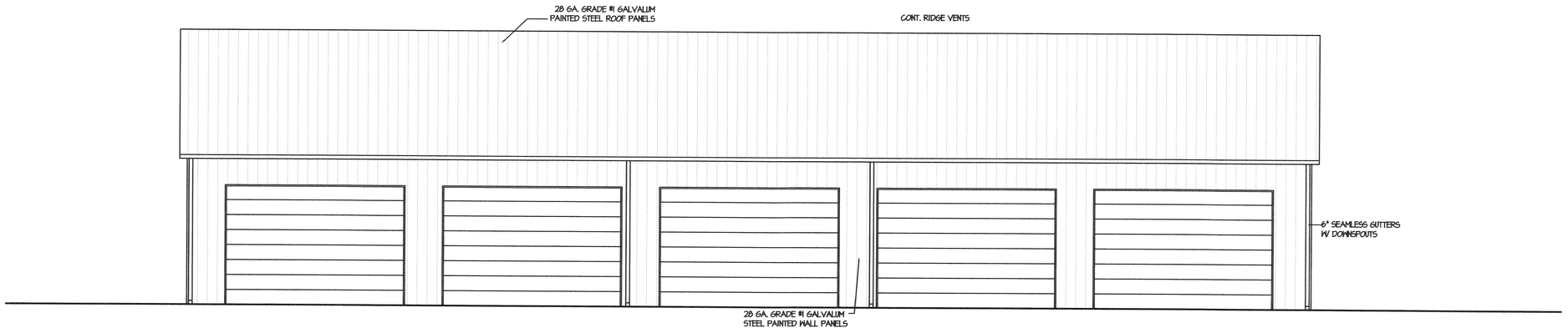
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3 REAR ELEVATION
1/8" = 1'-0"



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

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UNLIMITED

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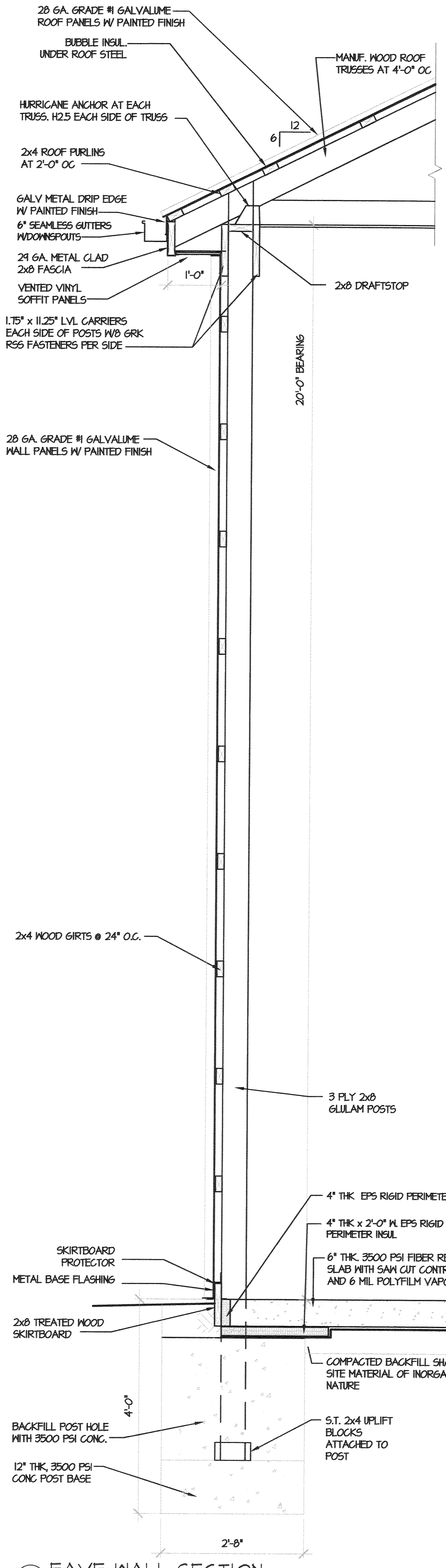
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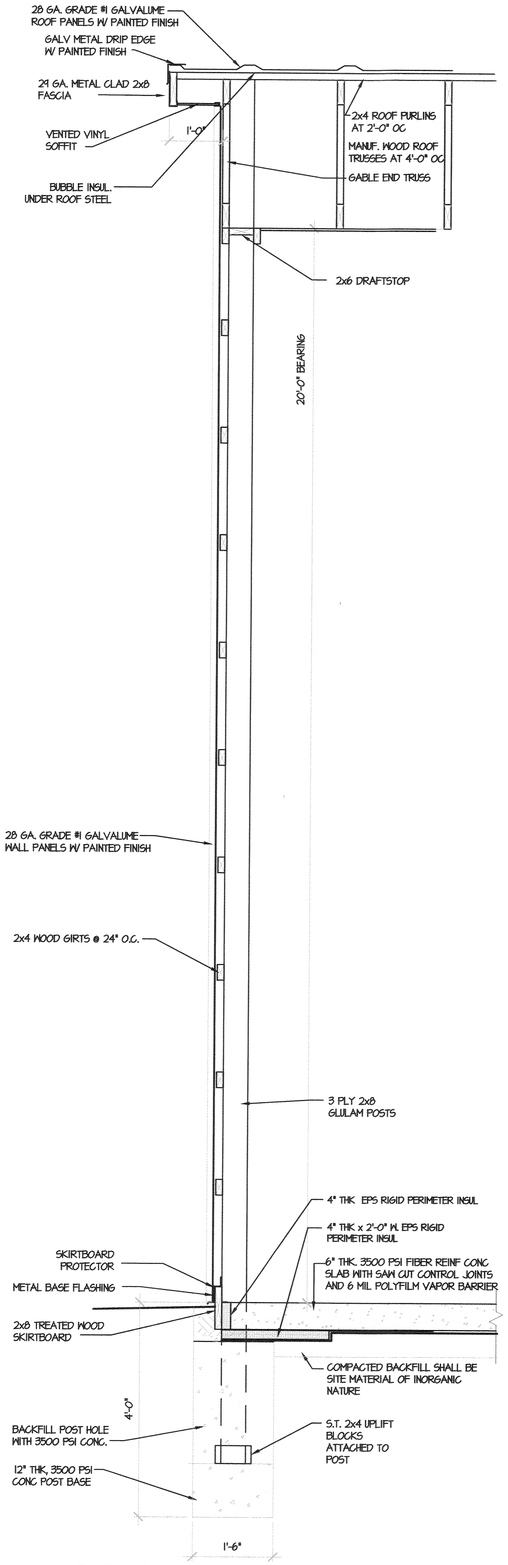
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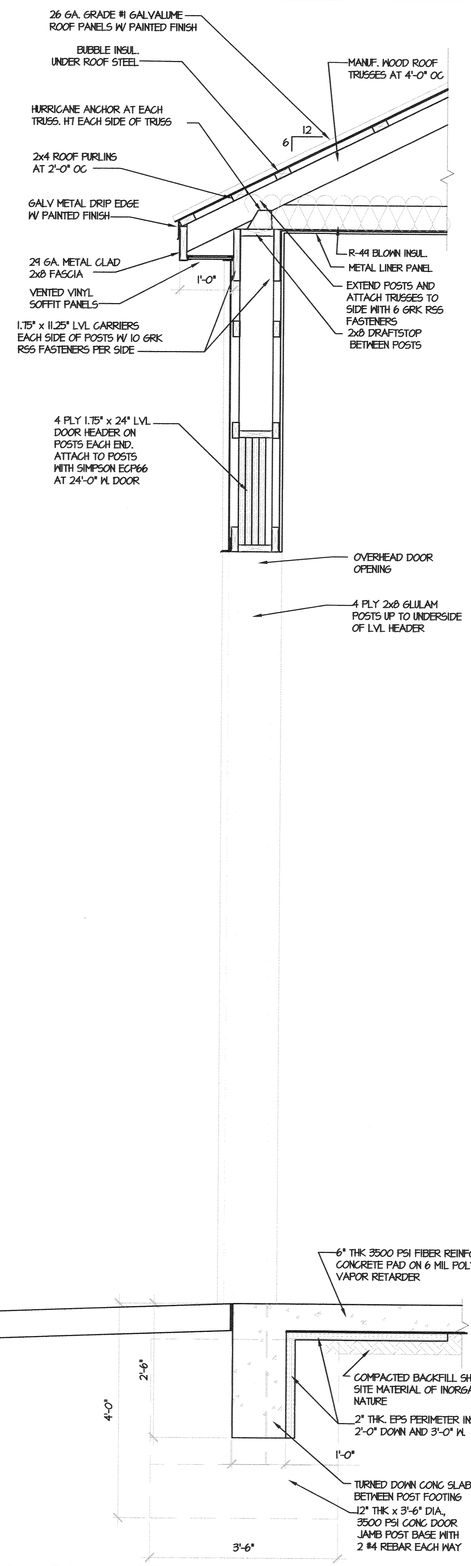
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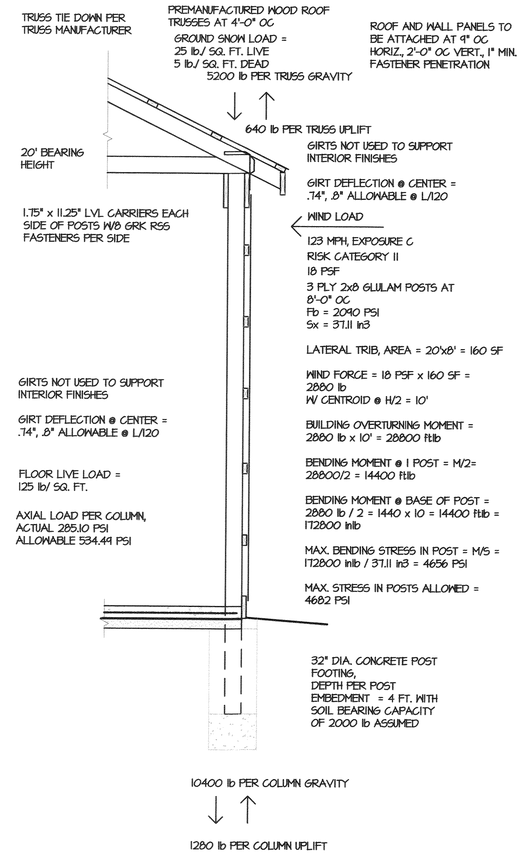
1 EAVE WALL SECTION
3/4" = 1'-0"



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



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



5 STRUCTURAL WALL SECTION
1/2" = 1'-0"

GENERAL CONTRACTOR
POLE BUILDINGS
UNLIMITED

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ARCHITECT, INC.
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PHONE: 302-674-1620 302-231-2176

NEW BUILDING FOR:
MIKE HALL
28580 MARY'S COURT
EASTON, MARYLAND

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SECTIONS

STATE OF MARYLAND FREDERICK WILLIAM HORN 12319 ARCHITECT

PROFESSIONAL CERTIFICATION

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Wes Moore
Governor
Aruna Miller
Lt. Governor

Erik Fisher
Chair
Katherine Charbonneau
Executive Director

STATE OF MARYLAND
CRITICAL AREA COMMISSION
CHESAPEAKE AND ATLANTIC COASTAL BAYS

November 8, 2024

Mr. Miguel Salinas
Town of Easton Planning and Zoning
14 South Harrison Street
Easton, MD 21601

Re: Cohee Growth Allocation
Town of Easton Ordinance No. 807
Talbot County Bill No. 1551 (Supplemental Growth Allocation)

Dear Mr. Salinas:

The purpose of this letter is to officially notify you of the Critical Area Commission's action on the above-referenced growth allocation, which is an amendment to the Town of Easton's Critical Area map. On November 6, 2024, the Critical Area Commission concurred with my determination that the growth allocation request could be reviewed as a refinement to the Town's Critical Area program. At that same meeting, I approved the growth allocation request to redesignate 8.348 acres of land from Resource Conservation Area (RCA) to Intensely Developed Area (IDA), as provided on the site plan and accompanying materials accepted by Commission staff on August 13, 2024, with the following conditions:

1. All areas of forest on Lots 16 and 20 shall be placed in a Forest Protection Area easement (excluding the existing Drainage Easement and Stormwater Management Easement).

2. The remaining areas of Buffer on Lot 16 shall be fully established in accordance with COMAR 27.01.09 and §28-401.4 of the Town of Easton's Zoning Code.

3. Within 120 days of Commission approval, the Town shall submit the following to Commission staff:
    a. A copy of the recorded line revision plat showing:
        i. The consolidation of Lots 20 and 16;
        ii. The new zoning designation of revised Lot 16; and
        iii. The revised Forest Protection Area encompassing all existing forest onsite (excluding the existing Drainage Easement and Stormwater Management Easement) and the area of Buffer establishment on Lot 16.
    b. A Buffer Management Plan in accordance with COMAR 27.01.09 showing full Buffer establishment on Lot 16 and its inclusion in the Forest Protection Area and a signed Planting Agreement Form.

c. A copy of all final reviews or authorizations regarding stormwater management, sediment and erosion control, and DNR Wildlife and Heritage Service (WHS).

Please note that the map designation change must be reflected on the Town's Critical Area map within 120 days of the completion of the above conditions. Once finalized, please forward an electronic file with the Town's updated Critical Area designation layer showing this parcel with the new Critical Area designation so that Commission staff can incorporate the change into the Critical Area map update layer.

On behalf of the Critical Area Commission and its staff, I would personally like to thank you for your help and cooperation throughout the growth allocation process. If you have any questions, you may contact Annie Sekerak at (410) 260-3466 or ann.sekerak@maryland.gov.

Sincerely,



Erik Fisher, AICP
Chair

Wes Moore
Governor
Aruna Miller
Lt. Governor

Erik Fisher
Chair
Nick Kelly
Acting Executive Director

STATE OF MARYLAND
CRITICAL AREA COMMISSION
CHESAPEAKE AND ATLANTIC COASTAL BAYS

March 14, 2025

Mr. Miguel Salinas
Town of Easton Planning and Zoning
14 South Harrison Street
Easton, MD 21601

Re: Somerset Well (formerly Cohee) Growth Allocation – 90-Day Extension
Town of Easton Ordinance No. 807
Talbot County Bill No. 1551 (Supplemental Growth Allocation)

Dear Mr. Salinas:

The purpose of this letter is to officially notify you of the Critical Area Commission's action regarding the above-referenced extension request. On March 12, 2025, I approved the request to extend by 90 days the deadline to fulfill the conditions of growth allocation approval, as follows (updated deadline in **BOLD**):

3. **By June 4, 2025**, the Town shall submit the following to Commission staff:

a. A copy of the recorded line revision plat showing:
   i. The consolidation of Lots 20 and 16;
   ii. The new zoning designation of revised Lot 16; and
   iii. The revised Forest Protection Area encompassing all existing forest onsite (excluding the existing Drainage Easement and Stormwater Management Easement) and the area of Buffer establishment on Lot 16.

b. A Buffer Management Plan in accordance with COMAR 27.01.09 showing full Buffer establishment on Lot 16 and its inclusion in the Forest Protection Area and a signed Planting Agreement Form.

c. A copy of all final reviews or authorizations regarding stormwater management, sediment and erosion control, and DNR Wildlife and Heritage Service (WHS).

Thank you for your continued cooperation throughout the growth allocation process. If you have any questions, you may contact Annie Sekerak at (410) 260-3466 or ann.sekerak@maryland.gov.

Sincerely,

Erik Fisher
Chair

TOWN OF EASTON
PLANNING & ZONING
PO Box 520
Easton, Maryland 21601
(410)-822-2526

February 26, 2025

Nick Kelly
Acting Executive Director
Critical Area Commission
1804 West Street, Suite 100
Annapolis, MD 21401

Dear Mr. Kelly,

Somerset Well, owner of the property at 28580 Mary's Court, received approval of a Growth Allocation request from the Critical Area Commission (CAC) on November 6, 2024 to designate a portion of its property as IDA from RCA. The approval included a condition with a timeline of 120 days to record a lot consolidation plat with a protective easement for the forested and buffer establishment areas; the approval of a Buffer Management Plan and its inclusion in the forest protection area; and a signed planting agreement form.

The project team for Somerset Well is diligently pursuing the permits and approvals to start development and satisfy the CAC requirements. However, additional time is needed. There were some minor issues that had to be resolved with the Talbot County Health Department and Easton Utilities. We believe an additional 90 days should be sufficient time to get the plat recorded with the CAC conditions met.

We appreciate your consideration of our request. Please let us know if you need additional information.

Sincerely,

Miguel Salinas
Director

Cc: Ann Sekerak, Critical Area Commission
Brendan Mullaney, McAllister, DeTar, Showalter & Walker LLC
Brittany Wallace, Lane Engineering

Lane Engineering, LLC

STORMWATER MANAGEMENT REPORT

SOMERSET WELL DRILLING
EASTON, TALBOT COUNTY, MARYLAND

PREPARED FOR:

Somerset Well Drilling
c/o Michael Hall
28580 Marys Court
Easton, Maryland 21601
(443) 783-9950

PREPARED BY:

Brittany Wallace, P.E.

DATE PREPARED:

February 1, 2025



PROFESSIONA CERTIFICATION: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 23152, Expiration Date: 7/05/2025.

LANE ENGINEERING, LLC
117 BAY STREET
EASTON, MARYLAND 21601
410-822-8003

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APPENDIX B : ESD Calculations

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Introduction

This report addresses the impacts of stormwater runoff as a result of the proposed improvements on Lots 16 and 20 of the Talbot Commerce Park, located in Easton, MD. The stormwater management plan incorporates the requirements of the 2000 Maryland Stormwater Design Manual Volumes I and II (Manual) as currently updated. This report addresses stormwater requirements and meets the intent of the guidelines and methodologies presented in the MDE document Environmental Site Design (ESD) Process & Computations dated July 2010.

General Site Information

This project is located on Parcel 46, Lots 16 and 20, on Marys Court. The parcel is within Tax Map 25 and is zoned BC – Business Commercial with a combined site area of 13.99 acres± and a Limits of Disturbance (LOD) for all phases of proposed development of 3.39 acres±. The project site is located partially inside the Chesapeake Bay Critical Area.

Figure 1: Aerial View of Site



Existing Conditions

Lots 16 and 20 are both currently developed lots within the Talbot Commerce Park. The central portion of Lot 16 contains a 4,600 square foot office building with approximately 8,010 sf of semi-detached warehouse storage space and a 25,250 concrete pad for equipment storage, as well as a 12,150 sf office building with an asphalt parking lot in the southwest corner of the lot. An existing sewage reserve area, that serves all existing buildings, is located to the north of the equipment storage pad. An existing regional stormwater management pond is located within an easement on the central portion of Lot 20, to the west of the existing office building. To the south of the stormwater pond, the lot is undeveloped. To the north of the pond, the lot is undeveloped save for a small shed on a concrete pad (approximately 800 sf) which is located on an unused sewage disposal area. Lot 20 currently has no vehicular access points from Mary's Court.

It is proposed that both sewage reserve areas on each lot be abandoned. A new grinder pump and force main system is proposed to be installed on Lot 16 to serve both the existing buildings and any future buildings, and will tie to the public sewer system located in Mary's Court. Water is served by a well located on Lot 16.

The entirety of Lot 20 and part of Lot 16 are inside the IDA Critical Area zone. Both lots are subject to stream buffers and an existing forest conservation area on their northern boundaries.

The existing building and equipment pad on Lot 16 act as a high point, directing drainage to the forest conservation area to the north and east before entering Glebe Creek, and to a drainage ditch to the west, which then enters a closed storm drain system direct to the regional stormwater pond on Lot 20. An existing high point is located generally in the east-central portion of the development area on Lot 20, directing drainage via overland flow to the regional stormwater pond to the southwest and the forest conservation area and Glee Creek to the north.

Within the proposed development area are Hydrologic Group C/D soils, per published soil maps for Talbot County.

Symbol	***Soils Name***	***Soil Group***
CsA	Crosiadore Silt Loam	C/D
MtA	Mattapex Silt Loam	C
MtB	Mattapex Silt Loam	C
WoA	Woodstown Loam	C
WoB	Woodstown Loam	C
Zk	Zekiah	C/D

Proposed Project

Of the approximately 13.99 acre site, roughly 3.39 acres is proposed to be developed. For development in the immediate future- two enclosed pole buildings for storage and an associated gravel access drive and parking pad, the removal of an existing septic system to be replaced with a grinder pump and force main, and the abandonment of two existing sewage reserve areas. There is a possibility for additional developments, two single story office buildings with associated parking lots and an access drive providing connection to the existing parking lots on Lot 16, on Lot 20 at some point in the future. Sewer stubs will be installed as part of the current construction to serve the future buildings.

The site LOD encompasses the demolition of existing site features, all proposed construction, including the possible future improvements, and landscaping. Refer to the Site Construction Plans for additional detailed information.

Stormwater Management

The overall project layout includes two submerged gravel wetlands, one located on the northern side of lots 16 and 20, bordering the existing forest conservation area, and one on Lot 20 to the west of the proposed future improvements, to capture runoff for water quality treatment and to provide quantity management. A network of open and closed storm drain systems and overland sheet flow will direct runoff to these facilities. A small portion of the future access road will drain into the existing regional stormwater pond, located in an easement on Lot 20.

The stormwater management quantity and quality computations are based on the overall proposed limits of disturbance (LOD) area, the proposed impervious areas within it, and the soil types present on site, as required.

Stormwater Quantity Management

There are 3 locations where runoff generally exits the site as it exists currently, identified on the drainage area maps as "points of interest" or POI's, which were used to evaluate the effects on downstream/offsite drainage patterns based on the changes that will occur as part of the proposed construction. Each POI was analyzed for the 2-, 10-, and 100-year storm events per the Delmarva Hydrograph, in both existing and proposed conditions.

The site was analyzed using HydroCAD software, with the following results:

POI	***Peak Runoff (cfs)***					
	2-year		***10-year***		***100-year***	
	Pre	***Post***	***Pre***	***Post***	***Pre***	***Post***
1	2.22	0.00	4.69	0.92	7.86	5.76
2	0.45	0.00	0.95	0.11	1.60	2.17
3	0.36	0.32	0.76	0.62	1.27	1.00
Total Runoff Leaving Site	**2.94**	**0.32**	**6.22**	**1.65**	**10.44**	**8.93**

As seen above, the peak runoff exiting the project site will be reduced under proposed conditions for all storm events, and flow velocities for all POIs during all storm events are non-erosive.

Please see Appendix A for quantity management calculations. Please see Appendix c for drainage area maps.

Stormwater Quality Management

A target Environmental Site Design Volume (ESDv) of 14,560 cf was computed based on the project's LOD, which covers approximately 3.39 acres and includes the future Phase 2 improvements. Approximately 60% of the LOD will be an impervious ground cover.

ESD Practices Evaluation

Alternative Surfaces

- Green Rooftops – Not economical for Industrial usage
- Permeable Pavements – Permeable pavements require significant maintenance and are not desirable for commercial applications or areas of repeated heavy equipment loading.
- Reinforced Turf - Reinforced turf areas are commonly used for emergency equipment access or for areas that receive minimal vehicular use. Reinforced turf is not desirable for commercial applications.

Nonstructural practices

- Disconnection of Rooftop Runoff – Insufficient greenspace onsite to meet the required design criterion.
- Disconnection of Non-Rooftop Runoff – Insufficient greenspace onsite to meet the required design criterion.

- Sheetflow to Conservation Area – The configuration of the improvements do not allow for sheetflow discharge to site adjacent forest conservation areas.

Micro-scale practices

- Rainwater Harvesting – Opportunities for on-site reuse of harvested rainwater is limited. Irrigation is not proposed for the site. Operations and maintenance, especially during cold-weather periods, is also a concern.
- **Submerged Gravel Wetlands** – This practice is best suited for sites with a high groundwater table and poor soils. Mapped soils are predominantly C/D soils and ponds of significant excavation are likely to intercept groundwater if placed on the lower elevation portion of the site.
- Landscape Infiltration – It is assumed there is not a significant infiltration potential within the project LOD without additional geotechnical exploration.
- Infiltration Berms – The requirements of the proposed development do not leave enough room for the implementation of this practice.
- Dry Wells – This practice is viewed as undesirable in Talbot County where many sites frequently have seasonal high ground water and other maintenance concerns. Dry wells are typically reserved for the treatment of building rooftops and would therefore require additional practices to supplement.
- Micro-Bioretention – This practice will provide significant treatment. Maintenance for this practice is reasonable.
- Rain Gardens – This practice is better suited for residential environments.
- Swales – This practice provides the required treatment, is relatively easy to construct and maintain, and will enhance existing site drainage patterns.

Due to the poor in-situ soils, as mapped and observed by field inspection, it appears that Submerged Gravel Wetland represents the most economical form of quality treatment. Gravel wetlands are ideal for large drainage areas that generate significant runoff as they need to maintain a saturated media.

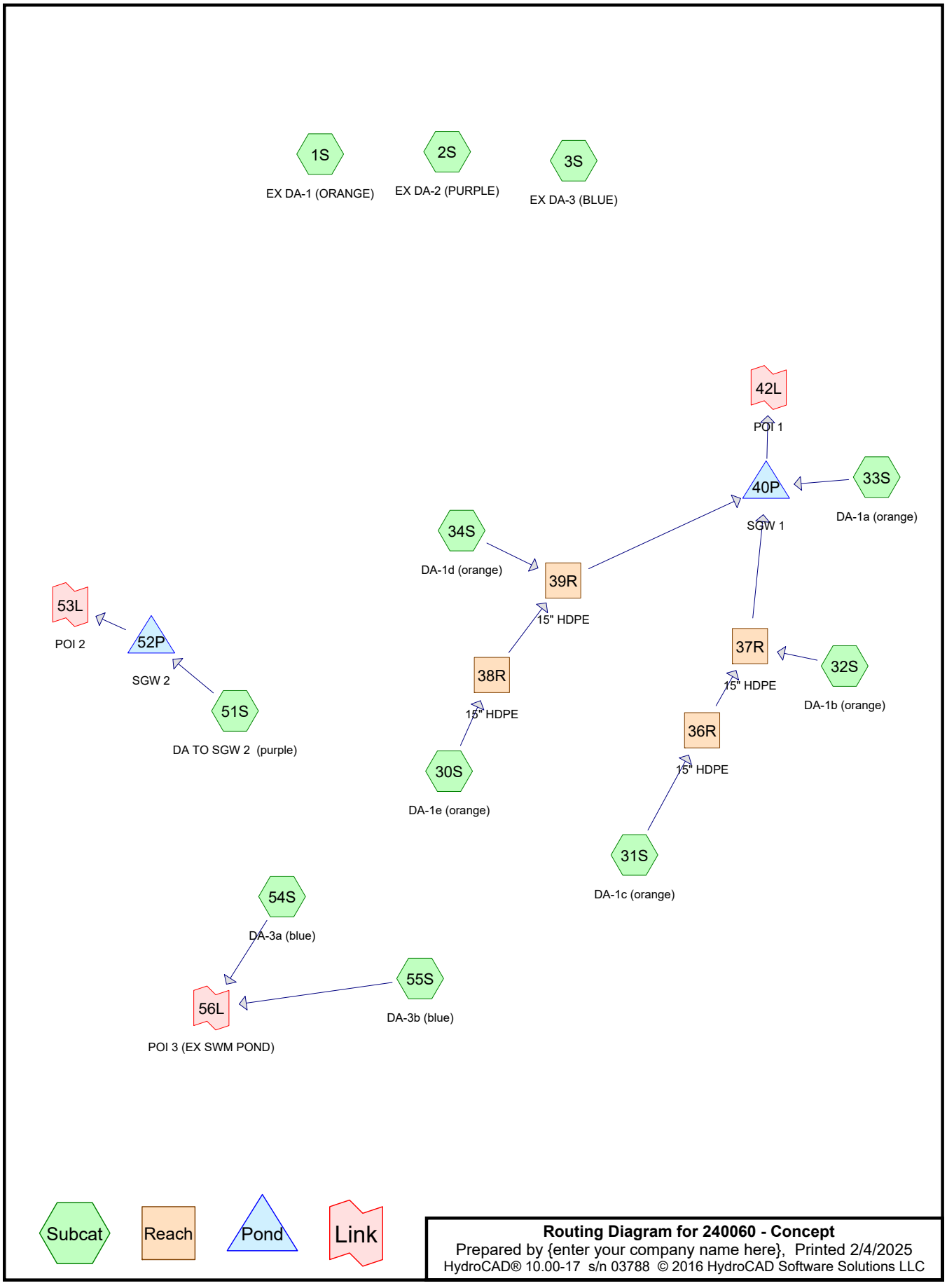
Submerged Gravel Wetlands are proposed to address the ESDv requirement. The total ESDv provided by ponding storage from these practices is 15,258 cf. Refer to Appendix B for calculations. It is proposed that SGW 1 be constructed intially at a size that would satisfy the ESDv requirement for the current development, and later expanded to satisfy the additional ESDv required for the future development.

Conclusion

This stormwater management analysis indicates that the proposed design will successfully meet stormwater quality requirements with quantity management being previously satisfied at the time of the industrial park subdivision.

APPENDIX A

HYDROCAD QUANTITY MANAGEMENT ANALYSIS



Routing Diagram for 240060 - Concept
Prepared by {enter your company name here}, Printed 2/4/2025
HydroCAD® 10.00-17 s/n 03788 © 2016 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: EX DA-1 (ORANGE)

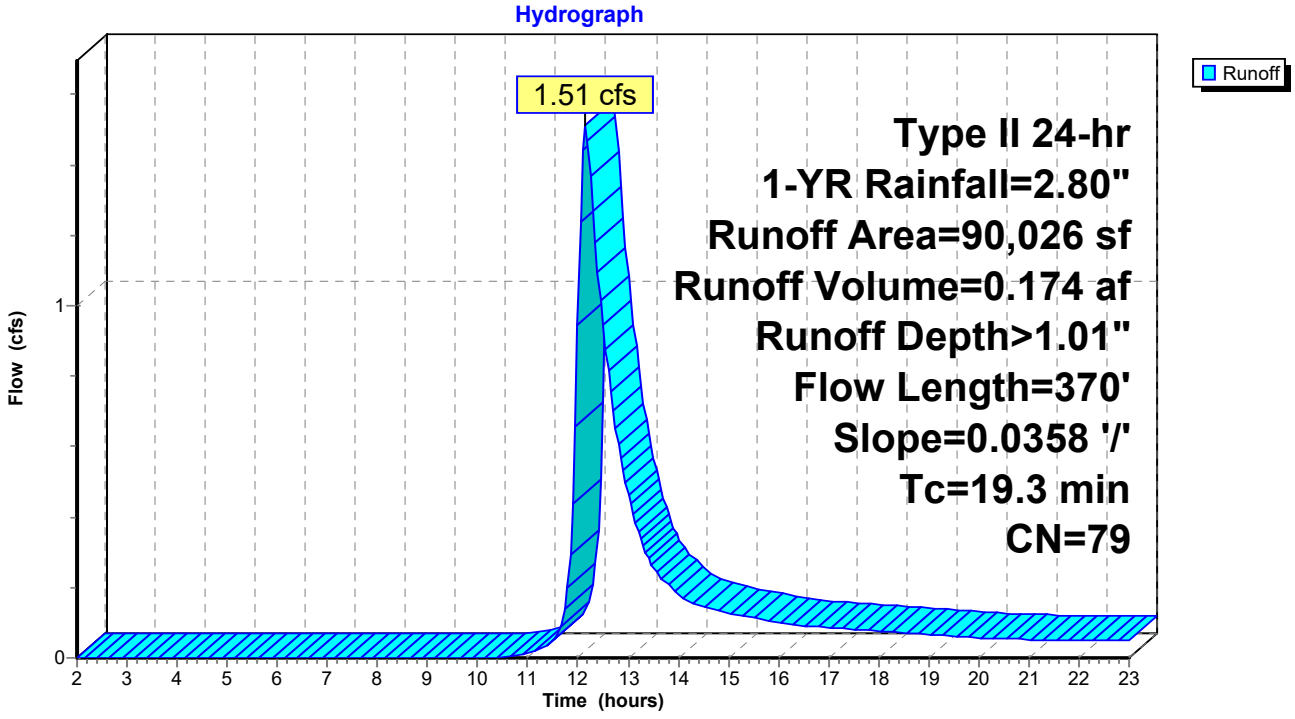
Runoff = 1.51 cfs @ 12.15 hrs, Volume= 0.174 af, Depth> 1.01"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.80"

	Area (sf)	CN	Description
*	224	98	existing shed
	89,802	79	50-75% Grass cover, Fair, HSG C
	90,026	79	Weighted Average
	89,802		99.75% Pervious Area
	224		0.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	150	0.0358	0.14		**Sheet Flow, a-b** Grass: Dense n= 0.240 P2= 2.40"
1.2	220	0.0358	3.05		**Shallow Concentrated Flow, b-c** Unpaved Kv= 16.1 fps
19.3	370	Total			

Subcatchment 1S: EX DA-1 (ORANGE)



Summary for Subcatchment 2S: EX DA-2 (PURPLE)

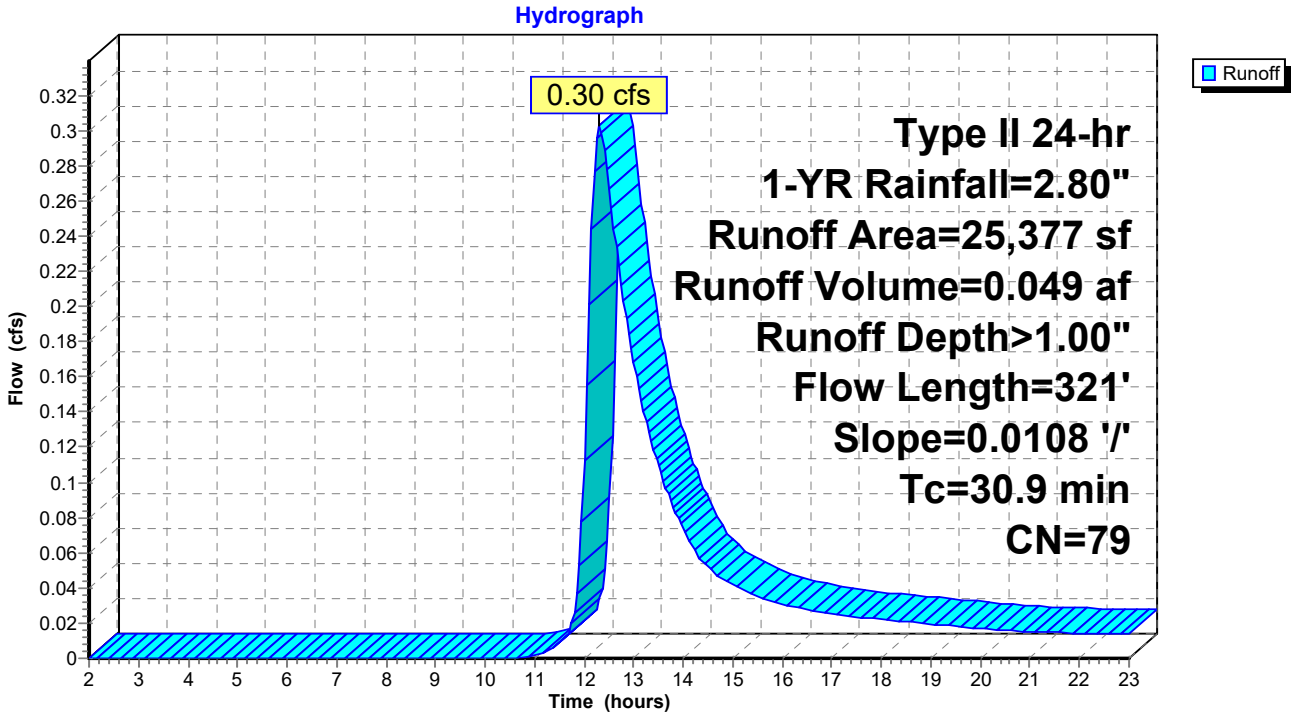
Runoff = 0.30 cfs @ 12.30 hrs, Volume= 0.049 af, Depth> 1.00"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
25,377	79	50-75% Grass cover, Fair, HSG C
25,377		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0108	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
1.7	171	0.0108	1.67		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
30.9	321	Total			

Subcatchment 2S: EX DA-2 (PURPLE)



Summary for Subcatchment 3S: EX DA-3 (BLUE)

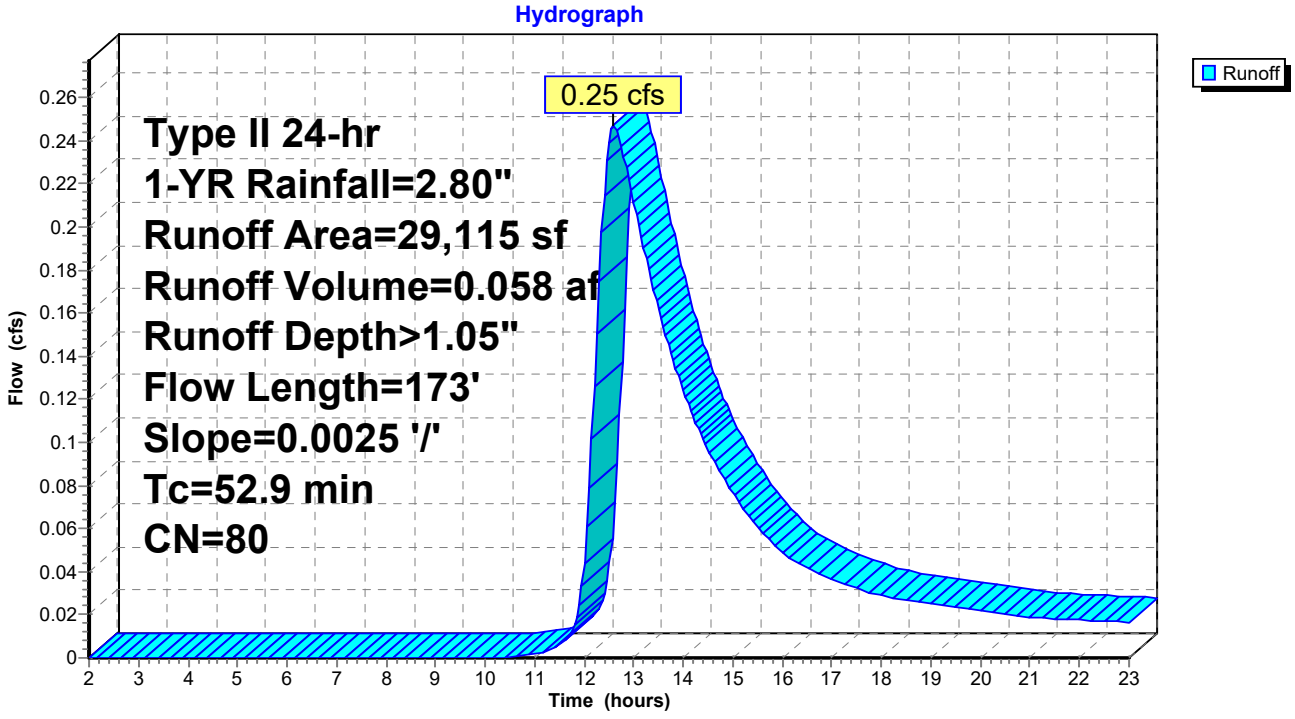
Runoff = 0.25 cfs @ 12.60 hrs, Volume= 0.058 af, Depth> 1.05"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
28,117	79	50-75% Grass cover, Fair, HSG C
998	98	Paved parking, HSG C
29,115	80	Weighted Average
28,117		96.57% Pervious Area
998		3.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
52.4	150	0.0025	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.5	23	0.0025	0.81		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
52.9	173	Total			

Subcatchment 3S: EX DA-3 (BLUE)



Summary for Subcatchment 30S: DA-1e (orange)

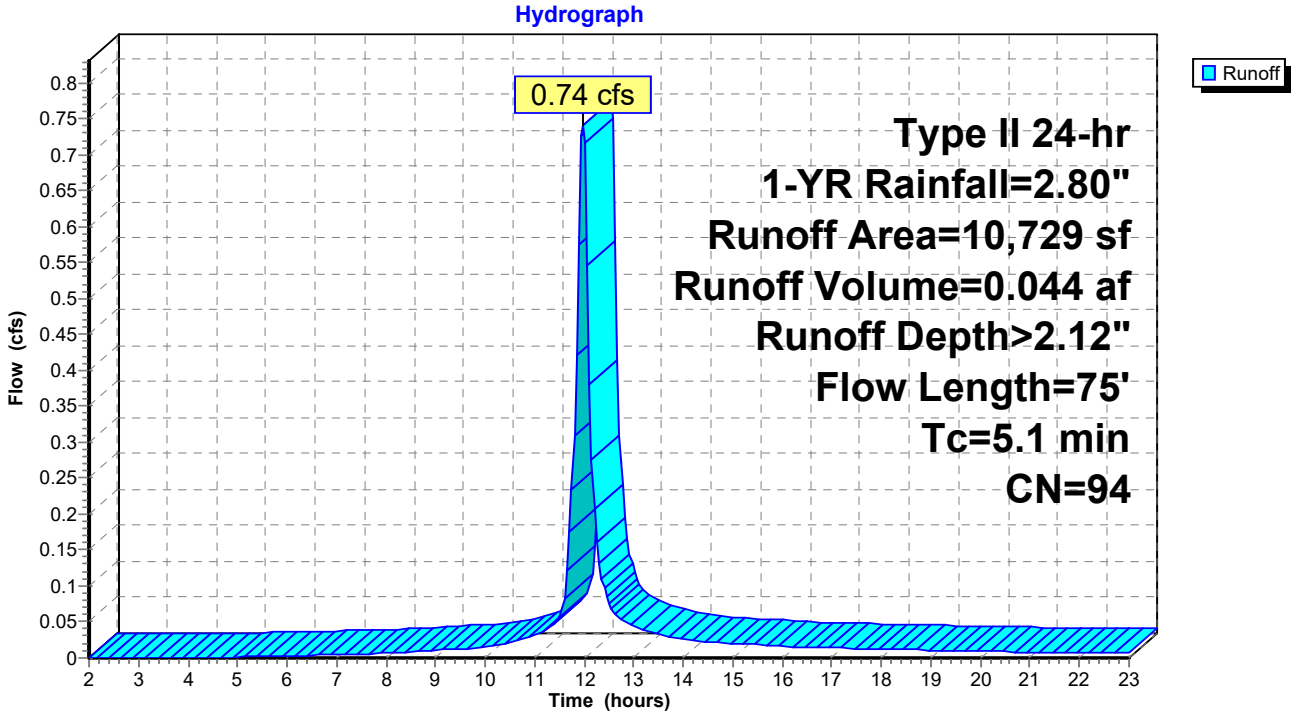
Runoff = 0.74 cfs @ 11.97 hrs, Volume= 0.044 af, Depth> 2.12"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
8,909	98	Paved parking, HSG C
1,820	74	>75% Grass cover, Good, HSG C
10,729	94	Weighted Average
1,820		16.96% Pervious Area
8,909		83.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	14	0.0095	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	48	0.0134	1.86		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
0.1	13	0.0075	1.76		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
5.1	75	Total			

Subcatchment 30S: DA-1e (orange)



Summary for Subcatchment 31S: DA-1c (orange)

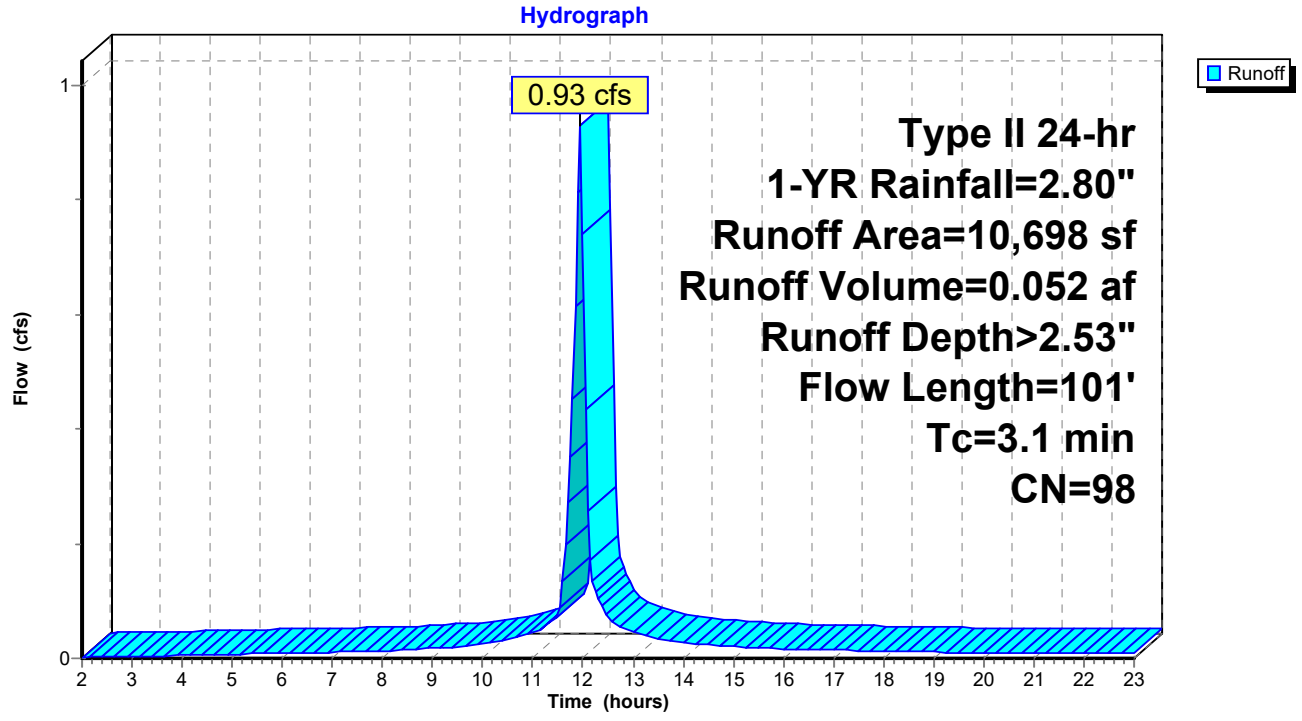
Runoff = 0.93 cfs @ 11.94 hrs, Volume= 0.052 af, Depth> 2.53"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
10,698	98	Paved parking, HSG C
10,698		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	67	0.0016	0.40		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.3	34	0.0100	2.03		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
3.1	101	Total			

Subcatchment 31S: DA-1c (orange)



Summary for Subcatchment 32S: DA-1b (orange)

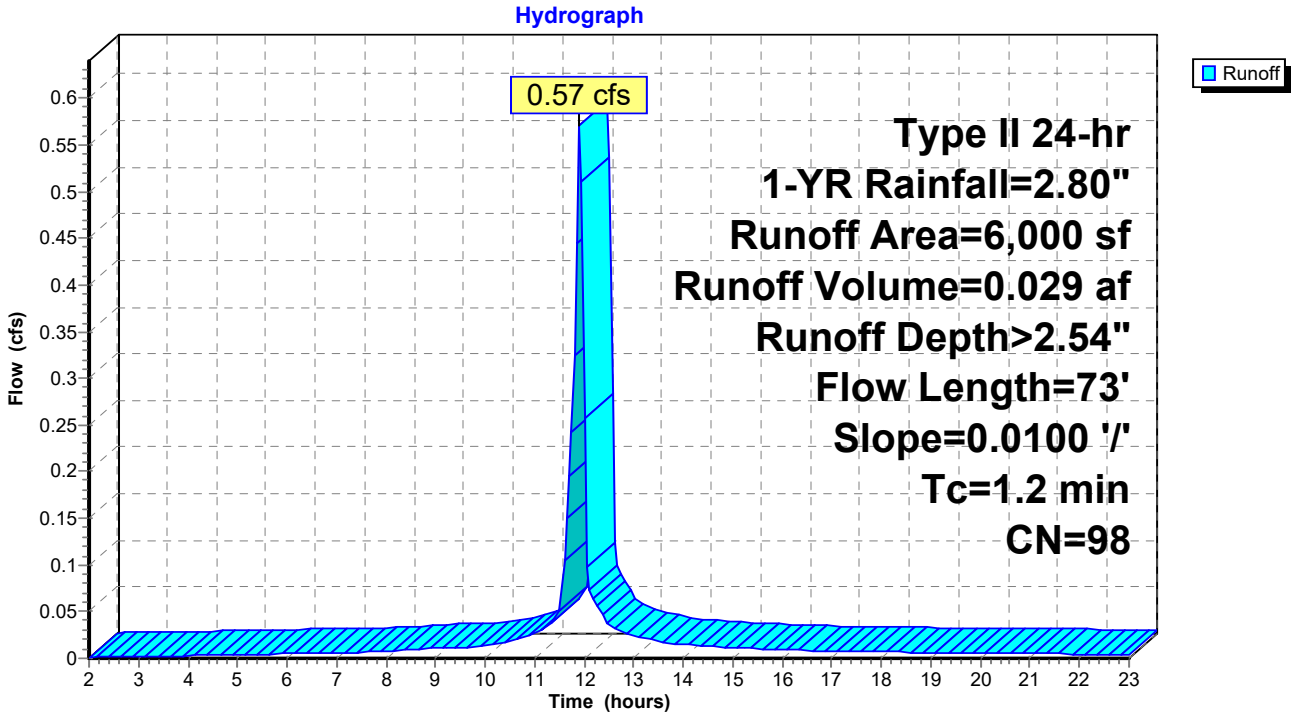
Runoff = 0.57 cfs @ 11.91 hrs, Volume= 0.029 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
6,000	98	Paved parking, HSG C
6,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	39	0.0100	0.75		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.3	34	0.0100	2.03		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.2	73	Total			

Subcatchment 32S: DA-1b (orange)



Summary for Subcatchment 33S: DA-1a (orange)

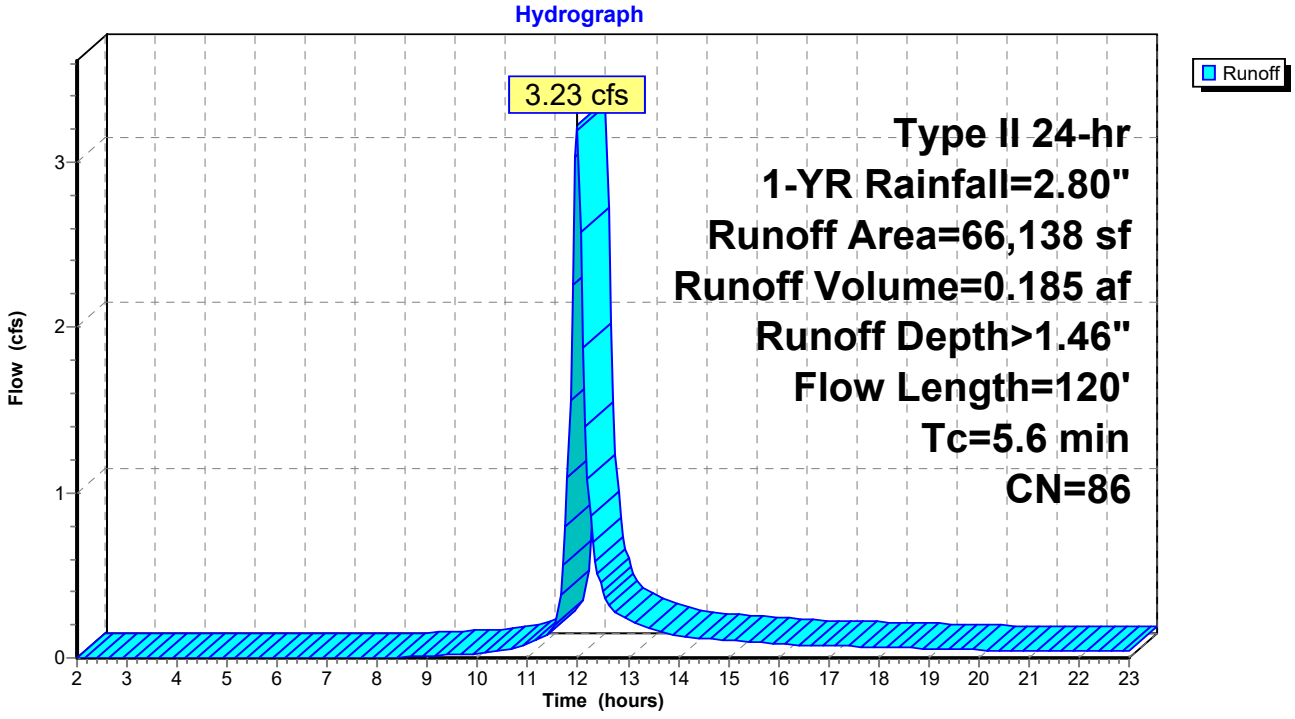
Runoff = 3.23 cfs @ 11.99 hrs, Volume= 0.185 af, Depth> 1.46"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
32,038	98	Paved parking, HSG C
34,100	74	>75% Grass cover, Good, HSG C
66,138	86	Weighted Average
34,100		51.56% Pervious Area
32,038		48.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	33	0.0439	0.11		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.6	87	0.0253	2.56		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
5.6	120	Total			

Subcatchment 33S: DA-1a (orange)



Summary for Subcatchment 34S: DA-1d (orange)

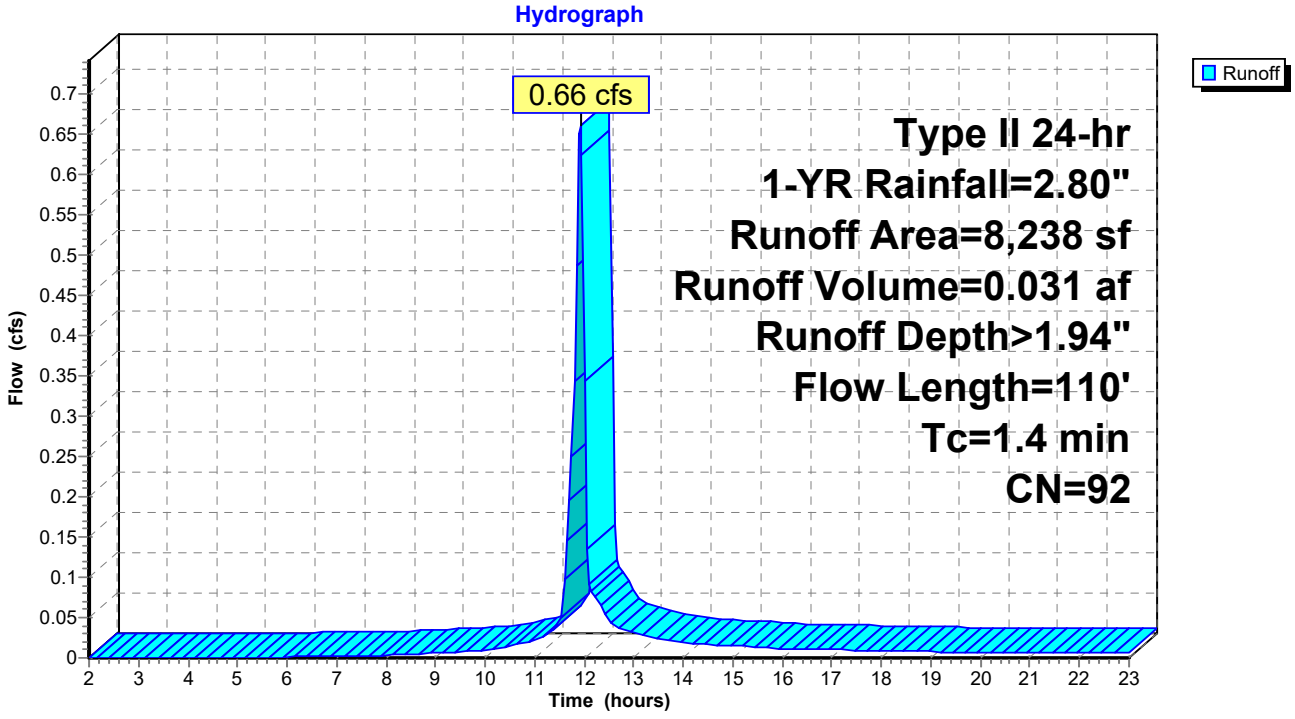
Runoff = 0.66 cfs @ 11.92 hrs, Volume= 0.031 af, Depth> 1.94"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
6,157	98	Paved parking, HSG C
2,081	74	>75% Grass cover, Good, HSG C
8,238	92	Weighted Average
2,081		25.26% Pervious Area
6,157		74.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	34	0.0156	0.87		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.7	76	0.0075	1.76		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.4	110	Total			

Subcatchment 34S: DA-1d (orange)



Summary for Subcatchment 51S: DA TO SGW 2 (purple)

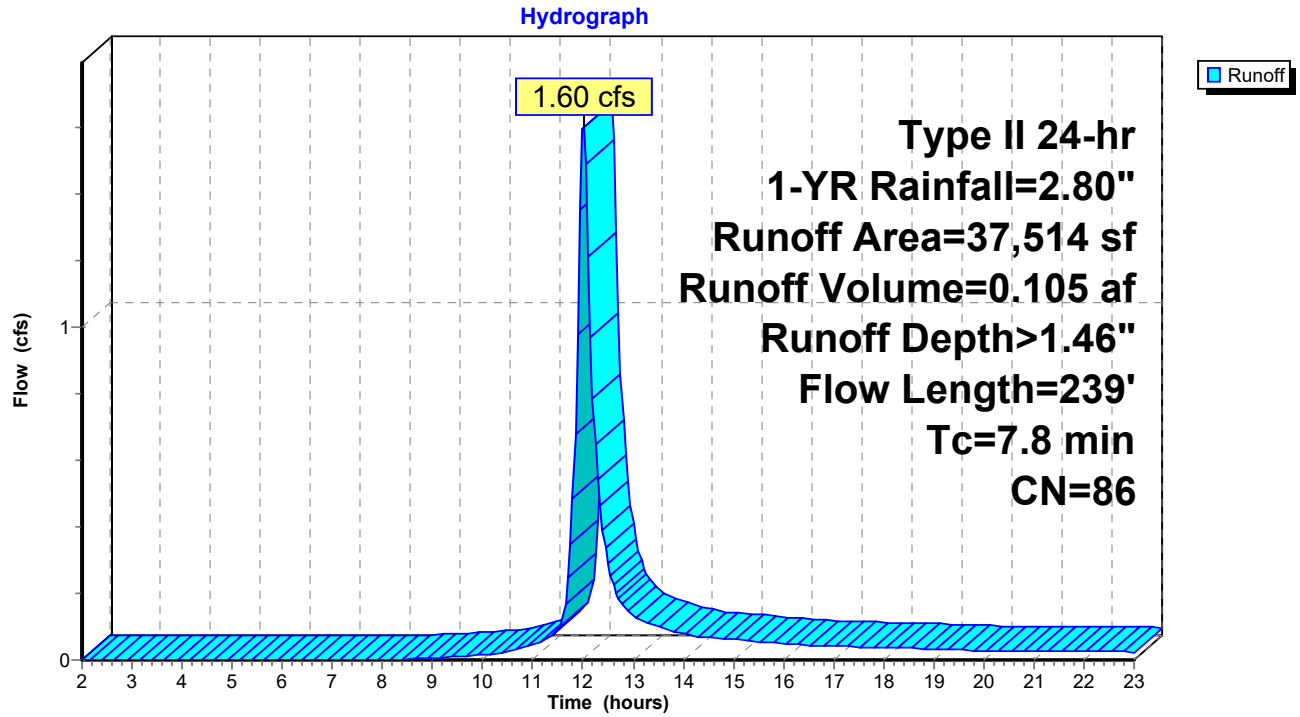
Runoff = 1.60 cfs @ 12.01 hrs, Volume= 0.105 af, Depth> 1.46"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
18,394	98	Paved parking, HSG C
19,120	74	>75% Grass cover, Good, HSG C
37,514	86	Weighted Average
19,120		50.97% Pervious Area
18,394		49.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	14	0.0095	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	35	0.0075	1.39		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
2.8	190	0.0051	1.15		**Shallow Concentrated Flow, C-D** Unpaved Kv= 16.1 fps
7.8	239	Total			

Subcatchment 51S: DA TO SGW 2 (purple)



Summary for Subcatchment 54S: DA-3a (blue)

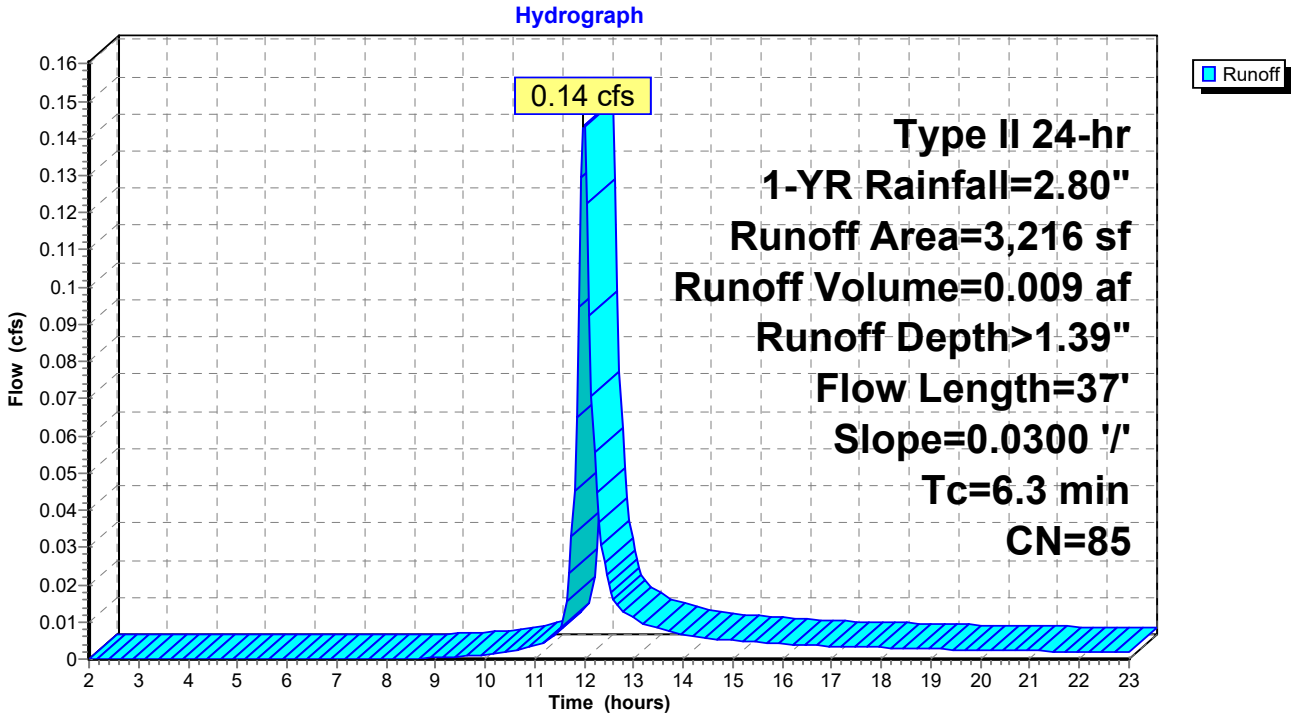
Runoff = 0.14 cfs @ 11.99 hrs, Volume= 0.009 af, Depth> 1.39"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
1,480	98	Paved parking, HSG C
1,736	74	>75% Grass cover, Good, HSG C
3,216	85	Weighted Average
1,736		53.98% Pervious Area
1,480		46.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	37	0.0300	0.10		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"

Subcatchment 54S: DA-3a (blue)



Summary for Subcatchment 55S: DA-3b (blue)

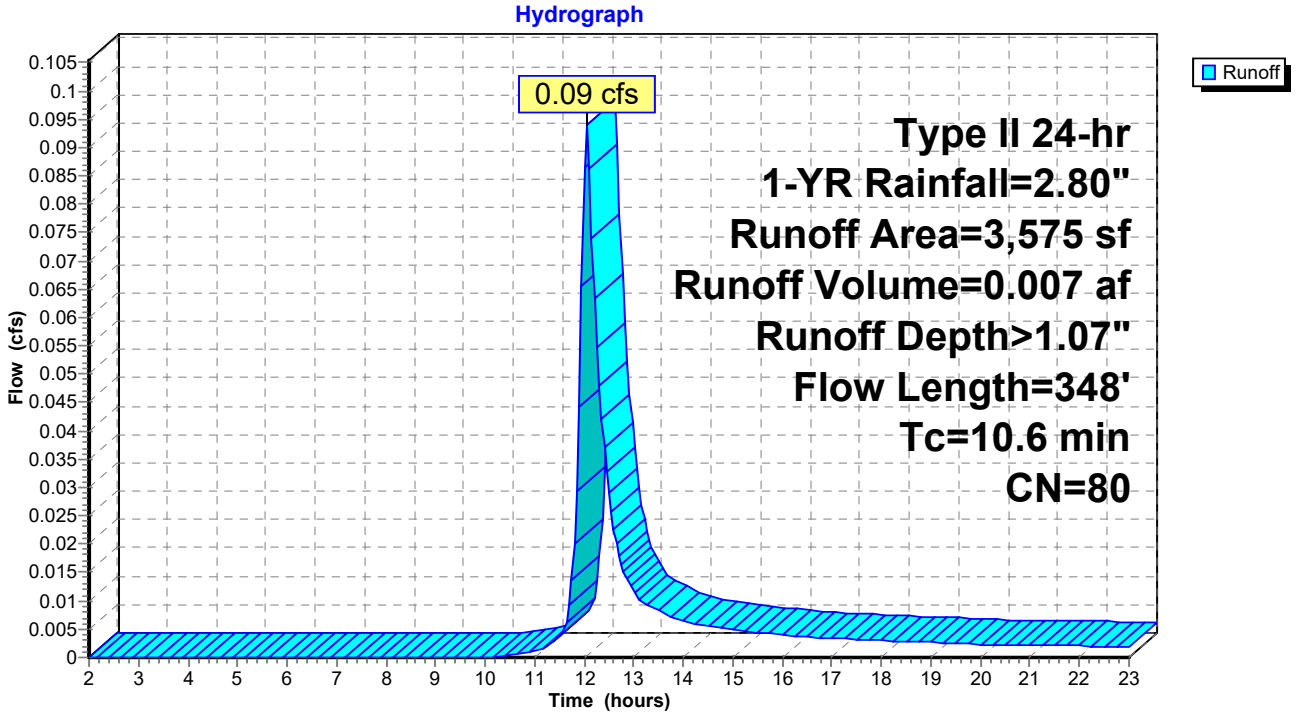
Runoff = 0.09 cfs @ 12.05 hrs, Volume= 0.007 af, Depth> 1.07"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YR Rainfall=2.80"

Area (sf)	CN	Description
850	98	Paved parking, HSG C
2,725	74	>75% Grass cover, Good, HSG C
3,575	80	Weighted Average
2,725		76.22% Pervious Area
850		23.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	46	0.0222	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	100	0.0050	3.79	2.98	**Pipe Channel, 12" HDPE** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011
1.7	202	0.0149	1.97		**Shallow Concentrated Flow, EX SWALE TO INLET 4** Unpaved Kv= 16.1 fps
10.6	348	Total			

Subcatchment 55S: DA-3b (blue)



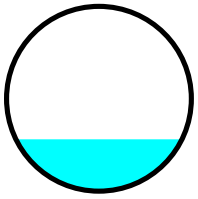
Summary for Reach 36R: 15" HDPE

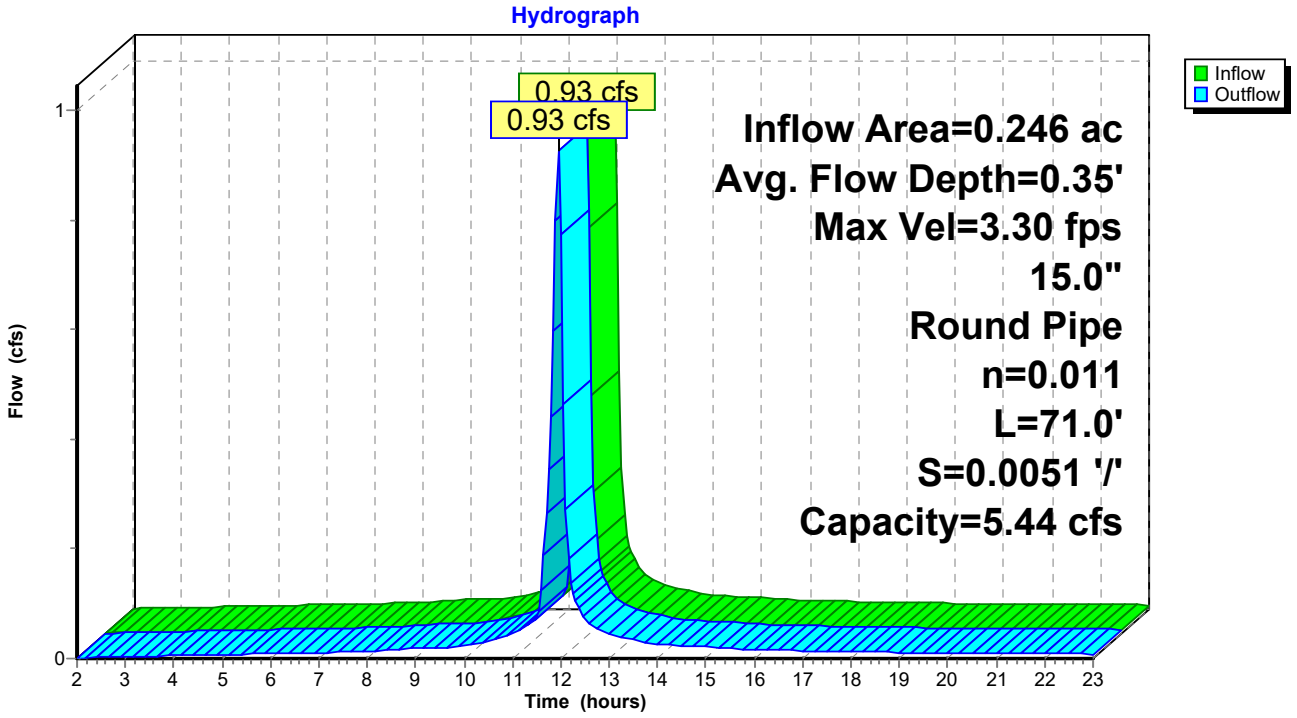
Inflow Area = 0.246 ac,100.00% Impervious, Inflow Depth > 2.53" for 1-YR event
Inflow = 0.93 cfs @ 11.94 hrs, Volume= 0.052 af
Outflow = 0.93 cfs @ 11.95 hrs, Volume= 0.052 af, Atten= 1%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.30 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.99 fps, Avg. Travel Time= 1.2 min

Peak Storage= 20 cf @ 11.95 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.44 cfs

15.0" Round Pipe
n= 0.011 PVC, smooth interior
Length= 71.0' Slope= 0.0051 '/'
Inlet Invert= 11.16', Outlet Invert= 10.80'





Stage-Area-Storage for Reach 36R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.16	0.0	0
11.18	0.0	0
11.20	0.0	1
11.22	0.0	2
11.24	0.0	2
11.26	0.0	3
11.28	0.1	4
11.30	0.1	5
11.32	0.1	7
11.34	0.1	8
11.36	0.1	9
11.38	0.1	10
11.40	0.2	12
11.42	0.2	13
11.44	0.2	15
11.46	0.2	16
11.48	0.2	18
11.50	0.3	19
11.52	0.3	21
11.54	0.3	22
11.56	0.3	24
11.58	0.4	26
11.60	0.4	27
11.62	0.4	29
11.64	0.4	31
11.66	0.5	33
11.68	0.5	34
11.70	0.5	36
11.72	0.5	38
11.74	0.6	40
11.76	0.6	41
11.78	0.6	43
11.80	0.6	45
11.82	0.7	47
11.84	0.7	48
11.86	0.7	50
11.88	0.7	52
11.90	0.8	54
11.92	0.8	55
11.94	0.8	57
11.96	0.8	59
11.98	0.9	61
12.00	0.9	62
12.02	0.9	64
12.04	0.9	66
12.06	0.9	67
12.08	1.0	69
12.10	1.0	70
12.12	1.0	72
12.14	1.0	73
12.16	1.1	75
12.18	1.1	76
12.20	1.1	77
12.22	1.1	79
12.24	1.1	80
12.26	1.1	81
12.28	1.2	82
12.30	1.2	83
12.32	1.2	84
12.34	1.2	85
12.36	1.2	86
12.38	1.2	87
12.40	**1.2**	**87**

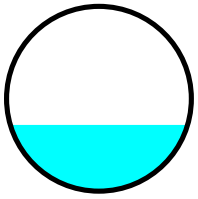
Summary for Reach 37R: 15" HDPE

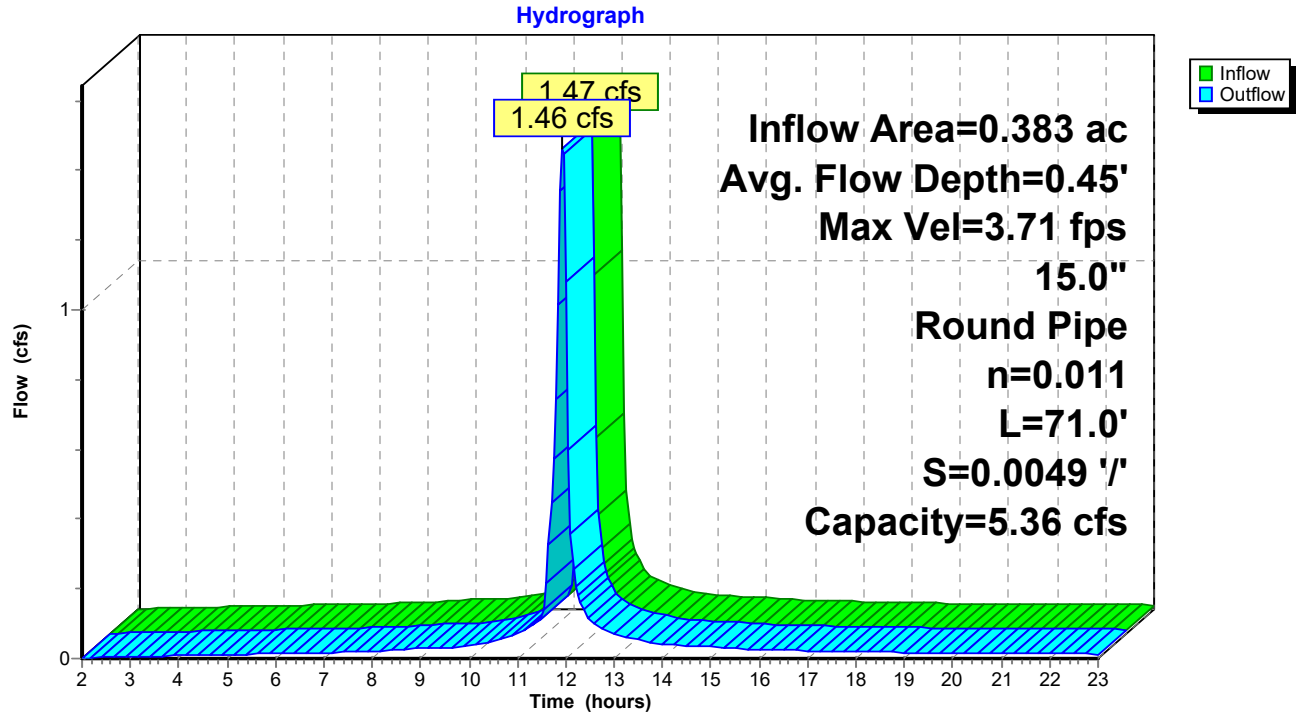
Inflow Area = 0.383 ac,100.00% Impervious, Inflow Depth > 2.53" for 1-YR event
Inflow = 1.47 cfs @ 11.93 hrs, Volume= 0.081 af
Outflow = 1.46 cfs @ 11.94 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.71 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.12 fps, Avg. Travel Time= 1.1 min

Peak Storage= 28 cf @ 11.94 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.36 cfs

15.0" Round Pipe
n= 0.011
Length= 71.0' Slope= 0.0049 '/'
Inlet Invert= 10.80', Outlet Invert= 10.45'





Stage-Area-Storage for Reach 37R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
10.80	0.0	0
10.82	0.0	0
10.84	0.0	1
10.86	0.0	2
10.88	0.0	2
10.90	0.0	3
10.92	0.1	4
10.94	0.1	5
10.96	0.1	7
10.98	0.1	8
11.00	0.1	9
11.02	0.1	10
11.04	0.2	12
11.06	0.2	13
11.08	0.2	15
11.10	0.2	16
11.12	0.2	18
11.14	0.3	19
11.16	0.3	21
11.18	0.3	22
11.20	0.3	24
11.22	0.4	26
11.24	0.4	27
11.26	0.4	29
11.28	0.4	31
11.30	0.5	33
11.32	0.5	34
11.34	0.5	36
11.36	0.5	38
11.38	0.6	40
11.40	0.6	41
11.42	0.6	43
11.44	0.6	45
11.46	0.7	47
11.48	0.7	48
11.50	0.7	50
11.52	0.7	52
11.54	0.8	54
11.56	0.8	55
11.58	0.8	57
11.60	0.8	59
11.62	0.9	61
11.64	0.9	62
11.66	0.9	64
11.68	0.9	66
11.70	0.9	67
11.72	1.0	69
11.74	1.0	70
11.76	1.0	72
11.78	1.0	73
11.80	1.1	75
11.82	1.1	76
11.84	1.1	77
11.86	1.1	79
11.88	1.1	80
11.90	1.1	81
11.92	1.2	82
11.94	1.2	83
11.96	1.2	84
11.98	1.2	85
12.00	1.2	86
12.02	1.2	87
12.04	**1.2**	**87**

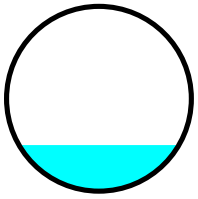
Summary for Reach 38R: 15" HDPE

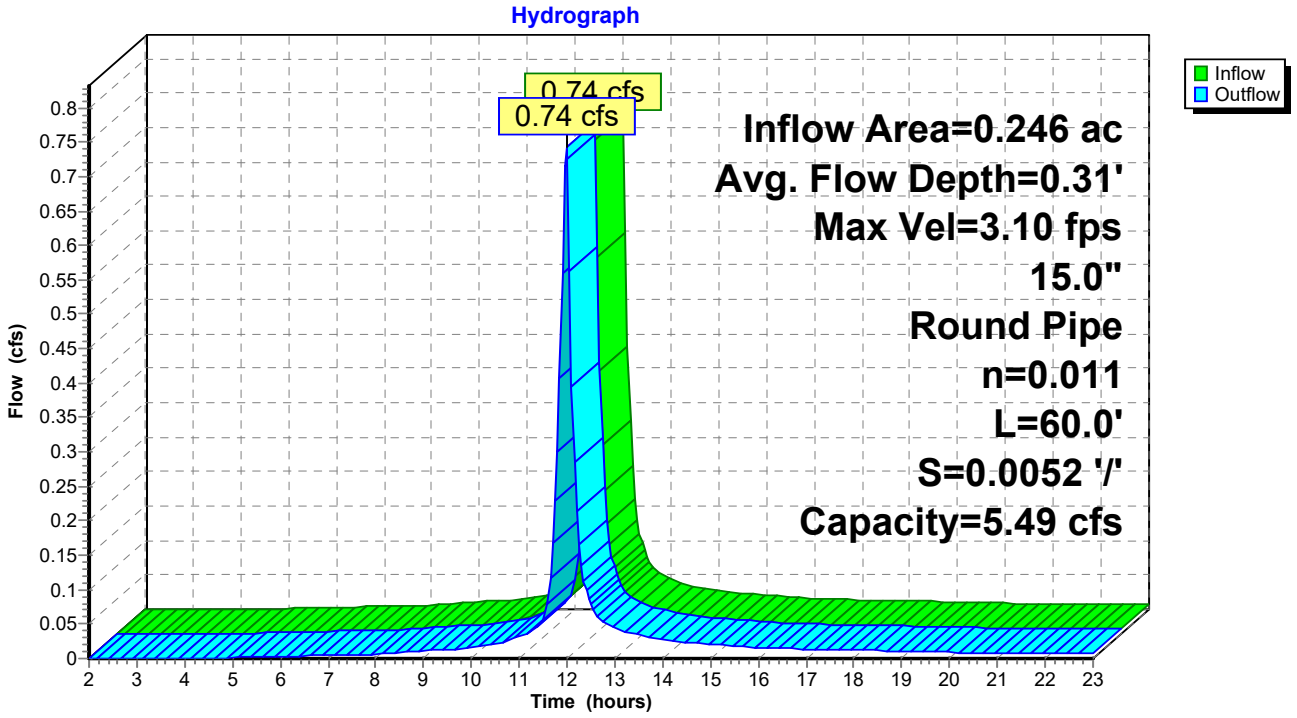
Inflow Area = 0.246 ac, 83.04% Impervious, Inflow Depth > 2.12" for 1-YR event
Inflow = 0.74 cfs @ 11.97 hrs, Volume= 0.044 af
Outflow = 0.74 cfs @ 11.98 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.10 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 0.96 fps, Avg. Travel Time= 1.0 min

Peak Storage= 14 cf @ 11.98 hrs
Average Depth at Peak Storage= 0.31'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.49 cfs

15.0" Round Pipe
n= 0.011
Length= 60.0' Slope= 0.0052 '/'
Inlet Invert= 11.82', Outlet Invert= 11.51'





Stage-Area-Storage for Reach 38R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.82	0.0	0
11.84	0.0	0
11.86	0.0	1
11.88	0.0	1
11.90	0.0	2
11.92	0.0	3
11.94	0.1	4
11.96	0.1	5
11.98	0.1	6
12.00	0.1	7
12.02	0.1	8
12.04	0.1	9
12.06	0.2	10
12.08	0.2	11
12.10	0.2	12
12.12	0.2	14
12.14	0.2	15
12.16	0.3	16
12.18	0.3	18
12.20	0.3	19
12.22	0.3	20
12.24	0.4	22
12.26	0.4	23
12.28	0.4	25
12.30	0.4	26
12.32	0.5	28
12.34	0.5	29
12.36	0.5	30
12.38	0.5	32
12.40	0.6	33
12.42	0.6	35
12.44	0.6	36
12.46	0.6	38
12.48	0.7	39
12.50	0.7	41
12.52	0.7	42
12.54	0.7	44
12.56	0.8	45
12.58	0.8	47
12.60	0.8	48
12.62	0.8	50
12.64	0.9	51
12.66	0.9	53
12.68	0.9	54
12.70	0.9	55
12.72	0.9	57
12.74	1.0	58
12.76	1.0	59
12.78	1.0	61
12.80	1.0	62
12.82	1.1	63
12.84	1.1	64
12.86	1.1	65
12.88	1.1	67
12.90	1.1	68
12.92	1.1	69
12.94	1.2	70
12.96	1.2	70
12.98	1.2	71
13.00	1.2	72
13.02	1.2	73
13.04	1.2	73
13.06	**1.2**	**74**

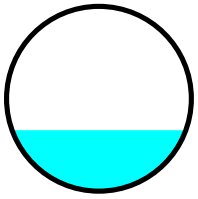
Summary for Reach 39R: 15" HDPE

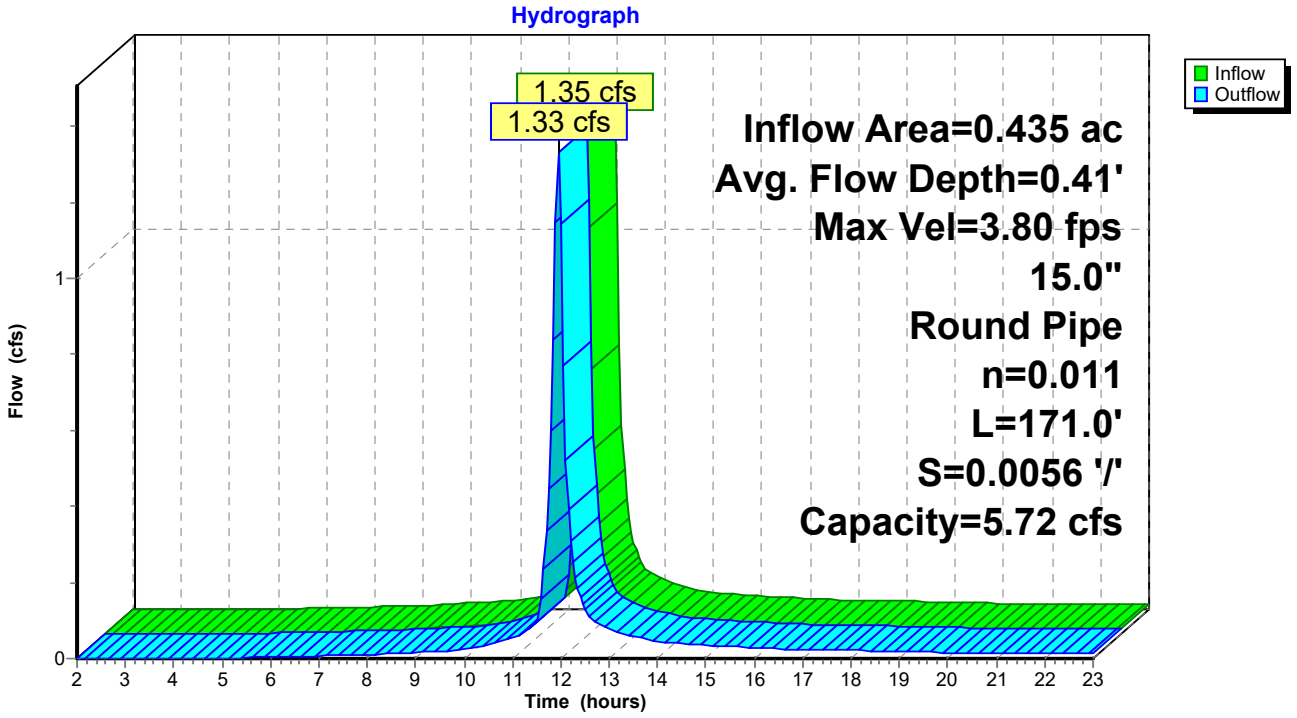
Inflow Area = 0.435 ac, 79.43% Impervious, Inflow Depth > 2.04" for 1-YR event
Inflow = 1.35 cfs @ 11.94 hrs, Volume= 0.074 af
Outflow = 1.33 cfs @ 11.95 hrs, Volume= 0.074 af, Atten= 1%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.80 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.15 fps, Avg. Travel Time= 2.5 min

Peak Storage= 60 cf @ 11.95 hrs
Average Depth at Peak Storage= 0.41'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.72 cfs

15.0" Round Pipe
n= 0.011
Length= 171.0' Slope= 0.0056 '/'
Inlet Invert= 11.41', Outlet Invert= 10.45'





Stage-Area-Storage for Reach 39R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.41	0.0	0
11.43	0.0	1
11.45	0.0	2
11.47	0.0	4
11.49	0.0	6
11.51	0.0	8
11.53	0.1	10
11.55	0.1	13
11.57	0.1	16
11.59	0.1	19
11.61	0.1	22
11.63	0.1	25
11.65	0.2	28
11.67	0.2	32
11.69	0.2	35
11.71	0.2	39
11.73	0.2	42
11.75	0.3	46
11.77	0.3	50
11.79	0.3	54
11.81	0.3	58
11.83	0.4	62
11.85	0.4	66
11.87	0.4	70
11.89	0.4	74
11.91	0.5	78
11.93	0.5	83
11.95	0.5	87
11.97	0.5	91
11.99	0.6	95
12.01	0.6	100
12.03	0.6	104
12.05	0.6	108
12.07	0.7	112
12.09	0.7	117
12.11	0.7	121
12.13	0.7	125
12.15	0.8	129
12.17	0.8	134
12.19	0.8	138
12.21	0.8	142
12.23	0.9	146
12.25	0.9	150
12.27	0.9	154
12.29	0.9	158
12.31	0.9	162
12.33	1.0	166
12.35	1.0	169
12.37	1.0	173
12.39	1.0	176
12.41	1.1	180
12.43	1.1	183
12.45	1.1	187
12.47	1.1	190
12.49	1.1	193
12.51	1.1	196
12.53	1.2	198
12.55	1.2	201
12.57	1.2	203
12.59	1.2	205
12.61	1.2	207
12.63	1.2	209
12.65	**1.2**	**210**

Summary for Pond 40P: SGW 1

Inflow Area = 2.337 ac, 62.67% Impervious, Inflow Depth > 1.75" for 1-YR event
Inflow = 5.84 cfs @ 11.96 hrs, Volume= 0.340 af
Outflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 10.74' @ 23.00 hrs Surf.Area= 10,304 sf Storage= 14,812 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

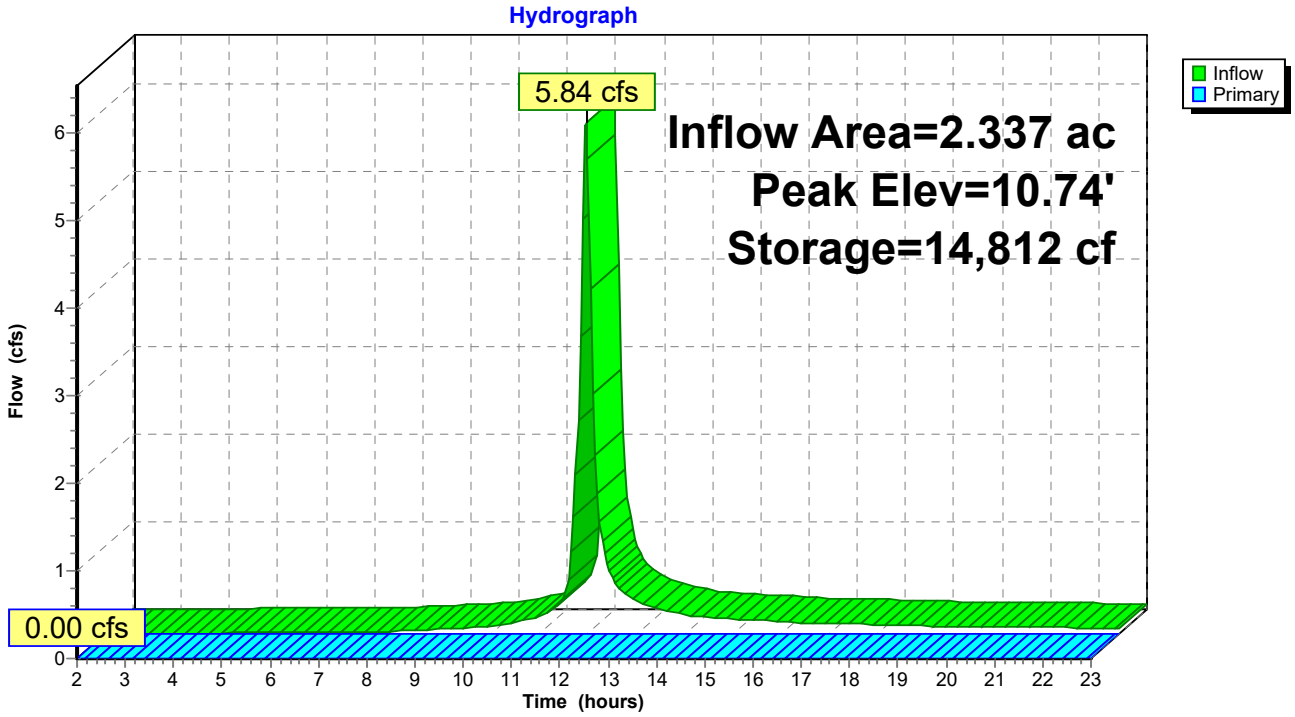
Volume	Invert	Avail.Storage	Storage Description
#1	7.44'	28,534 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
7.44	9,804	575.0	0.0	0	0	9,804
7.45	9,804	575.0	40.0	39	39	9,810
10.44	9,804	575.0	40.0	11,726	11,765	11,529
10.45	9,804	575.0	100.0	98	11,863	11,535
11.45	11,558	594.0	100.0	10,669	22,532	13,396
11.95	12,457	604.0	100.0	6,002	28,534	14,396

Device	Routing	Invert	Outlet Devices
#1	Primary	10.12'	**15.0" Round Culvert** L= 31.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.12' / 10.00' S= 0.0039 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	11.45'	**18.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.00 cfs @ 2.00 hrs HW=7.44' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Controls 0.00 cfs)
↑**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 40P: SGW 1



Stage-Area-Storage for Pond 40P: SGW 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
7.44	9,804	0
7.49	9,804	196
7.54	9,804	392
7.59	9,804	588
7.64	9,804	784
7.69	9,804	980
7.74	9,804	1,176
7.79	9,804	1,373
7.84	9,804	1,569
7.89	9,804	1,765
7.94	9,804	1,961
7.99	9,804	2,157
8.04	9,804	2,353
8.09	9,804	2,549
8.14	9,804	2,745
8.19	9,804	2,941
8.24	9,804	3,137
8.29	9,804	3,333
8.34	9,804	3,529
8.39	9,804	3,726
8.44	9,804	3,922
8.49	9,804	4,118
8.54	9,804	4,314
8.59	9,804	4,510
8.64	9,804	4,706
8.69	9,804	4,902
8.74	9,804	5,098
8.79	9,804	5,294
8.84	9,804	5,490
8.89	9,804	5,686
8.94	9,804	5,882
8.99	9,804	6,078
9.04	9,804	6,275
9.09	9,804	6,471
9.14	9,804	6,667
9.19	9,804	6,863
9.24	9,804	7,059
9.29	9,804	7,255
9.34	9,804	7,451
9.39	9,804	7,647
9.44	9,804	7,843
9.49	9,804	8,039
9.54	9,804	8,235
9.59	9,804	8,431
9.64	9,804	8,628
9.69	9,804	8,824
9.74	9,804	9,020
9.79	9,804	9,216
9.84	9,804	9,412
9.89	9,804	9,608
9.94	9,804	9,804
9.99	9,804	10,000
10.04	9,804	10,196
10.09	9,804	10,392
10.14	9,804	10,588
10.19	9,804	10,784
10.24	9,804	10,980
10.29	9,804	11,177
10.34	9,804	11,373
10.39	9,804	11,569
10.44	9,804	11,765
10.49	9,871	12,256
10.54	9,956	12,752
10.59	10,041	13,252
10.64	10,126	13,756
10.69	10,212	14,265
10.74	10,298	14,777
10.79	10,384	15,294
10.84	10,471	15,816
10.89	10,558	16,341
10.94	10,645	16,872
10.99	10,733	17,406
11.04	10,821	17,945
11.09	10,910	18,488
11.14	10,999	19,036
11.19	11,088	19,588
11.24	11,178	20,145
11.29	11,268	20,706
11.34	11,358	21,271
11.39	11,449	21,842
11.44	11,540	22,416
11.49	11,629	22,996
11.54	11,717	23,579
11.59	11,806	24,167
11.64	11,896	24,760
11.69	11,985	25,357
11.74	12,075	25,958
11.79	12,166	26,564
11.84	12,256	27,175
11.89	12,347	27,790
11.94	**12,439**	**28,410**

Summary for Pond 52P: SGW 2

Inflow Area = 0.861 ac, 49.03% Impervious, Inflow Depth > 1.46" for 1-YR event
Inflow = 1.60 cfs @ 12.01 hrs, Volume= 0.105 af
Outflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 13.38' @ 23.00 hrs Surf.Area= 4,017 sf Storage= 4,566 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

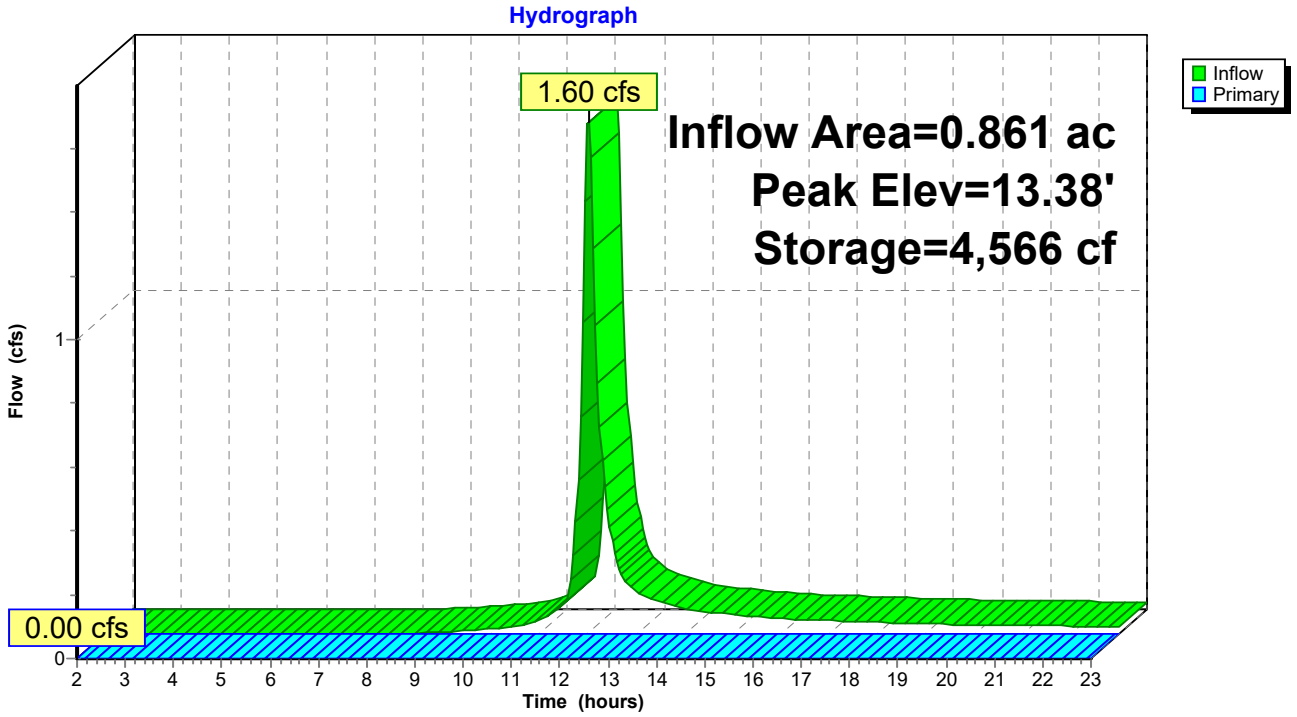
Volume	Invert	Avail.Storage	Storage Description
#1	10.54'	12,413 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
10.54	4,017	447.0	0.0	0	0	4,017
10.55	4,017	447.0	40.0	16	16	4,021
13.54	4,017	447.0	40.0	4,804	4,820	5,358
13.55	4,017	447.0	100.0	40	4,861	5,362
14.55	5,386	466.0	100.0	4,685	9,545	6,816
15.05	6,092	475.0	100.0	2,868	12,413	7,530

Device	Routing	Invert	Outlet Devices
#1	Primary	13.25'	**15.0" Round Culvert** L= 35.5' Ke= 0.500 Inlet / Outlet Invert= 13.25' / 13.02' S= 0.0065 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	14.55'	**18.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.00 cfs @ 2.00 hrs HW=10.54' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 52P: SGW 2



Stage-Area-Storage for Pond 52P: SGW 2

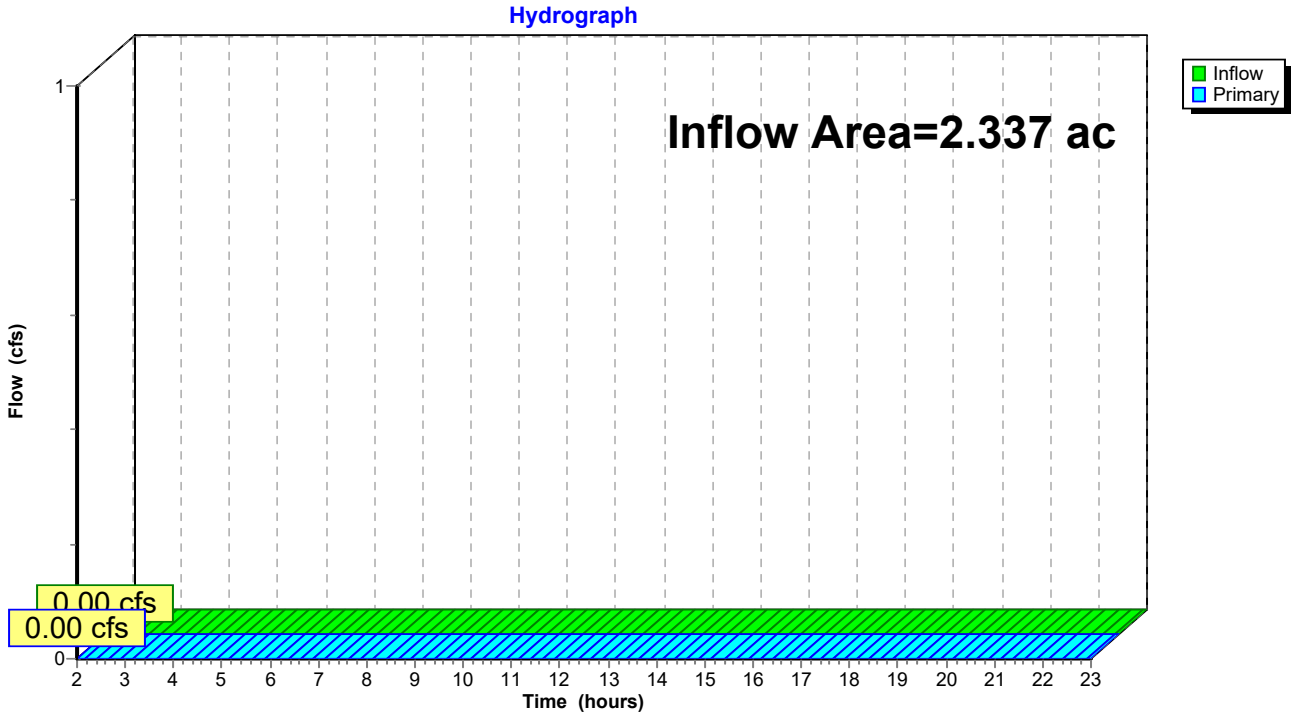
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
10.54	4,017	0
10.59	4,017	80
10.64	4,017	161
10.69	4,017	241
10.74	4,017	321
10.79	4,017	402
10.84	4,017	482
10.89	4,017	562
10.94	4,017	643
10.99	4,017	723
11.04	4,017	803
11.09	4,017	884
11.14	4,017	964
11.19	4,017	1,044
11.24	4,017	1,125
11.29	4,017	1,205
11.34	4,017	1,285
11.39	4,017	1,366
11.44	4,017	1,446
11.49	4,017	1,526
11.54	4,017	1,607
11.59	4,017	1,687
11.64	4,017	1,767
11.69	4,017	1,848
11.74	4,017	1,928
11.79	4,017	2,009
11.84	4,017	2,089
11.89	4,017	2,169
11.94	4,017	2,250
11.99	4,017	2,330
12.04	4,017	2,410
12.09	4,017	2,491
12.14	4,017	2,571
12.19	4,017	2,651
12.24	4,017	2,732
12.29	4,017	2,812
12.34	4,017	2,892
12.39	4,017	2,973
12.44	4,017	3,053
12.49	4,017	3,133
12.54	4,017	3,214
12.59	4,017	3,294
12.64	4,017	3,374
12.69	4,017	3,455
12.74	4,017	3,535
12.79	4,017	3,615
12.84	4,017	3,696
12.89	4,017	3,776
12.94	4,017	3,856
12.99	4,017	3,937
13.04	4,017	4,017
13.09	4,017	4,097
13.14	4,017	4,178
13.19	4,017	4,258
13.24	4,017	4,338
13.29	4,017	4,419
13.34	4,017	4,499
13.39	4,017	4,579
13.44	4,017	4,660
13.49	4,017	4,740
13.54	4,017	4,820
13.59	4,068	5,022
13.64	4,132	5,227
13.69	4,197	5,435
13.74	4,262	5,647
13.79	4,327	5,862
13.84	4,393	6,080
13.89	4,460	6,301
13.94	4,527	6,526
13.99	4,595	6,754
14.04	4,663	6,985
14.09	4,731	7,220
14.14	4,800	7,458
14.19	4,870	7,700
14.24	4,940	7,945
14.29	5,011	8,194
14.34	5,082	8,446
14.39	5,153	8,702
14.44	5,226	8,962
14.49	5,298	9,225
14.54	5,371	9,492
14.59	5,441	9,762
14.64	5,510	10,036
14.69	5,579	10,313
14.74	5,649	10,594
14.79	5,719	10,878
14.84	5,790	11,166
14.89	5,861	11,457
14.94	5,933	11,752
14.99	6,005	12,050
15.04	**6,077**	**12,352**

Summary for Link 42L: POI 1

Inflow Area = 2.337 ac, 62.67% Impervious, Inflow Depth = 0.00" for 1-YR event
Inflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 42L: POI 1

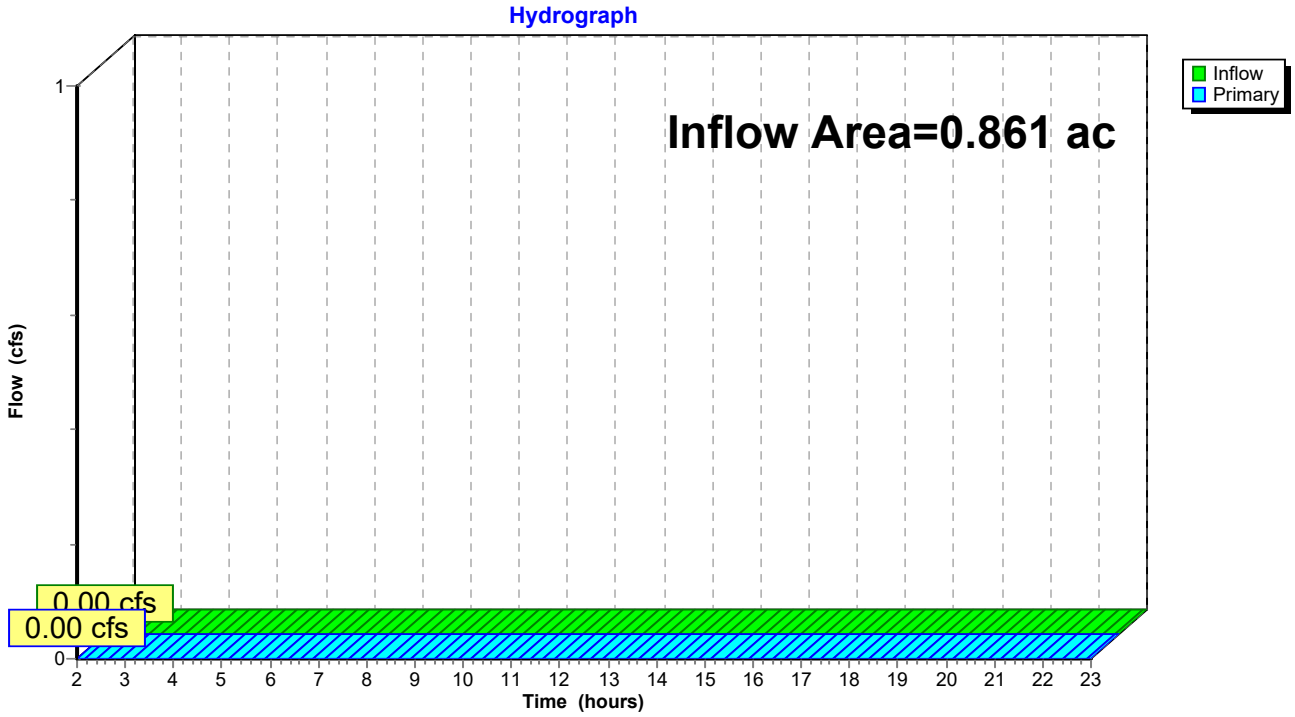


Summary for Link 53L: POI 2

Inflow Area = 0.861 ac, 49.03% Impervious, Inflow Depth = 0.00" for 1-YR event
Inflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 53L: POI 2

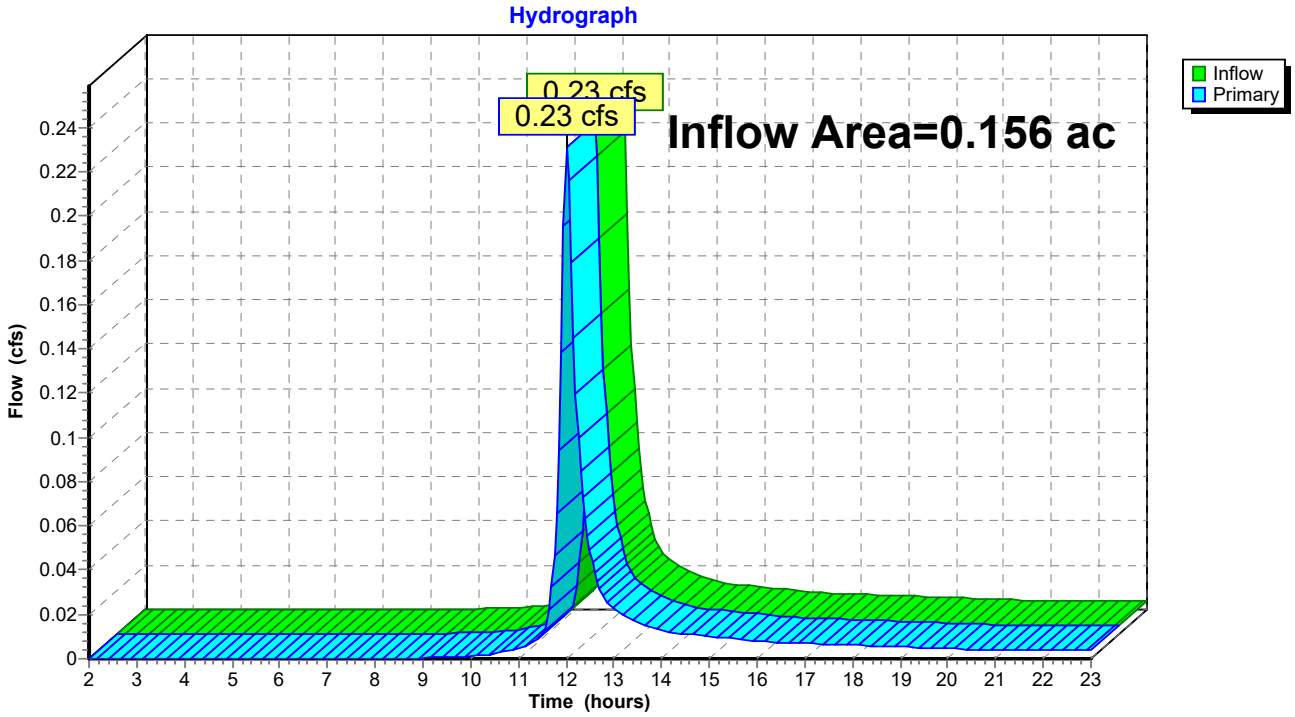


Summary for Link 56L: POI 3 (EX SWM POND)

Inflow Area = 0.156 ac, 34.31% Impervious, Inflow Depth > 1.22" for 1-YR event
Inflow = 0.23 cfs @ 12.01 hrs, Volume= 0.016 af
Primary = 0.23 cfs @ 12.01 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 56L: POI 3 (EX SWM POND)



Summary for Subcatchment 1S: EX DA-1 (ORANGE)

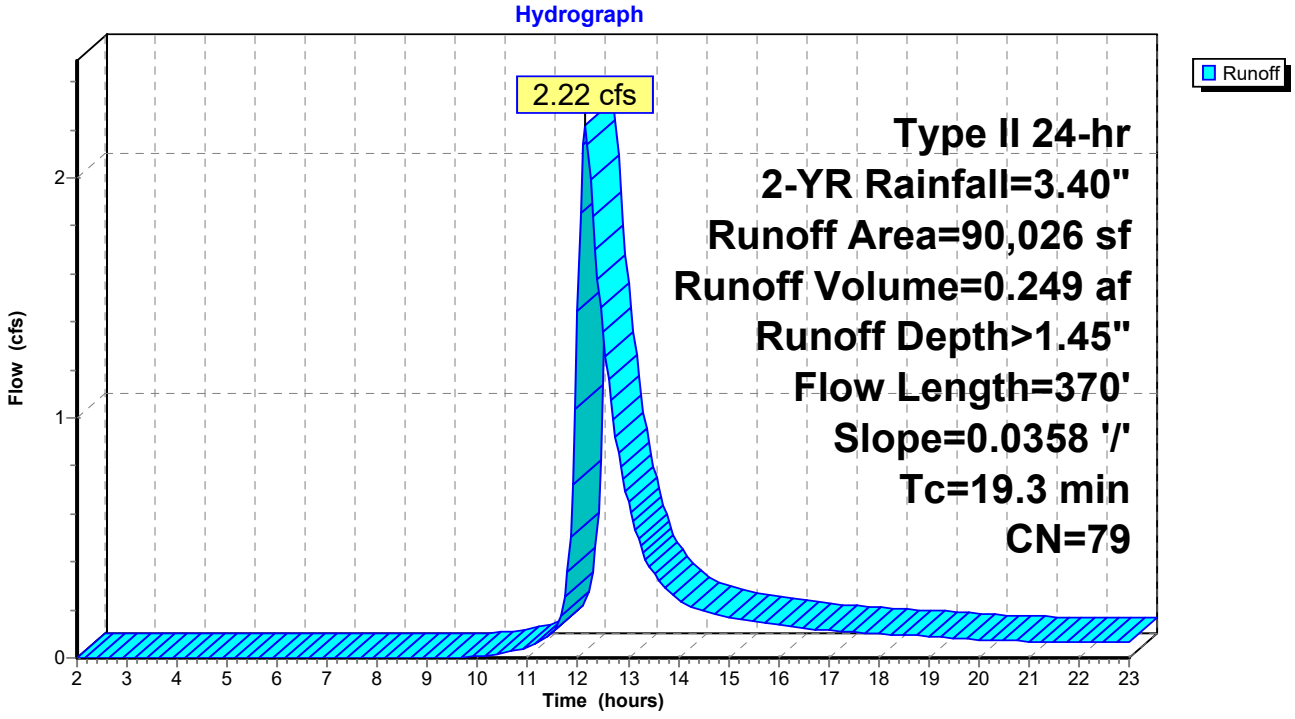
Runoff = 2.22 cfs @ 12.15 hrs, Volume= 0.249 af, Depth> 1.45"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.40"

	Area (sf)	CN	Description
*	224	98	existing shed
	89,802	79	50-75% Grass cover, Fair, HSG C
	90,026	79	Weighted Average
	89,802		99.75% Pervious Area
	224		0.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	150	0.0358	0.14		**Sheet Flow, a-b** Grass: Dense n= 0.240 P2= 2.40"
1.2	220	0.0358	3.05		**Shallow Concentrated Flow, b-c** Unpaved Kv= 16.1 fps
19.3	370	Total			

Subcatchment 1S: EX DA-1 (ORANGE)



Summary for Subcatchment 2S: EX DA-2 (PURPLE)

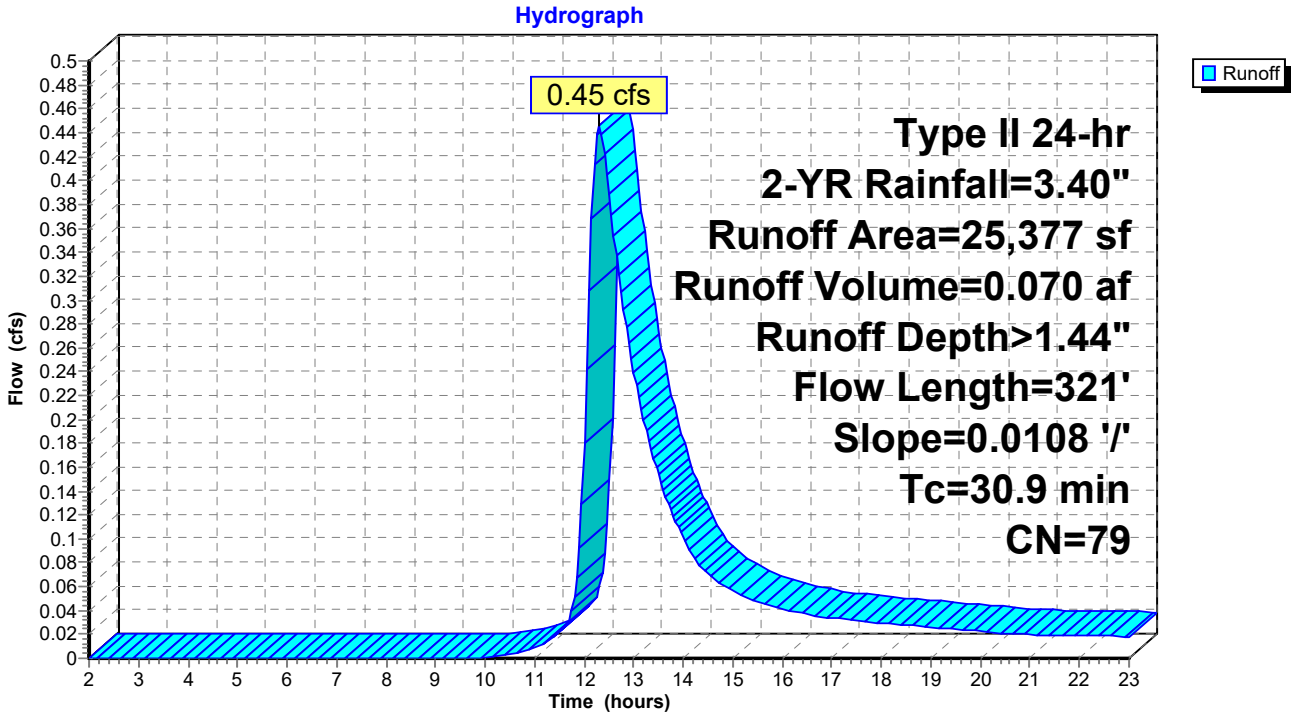
Runoff = 0.45 cfs @ 12.30 hrs, Volume= 0.070 af, Depth> 1.44"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
25,377	79	50-75% Grass cover, Fair, HSG C
25,377		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0108	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
1.7	171	0.0108	1.67		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
30.9	321	Total			

Subcatchment 2S: EX DA-2 (PURPLE)



Summary for Subcatchment 3S: EX DA-3 (BLUE)

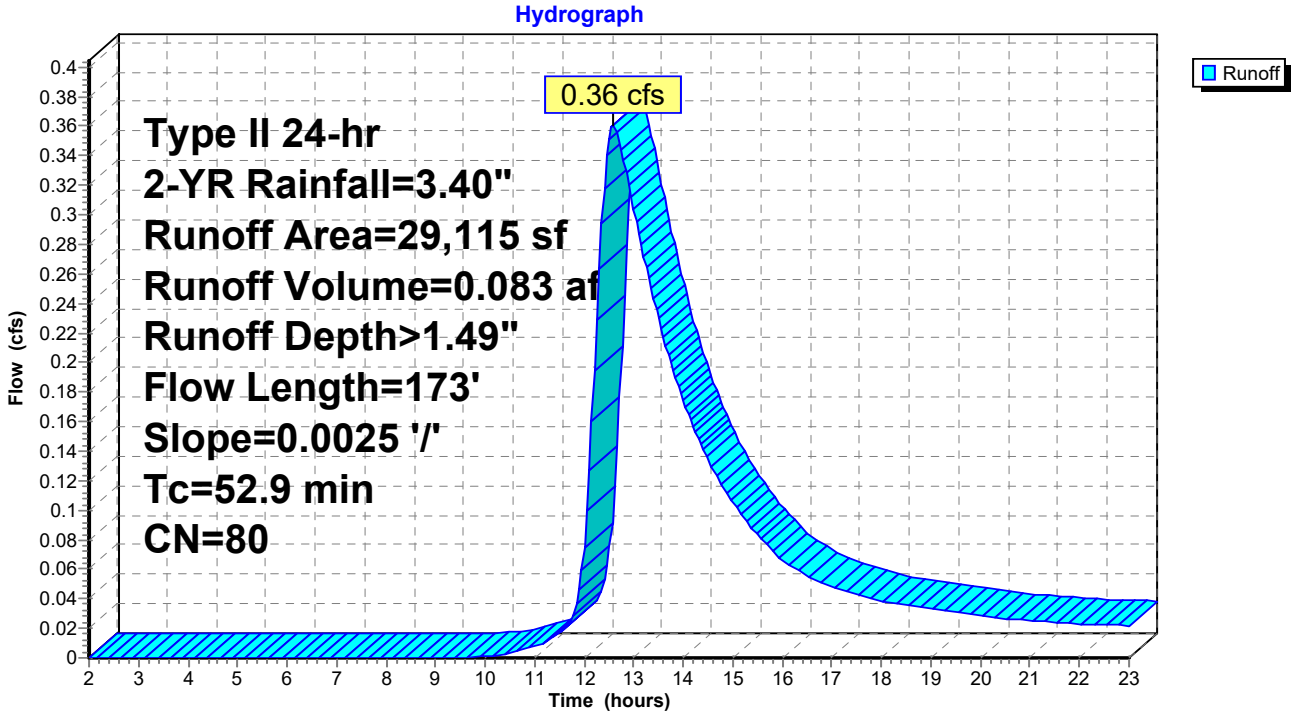
Runoff = 0.36 cfs @ 12.59 hrs, Volume= 0.083 af, Depth> 1.49"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
28,117	79	50-75% Grass cover, Fair, HSG C
998	98	Paved parking, HSG C
29,115	80	Weighted Average
28,117		96.57% Pervious Area
998		3.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
52.4	150	0.0025	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.5	23	0.0025	0.81		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
52.9	173	Total			

Subcatchment 3S: EX DA-3 (BLUE)



Summary for Subcatchment 30S: DA-1e (orange)

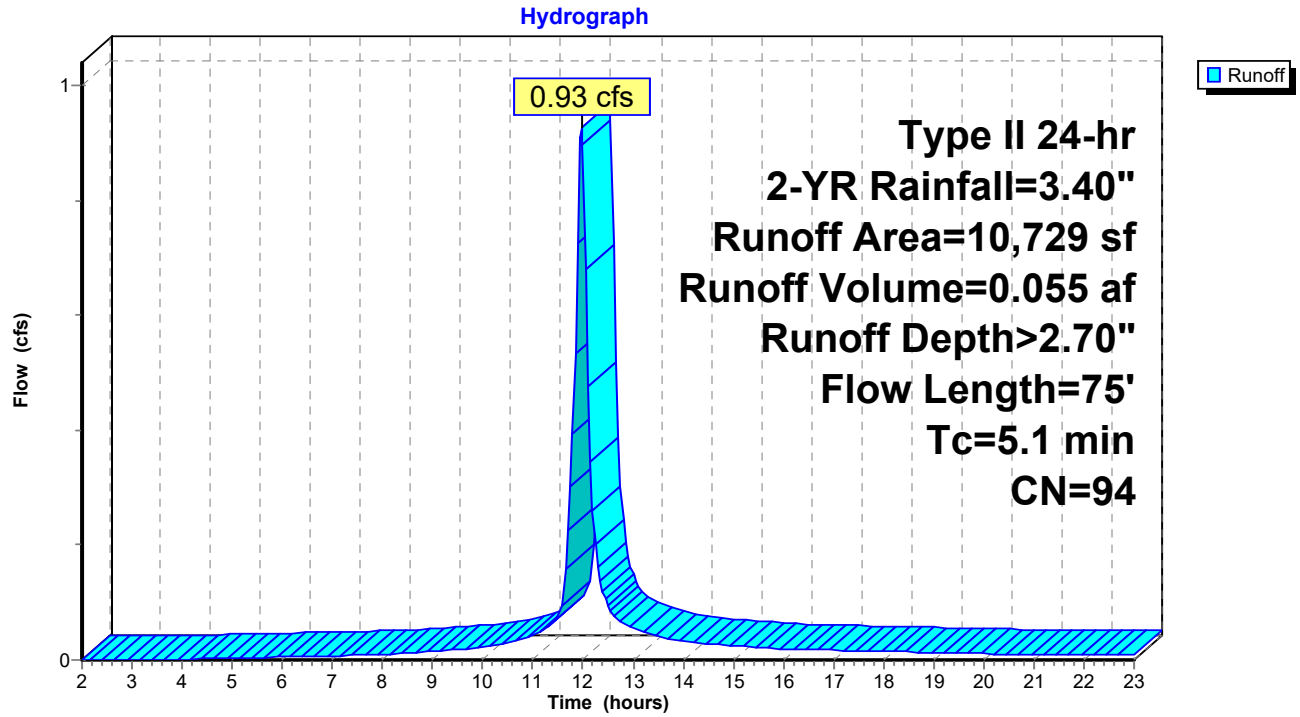
Runoff = 0.93 cfs @ 11.97 hrs, Volume= 0.055 af, Depth> 2.70"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
8,909	98	Paved parking, HSG C
1,820	74	>75% Grass cover, Good, HSG C
10,729	94	Weighted Average
1,820		16.96% Pervious Area
8,909		83.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	14	0.0095	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	48	0.0134	1.86		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
0.1	13	0.0075	1.76		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
5.1	75	Total			

Subcatchment 30S: DA-1e (orange)



Summary for Subcatchment 31S: DA-1c (orange)

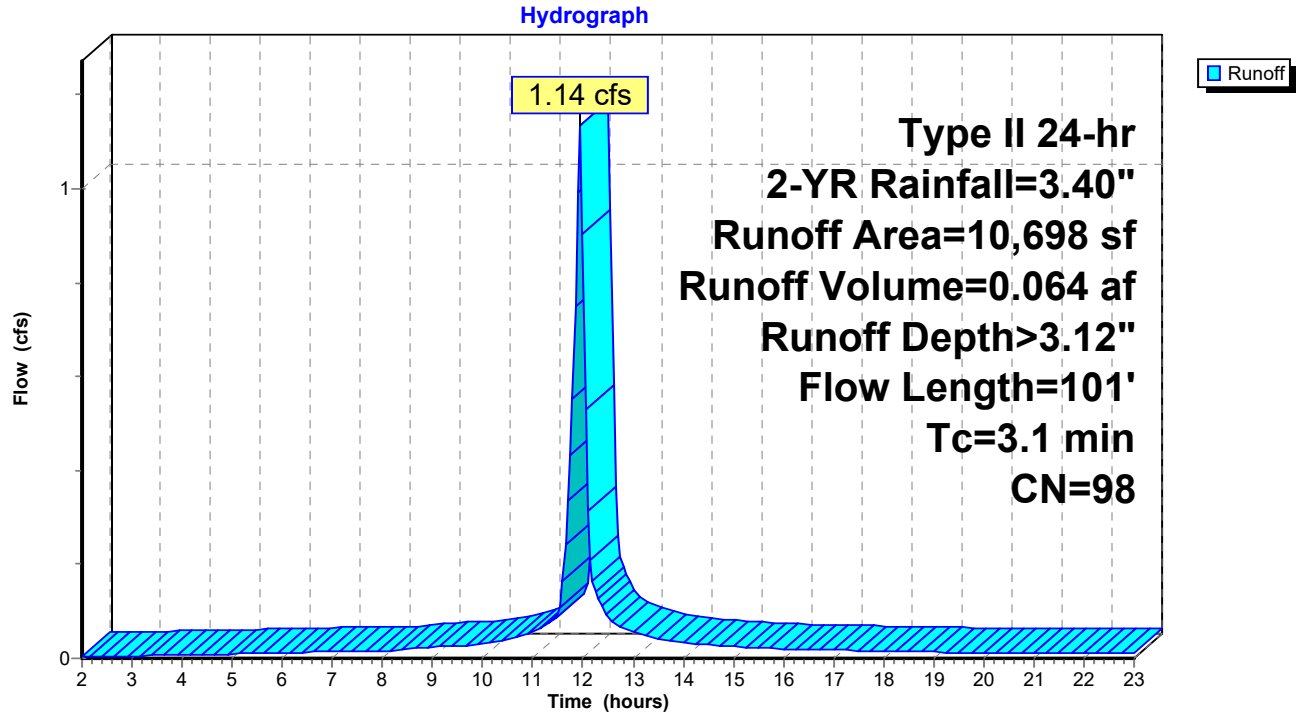
Runoff = 1.14 cfs @ 11.94 hrs, Volume= 0.064 af, Depth> 3.12"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
10,698	98	Paved parking, HSG C
10,698		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	67	0.0016	0.40		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.3	34	0.0100	2.03		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
3.1	101	Total			

Subcatchment 31S: DA-1c (orange)



Summary for Subcatchment 32S: DA-1b (orange)

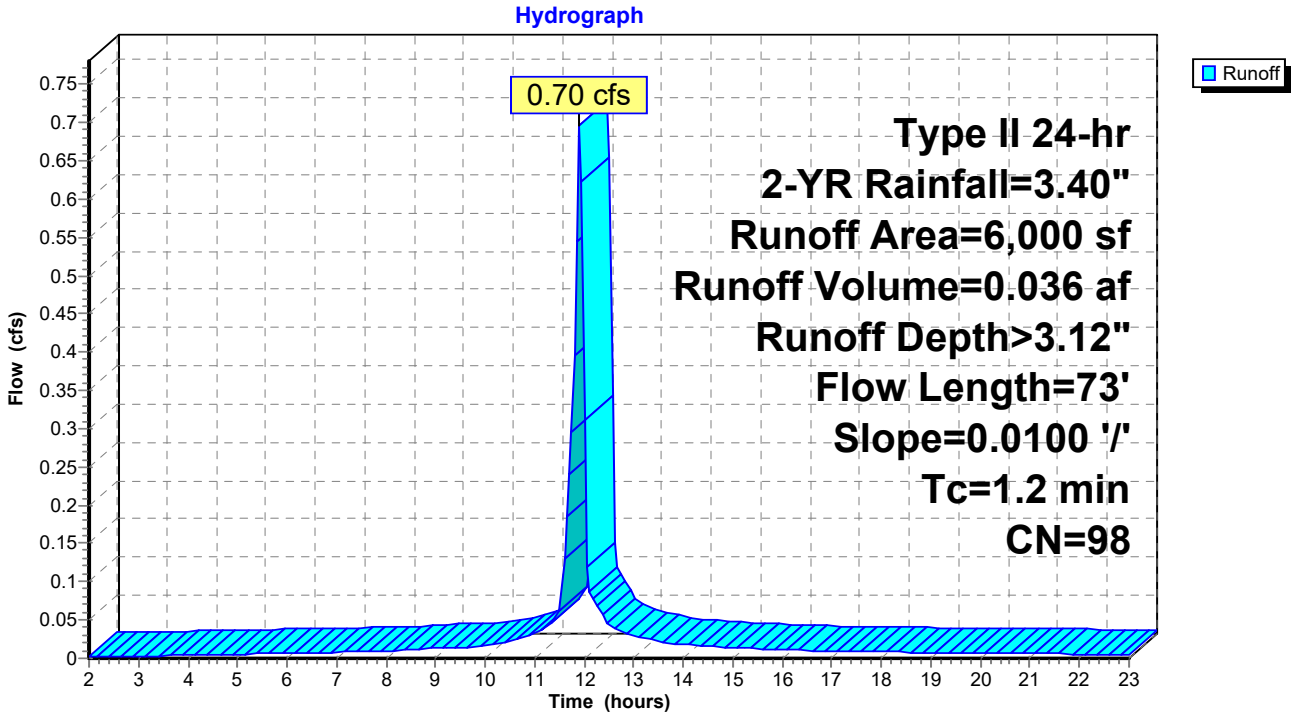
Runoff = 0.70 cfs @ 11.91 hrs, Volume= 0.036 af, Depth> 3.12"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
6,000	98	Paved parking, HSG C
6,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	39	0.0100	0.75		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.3	34	0.0100	2.03		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.2	73	Total			

Subcatchment 32S: DA-1b (orange)



Summary for Subcatchment 33S: DA-1a (orange)

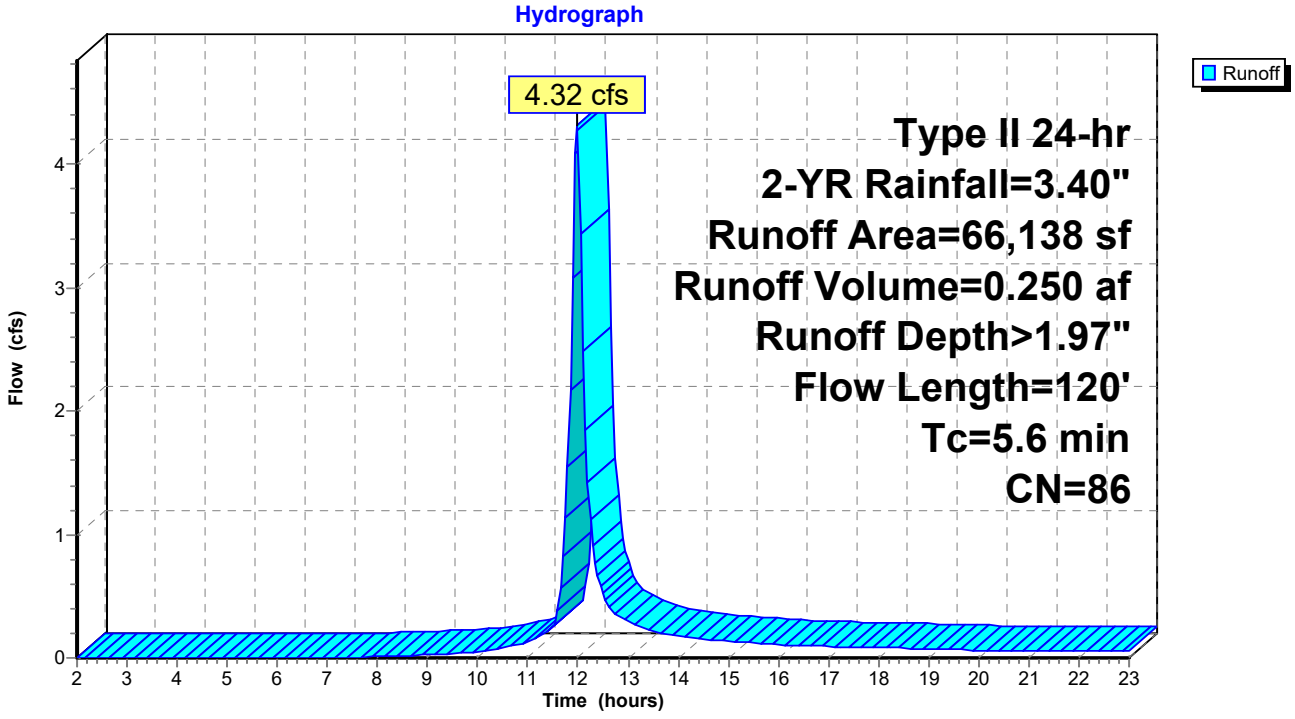
Runoff = 4.32 cfs @ 11.98 hrs, Volume= 0.250 af, Depth> 1.97"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
32,038	98	Paved parking, HSG C
34,100	74	>75% Grass cover, Good, HSG C
66,138	86	Weighted Average
34,100		51.56% Pervious Area
32,038		48.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	33	0.0439	0.11		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.6	87	0.0253	2.56		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
5.6	120	Total			

Subcatchment 33S: DA-1a (orange)



Summary for Subcatchment 34S: DA-1d (orange)

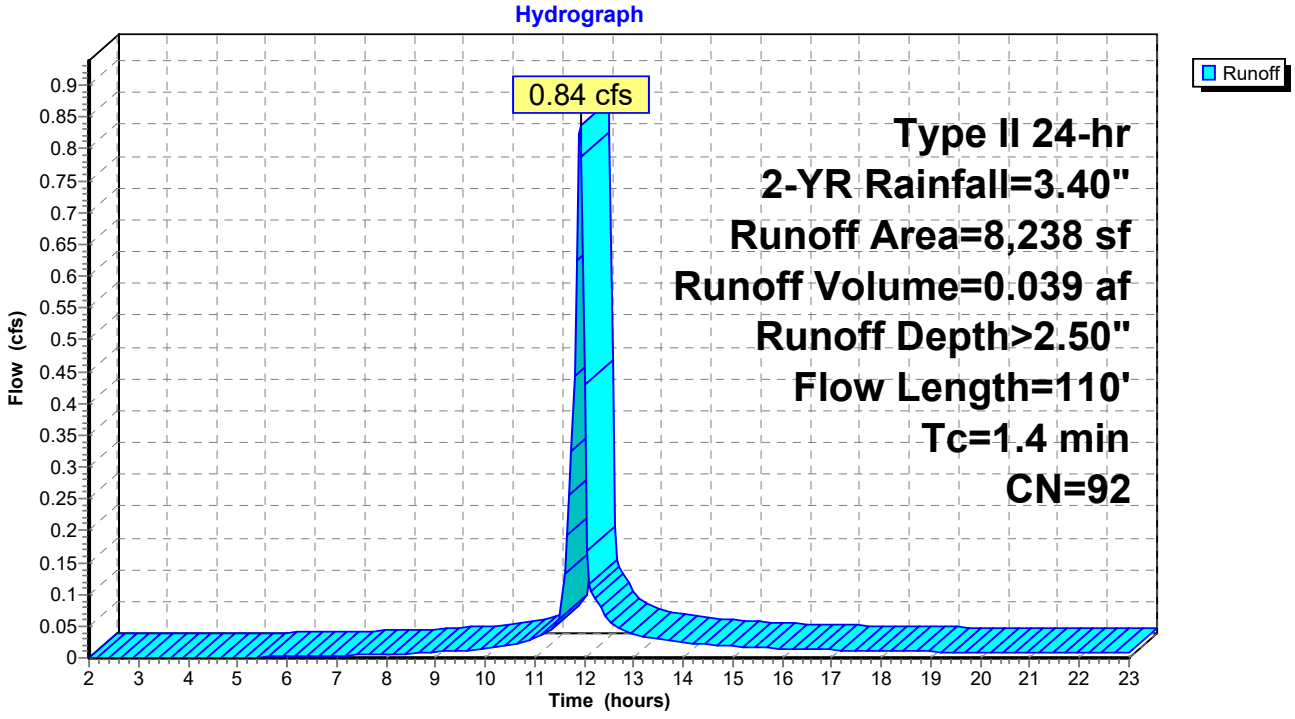
Runoff = 0.84 cfs @ 11.92 hrs, Volume= 0.039 af, Depth> 2.50"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
6,157	98	Paved parking, HSG C
2,081	74	>75% Grass cover, Good, HSG C
8,238	92	Weighted Average
2,081		25.26% Pervious Area
6,157		74.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	34	0.0156	0.87		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.7	76	0.0075	1.76		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.4	110	Total			

Subcatchment 34S: DA-1d (orange)



Summary for Subcatchment 51S: DA TO SGW 2 (purple)

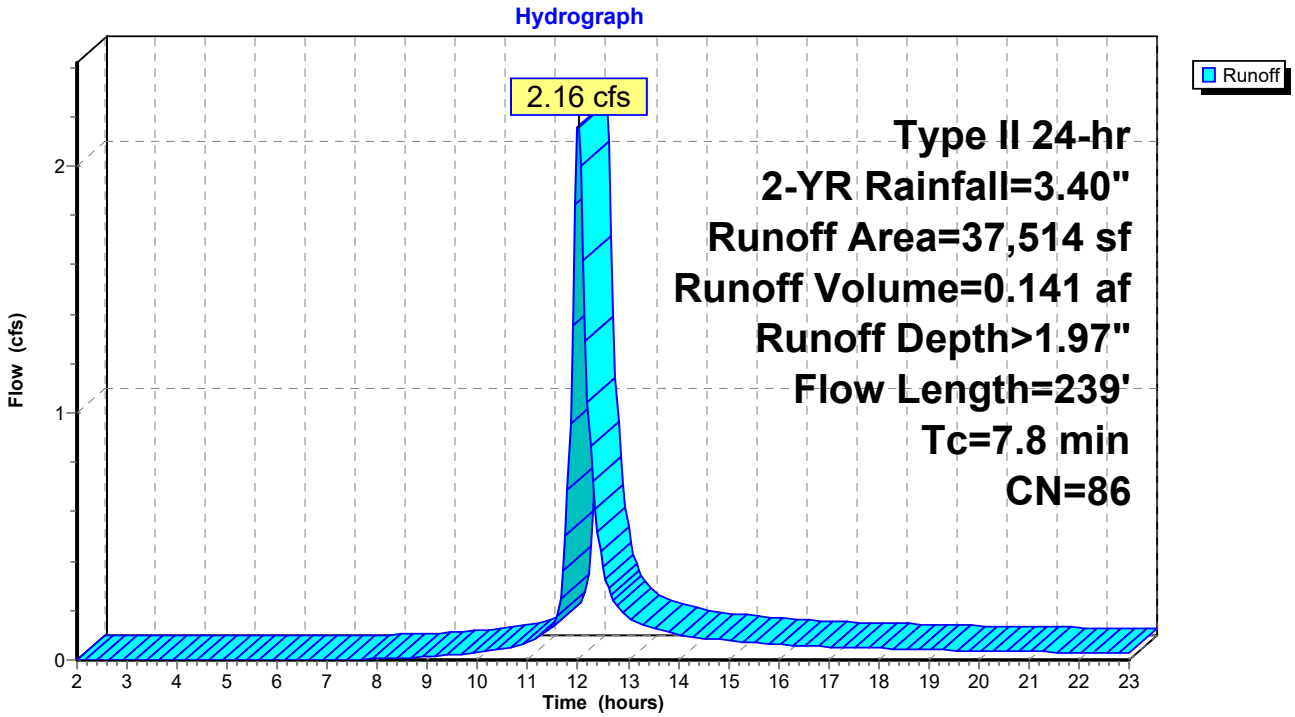
Runoff = 2.16 cfs @ 12.01 hrs, Volume= 0.141 af, Depth> 1.97"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
18,394	98	Paved parking, HSG C
19,120	74	>75% Grass cover, Good, HSG C
37,514	86	Weighted Average
19,120		50.97% Pervious Area
18,394		49.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	14	0.0095	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	35	0.0075	1.39		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
2.8	190	0.0051	1.15		**Shallow Concentrated Flow, C-D** Unpaved Kv= 16.1 fps
7.8	239	Total			

Subcatchment 51S: DA TO SGW 2 (purple)



Summary for Subcatchment 54S: DA-3a (blue)

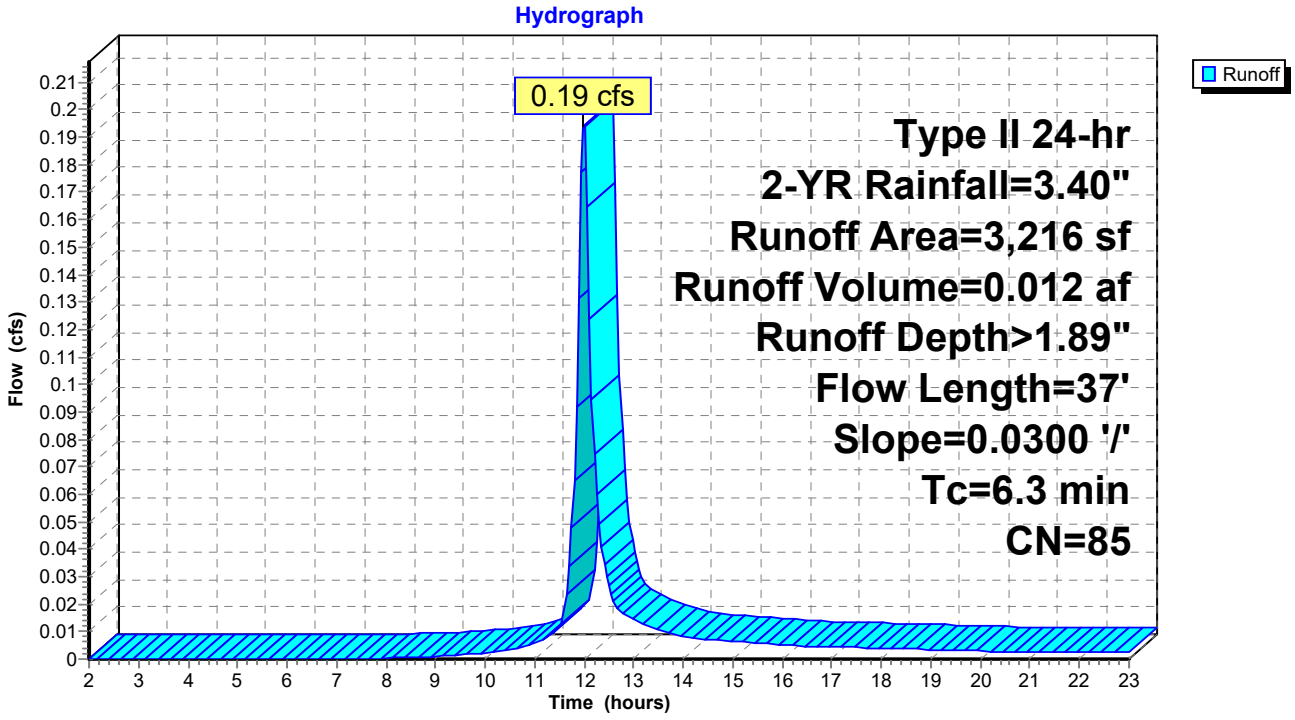
Runoff = 0.19 cfs @ 11.99 hrs, Volume= 0.012 af, Depth> 1.89"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
1,480	98	Paved parking, HSG C
1,736	74	>75% Grass cover, Good, HSG C
3,216	85	Weighted Average
1,736		53.98% Pervious Area
1,480		46.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	37	0.0300	0.10		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"

Subcatchment 54S: DA-3a (blue)



Summary for Subcatchment 55S: DA-3b (blue)

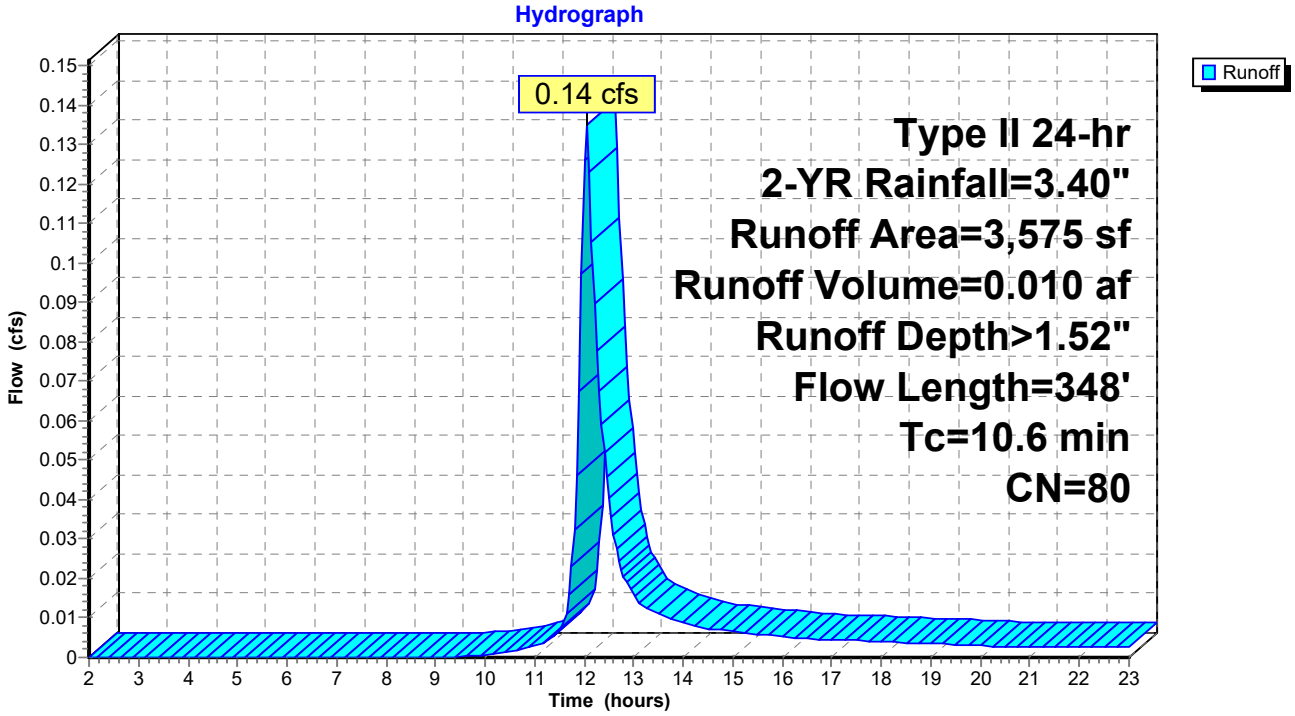
Runoff = 0.14 cfs @ 12.05 hrs, Volume= 0.010 af, Depth> 1.52"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=3.40"

Area (sf)	CN	Description
850	98	Paved parking, HSG C
2,725	74	>75% Grass cover, Good, HSG C
3,575	80	Weighted Average
2,725		76.22% Pervious Area
850		23.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	46	0.0222	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	100	0.0050	3.79	2.98	**Pipe Channel, 12" HDPE** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011
1.7	202	0.0149	1.97		**Shallow Concentrated Flow, EX SWALE TO INLET 4** Unpaved Kv= 16.1 fps
10.6	348	Total			

Subcatchment 55S: DA-3b (blue)



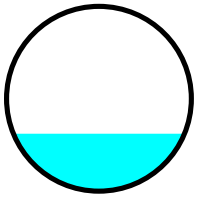
Summary for Reach 36R: 15" HDPE

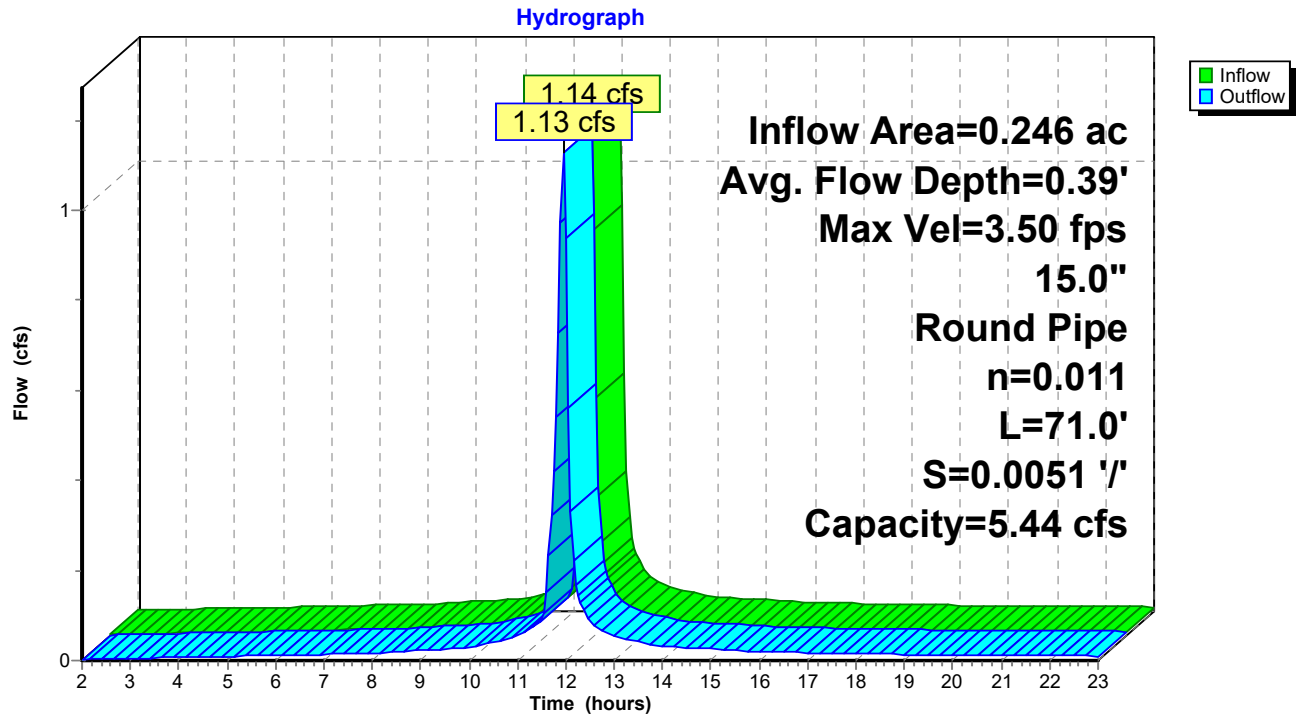
Inflow Area = 0.246 ac,100.00% Impervious, Inflow Depth > 3.12" for 2-YR event
Inflow = 1.14 cfs @ 11.94 hrs, Volume= 0.064 af
Outflow = 1.13 cfs @ 11.95 hrs, Volume= 0.064 af, Atten= 1%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.50 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.06 fps, Avg. Travel Time= 1.1 min

Peak Storage= 23 cf @ 11.95 hrs
Average Depth at Peak Storage= 0.39'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.44 cfs

15.0" Round Pipe
n= 0.011 PVC, smooth interior
Length= 71.0' Slope= 0.0051 '/'
Inlet Invert= 11.16', Outlet Invert= 10.80'





Stage-Area-Storage for Reach 36R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.16	0.0	0
11.18	0.0	0
11.20	0.0	1
11.22	0.0	2
11.24	0.0	2
11.26	0.0	3
11.28	0.1	4
11.30	0.1	5
11.32	0.1	7
11.34	0.1	8
11.36	0.1	9
11.38	0.1	10
11.40	0.2	12
11.42	0.2	13
11.44	0.2	15
11.46	0.2	16
11.48	0.2	18
11.50	0.3	19
11.52	0.3	21
11.54	0.3	22
11.56	0.3	24
11.58	0.4	26
11.60	0.4	27
11.62	0.4	29
11.64	0.4	31
11.66	0.5	33
11.68	0.5	34
11.70	0.5	36
11.72	0.5	38
11.74	0.6	40
11.76	0.6	41
11.78	0.6	43
11.80	0.6	45
11.82	0.7	47
11.84	0.7	48
11.86	0.7	50
11.88	0.7	52
11.90	0.8	54
11.92	0.8	55
11.94	0.8	57
11.96	0.8	59
11.98	0.9	61
12.00	0.9	62
12.02	0.9	64
12.04	0.9	66
12.06	0.9	67
12.08	1.0	69
12.10	1.0	70
12.12	1.0	72
12.14	1.0	73
12.16	1.1	75
12.18	1.1	76
12.20	1.1	77
12.22	1.1	79
12.24	1.1	80
12.26	1.1	81
12.28	1.2	82
12.30	1.2	83
12.32	1.2	84
12.34	1.2	85
12.36	1.2	86
12.38	1.2	87
12.40	**1.2**	**87**

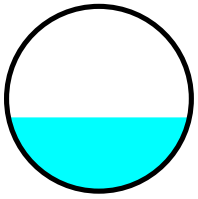
Summary for Reach 37R: 15" HDPE

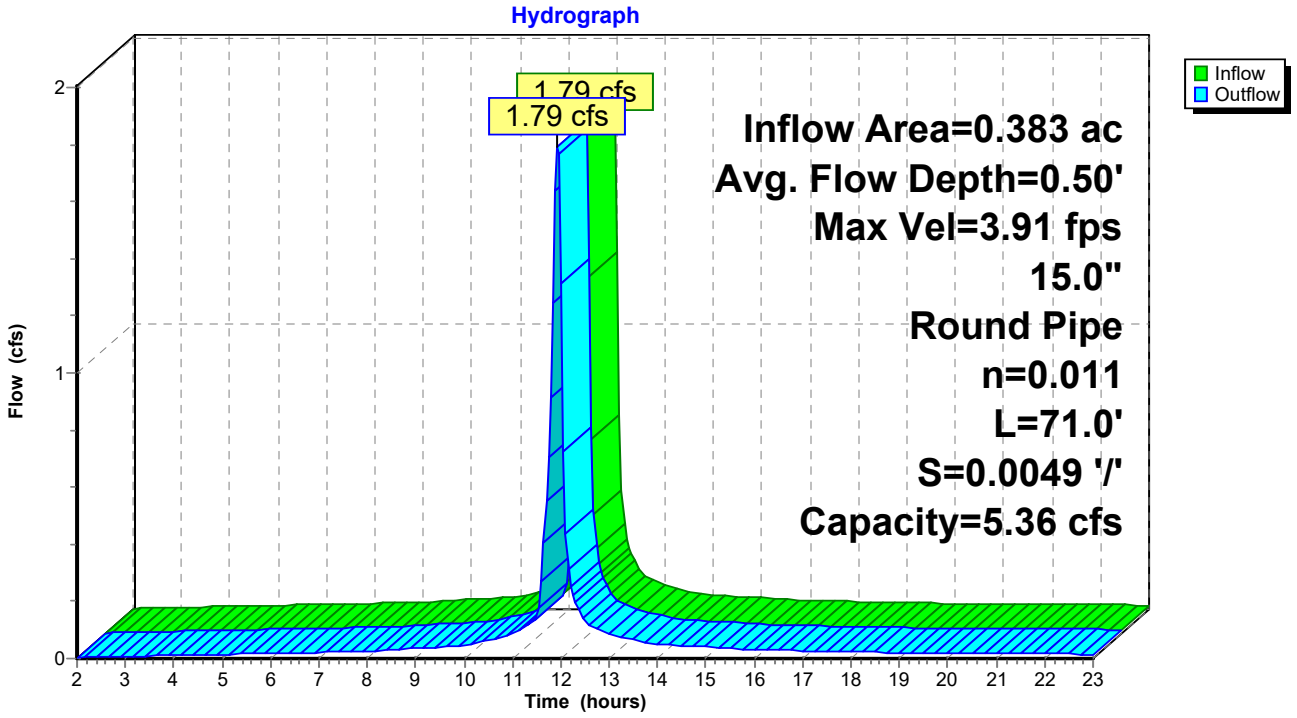
Inflow Area = 0.383 ac,100.00% Impervious, Inflow Depth > 3.12" for 2-YR event
Inflow = 1.79 cfs @ 11.93 hrs, Volume= 0.100 af
Outflow = 1.79 cfs @ 11.94 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.91 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 1.0 min

Peak Storage= 32 cf @ 11.94 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.36 cfs

15.0" Round Pipe
n= 0.011
Length= 71.0' Slope= 0.0049 '/'
Inlet Invert= 10.80', Outlet Invert= 10.45'





Stage-Area-Storage for Reach 37R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
10.80	0.0	0
10.82	0.0	0
10.84	0.0	1
10.86	0.0	2
10.88	0.0	2
10.90	0.0	3
10.92	0.1	4
10.94	0.1	5
10.96	0.1	7
10.98	0.1	8
11.00	0.1	9
11.02	0.1	10
11.04	0.2	12
11.06	0.2	13
11.08	0.2	15
11.10	0.2	16
11.12	0.2	18
11.14	0.3	19
11.16	0.3	21
11.18	0.3	22
11.20	0.3	24
11.22	0.4	26
11.24	0.4	27
11.26	0.4	29
11.28	0.4	31
11.30	0.5	33
11.32	0.5	34
11.34	0.5	36
11.36	0.5	38
11.38	0.6	40
11.40	0.6	41
11.42	0.6	43
11.44	0.6	45
11.46	0.7	47
11.48	0.7	48
11.50	0.7	50
11.52	0.7	52
11.54	0.8	54
11.56	0.8	55
11.58	0.8	57
11.60	0.8	59
11.62	0.9	61
11.64	0.9	62
11.66	0.9	64
11.68	0.9	66
11.70	0.9	67
11.72	1.0	69
11.74	1.0	70
11.76	1.0	72
11.78	1.0	73
11.80	1.1	75
11.82	1.1	76
11.84	1.1	77
11.86	1.1	79
11.88	1.1	80
11.90	1.1	81
11.92	1.2	82
11.94	1.2	83
11.96	1.2	84
11.98	1.2	85
12.00	1.2	86
12.02	1.2	87
12.04	**1.2**	**87**

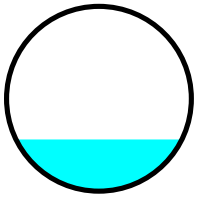
Summary for Reach 38R: 15" HDPE

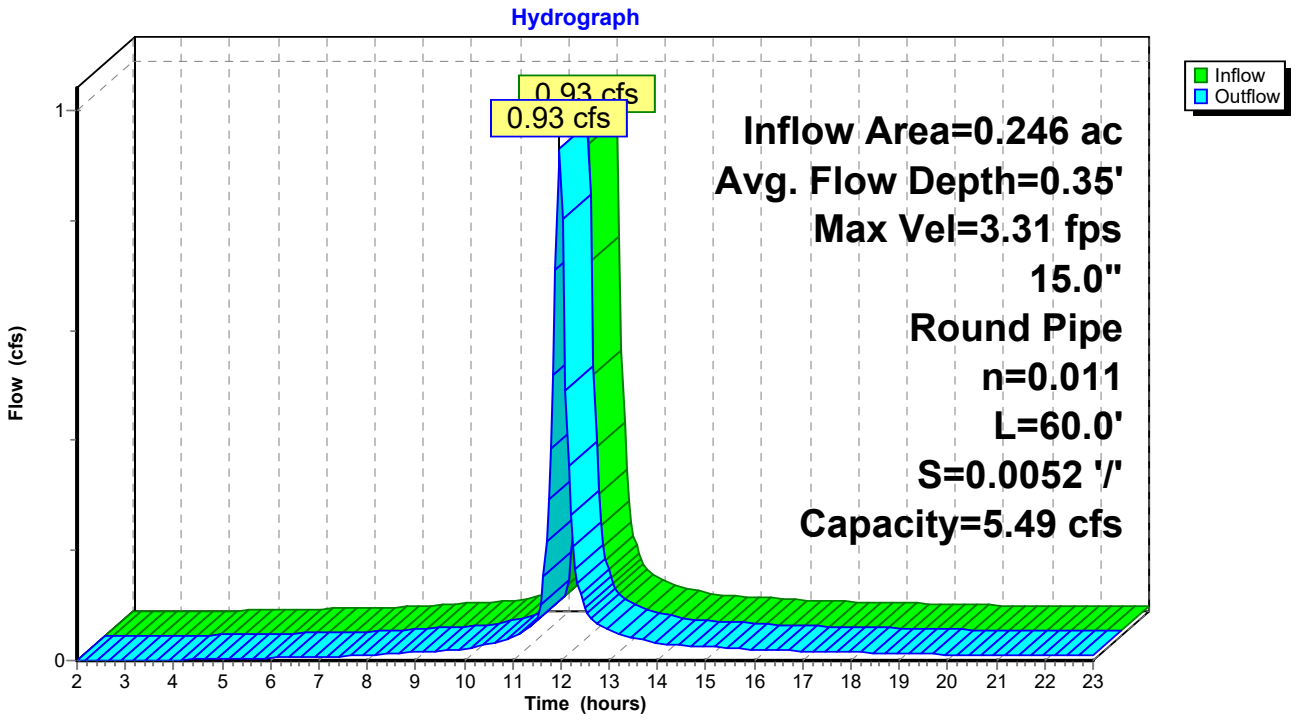
Inflow Area = 0.246 ac, 83.04% Impervious, Inflow Depth > 2.70" for 2-YR event
Inflow = 0.93 cfs @ 11.97 hrs, Volume= 0.055 af
Outflow = 0.93 cfs @ 11.98 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.31 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.02 fps, Avg. Travel Time= 1.0 min

Peak Storage= 17 cf @ 11.98 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.49 cfs

15.0" Round Pipe
n= 0.011
Length= 60.0' Slope= 0.0052 '/'
Inlet Invert= 11.82', Outlet Invert= 11.51'





Stage-Area-Storage for Reach 38R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.82	0.0	0
11.84	0.0	0
11.86	0.0	1
11.88	0.0	1
11.90	0.0	2
11.92	0.0	3
11.94	0.1	4
11.96	0.1	5
11.98	0.1	6
12.00	0.1	7
12.02	0.1	8
12.04	0.1	9
12.06	0.2	10
12.08	0.2	11
12.10	0.2	12
12.12	0.2	14
12.14	0.2	15
12.16	0.3	16
12.18	0.3	18
12.20	0.3	19
12.22	0.3	20
12.24	0.4	22
12.26	0.4	23
12.28	0.4	25
12.30	0.4	26
12.32	0.5	28
12.34	0.5	29
12.36	0.5	30
12.38	0.5	32
12.40	0.6	33
12.42	0.6	35
12.44	0.6	36
12.46	0.6	38
12.48	0.7	39
12.50	0.7	41
12.52	0.7	42
12.54	0.7	44
12.56	0.8	45
12.58	0.8	47
12.60	0.8	48
12.62	0.8	50
12.64	0.9	51
12.66	0.9	53
12.68	0.9	54
12.70	0.9	55
12.72	0.9	57
12.74	1.0	58
12.76	1.0	59
12.78	1.0	61
12.80	1.0	62
12.82	1.1	63
12.84	1.1	64
12.86	1.1	65
12.88	1.1	67
12.90	1.1	68
12.92	1.1	69
12.94	1.2	70
12.96	1.2	70
12.98	1.2	71
13.00	1.2	72
13.02	1.2	73
13.04	1.2	73
13.06	**1.2**	**74**

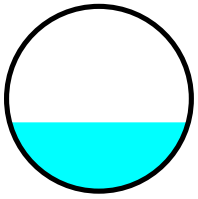
Summary for Reach 39R: 15" HDPE

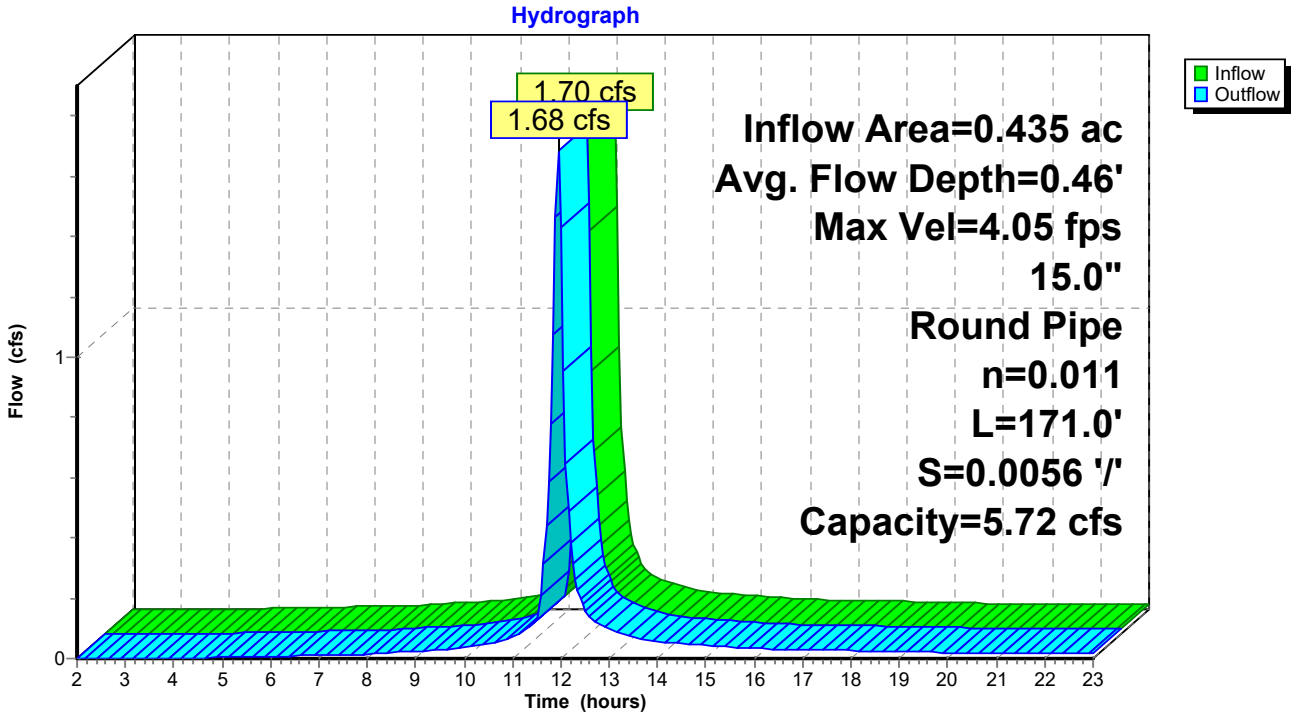
Inflow Area = 0.435 ac, 79.43% Impervious, Inflow Depth > 2.61" for 2-YR event
Inflow = 1.70 cfs @ 11.94 hrs, Volume= 0.095 af
Outflow = 1.68 cfs @ 11.95 hrs, Volume= 0.095 af, Atten= 1%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.05 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.22 fps, Avg. Travel Time= 2.3 min

Peak Storage= 71 cf @ 11.95 hrs
Average Depth at Peak Storage= 0.46'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.72 cfs

15.0" Round Pipe
n= 0.011
Length= 171.0' Slope= 0.0056 '/'
Inlet Invert= 11.41', Outlet Invert= 10.45'





Stage-Area-Storage for Reach 39R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.41	0.0	0
11.43	0.0	1
11.45	0.0	2
11.47	0.0	4
11.49	0.0	6
11.51	0.0	8
11.53	0.1	10
11.55	0.1	13
11.57	0.1	16
11.59	0.1	19
11.61	0.1	22
11.63	0.1	25
11.65	0.2	28
11.67	0.2	32
11.69	0.2	35
11.71	0.2	39
11.73	0.2	42
11.75	0.3	46
11.77	0.3	50
11.79	0.3	54
11.81	0.3	58
11.83	0.4	62
11.85	0.4	66
11.87	0.4	70
11.89	0.4	74
11.91	0.5	78
11.93	0.5	83
11.95	0.5	87
11.97	0.5	91
11.99	0.6	95
12.01	0.6	100
12.03	0.6	104
12.05	0.6	108
12.07	0.7	112
12.09	0.7	117
12.11	0.7	121
12.13	0.7	125
12.15	0.8	129
12.17	0.8	134
12.19	0.8	138
12.21	0.8	142
12.23	0.9	146
12.25	0.9	150
12.27	0.9	154
12.29	0.9	158
12.31	0.9	162
12.33	1.0	166
12.35	1.0	169
12.37	1.0	173
12.39	1.0	176
12.41	1.1	180
12.43	1.1	183
12.45	1.1	187
12.47	1.1	190
12.49	1.1	193
12.51	1.1	196
12.53	1.2	198
12.55	1.2	201
12.57	1.2	203
12.59	1.2	205
12.61	1.2	207
12.63	1.2	209
12.65	**1.2**	**210**

Summary for Pond 40P: SGW 1

Inflow Area = 2.337 ac, 62.67% Impervious, Inflow Depth > 2.28" for 2-YR event
Inflow = 7.58 cfs @ 11.96 hrs, Volume= 0.444 af
Outflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 11.17' @ 23.00 hrs Surf.Area= 11,047 sf Storage= 19,334 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

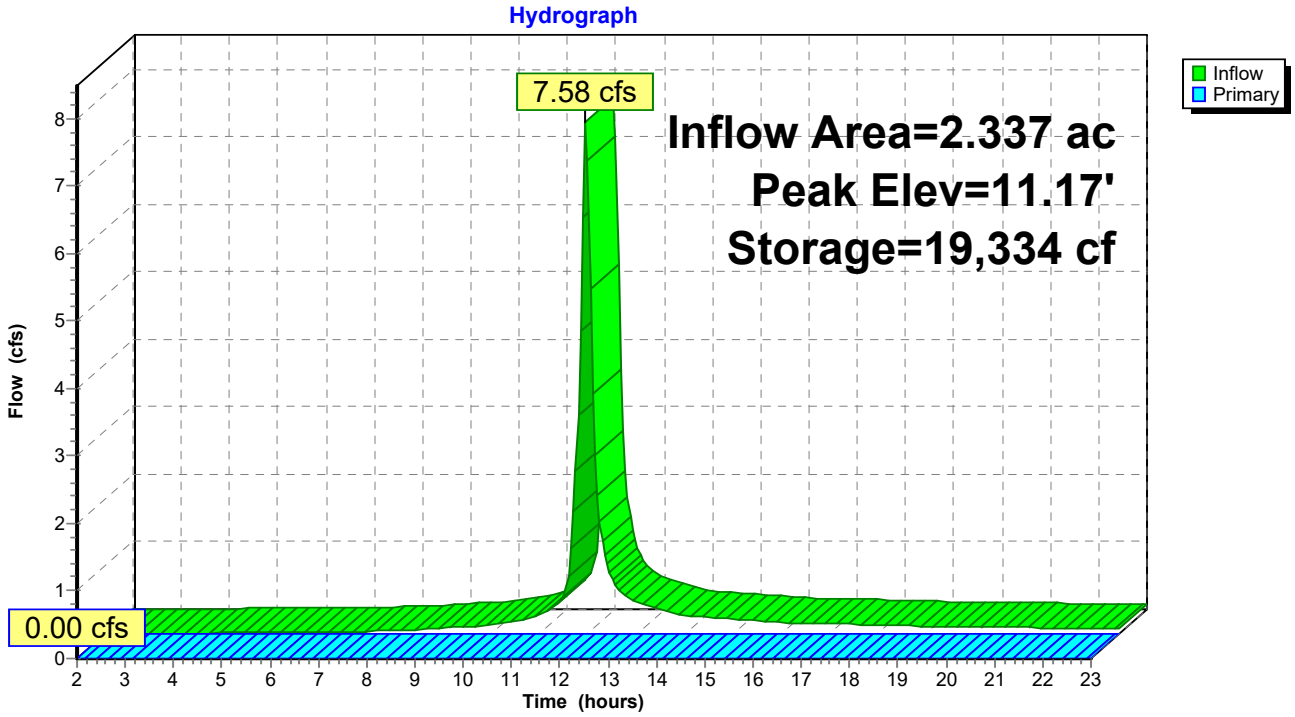
Volume	Invert	Avail.Storage	Storage Description
#1	7.44'	28,534 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
7.44	9,804	575.0	0.0	0	0	9,804
7.45	9,804	575.0	40.0	39	39	9,810
10.44	9,804	575.0	40.0	11,726	11,765	11,529
10.45	9,804	575.0	100.0	98	11,863	11,535
11.45	11,558	594.0	100.0	10,669	22,532	13,396
11.95	12,457	604.0	100.0	6,002	28,534	14,396

Device	Routing	Invert	Outlet Devices
#1	Primary	10.12'	**15.0" Round Culvert** L= 31.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.12' / 10.00' S= 0.0039 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	11.45'	**18.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.00 cfs @ 2.00 hrs HW=7.44' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Controls 0.00 cfs)
↑**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 40P: SGW 1



Stage-Area-Storage for Pond 40P: SGW 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
7.44	9,804	0
7.49	9,804	196
7.54	9,804	392
7.59	9,804	588
7.64	9,804	784
7.69	9,804	980
7.74	9,804	1,176
7.79	9,804	1,373
7.84	9,804	1,569
7.89	9,804	1,765
7.94	9,804	1,961
7.99	9,804	2,157
8.04	9,804	2,353
8.09	9,804	2,549
8.14	9,804	2,745
8.19	9,804	2,941
8.24	9,804	3,137
8.29	9,804	3,333
8.34	9,804	3,529
8.39	9,804	3,726
8.44	9,804	3,922
8.49	9,804	4,118
8.54	9,804	4,314
8.59	9,804	4,510
8.64	9,804	4,706
8.69	9,804	4,902
8.74	9,804	5,098
8.79	9,804	5,294
8.84	9,804	5,490
8.89	9,804	5,686
8.94	9,804	5,882
8.99	9,804	6,078
9.04	9,804	6,275
9.09	9,804	6,471
9.14	9,804	6,667
9.19	9,804	6,863
9.24	9,804	7,059
9.29	9,804	7,255
9.34	9,804	7,451
9.39	9,804	7,647
9.44	9,804	7,843
9.49	9,804	8,039
9.54	9,804	8,235
9.59	9,804	8,431
9.64	9,804	8,628
9.69	9,804	8,824
9.74	9,804	9,020
9.79	9,804	9,216
9.84	9,804	9,412
9.89	9,804	9,608
9.94	9,804	9,804
9.99	9,804	10,000
10.04	9,804	10,196
10.09	9,804	10,392
10.14	9,804	10,588
10.19	9,804	10,784
10.24	9,804	10,980
10.29	9,804	11,177
10.34	9,804	11,373
10.39	9,804	11,569
10.44	9,804	11,765
10.49	9,871	12,256
10.54	9,956	12,752
10.59	10,041	13,252
10.64	10,126	13,756
10.69	10,212	14,265
10.74	10,298	14,777
10.79	10,384	15,294
10.84	10,471	15,816
10.89	10,558	16,341
10.94	10,645	16,872
10.99	10,733	17,406
11.04	10,821	17,945
11.09	10,910	18,488
11.14	10,999	19,036
11.19	11,088	19,588
11.24	11,178	20,145
11.29	11,268	20,706
11.34	11,358	21,271
11.39	11,449	21,842
11.44	11,540	22,416
11.49	11,629	22,996
11.54	11,717	23,579
11.59	11,806	24,167
11.64	11,896	24,760
11.69	11,985	25,357
11.74	12,075	25,958
11.79	12,166	26,564
11.84	12,256	27,175
11.89	12,347	27,790
11.94	**12,439**	**28,410**

Summary for Pond 52P: SGW 2

Inflow Area = 0.861 ac, 49.03% Impervious, Inflow Depth > 1.97" for 2-YR event
Inflow = 2.16 cfs @ 12.01 hrs, Volume= 0.141 af
Outflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 13.86' @ 23.00 hrs Surf.Area= 4,417 sf Storage= 6,157 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

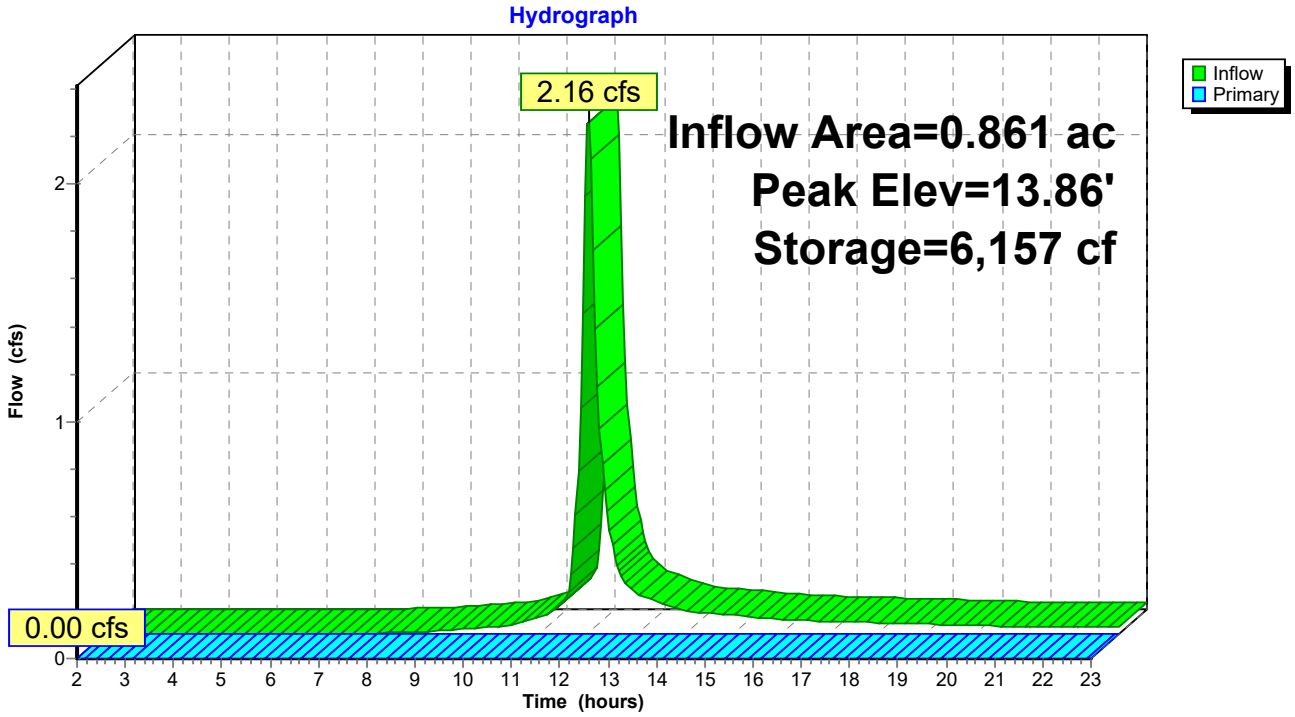
Volume	Invert	Avail.Storage	Storage Description
#1	10.54'	12,413 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
10.54	4,017	447.0	0.0	0	0	4,017
10.55	4,017	447.0	40.0	16	16	4,021
13.54	4,017	447.0	40.0	4,804	4,820	5,358
13.55	4,017	447.0	100.0	40	4,861	5,362
14.55	5,386	466.0	100.0	4,685	9,545	6,816
15.05	6,092	475.0	100.0	2,868	12,413	7,530

Device	Routing	Invert	Outlet Devices
#1	Primary	13.25'	**15.0" Round Culvert** L= 35.5' Ke= 0.500 Inlet / Outlet Invert= 13.25' / 13.02' S= 0.0065 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	14.55'	**18.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.00 cfs @ 2.00 hrs HW=10.54' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 52P: SGW 2



Stage-Area-Storage for Pond 52P: SGW 2

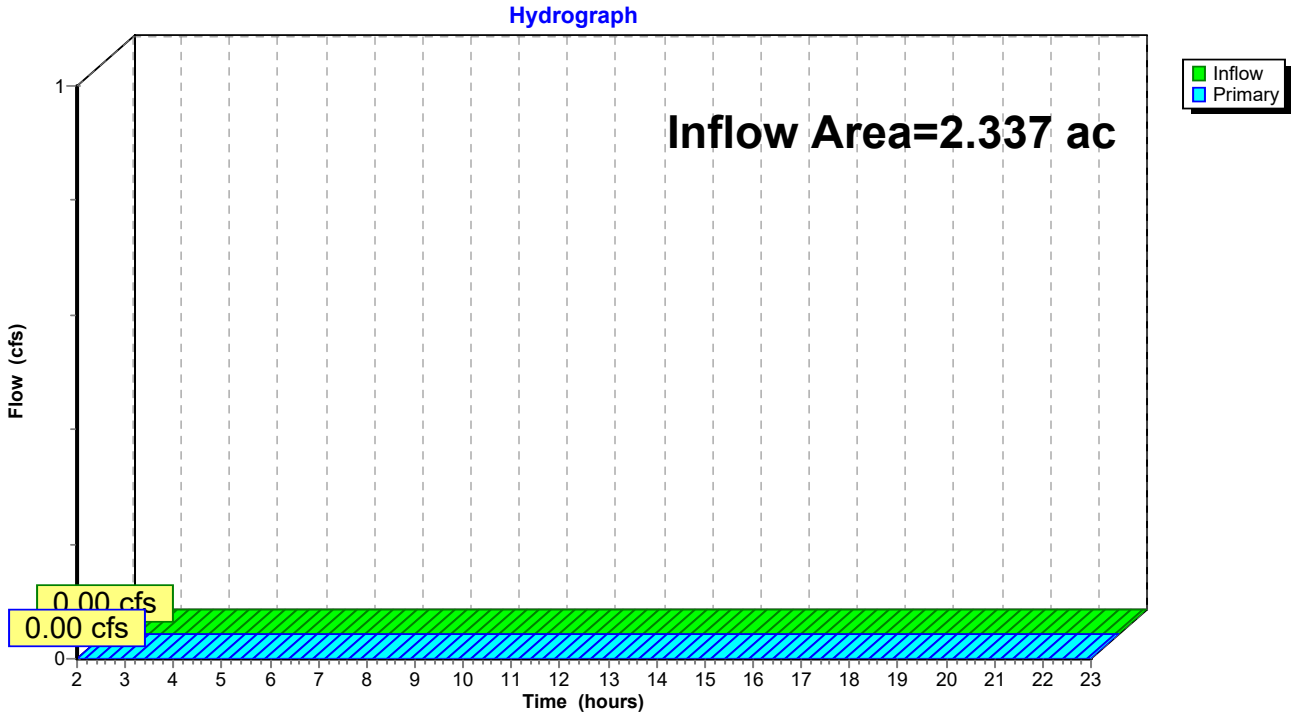
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
10.54	4,017	0
10.59	4,017	80
10.64	4,017	161
10.69	4,017	241
10.74	4,017	321
10.79	4,017	402
10.84	4,017	482
10.89	4,017	562
10.94	4,017	643
10.99	4,017	723
11.04	4,017	803
11.09	4,017	884
11.14	4,017	964
11.19	4,017	1,044
11.24	4,017	1,125
11.29	4,017	1,205
11.34	4,017	1,285
11.39	4,017	1,366
11.44	4,017	1,446
11.49	4,017	1,526
11.54	4,017	1,607
11.59	4,017	1,687
11.64	4,017	1,767
11.69	4,017	1,848
11.74	4,017	1,928
11.79	4,017	2,009
11.84	4,017	2,089
11.89	4,017	2,169
11.94	4,017	2,250
11.99	4,017	2,330
12.04	4,017	2,410
12.09	4,017	2,491
12.14	4,017	2,571
12.19	4,017	2,651
12.24	4,017	2,732
12.29	4,017	2,812
12.34	4,017	2,892
12.39	4,017	2,973
12.44	4,017	3,053
12.49	4,017	3,133
12.54	4,017	3,214
12.59	4,017	3,294
12.64	4,017	3,374
12.69	4,017	3,455
12.74	4,017	3,535
12.79	4,017	3,615
12.84	4,017	3,696
12.89	4,017	3,776
12.94	4,017	3,856
12.99	4,017	3,937
13.04	4,017	4,017
13.09	4,017	4,097
13.14	4,017	4,178
13.19	4,017	4,258
13.24	4,017	4,338
13.29	4,017	4,419
13.34	4,017	4,499
13.39	4,017	4,579
13.44	4,017	4,660
13.49	4,017	4,740
13.54	4,017	4,820
13.59	4,068	5,022
13.64	4,132	5,227
13.69	4,197	5,435
13.74	4,262	5,647
13.79	4,327	5,862
13.84	4,393	6,080
13.89	4,460	6,301
13.94	4,527	6,526
13.99	4,595	6,754
14.04	4,663	6,985
14.09	4,731	7,220
14.14	4,800	7,458
14.19	4,870	7,700
14.24	4,940	7,945
14.29	5,011	8,194
14.34	5,082	8,446
14.39	5,153	8,702
14.44	5,226	8,962
14.49	5,298	9,225
14.54	5,371	9,492
14.59	5,441	9,762
14.64	5,510	10,036
14.69	5,579	10,313
14.74	5,649	10,594
14.79	5,719	10,878
14.84	5,790	11,166
14.89	5,861	11,457
14.94	5,933	11,752
14.99	6,005	12,050
15.04	**6,077**	**12,352**

Summary for Link 42L: POI 1

Inflow Area = 2.337 ac, 62.67% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 42L: POI 1

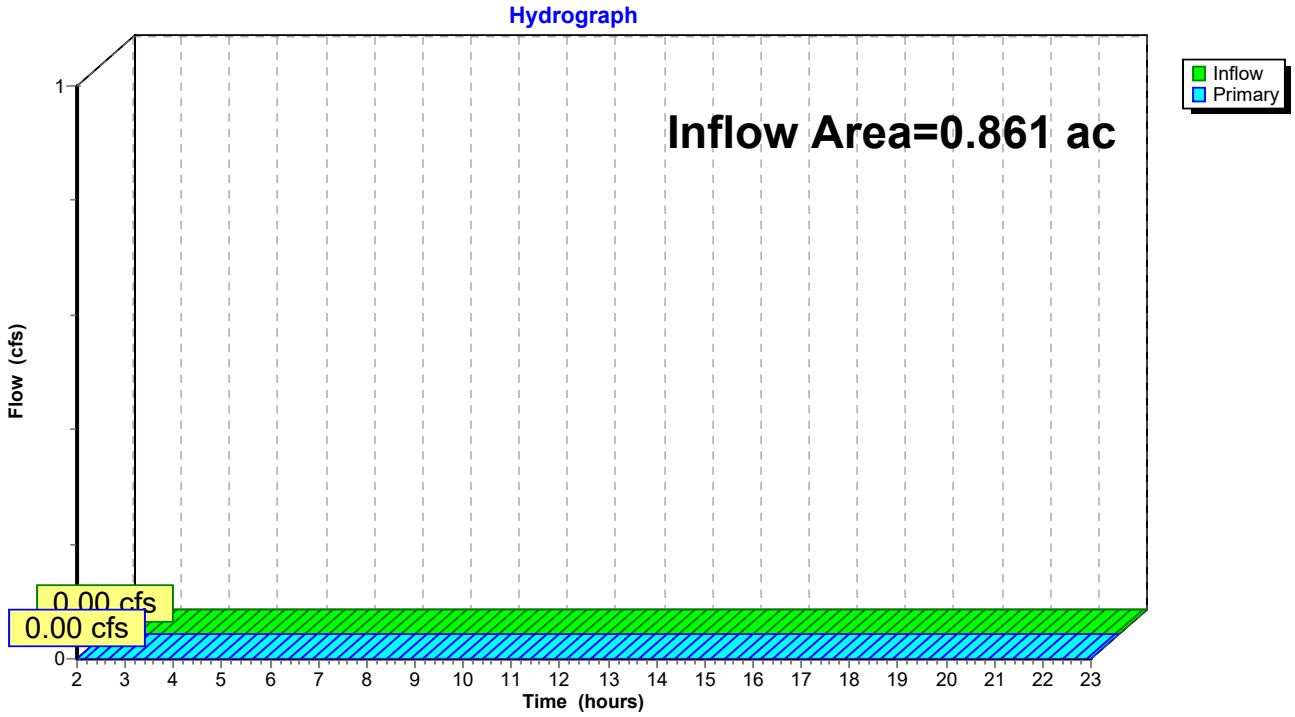


Summary for Link 53L: POI 2

Inflow Area = 0.861 ac, 49.03% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 2.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 53L: POI 2

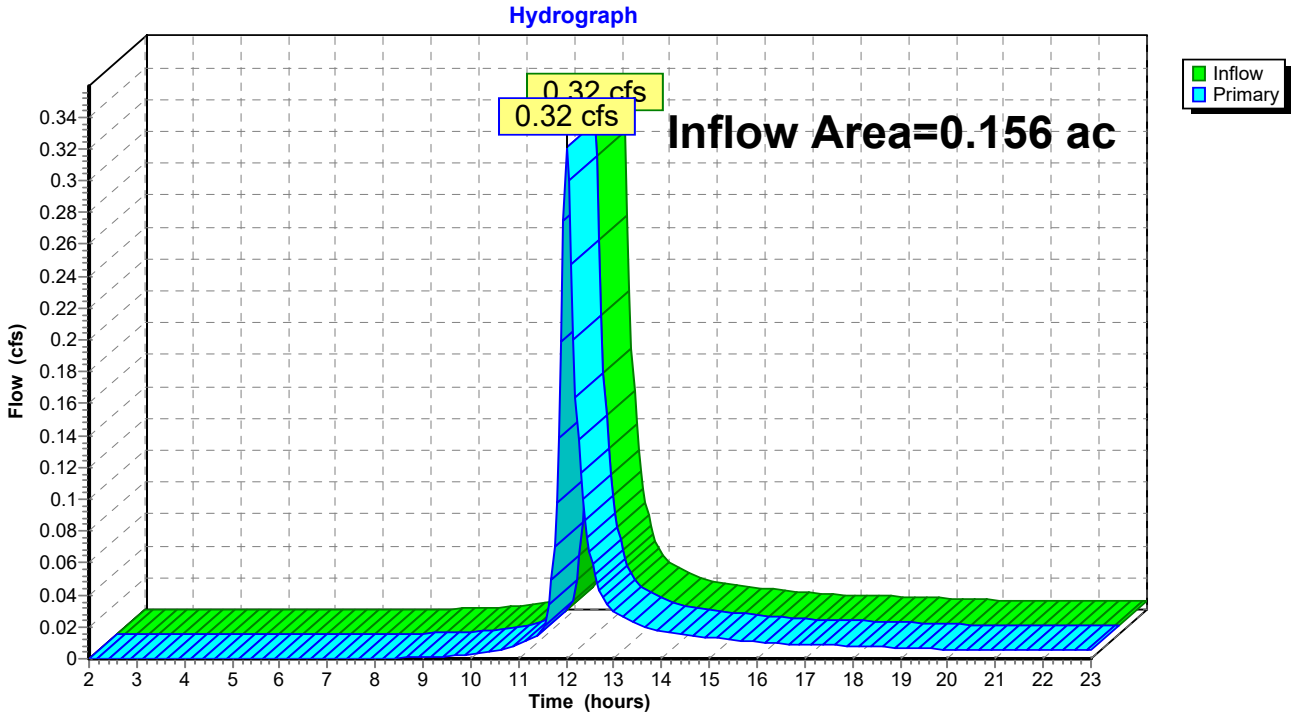


Summary for Link 56L: POI 3 (EX SWM POND)

Inflow Area = 0.156 ac, 34.31% Impervious, Inflow Depth > 1.70" for 2-YR event
Inflow = 0.32 cfs @ 12.01 hrs, Volume= 0.022 af
Primary = 0.32 cfs @ 12.01 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 56L: POI 3 (EX SWM POND)



Summary for Subcatchment 1S: EX DA-1 (ORANGE)

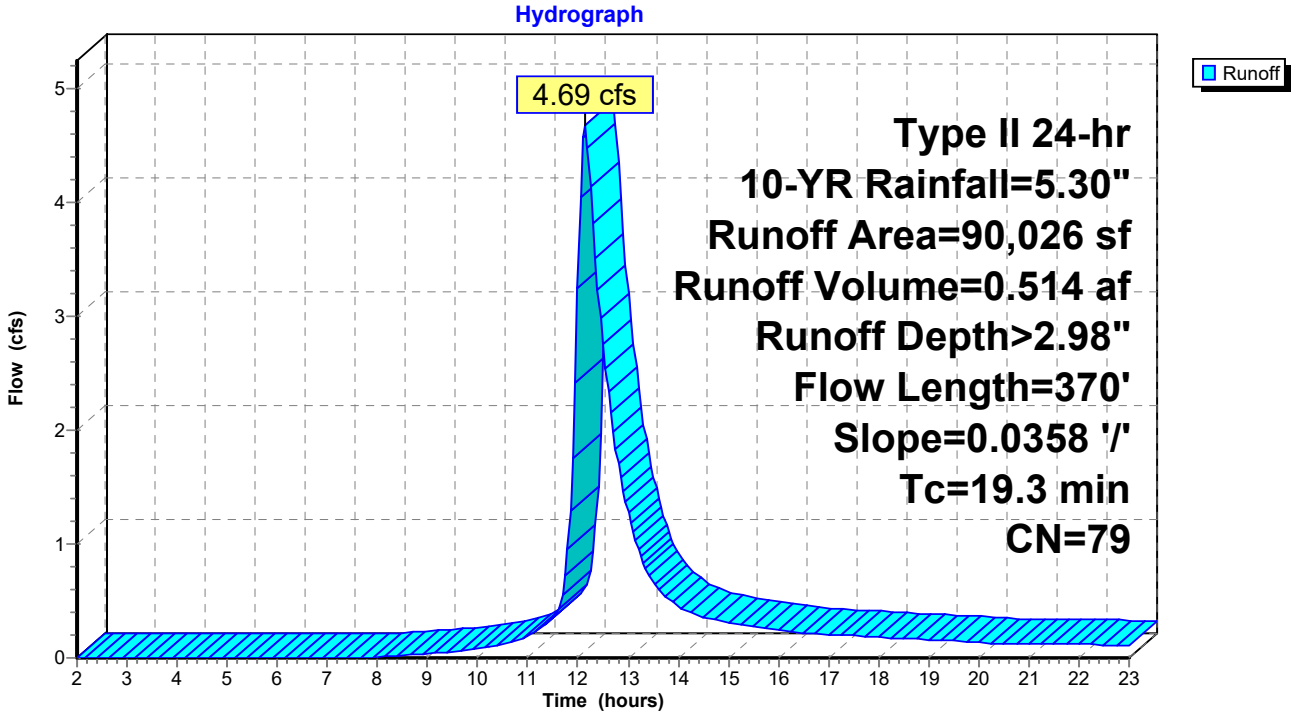
Runoff = 4.69 cfs @ 12.14 hrs, Volume= 0.514 af, Depth> 2.98"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=5.30"

	Area (sf)	CN	Description
*	224	98	existing shed
	89,802	79	50-75% Grass cover, Fair, HSG C
	90,026	79	Weighted Average
	89,802		99.75% Pervious Area
	224		0.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	150	0.0358	0.14		**Sheet Flow, a-b** Grass: Dense n= 0.240 P2= 2.40"
1.2	220	0.0358	3.05		**Shallow Concentrated Flow, b-c** Unpaved Kv= 16.1 fps
19.3	370	Total			

Subcatchment 1S: EX DA-1 (ORANGE)



Summary for Subcatchment 2S: EX DA-2 (PURPLE)

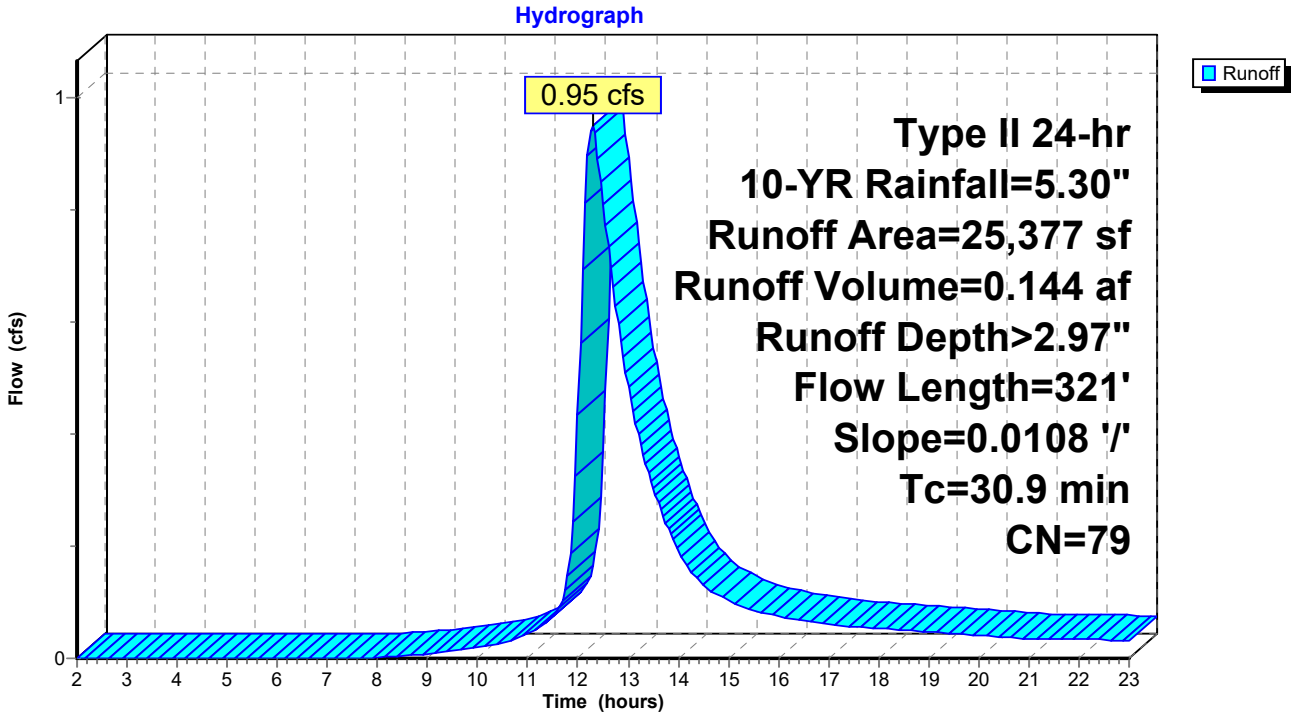
Runoff = 0.95 cfs @ 12.29 hrs, Volume= 0.144 af, Depth> 2.97"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
25,377	79	50-75% Grass cover, Fair, HSG C
25,377		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0108	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
1.7	171	0.0108	1.67		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
30.9	321	Total			

Subcatchment 2S: EX DA-2 (PURPLE)



Summary for Subcatchment 3S: EX DA-3 (BLUE)

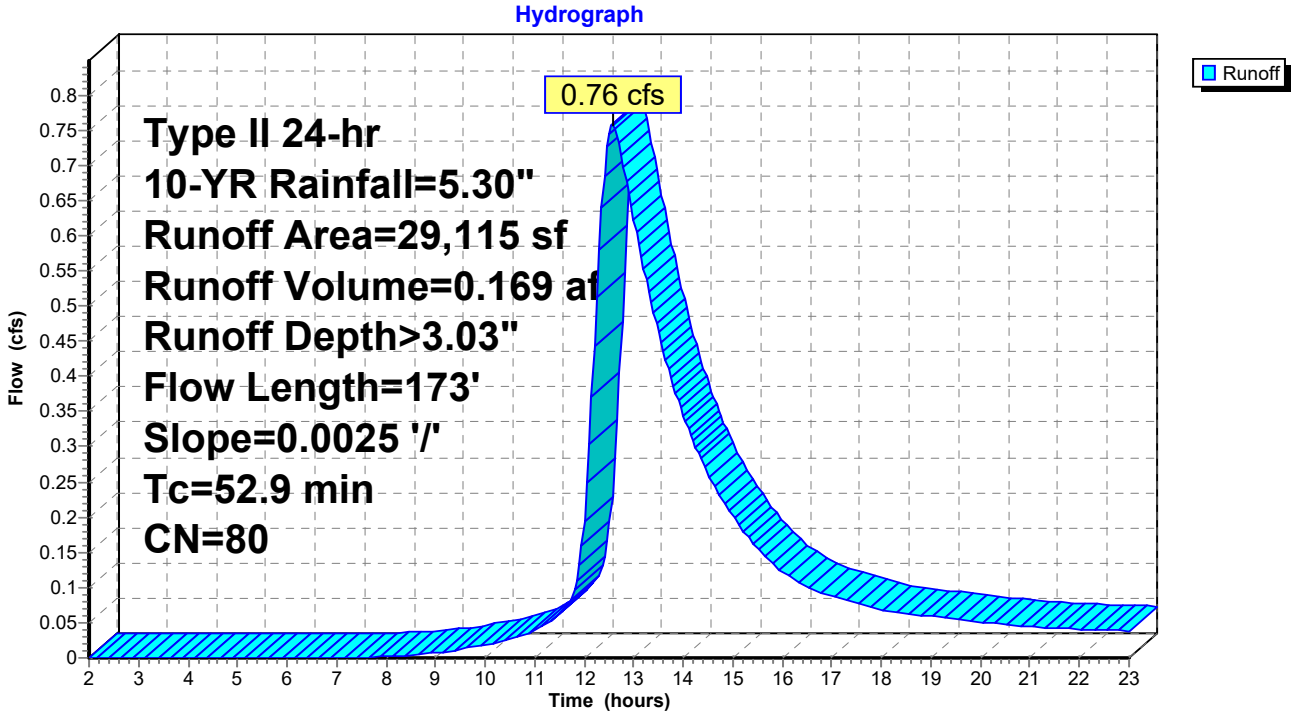
Runoff = 0.76 cfs @ 12.58 hrs, Volume= 0.169 af, Depth> 3.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
28,117	79	50-75% Grass cover, Fair, HSG C
998	98	Paved parking, HSG C
29,115	80	Weighted Average
28,117		96.57% Pervious Area
998		3.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
52.4	150	0.0025	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.5	23	0.0025	0.81		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
52.9	173	Total			

Subcatchment 3S: EX DA-3 (BLUE)



Summary for Subcatchment 30S: DA-1e (orange)

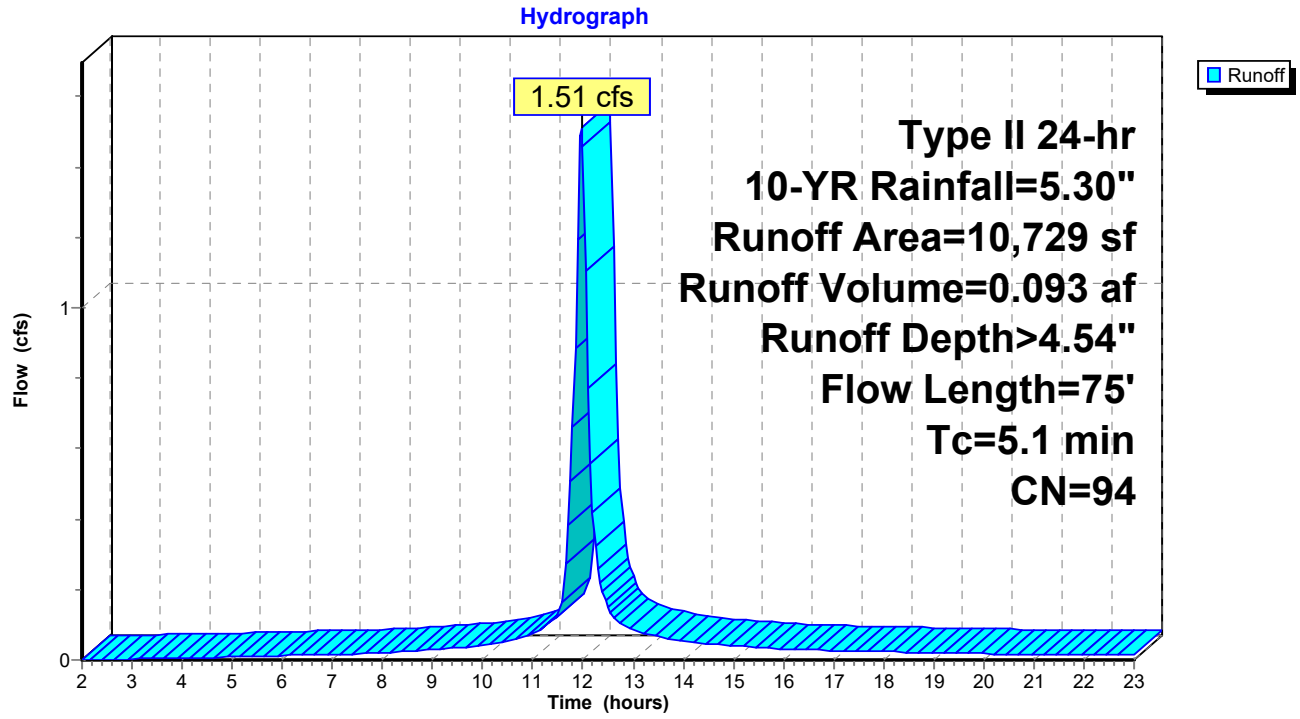
Runoff = 1.51 cfs @ 11.97 hrs, Volume= 0.093 af, Depth> 4.54"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
8,909	98	Paved parking, HSG C
1,820	74	>75% Grass cover, Good, HSG C
10,729	94	Weighted Average
1,820		16.96% Pervious Area
8,909		83.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	14	0.0095	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	48	0.0134	1.86		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
0.1	13	0.0075	1.76		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
5.1	75	Total			

Subcatchment 30S: DA-1e (orange)



Summary for Subcatchment 31S: DA-1c (orange)

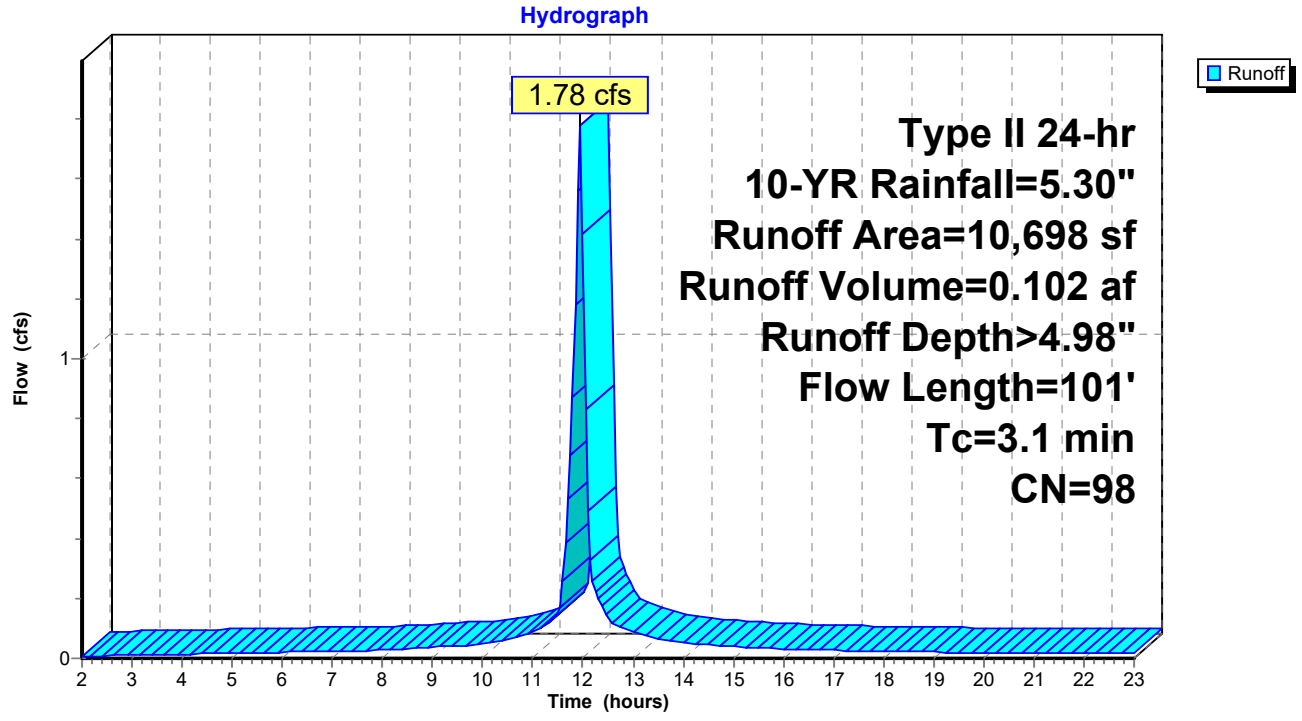
Runoff = 1.78 cfs @ 11.94 hrs, Volume= 0.102 af, Depth> 4.98"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
10,698	98	Paved parking, HSG C
10,698		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	67	0.0016	0.40		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.3	34	0.0100	2.03		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
3.1	101	Total			

Subcatchment 31S: DA-1c (orange)



Summary for Subcatchment 32S: DA-1b (orange)

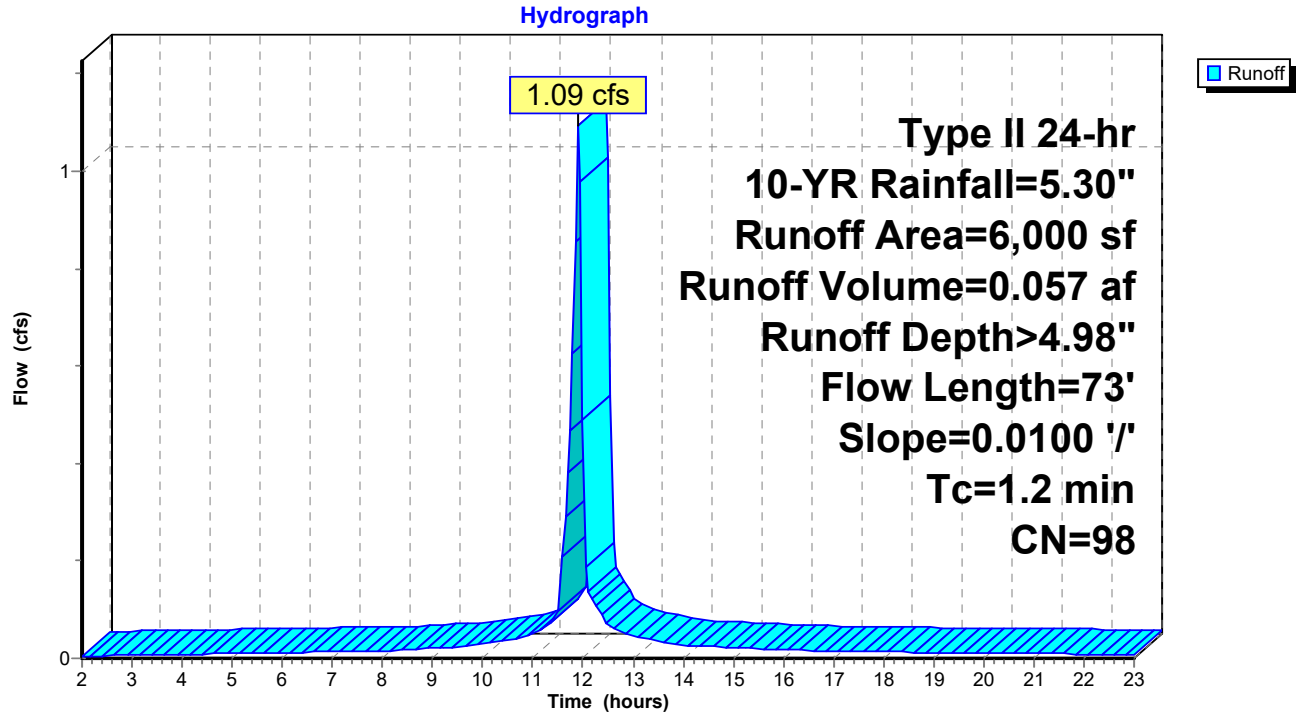
Runoff = 1.09 cfs @ 11.91 hrs, Volume= 0.057 af, Depth> 4.98"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
6,000	98	Paved parking, HSG C
6,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	39	0.0100	0.75		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.3	34	0.0100	2.03		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.2	73	Total			

Subcatchment 32S: DA-1b (orange)



Summary for Subcatchment 33S: DA-1a (orange)

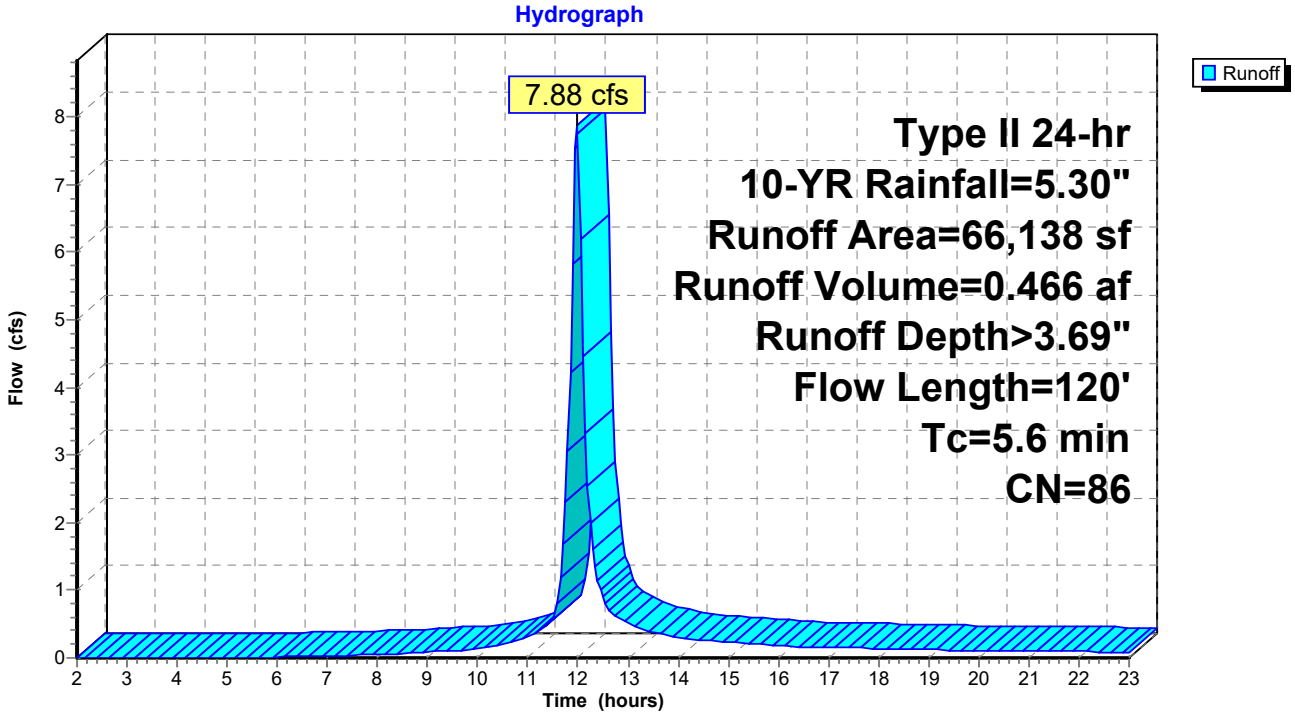
Runoff = 7.88 cfs @ 11.98 hrs, Volume= 0.466 af, Depth> 3.69"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
32,038	98	Paved parking, HSG C
34,100	74	>75% Grass cover, Good, HSG C
66,138	86	Weighted Average
34,100		51.56% Pervious Area
32,038		48.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	33	0.0439	0.11		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.6	87	0.0253	2.56		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
5.6	120	Total			

Subcatchment 33S: DA-1a (orange)



Summary for Subcatchment 34S: DA-1d (orange)

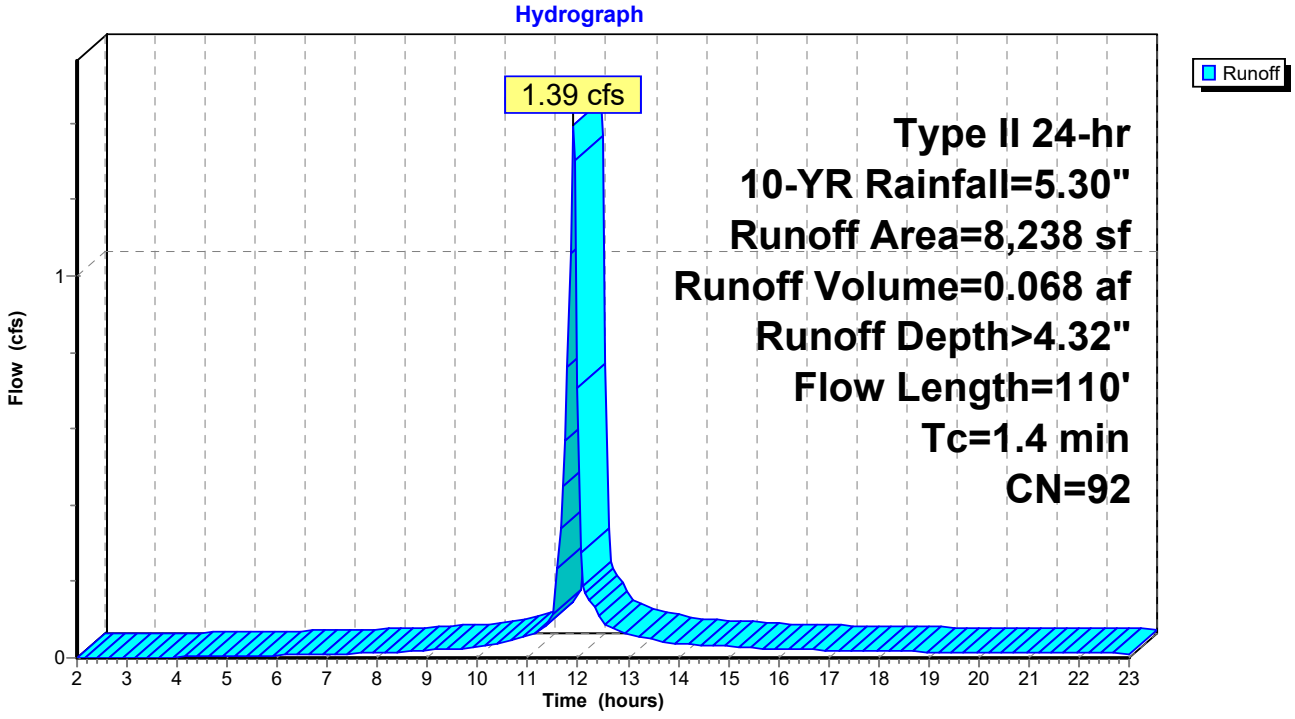
Runoff = 1.39 cfs @ 11.92 hrs, Volume= 0.068 af, Depth> 4.32"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
6,157	98	Paved parking, HSG C
2,081	74	>75% Grass cover, Good, HSG C
8,238	92	Weighted Average
2,081		25.26% Pervious Area
6,157		74.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	34	0.0156	0.87		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.7	76	0.0075	1.76		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.4	110	Total			

Subcatchment 34S: DA-1d (orange)



Summary for Subcatchment 51S: DA TO SGW 2 (purple)

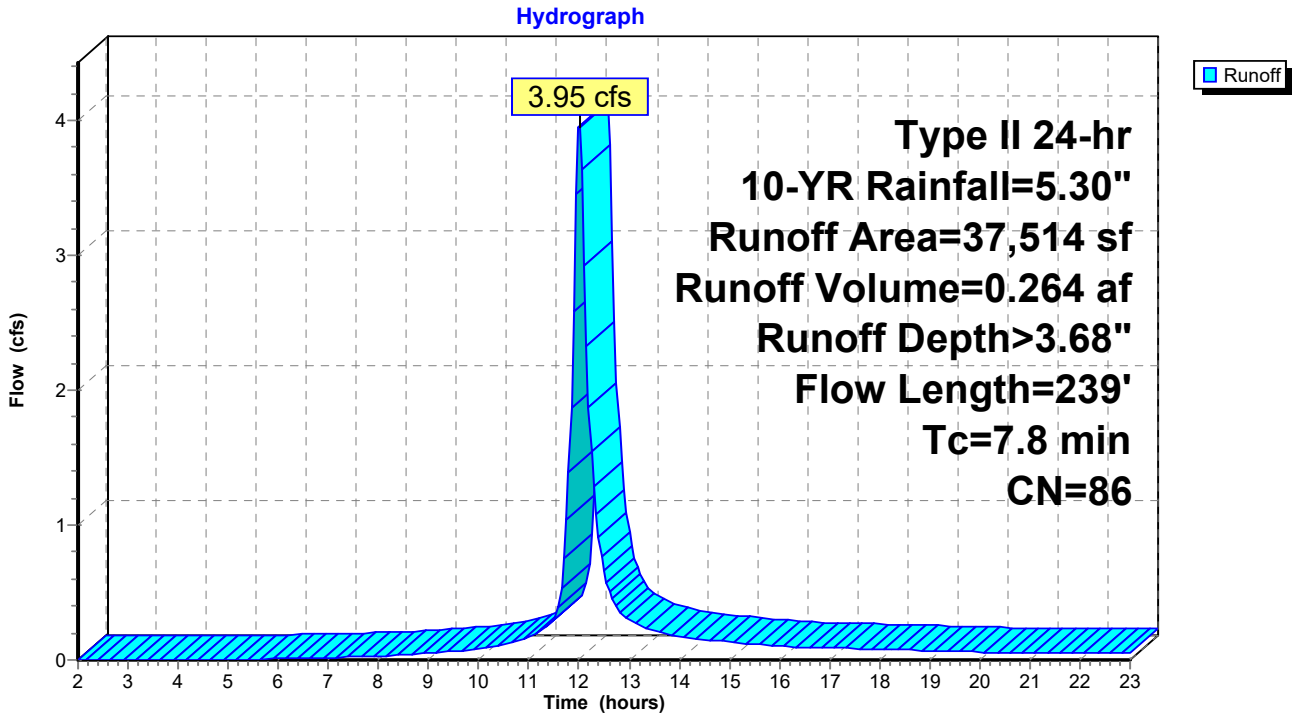
Runoff = 3.95 cfs @ 12.01 hrs, Volume= 0.264 af, Depth> 3.68"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
18,394	98	Paved parking, HSG C
19,120	74	>75% Grass cover, Good, HSG C
37,514	86	Weighted Average
19,120		50.97% Pervious Area
18,394		49.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	14	0.0095	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	35	0.0075	1.39		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
2.8	190	0.0051	1.15		**Shallow Concentrated Flow, C-D** Unpaved Kv= 16.1 fps
7.8	239	Total			

Subcatchment 51S: DA TO SGW 2 (purple)



Summary for Subcatchment 54S: DA-3a (blue)

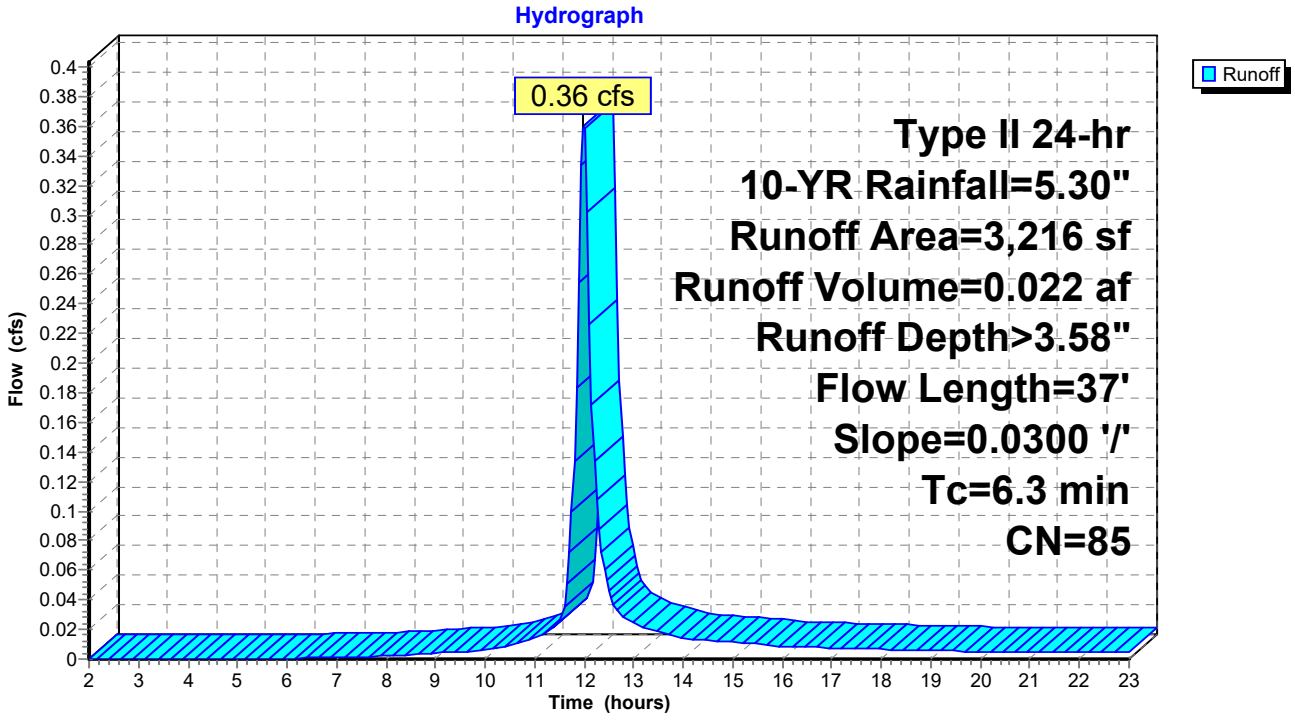
Runoff = 0.36 cfs @ 11.99 hrs, Volume= 0.022 af, Depth> 3.58"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
1,480	98	Paved parking, HSG C
1,736	74	>75% Grass cover, Good, HSG C
3,216	85	Weighted Average
1,736		53.98% Pervious Area
1,480		46.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	37	0.0300	0.10		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"

Subcatchment 54S: DA-3a (blue)



Summary for Subcatchment 55S: DA-3b (blue)

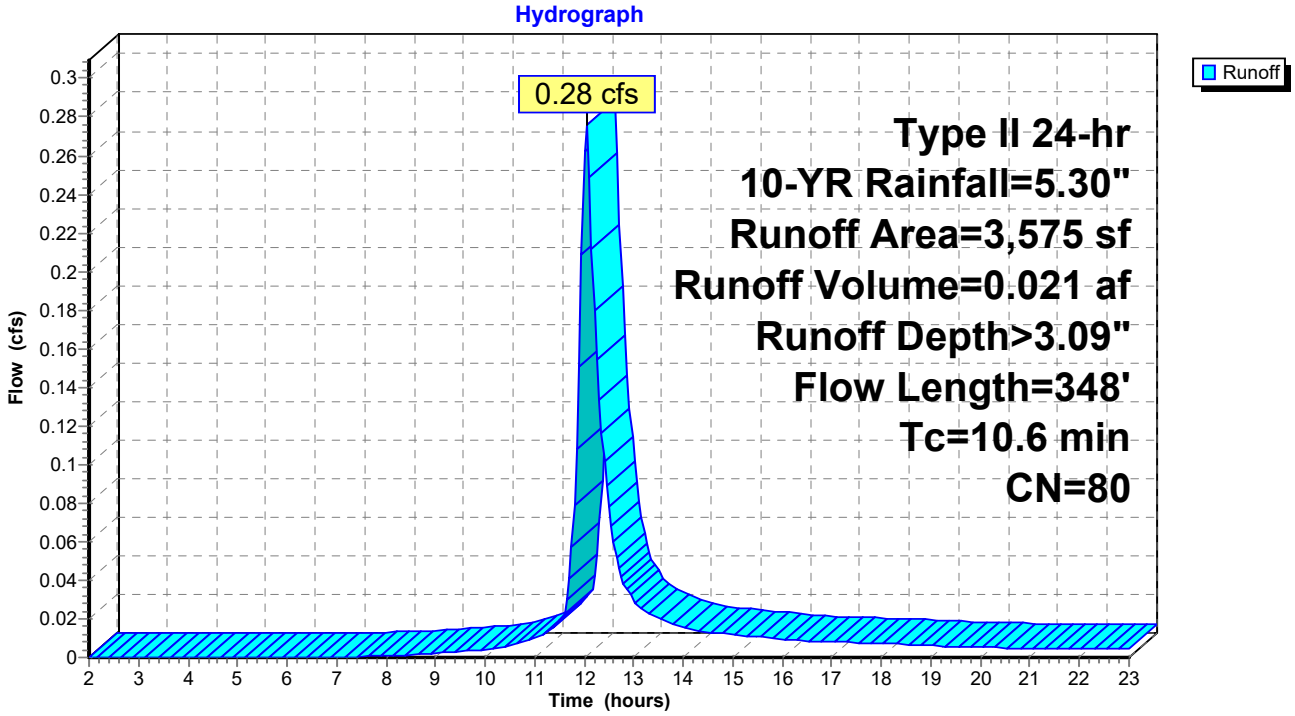
Runoff = 0.28 cfs @ 12.04 hrs, Volume= 0.021 af, Depth> 3.09"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=5.30"

Area (sf)	CN	Description
850	98	Paved parking, HSG C
2,725	74	>75% Grass cover, Good, HSG C
3,575	80	Weighted Average
2,725		76.22% Pervious Area
850		23.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	46	0.0222	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	100	0.0050	3.79	2.98	**Pipe Channel, 12" HDPE** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011
1.7	202	0.0149	1.97		**Shallow Concentrated Flow, EX SWALE TO INLET 4** Unpaved Kv= 16.1 fps
10.6	348	Total			

Subcatchment 55S: DA-3b (blue)



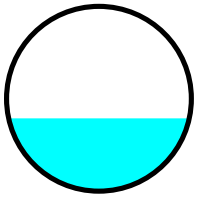
Summary for Reach 36R: 15" HDPE

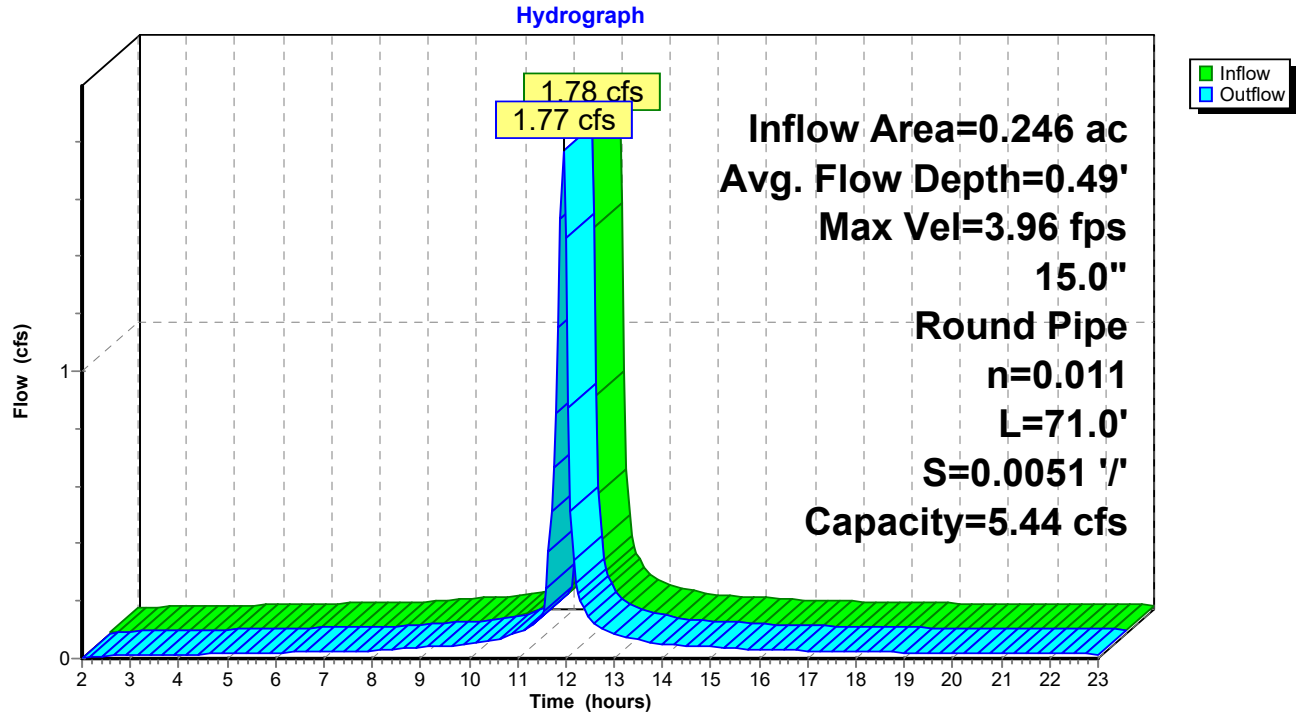
Inflow Area = 0.246 ac,100.00% Impervious, Inflow Depth > 4.98" for 10-YR event
Inflow = 1.78 cfs @ 11.94 hrs, Volume= 0.102 af
Outflow = 1.77 cfs @ 11.95 hrs, Volume= 0.102 af, Atten= 1%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.96 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.23 fps, Avg. Travel Time= 1.0 min

Peak Storage= 32 cf @ 11.95 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.44 cfs

15.0" Round Pipe
n= 0.011 PVC, smooth interior
Length= 71.0' Slope= 0.0051 '/'
Inlet Invert= 11.16', Outlet Invert= 10.80'





Stage-Area-Storage for Reach 36R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.16	0.0	0
11.18	0.0	0
11.20	0.0	1
11.22	0.0	2
11.24	0.0	2
11.26	0.0	3
11.28	0.1	4
11.30	0.1	5
11.32	0.1	7
11.34	0.1	8
11.36	0.1	9
11.38	0.1	10
11.40	0.2	12
11.42	0.2	13
11.44	0.2	15
11.46	0.2	16
11.48	0.2	18
11.50	0.3	19
11.52	0.3	21
11.54	0.3	22
11.56	0.3	24
11.58	0.4	26
11.60	0.4	27
11.62	0.4	29
11.64	0.4	31
11.66	0.5	33
11.68	0.5	34
11.70	0.5	36
11.72	0.5	38
11.74	0.6	40
11.76	0.6	41
11.78	0.6	43
11.80	0.6	45
11.82	0.7	47
11.84	0.7	48
11.86	0.7	50
11.88	0.7	52
11.90	0.8	54
11.92	0.8	55
11.94	0.8	57
11.96	0.8	59
11.98	0.9	61
12.00	0.9	62
12.02	0.9	64
12.04	0.9	66
12.06	0.9	67
12.08	1.0	69
12.10	1.0	70
12.12	1.0	72
12.14	1.0	73
12.16	1.1	75
12.18	1.1	76
12.20	1.1	77
12.22	1.1	79
12.24	1.1	80
12.26	1.1	81
12.28	1.2	82
12.30	1.2	83
12.32	1.2	84
12.34	1.2	85
12.36	1.2	86
12.38	1.2	87
12.40	**1.2**	**87**

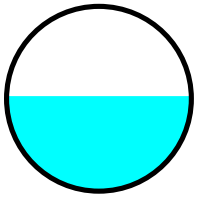
Summary for Reach 37R: 15" HDPE

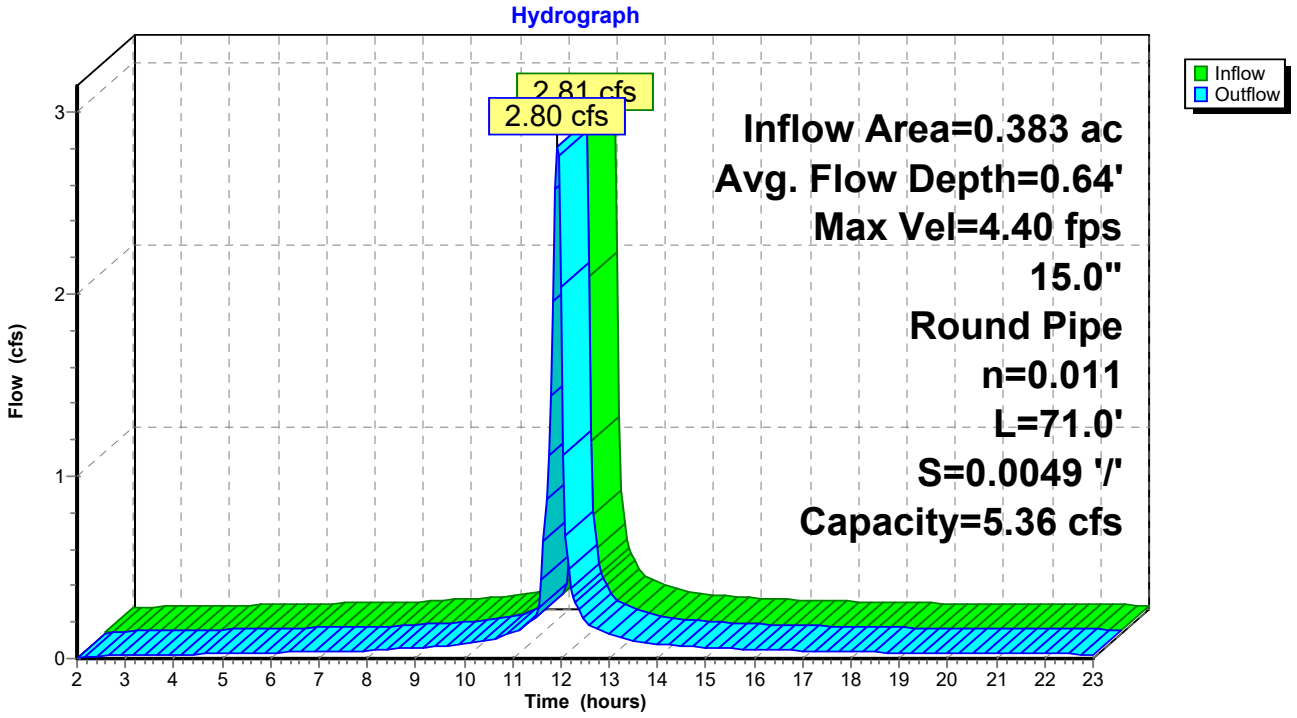
Inflow Area = 0.383 ac,100.00% Impervious, Inflow Depth > 4.98" for 10-YR event
Inflow = 2.81 cfs @ 11.93 hrs, Volume= 0.159 af
Outflow = 2.80 cfs @ 11.94 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.40 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.40 fps, Avg. Travel Time= 0.8 min

Peak Storage= 45 cf @ 11.93 hrs
Average Depth at Peak Storage= 0.64'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.36 cfs

15.0" Round Pipe
n= 0.011
Length= 71.0' Slope= 0.0049 '/'
Inlet Invert= 10.80', Outlet Invert= 10.45'





Stage-Area-Storage for Reach 37R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
10.80	0.0	0
10.82	0.0	0
10.84	0.0	1
10.86	0.0	2
10.88	0.0	2
10.90	0.0	3
10.92	0.1	4
10.94	0.1	5
10.96	0.1	7
10.98	0.1	8
11.00	0.1	9
11.02	0.1	10
11.04	0.2	12
11.06	0.2	13
11.08	0.2	15
11.10	0.2	16
11.12	0.2	18
11.14	0.3	19
11.16	0.3	21
11.18	0.3	22
11.20	0.3	24
11.22	0.4	26
11.24	0.4	27
11.26	0.4	29
11.28	0.4	31
11.30	0.5	33
11.32	0.5	34
11.34	0.5	36
11.36	0.5	38
11.38	0.6	40
11.40	0.6	41
11.42	0.6	43
11.44	0.6	45
11.46	0.7	47
11.48	0.7	48
11.50	0.7	50
11.52	0.7	52
11.54	0.8	54
11.56	0.8	55
11.58	0.8	57
11.60	0.8	59
11.62	0.9	61
11.64	0.9	62
11.66	0.9	64
11.68	0.9	66
11.70	0.9	67
11.72	1.0	69
11.74	1.0	70
11.76	1.0	72
11.78	1.0	73
11.80	1.1	75
11.82	1.1	76
11.84	1.1	77
11.86	1.1	79
11.88	1.1	80
11.90	1.1	81
11.92	1.2	82
11.94	1.2	83
11.96	1.2	84
11.98	1.2	85
12.00	1.2	86
12.02	1.2	87
12.04	**1.2**	**87**

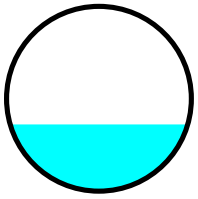
Summary for Reach 38R: 15" HDPE

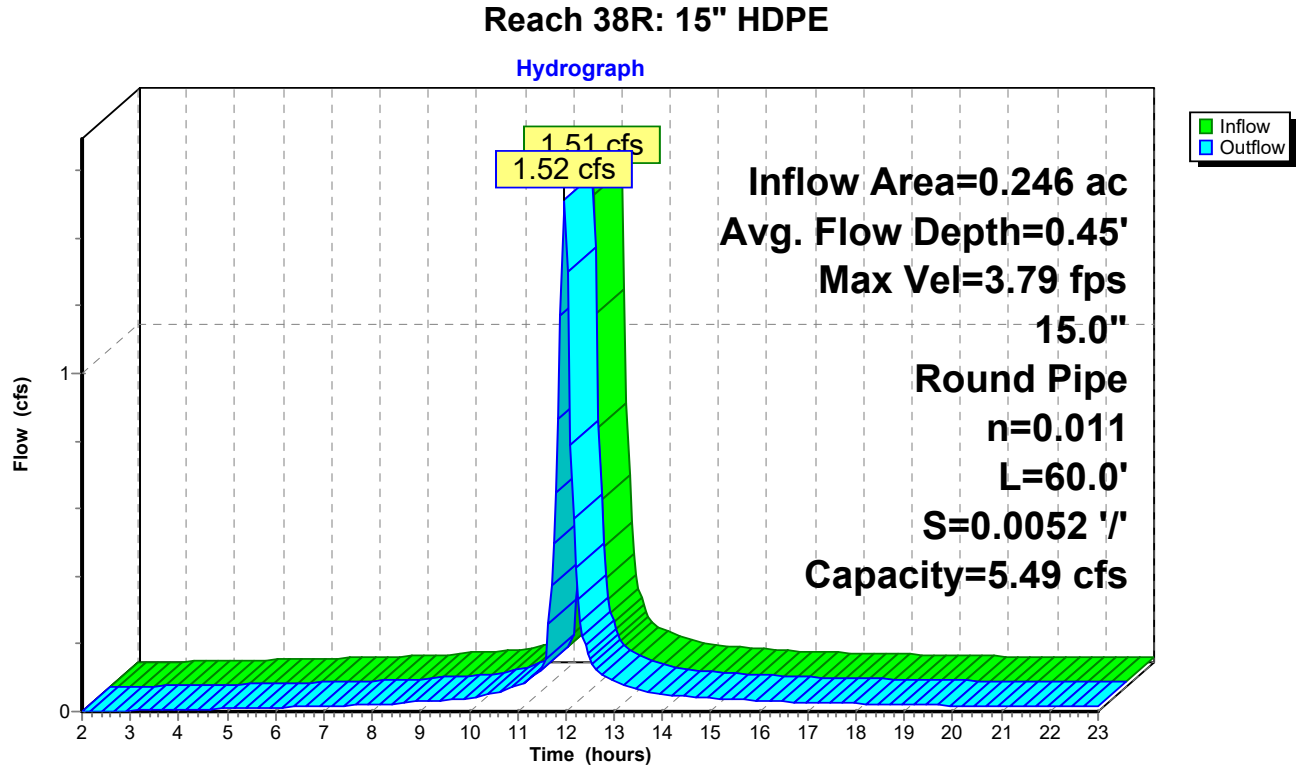
Inflow Area = 0.246 ac, 83.04% Impervious, Inflow Depth > 4.54" for 10-YR event
Inflow = 1.51 cfs @ 11.97 hrs, Volume= 0.093 af
Outflow = 1.52 cfs @ 11.98 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.79 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.18 fps, Avg. Travel Time= 0.9 min

Peak Storage= 24 cf @ 11.98 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.49 cfs

15.0" Round Pipe
n= 0.011
Length= 60.0' Slope= 0.0052 '/'
Inlet Invert= 11.82', Outlet Invert= 11.51'





Stage-Area-Storage for Reach 38R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.82	0.0	0
11.84	0.0	0
11.86	0.0	1
11.88	0.0	1
11.90	0.0	2
11.92	0.0	3
11.94	0.1	4
11.96	0.1	5
11.98	0.1	6
12.00	0.1	7
12.02	0.1	8
12.04	0.1	9
12.06	0.2	10
12.08	0.2	11
12.10	0.2	12
12.12	0.2	14
12.14	0.2	15
12.16	0.3	16
12.18	0.3	18
12.20	0.3	19
12.22	0.3	20
12.24	0.4	22
12.26	0.4	23
12.28	0.4	25
12.30	0.4	26
12.32	0.5	28
12.34	0.5	29
12.36	0.5	30
12.38	0.5	32
12.40	0.6	33
12.42	0.6	35
12.44	0.6	36
12.46	0.6	38
12.48	0.7	39
12.50	0.7	41
12.52	0.7	42
12.54	0.7	44
12.56	0.8	45
12.58	0.8	47
12.60	0.8	48
12.62	0.8	50
12.64	0.9	51
12.66	0.9	53
12.68	0.9	54
12.70	0.9	55
12.72	0.9	57
12.74	1.0	58
12.76	1.0	59
12.78	1.0	61
12.80	1.0	62
12.82	1.1	63
12.84	1.1	64
12.86	1.1	65
12.88	1.1	67
12.90	1.1	68
12.92	1.1	69
12.94	1.2	70
12.96	1.2	70
12.98	1.2	71
13.00	1.2	72
13.02	1.2	73
13.04	1.2	73
13.06	**1.2**	**74**

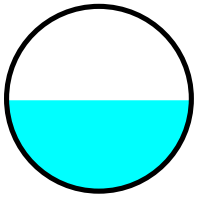
Summary for Reach 39R: 15" HDPE

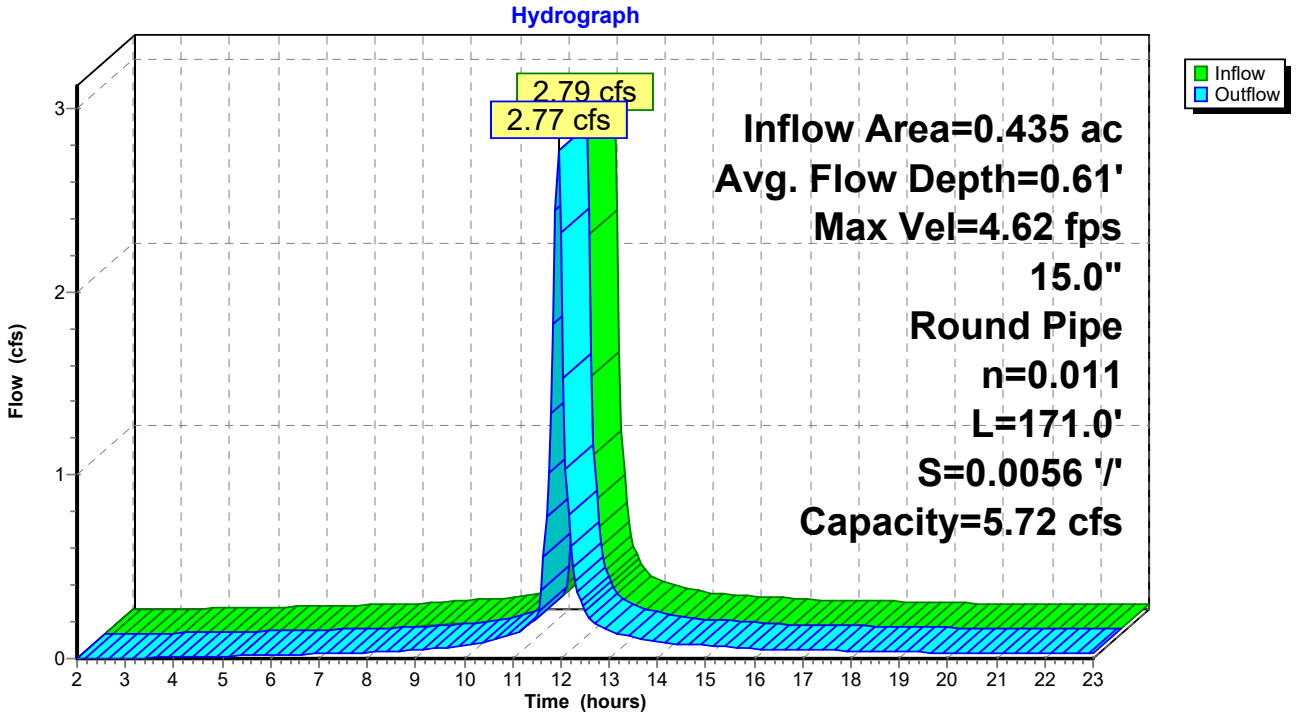
Inflow Area = 0.435 ac, 79.43% Impervious, Inflow Depth > 4.44" for 10-YR event
Inflow = 2.79 cfs @ 11.94 hrs, Volume= 0.161 af
Outflow = 2.77 cfs @ 11.95 hrs, Volume= 0.161 af, Atten= 1%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.62 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.42 fps, Avg. Travel Time= 2.0 min

Peak Storage= 103 cf @ 11.95 hrs
Average Depth at Peak Storage= 0.61'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.72 cfs

15.0" Round Pipe
n= 0.011
Length= 171.0' Slope= 0.0056 '/'
Inlet Invert= 11.41', Outlet Invert= 10.45'





Stage-Area-Storage for Reach 39R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.41	0.0	0
11.43	0.0	1
11.45	0.0	2
11.47	0.0	4
11.49	0.0	6
11.51	0.0	8
11.53	0.1	10
11.55	0.1	13
11.57	0.1	16
11.59	0.1	19
11.61	0.1	22
11.63	0.1	25
11.65	0.2	28
11.67	0.2	32
11.69	0.2	35
11.71	0.2	39
11.73	0.2	42
11.75	0.3	46
11.77	0.3	50
11.79	0.3	54
11.81	0.3	58
11.83	0.4	62
11.85	0.4	66
11.87	0.4	70
11.89	0.4	74
11.91	0.5	78
11.93	0.5	83
11.95	0.5	87
11.97	0.5	91
11.99	0.6	95
12.01	0.6	100
12.03	0.6	104
12.05	0.6	108
12.07	0.7	112
12.09	0.7	117
12.11	0.7	121
12.13	0.7	125
12.15	0.8	129
12.17	0.8	134
12.19	0.8	138
12.21	0.8	142
12.23	0.9	146
12.25	0.9	150
12.27	0.9	154
12.29	0.9	158
12.31	0.9	162
12.33	1.0	166
12.35	1.0	169
12.37	1.0	173
12.39	1.0	176
12.41	1.1	180
12.43	1.1	183
12.45	1.1	187
12.47	1.1	190
12.49	1.1	193
12.51	1.1	196
12.53	1.2	198
12.55	1.2	201
12.57	1.2	203
12.59	1.2	205
12.61	1.2	207
12.63	1.2	209
12.65	**1.2**	**210**

Summary for Pond 40P: SGW 1

Inflow Area = 2.337 ac, 62.67% Impervious, Inflow Depth > 4.04" for 10-YR event
Inflow = 13.14 cfs @ 11.96 hrs, Volume= 0.787 af
Outflow = 0.92 cfs @ 12.79 hrs, Volume= 0.265 af, Atten= 93%, Lag= 50.1 min
Primary = 0.92 cfs @ 12.79 hrs, Volume= 0.265 af

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 11.51' @ 12.79 hrs Surf.Area= 11,666 sf Storage= 23,239 cf

Plug-Flow detention time= 322.6 min calculated for 0.264 af (34% of inflow)
Center-of-Mass det. time= 189.5 min (964.3 - 774.8)

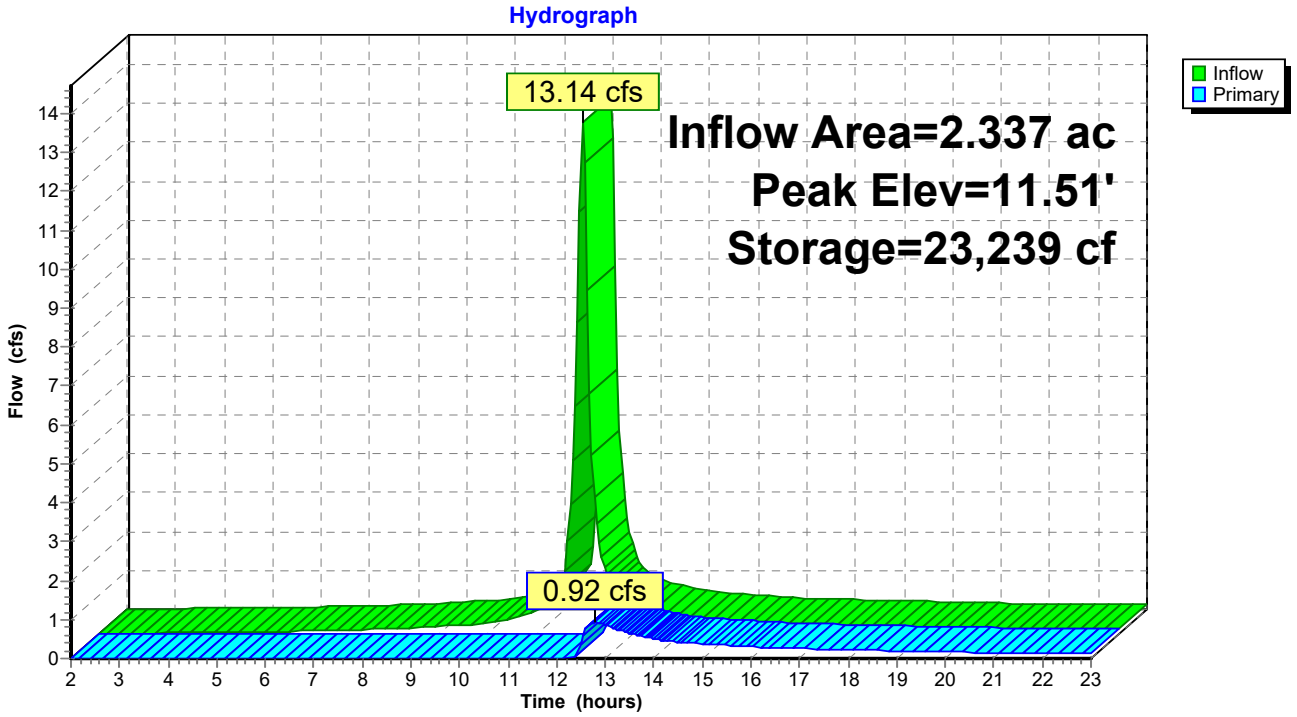
Volume	Invert	Avail.Storage	Storage Description
#1	7.44'	28,534 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
7.44	9,804	575.0	0.0	0	0	9,804
7.45	9,804	575.0	40.0	39	39	9,810
10.44	9,804	575.0	40.0	11,726	11,765	11,529
10.45	9,804	575.0	100.0	98	11,863	11,535
11.45	11,558	594.0	100.0	10,669	22,532	13,396
11.95	12,457	604.0	100.0	6,002	28,534	14,396

Device	Routing	Invert	Outlet Devices
#1	Primary	10.12'	**15.0" Round Culvert** L= 31.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.12' / 10.00' S= 0.0039 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	11.45'	**18.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.92 cfs @ 12.79 hrs HW=11.51' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.92 cfs of 4.36 cfs potential flow)
↑**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.92 cfs @ 0.81 fps)

Pond 40P: SGW 1



Stage-Area-Storage for Pond 40P: SGW 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
7.44	9,804	0
7.49	9,804	196
7.54	9,804	392
7.59	9,804	588
7.64	9,804	784
7.69	9,804	980
7.74	9,804	1,176
7.79	9,804	1,373
7.84	9,804	1,569
7.89	9,804	1,765
7.94	9,804	1,961
7.99	9,804	2,157
8.04	9,804	2,353
8.09	9,804	2,549
8.14	9,804	2,745
8.19	9,804	2,941
8.24	9,804	3,137
8.29	9,804	3,333
8.34	9,804	3,529
8.39	9,804	3,726
8.44	9,804	3,922
8.49	9,804	4,118
8.54	9,804	4,314
8.59	9,804	4,510
8.64	9,804	4,706
8.69	9,804	4,902
8.74	9,804	5,098
8.79	9,804	5,294
8.84	9,804	5,490
8.89	9,804	5,686
8.94	9,804	5,882
8.99	9,804	6,078
9.04	9,804	6,275
9.09	9,804	6,471
9.14	9,804	6,667
9.19	9,804	6,863
9.24	9,804	7,059
9.29	9,804	7,255
9.34	9,804	7,451
9.39	9,804	7,647
9.44	9,804	7,843
9.49	9,804	8,039
9.54	9,804	8,235
9.59	9,804	8,431
9.64	9,804	8,628
9.69	9,804	8,824
9.74	9,804	9,020
9.79	9,804	9,216
9.84	9,804	9,412
9.89	9,804	9,608
9.94	9,804	9,804
9.99	9,804	10,000
10.04	9,804	10,196
10.09	9,804	10,392
10.14	9,804	10,588
10.19	9,804	10,784
10.24	9,804	10,980
10.29	9,804	11,177
10.34	9,804	11,373
10.39	9,804	11,569
10.44	9,804	11,765
10.49	9,871	12,256
10.54	9,956	12,752
10.59	10,041	13,252
10.64	10,126	13,756
10.69	10,212	14,265
10.74	10,298	14,777
10.79	10,384	15,294
10.84	10,471	15,816
10.89	10,558	16,341
10.94	10,645	16,872
10.99	10,733	17,406
11.04	10,821	17,945
11.09	10,910	18,488
11.14	10,999	19,036
11.19	11,088	19,588
11.24	11,178	20,145
11.29	11,268	20,706
11.34	11,358	21,271
11.39	11,449	21,842
11.44	11,540	22,416
11.49	11,629	22,996
11.54	11,717	23,579
11.59	11,806	24,167
11.64	11,896	24,760
11.69	11,985	25,357
11.74	12,075	25,958
11.79	12,166	26,564
11.84	12,256	27,175
11.89	12,347	27,790
11.94	**12,439**	**28,410**

Summary for Pond 52P: SGW 2

Inflow Area = 0.861 ac, 49.03% Impervious, Inflow Depth > 3.68" for 10-YR event
Inflow = 3.95 cfs @ 12.01 hrs, Volume= 0.264 af
Outflow = 0.11 cfs @ 15.95 hrs, Volume= 0.044 af, Atten= 97%, Lag= 236.5 min
Primary = 0.11 cfs @ 15.95 hrs, Volume= 0.044 af

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 14.56' @ 15.95 hrs Surf.Area= 5,406 sf Storage= 9,623 cf

Plug-Flow detention time= 491.7 min calculated for 0.044 af (17% of inflow)
Center-of-Mass det. time= 331.1 min (1,125.6 - 794.6)

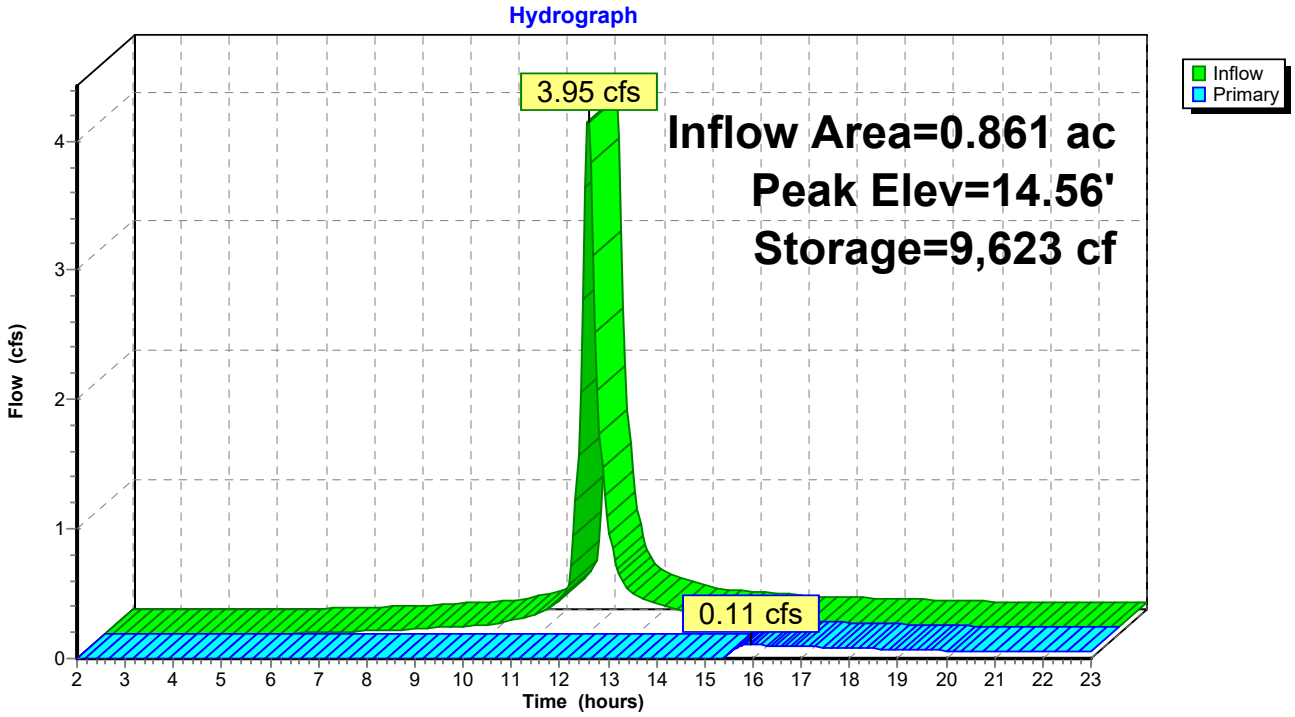
Volume	Invert	Avail.Storage	Storage Description
#1	10.54'	12,413 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
10.54	4,017	447.0	0.0	0	0	4,017
10.55	4,017	447.0	40.0	16	16	4,021
13.54	4,017	447.0	40.0	4,804	4,820	5,358
13.55	4,017	447.0	100.0	40	4,861	5,362
14.55	5,386	466.0	100.0	4,685	9,545	6,816
15.05	6,092	475.0	100.0	2,868	12,413	7,530

Device	Routing	Invert	Outlet Devices
#1	Primary	13.25'	**15.0" Round Culvert** L= 35.5' Ke= 0.500 Inlet / Outlet Invert= 13.25' / 13.02' S= 0.0065 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	14.55'	**18.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.11 cfs @ 15.95 hrs HW=14.56' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.11 cfs of 4.45 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.11 cfs @ 0.39 fps)

Pond 52P: SGW 2



Stage-Area-Storage for Pond 52P: SGW 2

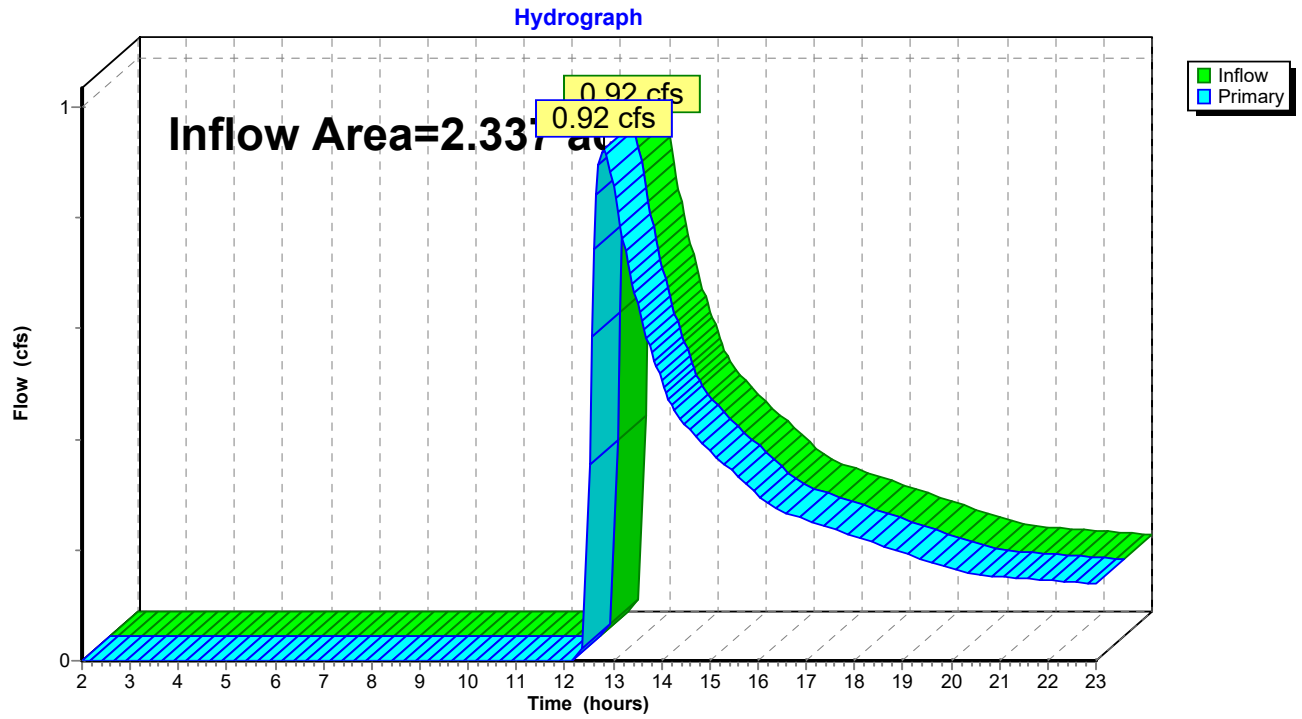
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
10.54	4,017	0
10.59	4,017	80
10.64	4,017	161
10.69	4,017	241
10.74	4,017	321
10.79	4,017	402
10.84	4,017	482
10.89	4,017	562
10.94	4,017	643
10.99	4,017	723
11.04	4,017	803
11.09	4,017	884
11.14	4,017	964
11.19	4,017	1,044
11.24	4,017	1,125
11.29	4,017	1,205
11.34	4,017	1,285
11.39	4,017	1,366
11.44	4,017	1,446
11.49	4,017	1,526
11.54	4,017	1,607
11.59	4,017	1,687
11.64	4,017	1,767
11.69	4,017	1,848
11.74	4,017	1,928
11.79	4,017	2,009
11.84	4,017	2,089
11.89	4,017	2,169
11.94	4,017	2,250
11.99	4,017	2,330
12.04	4,017	2,410
12.09	4,017	2,491
12.14	4,017	2,571
12.19	4,017	2,651
12.24	4,017	2,732
12.29	4,017	2,812
12.34	4,017	2,892
12.39	4,017	2,973
12.44	4,017	3,053
12.49	4,017	3,133
12.54	4,017	3,214
12.59	4,017	3,294
12.64	4,017	3,374
12.69	4,017	3,455
12.74	4,017	3,535
12.79	4,017	3,615
12.84	4,017	3,696
12.89	4,017	3,776
12.94	4,017	3,856
12.99	4,017	3,937
13.04	4,017	4,017
13.09	4,017	4,097
13.14	4,017	4,178
13.19	4,017	4,258
13.24	4,017	4,338
13.29	4,017	4,419
13.34	4,017	4,499
13.39	4,017	4,579
13.44	4,017	4,660
13.49	4,017	4,740
13.54	4,017	4,820
13.59	4,068	5,022
13.64	4,132	5,227
13.69	4,197	5,435
13.74	4,262	5,647
13.79	4,327	5,862
13.84	4,393	6,080
13.89	4,460	6,301
13.94	4,527	6,526
13.99	4,595	6,754
14.04	4,663	6,985
14.09	4,731	7,220
14.14	4,800	7,458
14.19	4,870	7,700
14.24	4,940	7,945
14.29	5,011	8,194
14.34	5,082	8,446
14.39	5,153	8,702
14.44	5,226	8,962
14.49	5,298	9,225
14.54	5,371	9,492
14.59	5,441	9,762
14.64	5,510	10,036
14.69	5,579	10,313
14.74	5,649	10,594
14.79	5,719	10,878
14.84	5,790	11,166
14.89	5,861	11,457
14.94	5,933	11,752
14.99	6,005	12,050
15.04	**6,077**	**12,352**

Summary for Link 42L: POI 1

Inflow Area = 2.337 ac, 62.67% Impervious, Inflow Depth > 1.36" for 10-YR event
Inflow = 0.92 cfs @ 12.79 hrs, Volume= 0.265 af
Primary = 0.92 cfs @ 12.79 hrs, Volume= 0.265 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 42L: POI 1

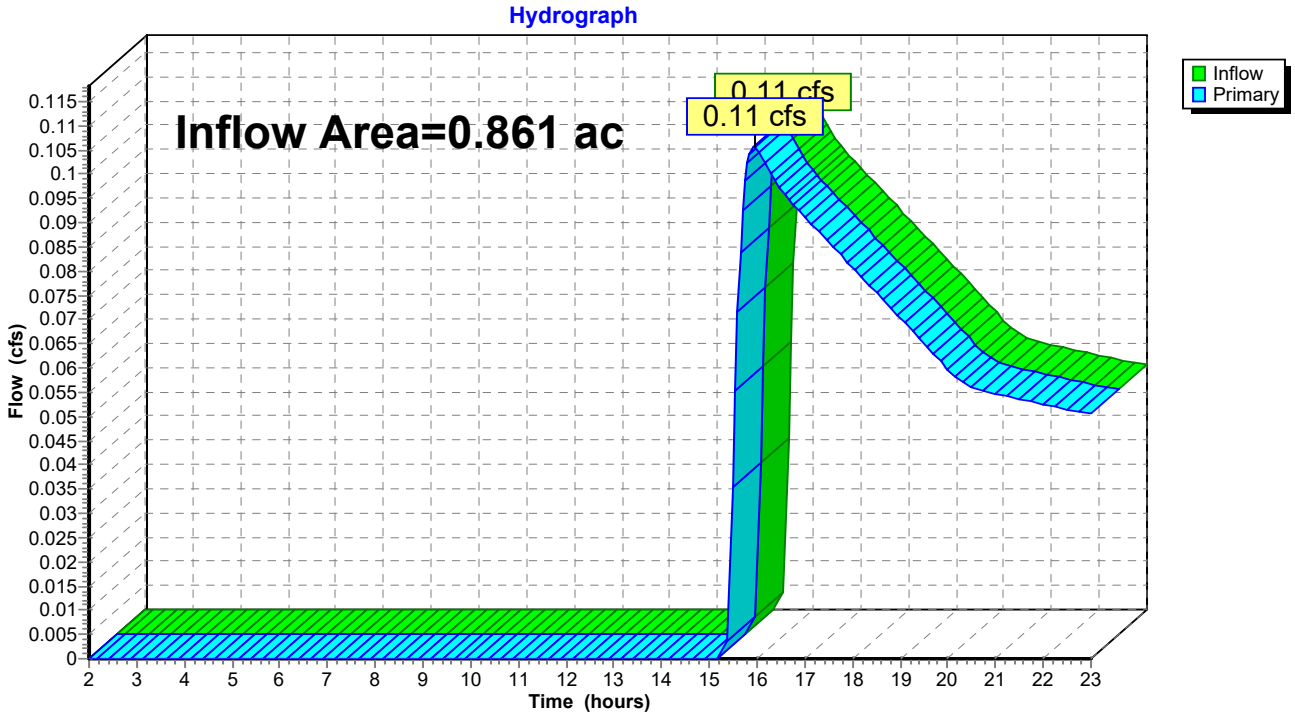


Summary for Link 53L: POI 2

Inflow Area = 0.861 ac, 49.03% Impervious, Inflow Depth > 0.61" for 10-YR event
Inflow = 0.11 cfs @ 15.95 hrs, Volume= 0.044 af
Primary = 0.11 cfs @ 15.95 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 53L: POI 2

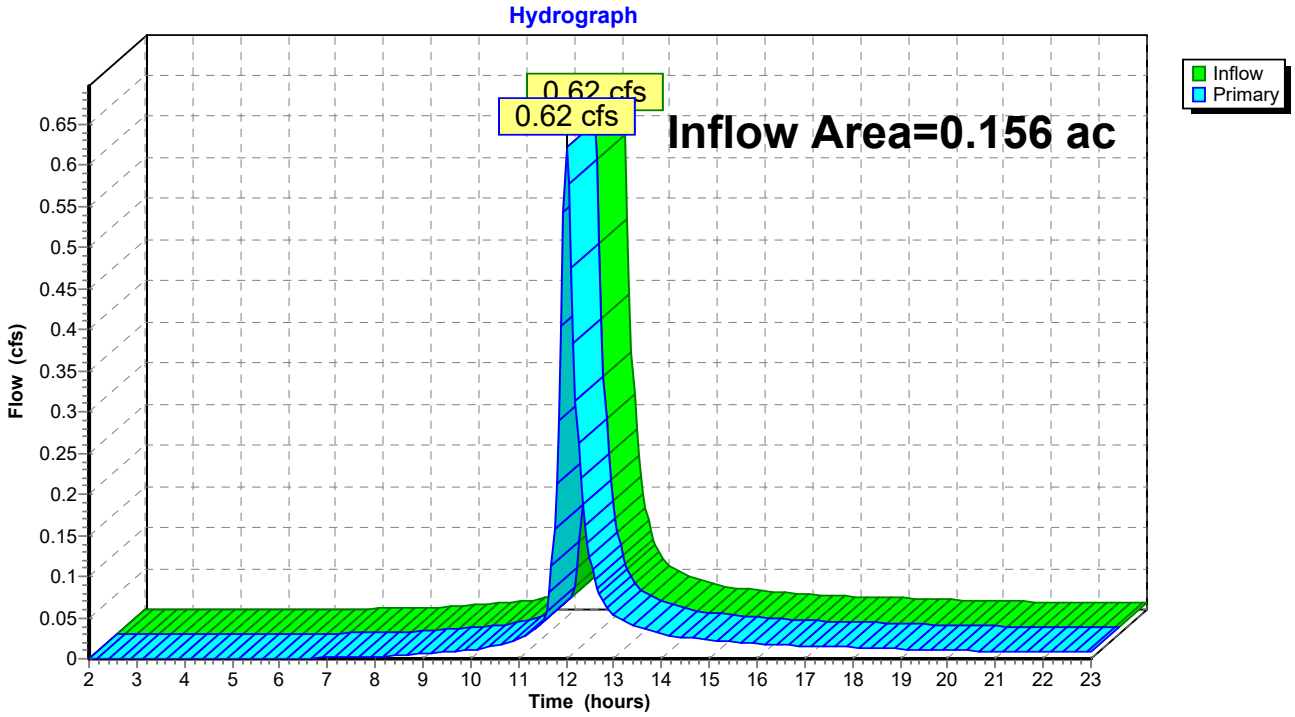


Summary for Link 56L: POI 3 (EX SWM POND)

Inflow Area = 0.156 ac, 34.31% Impervious, Inflow Depth > 3.32" for 10-YR event
Inflow = 0.62 cfs @ 12.01 hrs, Volume= 0.043 af
Primary = 0.62 cfs @ 12.01 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 56L: POI 3 (EX SWM POND)



Summary for Subcatchment 1S: EX DA-1 (ORANGE)

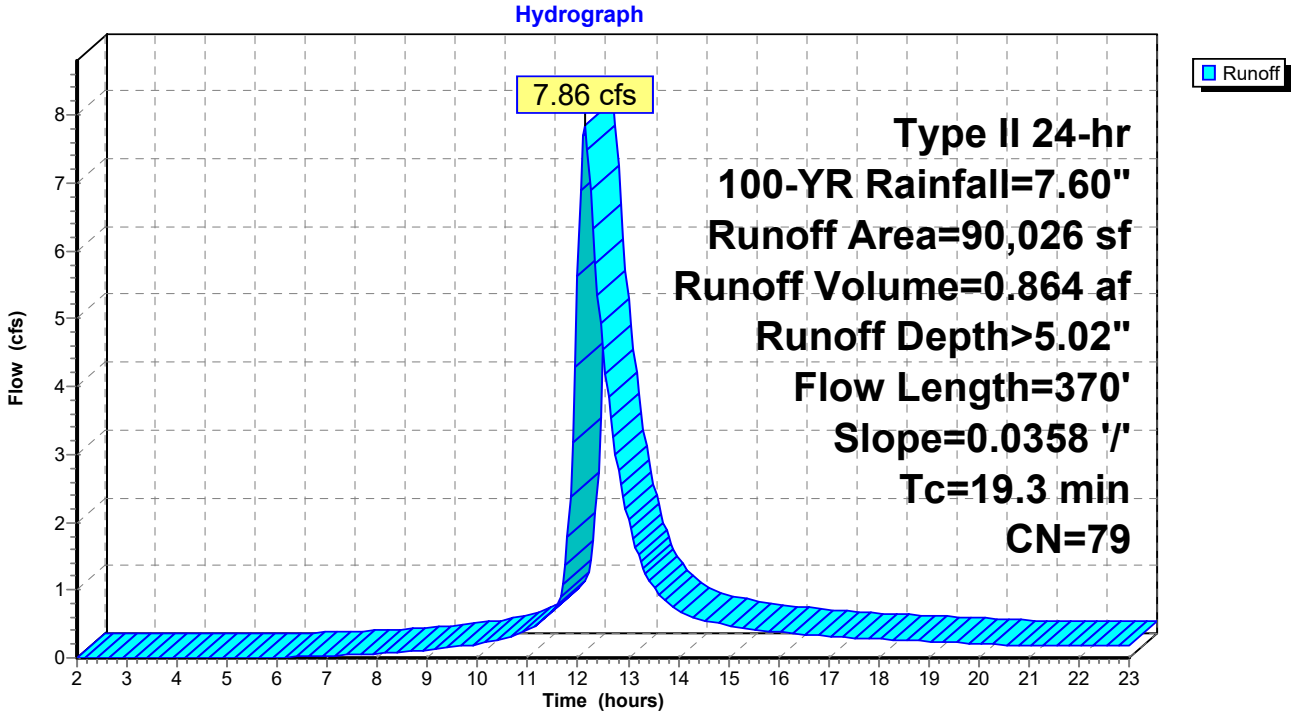
Runoff = 7.86 cfs @ 12.14 hrs, Volume= 0.864 af, Depth> 5.02"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.60"

	Area (sf)	CN	Description
*	224	98	existing shed
	89,802	79	50-75% Grass cover, Fair, HSG C
	90,026	79	Weighted Average
	89,802		99.75% Pervious Area
	224		0.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	150	0.0358	0.14		**Sheet Flow, a-b** Grass: Dense n= 0.240 P2= 2.40"
1.2	220	0.0358	3.05		**Shallow Concentrated Flow, b-c** Unpaved Kv= 16.1 fps
19.3	370	Total			

Subcatchment 1S: EX DA-1 (ORANGE)



Summary for Subcatchment 2S: EX DA-2 (PURPLE)

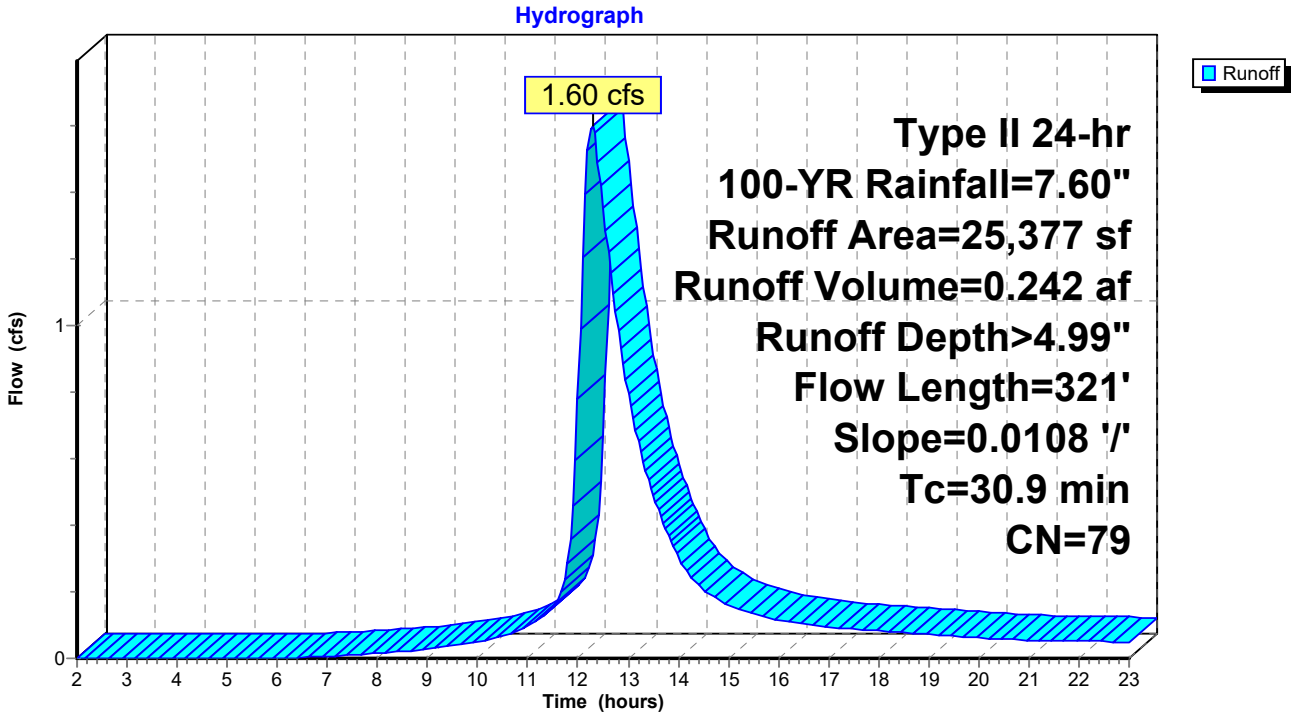
Runoff = 1.60 cfs @ 12.28 hrs, Volume= 0.242 af, Depth> 4.99"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
25,377	79	50-75% Grass cover, Fair, HSG C
25,377		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0108	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
1.7	171	0.0108	1.67		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
30.9	321	Total			

Subcatchment 2S: EX DA-2 (PURPLE)



Summary for Subcatchment 3S: EX DA-3 (BLUE)

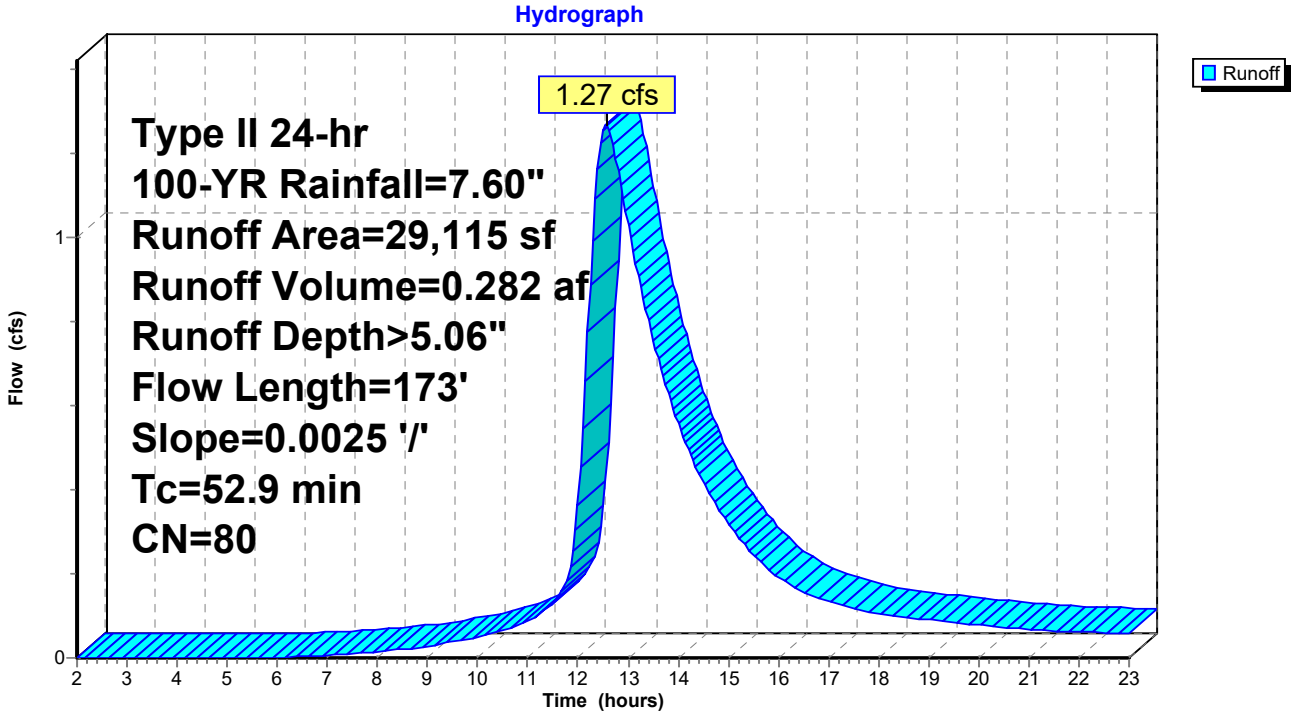
Runoff = 1.27 cfs @ 12.57 hrs, Volume= 0.282 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
28,117	79	50-75% Grass cover, Fair, HSG C
998	98	Paved parking, HSG C
29,115	80	Weighted Average
28,117		96.57% Pervious Area
998		3.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
52.4	150	0.0025	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.5	23	0.0025	0.81		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
52.9	173	Total			

Subcatchment 3S: EX DA-3 (BLUE)



Summary for Subcatchment 30S: DA-1e (orange)

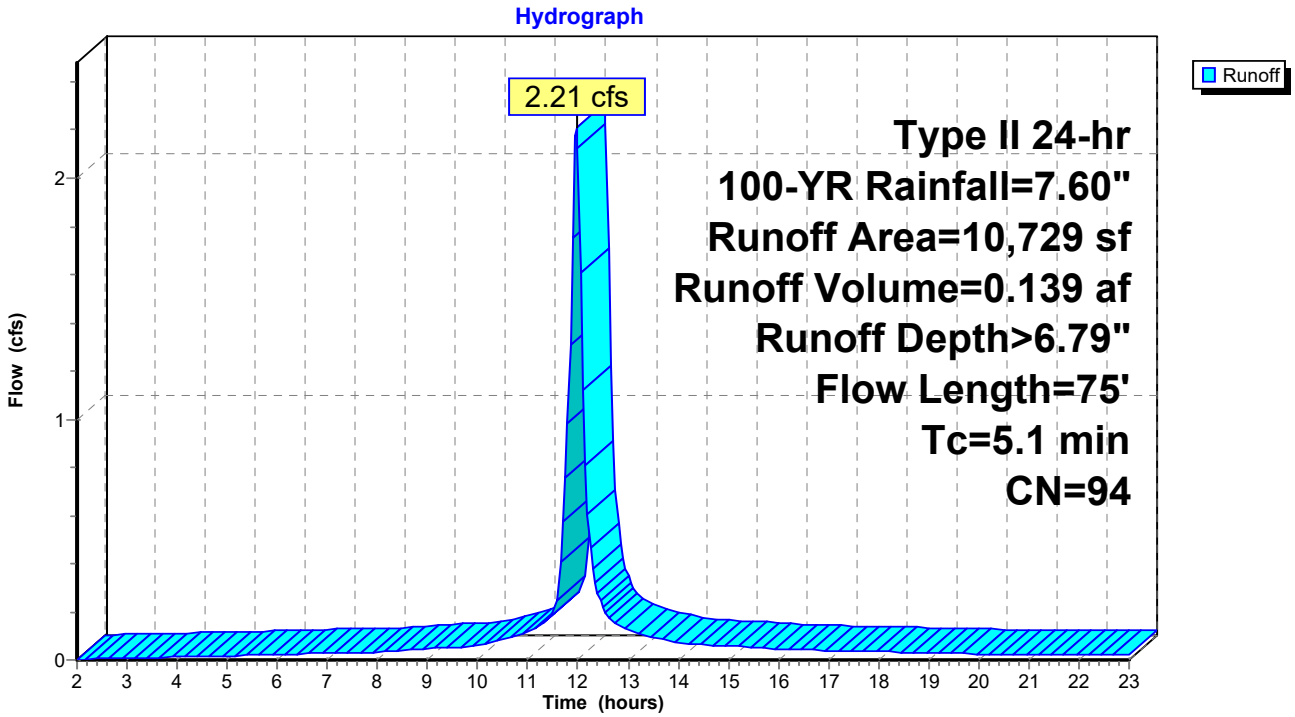
Runoff = 2.21 cfs @ 11.97 hrs, Volume= 0.139 af, Depth> 6.79"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
8,909	98	Paved parking, HSG C
1,820	74	>75% Grass cover, Good, HSG C
10,729	94	Weighted Average
1,820		16.96% Pervious Area
8,909		83.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	14	0.0095	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	48	0.0134	1.86		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
0.1	13	0.0075	1.76		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
5.1	75	Total			

Subcatchment 30S: DA-1e (orange)



Summary for Subcatchment 31S: DA-1c (orange)

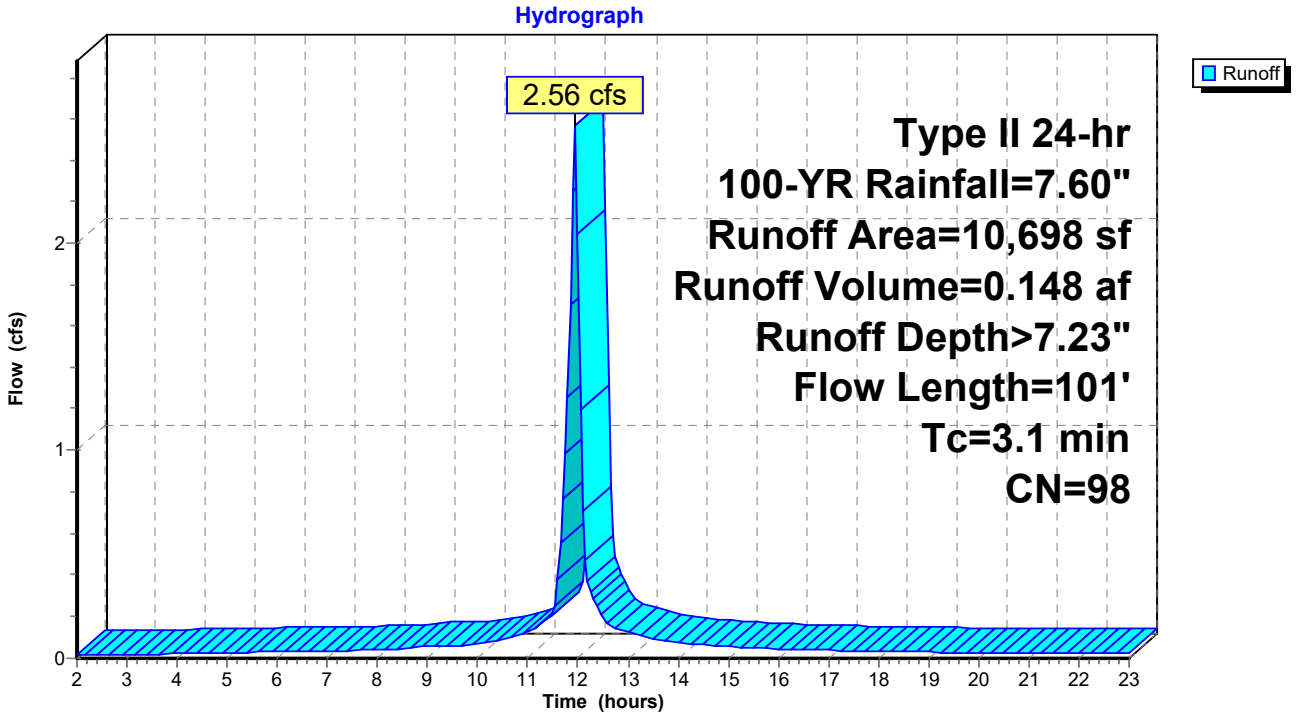
Runoff = 2.56 cfs @ 11.94 hrs, Volume= 0.148 af, Depth> 7.23"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
10,698	98	Paved parking, HSG C
10,698		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	67	0.0016	0.40		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.3	34	0.0100	2.03		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
3.1	101	Total			

Subcatchment 31S: DA-1c (orange)



Summary for Subcatchment 32S: DA-1b (orange)

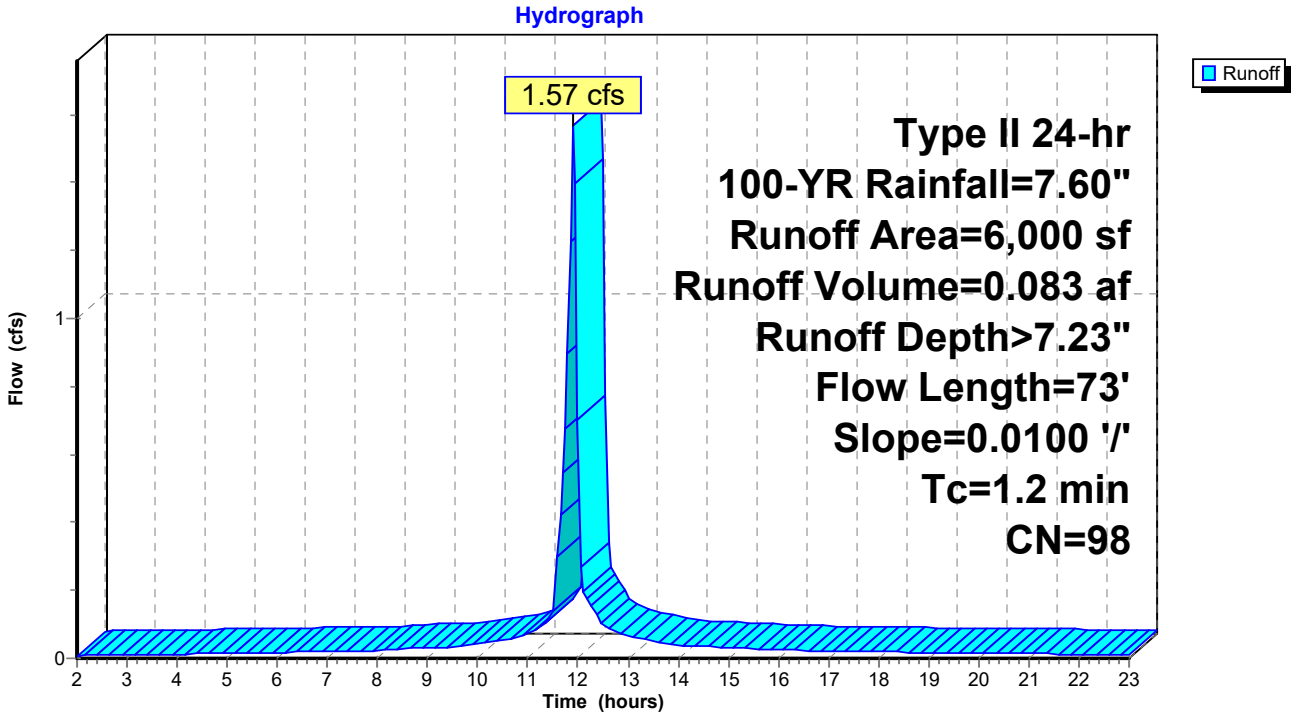
Runoff = 1.57 cfs @ 11.91 hrs, Volume= 0.083 af, Depth> 7.23"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
6,000	98	Paved parking, HSG C
6,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	39	0.0100	0.75		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.3	34	0.0100	2.03		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.2	73	Total			

Subcatchment 32S: DA-1b (orange)



Summary for Subcatchment 33S: DA-1a (orange)

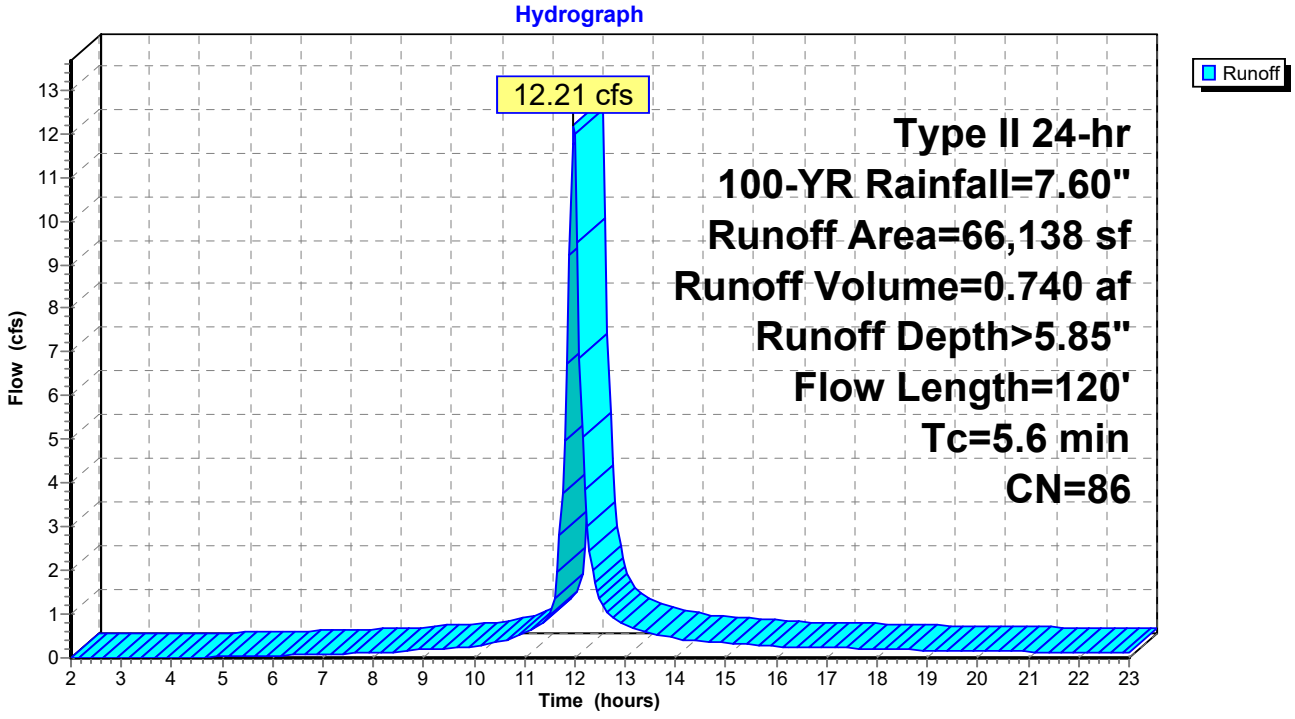
Runoff = 12.21 cfs @ 11.98 hrs, Volume= 0.740 af, Depth> 5.85"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
32,038	98	Paved parking, HSG C
34,100	74	>75% Grass cover, Good, HSG C
66,138	86	Weighted Average
34,100		51.56% Pervious Area
32,038		48.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	33	0.0439	0.11		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.6	87	0.0253	2.56		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
5.6	120	Total			

Subcatchment 33S: DA-1a (orange)



Summary for Subcatchment 34S: DA-1d (orange)

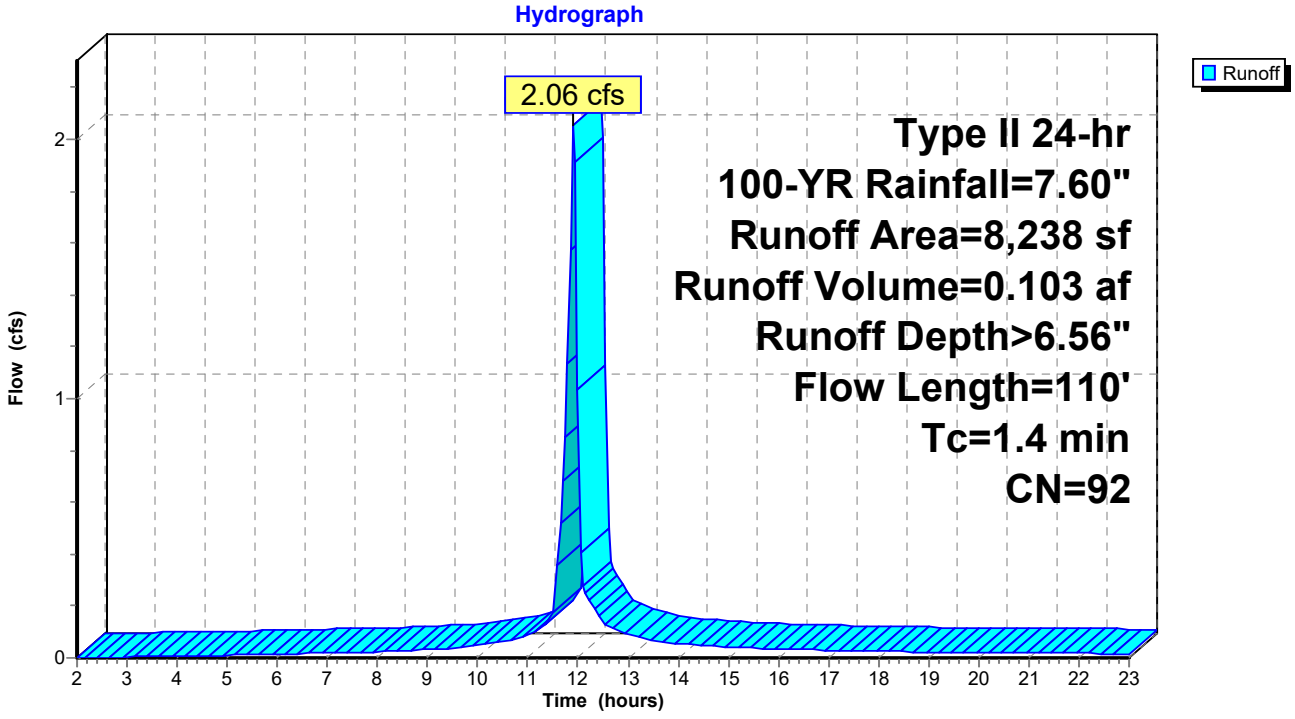
Runoff = 2.06 cfs @ 11.91 hrs, Volume= 0.103 af, Depth> 6.56"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
6,157	98	Paved parking, HSG C
2,081	74	>75% Grass cover, Good, HSG C
8,238	92	Weighted Average
2,081		25.26% Pervious Area
6,157		74.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	34	0.0156	0.87		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 2.40"
0.7	76	0.0075	1.76		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.4	110	Total			

Subcatchment 34S: DA-1d (orange)



Summary for Subcatchment 51S: DA TO SGW 2 (purple)

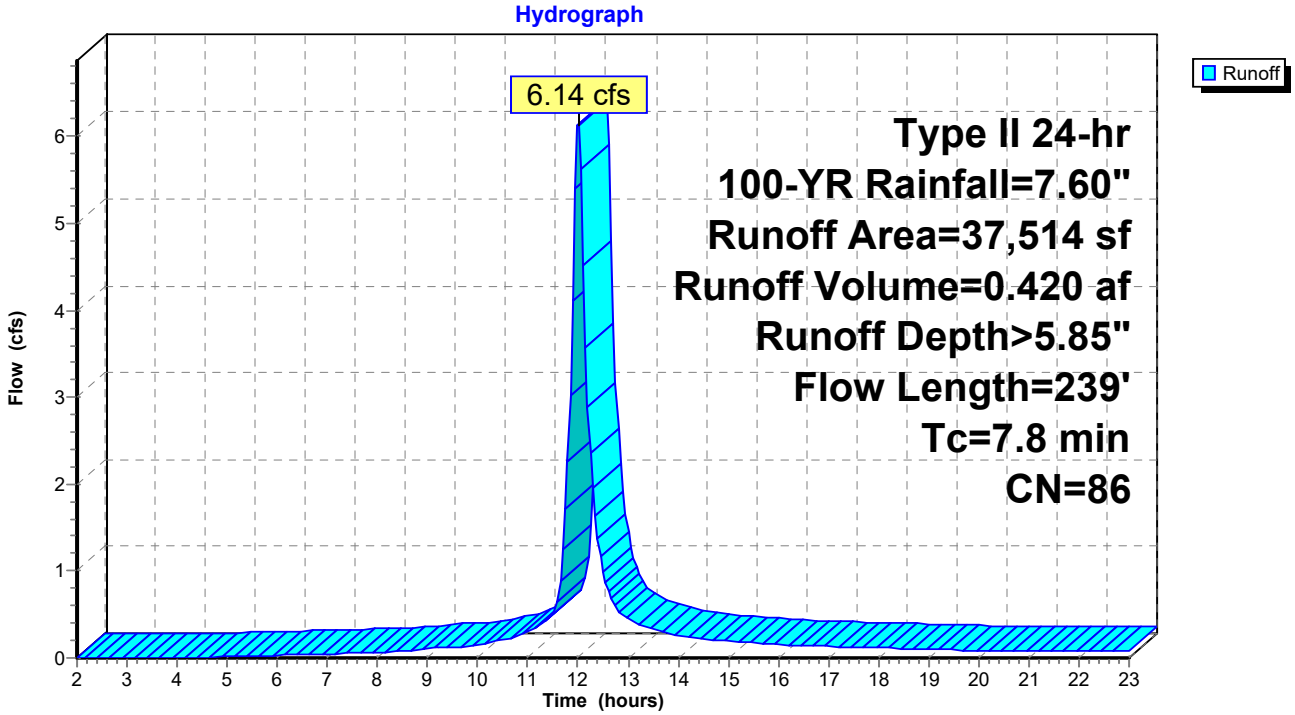
Runoff = 6.14 cfs @ 12.00 hrs, Volume= 0.420 af, Depth> 5.85"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
18,394	98	Paved parking, HSG C
19,120	74	>75% Grass cover, Good, HSG C
37,514	86	Weighted Average
19,120		50.97% Pervious Area
18,394		49.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	14	0.0095	0.05		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	35	0.0075	1.39		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
2.8	190	0.0051	1.15		**Shallow Concentrated Flow, C-D** Unpaved Kv= 16.1 fps
7.8	239	Total			

Subcatchment 51S: DA TO SGW 2 (purple)



Summary for Subcatchment 54S: DA-3a (blue)

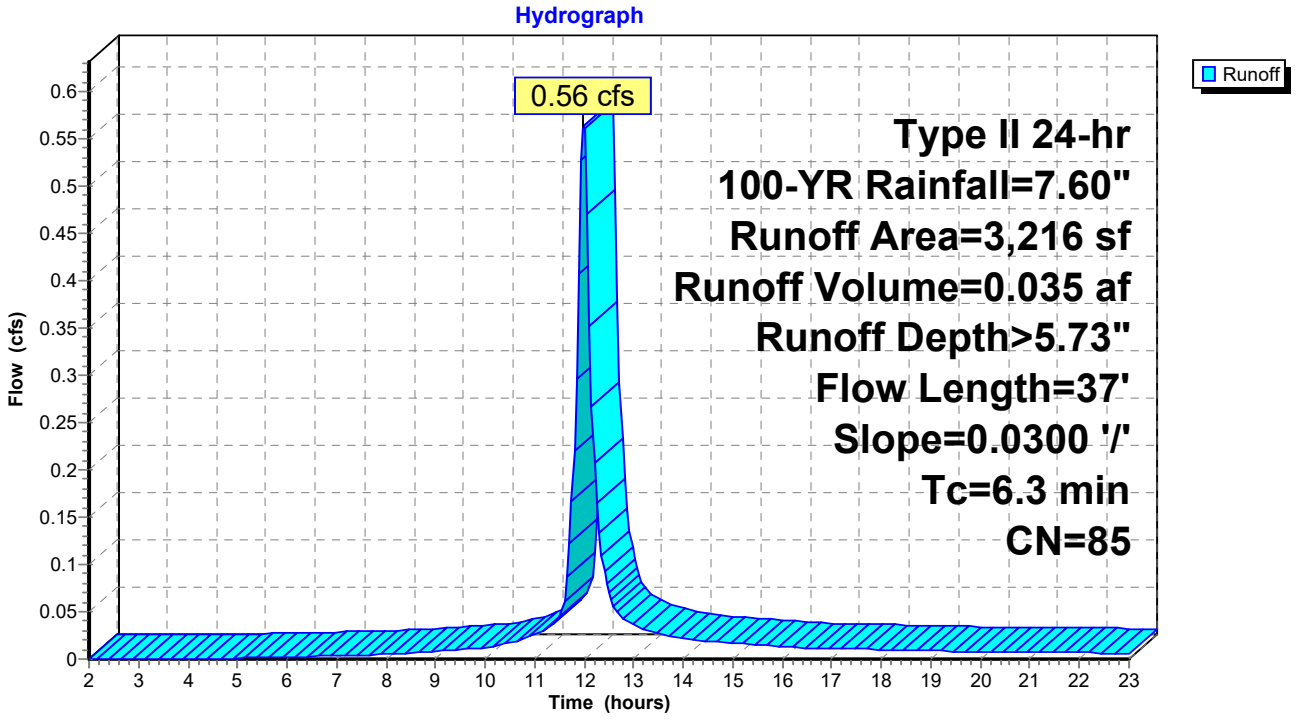
Runoff = 0.56 cfs @ 11.99 hrs, Volume= 0.035 af, Depth> 5.73"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
1,480	98	Paved parking, HSG C
1,736	74	>75% Grass cover, Good, HSG C
3,216	85	Weighted Average
1,736		53.98% Pervious Area
1,480		46.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	37	0.0300	0.10		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"

Subcatchment 54S: DA-3a (blue)



Summary for Subcatchment 55S: DA-3b (blue)

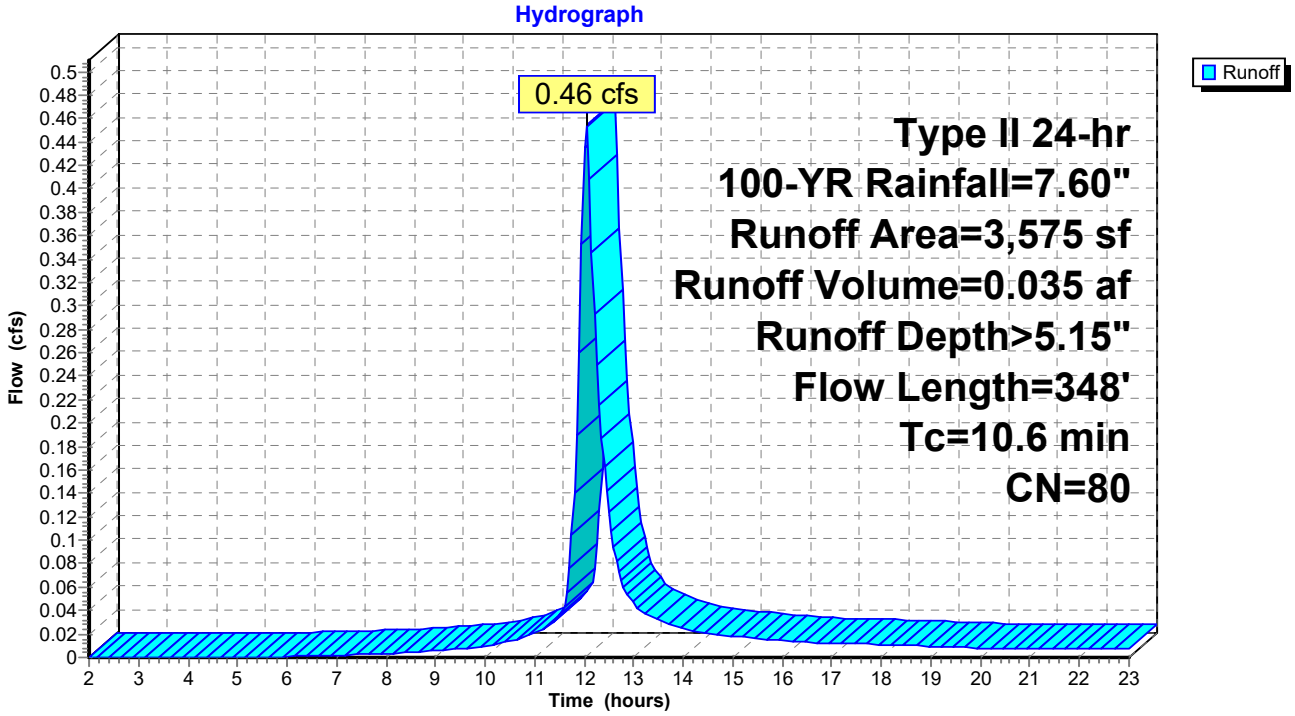
Runoff = 0.46 cfs @ 12.04 hrs, Volume= 0.035 af, Depth> 5.15"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.60"

Area (sf)	CN	Description
850	98	Paved parking, HSG C
2,725	74	>75% Grass cover, Good, HSG C
3,575	80	Weighted Average
2,725		76.22% Pervious Area
850		23.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	46	0.0222	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 2.40"
0.4	100	0.0050	3.79	2.98	**Pipe Channel, 12" HDPE** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.011
1.7	202	0.0149	1.97		**Shallow Concentrated Flow, EX SWALE TO INLET 4** Unpaved Kv= 16.1 fps
10.6	348	Total			

Subcatchment 55S: DA-3b (blue)



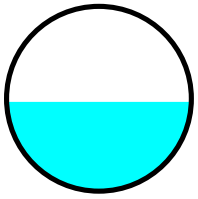
Summary for Reach 36R: 15" HDPE

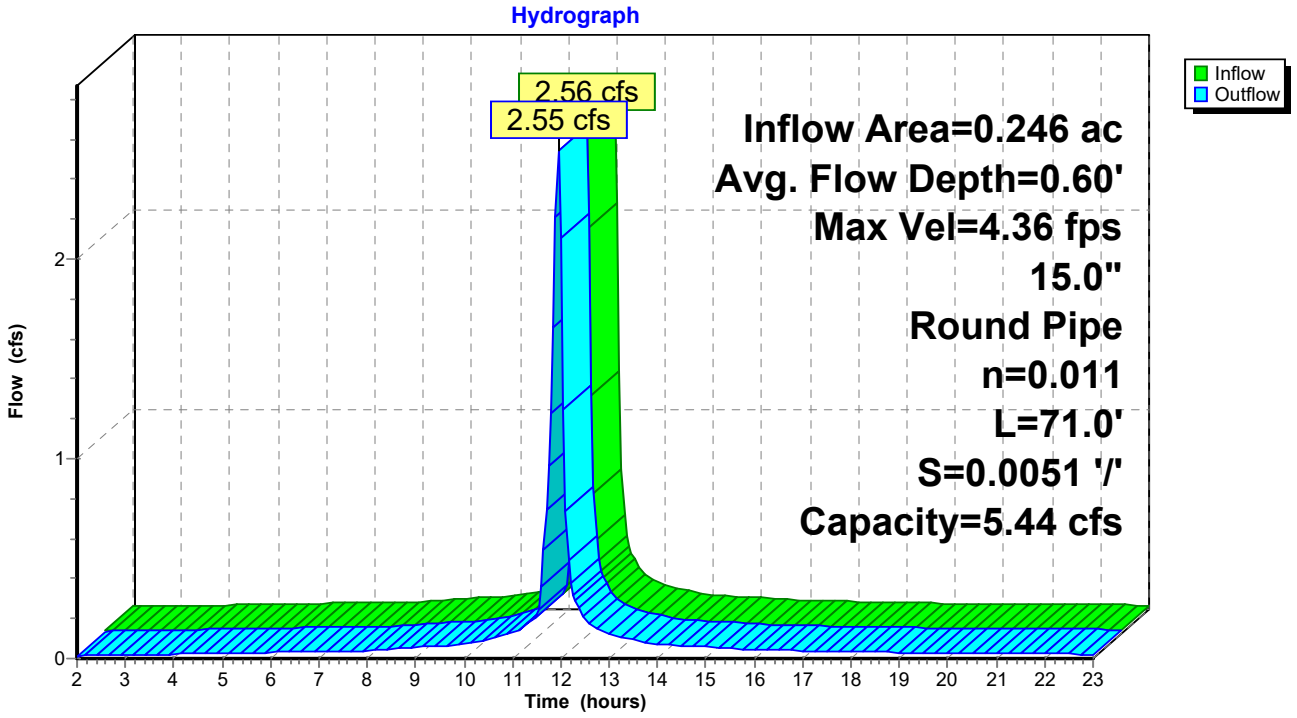
Inflow Area = 0.246 ac,100.00% Impervious, Inflow Depth > 7.23" for 100-YR event
Inflow = 2.56 cfs @ 11.94 hrs, Volume= 0.148 af
Outflow = 2.55 cfs @ 11.95 hrs, Volume= 0.148 af, Atten= 1%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.36 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.39 fps, Avg. Travel Time= 0.9 min

Peak Storage= 42 cf @ 11.95 hrs
Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.44 cfs

15.0" Round Pipe
n= 0.011 PVC, smooth interior
Length= 71.0' Slope= 0.0051 '/'
Inlet Invert= 11.16', Outlet Invert= 10.80'





Stage-Area-Storage for Reach 36R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.16	0.0	0
11.18	0.0	0
11.20	0.0	1
11.22	0.0	2
11.24	0.0	2
11.26	0.0	3
11.28	0.1	4
11.30	0.1	5
11.32	0.1	7
11.34	0.1	8
11.36	0.1	9
11.38	0.1	10
11.40	0.2	12
11.42	0.2	13
11.44	0.2	15
11.46	0.2	16
11.48	0.2	18
11.50	0.3	19
11.52	0.3	21
11.54	0.3	22
11.56	0.3	24
11.58	0.4	26
11.60	0.4	27
11.62	0.4	29
11.64	0.4	31
11.66	0.5	33
11.68	0.5	34
11.70	0.5	36
11.72	0.5	38
11.74	0.6	40
11.76	0.6	41
11.78	0.6	43
11.80	0.6	45
11.82	0.7	47
11.84	0.7	48
11.86	0.7	50
11.88	0.7	52
11.90	0.8	54
11.92	0.8	55
11.94	0.8	57
11.96	0.8	59
11.98	0.9	61
12.00	0.9	62
12.02	0.9	64
12.04	0.9	66
12.06	0.9	67
12.08	1.0	69
12.10	1.0	70
12.12	1.0	72
12.14	1.0	73
12.16	1.1	75
12.18	1.1	76
12.20	1.1	77
12.22	1.1	79
12.24	1.1	80
12.26	1.1	81
12.28	1.2	82
12.30	1.2	83
12.32	1.2	84
12.34	1.2	85
12.36	1.2	86
12.38	1.2	87
12.40	**1.2**	**87**

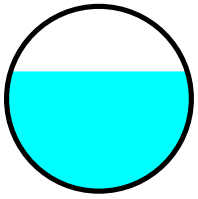
Summary for Reach 37R: 15" HDPE

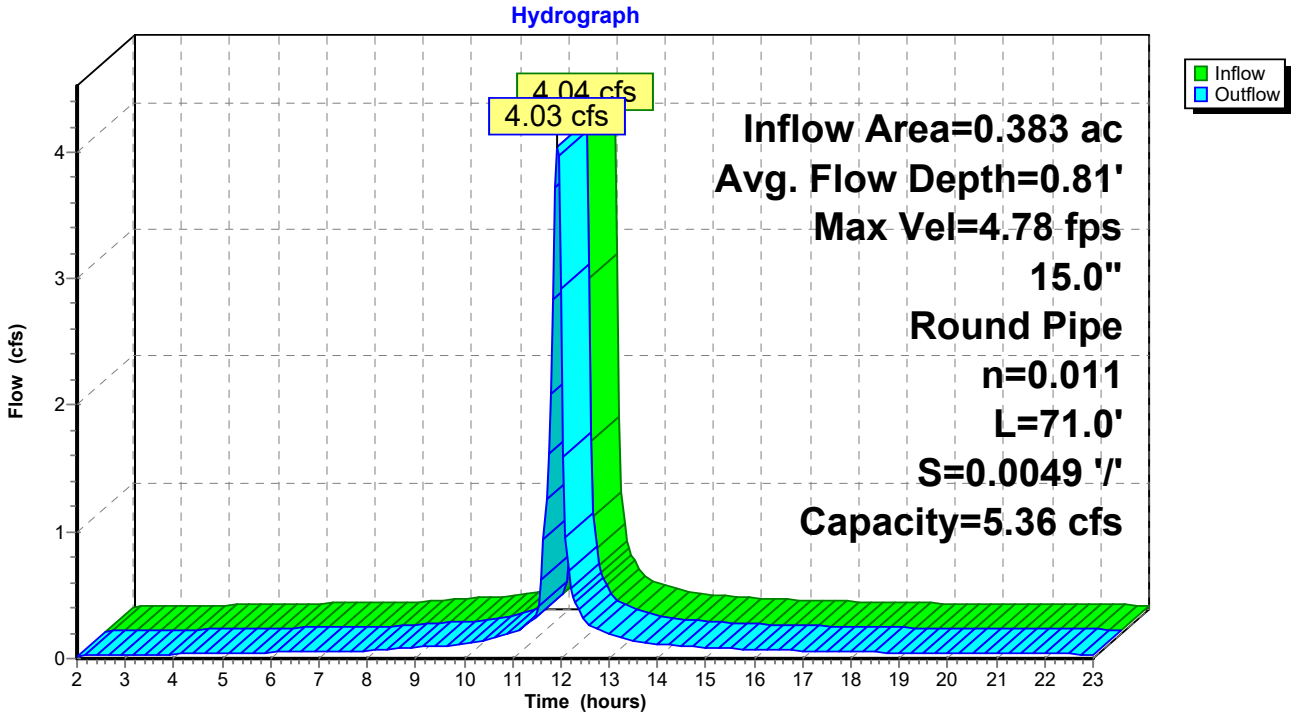
Inflow Area = 0.383 ac,100.00% Impervious, Inflow Depth > 7.23" for 100-YR event
Inflow = 4.04 cfs @ 11.93 hrs, Volume= 0.231 af
Outflow = 4.03 cfs @ 11.93 hrs, Volume= 0.231 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.78 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.57 fps, Avg. Travel Time= 0.8 min

Peak Storage= 60 cf @ 11.93 hrs
Average Depth at Peak Storage= 0.81'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.36 cfs

15.0" Round Pipe
n= 0.011
Length= 71.0' Slope= 0.0049 '/'
Inlet Invert= 10.80', Outlet Invert= 10.45'





Stage-Area-Storage for Reach 37R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
10.80	0.0	0
10.82	0.0	0
10.84	0.0	1
10.86	0.0	2
10.88	0.0	2
10.90	0.0	3
10.92	0.1	4
10.94	0.1	5
10.96	0.1	7
10.98	0.1	8
11.00	0.1	9
11.02	0.1	10
11.04	0.2	12
11.06	0.2	13
11.08	0.2	15
11.10	0.2	16
11.12	0.2	18
11.14	0.3	19
11.16	0.3	21
11.18	0.3	22
11.20	0.3	24
11.22	0.4	26
11.24	0.4	27
11.26	0.4	29
11.28	0.4	31
11.30	0.5	33
11.32	0.5	34
11.34	0.5	36
11.36	0.5	38
11.38	0.6	40
11.40	0.6	41
11.42	0.6	43
11.44	0.6	45
11.46	0.7	47
11.48	0.7	48
11.50	0.7	50
11.52	0.7	52
11.54	0.8	54
11.56	0.8	55
11.58	0.8	57
11.60	0.8	59
11.62	0.9	61
11.64	0.9	62
11.66	0.9	64
11.68	0.9	66
11.70	0.9	67
11.72	1.0	69
11.74	1.0	70
11.76	1.0	72
11.78	1.0	73
11.80	1.1	75
11.82	1.1	76
11.84	1.1	77
11.86	1.1	79
11.88	1.1	80
11.90	1.1	81
11.92	1.2	82
11.94	1.2	83
11.96	1.2	84
11.98	1.2	85
12.00	1.2	86
12.02	1.2	87
12.04	**1.2**	**87**

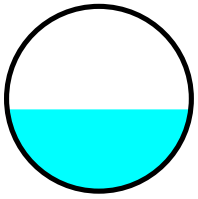
Summary for Reach 38R: 15" HDPE

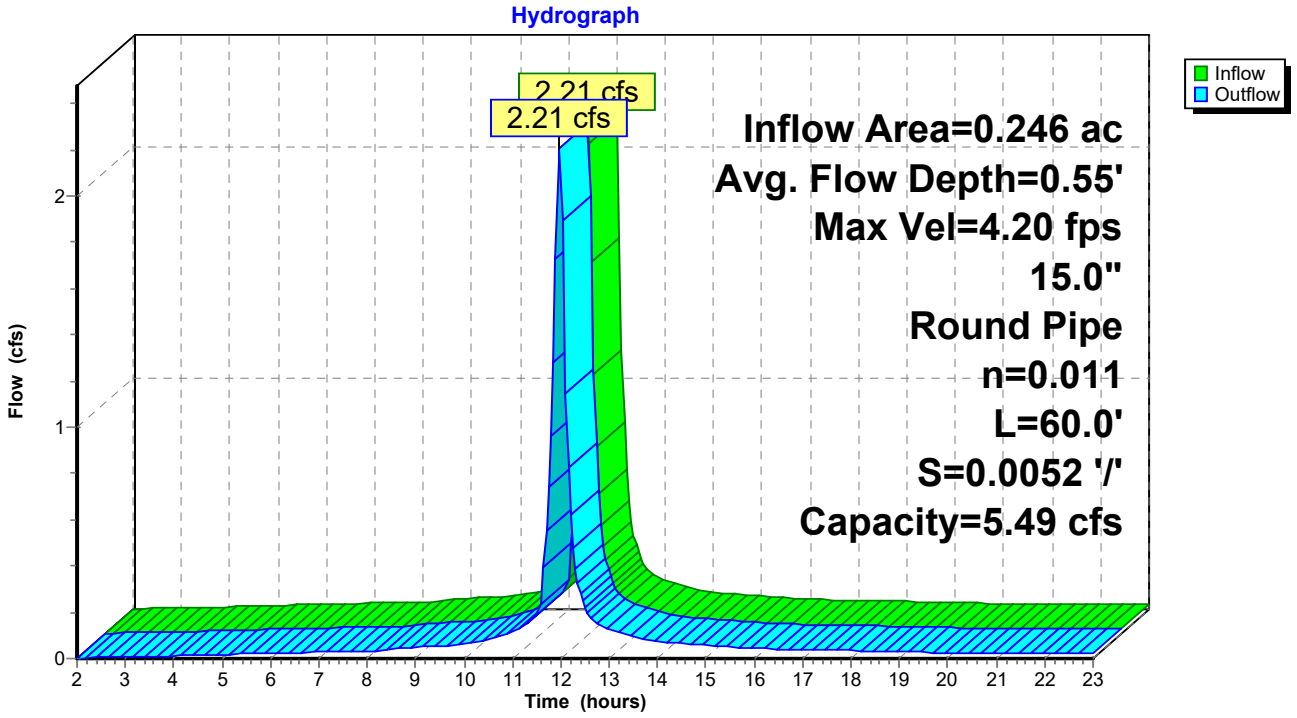
Inflow Area = 0.246 ac, 83.04% Impervious, Inflow Depth > 6.79" for 100-YR event
Inflow = 2.21 cfs @ 11.97 hrs, Volume= 0.139 af
Outflow = 2.21 cfs @ 11.97 hrs, Volume= 0.139 af, Atten= 0%, Lag= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.20 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.34 fps, Avg. Travel Time= 0.7 min

Peak Storage= 31 cf @ 11.97 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.49 cfs

15.0" Round Pipe
n= 0.011
Length= 60.0' Slope= 0.0052 '/'
Inlet Invert= 11.82', Outlet Invert= 11.51'





Stage-Area-Storage for Reach 38R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.82	0.0	0
11.84	0.0	0
11.86	0.0	1
11.88	0.0	1
11.90	0.0	2
11.92	0.0	3
11.94	0.1	4
11.96	0.1	5
11.98	0.1	6
12.00	0.1	7
12.02	0.1	8
12.04	0.1	9
12.06	0.2	10
12.08	0.2	11
12.10	0.2	12
12.12	0.2	14
12.14	0.2	15
12.16	0.3	16
12.18	0.3	18
12.20	0.3	19
12.22	0.3	20
12.24	0.4	22
12.26	0.4	23
12.28	0.4	25
12.30	0.4	26
12.32	0.5	28
12.34	0.5	29
12.36	0.5	30
12.38	0.5	32
12.40	0.6	33
12.42	0.6	35
12.44	0.6	36
12.46	0.6	38
12.48	0.7	39
12.50	0.7	41
12.52	0.7	42
12.54	0.7	44
12.56	0.8	45
12.58	0.8	47
12.60	0.8	48
12.62	0.8	50
12.64	0.9	51
12.66	0.9	53
12.68	0.9	54
12.70	0.9	55
12.72	0.9	57
12.74	1.0	58
12.76	1.0	59
12.78	1.0	61
12.80	1.0	62
12.82	1.1	63
12.84	1.1	64
12.86	1.1	65
12.88	1.1	67
12.90	1.1	68
12.92	1.1	69
12.94	1.2	70
12.96	1.2	70
12.98	1.2	71
13.00	1.2	72
13.02	1.2	73
13.04	1.2	73
13.06	**1.2**	**74**

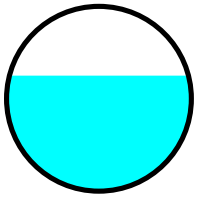
Summary for Reach 39R: 15" HDPE

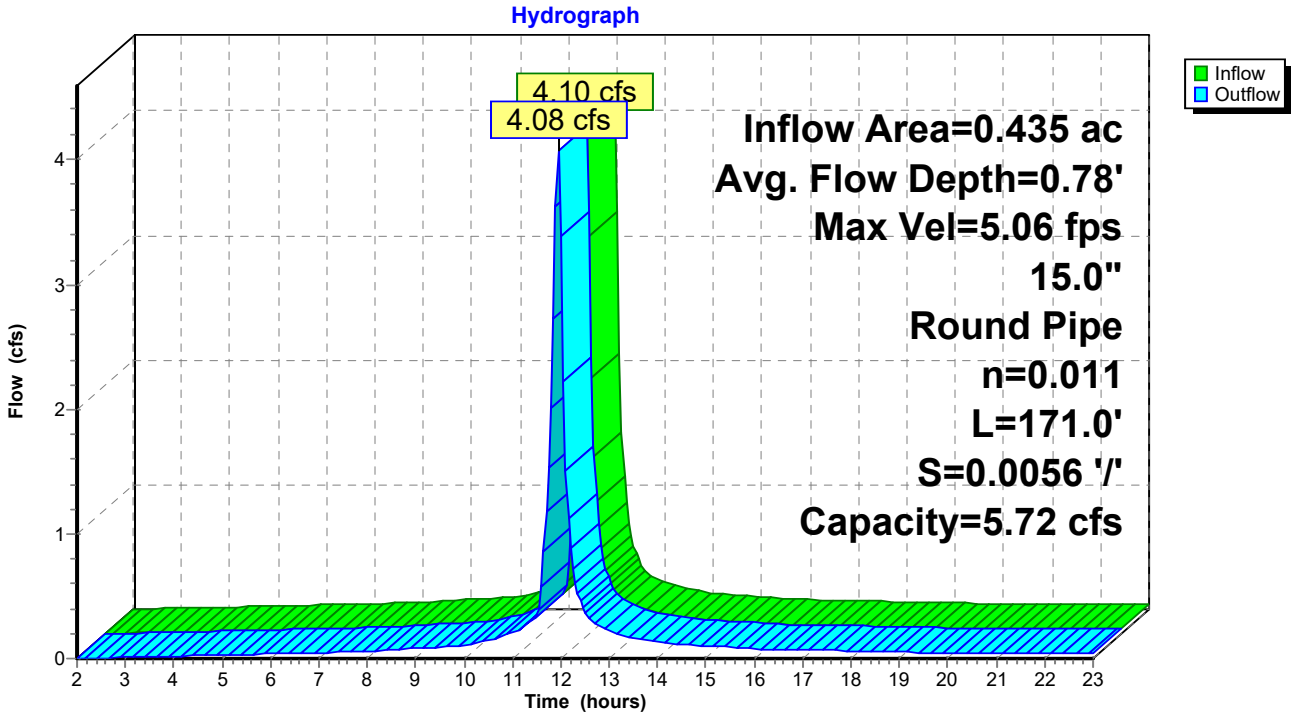
Inflow Area = 0.435 ac, 79.43% Impervious, Inflow Depth > 6.69" for 100-YR event
Inflow = 4.10 cfs @ 11.94 hrs, Volume= 0.243 af
Outflow = 4.08 cfs @ 11.94 hrs, Volume= 0.243 af, Atten= 1%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.06 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.61 fps, Avg. Travel Time= 1.8 min

Peak Storage= 138 cf @ 11.94 hrs
Average Depth at Peak Storage= 0.78'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.72 cfs

15.0" Round Pipe
n= 0.011
Length= 171.0' Slope= 0.0056 '/'
Inlet Invert= 11.41', Outlet Invert= 10.45'





Stage-Area-Storage for Reach 39R: 15" HDPE

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
11.41	0.0	0
11.43	0.0	1
11.45	0.0	2
11.47	0.0	4
11.49	0.0	6
11.51	0.0	8
11.53	0.1	10
11.55	0.1	13
11.57	0.1	16
11.59	0.1	19
11.61	0.1	22
11.63	0.1	25
11.65	0.2	28
11.67	0.2	32
11.69	0.2	35
11.71	0.2	39
11.73	0.2	42
11.75	0.3	46
11.77	0.3	50
11.79	0.3	54
11.81	0.3	58
11.83	0.4	62
11.85	0.4	66
11.87	0.4	70
11.89	0.4	74
11.91	0.5	78
11.93	0.5	83
11.95	0.5	87
11.97	0.5	91
11.99	0.6	95
12.01	0.6	100
12.03	0.6	104
12.05	0.6	108
12.07	0.7	112
12.09	0.7	117
12.11	0.7	121
12.13	0.7	125
12.15	0.8	129
12.17	0.8	134
12.19	0.8	138
12.21	0.8	142
12.23	0.9	146
12.25	0.9	150
12.27	0.9	154
12.29	0.9	158
12.31	0.9	162
12.33	1.0	166
12.35	1.0	169
12.37	1.0	173
12.39	1.0	176
12.41	1.1	180
12.43	1.1	183
12.45	1.1	187
12.47	1.1	190
12.49	1.1	193
12.51	1.1	196
12.53	1.2	198
12.55	1.2	201
12.57	1.2	203
12.59	1.2	205
12.61	1.2	207
12.63	1.2	209
12.65	**1.2**	**210**

Summary for Pond 40P: SGW 1

Inflow Area = 2.337 ac, 62.67% Impervious, Inflow Depth > 6.23" for 100-YR event
Inflow = 19.87 cfs @ 11.96 hrs, Volume= 1.214 af
Outflow = 5.76 cfs @ 12.19 hrs, Volume= 0.691 af, Atten= 71%, Lag= 13.7 min
Primary = 5.76 cfs @ 12.19 hrs, Volume= 0.691 af

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 11.94' @ 12.19 hrs Surf.Area= 12,440 sf Storage= 28,420 cf

Plug-Flow detention time= 202.1 min calculated for 0.691 af (57% of inflow)
Center-of-Mass det. time= 100.1 min (865.5 - 765.4)

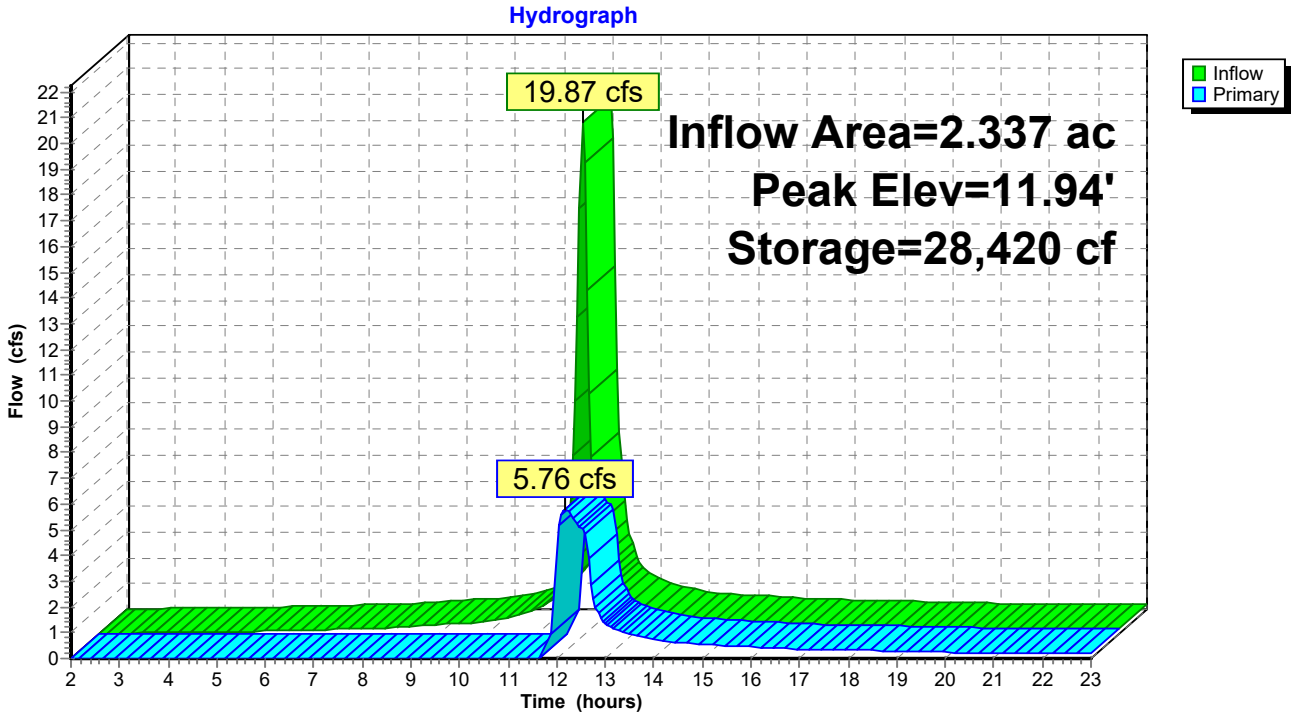
Volume	Invert	Avail.Storage	Storage Description
#1	7.44'	28,534 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
7.44	9,804	575.0	0.0	0	0	9,804
7.45	9,804	575.0	40.0	39	39	9,810
10.44	9,804	575.0	40.0	11,726	11,765	11,529
10.45	9,804	575.0	100.0	98	11,863	11,535
11.45	11,558	594.0	100.0	10,669	22,532	13,396
11.95	12,457	604.0	100.0	6,002	28,534	14,396

Device	Routing	Invert	Outlet Devices
#1	Primary	10.12'	**15.0" Round Culvert** L= 31.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.12' / 10.00' S= 0.0039 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	11.45'	**18.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=5.76 cfs @ 12.19 hrs HW=11.94' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 5.76 cfs @ 4.69 fps)
↑**2=Sharp-Crested Rectangular Weir** (Passes 5.76 cfs of 20.92 cfs potential flow)

Pond 40P: SGW 1



Stage-Area-Storage for Pond 40P: SGW 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
7.44	9,804	0
7.49	9,804	196
7.54	9,804	392
7.59	9,804	588
7.64	9,804	784
7.69	9,804	980
7.74	9,804	1,176
7.79	9,804	1,373
7.84	9,804	1,569
7.89	9,804	1,765
7.94	9,804	1,961
7.99	9,804	2,157
8.04	9,804	2,353
8.09	9,804	2,549
8.14	9,804	2,745
8.19	9,804	2,941
8.24	9,804	3,137
8.29	9,804	3,333
8.34	9,804	3,529
8.39	9,804	3,726
8.44	9,804	3,922
8.49	9,804	4,118
8.54	9,804	4,314
8.59	9,804	4,510
8.64	9,804	4,706
8.69	9,804	4,902
8.74	9,804	5,098
8.79	9,804	5,294
8.84	9,804	5,490
8.89	9,804	5,686
8.94	9,804	5,882
8.99	9,804	6,078
9.04	9,804	6,275
9.09	9,804	6,471
9.14	9,804	6,667
9.19	9,804	6,863
9.24	9,804	7,059
9.29	9,804	7,255
9.34	9,804	7,451
9.39	9,804	7,647
9.44	9,804	7,843
9.49	9,804	8,039
9.54	9,804	8,235
9.59	9,804	8,431
9.64	9,804	8,628
9.69	9,804	8,824
9.74	9,804	9,020
9.79	9,804	9,216
9.84	9,804	9,412
9.89	9,804	9,608
9.94	9,804	9,804
9.99	9,804	10,000
10.04	9,804	10,196
10.09	9,804	10,392
10.14	9,804	10,588
10.19	9,804	10,784
10.24	9,804	10,980
10.29	9,804	11,177
10.34	9,804	11,373
10.39	9,804	11,569
10.44	9,804	11,765
10.49	9,871	12,256
10.54	9,956	12,752
10.59	10,041	13,252
10.64	10,126	13,756
10.69	10,212	14,265
10.74	10,298	14,777
10.79	10,384	15,294
10.84	10,471	15,816
10.89	10,558	16,341
10.94	10,645	16,872
10.99	10,733	17,406
11.04	10,821	17,945
11.09	10,910	18,488
11.14	10,999	19,036
11.19	11,088	19,588
11.24	11,178	20,145
11.29	11,268	20,706
11.34	11,358	21,271
11.39	11,449	21,842
11.44	11,540	22,416
11.49	11,629	22,996
11.54	11,717	23,579
11.59	11,806	24,167
11.64	11,896	24,760
11.69	11,985	25,357
11.74	12,075	25,958
11.79	12,166	26,564
11.84	12,256	27,175
11.89	12,347	27,790
11.94	**12,439**	**28,410**

Summary for Pond 52P: SGW 2

Inflow Area = 0.861 ac, 49.03% Impervious, Inflow Depth > 5.85" for 100-YR event
Inflow = 6.14 cfs @ 12.00 hrs, Volume= 0.420 af
Outflow = 2.17 cfs @ 12.28 hrs, Volume= 0.199 af, Atten= 65%, Lag= 16.5 min
Primary = 2.17 cfs @ 12.28 hrs, Volume= 0.199 af

Routing by Dyn-Stor-Ind method, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs
Peak Elev= 14.66' @ 12.28 hrs Surf.Area= 5,534 sf Storage= 10,133 cf

Plug-Flow detention time= 223.9 min calculated for 0.199 af (47% of inflow)
Center-of-Mass det. time= 117.7 min (900.0 - 782.3)

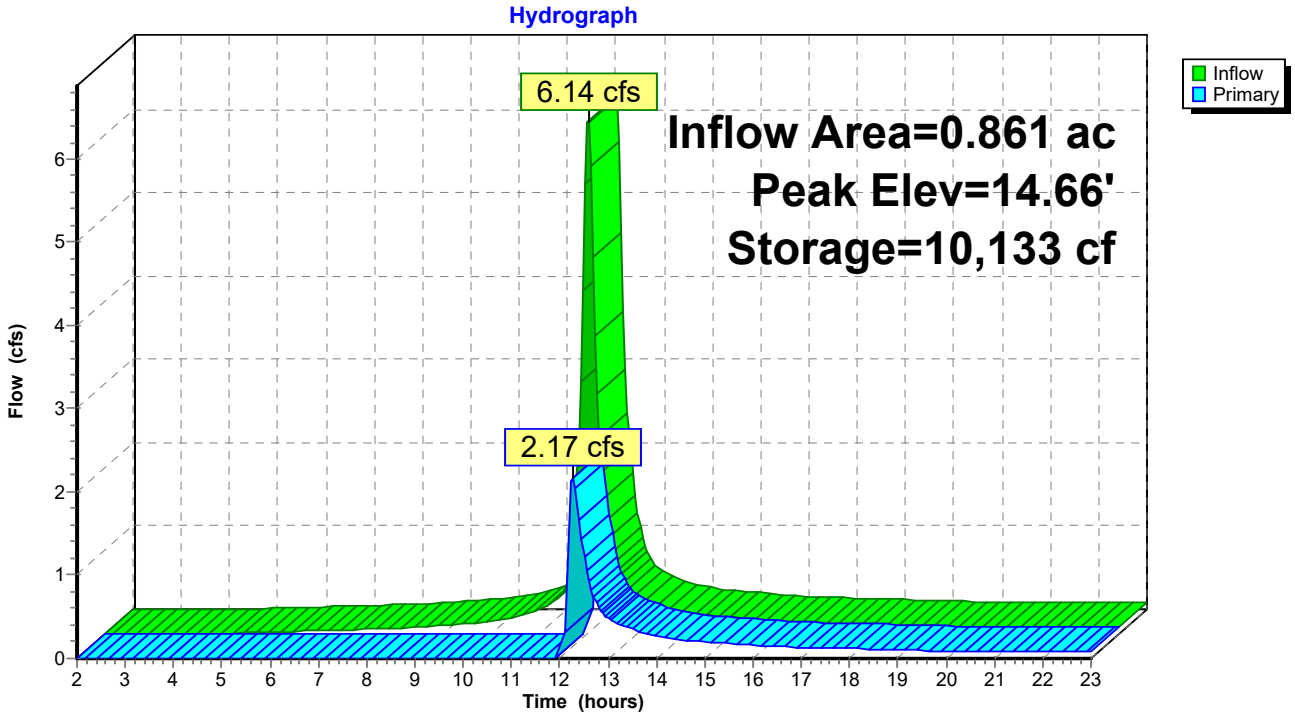
Volume	Invert	Avail.Storage	Storage Description
#1	10.54'	12,413 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
10.54	4,017	447.0	0.0	0	0	4,017
10.55	4,017	447.0	40.0	16	16	4,021
13.54	4,017	447.0	40.0	4,804	4,820	5,358
13.55	4,017	447.0	100.0	40	4,861	5,362
14.55	5,386	466.0	100.0	4,685	9,545	6,816
15.05	6,092	475.0	100.0	2,868	12,413	7,530

Device	Routing	Invert	Outlet Devices
#1	Primary	13.25'	**15.0" Round Culvert** L= 35.5' Ke= 0.500 Inlet / Outlet Invert= 13.25' / 13.02' S= 0.0065 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	14.55'	**18.8' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.14 cfs @ 12.28 hrs HW=14.66' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.14 cfs of 4.83 cfs potential flow)
↑**2=Sharp-Crested Rectangular Weir** (Weir Controls 2.14 cfs @ 1.07 fps)

Pond 52P: SGW 2



Stage-Area-Storage for Pond 52P: SGW 2

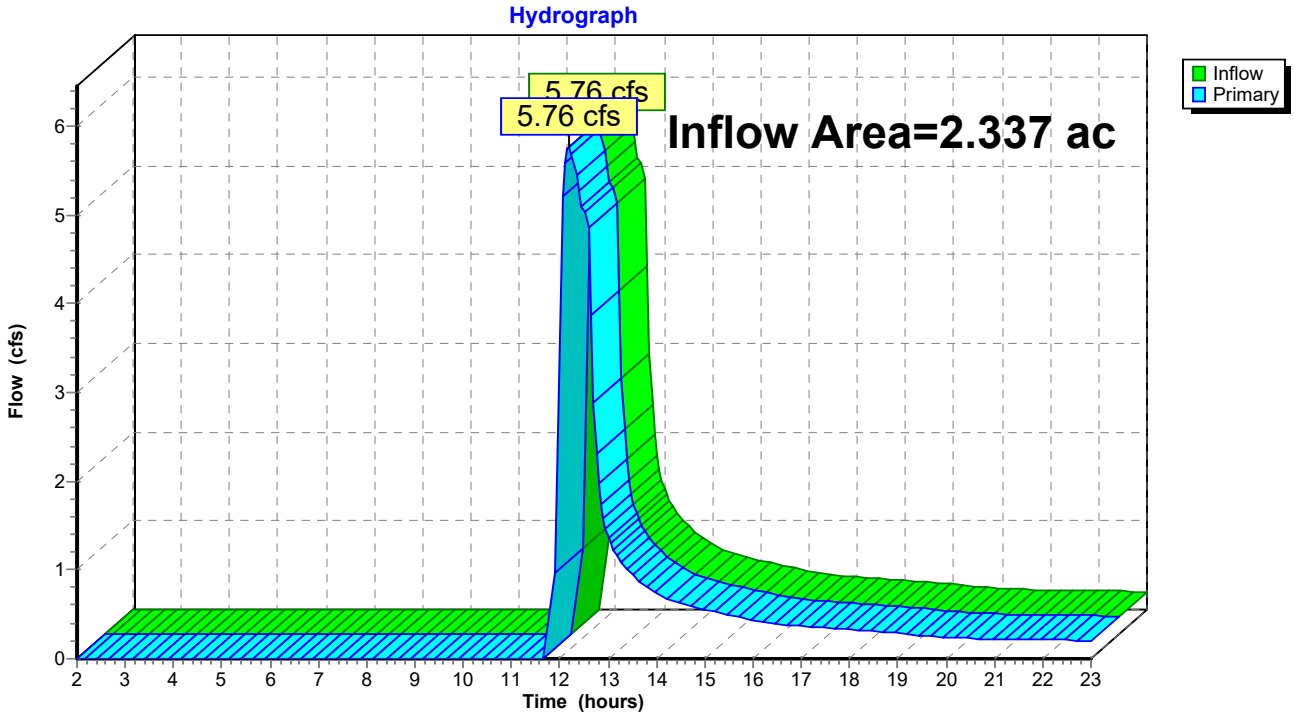
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
10.54	4,017	0
10.59	4,017	80
10.64	4,017	161
10.69	4,017	241
10.74	4,017	321
10.79	4,017	402
10.84	4,017	482
10.89	4,017	562
10.94	4,017	643
10.99	4,017	723
11.04	4,017	803
11.09	4,017	884
11.14	4,017	964
11.19	4,017	1,044
11.24	4,017	1,125
11.29	4,017	1,205
11.34	4,017	1,285
11.39	4,017	1,366
11.44	4,017	1,446
11.49	4,017	1,526
11.54	4,017	1,607
11.59	4,017	1,687
11.64	4,017	1,767
11.69	4,017	1,848
11.74	4,017	1,928
11.79	4,017	2,009
11.84	4,017	2,089
11.89	4,017	2,169
11.94	4,017	2,250
11.99	4,017	2,330
12.04	4,017	2,410
12.09	4,017	2,491
12.14	4,017	2,571
12.19	4,017	2,651
12.24	4,017	2,732
12.29	4,017	2,812
12.34	4,017	2,892
12.39	4,017	2,973
12.44	4,017	3,053
12.49	4,017	3,133
12.54	4,017	3,214
12.59	4,017	3,294
12.64	4,017	3,374
12.69	4,017	3,455
12.74	4,017	3,535
12.79	4,017	3,615
12.84	4,017	3,696
12.89	4,017	3,776
12.94	4,017	3,856
12.99	4,017	3,937
13.04	4,017	4,017
13.09	4,017	4,097
13.14	4,017	4,178
13.19	4,017	4,258
13.24	4,017	4,338
13.29	4,017	4,419
13.34	4,017	4,499
13.39	4,017	4,579
13.44	4,017	4,660
13.49	4,017	4,740
13.54	4,017	4,820
13.59	4,068	5,022
13.64	4,132	5,227
13.69	4,197	5,435
13.74	4,262	5,647
13.79	4,327	5,862
13.84	4,393	6,080
13.89	4,460	6,301
13.94	4,527	6,526
13.99	4,595	6,754
14.04	4,663	6,985
14.09	4,731	7,220
14.14	4,800	7,458
14.19	4,870	7,700
14.24	4,940	7,945
14.29	5,011	8,194
14.34	5,082	8,446
14.39	5,153	8,702
14.44	5,226	8,962
14.49	5,298	9,225
14.54	5,371	9,492
14.59	5,441	9,762
14.64	5,510	10,036
14.69	5,579	10,313
14.74	5,649	10,594
14.79	5,719	10,878
14.84	5,790	11,166
14.89	5,861	11,457
14.94	5,933	11,752
14.99	6,005	12,050
15.04	**6,077**	**12,352**

Summary for Link 42L: POI 1

Inflow Area = 2.337 ac, 62.67% Impervious, Inflow Depth > 3.55" for 100-YR event
Inflow = 5.76 cfs @ 12.19 hrs, Volume= 0.691 af
Primary = 5.76 cfs @ 12.19 hrs, Volume= 0.691 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 42L: POI 1

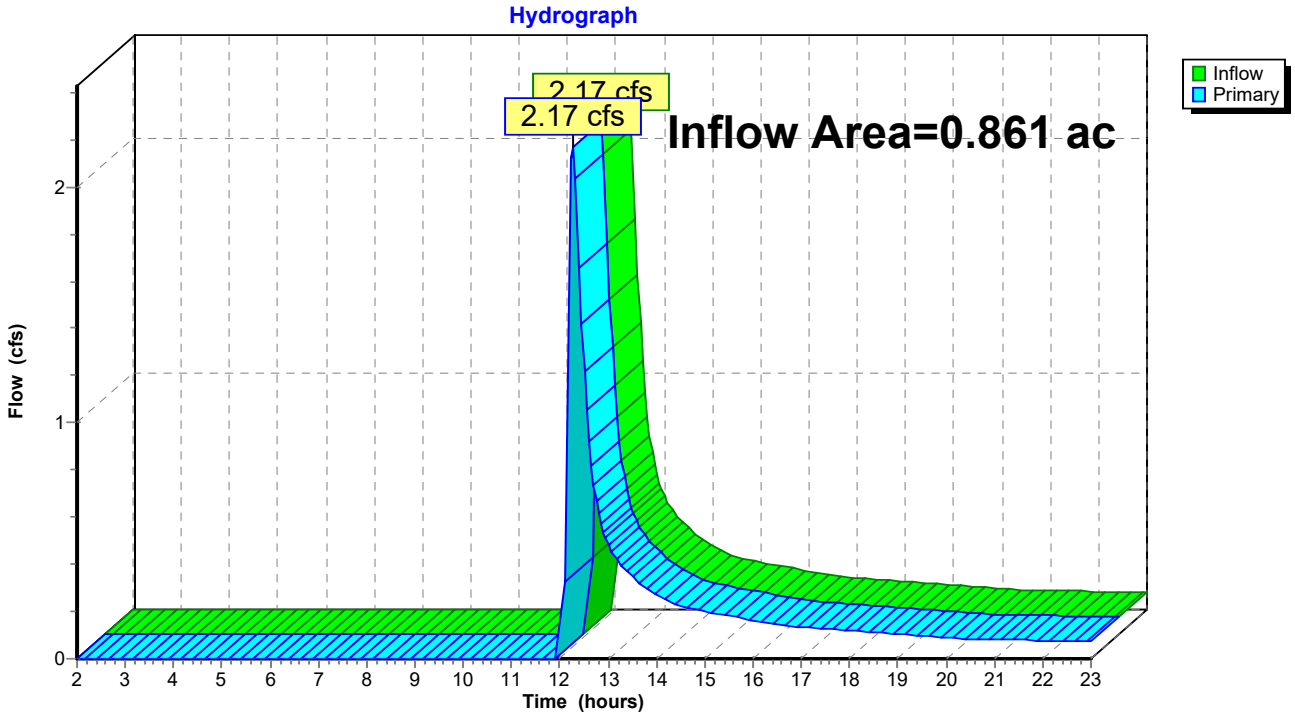


Summary for Link 53L: POI 2

Inflow Area = 0.861 ac, 49.03% Impervious, Inflow Depth > 2.77" for 100-YR event
Inflow = 2.17 cfs @ 12.28 hrs, Volume= 0.199 af
Primary = 2.17 cfs @ 12.28 hrs, Volume= 0.199 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 53L: POI 2

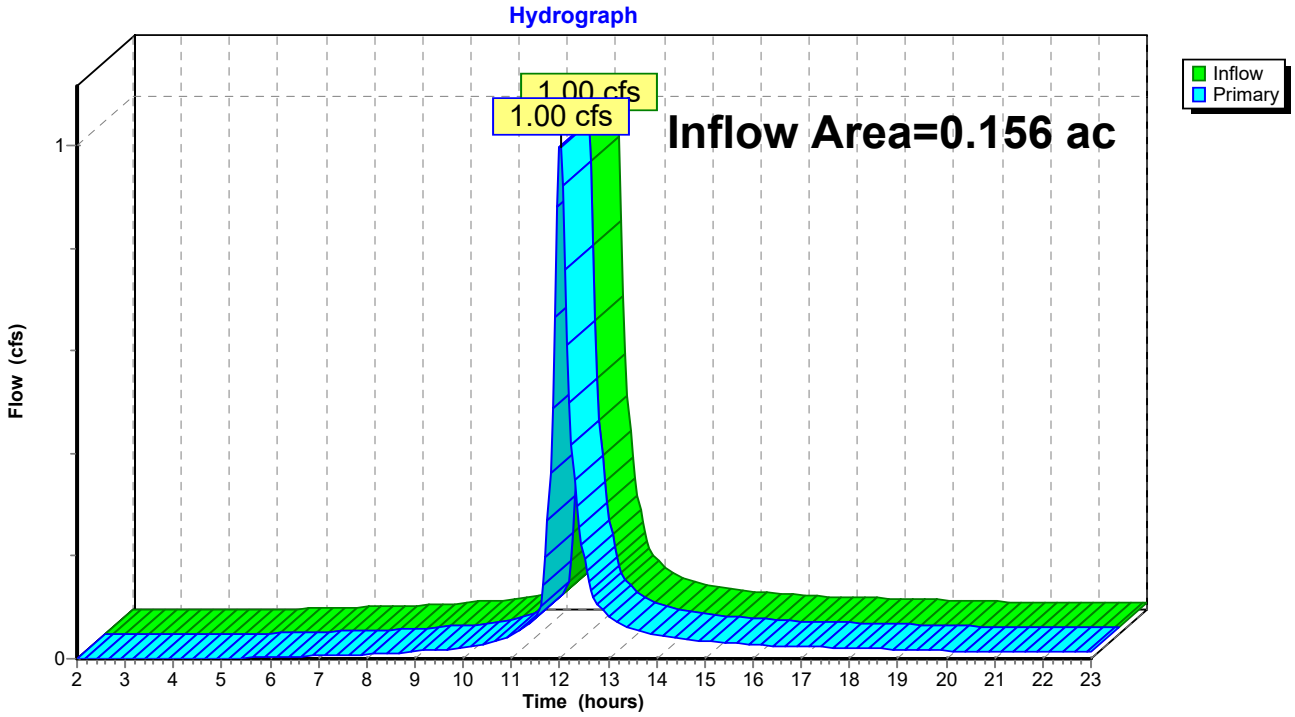


Summary for Link 56L: POI 3 (EX SWM POND)

Inflow Area = 0.156 ac, 34.31% Impervious, Inflow Depth > 5.43" for 100-YR event
Inflow = 1.00 cfs @ 12.01 hrs, Volume= 0.071 af
Primary = 1.00 cfs @ 12.01 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 2.00-23.00 hrs, dt= 0.05 hrs

Link 56L: POI 3 (EX SWM POND)



APPENDIX B

ESD CALCULATIONS

Project: Somerset Well
Location: 28580 Marys Ct, Easton, MD
Job No.: 240060 Designed By: BMW
File No.: A037 Date: 2/4/2025

Lane Engineering, LLC

DESIGN PHASE: CONCEPT PRELIMINARY FINAL

MARYLAND ENVIRONMENTAL SITE DESIGN (ESD) CALCULATIONS

Site Data

Total Disturbance Area (A) = 147,534 sf
Proposed Impervious Area (A_i) = 88,872 sf → Percent Impervious (I) = 60 %

Site Soils				
HSG	A	B	C	D
Area (sf)			147,534	
% of Area	0%	0%	100%	0%

INPUT
CONSTANT
CALCULATED

Determine RCN for Woods in Good Condition

HSG	A	B	C	D
Area (sf)	-	-	147,534	-
% of Area	0%	0%	100%	0%
RCN	38	55	70	77

Weighted RCN= **70**

Determine Target ESD $_v$ for Entire Site

Volumetric Runoff Coefficient (R_v) = 0.59 $R_v = 0.05 + 0.009\,(I)$
Percent Impervious (I) = 60 % → use 60 % (from Table 5.3)

HSG	A	B	C	D
Area (sf)	-	-	147,534	-
Target P_E (in)	2.0	2.0	2.0	1.8

Composite Target P_E= **2.0** in

Target ESDv = 14,560 cf $ESD_v = [(P_E)(A)(R_v)]/12$

M-2: SUBMERGED GRAVEL WETLAND DESIGN CALCULATIONS

SWM Feature No. 1

Contributing Drainage Area Data

Total Contributing Area (A) =	100,253	sf		INPUT
Contributing Impervious Area (A_i) =	63,802	sf		CONSTANT
Percent Impervious (I) =	64	%		CALCULATED
Volumetric Runoff Coefficient (R_v) =	0.62		$R_v = 0.05 + 0.009\,(I)$	
Target P_E =	2	in		
Target ESD_v =	10,406	cf	$ESD_v = [(P_E)(A)(R_v)]/12$	

Determine Limiting Storage Volume

The maximum treatment volume that can be credited to this practice is limited to the lesser of the amount of: a) runoff from the 1-year 24-hour storm (the Cpv storm=3.0 in) draining to it, or b) the computed ESDv provided.

1-yr, 24-hr ESDV= 15,609 cf $Limiting\ ESD_v = [(3.0)(A)(R_v)]/12$

Determine Storage Volume Provided

Temporary ponding depth =	1	ft	
Provided ESD_v =	10,651	cf	$Provided\ ESD_v = Ponding\ storage\ volume\ as\ determined\ by\ HydroCAD\ model$

The volume of runoff treated by this feature is 10,651 cf

SWM Feature No. 2

Contributing Drainage Area Data

Total Contributing Area (A) =	37,512	sf		INPUT
Contributing Impervious Area (A_i) =	18,393	sf		CONSTANT
Percent Impervious (I) =	49	%		CALCULATED
Volumetric Runoff Coefficient (R_v) =	0.49		$R_v = 0.05 + 0.009\,(I)$	
Target P_E =	1.8	in		
Target ESD_v =	2,764	cf	$ESD_v = [(P_E)(A)(R_v)]/12$	

Determine Limiting Storage Volume

The maximum treatment volume that can be credited to this practice is limited to the lesser of the amount of: a) runoff from the 1-year 24-hour storm (the Cpv storm=3.0 in) draining to it, or b) the computed ESDv provided.

1-yr, 24-hr ESDV= 4,607 cf $Limiting\ ESD_v = [(3.0)(A)(R_v)]/12$

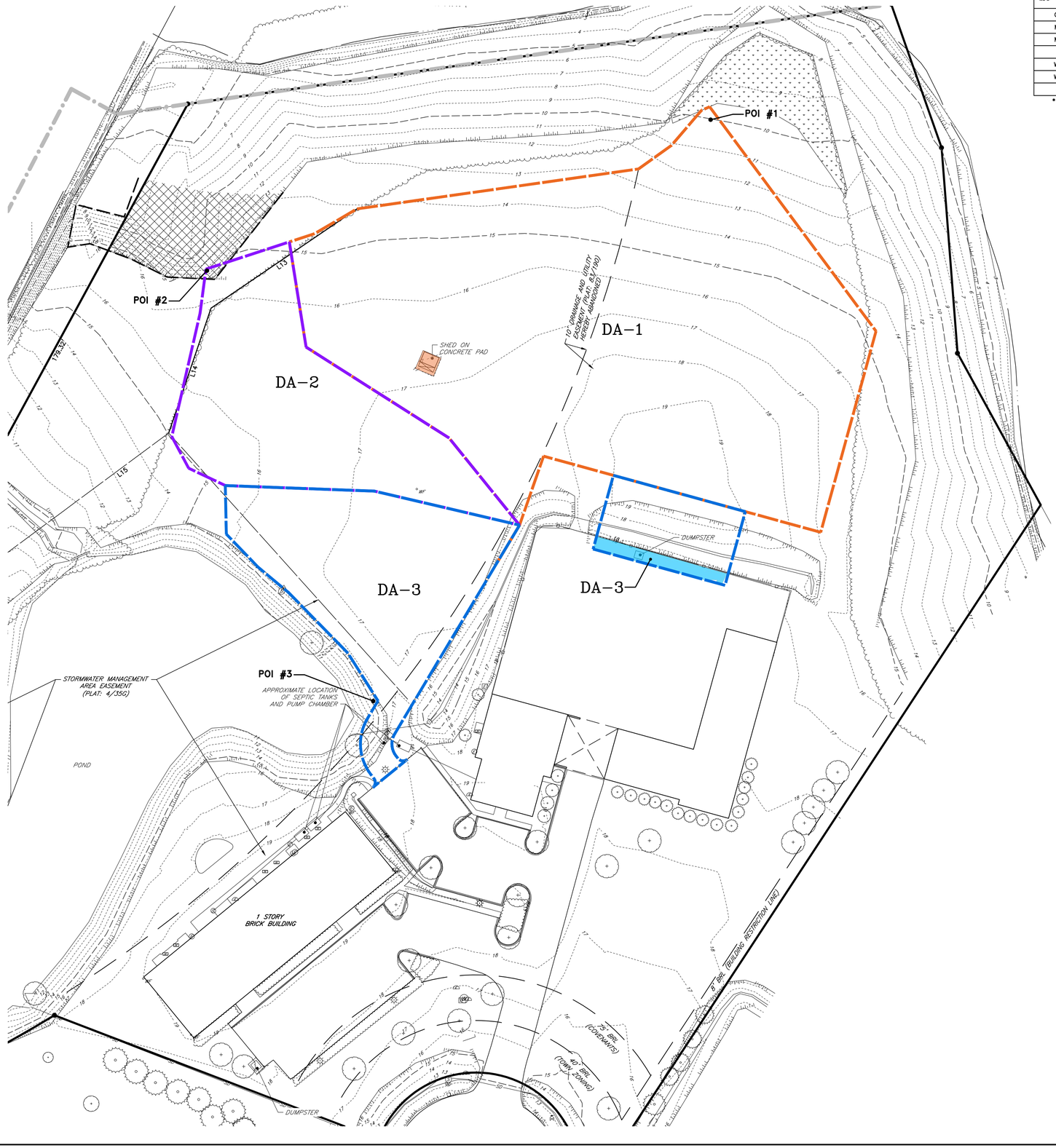
Determine Storage Volume Provided

Temporary ponding depth =	1	ft	
Provided ESD_v =	4,832	cf	$Provided\ ESD_v = Ponding\ storage\ volume\ as\ determined\ by\ HydroCAD\ model$

The volume of runoff treated by this feature is 4,607 cf

APPENDIX C

DRAINAGE AREA MAPS



TALBOT COUNTY SOILS				
MAP SYMBOL	SOILS NAME	HYDRIC SOILS	K FACTOR	SOIL GROUP
CsA	CROSIADORE SILT LOAM	*	0.49	C/D
MtA	MATTAPEX SILT LOAM	*	0.49	C
MtB	MATTAPEX SILT LOAM	*	0.49	C
W	WATER		N/A	
WoA	WOODSTOWN LOAM	*	0.32	C
WoB	WOODSTOWN LOAM	*	0.32	C
Zk	ZEKIAH	YES	0.37	C/D

* POSSIBLE SMALL AREAS OF HYDRIC SOIL INCLUSIONS SUBJECT TO FIELD VERIFICATION.

SWM POST DEVELOPMENT DISCHARGES (CFS)			
STUDY POINT	Q_2	Q_{10}	Q_{100}
1	2.22	4.69	7.86
2	0.45	0.95	1.60
3	0.36	0.76	1.27

STORMWATER MANAGEMENT DRAINAGE AREA TABLE				
AREA #	AREA (SF)	TOTAL Tc (MINUTES)	IMPERVIOUS (%)	DESCRIPTION
DA-1	90,026	19.30	0.25	LOD TO FOREST CONSERVATION AREA
DA-2	25,377	30.90	0.00	LOD TO NE FOREST CONSERVATION AREA
DA-3	29,115	52.90	3.43	LOD TO EXISTING SWM POND

APPROVED:
TOWN OF EASTON – TOWN PLANNER DATE

APPROVED:
TOWN OF EASTON – TOWN ENGINEER DATE

APPROVED:
EASTON DIRECTOR OF PLANNING DATE

PLANS ARE NOT ISSUED FOR REVIEW ONLY

PLANS ARE NOT APPROVED FOR CONSTRUCTION

REVISIONS

No.	DATE	DESCRIPTION	BY

WARNING!!

THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL TEST PIT AND LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY DEPT. OF PUBLIC WORKS OF ANY POSSIBLE CONFLICT AND REQUEST THE RELOCATION OF THE EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING ANY WORK ON-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RELOCATION EXPENSE.

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

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

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 60891 , Expiration Date: 04/13/2025.

SEAL

STATE OF MARYLAND
BRITTANY W. WALLACE
60891
PROFESSIONAL ENGINEER

DATE

PRE-DEVELOPMENT DRAINAGE AREA MAP

SOMERSET WELL DRILLING
28580 MARYS COURT

IN THE TOWN OF EASTON, WARD 1
TALBOT COUNTY, MARYLAND
TAX MAP 25, PARCEL 46, LOTS 16 & 20

ISSUED FOR:	DATE:	BY:
ESDR REVIEW	01/01/25	JSC
ESDR REVIEW	02/04/25	JSC

SHEET No. 1 OF 1	DATE: 02/04/25
SCALE: AS NOTED	JOB No. 240060
	FILE No. A037

© LANE ENGINEERING, LLC

Date: 02/04/2025 - 10:38am User: bwallace Project Manager: TWG
Drawing Path: J:\2024\0000\240060\Civil3D-240060\Dwg\Plots\VDA-PLTS-240060.dwg | 1 of 1
XREF File(s): VLD-BASE-240060/VSF-BASE-240060/CBS-BASE-2435-240060/HSL-BASE-240060


POI #1
POI #2
POI #3
DA-1a
DA-1b
DA-1c
DA-1d
DA-1e
DA-2
DA-3a
DA-3b
L13
L14
L15
179.32'
STORMWATER MANAGEMENT AREA EASEMENT (PLAT: 4/35G)
POND
1 STORY BRICK BUILDING
8" GAS
8" GAS
8" GAS

APPENDIX D

CRITICAL AREA COMMISSION 10% SPREADSHEET

Maryland ESD Calculations and 10% Phosphorus Removal

Last Update: 12/5/2016

Project Name:	**Somereset Well Drilling Co, 28530 Marys Ct, Easton, MD**
Date:	**22-Jan-25**

data input cells

calculation cells

Step 1: Complete ESD Implementation Checklist

Check all of the Following ESD Practices That Were Implemented at Site	*Yes - No - N/A*
Environmental Mapping Was Conducted at Site Prior to Layout	*YES*
Natural Areas Were Conserved (e.g., forests, wetlands, steep slopes, floodplains)	*YES*
Stream, Wetland and Shoreline Buffers Were Reserved	*YES*
Disturbance of Permeable Soils Was Minimized	*YES*
Natural Flow Paths Were Maintained Across the Site	*YES*
Building Layout Was Fingerprinted to Reduce Clearing and Grading at Site	*YES*
Site Grading Promoted Sheetflow From Impervious Areas to Pervious Ones	*YES*
Site Design Was Evaluated to Reduce Creation of Needless Impervious Cover	*YES*
Site Design Was Evaluated to Maximize Disconnection of Impervious Cover	*YES*
Site Design Was Evaluated to Identify Potential Hotspot Generating Area for Stormwater Treatment	*YES*
Erosion and Sediment Control Practices and Post Construction Stormwater Management Practices Were Integrated into a Comprehensive Plan	*YES*
Tree PlantingWas Used at the Site to Convert Turf Areas into Forest	*NO*

Step 2: Calculate Site Imperviousness and Water Quality Volume, WQv (for redevelopment)

Site Area, A (acres)	3.39
Existing Impervious Surface Area (acres)	0.05
Proposed Impervious Surface Area (acres)	1.96
Rainfall Depth, P (in)	1.0
Existing Imperviousness, I_{pre}	1.4%
Proposed Imperviousness, I_{post}	57.8%
Water Quality Calculation for Redevelopment Only	
Required Treatment Area (acres)	0.00
Runoff Coefficient, Rv	0.95
Water Quality Volume, WQv (cf)	**0**

Step 3: Calculate Phosphorous Removal Requirement, RR for Critical Area Sites

Development Category (for 10%)	**New Development**
New Development	
Average Annual Predevelopment Load, Lpre (lbs P / yr)	1.69
Redevelopment:	
Predevelopment Runoff Coefficient, Rv_{pre}	0.06
Phosphorous Mean Concentration, C (mg/L)	0.3
Average Annual Predevelopment Load, L_{pre} (lbs P / yr)	0.52
Post-Development Runoff Coefficient, Rv_{post}	0.57
Average Annual Post-Development Load, L_{post} (lbs P / yr)	4.73
Removal Requirement, RR (lbs P / yr)	**3.20**

Step 4: Calculate Environmental Site Design (ESD) Rainfall Target, P_E

Development Category (for ESD)	**New Development**
% Soil Type A	0%
% Soil Type B	0%
% Soil Type C	100%
% Soil Type D	0%
Pre-Developed Condition, RCN_{woods}	70
Soil Type A ESD Rainfall Target, P_E (in)	0.00
Soil Type B ESD Rainfall Target, P_E (in)	0.00
Soil Type C ESD Rainfall Target, P_E (in)	2.00
Soil Type D ESD Rainfall Target, P_E (in)	0.00
Maximum P_E (in)	2.7
Site ESD Rainfall Target, P_E (in)	2.00
ESD Runoff Depth, Q_E (in)	1.14
ESD Runoff Volume, ESDv (cf)	**14,022**
Total Treatment Volume (cf)	**14,022**

Step 5: Select Nonstructural Practices to Treat the ESD Rainfall Target

Nonstructural Practices	P_E Credit Description	Contributing Drainage Area (sf)	Direct WQv or ESDv Received by Practice (cf)	WQv or ESDv from Up-Gradient Practices (cf)	P_E Credit (in)	WQV or ESDv credit (cf)	Runoff Volume Remaining (cf)				Baseline Phosphorous Removal Efficiency	*Critical Area Credits* Average Adjusted Removal Efficiency Rate	P Load to Practice (lbs/yr)	Load Reduction (lbs/yr)	Remaining Load (lbs/yr)		
Disconnection of Rooftop Runoff (A/B Soils)	Up to 1 inch credit provided based upon disconnection flow length.	0	0	0	#DIV/0!	0	0				50%	0%	0.00	0.00	0.00		
Disconnection of Rooftop Runoff (C/D Soils)	Up to 1 inch credit provided based upon disconnection flow length.	0	0	0	#DIV/0!	0	0				25%	0%	0.00	0.00	0.00		
Disconnection of Non-Rooftop Runoff (A/B Soils)	Up to 1 inch credit provided based upon disconnection and contributing flow lengths.	0	0	0	#DIV/0!	0	0				50%	0%	0.00	0.00	0.00		
Disconnection of Non-Rooftop Runoff (C/D Soils)	disconnection and contributing flow lengths.	0	0	0	#DIV/0!	0	0				25%	0%	0.00	0.00	0.00		
Sheetflow to Conservation Areas (A/B Soils)	Up to 1 inch credit provided based upon conservation area width.	0	0	0	0	0	0				50%	0%	0.00	0.00	0.00		
Sheetflow to Conservation Areas (C/D Soils)	Up to 1 inch credit provided based upon conservation area width.	0	0	0	0	0	0				25%	0%	0.00	0.00	0.00		

Step 6: Select Micro-Scale Practices to Treat the ESD Rainfall Target

Micro-Scale Practices	P_E Credit Description	Contributing Drainage Area (sf)	Direct ESDv Received by Practice (cf)	WQv or ESDv from Up-Gradient Practices (cf)	WQv or ESDv credit (cf)	Runoff Volume Remaining (cf)				Baseline Phosphorous Removal Efficiency	Average Adjusted Removal Efficiency Rate	P Load to Practice (lbs/yr)	Load Reduction (lbs/yr)	Remaining Load (lbs/yr)		
Green Roof (Level 1)	ESDv credit is based on roof thickness	0	0	N/A	0	0				45%	0%	0.00	0.00	0.00		
Green Roof (Level 2)	ESDv credit is based on roof thickness	0	0	N/A	0	0				60%	0%	0.00	0.00	0.00		
Pemeable Pavement (A Soils)	ESDv credit is based on subbase thickness	0	0	N/A	0	0				80%	0%	0.00	0.00	0.00		
Pemeable Pavement (B Soils)	ESDv credit is based on subbase thickness	0	0	N/A	0	0				80%	0%	0.00	0.00	0.00		
Pemeable Pavement (C Soils)	ESDv credit is based on subbase thickness	0	0	N/A	0	0				40%	0%	0.00	0.00	0.00		
Rainwater Harvesting	ESDv credit is based on design storage volume and annual use	0	0	0	0	0				45%	0%	0.00	0.00	0.00		
Submerged Gravel Wetlands	ESDv credit is based on design storage volume	137,765	18,265	0	18,265	0				60%	79%	4.56	3.59	0.98		
Micro-Infiltration/Dry Wells	ESDv credit is based on design storage volume	0	0	0	0	0				65%	0%	0.00	0.00	0.00		
Rain Gardens (A/B Soils)	ESDv credit is based on design storage volume	0	0	0	0	0				65%	0%	0.00	0.00	0.00		
Rain Gardens (C/D Soils)	ESDv credit is based on design storage volume	0	0	0	0	0				25%	0%	0.00	0.00	0.00		
Micro-Bioretention (A/B Soils)	ESDv credit is based on design storage volume	0	0	0	0	0				75%	0%	0.00	0.00	0.00		
Micro-Bioretention (C/D Soils)	ESDv credit is based on design storage volume	0	0	0	0	0				50%	0%	0.00	0.00	0.00		
Landscape Infiltration	ESDv credit is based on design storage volume	0	0	0	0	0				75%	0%	0.00	0.00	0.00		
Grass Swales (A/B Soils)	ESDv credit is based on design storage volume	0	0	0	0	0				40%	0%	0.00	0.00	0.00		
	ESDv credit is based on design storage															

Grass Swales (C/D Soils)	volume	0	0	0	0	0					20%	0%	0.00	0.00	0.00		
Bio-swales (A/B Soils)	ESDv credit is based on design storage volume	0	0	0	0	0					75%	0%	0.00	0.00	0.00		
Bio-swales (C/D Soils)	ESDv credit is based on design storage volume	0	0	0	0	0					50%	0%	0.00	0.00	0.00		
Wet Swales	ESDv credit is based on design storage volume	0	0	0	0	0					40%	0%	0.00	0.00	0.00		

Step 7: Check for ESDv to MEP compliance and Revise Site If Necessary

| | | |

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

March 5, 2025

Dear Resident,

The Easton Planning Commission (Commission) will hold a public meeting on **Thursday, March 20, 2025 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that Lane Engineering LLC has filed application 2025 - 1369 on behalf of Somerset Well Drilling Co, Inc. to request sketch site plan approval for the addition of two (2) pole buildings with associated stormwater management facilities and other facility improvements. The property is located at 28580 Mary's Court, also known as Tax Map 0025, Parcel 0046, Lots 16 & 20.

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

Samantha N. Smith

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



Subject property posting pursuant to Section 28-901.2.H.2 of the Town of Easton Zoning Code - March 4, 2025

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

Date of Hearing: March 20, 2025

4b

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT:	**8275 Ocean Gateway - Zaxbys**
ELECTION WARD:	Ward 2
CRITICAL ACTION DATE:	At the pleasure of the Commission
STAFF CONTACTS:	Joseph Mayer, Plan Reviewer Miguel Salinas, Director of Planning and Zoning
APPLICANT:	Delmarva Real Estate Management Group, LLC.% Curtis Syder, Esq.

DOCUMENT CREATED ON: March 3, 20025

PURPOSE: Delmarva Real Estate Management Group, LLC (Applicant), is seeking architectural approval for the construction of a Zaxbys fast-food restaurant with parking, stormwater management and landscaping. Associated site improvements include the demolition of an existing fast-food restaurant and parking lot on the property. In addition, the applicant is seeking a landscape and buffering waiver from Chapter 28-1014.6.E.1.and Chapter 28-1014.7.E.2.a & b of the Zoning Code.

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

APPLICATION INFORMATION:	
APPLICANT: Delmarva Real Estate Management Group, LLC.% Curtis Snyder, Esq.	**REPRESENTATIVE:** Lane Engineering, LLC.: Brett Ewing Delmarva Real Estate Management Group, LLC.% Curtis Snyder, Esq.

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 103, Grid 0000, Parcel 2861	0.865

ACCEPTANCE DATE: March 3, 2025	**LOCATION:** 8275 Ocean Gateway
EXISTING ZONING CG	**EXISTING LAND USE:** Fast-food restaurant (Wendy's).
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Commercial

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

Existing Conditions – The subject property is currently a closed fast-food restaurant (Wendy's).

Surrounding Properties
- 8289 Ocean Gateway - CG
- 29315 Matthewstown Road - CG
- 8265 Ocean Gateway - CG



***Figure 1**: Vicinity Map*

PROPOSAL: The applicant, Delmarva Real Estate Management Group, LLC., is proposing to construct a new 2,005 square foot Zaxbys fast-food restaurant with parking, two-lane drive-thru, stormwater management and landscaping. The site improvements include the removal of an existing fast-food restaurant (Wendy's) and parking lot on the property. Delmarva Real Estate Management Group, LLC. is seeking architectural approval.

The applicant is also seeking a landscape and buffering waiver from Chapter 28-1014.6.E.1.and Chapter 28-1014.7.E.2.a &b of the Zoning Code. The site is not currently in compliance with the landscaping code. The applicant proposes to add new landscaping, however, there are site limitations that prevent full compliance with §28-1014.6.E.1; overall trees total twenty-six (26) required plantings. The applicant is proposing twenty-four (24) trees which requires a waiver of two (2) trees. The applicant is seeking a waiver from the landscaping requirements along Route 50, as specified in §28-1014.6.E.2.a & b (Bufferyard 'B'). Specifically, they are requesting to reduce the required buffer width from twenty-five feet (25') to twenty feet (20') and a waiver from the requirement for six canopy trees and three evergreen trees. Instead of the required trees, the applicant proposes four canopy trees and one evergreen tree and is requesting a waiver for the remaining two canopy trees and two evergreen trees.

BACKGROUND: The existing site is a commercial property currently utilized with a fast-food restaurant (Wendy's). The applicant submitted an application to the Easton Staff Development Review Committee on February 26, 2025 (please see attached ESDR Determination Letter).

ZONING ANALYSIS:

A. Permissible Land Uses

28-201 Table 2.1						CG						
227	Restaurant, Fast Food	--	--	--	--	SE	SE	SE	--	--		

Analysis – The proposed project is presented and described by the Applicant as a fast-food restaurant. The project is categorized as *"Restaurant, Fast Food"*. The proposed use is permitted by Special Exception within Table 2.1 Table of Permissible Uses. Please note that the existing site is a fast-food restaurant and the proposed use is a continuation of the categorized use.

B. Off-Street Parking

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

28-1001.3 Parking Requirements

	Use/Activity	Minimum Vehicle Spaces	Maximum Vehicle Spaces	Minimum Bicycle Spaces	Notes
	Commercial Buildings				
26	Restaurant, Fast Food	1 per 100 sf GFA	1 per 50 sf GFA	1 per 10 vehicle spaces	Minimum 5 stacking spaces per drive-thru stall required.

Total Site Parking Required:

Restaurant, Fast Food: 1 per 100 sf GFA required-Minimum
2,005 sf/100 = 20 spaces required-Minimum
1 per 100 sf GFA required-Maximum
2,005 sf/50 = 40 spaces required-Maximum
Total spaces provided: 20

Bicycle Spaces: 1 per 10 vehicle spaces required
20 spaces/10 = 2 bicycle space-Minimum
Total bicycle spaces provided: 2

Drive-thru: 5 stacking spaces per drive-thru stall required-Minimum
5 spaces x 2 lanes = 10 spaces-Minimum
Total spaces provided: 18

Analysis- The applicant has provided twenty (20) off-street parking spaces that meet the minimum requirement.The proposed two-lane drive-thru exceeds stacking space requirements

and adequate off-street parking is available. The owner does not foresee a demand for more parking spaces in the future, due to the nature of their business operations.

C. Commercial General District Development Standards

Table 1. Development Standards		
CG Zoning District	**Standard**	**Proposed**
Setbacks	Front = 25 feet Side = 10 feet Rear = 15 feet	Front = 40 feet Side = 10 feet Rear – 15 feet
Lot Size (min.)	20,000 square feet	37,670 square feet
Lot Frontage (min.)	60 feet	213 feet
Building Envelope (min.)	20 feet x 30 feet	139 feet X 178 feet
Lot Coverage (max.)	50% (Lot Area)	9.5% (Lot Area)
Height (max.)	50 feet	Not to exceed 50 feet
Bufferyard	Per the provisions of Section 28-1014 of the Zoning Ordinance.	To be provided along Route 50. (Waiver requested)

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

- ***Off-Street Parking shall be provided for all uses in accordance with the standards of Section 28 – 1001.***
- ***All on-site lighting unless approved otherwise by the Planning and Zoning Commission shall be low cut-off shielded luminaries at 18' height and light shall not shine off-site at levels greater than 1-foot candle.***
- ***All off-street loading and unloading areas shall be screened from view by permanent decorative screens or natural planting, either of which shall be a minimum of eight (8) feet in height.***
- ***All areas not devoted to buildings or parking areas shall be landscaped and maintained in a suitable manner, in accordance with the provisions of Section 28 – 1014 of this Ordinance.***

Analysis - The site falls under the CG - Commercial General District Area and meets the § 28-306 Development Standards. The applicant is requesting a landscape waiver from Chapter 28-1014.6.E.1.and Chapter 28-1014.7.E.2.b of the Zoning Code. Any comments or concerns from the ESDR review letters will be addressed during the Development Site Plan review.

D. Forest Conservation

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

Analysis - The development of this site is within the priority funding area that's within the proximity of established businesses. The overall site area is 37,670 square feet and is under the required 40,000 square foot minimum. Therefore, Forest Conservation is not required.

POLICY ANALYSIS:

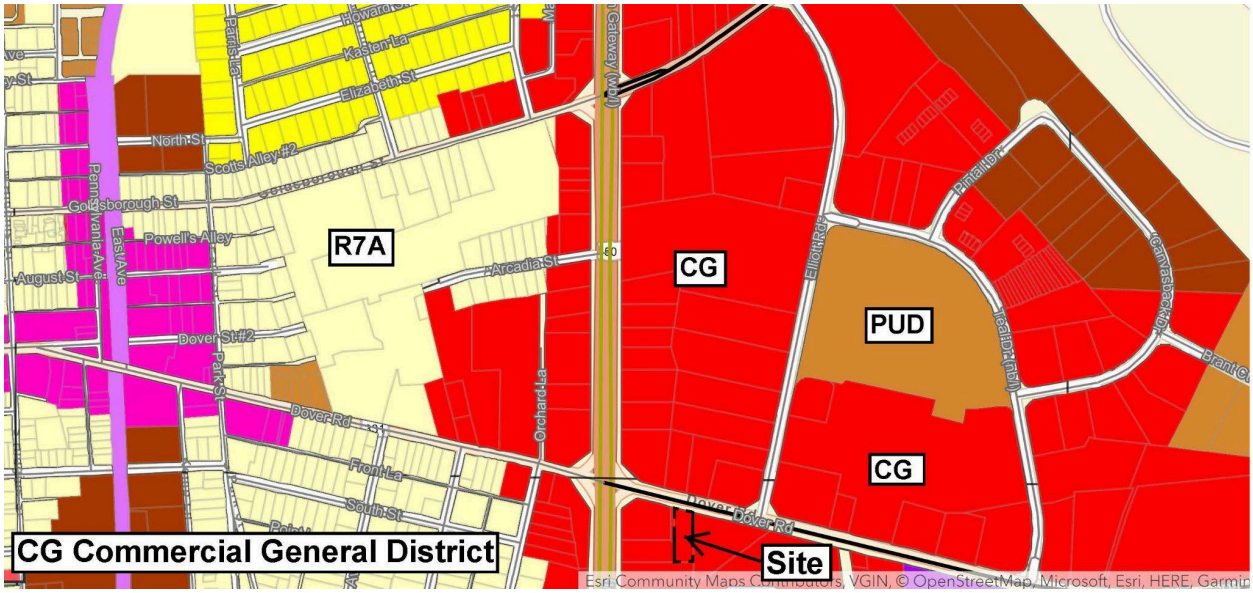


Figure 2: Zoning Map

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

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

Town of Easton 2010 Comprehensive Plan Design Principles (Principle #1) Integrated uses are desirable- Applicant's response: *This plan proposes to redevelop a site that is currently utilized as a fast-food into another fast-food restaurant. This use is especially prevalent along the Route 50 corridor.*

Staff notes that the proposed development fits within the general commercial nature of Rote 50.

(Principle #2) Natural features should determine design – *Applicant's response: The proposed development intends to mimic the existing boundaries of the parking lot in order to avoid adding impervious areas and also includes the mitigation of stormwater that was not previously integrated on site.*

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

(Principle #3) Automobiles should not determine design – *Applicant's response: N/A to drive-thru restaurant permitted in the CG District.*

Staff notes that the applicant has provided 20 off-street parking spaces in addition to the drive-thru parking. They are providing the minimum number of required spaces and nearly double the stacking space required for the drive-thru windows. This would seem to be an effort to accommodate automobiles without allowing them to dominate the design of the site..

(Principle #4) Ample Open Space should be provided within & around neighborhoods – *Applicant's response: N/A.*

Staff notes that open space is not applicable.

(Principle #5) Architecture should respect Easton's Historical Development – *Applicant's response: This application proposes architecture improvements compatible with existing Route 50 corridor improvements.*

Staff notes that the proposed building is comparable and consistent to the architecture along the US Route 50 corridor. It should also be noted that the discussion of this Design Principle is where one will find the statement that often guides the Commission's review of commercial architecture, "One thing that is clearly not welcome in Easton is generic, corporate franchise architecture." The applicant is clearly proposing a building that represents Zaxby's corporate architecture, albeit a relatively new one and, obviously, one which at least initially will be somewhat unique with only two other Eastern Shore franchises planned (at the moment) for Berlin and Cambridge.

The intent of this language is to ensure that commercial buildings in Easton are unique and of a character appropriate and befitting Easton. The Commission has previously been satisfied that this criteria can be met with modest elevation and/or material changes.

(Principle #6) Signs should inform but not dominate – *Applicant's response: Signage will comply with base zoning requirements.*

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

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

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

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

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

Analysis - The proposed site is not within the Historic District or the Critical Area. This project would provide a new 2,005 square foot fast-food restaurant with improved amenities; adequate parking and landscaping.

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

Analysis - The two-lane drive-thru exceeds stacking space requirements and adequate off-street parking is available. The proposed use and activity will not create traffic hazards in the surrounding area.

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

Analysis - There would be no adverse impacts. The existing property is located within a commercial general zoned district. Proposed use provides a 2,005 square foot fast-food restaurant with adequate parking, SWM and landscaping features.

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

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

E. Supplemental Waiver Request: Landscaping & Buffering

28-1014.6.E.1 LANDSCAPE IMPROVEMENTS
Overall minimum tree plantings required (excluding required bufferyards) shall be based on site area to be disturbed. (Disturbed area includes all site areas except for existing forest retention and preservation, existing wetland preservation, significant non bufferyard areas of larger sites to be preserved in a natural state, and required bufferyard areas. The minimum tree requirement shall be:

a. Disturbed area up to 11,00 sq. ft.	*1 tree/1000 sq. ft.*

11,001 to 100,000 sq. ft.	*1 tree/1500 sq. ft.*
>100,001 sq. ft.	*1 tree/2500 sq. ft.*

28 – 1014.7.E.2(b) BUFFERYARD STANDARDS

2. Bufferyard 'B'(for non-residentially zoned lots or land use applications to buffer Major Roads as described in Zoning Ord., Sec. 28 – 1010).

a. 25' width
b. Plant unit:
2 shade/canopy trees and 1 evergreen tree
c. Options:
1. *Average 3' berm, reduce evergreen tree height to 5'*
2. *Substitute 1.5 understory trees for 1 evergreen tree for maximum 50% of required evergreen trees.*

Analysis - The applicant has requested a landscape and buffering waiver from Chapter 28-1014.6.E.1.and Chapter 28-1014.7.E.2.b of the Zoning Code. The application notes that the site is currently not compliant with the landscaping code. They propose to add new landscaping, however, there are site limitations that prevent full compliance with §28-1014.6.E.1; overall trees total twenty-six (26) required plantings. The applicant is proposing twenty-four (24) trees which requires a waiver of two (2) trees. The applicant has requested a waiver from the landscaping requirements along Route 50, as specified in §28-1014.6.E.2.a & b (Bufferyard 'B'). Specifically, they are requesting to reduce the required buffer width from twenty-five feet (25') to twenty feet (20') and a waiver from the requirement for six canopy trees and three evergreen trees. Instead of the required trees, the applicant proposes four canopy trees and one evergreen tree and is requesting a waiver for the remaining two canopy trees and two evergreen trees.

The applicant's modified design for redevelopment of an existing fast-food restaurant adheres to the spirit and intent of the Bufferyard and required tree plantings, while also capturing the overall design. Due to site limitations such as lot size, parking, and SWM requirements, certain landscape requirements cannot be met. Staff supports the waiver request for the modified Bufferyard "B" along Ocean Gateway and the overall minimum tree plantings required.

RECOMMENDED CONDITION:

Staff recommends the Planning Commission approve the proposed architecture and landscape waivers from Chapter 28-1014.6.E.1.and Chapter 28-1014.7.E.2.b of the Zoning Code.with the following condition:

- The applicant is to address all remaining ESDR review comments and submit a Development Site Plan for review.
- Coordinate with the Talbot County Health Department and Building Inspection Division for all applicable permits prior to construction.

DRAFT MOTIONS:

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

OR

2. I move that the Planning Commission table the application to the April 17th Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:
1. 2025.02.05 Concept SWM Report, paper copy & PDF
2. 2025.02.05 ESDR Application, paper copy & PDF
3. 2025.02.05 Site Plan Application, paper copy & PDF
4. 2025.02.26 ESDR Determination Letter 8275 Ocean Gateway, paper copy & PDF
5. 2025.03.03 Building Renderings, paper copy & PDF
6. 2025.03.03 Waiver Request, paper copy & PDF
7. 2025.03.03-Sketch Site Plan, paper copy & PDF
8. 8275 Ocean Gateway (Zaxbys) - PC 400' Notice Letter, paper copy & PDF
9. 8275 Ocean Gateway (Zaxbys) - Subject Property Notice 2025.03.04, paper copy & PDF

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

RECEIVED
FEB 05 2025
TOWN OF EASTON

Easton Staff Development Review

Property Information

Address	8275 Ocean Gateway, Easton, MD 21601 (Zaxbys Easton)						
Tax Map	103	Grid	EA	Parcel	2861	Lot	10-13
Deed Refernce:	Liber	3059	Folio	79			
Plat Reference:	Liber	2	Folio	72			
Base Zoning District		GC	Historic District	Y ☐ N ☒	Planning Redevelopment	Y ☐ N ☒	

Purpose of Application / Description of Work:

The proposed project is to revitalize and redevelop the former Wendy's fast-food restaurant site to convert to a Zaxbys fast-food restaurant.

Owner

Name	Delmarva Real Estate Management Group, LLC c/o Curtis S. Snyder, Esq. (Developer)		
Mailing Address	1807 Chancellor Point Road, Trappe, MD 21673		
Telephone No.	443-523-5620	Email	curtis.snyder@delmarvarealestatemanagement.com

Applicant / Agent

Name	Lane Engineering, LLC c/o Brett Ewing, AICP		
Mailing Address	117 Bay Street, Easton, MD 21601		
Telephone No.	410-822-8003	Email	bewing@leinc.com

Surveyor / Engineer

Name	Alec Chosta, P.E.	License No.	51461	Expiration Date	4/4/2026
Mailing Address	Lane Engineering, LLC, 117 Bay Street, Easton, MD 21601				
Telephone No.	410-822-8003	Email	achosta@leinc.com		

Any modifications during review shall warrant an updated application.

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

Signature of Applicant or Agent

Date 2/5/2025

Printed Name of Applicant or Agent Brett Ewing, Lane Engineering, LLC

For Office Use Only

Easton Staff Development Review Meeting Required Y ☒ N ☐

Easton Staff Development Review Meeting Date 02/26/2025 **2025 - 1391 / ESDR 25 - 04**

Completeness Check Date 02/05/2025

Revisions/Resubmissions Required Y ☐ N ☒

Resubmission Date Documents Received Y ☐ N ☐

Staff Determination

Scheduled for February 26, 2025 Easton Staff Development Review.

Scheduled for March 20, 2025 Planning Commission.

Planning Commission Requir(Y ☒ N ☐

BOZA Required Y ☐ N ☒

Historic District Commission Required Y ☐ N ☒

Resubmission for ESDR Required Y ☐ N ☒

Staff Signature Samantha N. Smith Date 03/04/2025

Revised 02-2019

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

Easton Staff Development Review Worksheet

Date: February 26, 2025
Project: 8275 Ocean Gateway - Zaxbys
To: Brett Ewing, Lane Engineering, LLC.
CC: Delmarva Real Estate Management Group, LLC % Curtis S. Snyder, Esq.

The Easton Staff Development Review (ESDR) Committee meeting was held on February 26st at 11:00 am. Staff reviewed the proposed Site Sketch Plan for a proposed revitalization and redevelopment of the former Wendy's fast-food restaurant site to convert to a Zaxbys fast-food restaurant with associated SWM, parking and landscaping along with the the removal of the existing restaurant and its parking facility, located at 8275 Ocean Gateway, also known as Tax Map 103, Parcel 2861.

The Committee determined that the project will need to address all agency comments as specified in the attached review letters and at ESDR. It was determined by the Committee that the application may be scheduled for Planning Commission review. Please submit all revised documents.

At this time, based on the ESDR sketch plan submission, Staff did not identify any constraints which would require action by the Board of Zoning Appeals.

The next Planning Commission meeting is scheduled for **Thursday, March 20, 2025 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, March 3rd at 1:00 pm. All files for presentation at the Planning Commission, as described under ***§****Section 28-901.3.A.(1 through 13) of the Town's Zoning Ordinance,* need to be provided on a flash drive. In addition, provide a digital submittal (via email) of all supporting documents necessary for the Planning Commission's review, including **six paper copies**.

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: **February 21, 2025**
TO: **Brett Ewing –** Lane Engineering, LLC. (Agent)
Curtis Snyder, Esq. - % Delmarva Real Estate Management Group, LLC (Owner)
Cc: **Miguel Salinas –** Director of Planning & Zoning Department
Rick VanEmburgh – Town Engineer

FROM: **Joseph A. Mayer -** Plan Reviewer, Planning & Zoning Department
SUBJECT: **8275 Ocean Gateway - Zaxbys**

We reviewed the **February 5, 2025** Sketch Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan Review #1

1. Per Appendix B, Sketch Plan Submittal Checklist requires, *general location and description (r.e. Intended function, proposed species. etc.) of proposed landscaping.* List the proposed native species on the plan view and a Landscape Legend.

2. Check the total number of canopy and evergreen trees provided. The plan view shows eleven (11) canopy trees and thirteen (13) evergreen trees. Revise waiver request to reflect the total plant count on the plan view.

3. Update the Landscape Requirements Summary on the Sketch Site Plan to include Bufferyard “E” requirements.

4. Revise the zoning callout within the Project Data on the Sketch Site Plan to read, CG (Commercial General).

5. **Prior to Development Site Plan approval,** verify and add slope information for all ADA spaces, ramps, access aisles and landing areas. Check all ADA related spot elevations and obtain approval from the Building Inspection Department.

6. **Prior to Development Site Plan approval,** provide Van Accessible ADA Parking Sign Detail to include the sign "*No Parking in Access Aisle*" with an arrow pointing to the access aisle.

Plan Review Status

Sketch Site Plan Review			Comments
Plans Approved	☐Y	☒ N	Please review the comments above. Revise and resubmit.
Forest Stand Delineation & Forest Conservation Plan			
☐ Required ☐ Submitted ☐ Approved ☒ **Exempt**			***The Easton Forest Conservation Requirements of the Town Code, Article III,* § 31-3.1 *Relevance, states that the requirements are applicable to any person making application for a subdivision, project plan, grading, or sediment and erosion control approval on units of land 40,000 square feet or greater after the effective date of the Ordinance.*** **Analysis -** The development of this site is within the priority funding area that's within the proximity of residential dwellings. The overall site area is 37,763 square feet and is under the required 40,000 square foot minimum. Therefore, Forest Conservation is not required. .
Other			
☒ **Required** ☐ Submitted ☐ Approved			**IMPACT FEES** **Please note, there will be a required Impact Fee for the proposed building. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with appropriate use for calculation of Impact Fee. (Proposed Structure: 3,044 SF/Existing Structure: 2,713 SF)** **Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.** **Supplemental Waiver Request Application** **The applicant for 8275 Ocean Gateway is seeking a landscape and buffering waiver due to site limitations that prevent full compliance with §28-1014.6.E and §28-1014.7.E of the Zoning Code. Specifically, the applicant proposes to add new landscaping, but requests a waiver for 5 trees (26 required, 21 provided) under §28-1014.6.E: Overall Trees. Under §28-1014.7.E Bufferyard, the applicant requests a waiver of 4 canopy trees (6 required, 2 provided) and 2 evergreen trees (3 required, 1 provided).** **Analysis -** The applicant's modified design for redevelopment of an existing fast-food restaurant adheres to the spirit and intent of the Bufferyard and required tree plantings, while also capturing the overall design. Due to site limitations such as lot size, parking, and SWM requirements, certain landscape requirements cannot be met. Staff supports the waiver request for the modified Bufferyard "B" along Ocean Gateway and the overall minimum tree plantings required. **Demolition Permit Application** To be submitted to the Building Inspection Division for review. **Fence Permit Application** To be submitted to the Building Inspection Division for review. **Sign Permit Application** To be submitted to the Building Inspection Division for review.

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

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**February 25, 2025**
TO:	**Brett Ewing - Lane Engineering**
cc:	**Alec Chosta - Lane Engineering** **Sierra Clem - Town of Easton**
FROM:	**Rick Van Emburgh, P.E. – Town Engineer**
SUBJECT:	**Zaxbys** **Sketch Site Plan &** **Sketch Stormwater Management Plan**

I reviewed the Application for the Subject project received on 2/05/2025.

The **Sketch Site Plan** is **Acceptable to the Engineering Department**.

The **Sketch Stormwater Management Plan** is **Approved.**

It is noted the project is located within the Tanyard Branch Watershed and has proposed a 10% reduction for the entire site.

Please note, any changes to the entrance along Ocean Gateway would require SHA review and approval. Please coordinate with SHA as needed and provide our office with any approvals received.

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

END OF DOCUMENT

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

EASTON UTILITIES

Life. Made better.™

Easton Utilities Commission

Plan Review Comments

Date: Thursday, February 20, 2025
To: Sierra Clem, Nancy Pinkney
From: Kia Gibbs on behalf of Aaron Goller, PE **No. of Pages:** 2
Regarding: 8275 Ocean Gateway
Phase: Sketch Site Plan **SUBM:** 1 **Status:** Approved as Noted

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

ITEM:	DRAWING / PAGE	COMMENTS:
1	1 of 1	Show existing utilities
2	1 of 1	Existing utilities to be abandoned.
3	1 of 1	See sheet for electrical comments.

PROJECT DATA

PROPERTY: 8275 OCEAN GATEWAY
EASTON, MD 21601

PREPARED FOR: DELMARVA REAL ESTATE MANAGEMENT GROUP, LLC
C/O CURTIS S. SNYDER, ESQ.
1807 CHANCELLOR POINT ROAD
TRAPPE, MD 21673
(443) 523-5620

ZONING: GC (GENERAL COMMERCIAL)

SITE AREA: 37,763 SF±

PROJECT NOTES

THE IMPROVEMENTS AS SHOWN HEREON ARE BASED UPON DEEDS AND PLATS OF RECORD IN CONJUNCTION WITH COUNTY AERIAL IMAGERY, AND AN AS-BUILT COMPLETED BY CAS BAZIS AND ASSOCIATES ON JUNE 5, 1984.

THE CONTOURS SHOWN HEREON WERE TAKEN FROM TOPOGRAPHY PROVIDED BY TALBOT COUNTY, MARYLAND AND ARE APPROXIMATE ONLY.

THE PROPERTY SHOWN HEREON LIES ENTIRELY OUTSIDE OF THE CHESAPEAKE BAY CRITICAL AREA AS SHOWN ON THE TALBOT COUNTY CRITICAL AREA MAPS IN ACCORDANCE WITH TALBOT COUNTY BILL No. 1295, ENACTED AUGUST 12, 2014.

THE PROPERTY SHOWN HEREON IS NOT LOCATED IN THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SPECIAL FLOOD HAZARD AREA (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. THE PROPERTY IS MAPPED IN THE "X" FLOOD ZONE AS SHOWN ON THE FEDERAL INSURANCE RATE MAPS FOR COMMUNITY NO. 240067, MAP NO. 24041C0193C FOR THE TOWN OF EASTON, MARYLAND. THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR. THE SFHA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE SFHA INCLUDE ZONES A, AE, AH, AO, AR, A99, V & VE. THE BASE FLOOD ELEVATION (BFE) IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. FLOOD INSURANCE MAY BE REQUIRED FOR STRUCTURES LOCATED IN THE SPECIAL FLOOD HAZARD AREA.

FLOOD ZONE LEGEND
ZONES A, AE, AH, AO, AR, A99, V & VE – 1% ANNUAL CHANCE FLOOD
ZONE X (SHADED) – 0.2% ANNUAL CHANCE FLOOD
ZONE X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS DEPICTED AS DIRECTED AND REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS.

EXISTING CONDITIONS: A COMMERCIAL PROPERTY CURRENTLY UTILIZED WITH A FAST-FOOD RESTAURANT (WENDY'S).

PROPOSED DEVELOPMENT: THE PROPOSED PROJECT IS TO REVITALIZE AND REDEVELOP THE EXISTING PARCEL 2861 AS SHOWN HEREON TO ACCOMMODATE A NEW FAST-FOOD RESTAURANT (ZAXBYS)

STORMWATER MANAGEMENT: STORMWATER QUANTITY/QUALITY CONTROL WILL BE ADDRESSED THROUGH ESD FEATURES (PERMEABLE PAVERS) AS REQUIRED AND DETAILED IN THE CONCEPT SWM REPORT INCLUDED WITH THIS SKETCH SITE PLAN. THE PROPERTY IS WITHIN THE TANYARD BRANCH WATERSHED.

LOT COVERAGE: ALL BUILDINGS AND STRUCTURES SHALL NOT EXCEED 50% OF THE LOT AREA.

TOTAL STRUCTURE LOT COVERAGE: 3,580 SF (9.5%)

SPECIAL EXCEPTIONS/VARIANCES: NONE

REFUSE/TRASH: DUMPSTER AREA AND SCREENING AS SHOWN HEREON.

SITE LIGHTING: EXISTING ONSITE. ALL PROPOSED LIGHTING, UNLESS OTHERWISE APPROVED BY THE PLANNING COMMISSION, SHALL BE SHARP CUT-OFF SHIELDED LUMINARIES ON 18' HEIGHT POLES MAX. LIGHT SHALL NOT SHINE OFF-SITE AT LEVELS GREATER THAN 1 FOOT CANDLE.

FOREST CONSERVATION: THE SITE IS UNDER 40,000 SQUARE FEET AND IS THEREFORE EXEMPT.

BUILDING HEIGHT: NOT TO EXCEED 50'

PARKING

EXISTING PARKING: 1 STORY FAST-FOOD RESTAURANT @ 1/100 SF GFA: 3,044 SF/100 = 30 SPACES MINIMUM
1 STORY FAST-FOOD RESTAURANT @ 1/50 SF GFA: 3,044 SF/50 = 61 SPACES MAXIMUM

45 REGULAR PARKING SPACES + 2 ADA ACCESSIBLE PARKING SPACES PROVIDED

PROPOSED PARKING: 1 STORY FAST-FOOD RESTAURANT @ 1/100 SF GFA: 2,005 SF/100 = 20 SPACES MINIMUM
1 STORY FAST-FOOD RESTAURANT @ 1/50 SF GFA: 2,005 SF/50 = 40 SPACES MAXIMUM

TOTAL SPACES PROVIDED: 20 SPACES PROVIDED

BIKE RACKS REQUIRED: FAST-FOOD RESTAURANT – 1 BIKE SPACE/10 VEHICLE SPACES: 2 BIKE SPACES REQUIRED

SITE NOTES

ZONING CLASSIFICATION: CG (GENERAL COMMERCIAL)

SETBACKS:

	PROPOSED RESTAURANT (FAST-FOOD)
FRONT- 40'	50'±
SIDE- 10'	58'±
REAR- 15'	89'±

COMPREHENSIVE PLAN DESIGN PRINCIPLES RESPONSE NARRATIVE

PRINCIPLE #1- INTEGRATED USES ARE DESIRABLE- THIS PLAN PROPOSES TO REDEVELOP A SITE THAT IS CURRENTLY UTILIZED AS A FAST-FOOD INTO ANOTHER FAST-FOOD RESTAURANT. THIS USE IS ESPECIALLY PREVALENT ALONG THE ROUTE 50 CORRIDOR.

PRINCIPLE #2- NATURAL FEATURES SHOULD DETERMINE DESIGN- THE PROPOSED DEVELOPMENT INTENDS TO MIMIC THE EXISTING BOUNDARIES OF THE PARKING LOT IN ORDER TO AVOID ADDING IMPERVIOUS AREAS AND ALSO INCLUDES THE MITIGATION OF STORMWATER THAT WAS NOT PREVIOUSLY INTEGRATED ON SITE.

PRINCIPLE #3- AUTOMOBILES SHOULD NOT DETERMINE DESIGN- N/A TO DRIVE-THRU RESTAURANT PERMITTED IN THE CG DISTRICT

PRINCIPLE #4- AMPLE OPEN SPACES SHOULD BE PROVIDED WITHIN & AROUND NEIGHBORHOODS- N/A

PRINCIPLE #5- ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT- THIS APPLICATION PROPOSES ARCHITECTURE IMPROVEMENTS COMPATIBLE WITH EXISTING ROUTE 50 CORRIDOR IMPROVEMENTS.

PRINCIPLE #6- SIGNS SHOULD INFORM BUT NOT DOMINATE- SIGNAGE WILL COMPLY WITH BASE ZONING REQUIREMENTS;

PRINCIPLE #7- NEIGHBORHOODS SHOULD CONTAIN A DIVERSITY OF HOUSING TYPES- NOT APPLICABLE TO THIS APPLICATION

PRINCIPLE #8 RESIDENTIAL NEIGHBORHOODS SHOULD BE INTERESTING PLACES- NOT APPLICABLE TO THIS APPLICATION

PRINCIPLE #9- NEIGHBORHOODS SHOULD CONNECT- NOT APPLICABLE TO THIS APPLICATION

LANDSCAPE REQUIREMENTS SUMMARY PER ZONING ORDINANCE:

SECTION 1014.6.C.:

STREET TREES @ 1 TREE/70' OF STREET FRONTAGES = NOT APPLICABLE; NONE PROVIDED

SECTION 1014.6.E.:

1. OVERALL TREES: 1 TREE/1500 SQ FT DISTURBED AREA; 37,763 SF SQ FT/1500 = 26 TREES REQUIRED; 21 PROVIDED, WAIVER REQUEST FOR 5 TREES

2.B. INTERIOR PARKING LOT PLANTINGS: NOT APPLICABLE

2.C. PARKING LOT HEDGE: AS SHOWN

2.D.I. BUILDING FAÇADE PLANTINGS: ONE TREE/50' OF APPLICABLE ENTRANCE FAÇADE ALONG US ROUTE NO. 50; FRONTAGE 50'/50

2.D.II. FAÇADE LANDSCAPE BEDS: 25% OF APPLICABLE FAÇADE = LANDSCAPE BEDS PROVIDED

2.E. SERVICE LOADING AREA SCREENING: PROVIDED AS SHOWN

2.F. SHRUB/GROUNDCOVER PLANTINGS: PROVIDED AS SHOWN

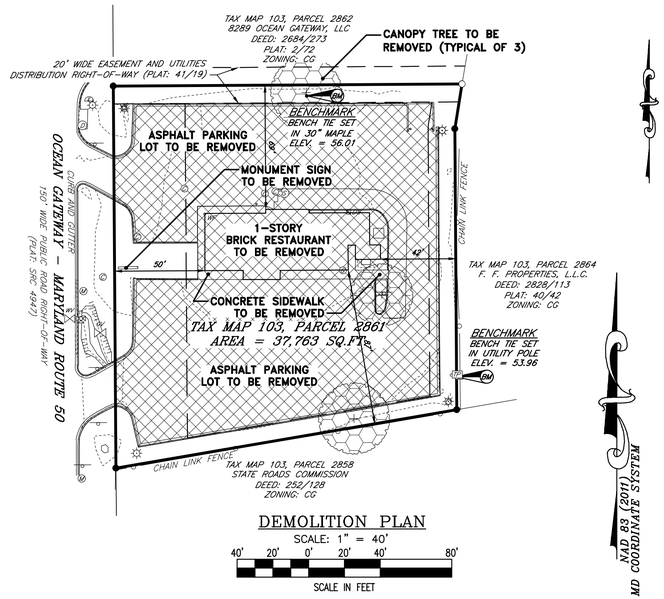
SECTION 1014.7.E.:

25' WIDE LANDSCAPE BUFFERYARD 'B' (ALONG US ROUTE 50)
214 LF LESS ACCESS ENTRANCES & UTILITY EASEMENT (71 LF)= 143 LF / 50' = 2.86 PLANT UNITS (PU)

2 SHADE/ CANOPY TREES X 2.86 PU = 6 SHADE/ CANOPY TREES REQUIRED; 2 CANOPY TREES PROVIDED, WAIVER REQUEST FOR 4 CANOPY TREES

1 EVERGREEN TREES X 2.86 PU = 3 EVERGREEN TREES REQUIRED, 1 EVERGREEN TREE PROVIDED WAIVER REQUEST FOR 2 EVERGREEN TREES

- Show all existing utilities
- Unused utilities shall be abandoned

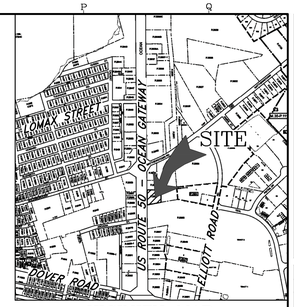


DEMOLITION PLAN

SCALE: 1" = 40'

40' 20' 0' 20' 40' 80'

SCALE IN FEET

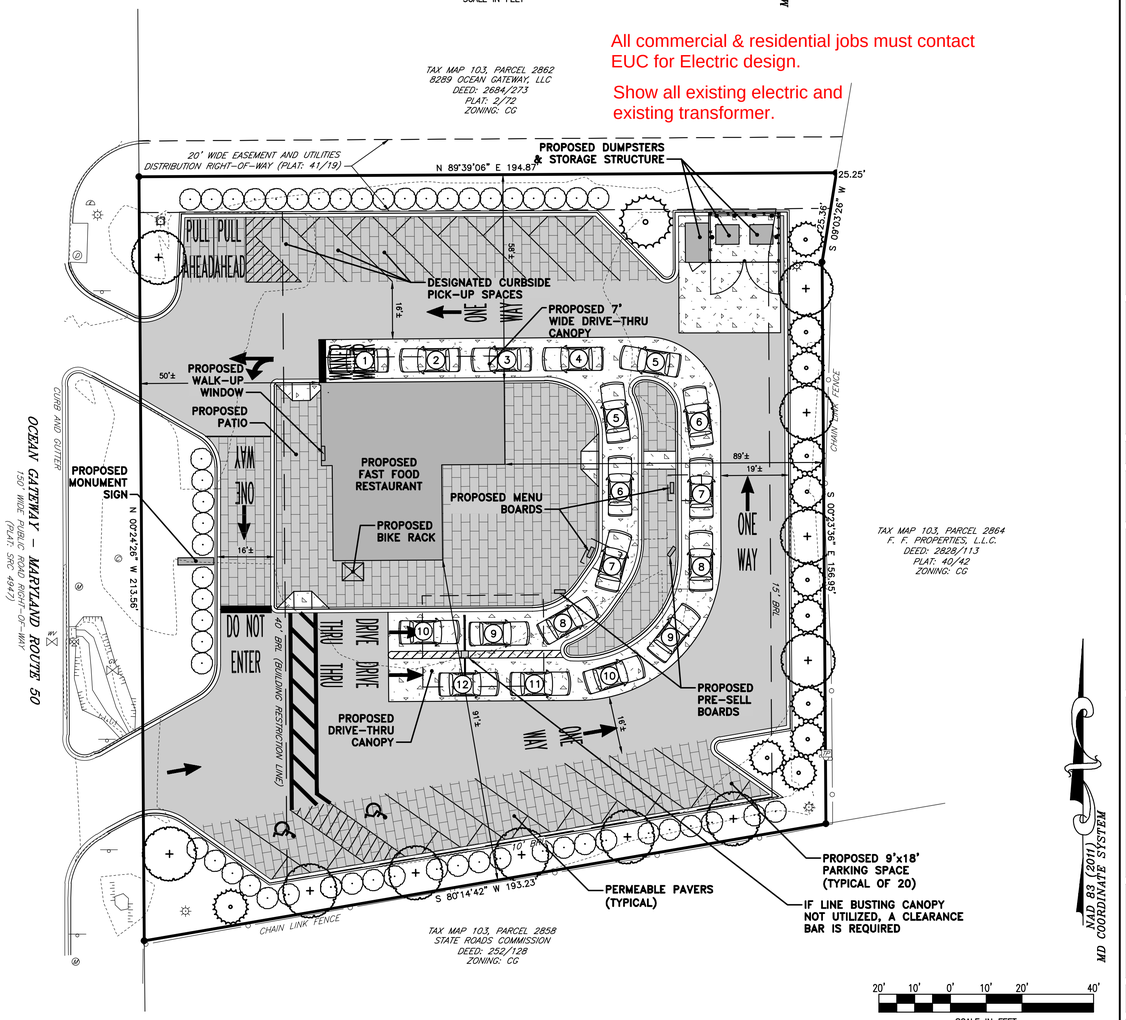


VICINITY MAP

SCALE: 1" = 1,000'

All commercial & residential jobs must contact EUC for Electric design.

Show all existing electric and existing transformer.



20' 10' 0' 10' 20' 40'

SCALE IN FEET

LEGEND

- DECIDUOUS TREE
- BOLLARD
- SINGLE POST SIGN
- ELECTRIC HANDHOLE
- UTILITY POLE
- LAMP POLE
- TELEPHONE PEDESTAL
- STORM DRAIN MANHOLE
- SANITARY SEWER CLEAN OUT
- SANITARY SEWER MANHOLE
- GAS METER
- GAS SHUTOFF VALVE
- WATER FAUCET
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- COMPUTED POINT
- IRON ROD FOUND

SWM QUANTITY SUMMARY CHART

POI	DA (ACRES)	IMPERVIOUS (ACRES)	RCN	Tc (MINUTES)	PRE 2 YEAR	POST 2 YEAR	WSE	PRE 10 YEAR	POST 10 YEAR	WSE	PRE 100 YEAR	POST 100 YEAR	WSE
1	0.22	0.13	--	1.40	1.22	0.94	--	1.98	1.63	--	2.88	2.45	--
2	0.28	0.15	--	1.80	1.28	1.11	--	2.05	1.98	--	2.97	3.02	--
3	0.20	0.09	--	1.90	0.85	0.75	--	1.38	1.35	--	2.02	2.07	--
4	0.17	0.09	--	1.50	0.89	0.68	--	1.45	1.20	--	2.12	1.83	--
				TOTAL	4.24	3.48	--	6.86	6.16	--	9.99	9.37	--

PROJECT IS IN TANYARD BRANCH AND IS UTILIZING STORMWATER REDEVELOPMENT – REFER TO ASSOCIATED STORMWATER REPORT FOR ADDITIONAL DETAILS AND COMPLIANCE NARRATIVE

ESD SUMMARY CHART

DRAINAGE AREA	TYPE OF ESD PRACTICE	TYPE OF ESD PRACTICE (STRUCTURE NAME)	ON-SITE OR OFF-SITE STRUCTURE	RUNOFF CURVE NUMBER (RCN) WEIGHTED	MARYLAND GRID COORDINATE NAD 83 METERS NORTHING	MARYLAND GRID COORDINATE NAD 83 METERS EASTING	ESD PRACTICE TOTAL DRAINAGE AREA (ACRES)	ESD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES)	SURFACE AREA OF ESD PRACTICE (ACRES)	TARGET PE (IN)	ACTUAL PE (IN)	TARGET ESDv (FT³)	ACTUAL ESDv (FT³)
TOTAL SITE	A-2	PERMEABLE PAVERS	ON-SITE	--	405466.9633'	1580403.7119'	0.866	--	0.22	1.0	1.0	401	1,536

REVISIONS TO APPROVED PLANS

No.	DATE	DESCRIPTION	BY

WARNING!!

THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

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MISS UTILITY
DIG WITH CARE
CALL BEFORE YOU DIG
KNOW WHAT'S BELOW
BEFORE YOU DIG CALL
1-800-441-8355 OR 811
PROTECT YOURSELF, ONE
TWO WORKING DAYS NOTICE

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

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 51461 , Expiration Date: 04/04/2026.

SEAL

STATE OF MARYLAND
51461
PROFESSIONAL ENGINEER
02-05-25
DATE

SKETCH SITE PLAN

FOR
DELMARVA REAL ESTATE MANAGEMENT GROUP, LLC

IN THE TOWN OF EASTON, WARD 2
TALBOT COUNTY, MARYLAND
TAX MAP 103 GRID 0EA PARCEL 2861

ISSUED/REVISED FOR:	DATE:	BY:
ESDR SUBMITTAL	02/05/25	BCE

SHEET No. 1 OF 1
JOB No. 240547
SCALE: AS NOTED
FILE No. D481

Date: 02/05/2025 - 8:24am User: barnes Project Manager: BCE
Drawing Path: J:\2024\0500\240547\Civil3D-240547\Dwg Plots\VSK-PLTS-240547.dwg | 1
XREF File(s): RAR-BASE-240547/CSK-BASE-240547/VLD-BASE-240547/VSF-BASE-240547/CBS-BASE-2438-240547/LUP-BASE-240547

TOWN OF EASTON

PO Box 520
Easton, Maryland 21601
(410)-822-2526 Fax (410)-822-8738

ESDR- Building Inspection and Permit Department Comments

Date: February 25, 2025

Project; 8275 Ocean Gateway, Easton, MD 21601 (Zaxbys Easton)

A Town of Easton Building Permit is required for all new construction and alteration to an approved existing building. Please contact this Department and verify current Building Codes including the Town of Easton's modifications prior to preparation of Building plans.

The following lists items required and information that must be on the construction drawings in order to apply for a Building Permit.

- Construction Documents (3 sets) for any new construction will be required. Documents must be prepared by a registered Maryland Registered Architect, with original plans signed and sealed. A code analysis completed by a Registered Maryland Architect including, classification (use group), construction type, and occupant loads must be completed and included with the application materials.
- Items that must be addressed by the construction documents will be structural strength, means of egress (include travel distance), facilities, stability, sanitation, light and ventilation, energy conservation and safety to life and property from fire and other hazards attributed to the built environment, **Accessibility**, and other safety requirements for public access.
- All mechanical, electrical, and plumbing permits as required must include construction documents signed and sealed by a professional engineer and by a responsible party for the contractor receiving the permit. Be sure the Town of Easton modifications are included. Section 6-16 of the Town Code.
- Pursuant to Town of Easton Ordinance 477, Chapter 9 Fire Protection, Article VII Security Key Lock Boxes, a lockbox shall be provided on the exterior of the building and shall be located as required by the chief of the Easton Volunteer Fire Department, Inc. (410-822-4848).
- **State Fire Marshal,** (410-822-7609) plan review and inspections are required. It is your responsibility to contact them and make application.
- **Talbot County Health Department,** (410-770-6886) Commercial Kitchens and Restaurants if allowed should check for any special requirements.

An appointment may be set up with this department to review your permit application materials prior to permit application submission.

RECEIVED
FEB 05 2025
TOWN OF EASTON

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

Site Plan, PUD, Planned Healthcare Application

Application Type

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

Subdivision Information

Name	8275 Ocean Gateway, Easton, MD 21601				
Original Property Size	Acres		Square Feet		
Telephone No.		Email			

Site Plan Information

Property Size	Acres	0.867 AC	Square Feet	37,763 SF	
Structure's Floor Area	3,580 SF		Structure's Square Feet	3,580 SF	
Area of Disturbance	37,763 SF		Number of Dwelling Units	0	

Property Information

Address	8275 Ocean Gateway, Easton, MD 21601 (Zaxbys Easton)						
Tax Map	103	Grid	EA	Parcel	2861	Lot	
Deed Refernce:	Liber	3059	Folio	79			
Plat Reference:	Liber	2	Folio	72			
Base Zoning District		GC	Historic Y ☐ N ☒		Planned Redevelopment Y ☐ N ☒		
Source of Electricity		Easton					

Owner

Name	Delmarva Real Estate Management Group, LLC c/o Curtis S. Snyder, Esq. (Developer)		
Mailing Address	1807 Chancellor Point Road, Trappe, MD 21673		
Telephone No.	443-523-5620	Email	curtis.snyder@delmarvarealestatemanagement.com

Applicant or Agent

Name	Lane Engineering, LLC c/o Brett Ewing, AICP		
Mailing Address	117 Bay Street, Easton, MD 21601		
Telephone No.	410-822-8003	Email	bewing@leinc.com

Surveyor / Engineer

Name	Alec Chosta, P.E.	License No.	51461	Expiration Date	4/4/2026
Mailing Address	Lane Engineering, LLC, 117 Bay Street, Easton, MD 21601				
Telephone No.	410-822-8003	Email	achosta@leinc.com		

Any modifications during review shall warrant an updated application.

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

Signature of Applicant or Agent 

Date 2/5/2025

Printed Name of Applicant or Agent Brett Ewing, Lane Engineering, LLC

For Office Use Only

Planning Commission Required	Y ☒ N ☐		
Planning Commission Meeting Date	**03/20/2025**		
Sketch Approval Date		Project No.	**ESDR 25-04**
Prelim/Dev. Approval Date		Application No.	**2025-1391**
Final Approval Date		Sketch Fee Paid	**02/06/2025**
Recordation Date		Develop. Fee Paid	

Revised 02-2019

RECEIVED
MAR 0 3 2025
TOWN OF EASTON

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

2025 - 1391 / W 25 - 02

Supplemental Waiver Request Application

Waiver Request Type

Sidewalk ☐	Parking Spaces ☐	Parking/Aisle Dimension ☐
Landscaping & Buffering ☒	Signage ☐	Other ☐

Project Information

Address	8275 Ocean Gateway, Easton, MD 21601						
Tax Map	103	Grid	EA	Parcel	2861	Lot	
Zoning District	GC	PC Meeting Date	3/20/25	Historic District	Yes ☐	No ☒	
Owner or Agent	Delmarva Real Estate Management Group, LLC c/o Curtis Snyder Agent: Lane Engineering, LLC						
Mailing Address	1807 Chancellor Point Road, Trappe, MD 21673						
Telephone No.	443-523-5620	Email	bewing@leinc.com; curtis.snyder@delmarvarealestatemanagement.com				

Request Details

Please attach a detailed description of the waiver request(s) being made and the justification(s) for requesting said waiver(s).

The proposed project is a redevelopment of an existing fast-food restaurant site to establish a new fast-food restaurant (Zaxbys Easton). The site is currently not compliant with the landscaping code. We are adding new landscaping, however, site limitations prevent full compliance with §28-1014.6.E: Overall trees - 26 trees required, 24 provided, requesting waiver of 2 trees; §28-1014.7.E Bufferyard - 6 canopy trees required, 2 provided, waiver of 4 trees; 3 evergreen trees required, 1 provided, waiver of 2 evergreen trees. Waiver to reduce Bufferyard "B" from 25' wide to 20' wide.

☐ Ordinance Section Supporting Waiver Request. §28-1014.6, 1014.7

Any modifications during review shall warrant an updated application.

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

Signature of Applicant or Agent

Date 3/3/2025

Printed Name of Applicant or Agent Brett Ewing, Lane Engineering, LLC

PROJECT DATA

PROPERTY: 8275 OCEAN GATEWAY
EASTON, MD 21601

PREPARED FOR: DELMARVA REAL ESTATE MANAGEMENT GROUP, LLC
C/O CURTIS S. SNYDER, ESQ.
1807 CHANCELLOR POINT ROAD
TRAPPE, MD 21673
(443) 523-5620

ZONING: GC (GENERAL COMMERCIAL)

SITE AREA: 37,763 SF±

PROJECT NOTES

THE IMPROVEMENTS AS SHOWN HEREON ARE BASED UPON DEEDS AND PLATS OF RECORD IN CONJUNCTION WITH COUNTY AERIAL IMAGERY, AND AN AS-BUILT COMPLETED BY CAS BAZIS AND ASSOCIATES ON JUNE 5, 1984.

THE CONTOURS SHOWN HEREON WERE TAKEN FROM TOPOGRAPHY PROVIDED BY TALBOT COUNTY, MARYLAND AND ARE APPROXIMATE ONLY.

THE PROPERTY SHOWN HEREON LIES ENTIRELY OUTSIDE OF THE CHESAPEAKE BAY CRITICAL AREA AS SHOWN ON THE TALBOT COUNTY CRITICAL AREA MAPS IN ACCORDANCE WITH TALBOT COUNTY BILL No. 1295, ENACTED AUGUST 12, 2014.

THE PROPERTY SHOWN HEREON IS NOT LOCATED IN THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SPECIAL FLOOD HAZARD AREA (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. THE PROPERTY IS MAPPED IN THE "X" FLOOD ZONE AS SHOWN ON THE FEDERAL INSURANCE RATE MAPS FOR COMMUNITY NO. 240067, MAP NO. 24041C0193C FOR THE TOWN OF EASTON, MARYLAND. THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR. THE SFHA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE SFHA INCLUDE ZONES A, AE, AH, AO, AR, A99, V & VE. THE BASE FLOOD ELEVATION (BFE) IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. FLOOD INSURANCE MAY BE REQUIRED FOR STRUCTURES LOCATED IN THE SPECIAL FLOOD HAZARD AREA.

FLOOD ZONE LEGEND
ZONES A, AE, AH, AO, AR, A99, V & VE – 1% ANNUAL CHANCE FLOOD
ZONE X (SHADED) – 0.2% ANNUAL CHANCE FLOOD
ZONE X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS DEPICTED AS DIRECTED AND REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS.

EXISTING CONDITIONS: A COMMERCIAL PROPERTY CURRENTLY UTILIZED WITH A FAST-FOOD RESTAURANT (WENDY'S).

PROPOSED DEVELOPMENT: THE PROPOSED PROJECT IS TO REVITALIZE AND REDEVELOP THE EXISTING PARCEL 2861 AS SHOWN HEREON TO ACCOMMODATE A NEW FAST-FOOD RESTAURANT (ZAXBYS)

STORMWATER MANAGEMENT: STORMWATER QUANTITY/QUALITY CONTROL WILL BE ADDRESSED THROUGH ESD FEATURES (PERMEABLE PAVERS) AS REQUIRED AND DETAILED IN THE CONCEPT SWM REPORT INCLUDED WITH THIS SKETCH SITE PLAN. THE PROPERTY IS WITHIN THE TANYARD BRANCH WATERSHED.

LOT COVERAGE: ALL BUILDINGS AND STRUCTURES SHALL NOT EXCEED 50% OF THE LOT AREA.

TOTAL STRUCTURE LOT COVERAGE: 2,005 SF (5.3%)

SPECIAL EXCEPTIONS/VARIANCES: NONE

REFUSE/TRASH: DUMPSTER AREA AND SCREENING AS SHOWN HEREON.

SITE LIGHTING: EXISTING ONSITE. ALL PROPOSED LIGHTING, UNLESS OTHERWISE APPROVED BY THE PLANNING COMMISSION, SHALL BE SHARP CUT-OFF SHIELDED LUMINARIES ON 18' HEIGHT POLES MAX. LIGHT SHALL NOT SHINE OFF-SITE AT LEVELS GREATER THAN 1 FOOT CANDLE.

FOREST CONSERVATION: THE SITE IS UNDER 40,000 SQUARE FEET AND IS THEREFORE EXEMPT.

BUILDING HEIGHT: NOT TO EXCEED 50'

PARKING

EXISTING PARKING: 1 STORY FAST-FOOD RESTAURANT @ 1/100 SF GFA: 3,044 SF/100 = 30 SPACES MINIMUM
1 STORY FAST-FOOD RESTAURANT @ 1/50 SF GFA: 3,044 SF/50 = 61 SPACES MAXIMUM

45 REGULAR PARKING SPACES + 2 ADA ACCESSIBLE PARKING SPACES PROVIDED

PROPOSED PARKING: 1 STORY FAST-FOOD RESTAURANT @ 1/100 SF GFA: 2,005 SF/100 = 20 SPACES MINIMUM
1 STORY FAST-FOOD RESTAURANT @ 1/50 SF GFA: 2,005 SF/50 = 40 SPACES MAXIMUM

TOTAL SPACES PROVIDED: 20 SPACES PROVIDED

BIKE RACKS REQUIRED: FAST-FOOD RESTAURANT – 1 BIKE SPACE/10 VEHICLE SPACES: 2 BIKE SPACES REQUIRED

SITE NOTES

ZONING CLASSIFICATION: CG (COMMERCIAL GENERAL)

SETBACKS:		PROPOSED RESTAURANT (FAST-FOOD)
FRONT-	40'	50'±
SIDE-	10'	58'±
REAR-	15'	89'±

COMPREHENSIVE PLAN DESIGN PRINCIPLES RESPONSE NARRATIVE

PRINCIPLE #1- INTEGRATED USES ARE DESIRABLE- THIS PLAN PROPOSES TO REDEVELOP A SITE THAT IS CURRENTLY UTILIZED AS A FAST-FOOD INTO ANOTHER FAST-FOOD RESTAURANT. THIS USE IS ESPECIALLY PREVALENT ALONG THE ROUTE 50 CORRIDOR.

PRINCIPLE #2- NATURAL FEATURES SHOULD DETERMINE DESIGN- THE PROPOSED DEVELOPMENT INTENDS TO MIMIC THE EXISTING BOUNDARIES OF THE PARKING LOT IN ORDER TO AVOID ADDING IMPERVIOUS AREAS AND ALSO INCLUDES THE MITIGATION OF STORMWATER THAT WAS NOT PREVIOUSLY INTEGRATED ON SITE.

PRINCIPLE #3- AUTOMOBILES SHOULD NOT DETERMINE DESIGN- N/A TO DRIVE-THRU RESTAURANT PERMITTED IN THE CG DISTRICT

PRINCIPLE #4- AMPLE OPEN SPACES SHOULD BE PROVIDED WITHIN & AROUND NEIGHBORHOODS- N/A

PRINCIPLE #5- ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT- THIS APPLICATION PROPOSES ARCHITECTURE IMPROVEMENTS COMPATIBLE WITH EXISTING ROUTE 50 CORRIDOR IMPROVEMENTS.

PRINCIPLE #6- SIGNS SHOULD INFORM BUT NOT DOMINATE- SIGNAGE WILL COMPLY WITH BASE ZONING REQUIREMENTS;

PRINCIPLE #7- NEIGHBORHOODS SHOULD CONTAIN A DIVERSITY OF HOUSING TYPES- NOT APPLICABLE TO THIS APPLICATION

PRINCIPLE #8 RESIDENTIAL NEIGHBORHOODS SHOULD BE INTERESTING PLACES- NOT APPLICABLE TO THIS APPLICATION

PRINCIPLE #9- NEIGHBORHOODS SHOULD CONNECT- NOT APPLICABLE TO THIS APPLICATION

LANDSCAPE REQUIREMENTS SUMMARY PER ZONING ORDINANCE:

SECTION 1014.6.C.:

STREET TREES @ 1 TREE/70' OF STREET FRONTAGES = NOT APPLICABLE; NONE PROVIDED

SECTION 1014.6.E.:

1. OVERALL TREES: 1 TREE/1500 SQ FT DISTURBED AREA; 37,763 SF SQ FT/1500 = 26 TREES REQUIRED; 24 PROVIDED, WAIVER REQUEST FOR 2 TREES

2.B. INTERIOR PARKING LOT PLANTINGS: NOT APPLICABLE

2.C. PARKING LOT HEDGE: AS SHOWN

2.D.I. BUILDING FAÇADE PLANTINGS: ONE TREE/50' OF APPLICABLE ENTRANCE FAÇADE ALONG US ROUTE NO. 50; FRONTAGE 50'/50

2.D.II. FAÇADE LANDSCAPE BEDS: 25% OF APPLICABLE FAÇADE = LANDSCAPE BEDS PROVIDED

2.E. SERVICE LOADING AREA SCREENING: PROVIDED AS SHOWN

2.F. SHRUB/GROUNDCOVER PLANTINGS: PROVIDED AS SHOWN

SECTION 1014.7.E.:

25' WIDE LANDSCAPE BUFFERYARD 'B' (ALONG US ROUTE 50) (WAIVER REQUESTED TO REDUCE TO 20' WIDE)
214 LF LESS ACCESS ENTRANCES & UTILITY EASEMENT (71 LF)= 143 LF / 50' = 2.86 PLANT UNITS (PU)

2 SHADE/ CANOPY TREES X 2.86 PU = 6 SHADE/ CANOPY TREES REQUIRED; 2 CANOPY TREES PROVIDED, WAIVER REQUEST FOR 4 CANOPY TREES

1 EVERGREEN TREES X 2.86 PU = 3 EVERGREEN TREES REQUIRED, 1 EVERGREEN TREE PROVIDED WAIVER REQUEST FOR 2 EVERGREEN TREES

LANDSCAPE LEGEND

2" CALIPER MINIMUM CANOPY OR STREET TREES (OAK, ELM, MAPLE, ZELKOVA)

7' HEIGHT MINIMUM EVERGREEN TREES (WHITE PINE, SPRUCE, HOLLY, AMERICAN ARBORVITAE)

SHRUB/ PARKING HEDGE

NOTE: PROPOSED LANDSCAPE STOCK SHALL CONSIST MOSTLY OF NATIVE SPECIES.

LEGEND

DECIDUOUS TREE
BOLLARD
SINGLE POST SIGN
ELECTRIC HANDHOLE
UTILITY POLE
LAMP POLE
TELEPHONE PEDESTAL
STORM DRAIN MANHOLE
SANITARY SEWER CLEAN OUT
SANITARY SEWER MANHOLE
GAS METER
GAS SHUTOFF VALVE
WATER FAUCET
FIRE HYDRANT
WATER METER
WATER VALVE
COMPUTED POINT
IRON ROD FOUND

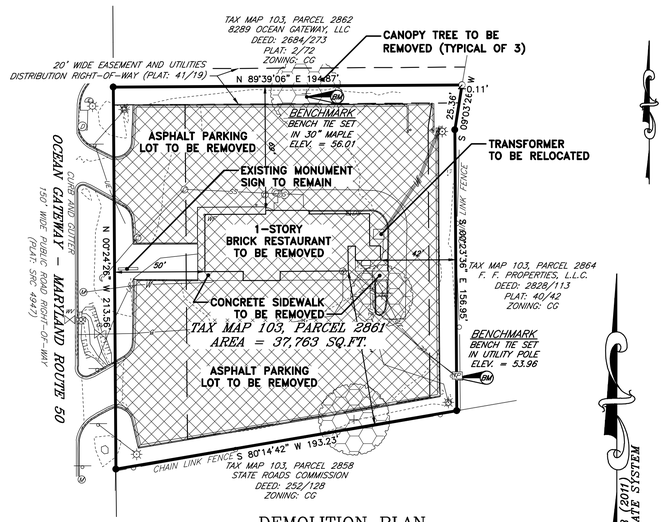
SWM QUANTITY SUMMARY CHART

POI	DA (ACRES)	IMPERVIOUS (ACRES)	RCN	Tc (MINUTES)	PRE 2 YEAR	POST 2 YEAR	WSE	PRE 10 YEAR	POST 10 YEAR	WSE	PRE 100 YEAR	POST 100 YEAR	WSE
1	0.22	0.13	--	1.40	1.22	0.94	--	1.98	1.63	--	2.88	2.45	--
2	0.28	0.15	--	1.80	1.28	1.11	--	2.05	1.98	--	2.97	3.02	--
3	0.20	0.09	--	1.90	0.85	0.75	--	1.38	1.35	--	2.02	2.07	--
4	0.17	0.09	--	1.50	0.89	0.68	--	1.45	1.20	--	2.12	1.83	--
				TOTAL	4.24	3.48	--	6.86	6.16	--	9.99	9.37	--

PROJECT IS IN TANYARD BRANCH AND IS UTILIZING STORMWATER REDEVELOPMENT – REFER TO ASSOCIATED STORMWATER REPORT FOR ADDITIONAL DETAILS AND COMPLIANCE NARRATIVE

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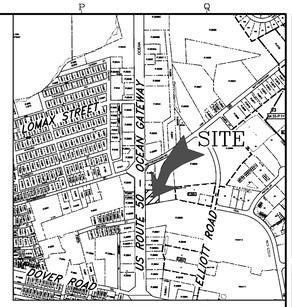


DEMOLITION PLAN

SCALE: 1" = 40'

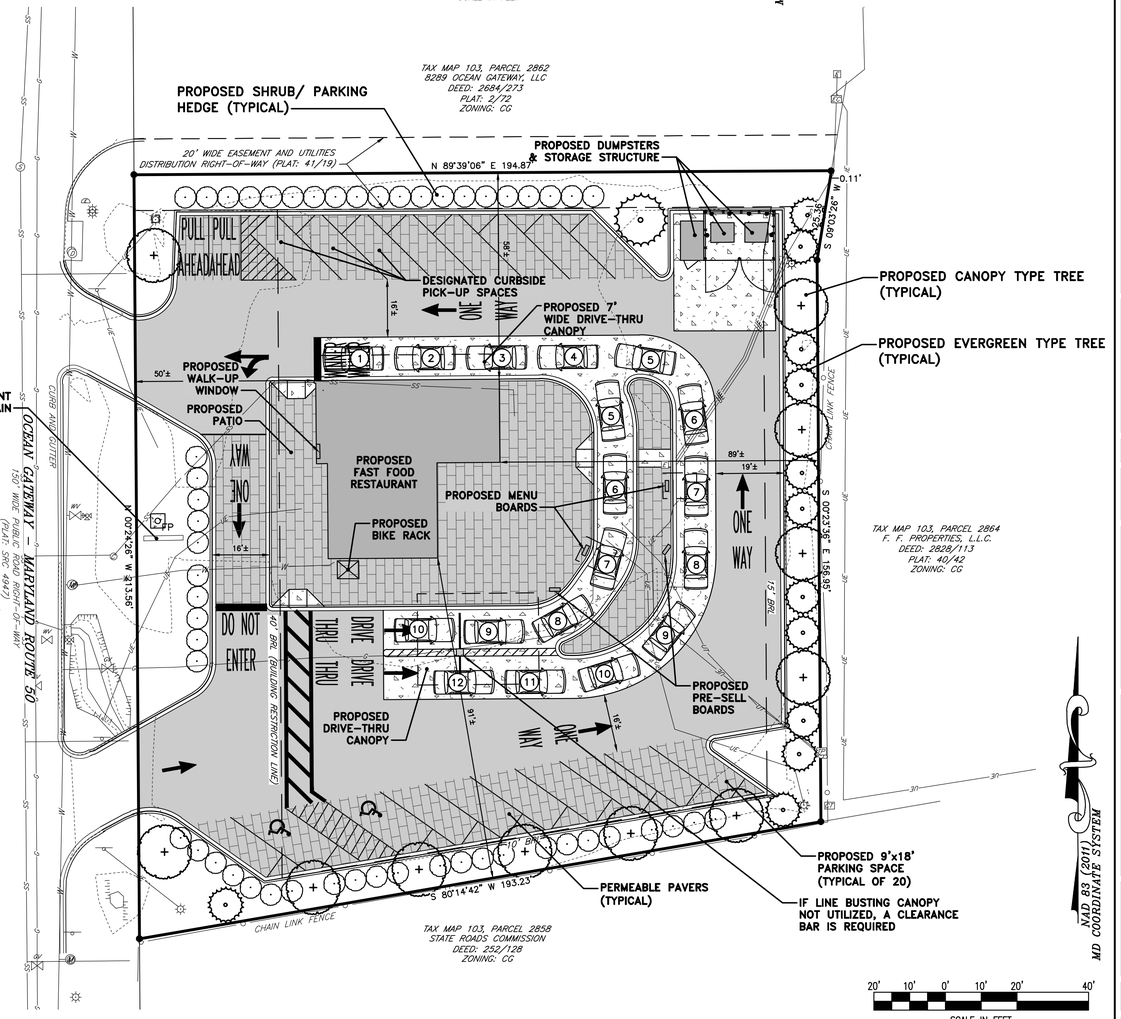
40' 20' 0' 20' 40' 80'

SCALE IN FEET



VICINITY MAP

SCALE: 1" = 1,000'



20' 10' 0' 10' 20' 40'

SCALE IN FEET

APPROVED:
TOWN OF EASTON – TOWN PLANNER DATE

APPROVED:
TOWN OF EASTON – TOWN ENGINEER DATE

APPROVED:
EASTON UTILITIES – ENGINEER DATE

REVISIONS TO APPROVED PLANS			
No.	DATE	DESCRIPTION	BY

WARNING!!

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

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

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 51461 , Expiration Date: 04/04/2026.

SEAL

DATE

SKETCH SITE PLAN

FOR
DELMARVA REAL ESTATE MANAGEMENT GROUP, LLC

IN THE TOWN OF EASTON, WARD 2
TALBOT COUNTY, MARYLAND
TAX MAP 103 GRID 0EA PARCEL 2861

ISSUED/REVISED FOR:	DATE:	BY:
ESDR SUBMITTAL	02/05/25	BCE
PLANNING COMMISSION	03/03/25	BCE

SHEET No. 1 OF 1
SCALE: AS NOTED
JOB No. 240547
FILE No. D481

Date: 03/03/2025 - 11:36am User: barnes Project Manager: BCE
Drawing Path: J:\2024\0500\240547\Civil\3D-240547\Dwg\Plats\YRK-PLTS-240547.dwg | 1
XREF File(s): RAR-BASE-240547/CSK-BASE-240547/VLD-BASE-240547/CBS-BASE-240547/YSF-BASE-240547/LLP-BASE-240547/RLD-EUC-BASE-240547


ZAXBYS
FAMOUR
PICKUP
Welcome!
DO NOT ENTER
DRIVE THRU


ZAXBYS
PICKUP
SIGNATURE SANDWICH
DO NOT ENTER


FAMOUS
ZAXBYS
YORK
AX


CURBSIDE PICKUP
DO NOT ENTER
DINE IN
DINE IN
DINE IN
ZAX
ZAXBYS
FAMOUS FINGERS & SAUCES
WINNER WINNER
DO NOT ENTER
PULL AHEAD
PULL AHEAD
DO NOT ENTER
DRIVE THRU
CURBSIDE PICKUP
CURBSIDE PICKUP
DINE IN


4461
ZAXBYS
FAMOUS FINGERS & SAUCES
DRIVE-THRU
THANK YOU


GOODFELLAS
I ZAX
CLEARANCE 8'-6"
ORDER HERE - CLEARANCE 8'-6"
Josh Rule


ZAXBYS
FAMOUS FINGERZ & SAUCEZ
DRIVE-THRU
ZAXBYS
PICKUP
ORDER
WELCOME


ZAXBYS
FAMOUS FINGERZ & SAUCES
DRIVE-THRU
SMOKIN' JOE'S
TOBACCO SHOP
SMOKE SHOP
NOW OPEN
ZAXBYS
ORDER
PICKUP
PODS


FAMOUS FINGERZ & SAUCES
ZAX SAUCE
RANGER


ZAXBYS
ORDER


Z. TO GO
ORDER
RESTROOMS
PICKUP
EXIT

Lane Engineering, LLC

STORMWATER MANAGEMENT REPORT

ZAXBY'S RESTAURANT

TOWN OF EASTON, TALBOT COUNTY, MARYLAND

PREPARED FOR:

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DATE PREPARED:

February 5, 2025



02/05/2025

PROFESSIONAL CERTIFICATION: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 51461, Expiration Date: 4/04/2026.

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Introduction

This report addresses the impacts of stormwater runoff as a result of the proposed re-development of the former Wendy's site located in Easton, MD. This stormwater management plan incorporates the requirements of the 2000 Maryland Stormwater Design Manual Volumes I and II (Manual) as currently updated. This report addresses stormwater requirements and meets the intent of the guidelines and methodologies presented in the MDE document Environmental Site Design (ESD) Process & Computations dated July 2010.

General Site Information

The project reference is Tax Map 103, Tax Parcel 2861 at 8275 Ocean Gateway with GC (General Commercial) zoning. The property has been previously developed as a franchise restaurant (Wendys) with associated parking & access to US 50. The Limit of Disturbance (LOD) associated with the restaurant re-development is 0.866 acres±. The project site is located entirely outside of the Chesapeake Bay Critical Area. Refer to the Site Improvement Plans for more detailed site information.

Figure 1: Aerial View of Site



Existing Conditions

The project is located north of the existing MDOT SHA District shop on westbound Ocean Gateway (US 50). This site is previously developed with a restaurant, drive through, and parking lot. Most of the site is covered in impervious surface and is already served by utilities.

In general, the property is relatively flat with the existing building in the center of the lot creating a high point to shed water toward the edges of the property. Unmanaged drainage runoff leaves the site in four (4) locations along the curb line bounding the parking lot.

The site is mapped as Urban soils according to USDA soil maps. Urban soils are assumed to act as Hydrologic Group D soils in absence of additional geotechnical evaluations that will be included in the preliminary stormwater report phase.

Proposed Project

The existing access points & improvements within the MDOT SHA Right-of-Way will be retained. All existing onsite improvements will be removed.

A new Zaxby's restaurant & drive-thru will be constructed with 20 parking spaces for interior dining, a reduction from the approximately 45 spaces currently onsite and reflective of current dining trends. Updated landscaping, accessible parking, and utility connections will be provided.

In general, the existing use, function, and operation of the property will remain, but with updated materials and aesthetics for the current market.

Stormwater Management

There are four primary drainage areas within the development area – providing one point of interest (POI) roughly on each corner of the property. Two drain toward the MDOT SHA right of way and two drain toward neighboring properties. No quantitative or qualitative management is currently provided by the existing site.

The property sits within the Tanyard Branch Watershed and is therefore subject to additional quantitative requirements as practicable onsite.

The stormwater management quality and quantity computations and management compliance are based on the overall proposed limits of disturbance (LOD) area, land cover and curve numbers, soil types, runoff characteristics and other parameters as required.

Stormwater Quantity Management

The existing property is dominated by impervious coverage with runoff leaving the site completely unmanaged. Under the baseline quantity controls described by the Manual, any reduction in lot coverage or other form of onsite management would provide an implicit reduction in the total 2- and 10-year runoff from the site.

However, the Town of Easton's Tanyard Branch ordinance, as currently written, requires management of the 10-year post development runoff down to the 2-year predevelopment condition. Under many circumstances this criterion can be met, generally with larger ponding volumes to be retained in micro-scale practices on-site.

In the case of the current project, there is minimal room to construct micro-scale practices without substantial degradation of existing site functionality and vehicular access – to accommodate a micro-bioretention or similar feature would result in further reductions to parking & drive-thru access making the site unviable as a franchise restaurant.

Lacking a deep storm drain system adjacent to the site also limits options for retaining storage using underground practices or other less conventional systems.

The project team & ownership have met with Town Engineering staff prior to this report and the development of concept plans. Based on the constraints of the site, it has been agreed to provide a 10% reduction of runoff for the net project as a quantity management goal that works toward the intent of the Tanyard Branch ordinance but as practicable onsite. Each POI must also be a reduction from current conditions per Town staff for the 2 and 10 year events.

For the purposes of this concept report, the minimum functional conditions of the proposed pavers, as described in MDE's Environmental Site Design Process & Computations guidance, is assumed. Using permeable pavers throughout the project site and assuming a minimum effective reduced curve number (RCN) of 70 for pavers with a 12" stone base, the above goals are met. Additional geotechnical evaluation may indicate these pavers will function with a better RCN if onsite soils are more conducive to infiltration – additional stormwater methodology for quality and quantity may also become viable.

The site was analyzed using HydroCAD software, with the following results:

Study Point	***Peak Runoff (cfs)***					
	2-year		***10-year***		***100-year***	
	Pre	***Post***	***Pre***	***Post***	***Pre***	***Post***
1	1.22	0.94	1.98	1.63	2.88	2.45
2	1.28	1.11	2.05	1.68	2.97	3.02
3	0.85	0.75	1.38	1.35	2.02	2.07
4	0.89	0.68	1.45	1.20	2.12	1.83
Total Runoff Leaving Site	**4.24**	**3.48**	**6.86**	**6.16**	**9.99**	**9.37**
10% Reduction of Ex Runoff	**4.24 x 90% = 3.816**		**6.86 x 90% = 6.174**		**--**	
Goal met?	**3.48 < 3.816 (OK)**		**6.16 < 6.174 (OK)**		**--**	

As seen above, the peak runoff leaving the project site at all study points will be reduced under proposed conditions for the 2 and 10 year storm events. The 10% net reduction of the project runoff is also met. Flow velocities for both study points for all storm events are non-erosive.

Please see Appendices A for quantity management calculations and see Appendix C for drainage area maps.

Stormwater Quality Treatment

Existing onsite coverage is 29,926± sf (79.33%) of a 0.866-acre (37,723± sf) parcel. As such, the project qualifies for stormwater re-development (existing impervious coverage is greater than 40%) whereby half of all existing impervious surface (29,926 ± sf x ½ = 14,962± sf) must either be treated to a P_E of 1.0 inch or removed.

The proposed project, in part to meet the requirements of Tanyard Branch as discussed above, will employ significant alternative surfaces (permeable pavers) which are not considered impervious surfaces by the Manual. The result is a post construction lot coverage of 20,023± sf. Therefore, the proposed development results in a reduction in onsite impervious coverage by 9,903± sf which is deducted from the 14,962± sf impervious surface treatment target. The remaining coverage, 5,059± sf, in conjunction to a P_E of 1.0 inch is used to develop a site target of 401 cf.

The pavers will utilize a 12" stone base that provides 0.16 cf of ESD_v per square foot of pavement. Employing 9,957 sf of pavers throughout the site results in a treatment volume of 1,536 cf. Please see Appendix B for additional information.

The objective of stormwater quality treatment is to provide the target ESDv using Environmental Site Design (ESD) features/practices to the Maximum Extent Practicable (MEP) before utilizing structural stormwater practices from Chapter 3 of the Manual.

ESD Practices Evaluation

Alternative Surfaces

- Green Rooftops – The restaurant project employs a specific architectural aesthetic as part of their corporate brand. A green roof is not readily incorporated into this architecture and would also require significant maintenance in the long term.
- **Permeable Pavements** – Permeable pavements are ideal for redevelopment projects as they both reduce stormwater runoff and do not count towards onsite impervious coverage. Given site constraints and the desire to maximize vehicular use, permeable pavements are ideal for this project.
- Reinforced Turf - Reinforced turf areas are commonly used for emergency equipment access or for areas that receive minimal vehicular use. Not applicable for a site dominated by vehicular use.

Nonstructural practices

- Disconnection of Rooftop Runoff – Not enough onsite greenspace (existing or proposed) to employ this practice to substantial effect.
- Disconnection of Non-Rooftop Runoff – Not enough onsite greenspace (existing or proposed) to employ this practice to substantial effect.
- Sheetflow to Conservation Area – Not applicable; No conservation areas are within or adjacent to the project.

Micro-scale practices

- Rainwater Harvesting – Opportunities for on-site reuse of harvested rainwater are limited. Operations and maintenance, especially during cold-weather periods, is also a concern.
- Submerged Gravel Wetlands – Onsite space is limited for micro-scale practices without reducing the overall functionality & onsite circulation of the project.
- Landscape Infiltration – There is potential for a form of infiltration-based practices, however, soil maps show onsite conditions as urban. Additional soil investigation may present an opportunity to implement this practice in the preliminary design phase of this project, if in-situ conditions support it.
- Infiltration Berms – The requirements of the proposed development do not leave enough room for the implementation of this practice.
- Dry Wells – This could be a viable practice, contingent upon additional geotechnical investigations.
- Micro-Bioretention – Onsite space is limited for micro-scale practices without reducing the overall functionality & onsite circulation of the project.
- Rain Gardens – This practice is better suited for residential environments.
- Swales – swales do not fit within the constraints of the site.

Permeable Pavers (A-2) are proposed to address the ESDv requirement. The total ESDv provided by these practices is 1,536 cf, which is greater than the 401 cf required. Therefore, ESD has been achieved to the MEP. Refer to Appendix B for calculations.

Conclusion

This stormwater management analysis indicates that the proposed design will successfully meet stormwater quality and quantity requirements. It is respectfully requested that the stormwater analysis and report and project design be approved as presented.

APPENDIX A

HYDROCAD QUANTITY MANAGEMENT ANALYSIS



Ex. NE Area to POI-1



Ex. SE Area to POI-2

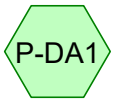


Ex. NW Area to POI-3
(Rt.50)

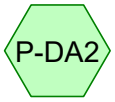


Ex. SW Area to POI-4
(Rt.50)

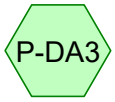
PRE-DEVELOPMENT CONDITIONS



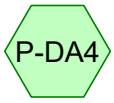
Prop. NE Area to POI-1



Prop. SE Area to POI-2

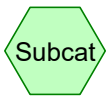


Prop. NW Area to POI-3
(Rt.50)

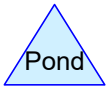


Prop. SW Area to POI-4
(Rt.50)

POST-DEVELOPMENT CONDITIONS









Routing Diagram for 240547-Zaxbys Easton
Prepared by Lane Engineering, LLC, Printed 2/5/2025
HydroCAD® 10.00-17 s/n 03788 © 2016 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.366	80	>75% Grass cover, Good, HSG D (EX1, EX2, EX3, EX4, P-DA1, P-DA2, P-DA3, P-DA4)
0.219	98	Aspahlt & Roof, HSG D (EX2)
0.194	98	Asphalt & Roof, HSG D (EX1)
0.734	98	Paved parking, HSG D (EX3, EX4, P-DA1, P-DA2, P-DA3, P-DA4)
0.220	70	Perm. Pavers (P-DA1, P-DA2, P-DA3, P-DA4)
1.733	**91**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.513	HSG D	EX1, EX2, EX3, EX4, P-DA1, P-DA2, P-DA3, P-DA4
0.220	Other	P-DA1, P-DA2, P-DA3, P-DA4
1.733		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.366	0.000	0.366	>75% Grass cover, Good	EX1, EX2, EX3, EX4, P-DA1, P-DA2, P-DA3, P-DA4
0.000	0.000	0.000	0.219	0.000	0.219	Aspahlt & Roof	EX2
0.000	0.000	0.000	0.194	0.000	0.194	Asphalt & Roof	EX1
0.000	0.000	0.000	0.734	0.000	0.734	Paved parking	EX3, EX4, P-DA1, P-DA2, P-DA3, P-DA4
0.000	0.000	0.000	0.000	0.220	0.220	Perm. Pavers	P-DA1, P-DA2, P-DA3, P-DA4
0.000	**0.000**	**0.000**	**1.513**	**0.220**	**1.733**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX1: Ex. NE Area to POI-1 Runoff Area=10,733 sf 78.64% Impervious Runoff Depth>2.74"
Flow Length=112' Slope=0.0160 '/' Tc=1.4 min CN=94 Runoff=1.22 cfs 0.056 af

Subcatchment EX2: Ex. SE Area to POI-2 Runoff Area=11,314 sf 84.36% Impervious Runoff Depth>2.84"
Flow Length=165' Tc=1.8 min CN=95 Runoff=1.28 cfs 0.061 af

Subcatchment EX3: Ex. NW Area to POI-3 Runoff Area=7,763 sf 75.82% Impervious Runoff Depth>2.74"
Flow Length=139' Tc=1.9 min CN=94 Runoff=0.85 cfs 0.041 af

Subcatchment EX4: Ex. SW Area to POI-4 Runoff Area=7,934 sf 76.53% Impervious Runoff Depth>2.74"
Flow Length=114' Slope=0.0151 '/' Tc=1.5 min CN=94 Runoff=0.89 cfs 0.042 af

Subcatchment P-DA1: Prop. NE Area to Runoff Area=9,498 sf 58.25% Impervious Runoff Depth>2.26"
Tc=1.4 min CN=89 Runoff=0.94 cfs 0.041 af

Subcatchment P-DA2: Prop. SE Area to Runoff Area=12,329 sf 54.53% Impervious Runoff Depth>2.09"
Tc=1.8 min CN=87 Runoff=1.11 cfs 0.049 af

Subcatchment P-DA3: Prop. NW Area to Runoff Area=8,617 sf 47.30% Impervious Runoff Depth>2.01"
Tc=1.9 min CN=86 Runoff=0.75 cfs 0.033 af

Subcatchment P-DA4: Prop. SW Area to Runoff Area=7,300 sf 50.74% Impervious Runoff Depth>2.09"
Tc=1.5 min CN=87 Runoff=0.68 cfs 0.029 af

Total Runoff Area = 1.733 ac Runoff Volume = 0.353 af Average Runoff Depth = 2.44"
33.79% Pervious = 0.586 ac 66.21% Impervious = 1.147 ac

Summary for Subcatchment EX1: Ex. NE Area to POI-1

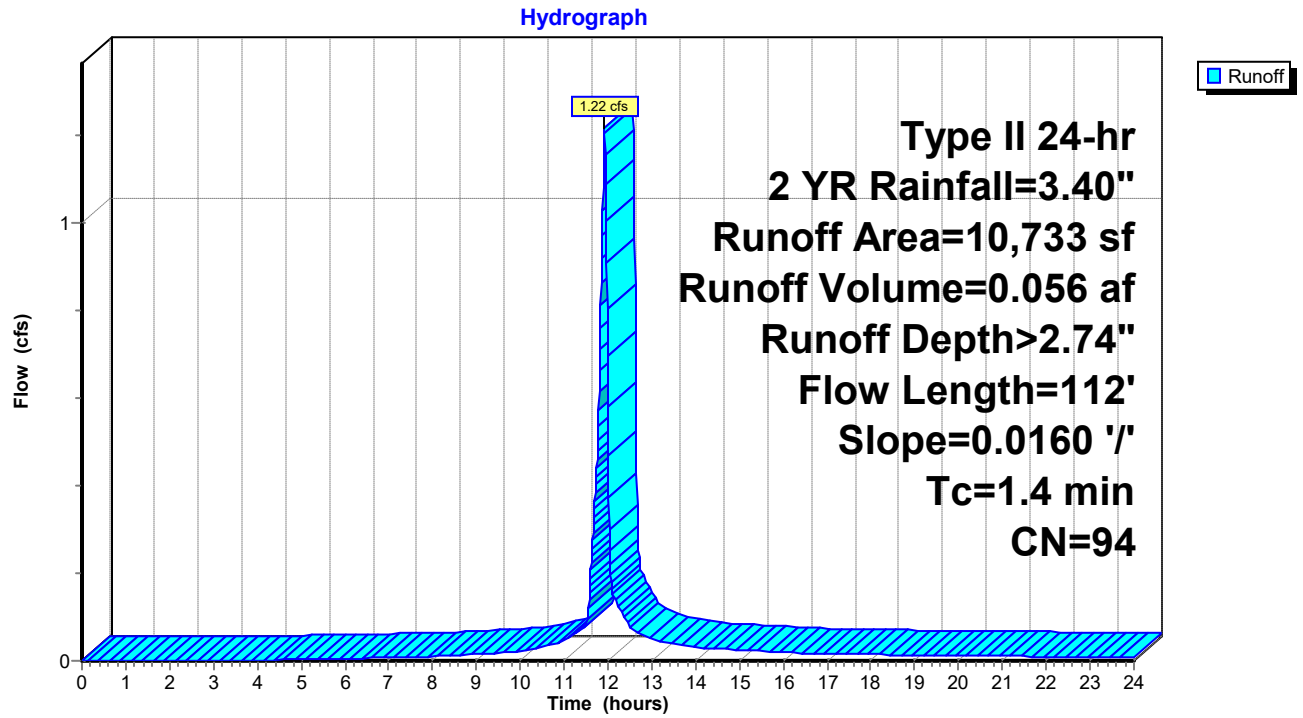
Runoff = 1.22 cfs @ 11.92 hrs, Volume= 0.056 af, Depth> 2.74"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 YR Rainfall=3.40"

	Area (sf)	CN	Description
	2,293	80	>75% Grass cover, Good, HSG D
*	8,440	98	Asphalt & Roof, HSG D
	10,733	94	Weighted Average
	2,293		21.36% Pervious Area
	8,440		78.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	112	0.0160	1.33		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"

Subcatchment EX1: Ex. NE Area to POI-1



Summary for Subcatchment EX2: Ex. SE Area to POI-2

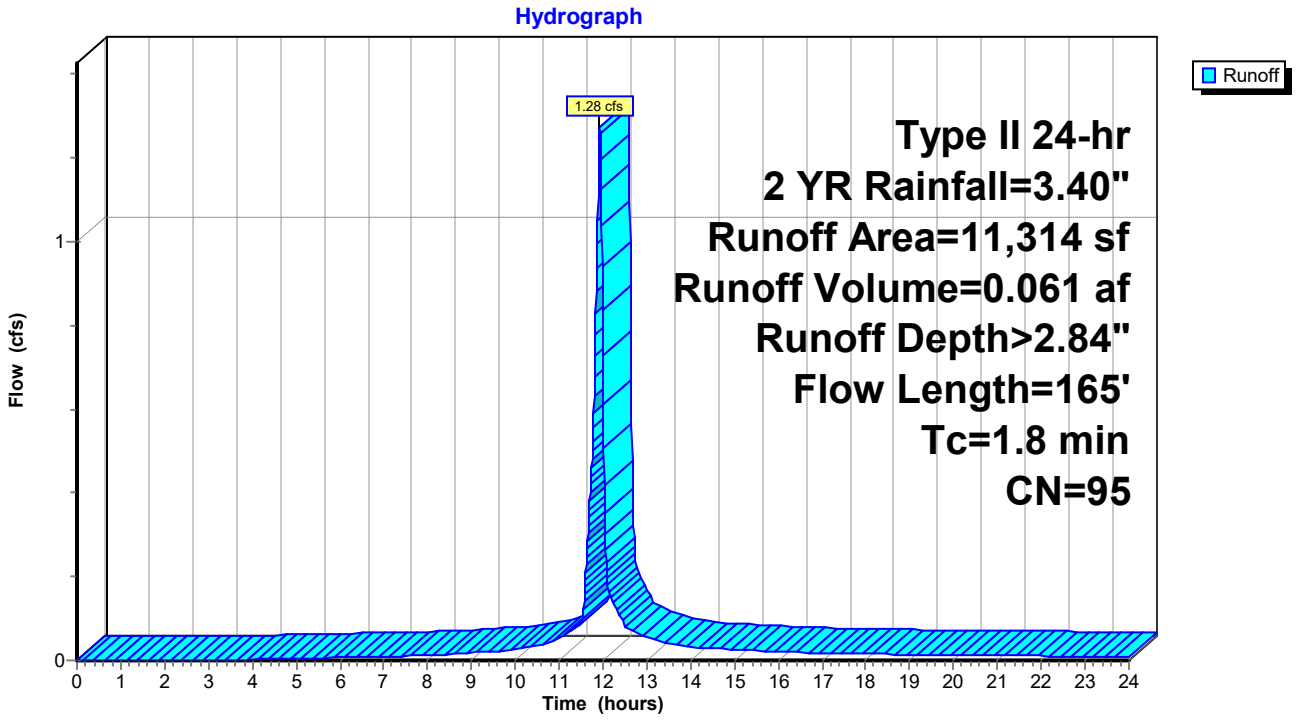
Runoff = 1.28 cfs @ 11.93 hrs, Volume= 0.061 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 YR Rainfall=3.40"

	Area (sf)	CN	Description
	1,770	80	>75% Grass cover, Good, HSG D
*	9,544	98	Aspahlt & Roof, HSG D
	11,314	95	Weighted Average
	1,770		15.64% Pervious Area
	9,544		84.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	89	0.0146	1.22		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"
0.6	76	0.0107	2.10		**Shallow Concentrated Flow, Curb Line** Paved Kv= 20.3 fps
1.8	165	Total			

Subcatchment EX2: Ex. SE Area to POI-2



Summary for Subcatchment EX3: Ex. NW Area to POI-3 (Rt.50)

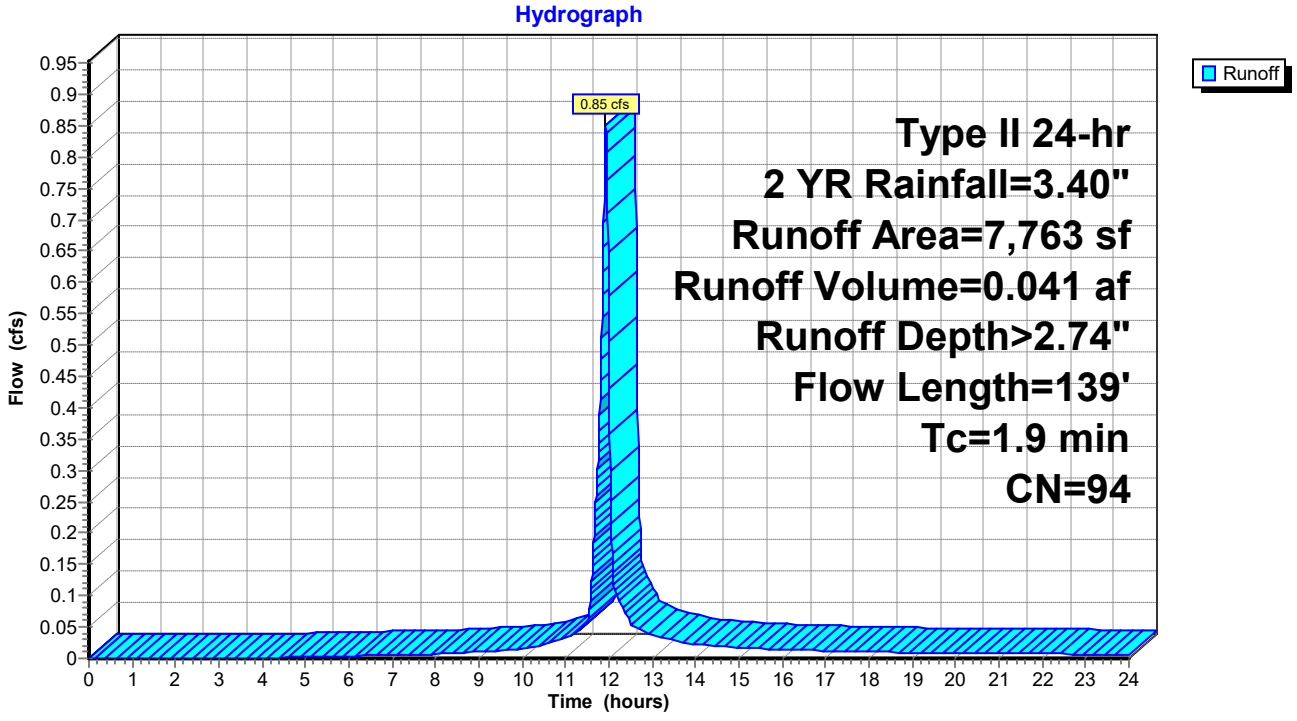
Runoff = 0.85 cfs @ 11.93 hrs, Volume= 0.041 af, Depth> 2.74"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 YR Rainfall=3.40"

Area (sf)	CN	Description
5,886	98	Paved parking, HSG D
1,877	80	>75% Grass cover, Good, HSG D
7,763	94	Weighted Average
1,877		24.18% Pervious Area
5,886		75.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	116	0.0108	1.14		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"
0.2	23	0.0098	2.01		**Shallow Concentrated Flow, Curb Line** Paved Kv= 20.3 fps
1.9	139	Total			

Subcatchment EX3: Ex. NW Area to POI-3 (Rt.50)



Summary for Subcatchment EX4: Ex. SW Area to POI-4 (Rt.50)

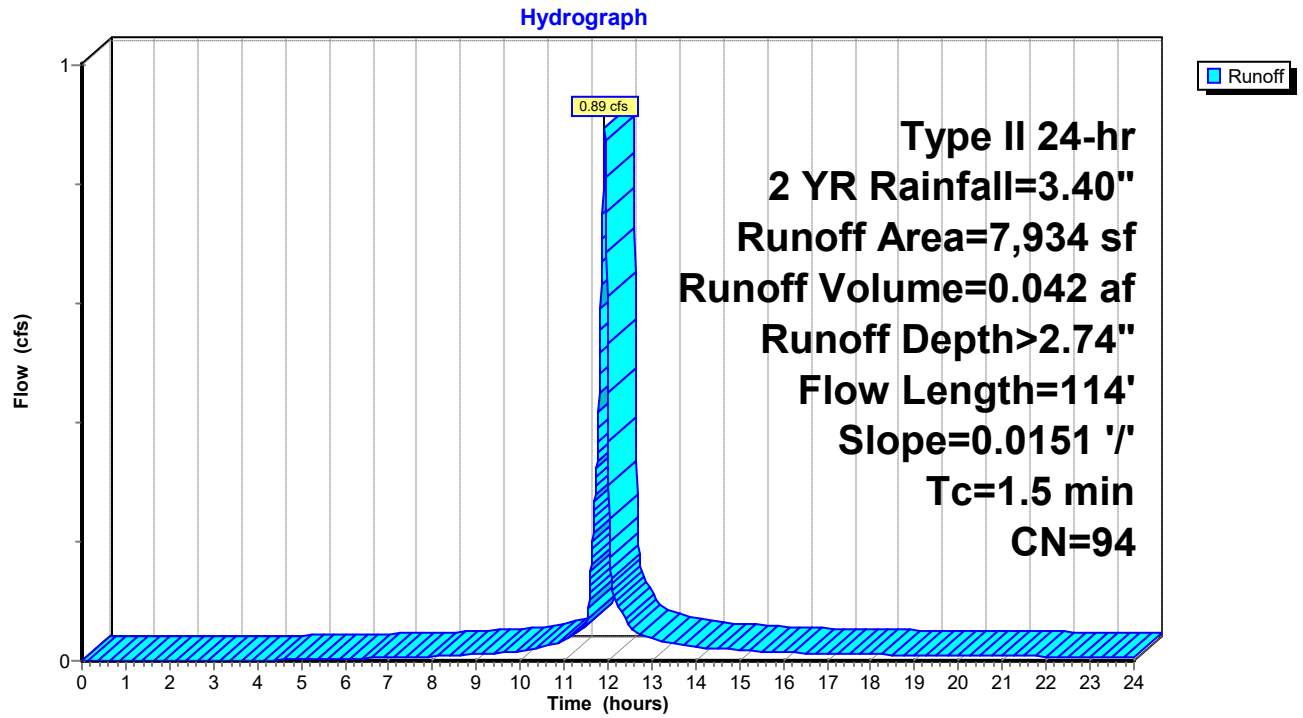
Runoff = 0.89 cfs @ 11.92 hrs, Volume= 0.042 af, Depth> 2.74"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 YR Rainfall=3.40"

Area (sf)	CN	Description
6,072	98	Paved parking, HSG D
1,862	80	>75% Grass cover, Good, HSG D
7,934	94	Weighted Average
1,862		23.47% Pervious Area
6,072		76.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	114	0.0151	1.30		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"

Subcatchment EX4: Ex. SW Area to POI-4 (Rt.50)



Summary for Subcatchment P-DA1: Prop. NE Area to POI-1

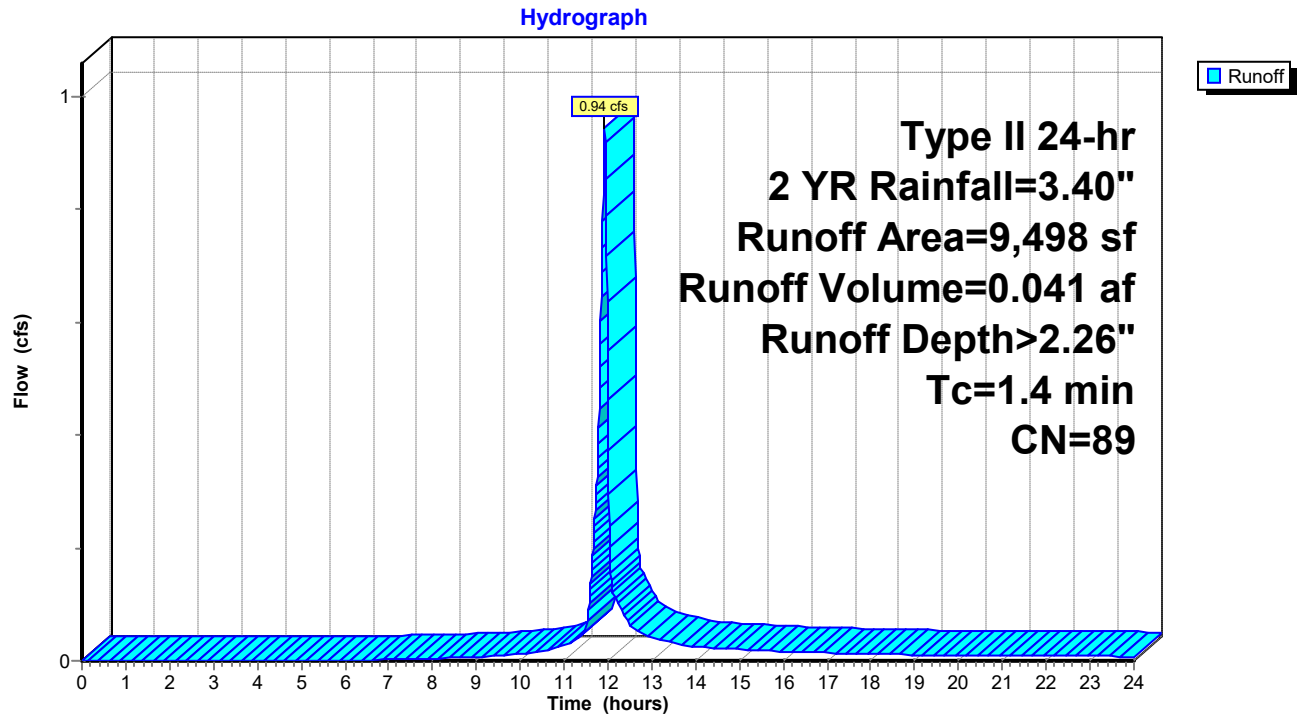
Runoff = 0.94 cfs @ 11.92 hrs, Volume= 0.041 af, Depth> 2.26"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 YR Rainfall=3.40"

	Area (sf)	CN	Description
	2,151	80	>75% Grass cover, Good, HSG D
	5,533	98	Paved parking, HSG D
*	1,814	70	Perm. Pavers
	9,498	89	Weighted Average
	3,965		41.75% Pervious Area
	5,533		58.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4					**Direct Entry, Matches Ex TC**

Subcatchment P-DA1: Prop. NE Area to POI-1



Summary for Subcatchment P-DA2: Prop. SE Area to POI-2

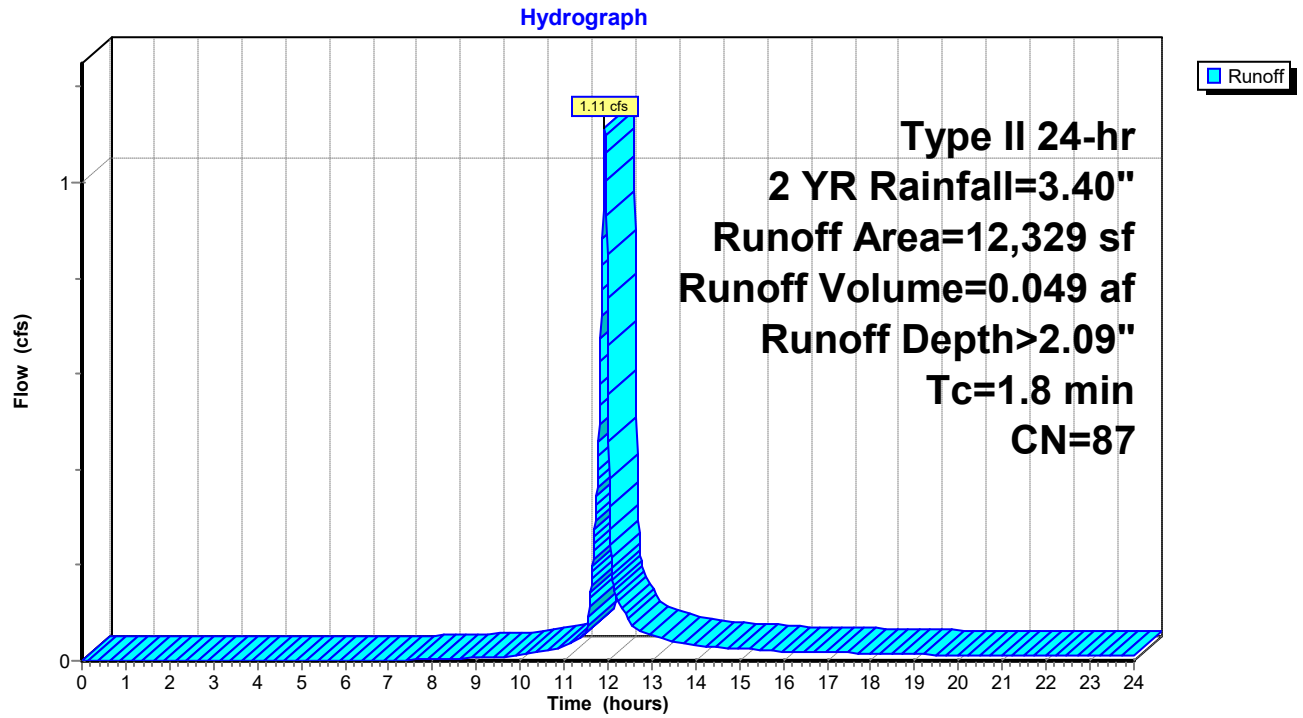
Runoff = 1.11 cfs @ 11.93 hrs, Volume= 0.049 af, Depth> 2.09"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 YR Rainfall=3.40"

	Area (sf)	CN	Description
	1,892	80	>75% Grass cover, Good, HSG D
*	6,723	98	Paved parking, HSG D
*	3,714	70	Perm. Pavers
	12,329	87	Weighted Average
	5,606		45.47% Pervious Area
	6,723		54.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8					**Direct Entry, Matches Ex TC**

Subcatchment P-DA2: Prop. SE Area to POI-2



Summary for Subcatchment P-DA3: Prop. NW Area to POI-3 (Rt.50)

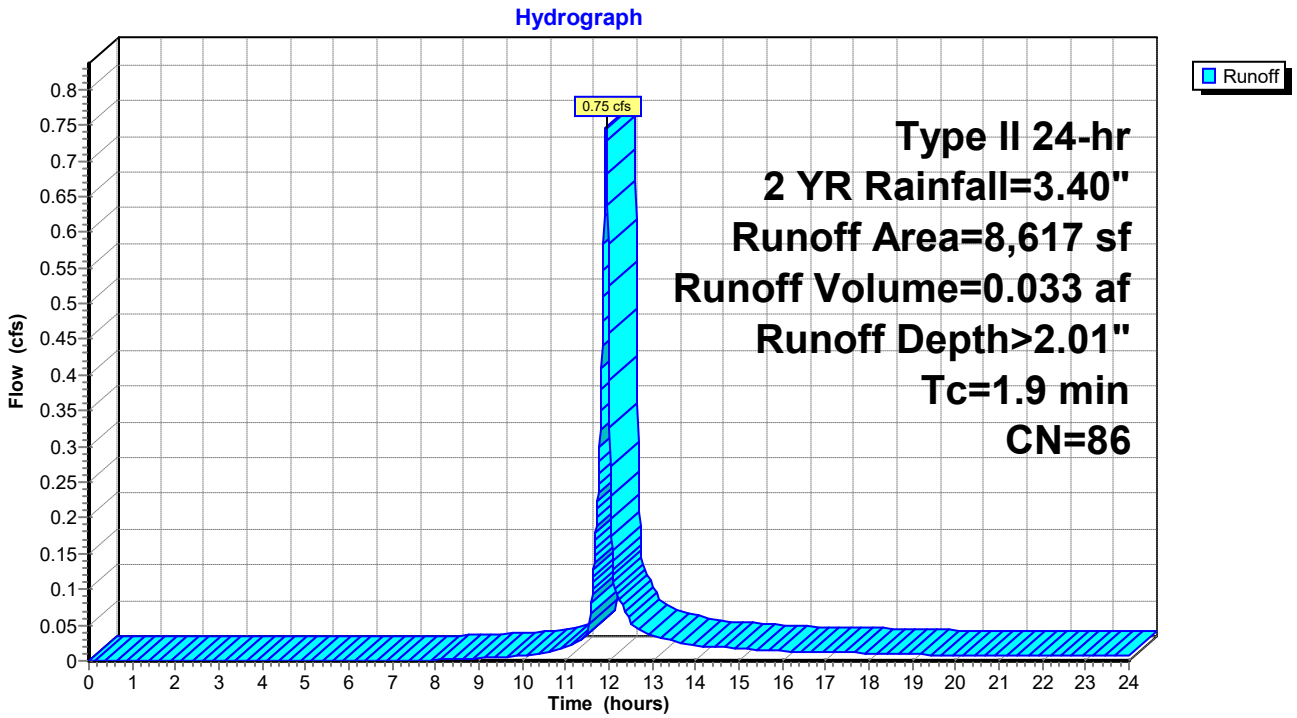
Runoff = 0.75 cfs @ 11.93 hrs, Volume= 0.033 af, Depth> 2.01"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 YR Rainfall=3.40"

	Area (sf)	CN	Description
	1,976	80	>75% Grass cover, Good, HSG D
	4,076	98	Paved parking, HSG D
*	2,565	70	Perm. Pavers
	8,617	86	Weighted Average
	4,541		52.70% Pervious Area
	4,076		47.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9					**Direct Entry, Matches Ex TC**

Subcatchment P-DA3: Prop. NW Area to POI-3 (Rt.50)



Summary for Subcatchment P-DA4: Prop. SW Area to POI-4 (Rt.50)

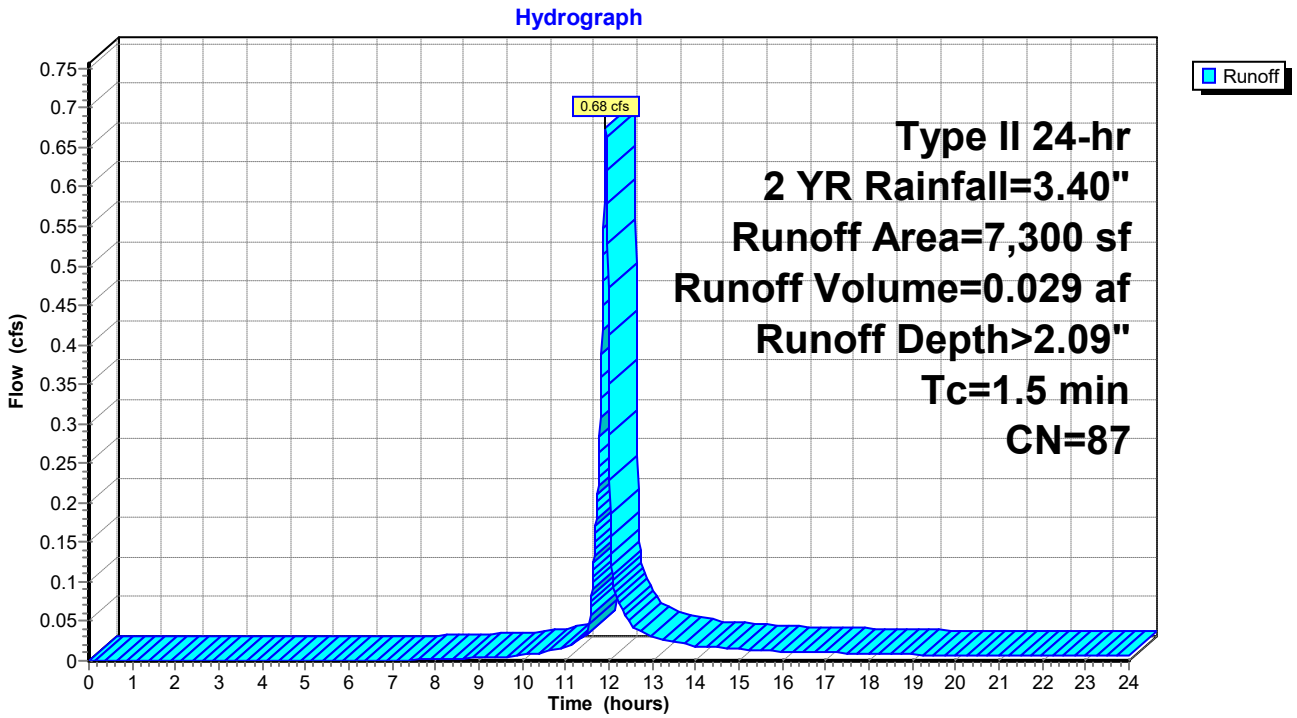
Runoff = 0.68 cfs @ 11.92 hrs, Volume= 0.029 af, Depth> 2.09"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 YR Rainfall=3.40"

	Area (sf)	CN	Description
	2,101	80	>75% Grass cover, Good, HSG D
	3,704	98	Paved parking, HSG D
*	1,495	70	Perm. Pavers
	7,300	87	Weighted Average
	3,596		49.26% Pervious Area
	3,704		50.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5					**Direct Entry, Matches Ex TC**

Subcatchment P-DA4: Prop. SW Area to POI-4 (Rt.50)



Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX1: Ex. NE Area to POI-1 Runoff Area=10,733 sf 78.64% Impervious Runoff Depth>4.60"
Flow Length=112' Slope=0.0160 '/' Tc=1.4 min CN=94 Runoff=1.98 cfs 0.095 af

Subcatchment EX2: Ex. SE Area to POI-2 Runoff Area=11,314 sf 84.36% Impervious Runoff Depth>4.71"
Flow Length=165' Tc=1.8 min CN=95 Runoff=2.05 cfs 0.102 af

Subcatchment EX3: Ex. NW Area to POI-3 Runoff Area=7,763 sf 75.82% Impervious Runoff Depth>4.60"
Flow Length=139' Tc=1.9 min CN=94 Runoff=1.38 cfs 0.068 af

Subcatchment EX4: Ex. SW Area to POI-4 Runoff Area=7,934 sf 76.53% Impervious Runoff Depth>4.60"
Flow Length=114' Slope=0.0151 '/' Tc=1.5 min CN=94 Runoff=1.45 cfs 0.070 af

Subcatchment P-DA1: Prop. NE Area to Runoff Area=9,498 sf 58.25% Impervious Runoff Depth>4.06"
Tc=1.4 min CN=89 Runoff=1.63 cfs 0.074 af

Subcatchment P-DA2: Prop. SE Area to Runoff Area=12,329 sf 54.53% Impervious Runoff Depth>3.85"
Tc=1.8 min CN=87 Runoff=1.98 cfs 0.091 af

Subcatchment P-DA3: Prop. NW Area to Runoff Area=8,617 sf 47.30% Impervious Runoff Depth>3.75"
Tc=1.9 min CN=86 Runoff=1.35 cfs 0.062 af

Subcatchment P-DA4: Prop. SW Area to Runoff Area=7,300 sf 50.74% Impervious Runoff Depth>3.85"
Tc=1.5 min CN=87 Runoff=1.20 cfs 0.054 af

Total Runoff Area = 1.733 ac Runoff Volume = 0.615 af Average Runoff Depth = 4.26"
33.79% Pervious = 0.586 ac 66.21% Impervious = 1.147 ac

Summary for Subcatchment EX1: Ex. NE Area to POI-1

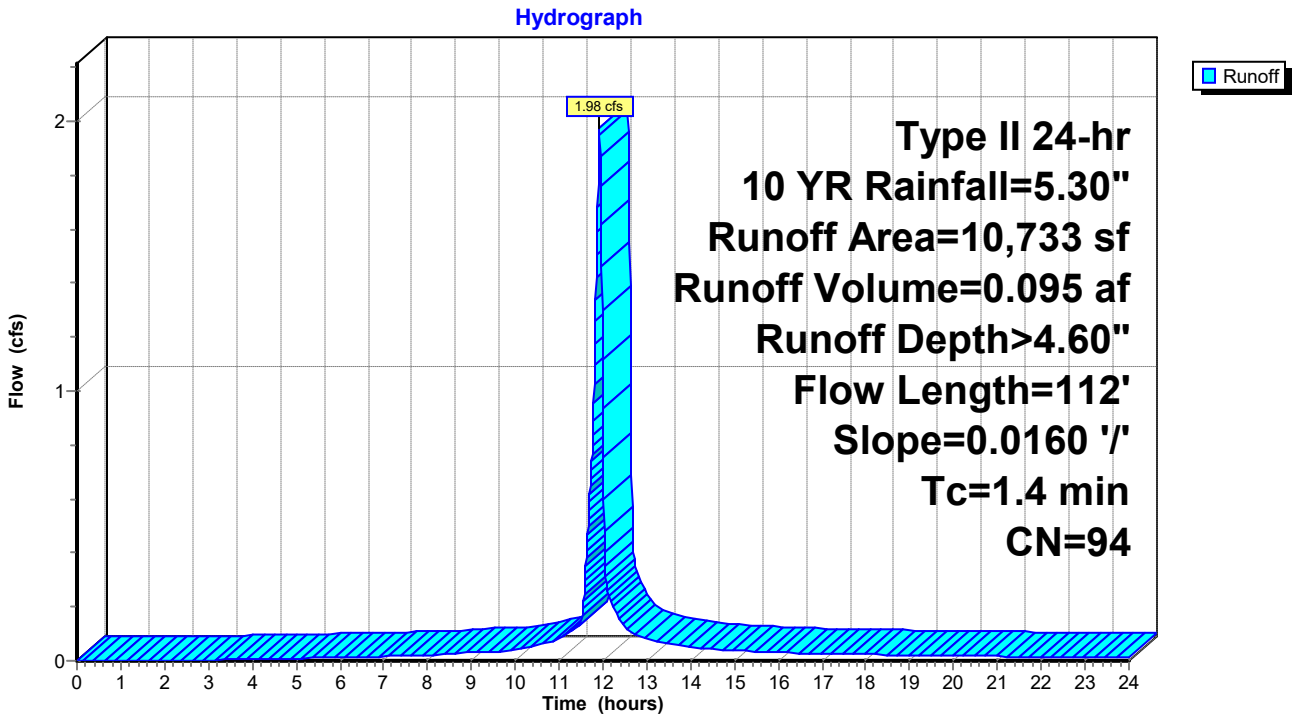
Runoff = 1.98 cfs @ 11.92 hrs, Volume= 0.095 af, Depth> 4.60"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 YR Rainfall=5.30"

	Area (sf)	CN	Description
	2,293	80	>75% Grass cover, Good, HSG D
*	8,440	98	Asphalt & Roof, HSG D
	10,733	94	Weighted Average
	2,293		21.36% Pervious Area
	8,440		78.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	112	0.0160	1.33		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"

Subcatchment EX1: Ex. NE Area to POI-1



Summary for Subcatchment EX2: Ex. SE Area to POI-2

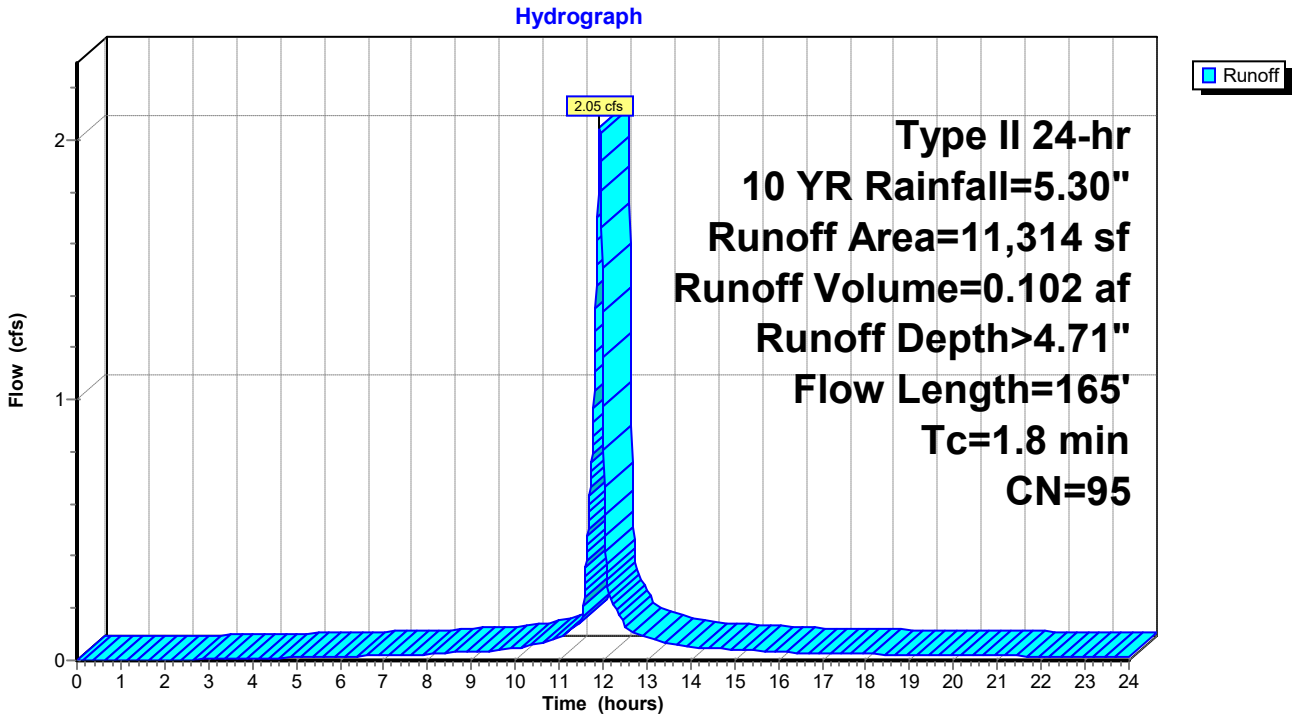
Runoff = 2.05 cfs @ 11.93 hrs, Volume= 0.102 af, Depth> 4.71"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 YR Rainfall=5.30"

	Area (sf)	CN	Description
	1,770	80	>75% Grass cover, Good, HSG D
*	9,544	98	Aspahlt & Roof, HSG D
	11,314	95	Weighted Average
	1,770		15.64% Pervious Area
	9,544		84.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	89	0.0146	1.22		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"
0.6	76	0.0107	2.10		**Shallow Concentrated Flow, Curb Line** Paved Kv= 20.3 fps
1.8	165	Total			

Subcatchment EX2: Ex. SE Area to POI-2



Summary for Subcatchment EX3: Ex. NW Area to POI-3 (Rt.50)

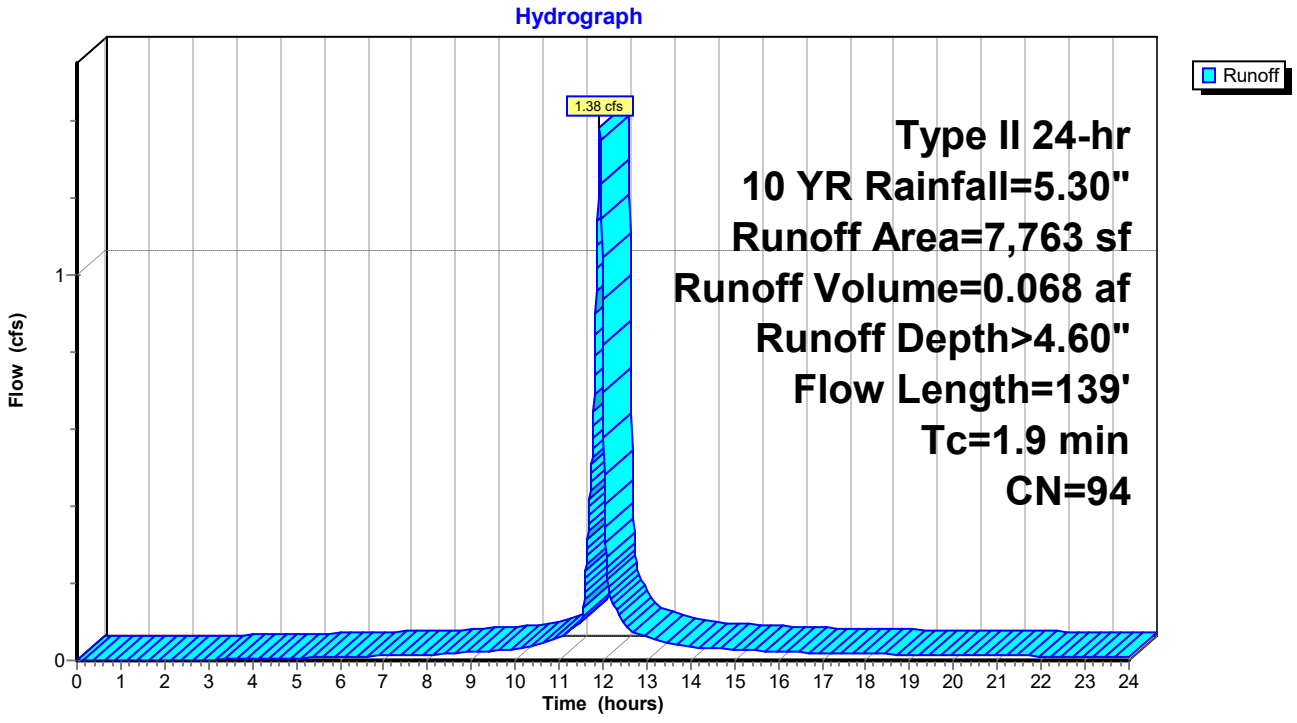
Runoff = 1.38 cfs @ 11.93 hrs, Volume= 0.068 af, Depth> 4.60"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 YR Rainfall=5.30"

Area (sf)	CN	Description
5,886	98	Paved parking, HSG D
1,877	80	>75% Grass cover, Good, HSG D
7,763	94	Weighted Average
1,877		24.18% Pervious Area
5,886		75.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	116	0.0108	1.14		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"
0.2	23	0.0098	2.01		**Shallow Concentrated Flow, Curb Line** Paved Kv= 20.3 fps
1.9	139	Total			

Subcatchment EX3: Ex. NW Area to POI-3 (Rt.50)



Summary for Subcatchment EX4: Ex. SW Area to POI-4 (Rt.50)

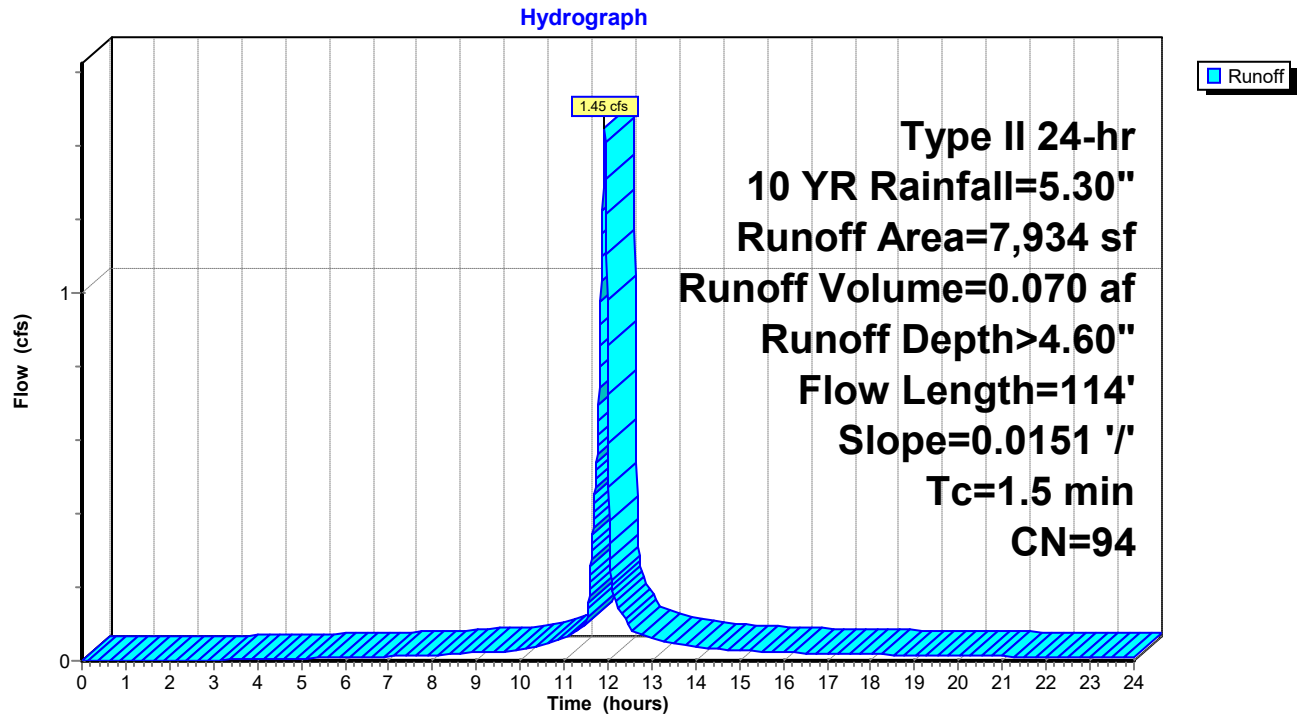
Runoff = 1.45 cfs @ 11.92 hrs, Volume= 0.070 af, Depth> 4.60"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 YR Rainfall=5.30"

Area (sf)	CN	Description
6,072	98	Paved parking, HSG D
1,862	80	>75% Grass cover, Good, HSG D
7,934	94	Weighted Average
1,862		23.47% Pervious Area
6,072		76.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	114	0.0151	1.30		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"

Subcatchment EX4: Ex. SW Area to POI-4 (Rt.50)



Summary for Subcatchment P-DA1: Prop. NE Area to POI-1

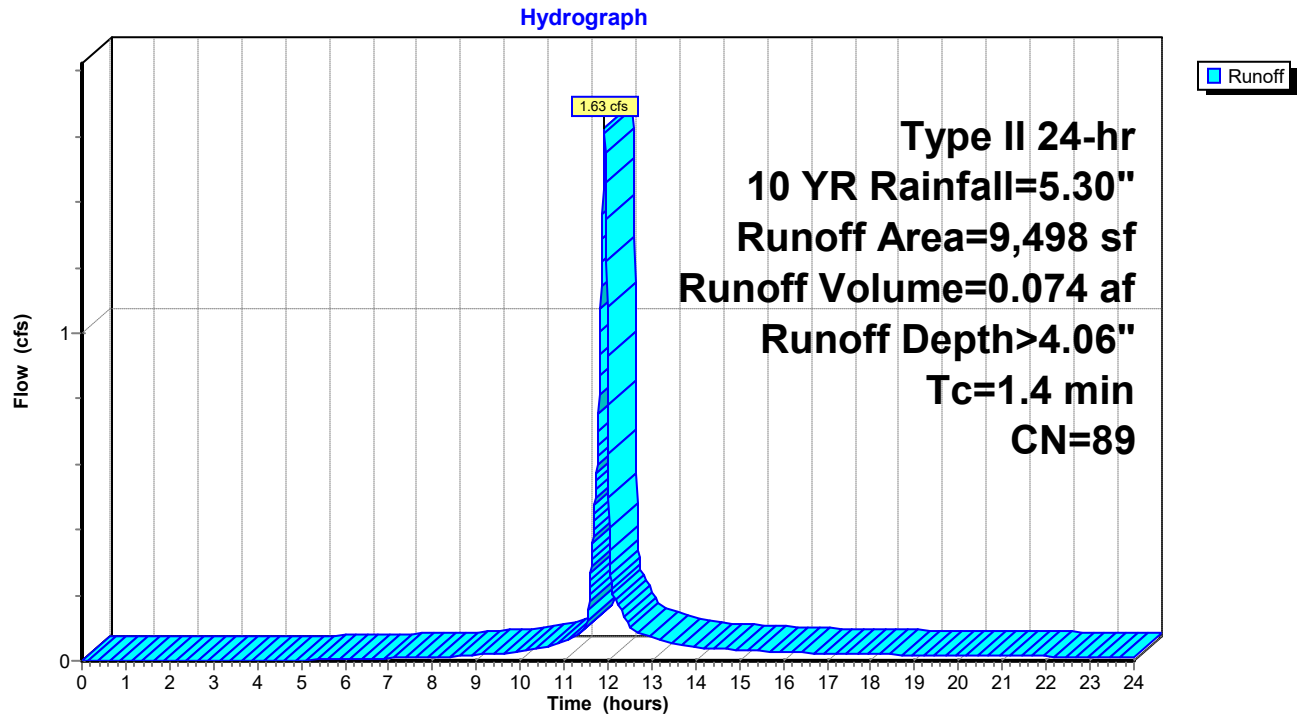
Runoff = 1.63 cfs @ 11.92 hrs, Volume= 0.074 af, Depth> 4.06"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 YR Rainfall=5.30"

	Area (sf)	CN	Description
	2,151	80	>75% Grass cover, Good, HSG D
	5,533	98	Paved parking, HSG D
*	1,814	70	Perm. Pavers
	9,498	89	Weighted Average
	3,965		41.75% Pervious Area
	5,533		58.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4					**Direct Entry, Matches Ex TC**

Subcatchment P-DA1: Prop. NE Area to POI-1



Summary for Subcatchment P-DA2: Prop. SE Area to POI-2

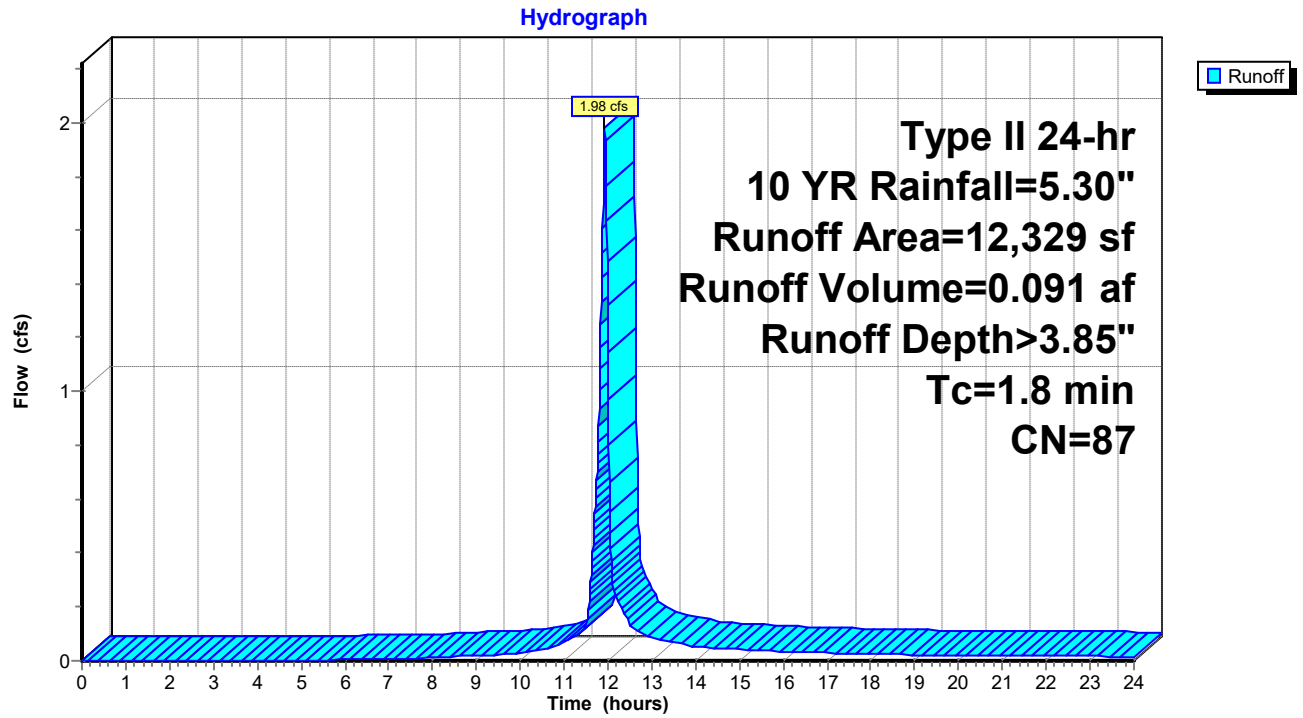
Runoff = 1.98 cfs @ 11.93 hrs, Volume= 0.091 af, Depth> 3.85"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 YR Rainfall=5.30"

	Area (sf)	CN	Description
	1,892	80	>75% Grass cover, Good, HSG D
*	6,723	98	Paved parking, HSG D
*	3,714	70	Perm. Pavers
	12,329	87	Weighted Average
	5,606		45.47% Pervious Area
	6,723		54.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8					**Direct Entry, Matches Ex TC**

Subcatchment P-DA2: Prop. SE Area to POI-2



Summary for Subcatchment P-DA3: Prop. NW Area to POI-3 (Rt.50)

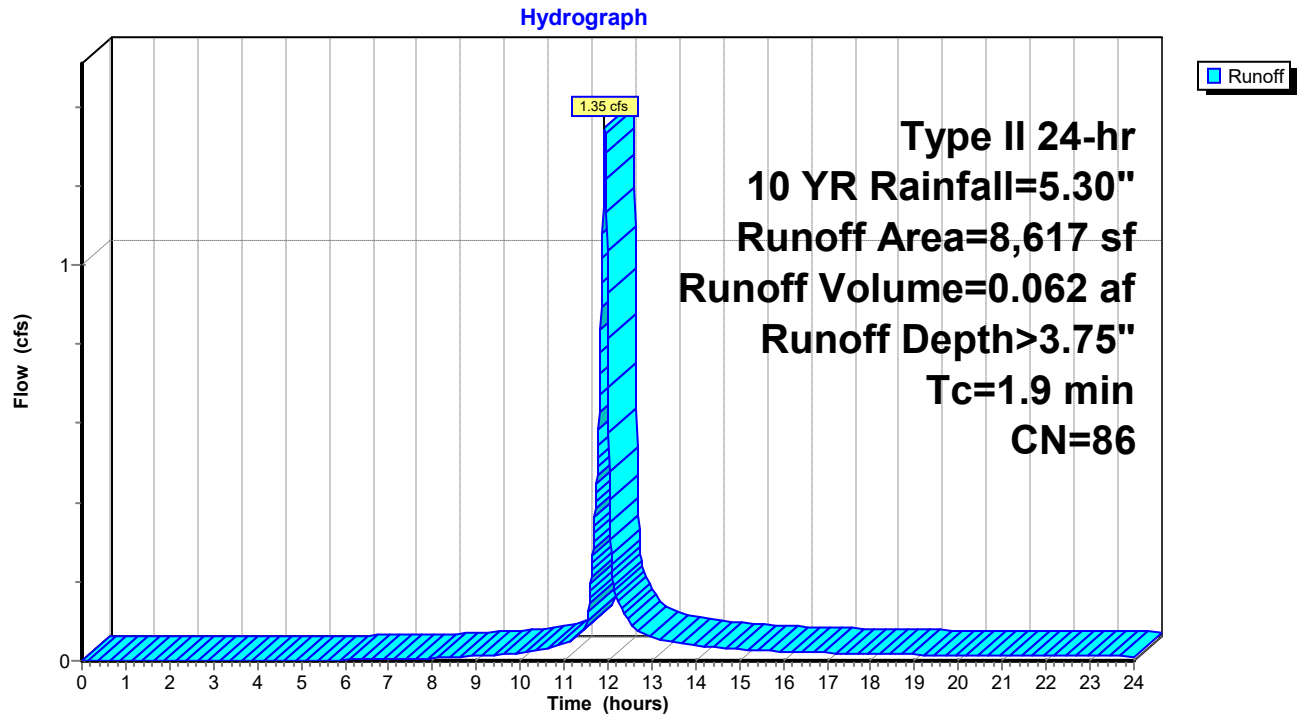
Runoff = 1.35 cfs @ 11.93 hrs, Volume= 0.062 af, Depth> 3.75"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 YR Rainfall=5.30"

	Area (sf)	CN	Description
	1,976	80	>75% Grass cover, Good, HSG D
	4,076	98	Paved parking, HSG D
*	2,565	70	Perm. Pavers
	8,617	86	Weighted Average
	4,541		52.70% Pervious Area
	4,076		47.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9					**Direct Entry, Matches Ex TC**

Subcatchment P-DA3: Prop. NW Area to POI-3 (Rt.50)



Summary for Subcatchment P-DA4: Prop. SW Area to POI-4 (Rt.50)

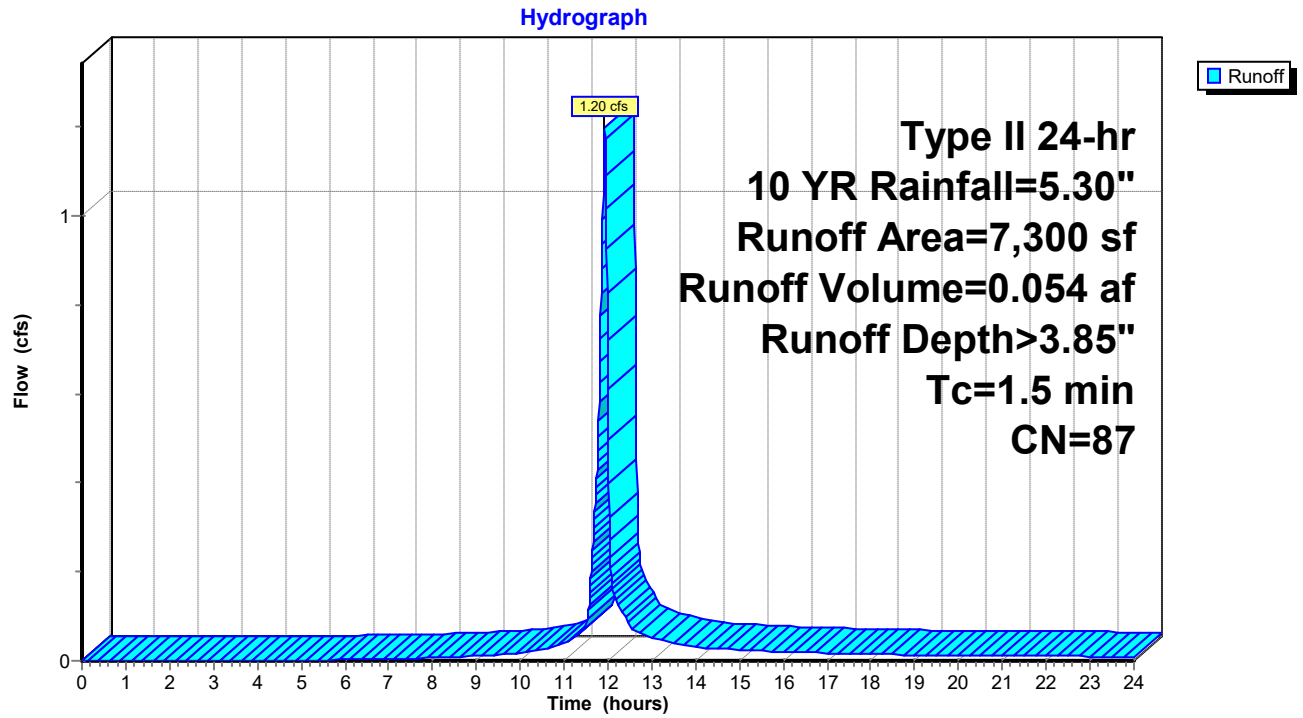
Runoff = 1.20 cfs @ 11.92 hrs, Volume= 0.054 af, Depth> 3.85"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 YR Rainfall=5.30"

	Area (sf)	CN	Description
	2,101	80	>75% Grass cover, Good, HSG D
	3,704	98	Paved parking, HSG D
*	1,495	70	Perm. Pavers
	7,300	87	Weighted Average
	3,596		49.26% Pervious Area
	3,704		50.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5					**Direct Entry, Matches Ex TC**

Subcatchment P-DA4: Prop. SW Area to POI-4 (Rt.50)



Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX1: Ex. NE Area to POI-1 Runoff Area=10,733 sf 78.64% Impervious Runoff Depth>6.88"
Flow Length=112' Slope=0.0160 '/' Tc=1.4 min CN=94 Runoff=2.88 cfs 0.141 af

Subcatchment EX2: Ex. SE Area to POI-2 Runoff Area=11,314 sf 84.36% Impervious Runoff Depth>7.00"
Flow Length=165' Tc=1.8 min CN=95 Runoff=2.97 cfs 0.152 af

Subcatchment EX3: Ex. NW Area to POI-3 Runoff Area=7,763 sf 75.82% Impervious Runoff Depth>6.88"
Flow Length=139' Tc=1.9 min CN=94 Runoff=2.02 cfs 0.102 af

Subcatchment EX4: Ex. SW Area to POI-4 Runoff Area=7,934 sf 76.53% Impervious Runoff Depth>6.88"
Flow Length=114' Slope=0.0151 '/' Tc=1.5 min CN=94 Runoff=2.12 cfs 0.104 af

Subcatchment P-DA1: Prop. NE Area to Runoff Area=9,498 sf 58.25% Impervious Runoff Depth>6.29"
Tc=1.4 min CN=89 Runoff=2.45 cfs 0.114 af

Subcatchment P-DA2: Prop. SE Area to Runoff Area=12,329 sf 54.53% Impervious Runoff Depth>6.06"
Tc=1.8 min CN=87 Runoff=3.02 cfs 0.143 af

Subcatchment P-DA3: Prop. NW Area to Runoff Area=8,617 sf 47.30% Impervious Runoff Depth>5.94"
Tc=1.9 min CN=86 Runoff=2.07 cfs 0.098 af

Subcatchment P-DA4: Prop. SW Area to Runoff Area=7,300 sf 50.74% Impervious Runoff Depth>6.06"
Tc=1.5 min CN=87 Runoff=1.83 cfs 0.085 af

Total Runoff Area = 1.733 ac Runoff Volume = 0.939 af Average Runoff Depth = 6.50"
33.79% Pervious = 0.586 ac 66.21% Impervious = 1.147 ac

Summary for Subcatchment EX1: Ex. NE Area to POI-1

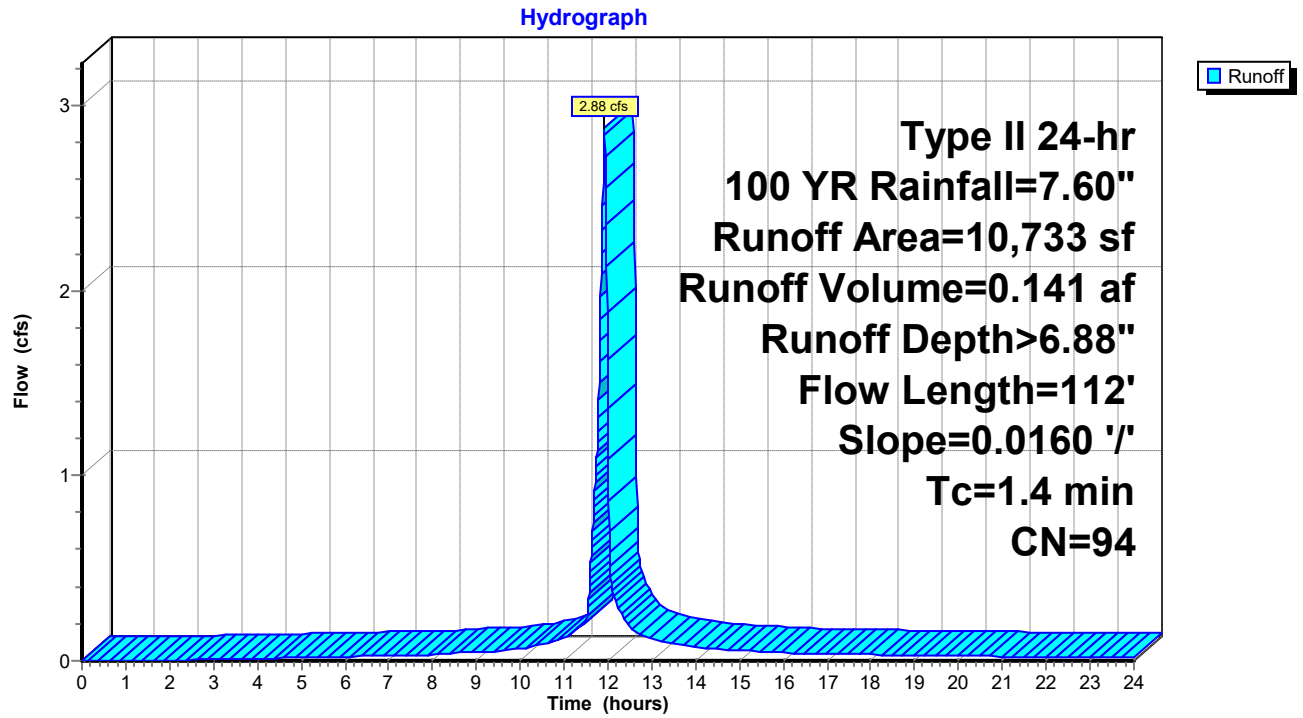
Runoff = 2.88 cfs @ 11.92 hrs, Volume= 0.141 af, Depth> 6.88"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 YR Rainfall=7.60"

	Area (sf)	CN	Description
	2,293	80	>75% Grass cover, Good, HSG D
*	8,440	98	Asphalt & Roof, HSG D
	10,733	94	Weighted Average
	2,293		21.36% Pervious Area
	8,440		78.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	112	0.0160	1.33		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"

Subcatchment EX1: Ex. NE Area to POI-1



Summary for Subcatchment EX2: Ex. SE Area to POI-2

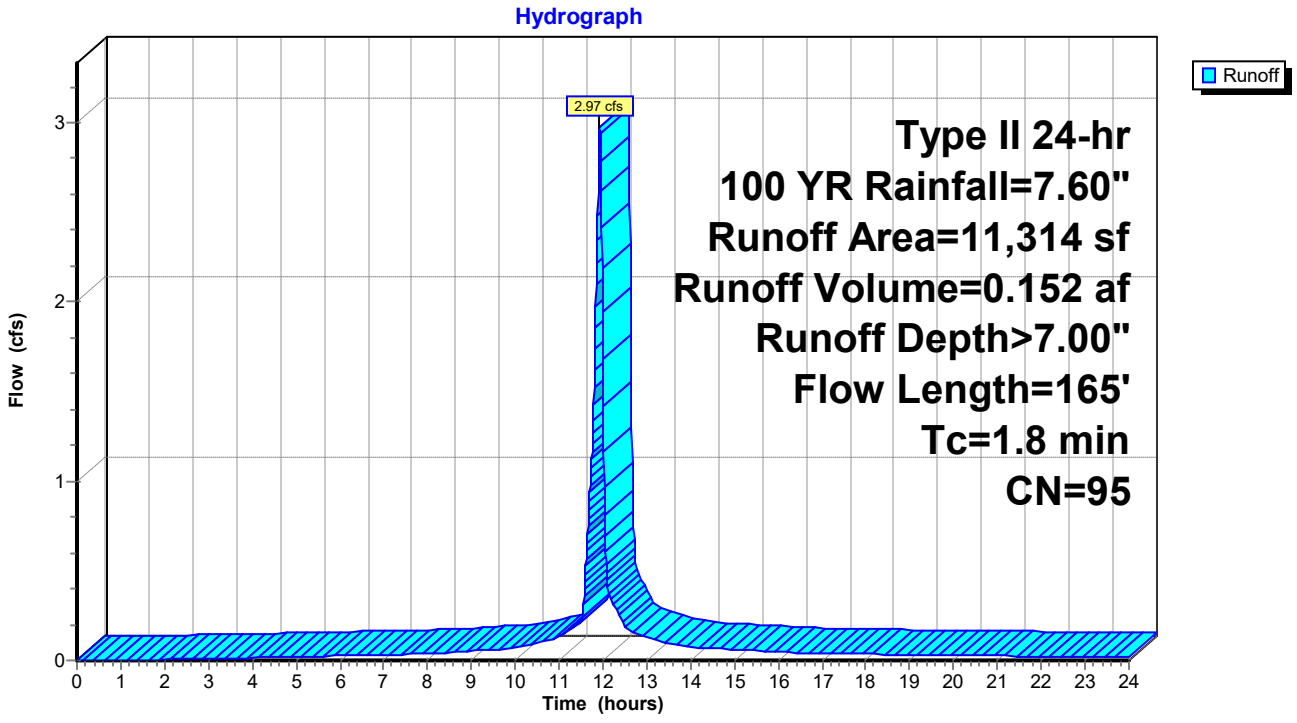
Runoff = 2.97 cfs @ 11.93 hrs, Volume= 0.152 af, Depth> 7.00"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 YR Rainfall=7.60"

	Area (sf)	CN	Description
	1,770	80	>75% Grass cover, Good, HSG D
*	9,544	98	Aspahlt & Roof, HSG D
	11,314	95	Weighted Average
	1,770		15.64% Pervious Area
	9,544		84.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	89	0.0146	1.22		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"
0.6	76	0.0107	2.10		**Shallow Concentrated Flow, Curb Line** Paved Kv= 20.3 fps
1.8	165	Total			

Subcatchment EX2: Ex. SE Area to POI-2



Summary for Subcatchment EX3: Ex. NW Area to POI-3 (Rt.50)

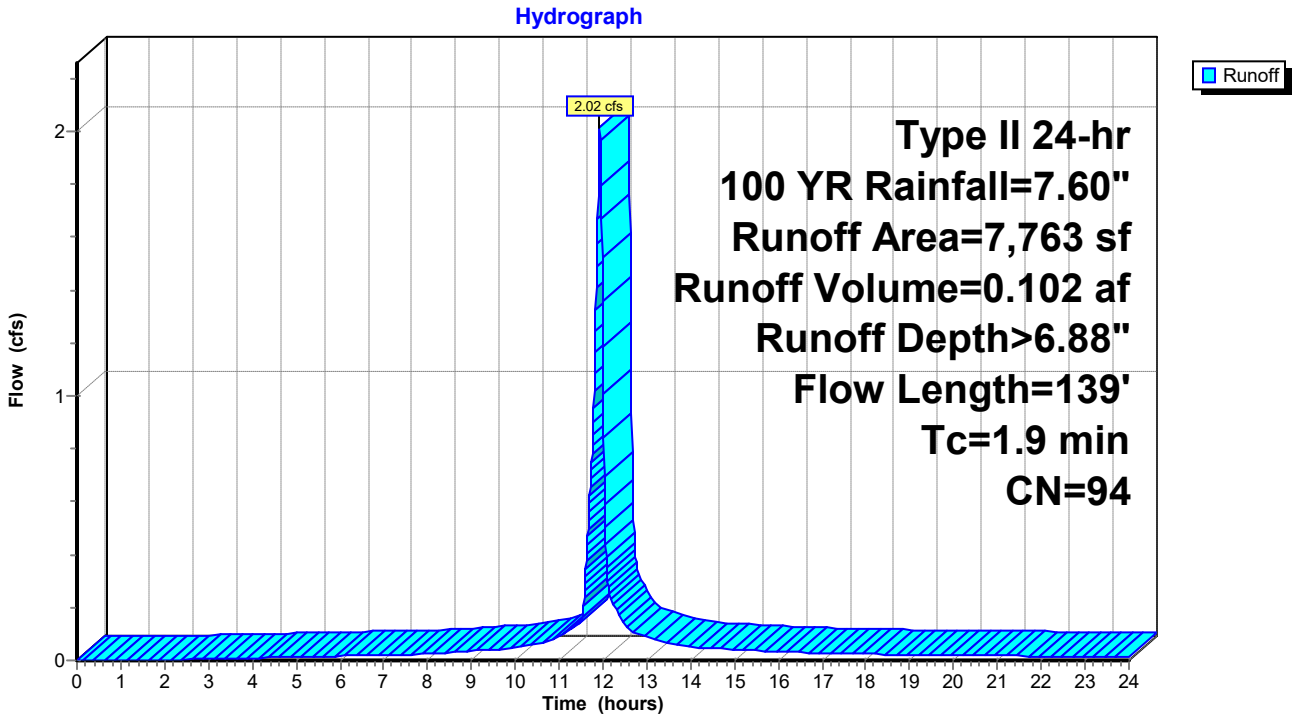
Runoff = 2.02 cfs @ 11.93 hrs, Volume= 0.102 af, Depth> 6.88"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 YR Rainfall=7.60"

Area (sf)	CN	Description
5,886	98	Paved parking, HSG D
1,877	80	>75% Grass cover, Good, HSG D
7,763	94	Weighted Average
1,877		24.18% Pervious Area
5,886		75.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	116	0.0108	1.14		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"
0.2	23	0.0098	2.01		**Shallow Concentrated Flow, Curb Line** Paved Kv= 20.3 fps
1.9	139	Total			

Subcatchment EX3: Ex. NW Area to POI-3 (Rt.50)



Summary for Subcatchment EX4: Ex. SW Area to POI-4 (Rt.50)

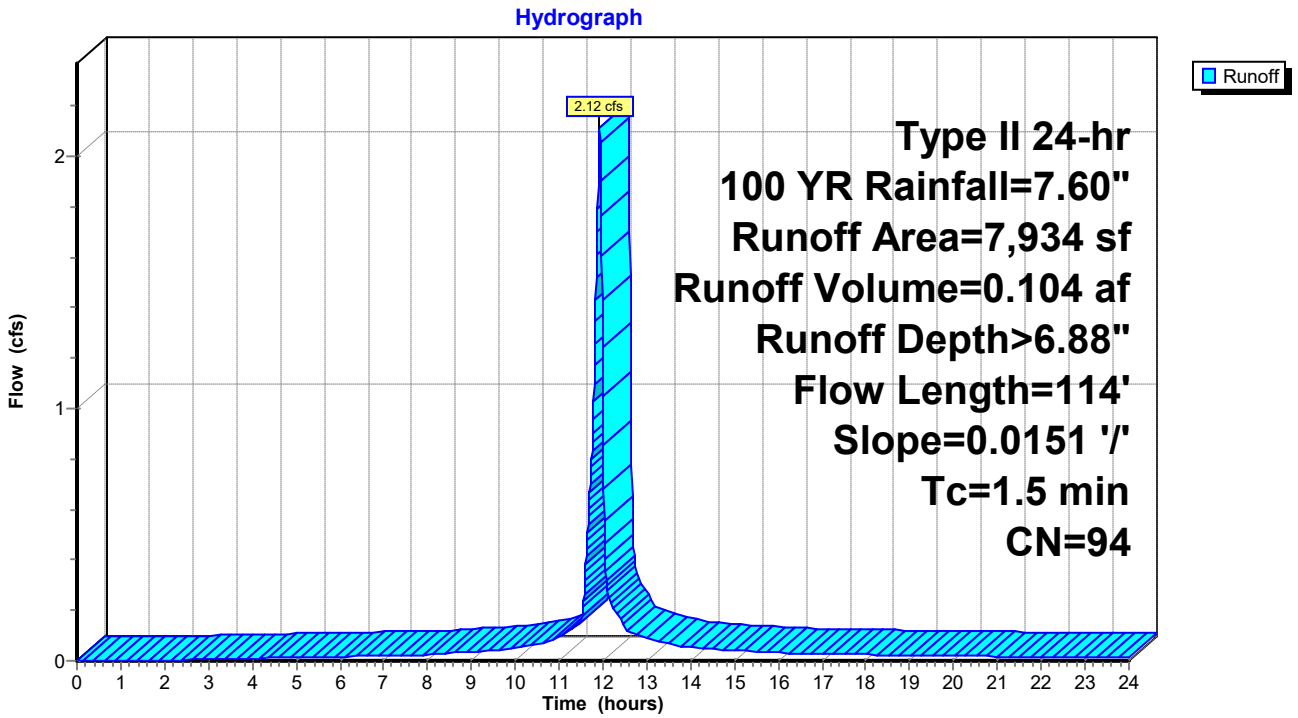
Runoff = 2.12 cfs @ 11.92 hrs, Volume= 0.104 af, Depth> 6.88"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 YR Rainfall=7.60"

Area (sf)	CN	Description
6,072	98	Paved parking, HSG D
1,862	80	>75% Grass cover, Good, HSG D
7,934	94	Weighted Average
1,862		23.47% Pervious Area
6,072		76.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	114	0.0151	1.30		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 3.40"

Subcatchment EX4: Ex. SW Area to POI-4 (Rt.50)



Summary for Subcatchment P-DA1: Prop. NE Area to POI-1

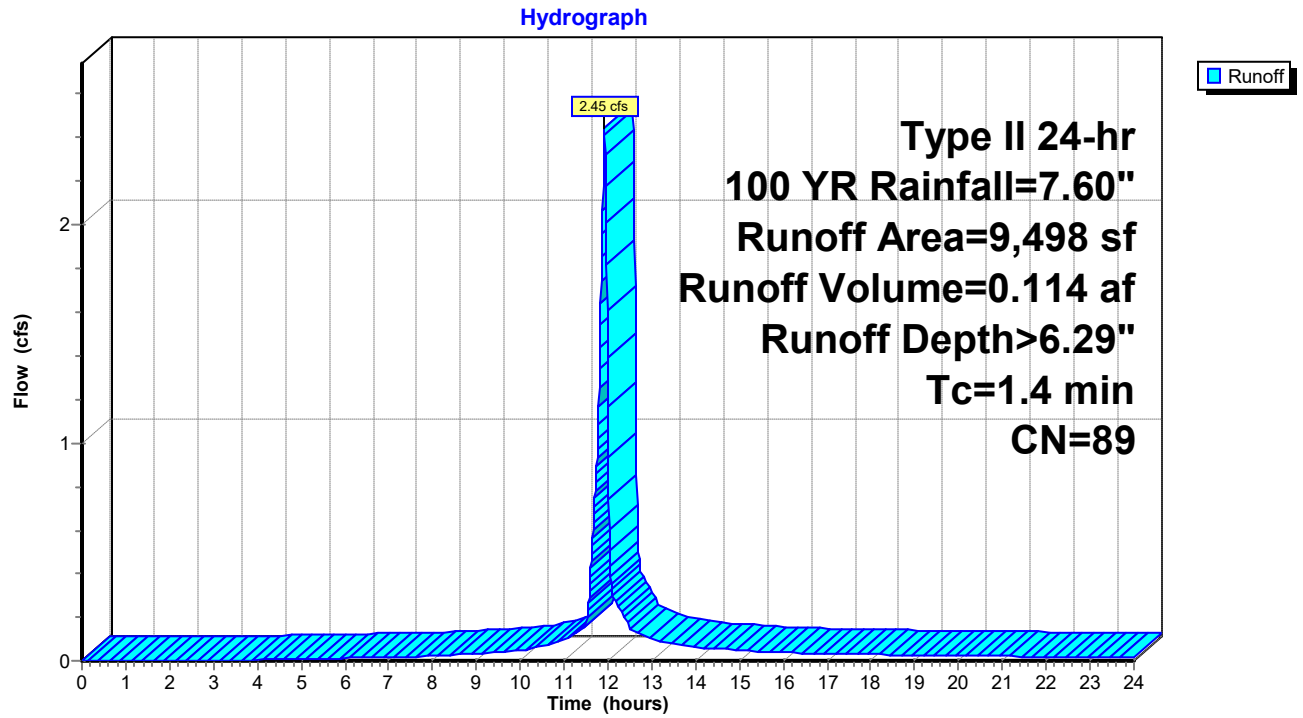
Runoff = 2.45 cfs @ 11.92 hrs, Volume= 0.114 af, Depth> 6.29"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 YR Rainfall=7.60"

	Area (sf)	CN	Description
	2,151	80	>75% Grass cover, Good, HSG D
	5,533	98	Paved parking, HSG D
*	1,814	70	Perm. Pavers
	9,498	89	Weighted Average
	3,965		41.75% Pervious Area
	5,533		58.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4					**Direct Entry, Matches Ex TC**

Subcatchment P-DA1: Prop. NE Area to POI-1



Summary for Subcatchment P-DA2: Prop. SE Area to POI-2

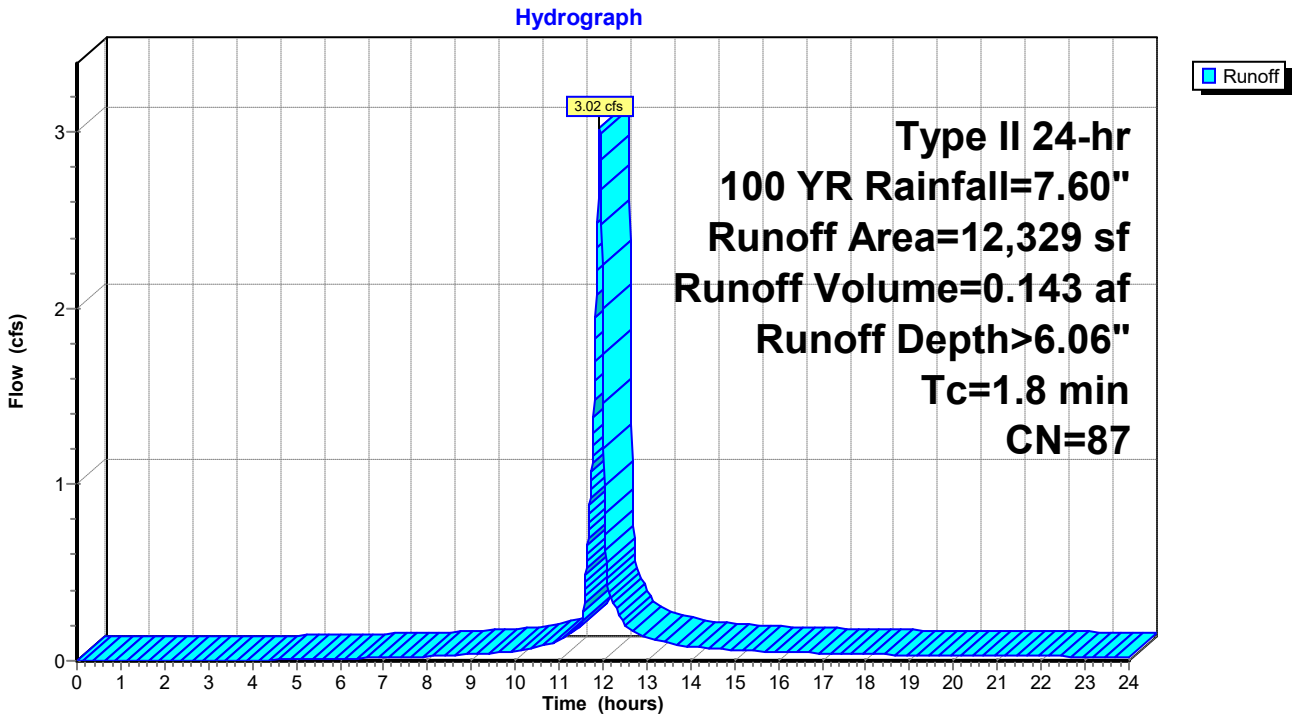
Runoff = 3.02 cfs @ 11.93 hrs, Volume= 0.143 af, Depth> 6.06"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 YR Rainfall=7.60"

	Area (sf)	CN	Description
	1,892	80	>75% Grass cover, Good, HSG D
*	6,723	98	Paved parking, HSG D
*	3,714	70	Perm. Pavers
	12,329	87	Weighted Average
	5,606		45.47% Pervious Area
	6,723		54.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8					**Direct Entry, Matches Ex TC**

Subcatchment P-DA2: Prop. SE Area to POI-2



Summary for Subcatchment P-DA3: Prop. NW Area to POI-3 (Rt.50)

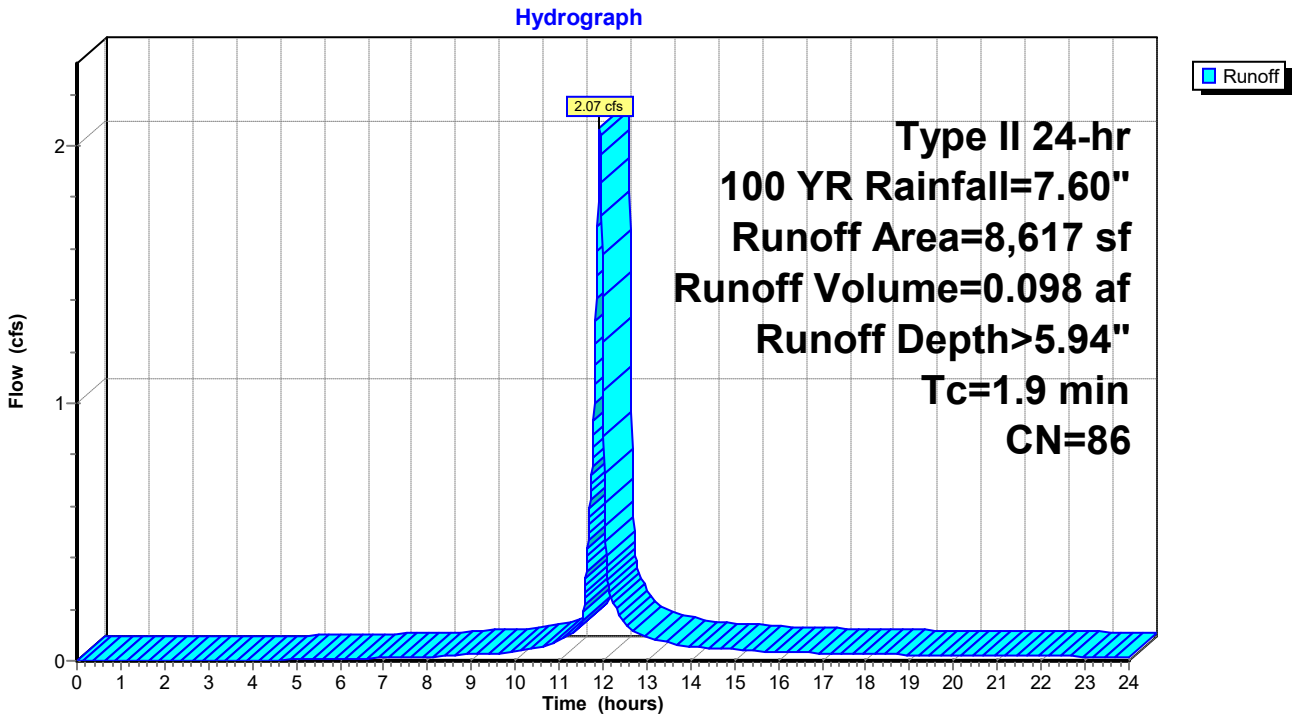
Runoff = 2.07 cfs @ 11.93 hrs, Volume= 0.098 af, Depth> 5.94"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 YR Rainfall=7.60"

	Area (sf)	CN	Description
	1,976	80	>75% Grass cover, Good, HSG D
	4,076	98	Paved parking, HSG D
*	2,565	70	Perm. Pavers
	8,617	86	Weighted Average
	4,541		52.70% Pervious Area
	4,076		47.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9					**Direct Entry, Matches Ex TC**

Subcatchment P-DA3: Prop. NW Area to POI-3 (Rt.50)



Summary for Subcatchment P-DA4: Prop. SW Area to POI-4 (Rt.50)

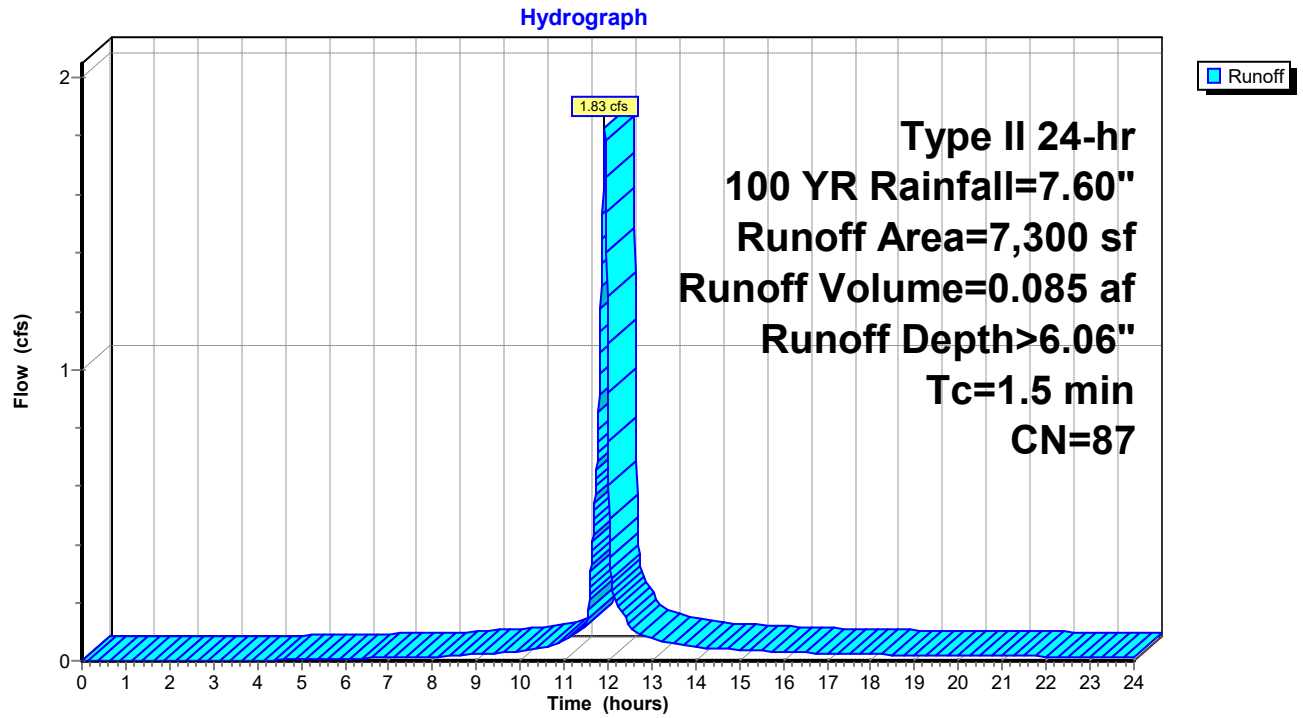
Runoff = 1.83 cfs @ 11.92 hrs, Volume= 0.085 af, Depth> 6.06"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 YR Rainfall=7.60"

	Area (sf)	CN	Description
	2,101	80	>75% Grass cover, Good, HSG D
	3,704	98	Paved parking, HSG D
*	1,495	70	Perm. Pavers
	7,300	87	Weighted Average
	3,596		49.26% Pervious Area
	3,704		50.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5					**Direct Entry, Matches Ex TC**

Subcatchment P-DA4: Prop. SW Area to POI-4 (Rt.50)



APPENDIX B

ESD CALCULATIONS

ESD SITE TARGET

EARTHEN DISTURBANCE (LOD) = 37,723 SF; ASSUMED AS ENTIRE PARCEL 0.866 ACRES

EXISTING IMPERVIOUS 29,926 SF (79.33%); PROJECT QUALIFIES FOR REDEVELOPMENT ($I_{EXISTING}$ >40%)

ONSITE SOILS ARE MAPPED AS "URBAN" – ASSUME COMPACTED SOILS FUNCTION AS HYDROLOGIC GROUP "D"

TREAT, TO A P_E OF 1.0", OR REMOVE 50% OF EXISTING IMPERVIOUS SURFACE:

HALF EXISTING COVERAGE = 29,926 SF X ½ = 14,962 SF TO BE TREATED OR REMOVED

PROPOSED DEVELOPMENT = 20,023 SF; 9,903 SF REMOVED

REMAINING IMPERVIOUS TO BE TREATED = 5,059 SF

R_V = 0.95, P_E = 1.0"

$ESD_{V\ (HALF\ EXISTING)} = \frac{(Pe)(Rv)(A)}{12} = \frac{(1.0)(0.95)(5{,}059)}{12}$ = **401 CF**

PERMEABLE PAVERS (A-2)

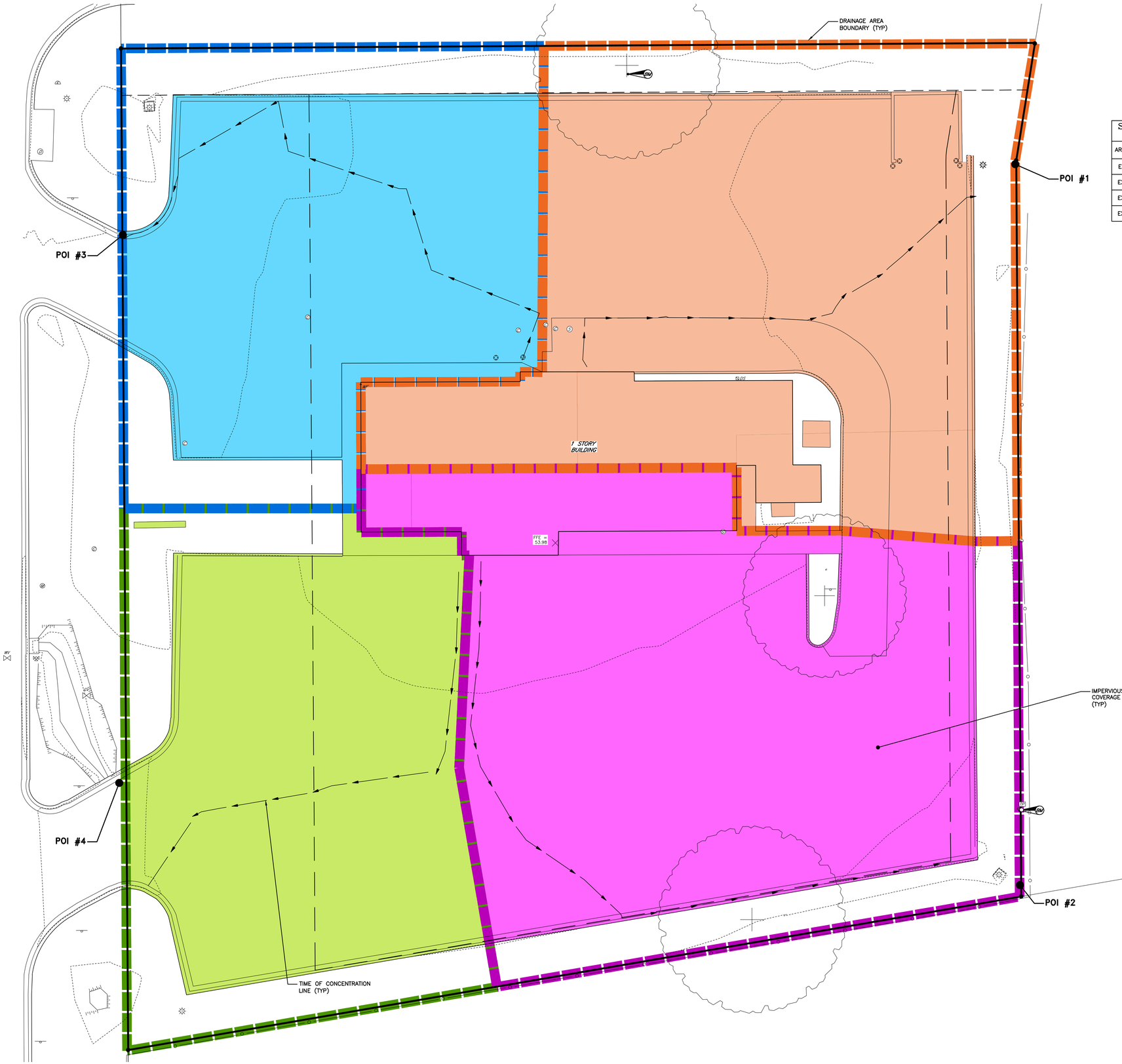
PER MDE ENVIRONMENTAL SITE DESIGN (ESD) PROCESS & COMPUTATIONS TABLE 1

12" GRAVEL SUBBASE YIELDS 0.16 ESD_V PER FT^2

9597 SF X 0.16 CF/SF = **1,536 CF**

APPENDIX C

DRAINAGE AREA MAPS



SWM PRE-DEVELOPMENT DISCHARGES (CFS)			
STUDY POINT	Q_2	Q_{10}	Q_{100}
1	1.22	1.98	2.88
2	1.28	2.05	2.97
3	0.85	1.38	2.02
4	0.89	1.45	2.12
TOTAL	4.24	6.86	9.99

STORMWATER MANAGEMENT DRAINAGE AREA TABLE				
AREA #	AREA (SF)	TOTAL Tc (MINUTES)	IMPERVIOUS (%)	DESCRIPTION
EX-1	10733	1.40	78.64	QUARTER OF PROJECT SITE
EX-2	11314	1.80	84.36	QUARTER OF PROJECT SITE
EX-3	7763	1.90	75.82	QUARTER OF PROJECT SITE
EX-4	7934	1.50	76.53	QUARTER OF PROJECT SITE

REVISIONS TO APPROVED PLANS			
No.	DATE	DESCRIPTION	BY

WARNING!!

THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL TEST PIT AND LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY DEPT. OF PUBLIC WORKS OF ANY POSSIBLE CONFLICT AND REQUEST THE RELOCATION OF THE EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING ANY WORK ON-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RELOCATION EXPENSE.

MISS UTILITY
DIG WITH CARE
CALL 3 WORKING DAYS
ANNE ARUNDEL MARYLAND
BEFORE YOU DIG CALL
1-800-441-8355 OR 811
PROTECT YOURSELF, GIVE
TWO WORKING DAYS NOTICE

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

PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 51461 , Expiration Date: 04/04/2026.

SEAL

STATE OF MARYLAND
ERIC F. CROSBY
51461
PROFESSIONAL ENGINEER

DATE

PRE-DEVELOPMENT DRAINAGE AREA MAP

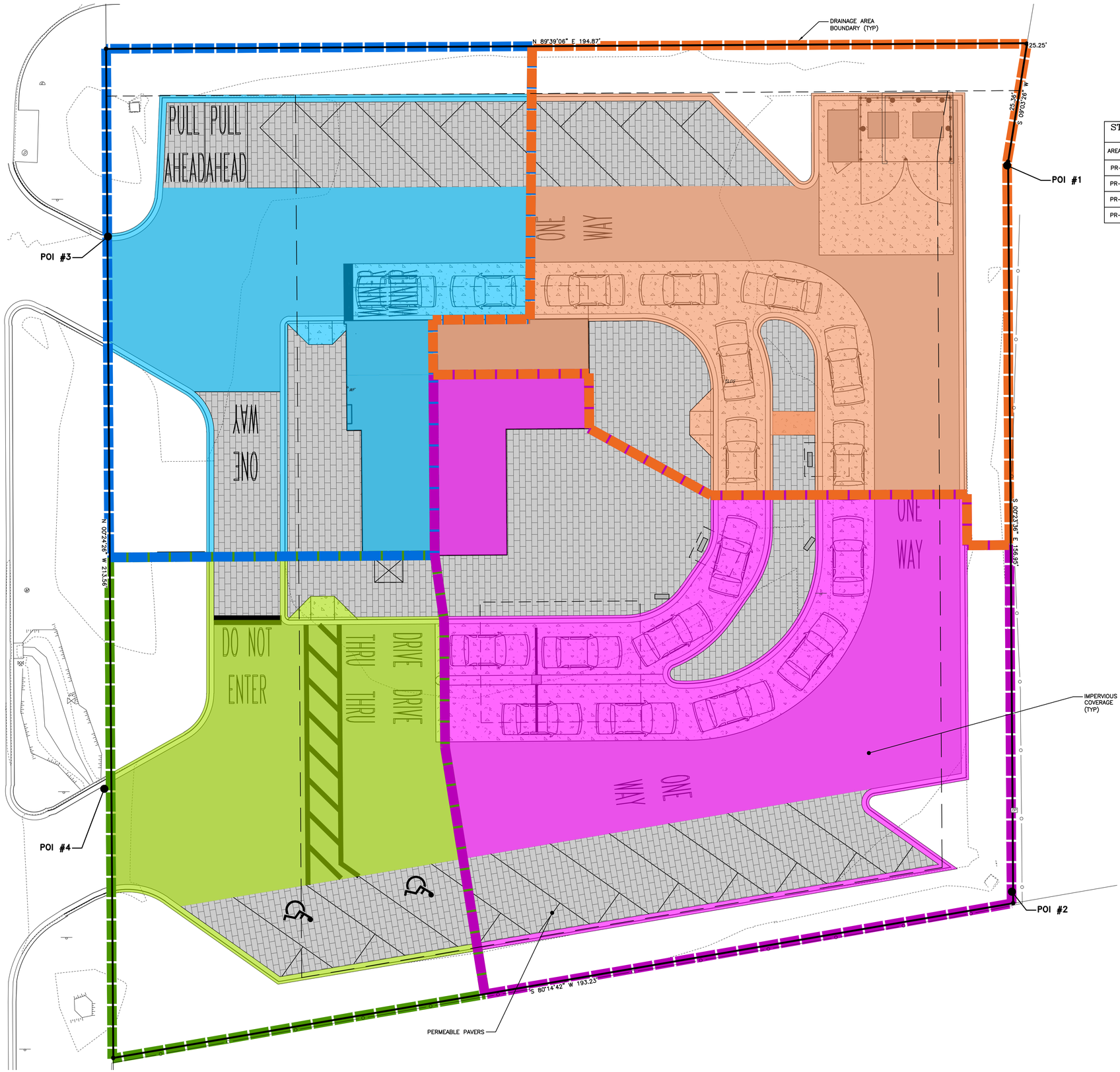
FOR
DELMARVA REAL ESTATE MANAGEMENT GROUP, LLC

IN THE TOWN OF EASTON, WARD 2
TALBOT COUNTY, MARYLAND
TAX MAP 103 GRID 0EA PARCEL 2861

ISSUED/REVISED FOR:	DATE:	BY:
ESDR SUBMITTAL	02/05/25	BCE

SHEET No. 1 OF 2
SCALE: AS NOTED
JOB No. 240547
FILE No. D481

Date: 02/05/2025 - 7:43am User: achosta Project Manager: BCE
Drawing Path: J:\2024\0500\240547\Civil3D-240547\Dwg\Plots\GDA-PLTS-240547.dwg | PRE
XREF File(s): VLD-BASE-240547/VSF-BASE-240547/VDA-BASE-240547/CDA-BASE-240547/CBS-BASE-240436-240547/CSK-BASE-240547



SWM POST-DEVELOPMENT DISCHARGES (CFS)

STUDY POINT	Q_2	Q_{10}	Q_{100}
1	0.94	1.63	2.45
2	1.11	1.98	3.02
3	0.75	1.35	2.07
4	0.68	1.20	1.83
TOTAL	3.48	6.16	9.37

STORMWATER MANAGEMENT DRAINAGE AREA TABLE

AREA #	AREA (SF)	TOTAL Tc (MINUTES)	IMPERVIOUS (%)	DESCRIPTION
PR-1	9498	1.40	58.25	QUARTER OF PROJECT SITE
PR-2	12329	1.80	54.53	QUARTER OF PROJECT SITE
PR-3	8617	1.90	47.30	QUARTER OF PROJECT SITE
PR-4	7300	1.50	50.74	QUARTER OF PROJECT SITE

REVISIONS TO APPROVED PLANS

No.	DATE	DESCRIPTION	BY

WARNING!!

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PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 51461 , Expiration Date: 04/04/2026.

SEAL

STATE OF MARYLAND · ELLIOTT F. CHOATE · 51461 · PROFESSIONAL ENGINEER

DATE

POST-DEVELOPMENT DRAINAGE AREA MAP

FOR

DELMARVA REAL ESTATE MANAGEMENT GROUP, LLC

IN THE TOWN OF EASTON, WARD 2
TALBOT COUNTY, MARYLAND
TAX MAP 103 GRID 0EA PARCEL 2861

ISSUED/REVISED FOR: DATE: BY:
ESDR SUBMITTAL 02/05/25 BCE

SHEET No. 2 OF 2
JOB No. 240547
SCALE: AS NOTED
FILE No. D481

Date: 02/05/2025 - 7:43am User: achasta Project Manager: BCE
Drawing Path: J:\2024\0500\240547\Civil3D-240547\Dwg\Plots\CDA-PLTS-240547.dwg | POST
XREF File(s): VLD-BASE-240547/VSF-BASE-240547/VDA-BASE-240547/CDA-BASE-240547/CBS-BASE-2436-240547/CSK-BASE-240547

Use or duplication of this drawing without the written consent of Lane Engineering, LLC is prohibited.

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

March 5, 2025

Dear Resident,

The Easton Planning Commission (Commission) will hold a public meeting on **Thursday, March 20, 2025 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that Lane Engineering LLC (Applicant) has filed application 2025 - 1391 on behalf of Delmarva Real Estate Management Group, LLC (Owner) to request sketch site plan approval for the redevelopment of the existing property and structure to be converted to a fast-food establishment (Zaxbys). The Applicant is also seeking a supplemental waiver from the minimum landscaping and bufferyard requirements of Section 28-1014.6.E and Section 28-1014.7.E of the Zoning Code. The property is located at 8275 Ocean Gateway, also known as Tax Map 0103, Grid 00EA, Parcel 2861, Lots 10-13.

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

Samantha N. Smith

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

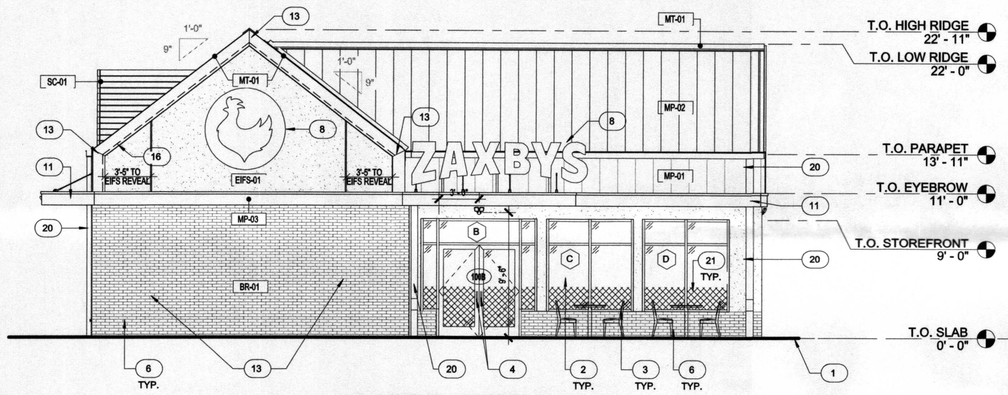


Subject property posting pursuant to Section 28-901.2.H.2 of the Town of Easton Zoning Code - March 4, 2025

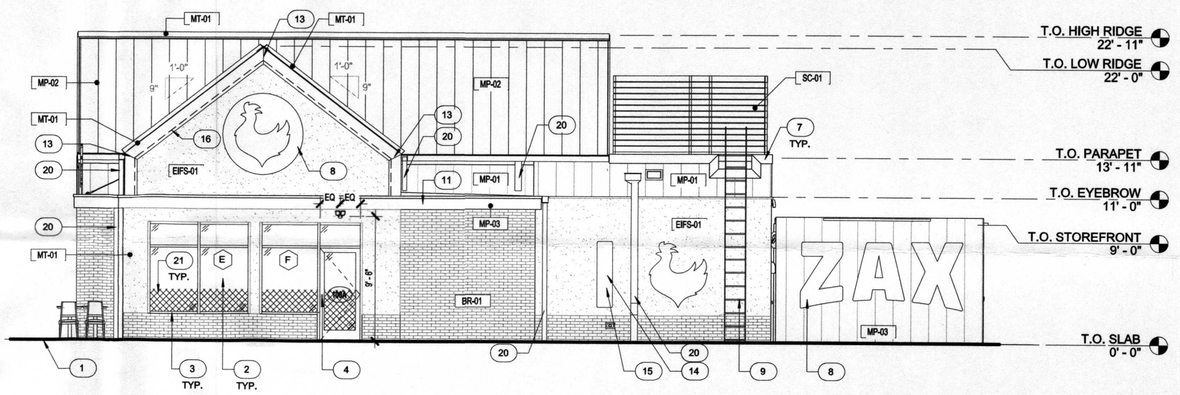
EXTERIOR WALL FINISH						
EXTERIOR WALL FINISH	*BR-01*	*BRICK*	*GLEN GERY*	*#387 RUSTIC RED FLASHED THIN BRICK*	*BRICK MORTAR TO BE GLEN GERY G-501*	
EXTERIOR WALL FINISH	*EIFS-01*	*EIFS STUCCO*	*PAREX*	*WATERMASTER*	*PAINTED PT-12*	
EXTERIOR WALL FINISH	*EIFS-02*	*EIFS STUCCO*	*PAREX*	*WATERMASTER*	*PAINTED PT-10*	
EXTERIOR WALL FINISH	*FC-01*	*BOARD & BATTEN SIDING*	*HARDIE PLANK*		*PAINTED PT-10*	
EXTERIOR WALL FINISH	*FC-01a*	*FIBER CEMENT TRIM*	*HARDIE PLANK*		*PAINTED PT-10*	
EXTERIOR WALL FINISH	*MP-01*	*METAL PANEL*	*PAC CLAD*	*SNAP CLAD - METAL ROOFING PANELS - FACTORY PAINTED FOUNDERS BLUE*		*CONTACT: CAM METAL - STEVE GLASENAPP - PHONE (262) 232-3200*
EXTERIOR WALL FINISH	*PT-10*	*PAINT*	*SHERWIN WILLIAMS*	*CUSTOM PAINT COLOR - ZAXBYS FOUNDERS BLUE - MATTE FINISH*	*PRIMER: PREPRITE PROBLOCK INTERIOR/EXTERIOR*	*CONTACT: KATRINA PARTEE - PHONE (404) 323 2263 EMAIL: KATRINA.D.PARTEE@SHERWIN.COM*
EXTERIOR WALL FINISH	*PT-11*	*PAINT*	*SHERWIN WILLIAMS*	*CUSTOM PAINT COLOR - ZAXBYS TONGUE TORCH RED - SATIN FINISH*	*PRIMER: PREPRITE PROBLOCK INTERIOR/EXTERIOR*	*CONTACT: KATRINA PARTEE - PHONE (404) 323 2263 EMAIL: KATRINA.D.PARTEE@SHERWIN.COM*
EXTERIOR WALL FINISH	*PT-12*	*PAINT*	*SHERWIN WILLIAMS*	*SW 7005 PURE WHITE. SATIN FINISH*	*PRIMER: PREPRITE PROBLOCK INTERIOR/EXTERIOR*	*CONTACT: KATRINA PARTEE - PHONE (404) 323 2263 EMAIL: KATRINA.D.PARTEE@SHERWIN.COM*
EXTERIOR WALL FINISH	*PT-13*	*PAINT*	*SHERWIN WILLIAMS*	*SW 7069 IRON ORE - SATIN FINISH*	*PRIMER: PREPRITE PROBLOCK INTERIOR/EXTERIOR*	*CONTACT: KATRINA PARTEE - PHONE (404) 323 2263 EMAIL: KATRINA.D.PARTEE@SHERWIN.COM*
MECHANICAL ROOF SCREEN						
MECHANICAL ROOF SCREEN	*SC-01*	*METAL SCREEN*	*CITADEL*	*CR-AX6 - HORIZONTAL REVEAL MOLDINGS FACTORY PAINTED FOUNDERS BLUE*		*CONTACT: CAM METAL - STEVE GLASENAPP - PHONE (262) 232-3200*
ROOFING						
ROOFING	*MP-02*	*METAL PANEL*	*PAC CLAD*	*SNAP CLAD - METAL ROOFING PANELS - FACTORY PAINTED FOUNDERS BLUE*	*GC TO PROVIDE MATCHING RIDGE VENT AND SNOW/ICE GUARDS AS SHOWN TO BE PAINTED PT-10.*	*CONTACT: CAM METAL - STEVE GLASENAPP - PHONE (262) 232-3200*
ROOFING	*MP-03*	*METAL PANEL*	*PAC CLAD*	*METAL WALL PANEL - FLUSH AND REVEAL WALL PANELS - FACTORY PAINTED TONGUE TORCH RED*	*7" REVEALS - VERTICAL PANELS AT CORAL*	*CONTACT: CAM METAL - STEVE GLASENAPP - PHONE (262) 232-3200*
ROOFING	*MT-01*	*COPING*	*METAL ERA*	*METAL COPING AND TRIM. PERMA TITE FACTORY PAINTED FOUNDERS BLUE OR TONGUE TORCH RED*		*CONTACT: CAM METAL - STEVE GLASENAPP - PHONE (262) 232-3200*
ROOFING	*MT-02*	*GUTTER*	*BY G.C.*	*METAL SCUPPER AND DOWNSPOUTS - FACTORY PAINTED FOUNDERS BLUE*		*CONTACT: CAM METAL - STEVE GLASENAPP - PHONE (262) 232-3200*
ROOFING	*MT-03*	*METAL TRIM*	*METAL ERA*	*METAL AWNINGS/EYEBROW - ANCHOR TITE 8.5"*	*FACTORY PAINTED. CANOPY SUPPLIER TO PURCHASE ACM FROM METAL ERA PER ZAXBY'S DESIGN STANDARDS.*	*CONTACT: CAM METAL - STEVE GLASENAPP - PHONE (262) 232-3200*
ROOFING	*TPO-1*	*ROOFING MEMBRANE*	*VERSICO*	*60 MIL WHITE VERSIFLEX PVC*		
STOREFRONT						
STOREFRONT	*SF-01*	*STOREFRONT*	*KAWNEER*	*TRIFAB VERSAGLAZE 451T - ALUMINUM DARK BRONZE ANODIZED*	*CONTACT: QUALITY GLASS - PHONE (706) 548-4481*	*CONTACT: QUALITY GLASS - PHONE (706) 548-4481*

EXTERIOR ELEVATION KEYNOTES

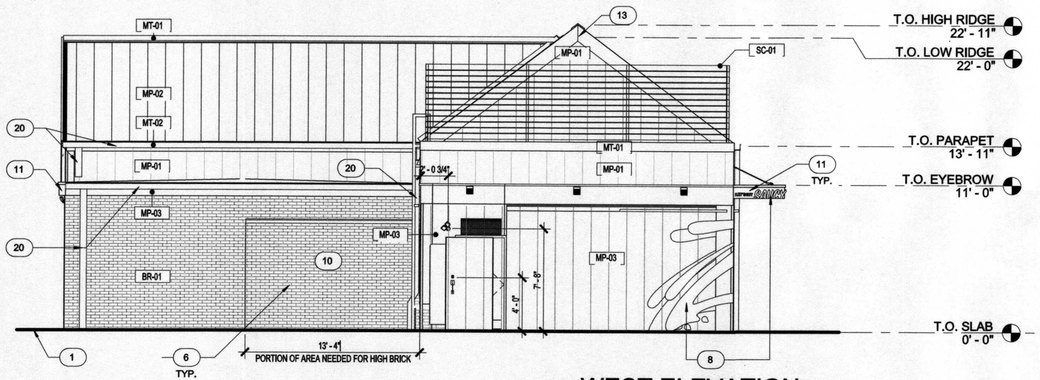
1. LINE INDICATES PROPOSED GRADE/SIDEWALK ELEVATION - GENERAL CONTRACTOR TO PROVIDE ADEQUATE AND CODE COMPLIANT POSITIVE DRAINAGE AWAY FROM FACE OF PROPOSED BUILDING AS REQUIRED.
2. THERMALLY BROKEN ANODIZED ALUMINUM STOREFRONT SYSTEM WITH 1" INSULATED GLAZING - ROD AND CAULK AROUND ENTIRE PERIMETER OF OPENING - REFER TO SHEET A501FOR INSTALLATION REQUIREMENTS OF CHICKEN FILM GRAPHICS PER CLIENTS DESIGN DIRECTIVE.
3. PREFINISHED METAL WINDOW SILL FLASHING AS PER WINDOW MANUFACTURERS RECOMMENDATIONS.
4. DOOR HANDLES TO BE PELLET ICE BLUE.
5. INSULATED HOLLOW METAL DOOR AND FRAME - ROD AND CAULK AROUND ENTIRE PERIMETER OF OPENING - REFER TO DOOR SCHEDULE FOR FINISH REQUIREMENTS.
6. GENERAL CONTRACTOR TO PROVIDE CONTROL JOINTS ALONG THIN BRICK INSTALLATION BASED ON MANUFACTURERS RECOMMENDATIONS.
7. PREFINISHED METAL CAP FLASHING.
8. BUILDING SIGNAGE IS FOR REFERENCE PURPOSES ONLY AND ARE TO BE SUBMITTED, REVIEWED, INSTALLED AND INSPECTED UNDER A SEPARATE PERMIT SUBMITTAL.
9. EXTERIOR SHIPS ROOF LADDER.
10. ELECTRICAL METER , MDP AND PANEL LOCATION - REFER TO ELECTRICAL FOR ADDITIONAL INFORMATION.
11. PREFINISHED METAL CANOPIES WITH INTEGRAL LIGHTING.
12. PREFINISHED ALUMINUM PASS-THRU WINDOW WITH INTEGRATED INTERIOR AIR CURTAIN - ROD AND CAULK AROUND ENTIRE PERIMETER OF OPENINGS.
13. EIFS DECORATIVE REVEAL - REFER TO MANUFACTURERS GUIDELINES FOR PROPER INSTALLATION.
14. KNOX BOX LOCATION - MOUNT @ 5'-0" AFF 0 VERIFY EXACT LOCATION WIHT LOCAL AUTHORITIES PRIOR TO INSTALLATION.
15. DOOR BELL LOCATION - GENERAL CONTRACTOR TO PROVIDE: EDWARDS SIGNALING, MODEL #AC 340-4N5.
16. DASHED LINED INDICATED LOCATION OF CONCEALED BLUE LIGHTING TRIM AT GABLE AND DOWN SIDE OF BUILDING. REFER TO ELECTRICAL FOR ADDITIONAL INFORMATION.
17. WALK-UP DIGITAL MENU BOARD LOCATIONS - THREE (3) IN TOTAL - PROVIDED BY STRATACACHE - REFER TO ELECTRICAL FOR ADDITIONAL INFORMATION.
18. NOT USED
19. PREFINISHED ALUMINUM MECHANICAL SCREENING ELEMENT.
20. PREFINISHED METAL DOWNSPOUT AND GUTTER SYSTEM - FINISH OF METAL TO MATCH ADJACENT FINISH.



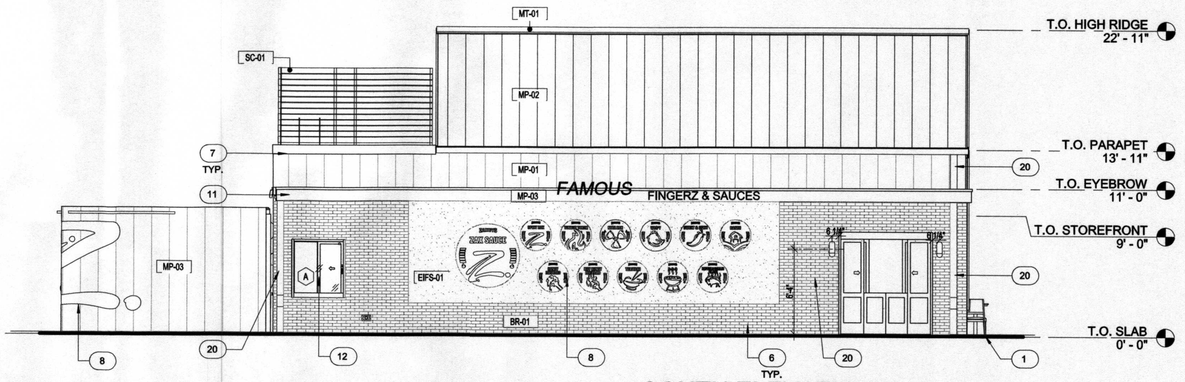
4 EAST ELEVATION



3 NORTH ELEVATION



2 WEST ELEVATION



1 SOUTH ELEVATION

PROFESSIONAL CERTIFICATION PER MARYLAND STATE COMAR SECTION 09.21.02.04

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18344, EXPIRATION DATE: 03/11/2026

REVISIONS

PRECISION COMMERCIAL ARCHITECTS, INC.
ARCHITECTURE SPACE PLANNING CONSULTING
2420 LITTLE JOHN LANE
CUMMING, GEORGIA 30040
P. (404) 512-5550 WWW.PCARCHITECTS.COM

ZAXBY'S
8275 OCEAN GATEWAY
EASTON, MARYLAND 21601

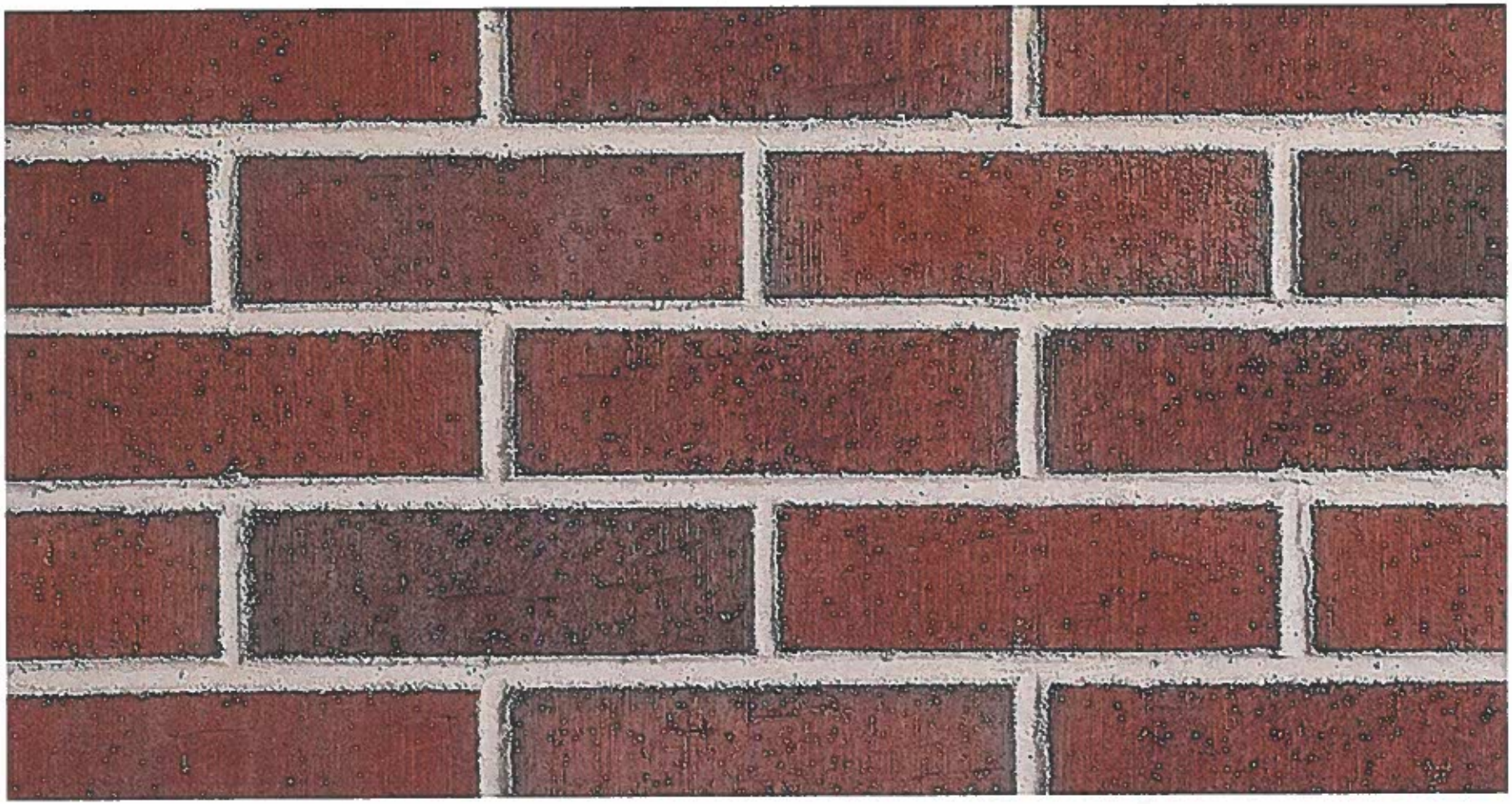
\\Zaxbys365ex1\Pro\Active-Projects\Zaxbys_Prototype-51ext_ARCH_LT-Zaxbys_Logo-4067950.jpg

ARCHITECT 18344 STATE OF MARYLAND

Scale	1/4" = 1'-0"
Date 17 MAR., 2025	Drawn by C.W.
Job Number 25 3756	Checked by C.W.

EXTERIOR ELEVATIONS

A201



Easton Planning and Zoning

Meeting to discuss form based zoning ideas

AGENDA FOPR FEB 20, 2025

MEETING with
Jay Corvan Architect and Easton Planning and Zoning Commissioners

Jay Corvan Architect , 2/11/25

Why I'm Here

I'm here to help explain to Pz Commissioners that I think there is a new set of planning tools that could help Easton PZ, that has helped many historic communities like Easton .

These new tools that planners and designers have at their disposal , could really help the application process in Easton, and improve the quality community interaction, and make the final products look like they fit the community character we are proud of.

Problems with old zoning
With large tract development

This is a short presentation of what I hope to talk about and give you an idea of where I might be headed .

But you commissioners are the ones that will guide where and how the dialogue goes . I wanted to give a basic presentation of how I think “form based “ design tools can help the city address its mlosgt pressing problems

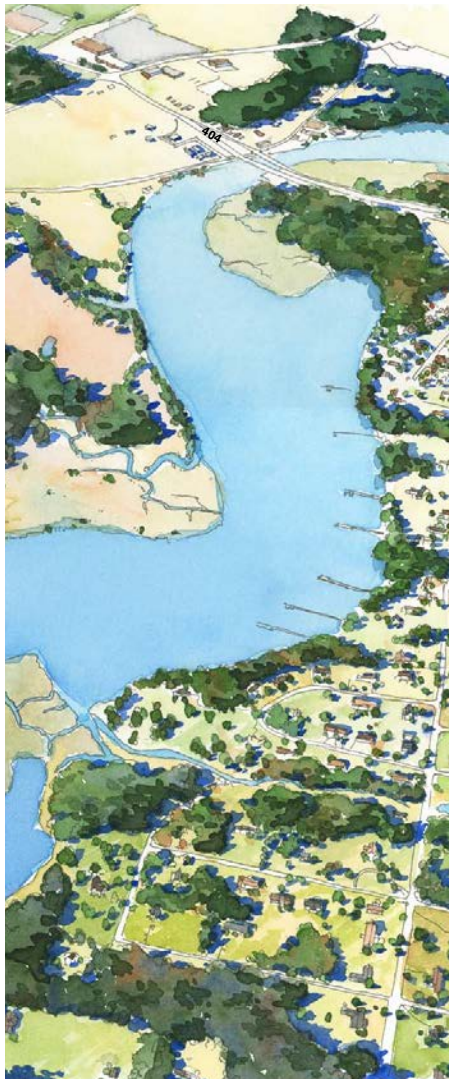
But I will wait to have you tell me what these problems are next week.

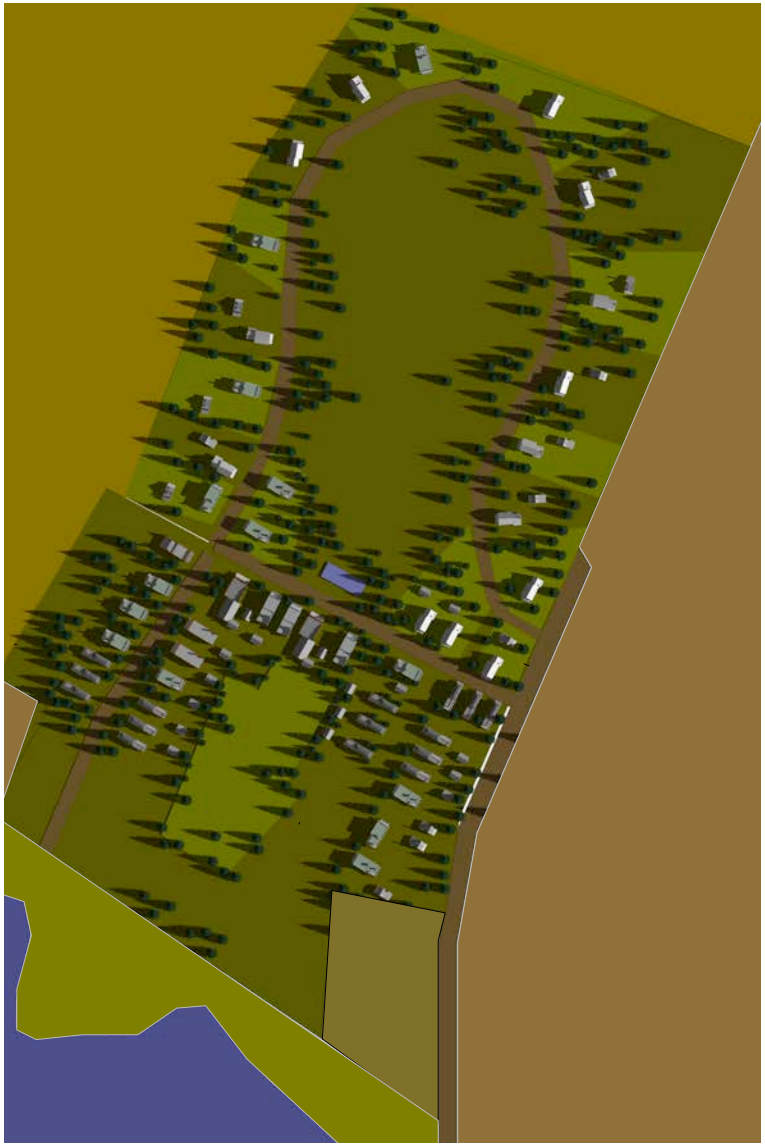
What pattern books are and what they can do..

It is possible that a better system of regulation than the comp plan and PZ (Tag team) approval could insure that better developments contain better community character of the area, and cause less public discontent with the sometimes embattled zoning process

Much of the problem is based on the lack of descriptive graphic 3D detail of what is expected, and what can be understood by the public. Most people don't want to get involved in the process and don't understand the terminology .

The process needs to be simplified.



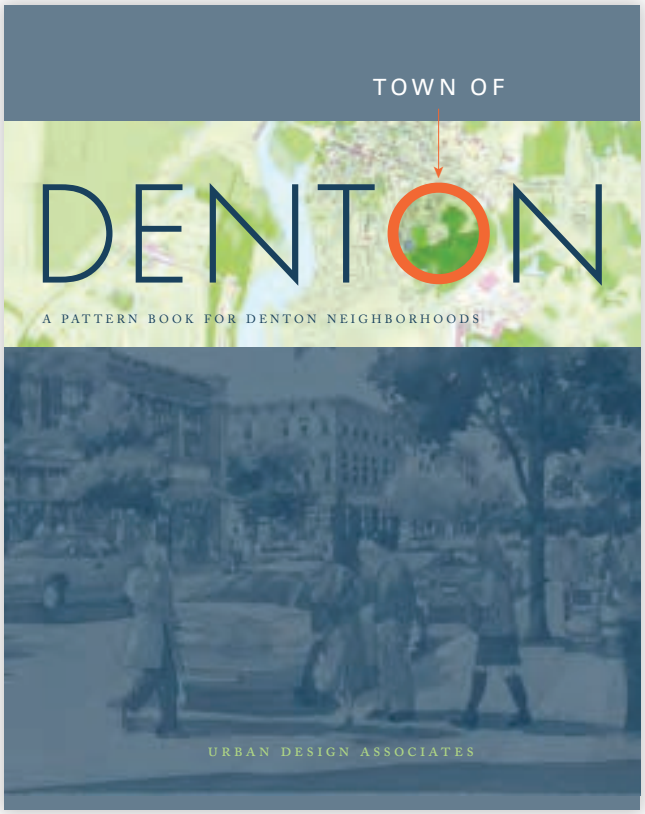


We need is a system that preserves:

. Encourage strategically placed infill developments that are easily enforceable, and a system that responsive , compliant developers can get fast approvals for good projects right away, avoiding litigation and costly pre-construction costs.

. Community character with a rigorous set of standards that are easy to use and enforceable , implemented as building code , not “squishy” guidelines. Quality Buildings and places that the public have demonstrated they truly seek.

. Install a new form based zoning code should be easy to use, clear in its intent , and easy to implement and get approvals, and quick to enforce the design intentions.



Like many communities along Maryland's Eastern Shore, Denton is experiencing intense growth pressure, both infill and on many acres of rural land at the town's edges. Denton invited UDA to prepare a Pattern Book that augments the requirements defined in zoning and other development-related regulations to better control the quality of new development and renovations and help the town properly plan for growth. The Denton Pattern Book describes the town's unique character and the essential characteristics that citizens know and cherish. It adapts the public vision for perpetuating those historic characteristics to work with new development projects.

Clear Problem areas :

1. Large tract development
2. Creating GreaterDensity
3. Community character
4. Affordable Housing Models
5. Building by Transects
6. How to Accomplish It



1. Large tract development

The City can set preconditions for development where these new\ codes could be adopted into the existing City ordinances as another layer of compliance without scrapping the existing system in place.

This can help avoid costly litigation and public displeasure with the planning and zoning process

The new standards can follow the standards set out in The Denton Pattern book as a start and then amend and update the standards (as they do with all zoning up dates) as the model process evolves.



Streets





Landscape: Streetscape, Public Open Space and Natural Areas



Lot requirements





3. Community character



Over the past decade, form-based codes and pattern books have been added to the conventional zoning tools to have greater clarity and definition of the desired better outcomes for new development.

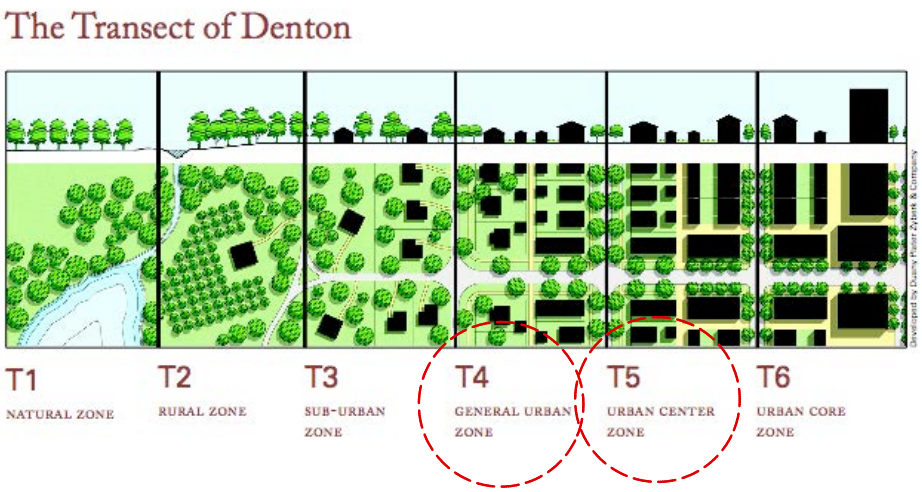
4. Affordable Housing Models



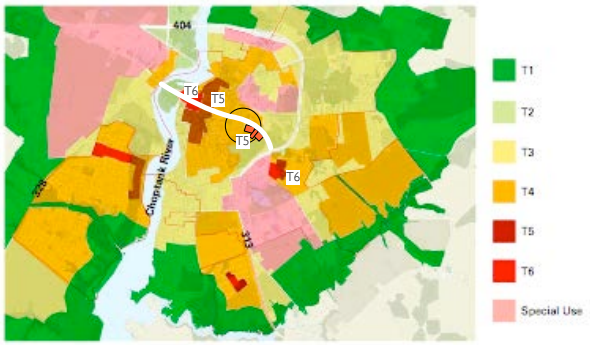

Site Axonometric Drawing of Mansion Apartment Placement on Lot

5. Building by Transects

A way to design new projects that fit into existing Easton neighborhoods that help describe and build community character



URBAN INFILL PROJECT: Study of "the Denton Pattern Book " and how to apply patterns to Propsed Franklin Street project



This map of Denton's Transect Zones reflects both existing and planned land use characteristics.

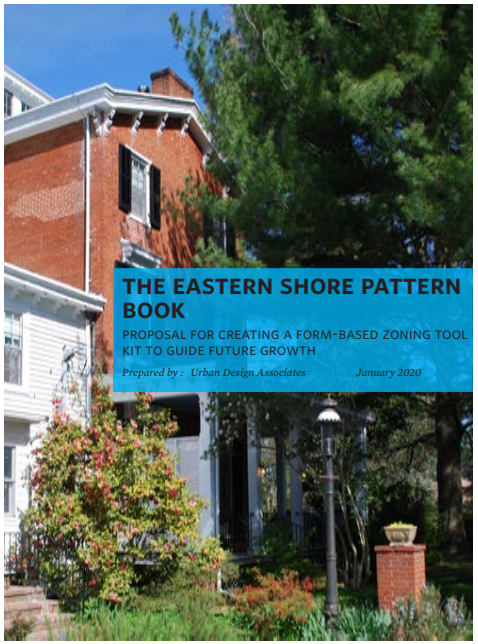
6. How to Accomplish It

Urban Design Associates (UDA) was founded with the belief that planners, architects, engineers, economists, elected officials, developers, investors, and citizens are all associates in urban design.

Not all has to change to accommodate this new system :

Dual requirement "in place" zoning in Denton where the Pattern Book is required and existing zoning is required.

See conditions below where pattern book compliance is required



6. How to Accomplish It

a)All Building design in infill areas

b) Community Appearance and Design General conditions

c)All Multi Family Housing and apartments

d) All Townhouses

e)All Planned PRD , Planned Unit Developments

(1) Architectural style is not restricted, and shall meet the standards set forth in the Denton Pattern Book, prepared by Urban Design Associates, which is attached to the Zoning Ordinance and copies of which are maintained in the Town Office.

A new village on the eastern shore

EASTON VILLAGE







Start with Listening

I have always said that if you don't listen you are never going to please anyone , least of all yourself.

Any project that any planner or designer takes on should always begin with listening carefully to the problems . Designers , Architects, and planners are by nature problem solvers.

Problems can't be solved unless they are described and understood. All this requires patience.

TOWN OF

DENTON

A PATTERN BOOK FOR DENTON NEIGHBORHOODS



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Purpose and Aspirations

The best qualities of historic towns are those that provide connections between the elements most meaningful to both past and future, whether those are connections between people and a sense of community, between places and buildings, or between heritage and growth. The Denton Pattern Book describes the town's unique character and the essential characteristics of Denton's built form that citizens know and cherish. The Pattern Book also presents the public vision for perpetuating those characteristics along with strategies, applicable to both revitalization and new development projects, for achieving that goal.

Denton's citizens participated actively in a public planning process to create the vision embodied in this Pattern Book. What emerged clearly from the process is that citizens want development to be harmonious with the town's historic traditions and future buildings and spaces to reflect the cherished characteristics of the region's existing buildings and streets. By defining the feel of Denton as a community, in tandem with the mechanics by which the town will evolve, the Pattern Book demonstrates how to create a future for Denton in keeping with its citizens' aspirations.

Because Denton is at an important crossroads in its evolution, the Pattern Book is particularly timely. Like many communities along Maryland's Eastern Shore, Denton is experiencing intense growth pressure, both infill and on many acres of rural land at the town's edges. The Pattern Book illustrates how to properly plan and design for that growth. The qualitative design measures contained in the Pattern Book augment the requirements defined in zoning and other development-related requirements. Compliance with the Pattern Book is strictly voluntary for detached single family homes (see ordinance for applicability).

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Public Process

A number of well-attended meetings were held throughout the development and completion of the Denton Pattern Book. The idea of connections to geography, place, as well as local culture, architecture and building traditions was voiced by nearly every resident who participated in the process. The desire to retain Denton's rich architectural heritage in both infill and new development was a common theme. This document responds to those desires by defining the essential positive qualities which Denton's citizens want to maintain and build upon well into the future.

Residents were asked to voice their opinions on the existing strengths of Denton. Those most frequently cited were a sense of community and history; long-term, dedicated residents; the form of the downtown and its neighborhoods with their front porch life; the town's presence as Caroline County's seat; Courthouse Square and other community institutions, such as a strong town government; Denton's geographic location and natural setting along the Choptank River; its parks, such as Martinak State Park; and the events, gatherings, and connections between people and local history and culture.

Public input also identified these weaknesses: poorly-maintained streets and a lack of pedestrian connectivity, particularly between the existing town and new development; a lack of character, quality, and sense of place in recent development; a lack of pride in ownership, absentee landlords, and inadequate upkeep of buildings; a lack of shopping, businesses, and restaurants in the downtown; and a lack of a strategy for managed, positive growth.

In addition to identifying existing strengths and weaknesses, residents were asked about the most important qualities to preserve. They cited individuality and character in architectural and town design; village character with natural edges, a defined center, and connected, walkable neighborhoods; connections to the Choptank River, nature, and agricultural lands; small-town charm; and a sense of place as a destination.





Overview

The Pattern Book begins with this Introduction, in which the collective aspirations of the town are presented as a foundation on which the Pattern Book was developed. Following that is a brief explanation of how to use the Pattern Book effectively.

The Essential Qualities of Denton Today are described in Section B. The section introduces the concept of the Transect as a tool for guiding appropriate development. Section B also presents information about Denton's Existing Development and identifies five types of neighborhood patterns useful to both developers and home owners in the conceptual design of projects.

Section C presents urban patterns, strategies, and a kit of parts for infill and new development projects to assist developers in understanding all of the parts required to create desirable, whole places.

Section D focuses on Building Types appropriate for Denton – those which have historic precedents in the region which respond well to marketplace needs and desires.

The Architectural Styles section describes three styles prevalent in Denton from its architectural history: Victorian, Colonial Revival, and Craftsman. These styles are detailed in terms of site and building characteristics that will help developers and home owners to plan, design, and construct buildings that retain stylistic integrity using today's building materials and techniques. The section includes Architectural Resources and a discussion of Materials and Methods.

The next section, Green Building Guidelines, presents strategies and techniques for building and maintaining healthier, more energy efficient and environmentally-friendly buildings and houses. A companion to this, the Environmentally Responsible Landscape Design section provides strategies and techniques for stewardship of our natural environment. The strategies contained in both of these sections directly relate to the Town's green building objectives which can be found on the Town's website. A Plant Palette as well as Landscape Resources are included at the end of the Landscape Design section.

The Home Owner's Guide provides guidance for individuals contemplating renovations, additions, or transformations of their houses. This section provides ideas for designing and implementing individual projects so the results may be in character with the house type and neighborhood and contribute to long-term value of the property.

At the back of the book you'll find a Glossary of terms used in the Pattern Book and Reference articles.





How to Use the Denton Pattern Book

The following steps offer direction on how to use the Denton Pattern Book. This document offers strategies to both existing residents of Denton who are looking to change aspects of their house, as well as to private developers and builders who aspire to build communities of lasting value in Denton. Denton is an historic town that is growing. This Pattern Book describes ways to create places that connect with its best intrinsic qualities.

Step 1

IDENTIFY YOUR LOCATION: Refer to Section B to identify the Transect Zone that pertains to your site, project or house. By using the Transect, you will be better able to understand the scale and character of the different areas that make up Denton, as well as the appropriate way that new communities should be developed. The Transect also evaluates the type and scale of existing places in town so that you understand the characteristics of your specific environment. The illustrations provide guidance in helping you identify the Transect Zone(s) that relate to your area, as well as depict the general feel and rules for development.



Step 2

IDENTIFY YOUR NEIGHBORHOOD: Different parts of Denton's urban fabric have developed in different ways. You'll find a description of five neighborhood patterns beginning on page 12 in Section B. The description of each of these types provides an overview of its unique, defining qualities. By analyzing both the essential characteristics of the various parts of town, one can understand the defining elements of the sub-area in which they live or for which their project is proposed.

If you already own a house, find the neighborhood area where you live. Read through the essential elements of that neighborhood in order to learn more about the building and landscape characteristics that define your locale. The characteristics described, such as the typical front yard depth, streetscape character, house spacing, and landscape treatments, are meant for your use in fitting into and strengthening the neighborhood.



If you are developing a new community, consider your adjacency to the existing town and see to it that the new development relates to that existing character. If you are developing within the existing core, figure out the classified sub-area your parcel is located in and coordinate development with those guidelines.

Step 3

IDENTIFY YOUR BUILDING TYPE AND STYLE: A traditional town such as Denton is composed of a variety of uses housed in building types of varying scales. The choice of an appropriate building type is relevant whether you own a house, want to do infill development, or are building a new neighborhood or community. Find the Building Types appropriate for your Transect Zone and scale of development in the matrices on page 35.

Beyond mere building type, Denton has an existing architectural character by which it defines itself. There are three main architectural styles in town: Victorian, Colonial Revival, and Craftsman. These styles should be studied and used for both infill and new development.

Step 4

FOR RENOVATIONS OF EXISTING HOUSING: Throughout towns developed in the nineteenth century, such as Denton, there is often a desire to expand houses to increase living space, to better fit one's house into an historic style and add value, or to bring one's property into a style family, better tied into the architectural traditions of the town. Investment in existing housing stock is encouraged as a way to develop in a cohesive, sustainable manner.

For information on the appropriate means of modifying your house to add space or enhance its style, refer to the Renovations, Additions, and Transformations pages in Section G, the Home Owner's Guide. Green building guidelines are provided as strategies for energy efficiency (in Section F) and environmentally responsible landscape treatments (in Section H).

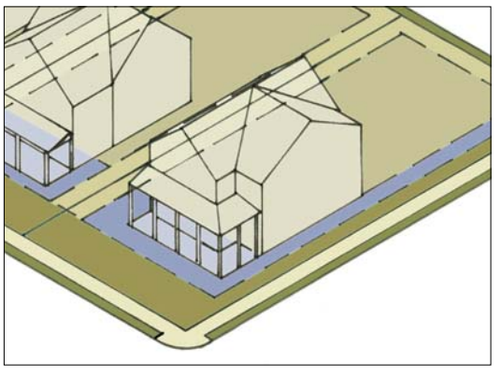
Step 5

FOR NEW CONSTRUCTION: If you are planning on constructing a new house, refer to the Building a Denton House spread in Section G, the Home Owner's Guide. This series of diagrams outlines the step-by-step process of composing a house with its individual kit of parts and pieces.



For ways to place your house on a lot, refer to the typical lot diagrams shown for each neighborhood in Section B (pages 12 through 21) or the general dimensions appropriate for new construction by building type (pages 37 through 39). The diagrams describe the typical zones of a house lot, such as front yard, front facade, side yard, and

private zone, all of which vary depending on the location of the lot within town. Placement by building type is also handled for all new development. Environmental design options that can be used to improve the site design are also included.



Step 6

REVIEW THE ARCHITECTURAL STYLE SECTIONS: Three architectural styles are documented for Denton: Victorian, Colonial Revival, and Craftsman. While other vocabularies are scattered throughout town, these three predominant styles largely create its character.

HISTORY AND CHARACTER

Each style begins with a brief description of the style and its history. Photos of relevant examples found in Denton are shown along with the essential qualities of each style. Use these materials to find your particular style family.

MASSING AND COMPOSITION

This page describes the basic massing types or shapes of houses found in Denton for each architectural style. Each massing type is shown as a three-dimensional image with a corresponding elevation diagram of the main body of the house. Identify the diagram that most closely resembles your house.

WINDOWS AND DOORS

Windows and doors relate to the style of a house. Typical compositions are illustrated for each style. Often, missing windows or awkward compositions are the primary elements that stand in the way of identifying your house style. In terms of details, typical proportions, trim, and special elements are illustrated to outline a menu of choices when replacing these elements.

PORCHES AND CHIMNEYS

Porches are essential elements of the character of many Denton neighborhoods. They provide comfortable outdoor space where neighbors spend time and create a pleasant community life. The location and design details of porches are covered on this page. The massing of the front porch is distinct within a particular style. Good porch proportions make for a well-scaled house facade.

MATERIALS AND APPLICATIONS

This page includes a list of preferred materials and their application. Also included are a few facade possibilities composed using elements described on the previous pages to illustrate the end result that can be achieved if one follows the guidelines in the Pattern Book.

Step 7

REVIEW THE ENVIRONMENTALLY RESPONSIBLE LANDSCAPE DESIGN STRATEGIES: These landscape strategies will provide you with specific techniques for responsible environmental stewardship of your property and its effect on the natural environment of our area.



Step 8

REVIEW THE MATERIAL MANUFACTURERS AND RESOURCES LISTS: A list of material manufacturers for items such as doors, windows, columns, and moldings is located at the end of Section E: Architectural Styles. This list is meant to serve as a resource when searching for the appropriate building supplies for work on your house, or for use by developers and builders in finding material suppliers for large infill or new development efforts.



SECTION B

ESSENTIAL QUALITIES OF DENTON TODAY

Denton has distinct community and neighborhood patterns that reflect the historic development of the town. Understanding these patterns aids in identifying the way new and infill development should relate to what already exists as well as the role that individual buildings can play in creating new places in keeping with local and regional traditions. This section begins with a brief description of sustainability as a key principle for historic preservation, adaptive reuse, infill development, and new mixed-income development.

Denton, an historic Eastern Shore town with a mixed-use core and neighborhoods connected to that core by an interconnected network of streets, has achieved its current state of development using development patterns and principles that provided sustainability somewhat inherently. To ensure long-term sustainability of the town and its surrounds, we must consciously respect and support these successful patterns and principles as precedents and models for all future development.

The Transect, a method for guiding development that is coherent, human-scale, pedestrian-friendly, and in harmony with the natural environment, is one of the best large-scale tools for traditional town planning and the development of sustainable communities. This section describes the Transect as a concept then applies it to Denton, identifying development zones based on the scale, density and types of development appropriate for each Transect zone from the most natural zone to the urban core.

The section continues with a map of the existing development and proposals in and around Denton. Because Denton faces pressure to grow within the existing fabric of the town, largely within the I-404 loop, and without, across the Choptank River and beyond, it is important for developers to understand and emulate the best qualities of the five sub-areas of the town: Courthouse Square and Downtown Market Street, the In-Town Neighborhoods, Fifth Avenue, South Second Street, and the Edge of Town Neighborhoods.

Building Green at the Community Scale

The town of Denton has historically and is continuing to pursue a community growth pattern intrinsically related to sustainable development. Historically a population center for the region, Denton continues to fulfill this role in the context of County and State growth management strategies. With its multi-use center and associated residential neighborhoods, Denton adheres to the first principle for building green communities: to build within existing areas. To continue its place as a locus of planned growth into the foreseeable future, Denton has identified areas appropriate for development within the historic town and its environs as well as the place-making principles that underlie its current character, namely that new development be compact, mixed-use, pedestrian-friendly, and that the activities of daily life be accomplished with limited use of a car.

Historic Preservation/Adaptive Reuse

The National Trust for Historic Preservation estimates that the energy equivalent of one gallon of gasoline is wasted for every eight bricks destroyed and replaced. In addition, construction and demolition debris accounts for 24 percent of America's landfill volume.

Reusing and rehabilitating damaged or outdated structures is, by definition, a green building practice which saves more resources compared to what is required for new construction. Through building rehabilitation, society retains the initial energy and resources that were required to make materials such as bricks, mortar, steel, or timber and also establishes a sense of historical and community continuity. Historic buildings are an important link to tradition and offer important educational opportunities. Denton has implemented policies and regulations to encourage and facilitate infill and redevelopment and preserve significant historic structures.



Location and Use of Existing Infrastructure

Another important factor in building and repairing healthy communities is the choice of location. Wherever possible, projects should be located on infill sites with access to existing roads, water, sewer, and other infrastructure. Locating projects in this manner offers the greatest savings, helps conserve land, prevents the spread of stormwater runoff to new watersheds, and reduces travel distances and pollution from vehicular exhaust. When developing in planned growth areas, provision must be made for adequate public facilities.

Sustainable development practices, involving infill and redevelopment or 'greenfield' development, should begin with proper site selection which avoids development of inappropriate areas and damage to fragile and/or scarce environmental resources. Development should not be located on wetlands, steep slopes, parkland, or other ecologically-sensitive areas. Development should not be located on prime farm land in the County, but instead should be directed to planned growth areas within existing communities where adequate public facilities and services can be provided in the most cost-efficient manner.

Diverse, Mixed-Income Communities

Building diverse, mixed-income communities provides an opportunity for people of all ages, races, and income groups to thrive. Neighborhoods should provide a diversity of unit types to accommodate different needs and uses. The integration of affordable and market-rate housing into a medium-density, mixed-income, mixed-use environment helps create long-lasting, healthy communities.

In order to reinforce and enhance the Town's commitment to environmental design and preservation, a series of sustainable growth objectives have been developed. A summary of these objectives are included at right. Further details regarding these techniques and practices are available in Section H: Environmentally Responsible Landscape Design in this Pattern Book and from the Town Office.

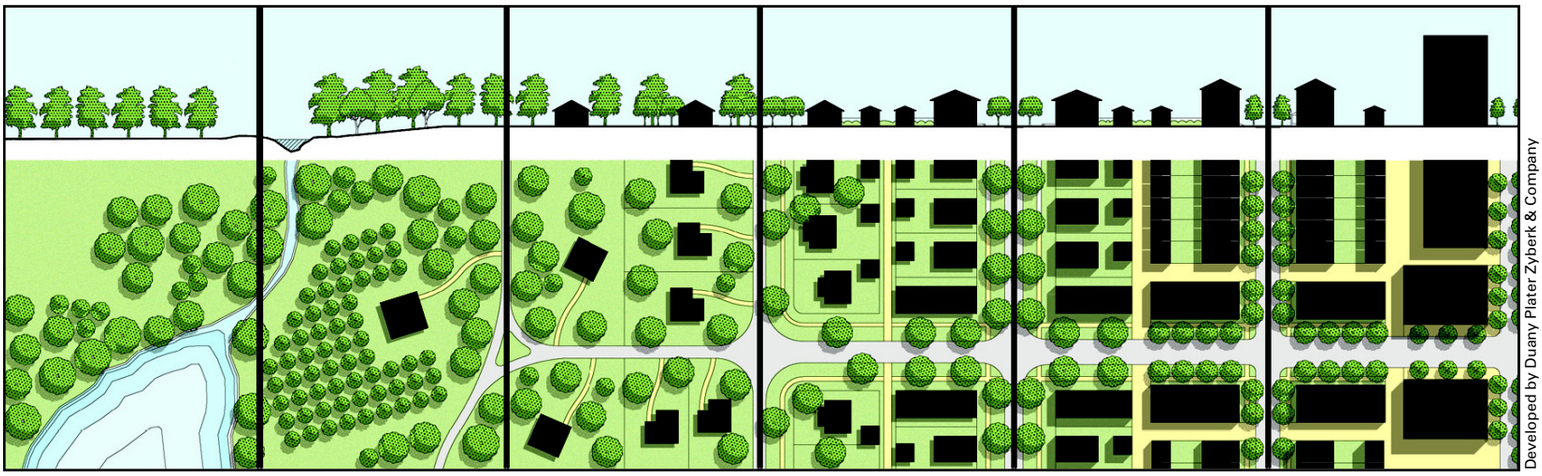




Green Building Objectives

- >> Land Stewardship
  - Site selection
  - Infrastructure
  - Site stewardship
- >> Community and Neighborhood Character
  - Neighborhood layout
  - Compact development
  - Community resources
  - Home owner education
- >> Environmental Design
  - Landscape and shading
  - Water management, reuse, and irrigation
  - Pest control
- >> Green Building Design
  - House size
  - Construction techniques
  - Indoor environment
  - Appliances
  - Waste management

The Transect of Denton



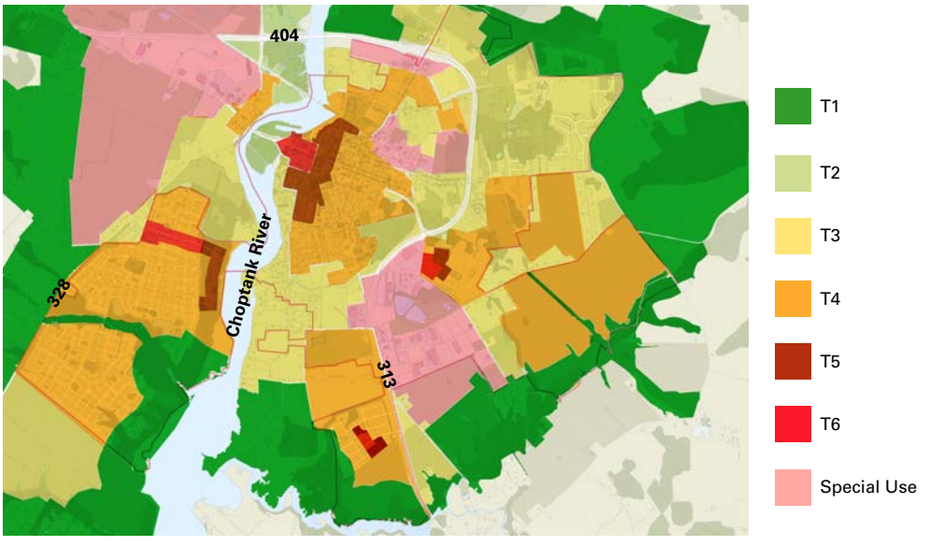
Developed by Duany Plater Zyberk & Company

T1	T2	T3	T4	T5	T6
NATURAL ZONE	RURAL ZONE	SUB-URBAN ZONE	GENERAL URBAN ZONE	URBAN CENTER ZONE	URBAN CORE ZONE

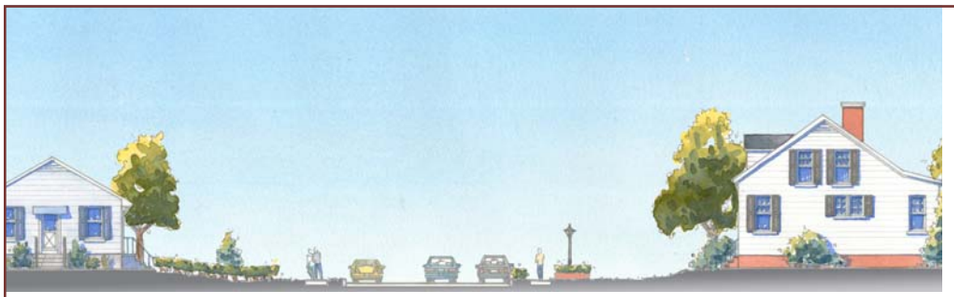
Developed by Duany Plater Zyberk & Company, the Transect is a tool which defines the hierarchy of development by the scale and location of different settlement types. As the illustration above shows, the Transect includes six zones which range from the most natural undeveloped areas, to rural landscapes, to small hamlets and villages, then larger towns, administrative centers, up to larger urban centers. The Transect is applicable to any place where community visions include the desire to build appropriate and fitting compact, mixed-use development as a way to reduce sprawl and uncoordinated development. Within each Transect zone (T-Zone), all development should be consistent with the scale of development for that zone within the existing town.

Denton fits into Zones T3 through T6. While these zones do not always align linearly, following strict numerical order, from the outer edges of the town into its core, the zones do describe the general scale of different areas of the town's development. The mixed-use center of Market Street near Courthouse Square, the most dense area of Denton, is T6, the urban core zone. The urban neighborhoods closest to Denton's downtown are T5, the urban center zone. The less dense neighborhoods (such as the Fifth Avenue area) are T4, the general urban zone. This area and its adjacent blocks tend to have greater setbacks and distances between houses. Portions of the T4 through T6 zones in Denton will be transformed into new neighborhoods, either as a result of large-scale, planned communities or infill and redevelopment projects, all of which will use the Pattern Book to identify the appropriate Transect Zone for the proposed development. The sub-urban (T3) and rural (T2) zones of Denton include areas that are planned to remain as 'greenbelt' and natural resource protection areas. The planned greenbelt, which will reinforce the Town's urban growth boundary, will be located along the outer perimeter of Denton's growth areas and will consist of properties the Town would like to see remain essentially undeveloped: forest, open space, agricultural land, and very low density rural residential development.

The Transect map of Denton (shown below) defines the town's Transect zones.



This map of Denton's Transect Zones reflects both existing and planned land use characteristics.



T3 SUB-URBAN ZONE





T4 GENERAL URBAN ZONE





T5 URBAN CENTER ZONE





T6 URBAN CORE ZONE



Community Character

Denton's four Transect zones can be illustrated in general ways which apply to both infill and new development. The illustrations on these facing pages depict four different scales of streets and public space, demonstrating how the elements in the Pattern Book can be applied to create appropriate design for each of the Transect zones present in the town



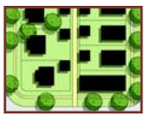
T3

SUB-URBAN ZONE

A neighborhood street in the T3 zone includes small-to medium-sized houses on larger lots set back from a more rural, informal street. A wide, planted verge separates the street from the sidewalk. Parking is handled in garages set back behind the facade line of the houses, but serviced from narrow, informal driveways leading from the street.







T4

GENERAL URBAN ZONE

Varying house types line the streets of the T4 zone. These house types range from large single-family houses to attached types in the form of one large house. The neighborhood street is relatively narrow, and the streetspace is defined by small front yards and gardens with landscape elements. Generally, driveways lead from the street to garages with carriage units above. Corner lots are often serviced from side streets to help maintain the denser neighborhood character.





While these illustrations are idealized images, they do present the essential qualities of different public spaces and neighborhoods in Denton and its environs, as captured in photographic analysis of the existing town and as described by residents during the planning process.





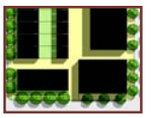
T5

URBAN CENTER ZONE

In the T5 zone, houses have very shallow front yards and a minimal planted verge. Houses may have attached units, as in the T4 zone, but in more urban building types. Streets are of a slightly more formal scale. The neighborhoods are much more dense in character, a condition made possible by the presence of alleyways to service houses from the rear. Front porches dominate the residential landscape.







T6

URBAN CORE ZONE

Streets in the T6 zone, are larger in scale and accommodate on-street parking to service the mix of uses along their length. These streets support many building types and have the densest associated housing, such as live/work units and residential uses above retail stores. Short-term parking is on-street. Other parking is provided in concealed areas mid-block in order to maintain a consistent street wall. Sidewalks are wide, paved areas that support greater foot traffic and outdoor uses.



Town of Denton: Existing Development and Proposals





Introduction

Denton is a tapestry of varying environments, each with its place in the creation of the overall community. It is also a relatively compact community with many new development opportunities on the horizon. The map of existing conditions shown here enables the community to see itself holistically and understand its geographical proximities and boundaries. By applying the analysis of Denton's existing development patterns shown in this map in combination with the information about Denton's five distinct sub-areas, the town can continue to organize future development in the sustainable and responsible manner it is currently pursuing.

History and Culture

The towns and villages of the Eastern Shore and Caroline County are laid out along the historic trade routes of the area. Denton is the county seat. It was settled along the Choptank River at an area once named Pig's Point, part of a tract of land called Mount Andrew. Urbanization occurred in Denton during two main periods of prosperity, first during the Grain Boom from 1790 to 1819. Almost all building at that time was frame construction and most was destroyed in a fire in 1865.

In 1890, a second boom, the Canning Boom began. Most of the surviving historic architecture in Denton – all late Victorian interpretations – was built during that era by local builders using pattern catalogs. As trade shifted from the river to the railroads, Denton lost its identity as a river city and turned increasingly inland in focus as the downtown core was established on the high ground overlooking the Choptank River.

Beginning with a depression in 1919, little construction occurred in Denton until after World War II. In the 1960s, a flurry of commercial and public rebuilding took place, primarily in the Colonial Revival style, and many of the existing historical buildings in Denton were covered with Colonial Revival facades. But, from the 1970s to the 1990s, little growth occurred in Denton. What growth did take place was outlying with little or no reference to the rich history and architectural styles of Denton or its community and neighborhood patterns.

Neighborhood Patterns

The historic development of Denton has given rise to a pattern of neighborhoods, each with their own distinct character. For example, the In-Town neighborhoods, meaning the residential development around the core of Market Street where houses are close together and sidewalks are relatively formal, differ in character from the streets that follow the Choptank River south along Second Street, where houses are spread farther apart and the landscape remains lush and rural. These distinctions are among those that provide Denton with its rich variety of places.

Denton's neighborhood patterns are important for two reasons. First, they allow home owners or potential home buyers to understand the place in which they are buying, what is important about the neighborhood, and how to make future investments in their home appropriate for the character of the neighborhood in which it is located. Also, these neighborhood patterns allow the developers of new, adjacent areas within the town to understand the variety of neighborhood types in the existing town, and to pattern their developments after these building traditions so that future parts of Denton relate to its character, history, and sense of place. You'll find more information about Denton's five primary neighborhood patterns on the remaining pages of this section.

Courthouse Square and Downtown Market Street (T6)

Essential Elements

- >> Grid of streets with on-street parking for visitors
- >> A main, public green within Courthouse Square
- >> Wide sidewalks along Market Street and sizable, formal sidewalks elsewhere
- >> Granite curbs, street lights, banners, and other forms of downtown streetscape elements
- >> Mature trees, especially along the west, north, and east sides of the Square
- >> Large houses, many converted to offices, businesses, and museums
- >> Houses in traditional architectural styles (high-style examples)
- >> Very large lots with large buildings either attached or spaced closely together
- >> All buildings, whether shopfronts or offices in houses, relate to the street with awnings and large porches
- >> Shallow, well-landscaped front yards and gracious sidewalks along Market Street

Constructed when the town of Denton was founded, Courthouse Square and Downtown Market Street provide the town with its sense of place. The seat of Caroline County, Denton's Courthouse Square is home to a variety of public buildings and uses that serve the county's populace, many in the stately houses that surround Courthouse Square. Downtown Market Street is Denton's mixed-use core and its variety of uses – shopping, dining, banking – attract people to this part of town. Together, the two areas define the heart of the existing town. Not necessarily a neighborhood in the traditional sense (as the area is predominantly institutional and commercial), residences above the shopfronts are an historic and encouraged feature in the downtown.

Streets

Market Street as it rises from the crossing of the Choptank River provides a picturesque sense of arrival into Denton. Downtown Market Street supports its mix of uses with an appropriate cross-section, usually 34 to 46 feet in width, with parallel, on-street parking along its sides, and head-in parking along Courthouse Square itself. Large, old trees shade the streets in this area, and all converge and wrap around the Caroline County Courthouse, a venerable structure in the heart of Denton.

Curbs

Curbs are formal, from 6 to 8 inches tall, and may be constructed of granite or concrete.

Verges and Street Trees

Verges, or tree lawns, are not typical, although trees are located in 3- to 5-foot square grates in the downtown. Street trees are generally spaced 25 to 30 feet on-center and are normally located along the edge of the street.

Sidewalks

Sidewalks are generally brick along Market Street or, less frequently, concrete. The formality of the brick reinforces the sense of a town core. Sidewalks are relatively gracious at 8 to 23 feet in width. Along the non-commercial uses, a 4-foot sidewalk is typical.

Lighting

Street lamps are short and of the decorative variety, in scale with the size of downtown Market Street. Street lamps are metal, and occur every 20 to 25 feet. Downtown street lamps support hanging baskets of flowers and banners celebrating downtown Denton.

Planting

Denton's downtown streets are relatively green due not only to the mature trees that line the street, but also to the hanging baskets and other planters spread throughout the area. Foundation planting is also present in front of the non-commercial structures that ring Courthouse Square.

















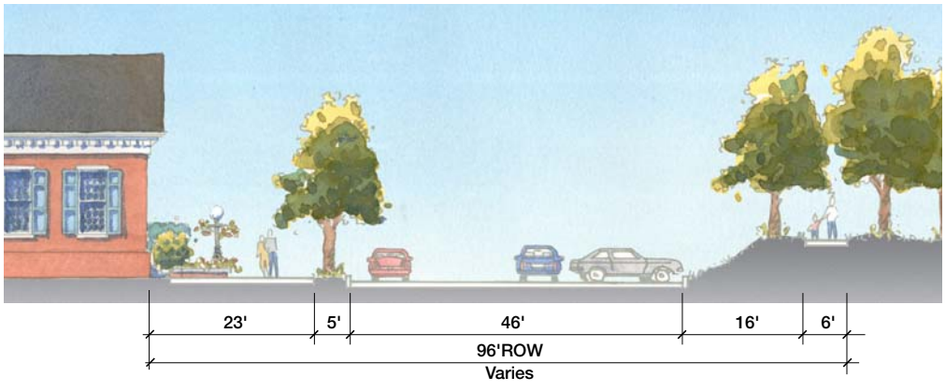


THIRD STREET





MARKET STREET AT COURTHOUSE SQUARE





In-Town Neighborhoods (T5)

Essential Elements

- Consistent network of concrete streets
- Flagstone or concrete or brick sidewalks
- Concrete curbs
- Most houses served by alleys, informal parking areas, or sparing informal driveways
- Mature street trees, either in verges or front yards, oriented to the streets
- Landscaped front and side yards, with walls, fences, and hedges
- Houses in traditional architectural styles, with wider side yards at corners
- Moderately-sized front yards





Denton's most urban neighborhoods developed immediately adjacent to the town's mixed-use core. Though differing in their states of repair, loosely, the area between Third Street and Fifth Avenue, High Street and Franklin Street, and extending for a distance along Market Street, comprise Denton's first neighborhoods. Lots are spaced more closely and these areas represent the most urban living in Denton. These neighborhoods, which developed quickly during the booms that built the town, exemplify the Victorian style in both its ornate and simple forms.

Lot Sizes

Most lots are between 45 to 55 feet wide and about 100 to 120 feet deep. Corner lots are typically ten feet wider than in-line lots. These houses often feature wrapping porches and bay windows that address the street.

Front Yard Setback

The main bodies of the houses are set back 15 to 35 feet from the front property line. Porches typically extend 8 to 10 feet into the front yard.

Side Yard Setback

Side yard setbacks total no less than 5 feet to the property line. Slip driveways sometimes occur in the side yards, although most houses have on-street parking and/or are alley-loaded.

Garages and Ancillary Structures

Garages, if present, are located at the rear of the lot, typically serviced by an alley. Some yards feature other ancillary structures such as sheds. Driveways only occur on corner lots, if at all. Garages are infrequent and no carriage houses are present.

Streets

Typically, the street rights-of-way range from 36 to 40 feet. The paving, or cartway, is usually 23 to 27 feet wide in an urban, tight condition with two-way movement and parallel, on-street parking on both sides. Often known as 'yield streets,' these narrow cartways force cars to slow down to pass each other. A few streets have parking on only one side with two-way movement.

Verges and Street Trees

Verges or tree lawns range from 2 to 3 feet in width. Street trees are generally spaced 25 to 30 feet on-center, located either in the verge or the front yard along the sidewalk.

Sidewalks

Sidewalks in these neighborhoods are concrete, although Market Street – the most formal street in the area – features brick sidewalks in many places. Sidewalks are generally 4 to 5 feet wide.

Lighting

Lighting in these areas is typically handled with overhead lights, or 'cobra heads' (undesirable), high above the sidewalks, on power poles.

Fencing and Garden Walls

Fences and walls provide delineation between public and private space and are typically located on corner lots and as privacy measures to separate the dense backyards. Wrought-iron fences and decorative brick walls are sometimes present. Gardens are often fenced with white pickets, and are related to the style and character of the individual house. The use of chain link fence, and fencing taller than four feet is discouraged.

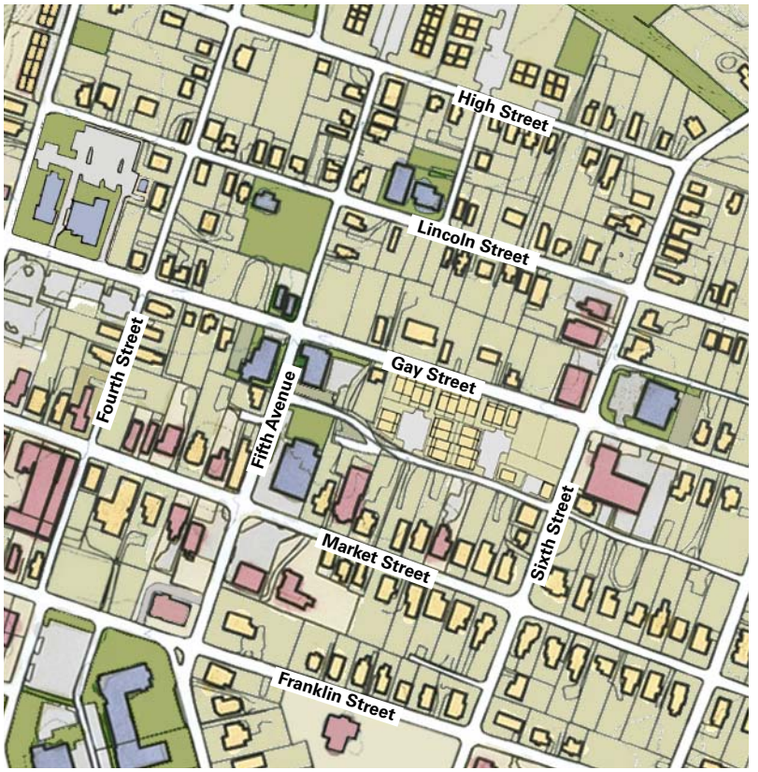
Planting

Foundation planting is the most minimal planting present in this area. Shrubbery, hedges, and small flowering trees are found in the yards in relatively informal patterns. Some large trees are also present in backyards.



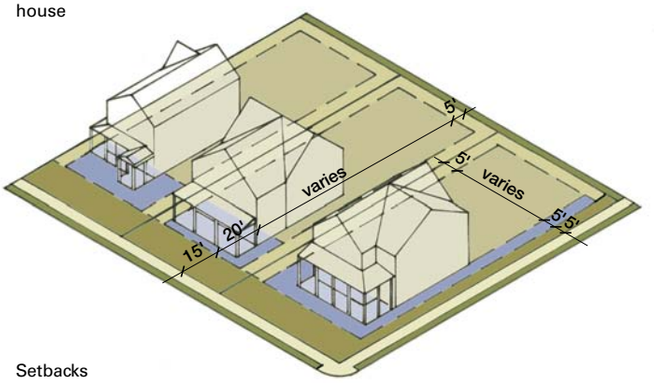




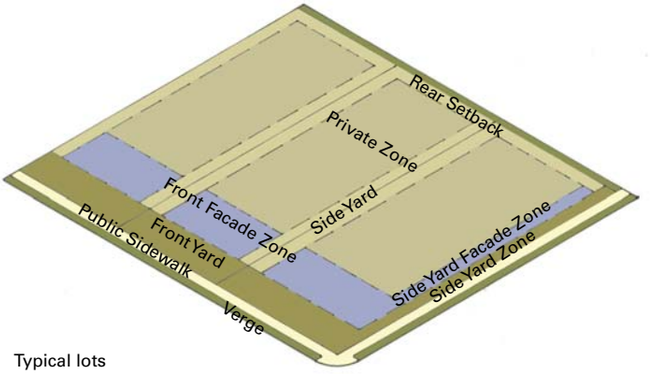




An in-town house

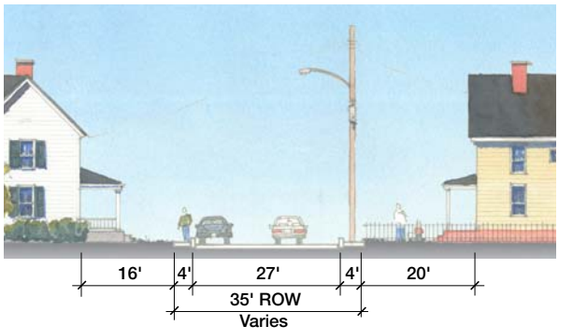


Setbacks

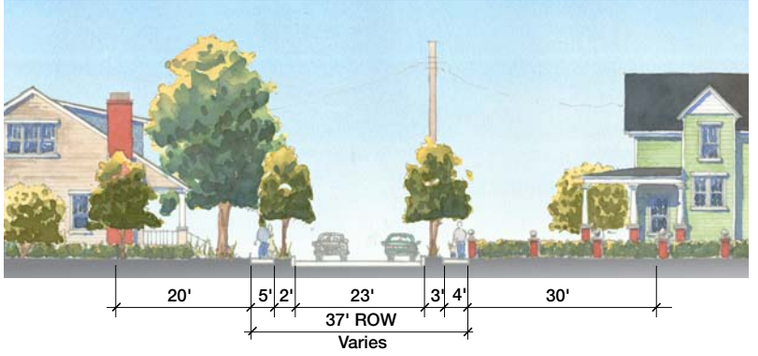


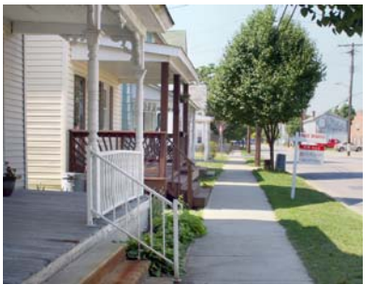
Typical lots

LINCOLN STREET



MARKET STREET







Fifth Avenue (T4)

Essential Elements

- Streets splay out from the grid of the urban In-Town Neighborhoods
- Wide concrete sidewalks
- Granite curbs and historic street lights
- Mature street trees in verges as well as auxiliary planting in verges
- Some houses maintain a step up into the front yard from the sidewalk
- Large, high-style houses in traditional architectural styles
- Wide lots with gracious setbacks to large, ornate front porches
- Well-planted front yards that relate to the style of the house





Fifth Avenue boasts Denton's most stately houses, the edge-of-town mansions from its early eras of development. Large, gracious trees and a wider street provide clues to the area's specialness as an address. The Fifth Avenue area also includes the blocks to the east, where the houses exhibit that same character. These houses are examples of Denton's most preserved, pure architectural styles.

Lot Sizes

Most lots are around 70 feet wide and 100 to 120 feet deep. Corner lots may be 10 to 15 feet wider in keeping with the grand scale of this area of Denton.

Front Yard Setback

Houses along Fifth Avenue and its adjoining blocks tend to have gracious front yard setbacks, in the range of 25 feet in depth. Buildings are set back relative to each other with only minor fluctuations. Porches may extend up to 12 feet into the front yard, but are typically 8 feet in width when present and appropriate for the architectural style. Bay windows may also extend into the front yard.

Side Yard Setback

Side yard setbacks typically total no less than 10 feet to the property line. Driveways are minimal and understated, if present at all. Typically corner lots and other wider lots support driveways to ancillary structures at the rear of the lot.

Side Street Setback

Houses on corner lots usually conform to the front yard setbacks, or if not, are a minimum of 15 feet. This setback reinforces the fronts of these houses.

Garages and Ancillary Structures

Garages are located at the rear of the lot with a narrow 8- to 12-foot-wide driveway leading from the street. Garages often have carriage units or 'granny flats,' living space above the garage proper. Most of the time, these structures are built in concert with and in the same architectural style as the house itself.

Streets

Fifth Avenue and its partner street to the east have wide rights-of-way, of approximately 50 feet. The width of the cartway, however, is usually much smaller, around 20 to 30 feet, and most adjacent public rights-of-way are well planted and lush. Parallel parking is not typical on these streets, and though it could be accommodated, two-way travel movement is common.

Curbs

Curbs are 6 to 8 inches tall and are typically constructed of concrete.

Verges and Street Trees

Verges or tree lawns are typically 5 feet in width and are planted both with grass as well as other flowering plants and bushes to create a very green and lush public realm. Mature, large street trees are generally spaced 25 to 30 feet on-center and are located in both the wide verge strip, as well as the front yards. This doubling of trees provides a wonderful shaded canopy over the public sidewalks, often up to the front porch, depending on the trees themselves.

Sidewalks

Sidewalks are made of poured concrete and are generally 4 to 6 feet wide throughout this area of Denton.

Lighting

Overhead lighting, often linked to power poles, is used throughout this area as well as most of the residential areas of Denton. Individual houses use auxiliary lighting on porches and facades to light the way from the public sidewalk to the individual houses.

Fencing and Garden Walls

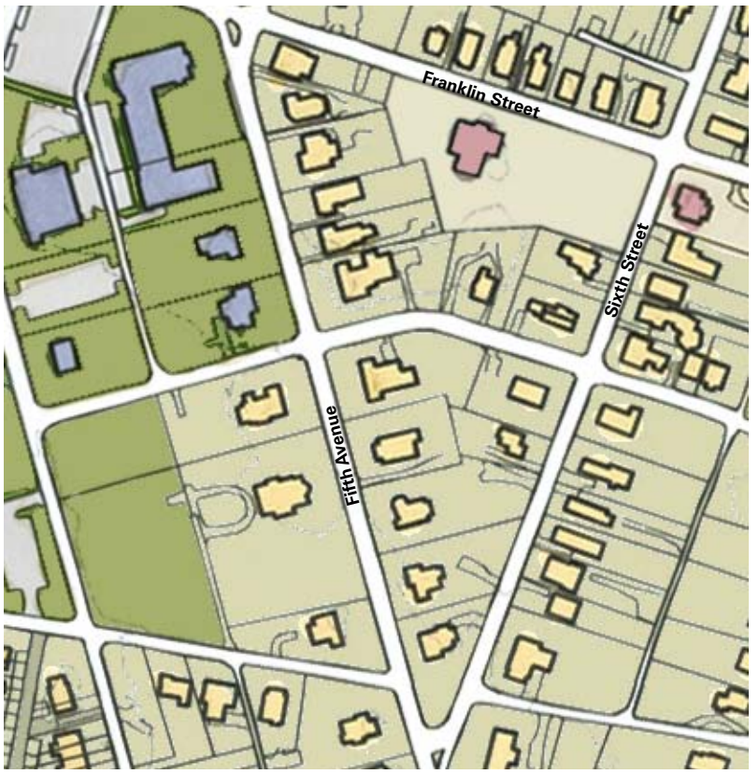
Generally there is little fencing in this area. Often delineation of space occurs with low planting of various types instead. Lush planting takes the place of fencing and similar structures.

Retaining Walls and Steps

Few retaining walls are present, although the approach to some houses is up a mounded front yard that lifts the house up to overlook the street. When this occurs, typically the yard is raised no more than three steps.

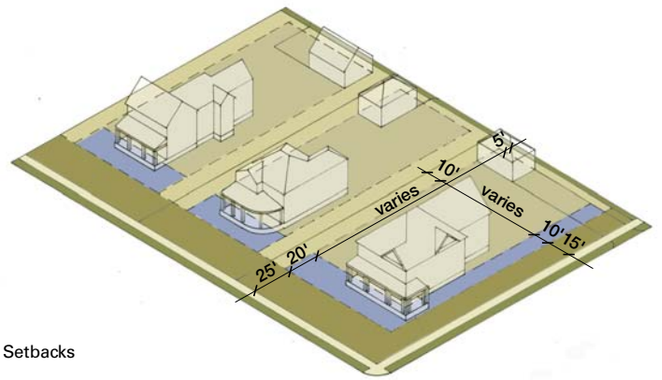
Planting

Enormous old trees grace the street and add greatly to its classic character. Ornamental trees, flower beds, bushes and hedges are all present. Yards and landscaping are very well-maintained. Planting is very thoughtful, and works with the overall composition of the house.



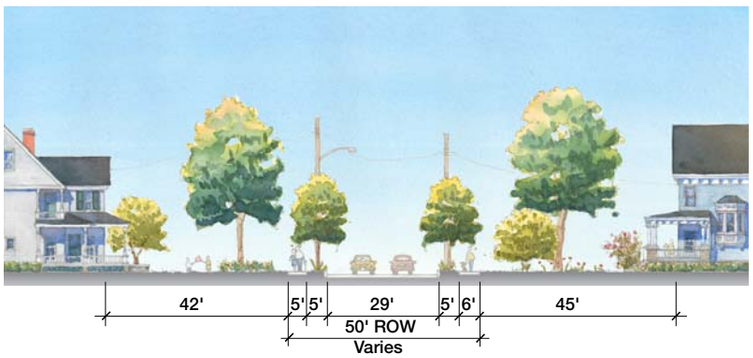


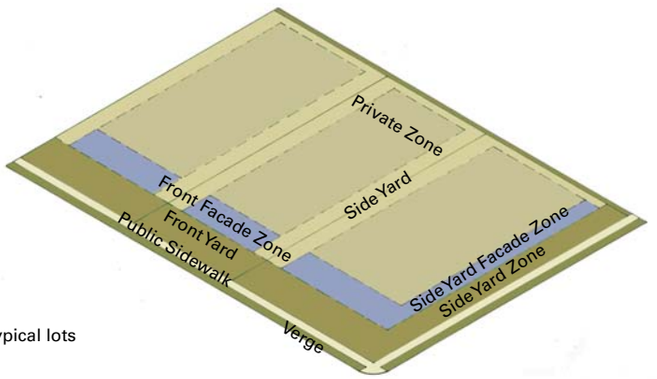
A Fifth Avenue house



Setbacks

FIFTH AVENUE





Typical lots









South Second Street (T4/T3)

Essential Elements

- >> Informal streets, often without curbs
- >> Long, rural sections of street with an informal street pattern
- >> Informal streetscape with few sidewalks
- >> Large trees along the street, as well as in an informal array around the lots
- >> Natural planting and landscape growth, in concert with the wooded surrounds
- >> A variety of traditional house styles, as well as later house designs
- >> Wide, more shallow lots, often wooded or influenced by the natural lands along the Choptank River





South Second Street and the blocks in its vicinity were developed in a loose, rural fashion due to their natural relationship to the Choptank River and the wooded areas south of the center of town. By the informal way that streets meet yards, and the general feel of connection to the natural environment in this area, the neighborhood fabric relates not only to the river, but its open spaces and nearby Martinak State Park to its south. Houses and the way streetscapes are handled generally defer to the natural setting around them.

Lot Sizes

Lots are very wide in this area, sometimes wider than they are deep. Widths tend to be between 80 and 90 feet wide and 70 to 100 feet deep. Corner lots may be wider by about ten feet, and on these lots, houses tend to look as though placed at the middle of the lot.

Front Yard Setback

The main bodies of the houses are set back 25 to 45 feet from the front property line. Porches, whenever present, are a usable depth.

Side Yard Setback

Side yard setbacks typically total no less than 10 feet to the property line. Slip drives may require an additional 10 to 12 feet on one side of the house.

Side Street Setback

Side street setbacks tend to be gracious like the front yard setbacks.

Garages and Ancillary Structures

Garages are typically located at the rear of lots, accessed from the side yard on corner lots and from driveways leading from the street on in-line lots. On occasion, even less formal gravel drives loop in front of the houses.

Streets

Streets typically have a 32-foot right-of-way, with a narrow cartway, particularly in those sections of the neighborhood that are rural in character and do not have formal curbs. Parking is allowed on one or both sides, and varies throughout this area.

Curbs

When curbs are present, six-inch concrete curbs are typical. For those houses along South Second Street itself, front yards often meet the street informally without any curb, just a change in material.

Verges and Street Trees

Verges are not characteristic of this area, though the area is relatively lush. Formal street trees are also not present, though there are many trees in less formal arrangements scattered around the lots, particularly as one moves south along the Choptank River.

Sidewalks

Sidewalks are not typical in this area, and due to its less regular street pattern, pedestrians are often seen walking in the cartway of the street, due to low volumes of through-traffic.

Lighting

Street lighting is not a common sight in these areas, with the exception of cobra head lighting attached to power poles. Houses often have lights in the front yard or on porches.

Fencing and Garden Walls

Very few formal domestic landscape elements are present in this area.

Planting

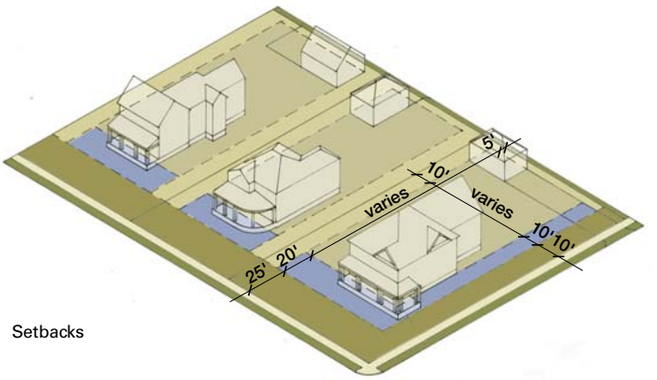
Foundation is typically the most formal planting found in this area of Denton. Ornamental trees, shrubbery, hedges, and flowerbeds are more prevalent. However, many lots are relatively wooded as one approaches Martinak State Park and the Choptank River.





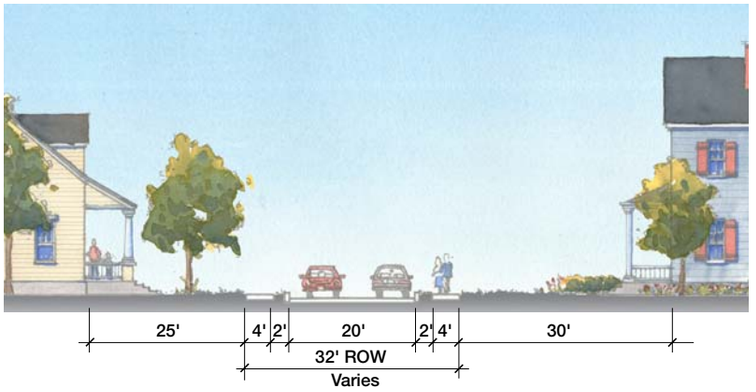


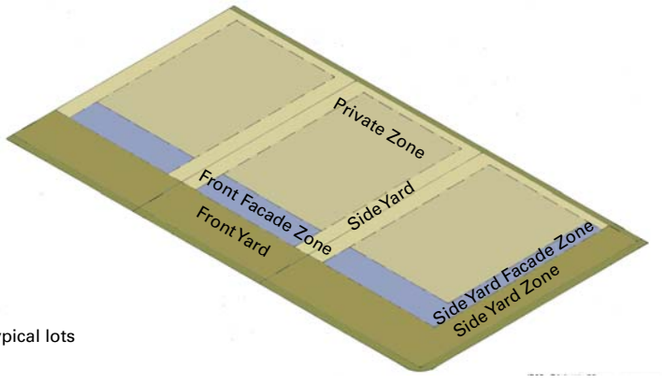
A South Second Street house



Setbacks

SOUTH SECOND STREET





Typical lots









Edge of Town Neighborhoods (T4/T3)

Essential Elements

- Broad streets without curbs, characterized as the farm roads they used to be
- Widely-spaced houses, early suburban in character
- A lack of curbs and formality in the streetscape
- No verges, often smaller trees are located in the yard
- Tall, widely spaced cobra-head-style street lighting
- Minimal and sparse front yard planting
- Simplified architectural forms and details on smaller one- and one-and-one-half-story houses
- Relatively wide lots, deep front yards and wide side yards with front-loaded lots





As the neighborhoods slowly feather out from the core and the Fifth Avenue area, houses are spread farther apart and yards are a bit less formal, reminiscent of the loose quality of their farmstead era. The houses in the vicinity of Sixth Street and Camp Road, as well as those areas east of the Fifth Avenue area, exemplify a more rural pattern and feel. Historically, it is likely that the larger houses set back from the road were farmhouses, while the current, neighboring houses are later, infill lots.

Lot Sizes

Most lots are between 55 and 65 feet wide and range in depth, though mostly 100 feet deep. Corner lots are generally wider, though in general the housing patterns are linear, along the rural roads that once led out of town.

Front Yard Setback

Front Yard setbacks to the main bodies of houses are typically around 20 to 40 feet. Porches are found on many houses, and are usually at least 6 feet deep.

Side Yard Setback

Side yard setbacks typically total no less than 5 feet to the property line. Lots are often front-loaded, with driveways pulling in from the street, requiring at least an additional 10 to 12 feet on one side of the house.

Side Street Setback

A 5- to 10-foot setback is typical from the side street property line to the house.

Garages and Ancillary Structures

Garages are usually set behind the house facade or at least equal to but not in front of it. Driveways are typically paved in concrete and there are no carriage houses, though other small ancillary structures might be present, such as backyard sheds.

Streets

Streets in the Edge of Town neighborhood areas have 40- to 45-foot rights-of-way. The paved cartways are wide in comparison to the neighborhoods nearer to Denton's center, typically around 30 feet. Streets have two-way movement and parking is found on both sides of almost all streets.

Curbs

Curbs are not typical in this area, and front yards meet the paving of the street in a rather informal way.

Verges and Street Trees

Verges and street trees are not present, although there are often a few trees in individual yards.

Sidewalks

Rural in streetscape character, sidewalks are not typical.

Lighting

Street lights are cobra heads and attached to power poles (not recommended).

Fencing and Garden Walls

Fencing and walls are rarely found in this area of Denton.

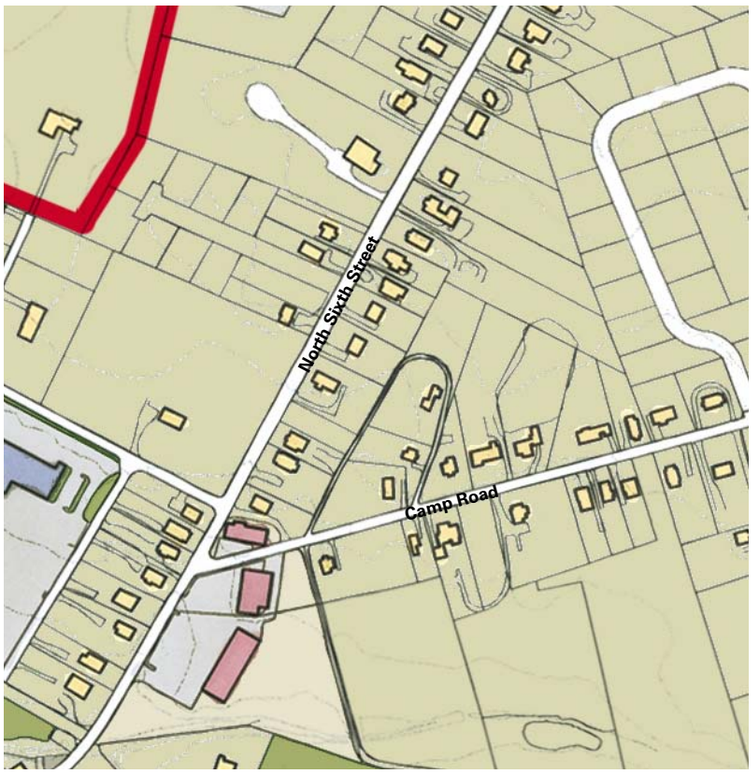
Planting

Front yards are large expanses of grass, interrupted by the occasional tree. Planting around the house is simple and straightforward with flowering shrubs and bushes.



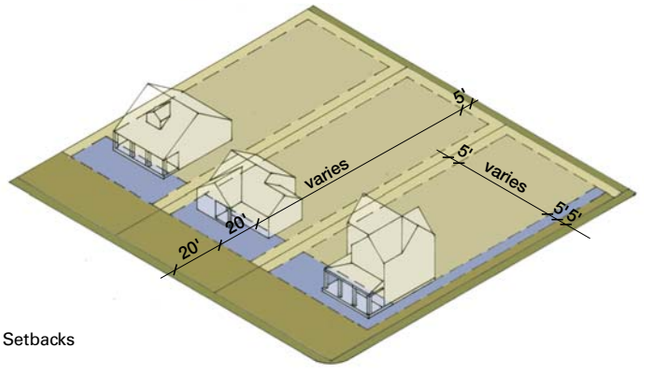








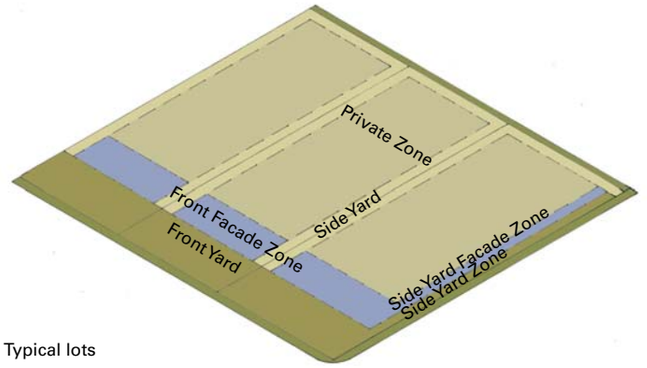
An edge of town house



Setbacks

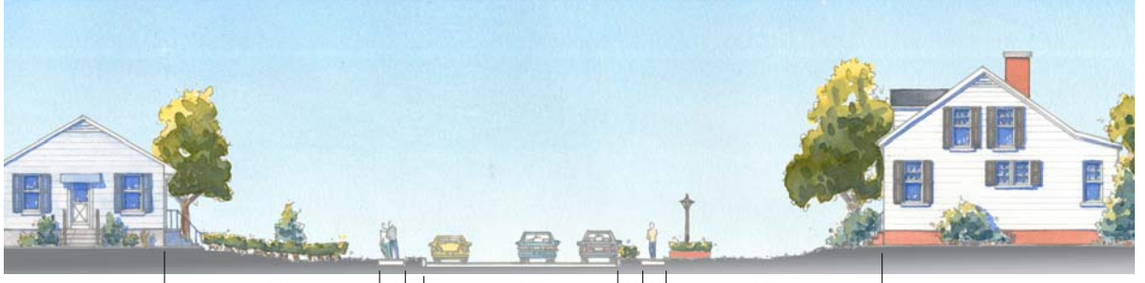






Typical lots

SIXTH STREET





Existing Civic Spaces



Crouse Park



Fourth Street Park



Wheeler Park

Denton has a number of fine civic spaces, among them Courthouse Square. These civic spaces range from squares to natural public parks, such as Martinak State Park, to formal streetscapes at the core of town.

Formal Squares and Plazas

Courthouse Square is Denton's signature public space. As the seat of Caroline County, it houses the Courthouse in a formal green that also serves as a park for the downtown. Formal gathering spaces are important for any town, and they are appropriate in any number of shapes, sizes, and characters.

Parks

Denton has a few parks that are generally co-located with schools and other institutions. Fourth Street Park is adjacent to St. Luke's Church, and near the Denton Child Development Center. In addition, Wheeler Park is located near the middle school, and has some active recreation elements. Crouse Park is located on Denton's riverfront and is being developed to better connect the town to the Choptank River. Martinak State Park, south of the core of town, contains both parks and playgrounds, as well as natural landscapes for passive recreation and connection to the natural environment of the region.

Institutional Spaces

The schools throughout Denton have associated playspaces and fields for the use of school children, as well as the greater community. Institutions, such as the town's churches, also have associated greenspaces, which tend to be formal gathering areas and gardens. Adjacent to the Caroline County Courthouse, the green surrounding the facility boasts large trees and areas for passive recreation.

Streetscapes

The downtown streetscape respects the formal nature of this area. Use of brick pavers, formal and coordinated street lighting, planters, hanging baskets, and banners all bring this area together. Other elements such as benches, trash receptacles, parking meters, and other special elements in the public realm further refine the formality of the downtown.

Wetlands

Crouse Park and the natural areas at the entry into Denton from the west, as well as the riverfront wetland areas in Martinak State Park are wonderful examples of Denton's unique environs along the Choptank River and within the Chesapeake Bay watershed. Continued stewardship and appreciation of these areas is important as they tie the town with its natural identity.



Visitors Center at Courthouse Square



Courthouse Square



Market Street south of Courthouse Square



Martinak State Park



Crouse Park



Martinak State Park

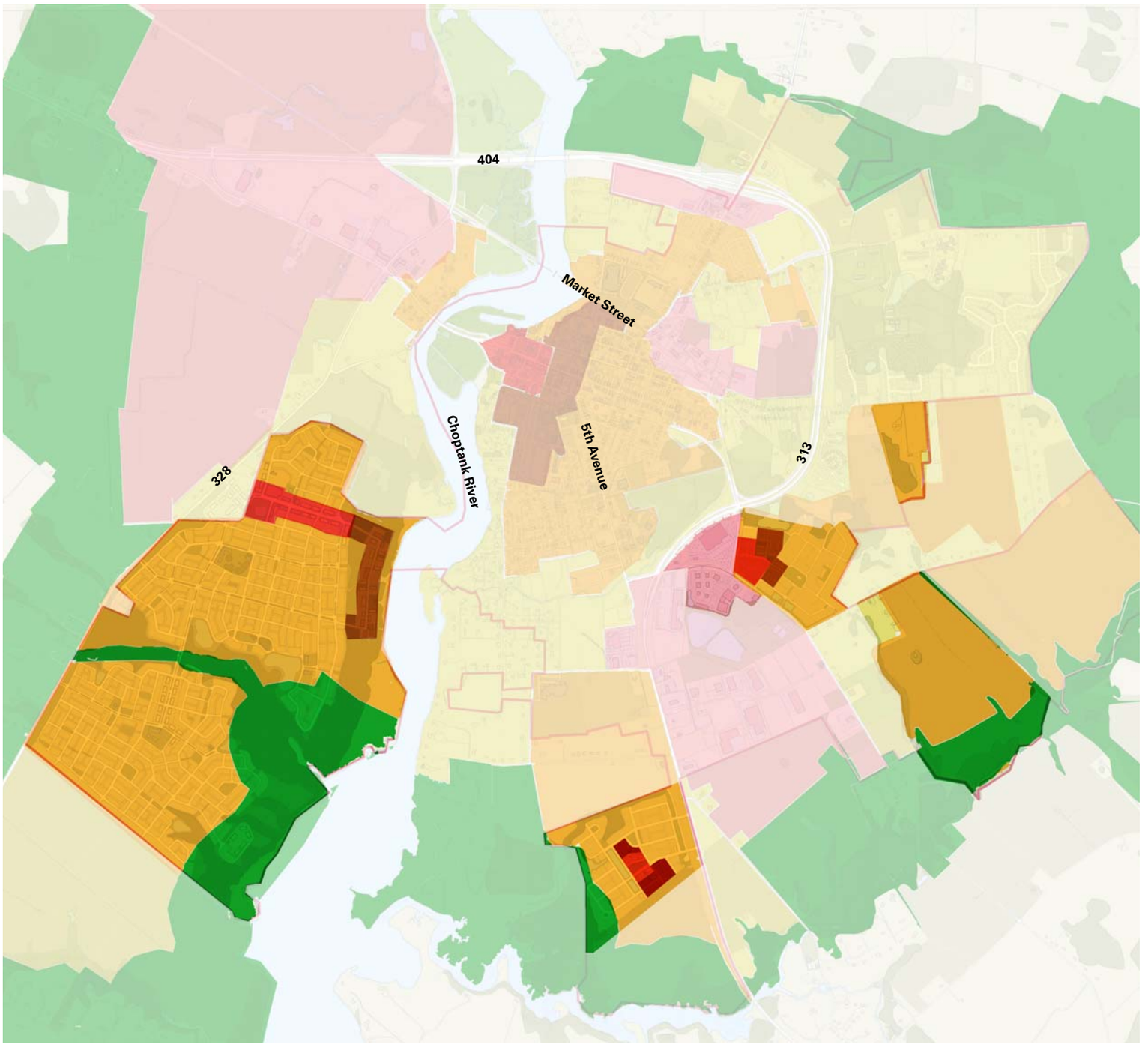
SECTION C

STRATEGIES FOR NEW DEVELOPMENT

As growth continues in and around Denton, sound development strategies are essential to ensuring that the qualities of the community that are most prized – its sense of scale, its historic character, and its relationship to its treasured natural environment – are maintained and supported by both infill and new development projects.

This section of the Pattern Book contains development strategies which can help property owners and developers achieve that important goal by understanding the frameworks in which development occurs vis-à-vis the Transect Zones and the existing neighborhood patterns just described in Section B: Essential Qualities of Denton Today.

The section begins with a look at Urban Patterns for Infill which are then elaborated on in the Urban Infill Kit of Parts. After presenting development guidelines as they apply to infill projects, the section continues with Urban Patterns for New Development and the elaboration of those ideas in the guidelines recommended in the New Development Kit of Parts.

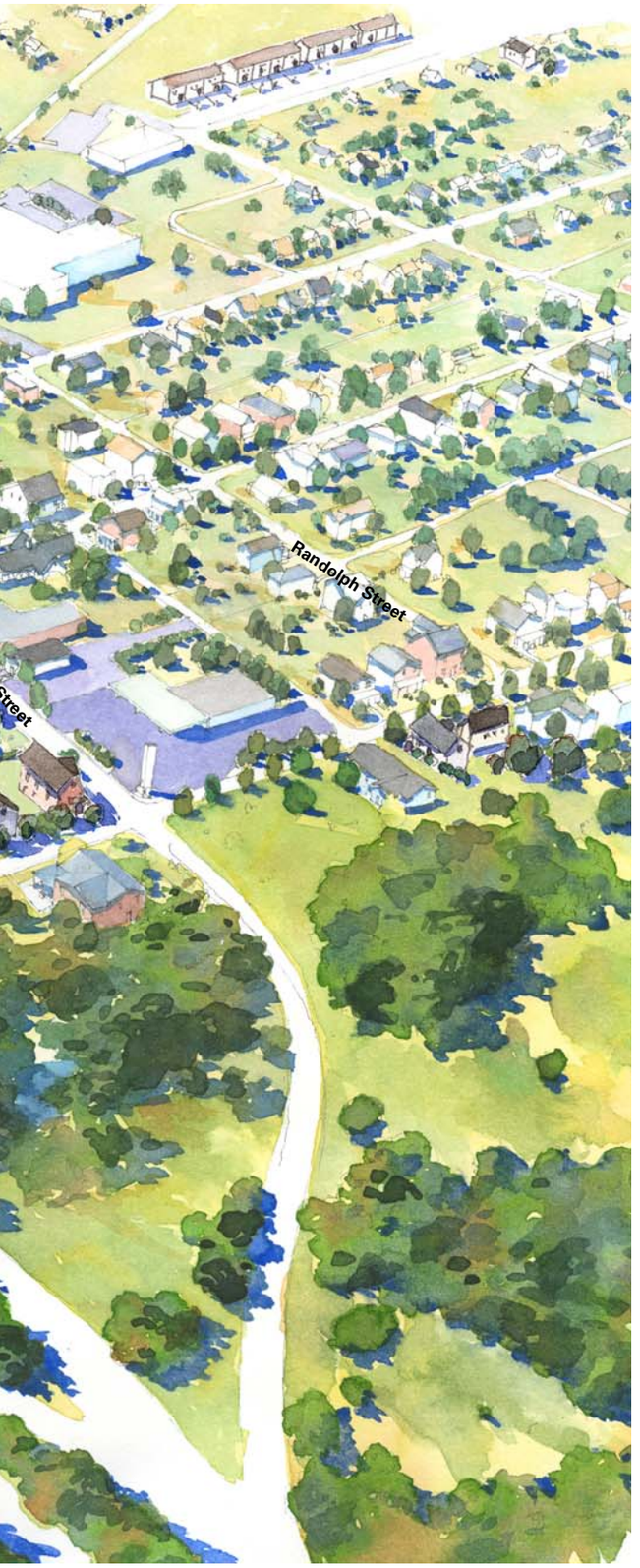


This map of Denton's Transect Zones highlights Planned Neighborhood (PN) projects, generally of a large scale, that will have areas that reflect most if not all of the transect zones within their borders. By using the principles of the Transect and the ideas contained in this Pattern Book, developers can ensure that their projects remain neighborly to adjacent uses both in scale and character.

Urban Patterns for Infill



Note: This drawing illustrates the Pattern Book design principles applied to the existing fabric of Denton. Areas of the town are depicted in a somewhat idealized state to illustrate possible infill scenarios consistent with the ideas presented in the Pattern Book. The possibilities shown in the drawing do not necessarily correlate with specific development initiatives proposed or underway.



Introduction

Neighborhoods and towns are complex systems consisting of many different elements. The most appealing and remarkable spaces in towns are those in which harmony exists among all of the elements which create these spaces, including: the scale of the street, the widths of sidewalks, the placement and height of buildings, the architectural character, and the landscape details that add layers of richness and color. However, creating this harmony is a challenge because the responsibility for the design and development of these diverse elements often lies in the hands of different people with different scales of focus.

The existing fabric of Denton – especially that which is near the urban core – serves as a wonderful example of a complex place that is beloved by residents and visitors alike because of the way it makes them feel. This response to place is a result of the many systems of the town coming together to create an even better whole. The drawing at left of the downtown core and its closest in-town neighborhoods illustrates the important relationship among the town's varying systems. The Urban Infill Kit of Parts which appears on the next page examines each of the elements identified above to illustrate how they are all necessary and must also work together to form a strong, positive sense of place.

Existing Site and Town

The aerial view you see here looks southeast across the banks of the Choptank River. Downtown Denton and the Caroline County Courthouse are in the foreground. It's easy to recognize the densest blocks of the town between Gay and Franklin Streets, from the river to Fourth Street. In all directions, the in-town neighborhoods feather outward to the less dense neighborhoods beyond. This view makes it easy to see the neighborhoods, or areas, of Denton which are alike in character and scale. Through this ability to break down the scale of the town into discrete parts, we can better understand the way in which they are put together.











Urban Infill Kit of Parts

Introduction

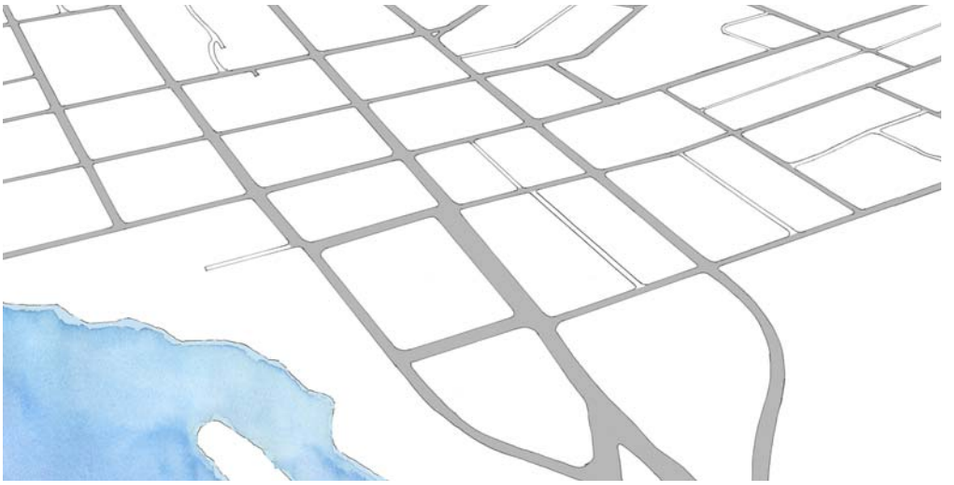
The diagrams on these two pages examine the systems that make up Denton's existing fabric. By understanding the various parts and the relationships among them, we can abstract the rules by which new infill development can fit into, connect to, and improve the fabric of the town surrounding it. As a town, Denton is formed by a collection of streets, parks, houses, and mixed-use buildings that fit within the following frameworks.

Streets

Denton has a number of different street types. These range from larger arterials, such as Gay and Franklin Streets which carry more through-traffic, to the urban, downtown section of Market Street, to the urban neighborhood street network, to the informal, sub-urban or rural sections in the north. There are also alleyways in some blocks. For each street type, there is an appropriate cross-section that includes the width of paving, streetscape and sidewalks, lighting, and the like.

Landscape – Streetscape and Public Open Space

Parks, playgrounds, and civic and institutional building grounds constitute public open spaces within the town. Public rights-of-way, in the form of streets, connect these amenities. The streets themselves should be developed with sidewalks, appropriate street trees, tree lawns, lighting, and other furnishings, particularly on streets with a mix of uses along them, such as Market Street near Courthouse Square. The banks of the Choptank River should also be developed with publicly accessible trails and gathering areas.



Streets



Landscape: Streetscape, Public Open Space and Natural Areas

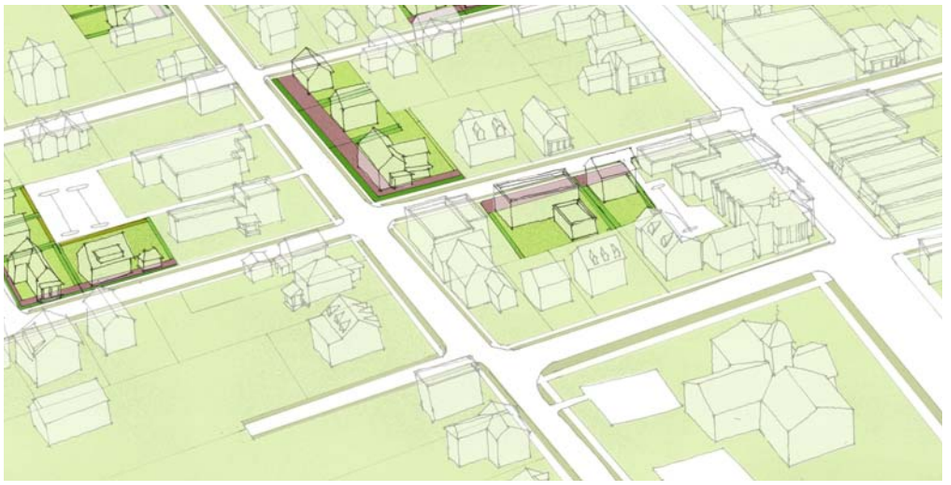


Blocks by lot type

Residential Lots

Mixed Use Lots

Civic, Institutional and Park Land

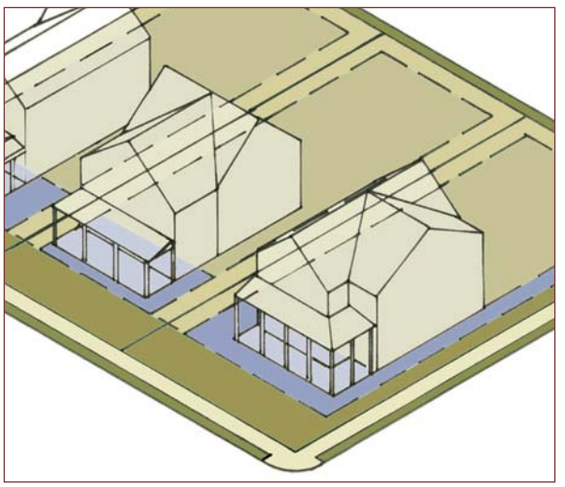


Lot Requirements: Facade zones for infill lots



Buildings placed on lots





Buildings

Blocks with Infill Lots

Blocks are parcels of land defined by the public streets that surround them. Blocks are subdivided into individual lots where houses sit. Infill lots are those lots where buildings do not currently sit, but which are available for development. Infill development should respect and correspond to its neighbors in character, scale, and building type, per the appropriate Transect zone.

Lot Requirements

Buildings work best in concert along a street when they respect and coordinate with each other. Such environments are cohesive, and encourage safe, pedestrian connectivity. Neighborhoods are organized by typical setbacks and facade zones for parcels along a block face. Such lot requirements set the location of buildings and establish the character of the public realm by the relationship of buildings to one another based on these setbacks and facade zones.

Buildings Placed on Lots

Placement of buildings on lots creates the relationship between mass and voids. The prevailing pattern along the block face and in the neighborhood significantly influences the neighborhood character. Extreme deviations from prevailing patterns disrupt these existing relationships.

Urban Patterns for New Development



Note: This drawing illustrates the Pattern Book design principles within a Planned Neighborhood Zone. Areas are depicted in a somewhat idealized state to illustrate ideas presented in the Pattern Book and do not necessarily correlate with specific initiatives for the development of West Denton.



Introduction

As noted previously, neighborhoods and towns are complex systems consisting of many different elements. Providing for cohesion and a healthy relationship among these systems in the design and construction of new places is essential to their success. Creating harmony among the varying elements of a new development, particularly large-scale developments, can be challenging, but is essential to tie the place together, as well as connect it back to the associated town.

Although new large-scale development in growth areas will occur largely outside historic Denton, such developments are still inextricably linked to the town. To complement Denton's historic character, new development must feel as though it has been coordinated and developed over time, even though actual development time may be relatively short.

The feeling of community will only emerge if the many systems making up the development come together synergistically. You'll find the supportive systems which must be coordinated for new development to work successfully elaborated on the next two pages.

Prototypical Development

This aerial view looks northwest across the banks of the Choptank River toward the West Denton development. Presented here simply as a prototypical example, the plan is overwhelmingly residential in character and defined by the natural systems which frame it, yet it also contains a core of denser residential and mixed-use building types, as well as commercial development. Diagrams on the next two pages break the development plan into its coordinated systems to identify the areas that developers and builders will need to think about in order to create rich new built environments.

Building Types

To satisfy today's marketplace needs – which are different in social and cultural context than those in place when the historic town of Denton was developed – several new building types are being introduced in this Pattern Book. These types are detailed in Section D: Building Types. In all cases, building types must be selected based on their appropriateness to the Transect zones embodied in the development and also must adhere to the architectural styles prevalent in Denton and the surrounding historic towns of the Maryland Eastern Shore.







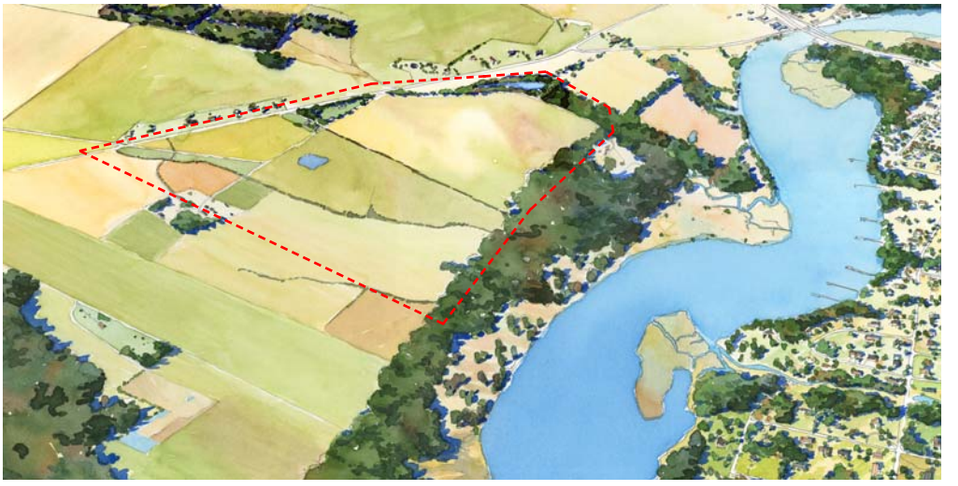




New Development Kit of Parts

Existing Site

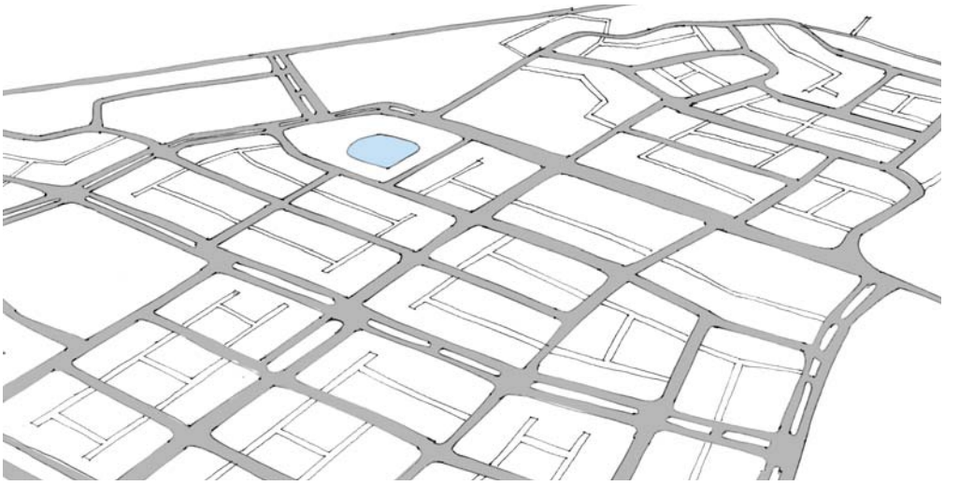
Denton and its immediate surrounds feature a number of waterways and wetlands that reach in from the Choptank River. These natural features define the buildable areas in which new development can occur and also provide wonderful natural amenities and addresses for development that can capitalize on the presence of the nearby river. One example is the West Denton development, just west of the existing historic town and connected to it by the main bridge into town which leads to Market Street.



Existing site and town

Open Space and Connectivity

Using the open space network as a framework for development provides opportunities for environmentally-sensitive design that works in concert with the natural elements that define the area. The riverfront should be maintained primarily for public access to the Choptank, while streams reaching inward can provide unique neighborhood development addresses. Development blocks are defined and connected by tree-lined streets. Institutional lands and park spaces are interwoven and accessible to residents of the new development via the sidewalks and pedestrian connections throughout the plan. Parks should be scaled to serve their placement in the neighborhood, and a general diversity of parks and civic spaces should be incorporated into new places.



Open space system with green infrastructure, street, and pedestrian connectivity

Neighborhoods

As with any large greenfield development, a series of neighborhoods must be established to lend character to the development and create a human scale that is pedestrian friendly. These neighborhoods form residential subsets of the larger community through a series of interconnected blocks that are generally consistent in character.



Neighborhoods



Blocks with Lot Types

High-Density Residential Lots
Medium-Density Residential Lots
Civic, Institutional, and Park Land
Mixed-Use Lots



Lot requirements



Buildings placed on lots

Blocks and Lots

A variety of block and lot sizes are needed to accommodate the wide variety of building types that add richness and broad-based marketplace attractiveness to large-scale new developments. House lots, for both single-family and attached products such as duplexes and triplexes, generally radiate from the core of such developments, which typically consist of higher density residential buildings, live/work units, and mixed-use and commercial buildings. Blocks are subdivided into lots appropriate for their Transect zone and location in the plan and within the particular block.

Lot Requirements

Standard setbacks and facade zones are enforced to create a cohesive environment across a block face. Though the same requirements are implemented on all blocks, the menu of setbacks vary across a plan to create a variety of consistent environments with understandable and replicable character.

Buildings Placed on Lots

Building types are scaled to fit on appropriately-sized and located lots. Buildings should be in the style and character of Denton although some types may not be found within historic Denton. Appropriate precedents may be sought from nearby Eastern Shore towns for variations and types not included in the fabric of historic Denton.

SECTION D

BUILDING TYPES

With the growth and new development that Denton is experiencing and will continue to experience, both within and at its current edges, a discussion of appropriate building types and their applications is essential to channeling new growth in a way that is fitting for the fabric of the town. Building types are not just based on use, but also on the scale and massing of their forms. They are also always changing to meet new market demands. New building types, such as large multi-family apartment buildings, multi-unit condominium buildings, and large-scale commercial buildings, have become the standard for current development patterns.

In this section, a number of different building types will be discussed in terms of their appropriate siting and key elements within the existing town or new developments. Suggestions are also presented for addressing site planning criteria and building form issues relating the various building types to their surroundings.

Building Types and the Transect

As described previously in Section B: Essential Qualities of Denton Today, the Transect of Denton provides a useful framework in which to discuss where to place different building types to ensure that they are appropriate to the character of the neighborhood or district in which they are placed. For example, mixed-use buildings are not appropriate for all of Denton's neighborhoods; however, their development in the T5 and T6 zones works well near the existing core of town.

The tables on this page map out the Transect Zones, characterizing the various parts of Denton by their corresponding T-zone, and also identify the appropriate Transect zones for each of the building types. By cross-referencing these two tables, one can understand the appropriate places and relationships between buildings of differing form and massing.

T3	T4	T5	T6	Neighborhood
				Courthouse Square and Downtown Market Street
				In-Town Neighborhoods
				Fifth Avenue
				South Second Street
				Edge of Town Neighborhoods
T3	T4	T5	T6	Neighborhood

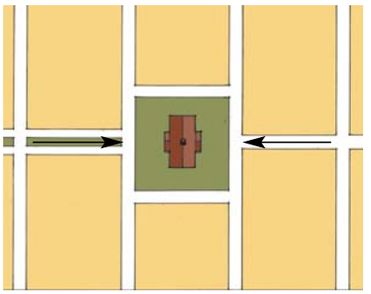
T3	T4	T5	T6		
				Civic Buildings	
				Large-Scale Commercial	
				Mixed-Use & Multi-family	
				Townhouses & Live/Work	
				Attached Housing	
				Single Family	
				Carriage Houses	
T3	T4	T5	T6		

Civic Buildings

Civic buildings house the services and institutional uses that bring people together. Municipal structures, cultural facilities, libraries, churches, schools, community centers, visitor centers, and membership organizations constitute civic buildings.

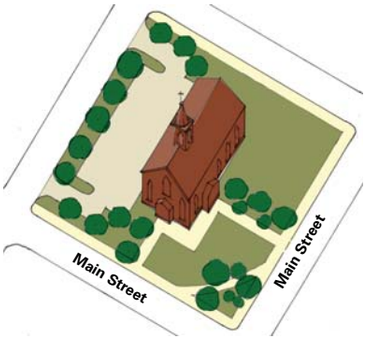
PLACEMENT IN TOWN

- Place on prominent, visible, accessible sites of importance
- Locate civic buildings to terminate vistas and along major axes
- Make structures central to as many residential neighborhoods as possible



SITE PLANNING

- Orient building fronts to major axes, vistas, and approaches
- Integrate with neighboring land uses
- Clearly define approach and access to buildings
- Create useful outdoor space or garden rooms that can be used for associated functions
- Site useable or celebratory outdoor areas in obvious locations
- Plan for parking and loading at the backs or sides of buildings, and screen these areas with low walls and landscape elements



BUILDING ELEMENTS

- Provide civic stature through the use of architectural elements and solid, appropriate materials
- Allow the forms and massing of the architecture to blend in with Denton's architectural character and human scale
- Make entries easily accessible and obvious
- Animate the facades of the building with windows, doors, or architectural elements as appropriate for its use so that it is a good neighbor to the scale of nearby houses and has a human scale





Civic Spaces

Civic spaces range in scale and type. These civic gathering spaces should be designed in shapes and sizes appropriate to their place in town, neighboring uses, and the needs and desires of residents. Historic Denton includes a variety of good examples

Community Park

PLACEMENT IN TOWN

- On the edges, not centers, of neighborhoods
- Often co-located with schools, institutions, and large open spaces, such as natural areas

SITE PLANNING GUIDELINES

- Include active recreation fields
- Edges should be defined by streets and faced by houses
- Typically one or two per town



A Community Park

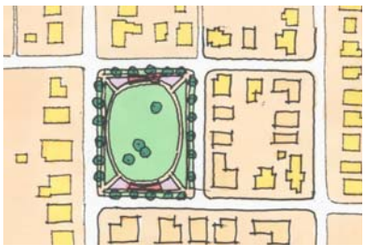
Neighborhood Parks

PLACEMENT IN TOWN

- Typically one per neighborhood
- More intimate, residential scale

SITE PLANNING GUIDELINES

- Edges defined by streets and faced by houses
- Generally passive areas
- Small, active recreation uses could include small playgrounds



A Neighborhood Park

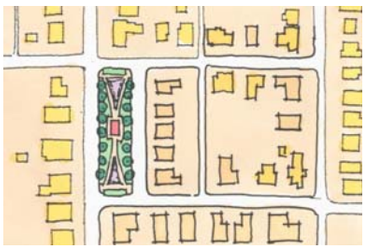
Pocket Parks

PLACEMENT IN TOWN

- In the center of neighborhoods
- Very intimate scale

SITE PLANNING GUIDELINES

- Edges defined by streets or sidewalks, and faced by houses
- Create unique addresses within residential neighborhoods
- Generally passive recreation areas, including seating, fountains, or community gardens



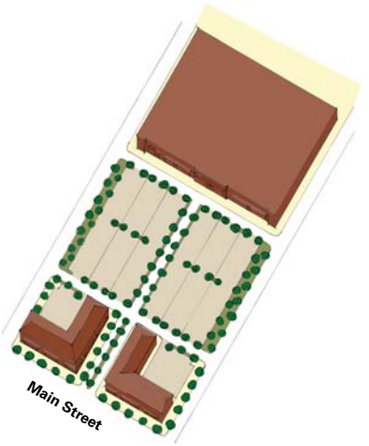
A Pocket Park

Large-Scale Commercial Buildings

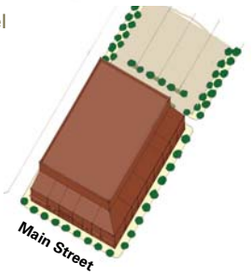
The large scale of chain stores raises many challenges for integrating them into new places, particularly in urban fabric. Typical corporate plan layouts and architecture often do not lend themselves to sensitive siting and place-specific architecture.

PLACEMENT IN TOWN

- Locate in Transect Zones T3 and T4, or single-use, special purpose districts, with an emphasis on form and massing
- Preferred location is in T4 where the urban fabric is robust and can incorporate larger-scale structures.
- Buildings should back up against like uses whenever possible to eliminate the presence of loading docks and blank facades on streets



T3 model



T4 preferred model

SITE PLANNING

- Encourage 'liner' uses along the expanse of the large building facades.
- Stormwater management should be integrated into site design, rather than the creating ponds
- Parking should not dominate the approach and should be screened
- Arrange associated buildings to create nodes versus strips of development
- Trails, sidewalks, and bicycle connections should be clear and safe

BUILDING ELEMENTS

- Main entries should be obvious yet not overbearing in architectural expression
- Active uses and non-associated storefronts should line the sides of the box with active uses
- Signage and lighting should be understated and human-scaled
- Architectural elements should break down the scale of the facade, particularly in a bay rhythm related to the scale of adjacent buildings



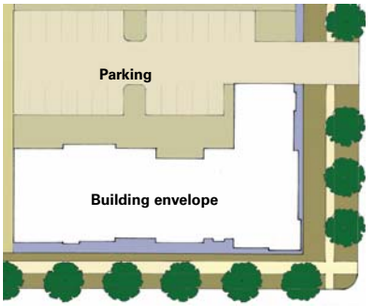


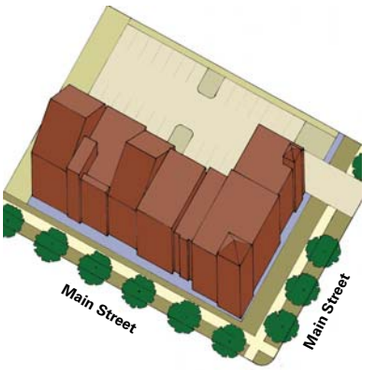
Mixed-Use and Multi-family Buildings

Mixed-use buildings anchor downtown areas while relating to adjacent residential neighborhoods through their smaller size and proportioning. The mix of uses may include retail, commercial, office, institutional, and residential – often vertically integrated. Multi-family buildings provide a transition in size and use between downtown areas and residential neighborhoods. In Denton, a diversity of building size is critical to maintaining scale.

PLACEMENT IN TOWN

- Locate in Transect Zones T6 and T5, respectively
- Develop greatest density at the core of the existing town, or at the cores of new developments and planned neighborhoods
- Arrange these buildings to face across a street, or cluster to provide local synergies
- Create a diversity of building scales, particularly for multi-family buildings





SITE PLANNING

- Building height should not exceed two and a half tall stories, as characterized in downtown Denton
- Multi-family buildings should be of varying sizes – 6, 12, and 24-unit buildings, and should be mixed on the street face
- Buildings should address the street
- Accommodate parking and loading at mid-block or at the rear of buildings; on tight sites, delivery from the street via hand-truck should be used
- On-street parking should be provided for short-term use

BUILDING ELEMENTS

- Large buildings should be broken down into bays reflecting the existing building rhythms along Market Street in downtown Denton
- Large expanses of glass – shopfronts, doors, and windows – should address the street as the primary public realm.
- Building elements, such as awnings, lighting, and signage, can be used to create a human building scale that invites activity



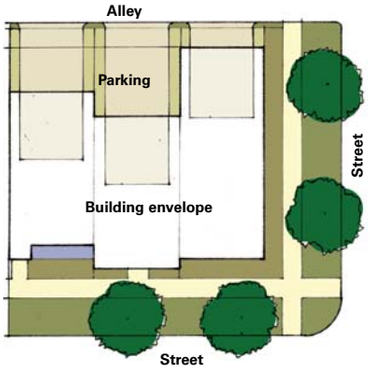


Townhouses and Live/Work Buildings

Though relatively common in other Eastern Shore towns of a larger scale, such as Cambridge and Easton, Denton does not currently possess townhouses or live/work units in the traditional, attached forms. Therefore, much care should be taken with the development of scale and architecture. Precedents from the surrounding towns should be studied.

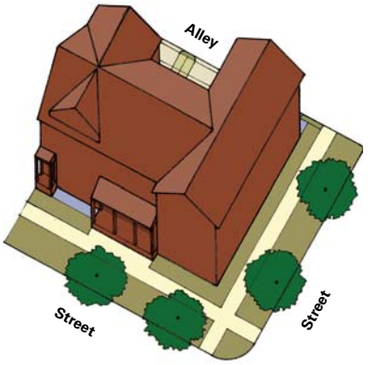
PLACEMENT IN TOWN

- Locate in Transect Zones T4, T5, and T6 because of their density
- Create specific, individualized areas or addresses in scripted, arranged clusters
- Design two-story townhouses when placing in or near existing fabric to match building heights



SITE PLANNING

- The height should not exceed two tall stories; when three stories are desired, these should relate to other buildings of the same or greater scale
- Lengths of more than four running units are discouraged
- Buildings should face all streets and be built close to if not at zero-setbacks; they may have small gardens or lawns in front
- Parking should occur in the rear of the lot in separate garages or parking pads, or tucked under the units and accessed from alleys
- Consistent rows of street trees and sidewalks should ring residential blocks providing pedestrian connectivity





BUILDING ELEMENTS

- Develop bay rhythms similar to Denton mixed-use buildings and housing
- Provide porches in order to fit in with the character of Denton
- To provide variety along the street, use architectural elements (porches, bay windows, roof elements) that fit into one of the specified architectural styles

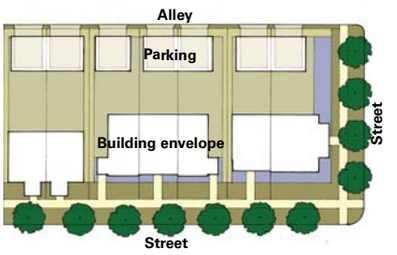


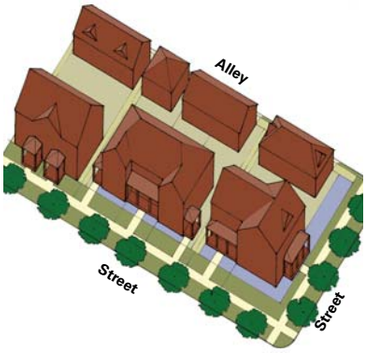
Attached Housing

Attached housing is found throughout Denton. Typically such houses are designed to look like larger single-family homes, and fit easily into the character of a neighborhood street. Duplexes and triplexes are the most common forms of attached housing.

PLACEMENT IN TOWN

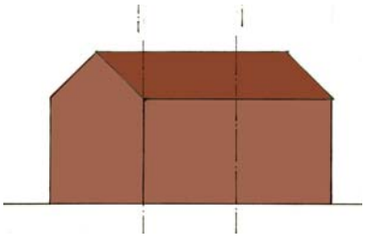
- Locate in Transect Zones T4, T5, and T6
- Locate attached housing on infill sites in residential neighborhoods to emulate single-family house placement
- Locate attached housing on infill sites in the core of Denton to increase density in a form complementary to the housing nearby





SITE PLANNING

- The scale should not exceed two and one half stories, and floor-to-floor heights should be similar to those in the surrounding houses
- Long lengths of block faces with similarly-scaled units are not acceptable; attached housing should be scattered throughout the neighborhoods
- Buildings facades and front doors should face all streets
- Parking should occur in garages or on parking pads at the rear of the lot; units should be serviced from alleys
- Consistent rows of street trees and sidewalks should ring residential blocks providing pedestrian connectivity



BUILDING ELEMENTS

- Attached housing should be developed in the form of a large house, to maintain a residential character
- Where possible, attached units should have individual entrances separated by porches or wings
- To provide variety along the street, use architectural elements (porches, bay windows, roof elements) that fit into one of the specified architectural styles

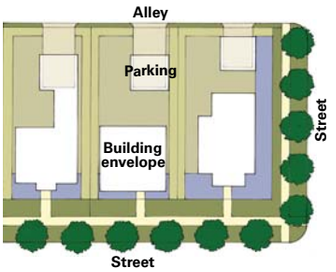


Single-Family Houses

The single-family house is the predominant building type in Denton, and is one of the smallest units of residential development. Single-family houses can be developed at varying scales in all of the appropriate styles and architectural vocabularies.

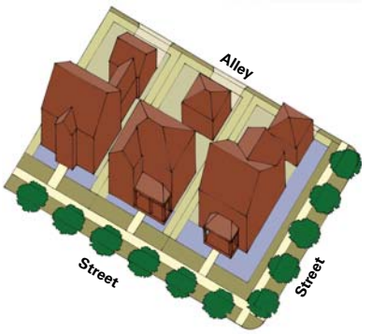
PLACEMENT IN TOWN

- Locate in Transect Zones T3, T4, and T5 at different block densities
- Single-family houses occupy lots of 35 to 80 feet in width, at a variety of depths



SITE PLANNING

- The scale should not exceed two stories, and floor-to-floor heights should match those of surrounding houses
- Building facades and front doors should face streets
- Parking should occur in garages or on parking pads at the rear of the lot; units should be serviced from alleys
- If site conditions require front-loaded access, garages should be detached to the rear of the lot with a narrow, inconspicuous driveway along one side of the house
- Consistent rows of street trees and sidewalks should ring residential blocks providing pedestrian connectivity





BUILDING ELEMENTS

- Attached housing should be developed in the form of a large house, to maintain a residential character
- All units in a building should have porches, fitting with the character of Denton
- Architectural elements (porches, bay windows, roof forms) should be used to provide variety from the street
- All building architecture should fit into one of the specified architectural styles

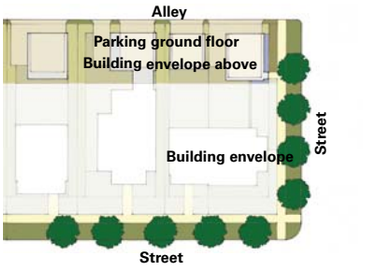


Carriage Houses

Carriage houses, or granny flats, provide small, flexible living in separate, units adjacent to the main house. Carriage houses provide rental housing opportunities for home owners.

PLACEMENT IN TOWN

- Locate in Transect Zones T3, T4, and T5, in association with a single-family house
- Place carriage units behind or beside the main house on the residential lot



SITE PLANNING

- The scale of the buildings should not exceed two stories, parking on the ground level with living space above, connected by a stair
- Units may face either the alley or the backyard of the main house in their orientation
- Parking, by definition, occurs under the residential unit
- Carriage units may be approached by a front-loaded driveway or from a rear alley





BUILDING ELEMENTS

- Carriage units should have high ceilings to give a larger sense of scale to the unit
- Carriage units should utilize numerous windows to naturally light and ventilate the unit
- Units must have ground access by an internal and/or external stair
- The architectural style should be developed in association with the style of the main house on the lot
- New carriage houses should be designed with residentially-scaled elements and the specified architectural styles



SECTION E

ARCHITECTURAL PATTERNS

This section of the Pattern Book is intended to help developers, builders, and home owners understand the key elements that contribute to the character of a Denton house. The section contains guidelines for the detailing of new housing, as well as strategies for renovating existing houses in a manner that ensures that these houses will be appropriate for Denton and harmonious with neighboring structures.

The section begins with the overview on the facing page of the three predominant, traditional architectural styles found in Denton – Victorian, Colonial Revival, and Craftsman. These three styles make up nearly all of the current building stock in Denton. The Victorian style is the most prevalent; however, many fine examples of the other styles exist in the area and all three are appropriate vernaculars in which to build in the town.

Historically, Denton possesses a limited variety of building types. Additional types are being introduced through current and planned future development. Particular attention must be given to the architectural detailing of these new types in order to integrate them successfully into the fabric of the community.

Following the overview, each of the three architectural styles is described in more detail in both written and graphic form. Information is presented about the massing and composition and typical wall sections and eaves appropriate for each style, as well as the types and arrangement of windows, doors, porches, and materials that are in character with the individual styles.

The architectural details offered are meant to be used to compose elevations of new buildings and also to serve as a menu of appropriate elements for existing house renovations in the form of additions and broader transformations. For older, traditional Denton houses, or for home owners wishing to address their houses' exteriors, the renovation pages in Section G: Home Owner's Guide, contain basic rules that can help preserve and enhance the original character of the houses. If you are building a new house within one of the traditional Denton neighborhoods, new house plans can be adapted to reflect one of these traditional styles.

This section concludes with Architectural Resources – list of national Material Manufacturers who may be useful to you in sourcing materials – and also a brief discussion of Materials and Methods.

Denton Architectural Styles Overview

Just as neighborhood character and building types contribute to creating distinct neighborhoods in Denton, so do the three most frequently used architectural styles: Victorian, Colonial Revival, and Craftsman. These styles and variations on these styles can be found in almost every Denton neighborhood.

Post-war houses, built for the many young GIs returning after the Second World War, often incorporated simplified details from these styles. As a result, many post-war houses lack a distinctive style all their own. Through transformation, however, these houses can adopt a house style by applying the detailing found on the upcoming pages to renovation, addition, or transformation projects. If you are contemplating this type of project for your house, you'll want to combine the information contained in this section of the Pattern Book with that presented in Section G: Home Owner's Guide.

DENTON VICTORIAN



Victorian Possibility



Fifth Avenue



Market Street

DENTON COLONIAL REVIVAL



Colonial Revival Possibility

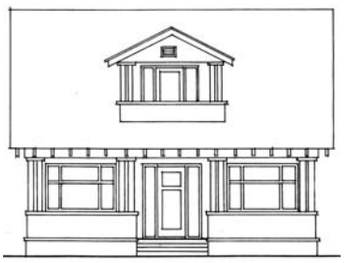


Courthouse Square



North Second Avenue

DENTON CRAFTSMAN



Craftsman Possibility



Market Street



North Second Avenue



Essential Elements of the Denton Victorian

- Simple house massings with symmetrical, balanced facade compositions
- Steeply pitched, front-facing gable roofs
- Cut wood ornament to more simple, 'farmhouse' details
- Wood siding painted in a variety of related colors
- Narrower, vertically proportioned windows and doors
- Porches with delicate, spindle-like columns and narrow balusters, when present
- Architectural expressions like bay windows and occasional turrets

DENTON
VICTORIAN



The Victorian was the predominant house style at the height of Denton's development and was most popular during Denton's building booms. This style builds on the simpler, farmhouse forms found throughout the agricultural lands and farmsteads which dot the country roads between Eastern Shore towns. Denton's examples range from large, ornate family houses to those based on designs in Pattern Books published by Andrew Jackson Downing. All of the local examples reflect the same root architecture and design elements typical of Victorian houses throughout Maryland's Eastern Shore. These earlier pattern books made it easier for the builders to replicate the high-style of the era and populate whole towns with predominant architectural vocabularies. Denton is, unmistakably, a Victorian town in which there are many fine examples with subtle variations in massing and more creative porch details, special moldings, and ornament in some areas. Though the ornament is more restrained than that often referred to as 'gingerbread,' the town uses a rich palette of paint and trim colors that further express its Victorian character.















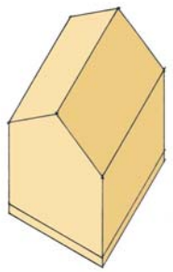


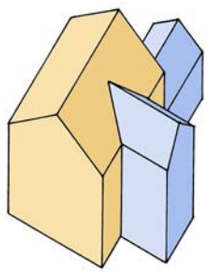


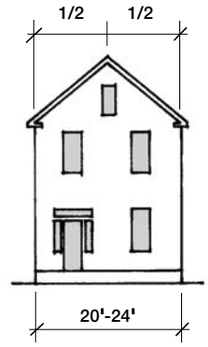
Massing and Composition

Narrow Front

- Rectangular volume with a roof pitch ranging from 8 to 12 in 12 for the main body. Porches are typically added on the front as either full front porches or wraparound porches.
- Compositions are generally symmetrical and consist of two, three, and five bays; the two and three bay types are the most common.



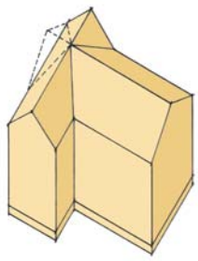


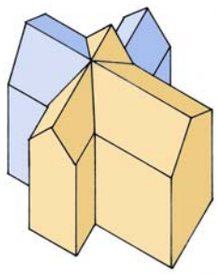


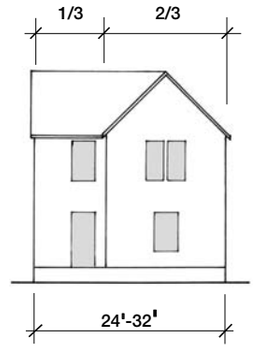


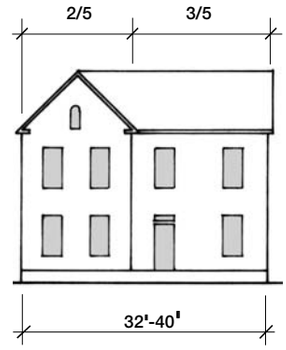
L-Shaped

- Houses with a narrow, gable-end wing with an 8 to 14 in 12 gable facing the street. The width of the gable facing the street is typically one-third to two-thirds that of the main body.
- Massing typically accommodates a one-story continuous porch that follows the plane changes in the facade, with a shed or hipped roof.



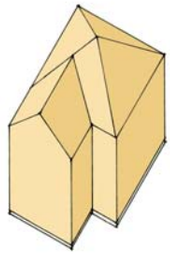


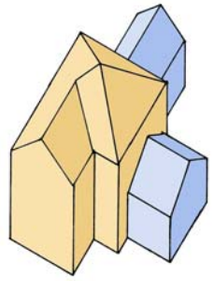


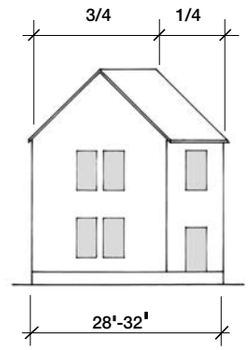


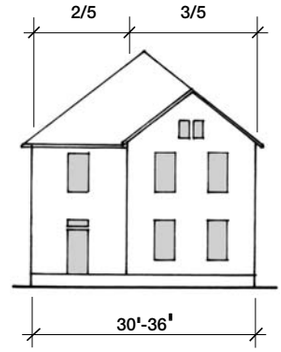
Gable L/Pyramidal

- Square volume with an often pyramidal, hipped roof from which a front-facing gabled wing extends. Roof pitches range from 8 in 12 to 12 in 12. Front porches extend the full width of the facade and often wrap the side(s).
- The width of the street-facing gable typically dominates the facade width.



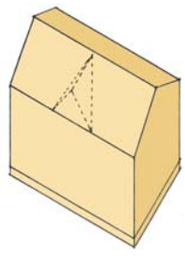


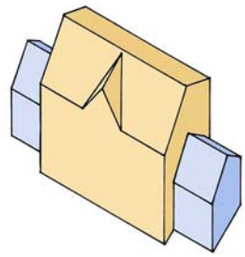


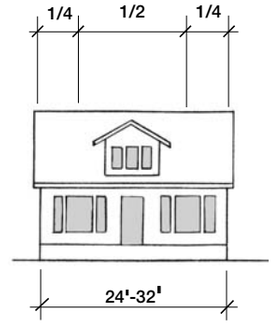


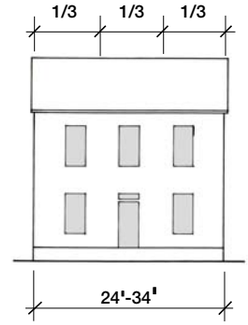
Side Gable

- Rectangular volumes with roof pitches ranging from 8 in 12 to 10 in 12. One-story shed porches are often placed symmetrically on the front facade.
- One-story side wings often occur.
- Massing typically accommodates a one-story continuous porch with a shed or hipped roof.
- The least common massing for Denton, though some examples occur.









Typical Wall Sections and Eaves

Roof

>> The roof pitch on most Denton Victorian houses varies from 8 to 14 in 12.

Eaves

>> Two eave types are typical: boxed eaves with frieze and boxed eaves with sloped soffit.

>> Boxed eaves have a 12- to 16-inch frieze board either touching or at least 8 inches above the window head trim. Eave returns should have metal flashing back to the wall at a maximum slope of 2 in 12.

>> Boxed eaves with sloped soffit, often hipped, at gables feature an overhang with simple decorative vergeboard.

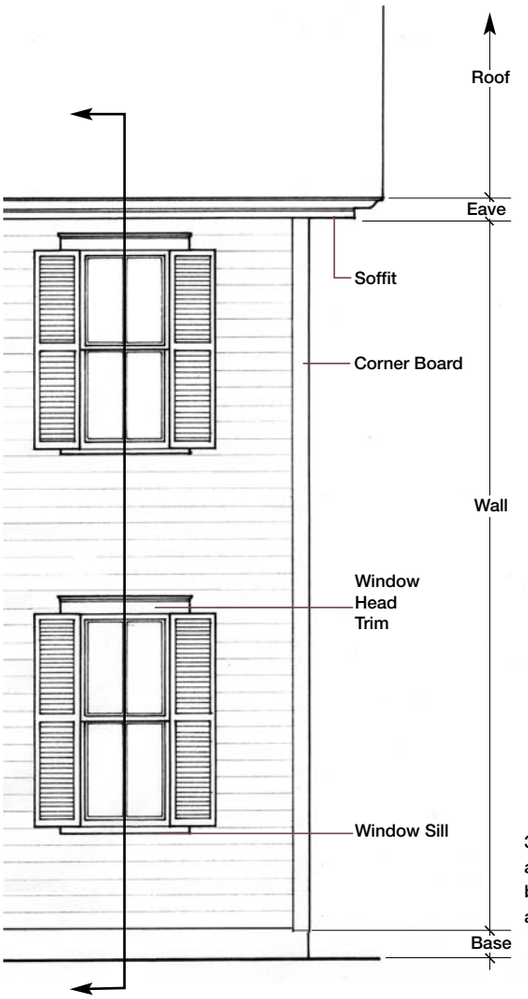
Wall Section

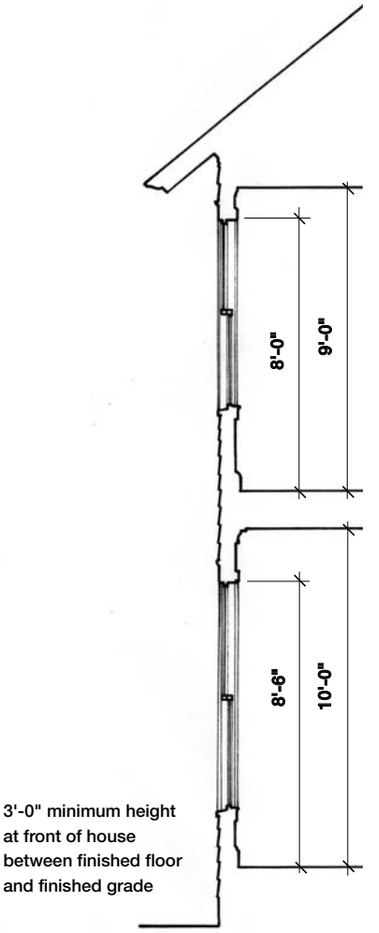
>> For one-story houses, the floor-to-ceiling height should be 9 to 10 feet. For two-story houses, the minimum floor-to-ceiling height is 10 feet for the first floor and 9 feet for the second floor.

>> Window head heights should be 8½ feet above the floor for first floor windows and 8 feet for second floor windows.

Base

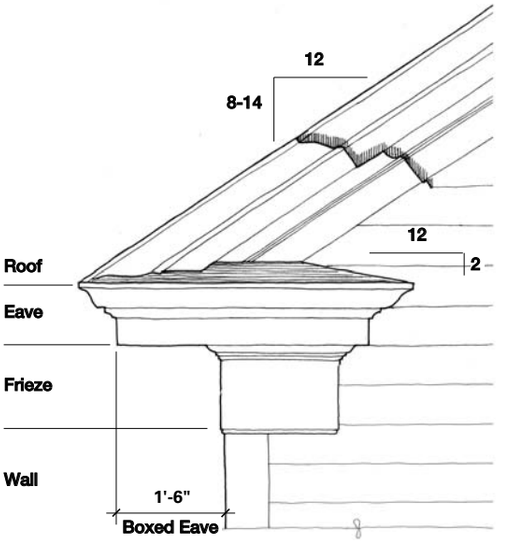
>> The first floor of the Denton Victorian house is set three feet above finished grade. Houses occasionally have an 8-inch skirt board. When foundation vents are used, they should be centered under windows.

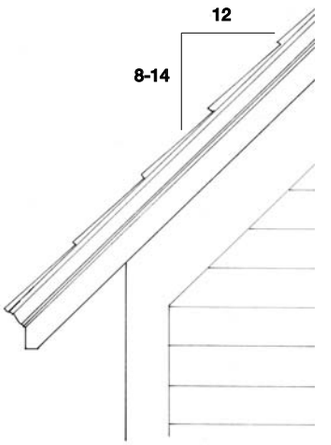












Windows and Doors

Standard Windows

- Windows are vertical in proportion and have a 2 over 2 or 1 over 1 muntin pattern; 2 over 2 is the most prevalent, and is preferred.
- Panes are always taller than they are wide. Standard windows are double hung.

Special Windows

- Some Denton Victorian houses feature round-top windows, box and angled bay windows, and shaped louvers in attics. Bay windows must project a minimum of 8 inches from the main structure and have a continuous base to the ground; two-story bays are common.

Shutters

- Shutters should be operable and in proportion with the windows they serve.
- Shutters bring accent colors to the facades.

Doors

- Four-panel and six-panel patterns are common, two-panel patterns with glazing in the upper panel are also common.
- Often transoms appear above doors and lend themselves to the narrow Victorian proportions.

Trim

- 4- to 6-inch trim is typical with simple or limited numbers of profiles or a simple backband profile.
- Window and door trim carries a decorative crown and cap above.

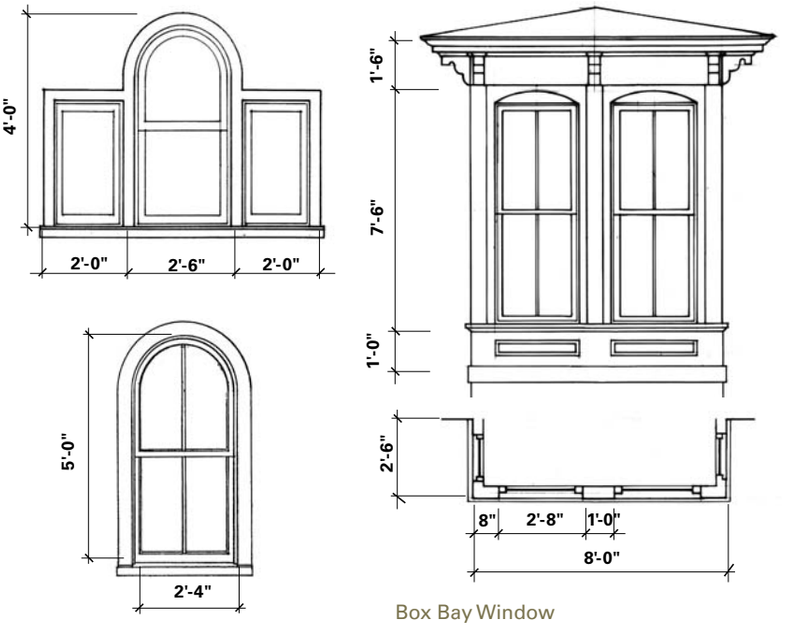
WINDOWS



Second Floor

First Floor

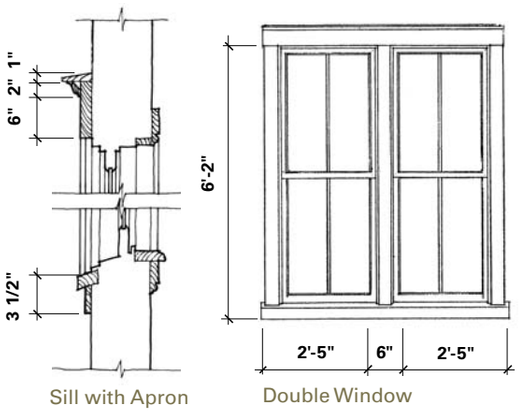
SPECIAL WINDOWS



Accent Windows

Box Bay Window

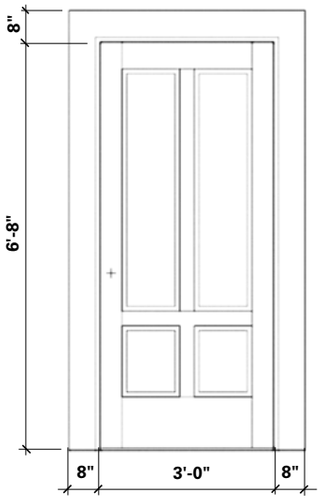
TYPICAL WINDOW DETAILS

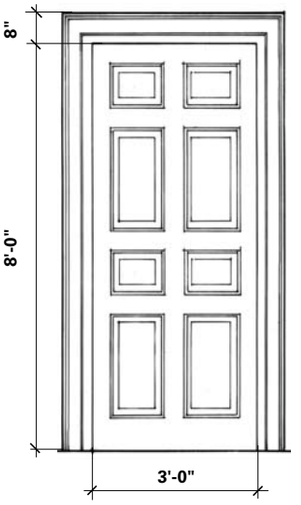


Sill with Apron

Double Window

SIMPLE DOORS

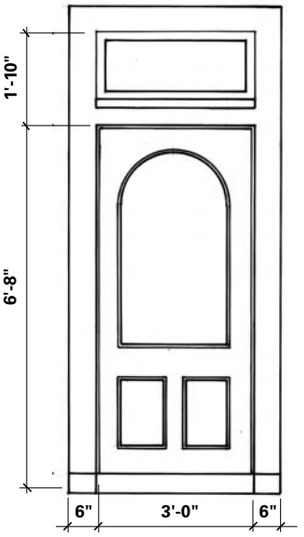


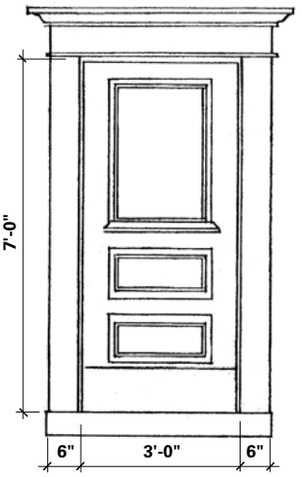






COMMON DOORS

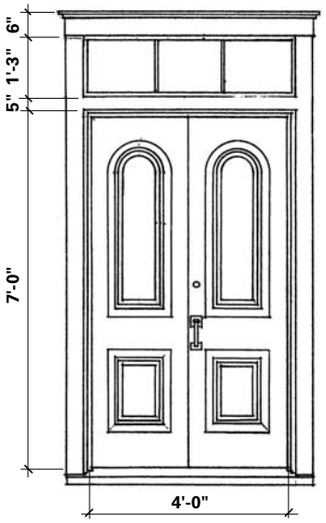


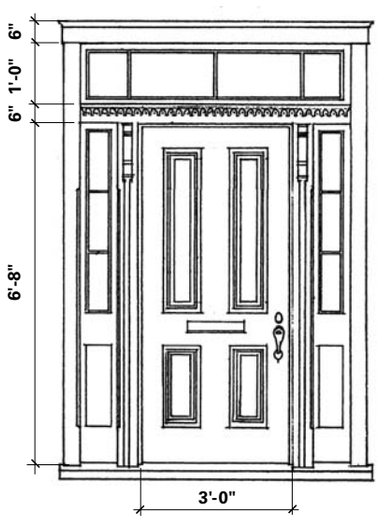






ELABORATE DOORS









Porches

Porch Location and Massing

- Full front porches are encouraged.
- Porches can be used to wrap the corner of a house, or fill in the void created by an L-shaped plan.
- Porches are typically one-story masses.
- Minimum recommended porch depth is 6 feet, although 8 feet is preferred.

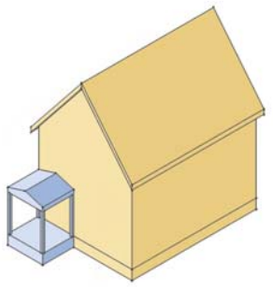
Porch Roofs and Eaves

- Porches can be one or two stories tall with flat, shed, or shallow hipped roofs (two-story porches are less common).
- Full porches may be integrated under the house's main roof.
- Shed or hip porches have a 3 in 12 to 4 in 12 pitch. Exposed 2 x 8 rafter tails typically occur every 14 to 16 inches on center.

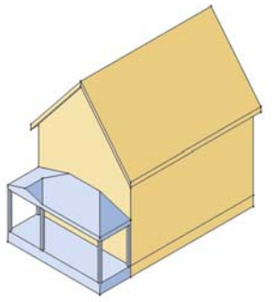
Columns and Railings

- Column types include 6-inch-square posts and 6- to 8-inch-diameter posts and carved spindles.
- First-floor columns are 9- to 10-feet tall, while second-floor columns are 8- to 9-feet tall.
- Turned or square balusters are spaced no more than 4 inches apart. Flat-cut ornamental balusters are also used with square columns.
- Square pattern lattice is used as infill between piers at the foundation.

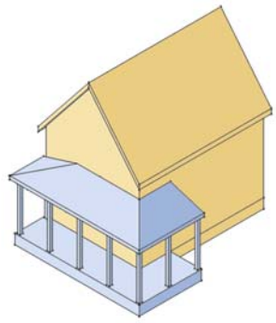
PORCH LOCATION



Front gable with single-bay porch at entry

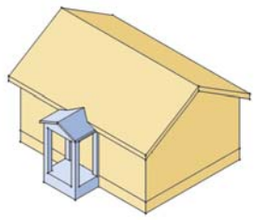


Front gable with full-front hipped-roof porch and gable signifying entry



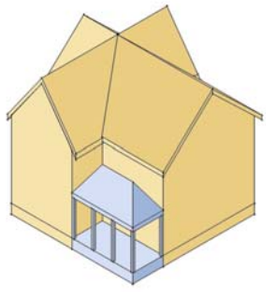
Front gable with full-front hipped-roof porch which returns two bays at corner

Simple



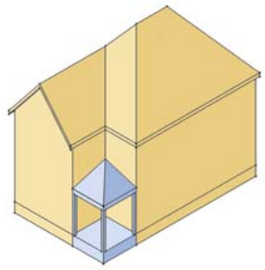
Single-story broad front with single-bay porch at entry centered on street-facing elevation

Common

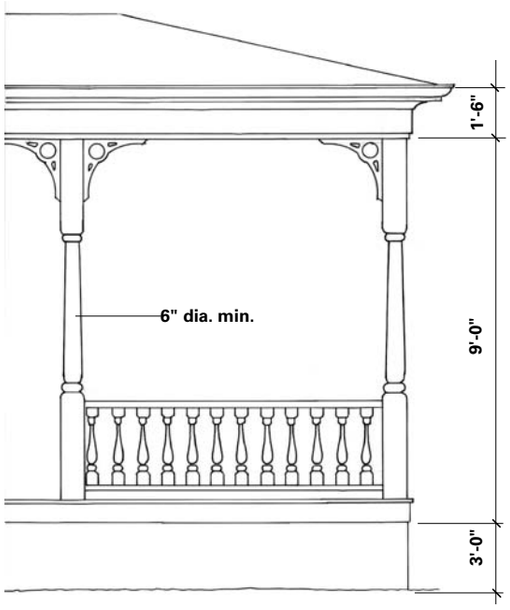


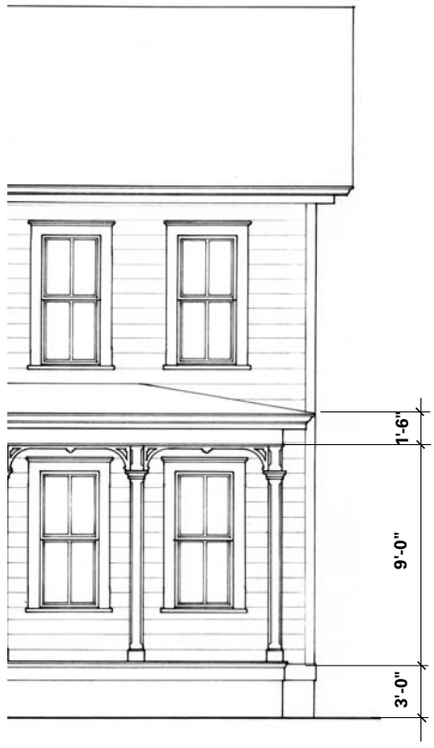
Gable-front L hipped-roof porch at entry

Elaborate



Gable L/Pyramidal with a hipped-roof porch at entry



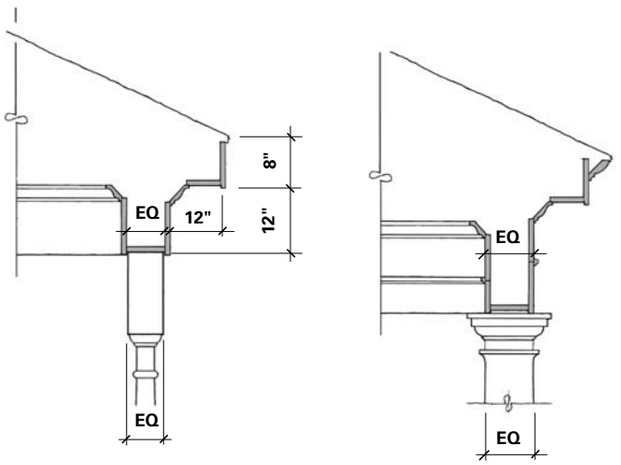




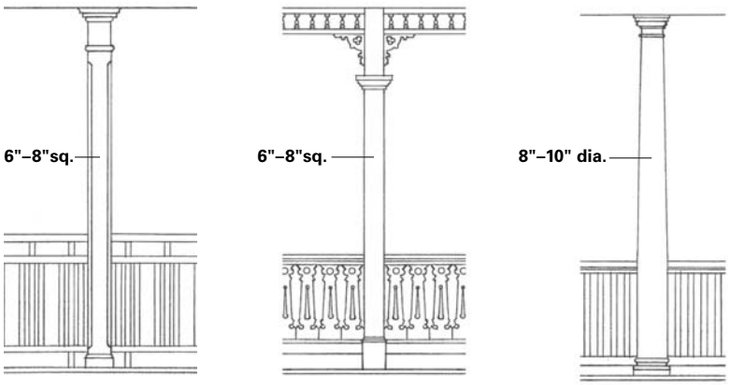


Materials and Applications

PORCH SECTIONS

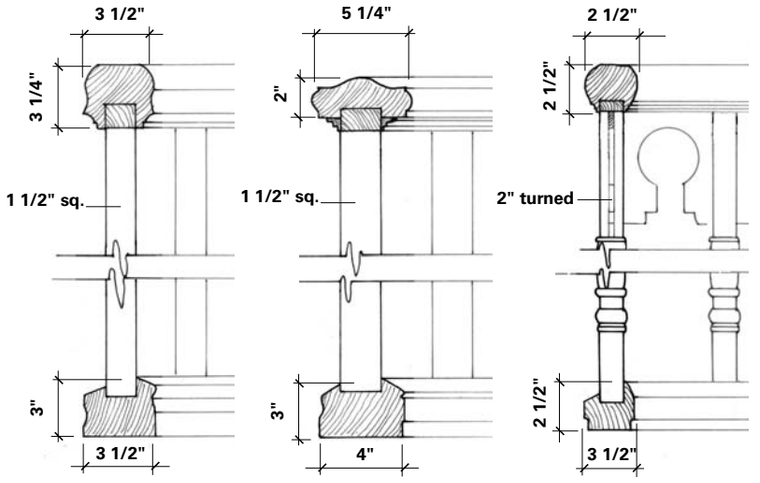


COLUMN TYPES



Chamfered Square | Square | Slender Doric

RAIL DETAILS



Roofing

>> Sawn, laminated asphalt or composition shingles with a slate pattern, or painted metal standing seam or 5-V crimp panels

Soffits

>> Smooth-finish composition board, tongue-and-groove wood boards, or fiber-cement panels

Gutters and Downspouts

>> Half-round or ogee profile gutters with round or rectangular downspouts in copper, painted, or prefinished metal

Cladding

>> Smooth-finish wood or fiber-cement lap siding, 4 to 6 inch exposure

>> Smooth-finish brick, common bond

>> Decorative cut wood or fiber-cement shingles in fishscale, diamond, and staggered patterns

>> Vinyl siding approved by the Vinyl Siding Institute

Trim

>> Wood, polyurethane, or composit millwork

>> Manufacturer's vinyl profiles with integral concealed j-channel, engineered lumber rabbeted or over blocking to conceal the j-channel; exposed j-channel trim is not permitted

Foundations and Chimneys

>> Brick veneer, smooth stucco, or cement parging finish

Windows

>> Painted wood or composite, or clad wood or vinyl; true divided light or simulated divided light (SDL) sash with traditional exterior muntin profile (⅞ inch wide)

Doors

>> Wood, fiberglass or steel with traditional stile-and-rail proportions and raised panel profiles, painted or stained

Shutters

>> Wood or composite, sized to match window sash and mounted with hardware to either be or appear to be operable

Columns

>> Square box column with chamfered corners in built-up wood, fiberglass or composite material

>> Turned posts (minimum 6-inch stock) in wood, fiberglass or composite material

Railings

>> Milled wood or composite top and bottom rails with square, turned or scroll-cut board balusters

Porch Ceilings

>> Plaster, tongue-and-groove wood or composite boards, or beaded-profile plywood

Front yard Fences

>> Wood picket or composite material to be rendered indistinguishable from wood, or metal with ornamental posts; low brick walls

Lighting

>> Porch pendant, porch fanlight, or wall-mounted lantern





Essential Elements of the Denton Colonial Revival

- Simple, straightforward volumes with side wings and porches added to make more complex shapes
- Orderly, symmetrical relationship between windows, doors and building mass
- Simplified versions of Classical details and columns, occasionally with Classical orders used at the entry
- Multi-pane windows

DENTON

COLONIAL REVIVAL



Next to the Victorian, the Colonial Revival is the most prevalent architectural style found in Denton.This version of the style is typical for the Eastern Shore of Maryland and is based upon the Colonial Revival styles that were prevalent throughout the country in the late nineteenth and early twentieth centuries. During this era, elements from Classical and Georgian houses were combined and modified to produce a new vocabulary. This mixing of influences produced a wide variety of expression and form in the Colonial Revival house.

Denton's Colonial Revival houses often have tall, shuttered windows, entry porticos, and the occasional formal cornice treatment. The Colonial Revival style features the formal entry portico in place of the porch that is typically found on other architectural styles. However, to support the connection between the house and the public realm, elaborately paved front walks and formal landscaping are utilized. Formal rules of composition apply to the Denton Colonial Revival, distinguishing it from the Victorian. Windows are rarely paired, but placed on the facade in clear, symmetrical rhythms to reinforce the formality of composition. The Colonial Revival style is stately and remains close to Denton's colonial roots.










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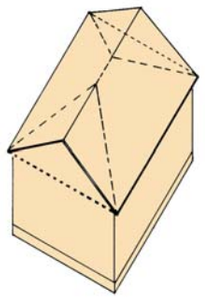


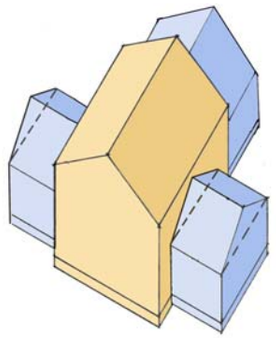


Massing and Composition

NARROW FRONT

- Front-gable box with roof pitches ranging from 7 in 12 to 12 in 12
- Two and three bay compositions are common
- Full front porches and side wings are common



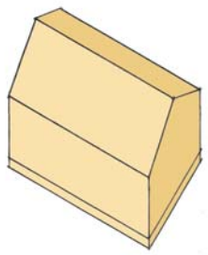


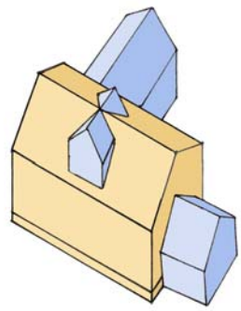


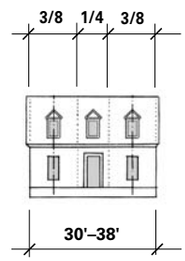


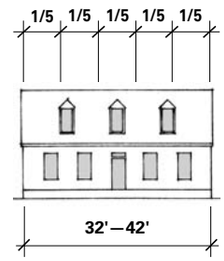
ONE-STORY BROAD FRONT

- Side gable rectangular volume with roof pitches ranging from 7 in 12 to 12 in 12
- Symmetrical compositions of doors and windows
- Porticos are one-third or one-fifth the length of the main body
- Porches, when present, are three-fifths or the entire length of the front facade
- One-story side wings often occur



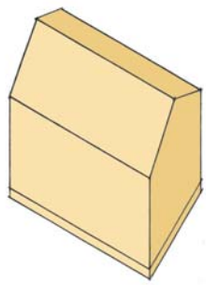


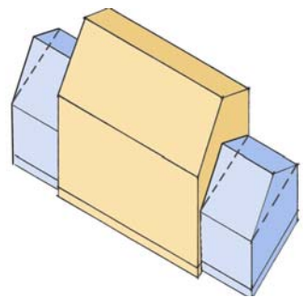


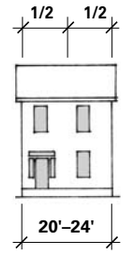


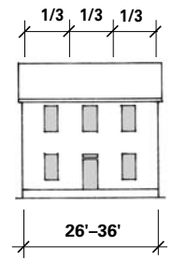
TWO-STORY BROAD FRONT

- Side gable rectangular volume with roof pitches ranging from 7 in 12 to 12 in 12
- Symmetrical compositions of doors and windows
- Porticos are one-third or one-fifth the length of the main body
- Porches, when present, are three-fifths or the entire length of the front facade
- One-story side wings often occur



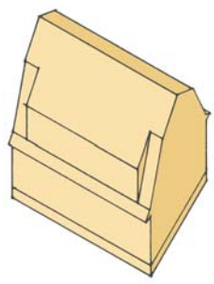


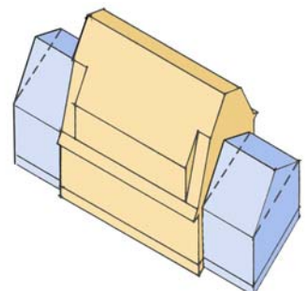


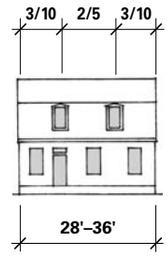


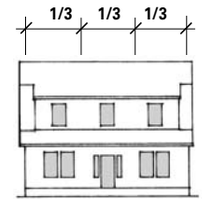
ONE-AND-ONE-HALF-STORY BROAD FRONT GAMBREL

- Rectangular volume with a gambrel roof containing a second story
- Symmetrical compositions of doors and windows are most typical, though there are more exceptions with this massing type
- Gambrel roofs have two roof pitches, 20 in 12 to 36 in 12 at the eave, and 6 in 12 to 10 in 12 above the pitch break
- Shed dormers are common to provide more living space









Typical Wall and Window Sections

Roof

>> The roof pitch on most houses varies from 7 to 8 in 12.

Eaves

>> The typical eave types include a simple boxed eave and more formal types with a frieze below the soffit and small profiled molding and dentils.

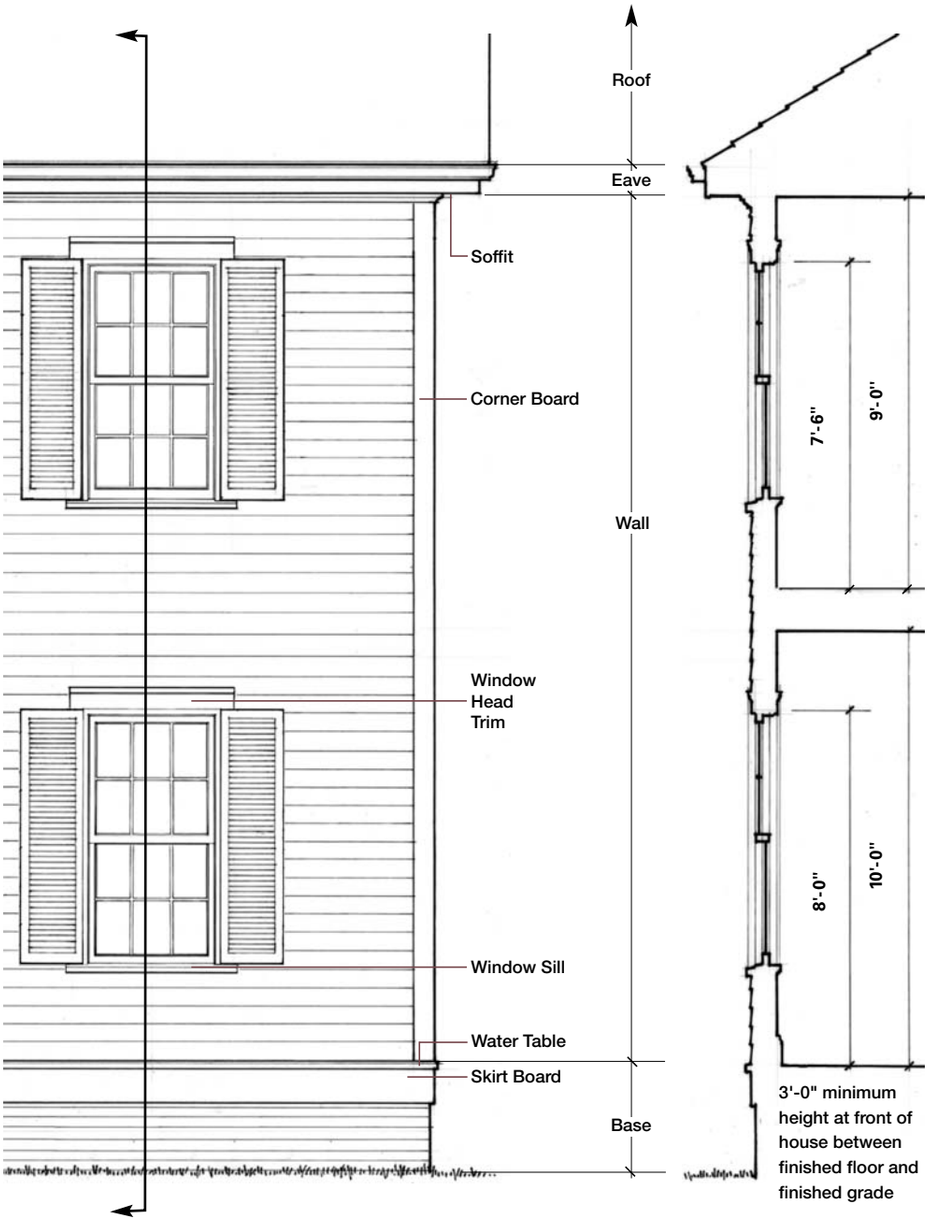
Walls

>> For one-story buildings, the minimum floor to ceiling height is 10 feet. For two-story buildings, the minimum floor-to-ceiling height is 10 feet for the first floor and 9 feet for the second floor. Windows head heights should be 8 feet 6 inches for the first floor and 7 feet 6 inches or 8 feet for the second floor for these heights. Corner boards for clapboard siding should be no less than nominal 5/4 by 6 inches.

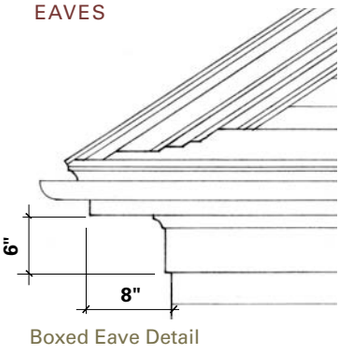
Base

>> The first floor of the house is typically set three feet above the finished grade. Houses occasionally have an 8-inch skirt board. When foundation vents are used, they should be centered under first floor windows.

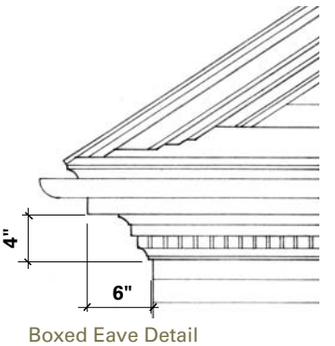




EAVES



Boxed Eave Detail



Boxed Eave Detail

Windows and Doors

Standard Windows

- Windows have vertical proportions.
- Muntin patterns are typically 6 over 1, 6 over 6, or 9 over 9 on both floors.
- Standard windows are double hung.

Special Windows

- Special windows include angled bay windows, triple windows, and dormers with a pediment.
- Bay windows must extend to the ground.
- Small rectangular or fan light windows are often used as an accent in gable ends or on the second floor above the entrance.

Shutters

- Operable shutters are encouraged.
- If shutters are inoperable, they should be sized and mounted as if operable.

Doors

- Doors typically have six panels.
- Door surrounds frequently incorporate sidelights and transoms.

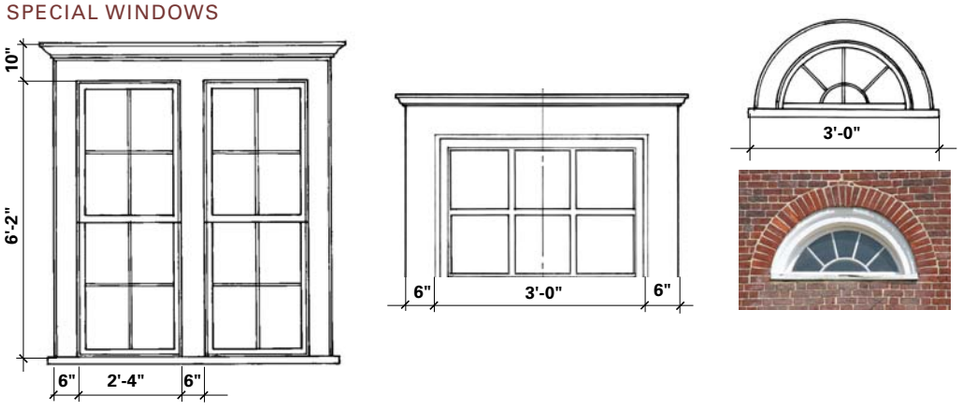
Trim

- Windows and doors typically have a 6-inch-wide flat trim with or without a cap molding, or a 6-inch backband trim.
- Brick buildings feature 2-inch brickmold.

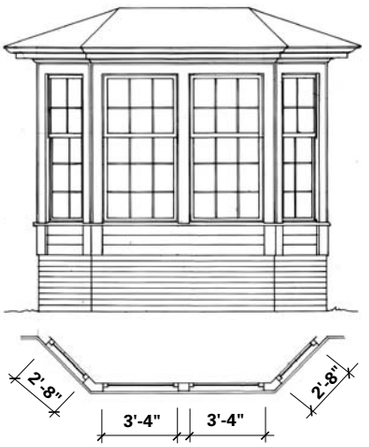
WINDOWS



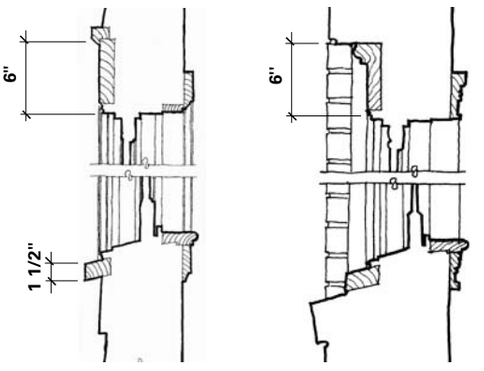
SPECIAL WINDOWS



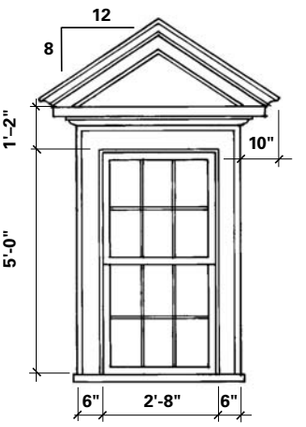
BAY WINDOW



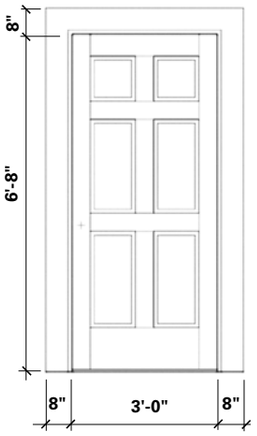
WINDOW SECTIONS

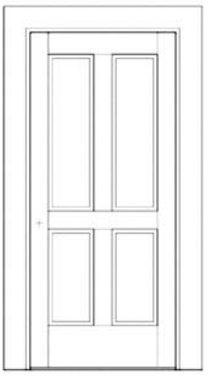


DORMER



SIMPLE DOORS



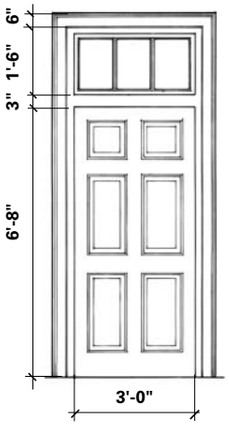


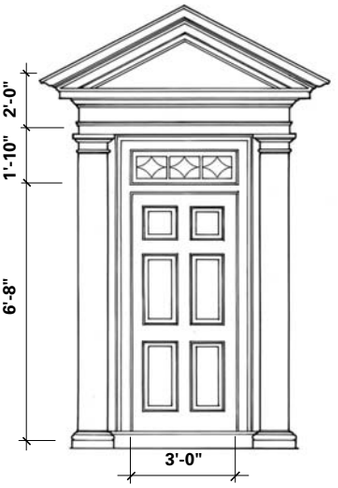
Four-panel alternative





COMMON DOORS

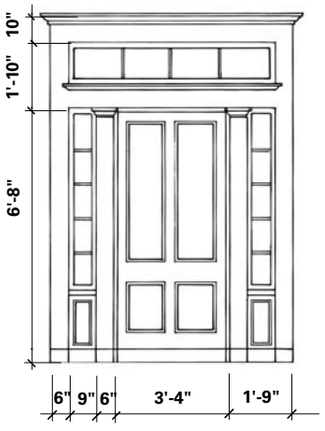


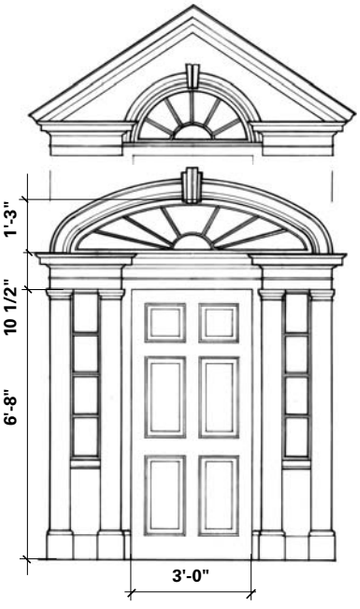






ELABORATE DOOR









Porches

Porch Location and Massing

>> Porches and porticos should be centered on the composition.

>> Minimum porch depth is 6 feet, 8 feet is desirable.

>> For wood deck porches, the gaps between brick piers are infilled with lattice panels. Solid porches should be faced in brick.

Roofs and Eaves

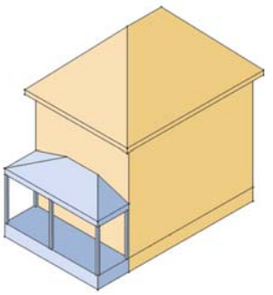
>> Porches are one story tall with either flat, shed, or shallow hipped-roofs. Shed or hip porches typically have a 3 in 12 to 4 in 12 pitch.

Columns and Railings

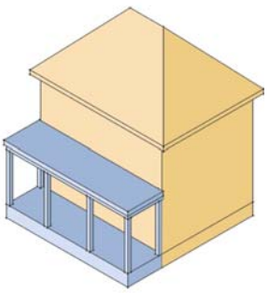
>> Columns include 10- and 12-inch round Doric and Ionic columns, pedestal-mounted 8-inch round, and 8- to 10-inch full-height tapered box columns.

>> Single-story porches have 9- to 10-foot-tall columns, and columns on two-story porches are 9- to 10-foot-tall on the ground floor and 8- to 9-foot-tall on the second floor.

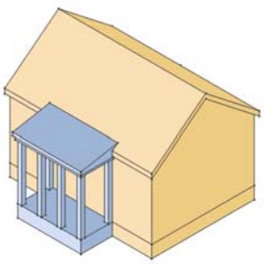
>> Porch column bays should be more narrow than wide. Balusters should be turned or square, and spaced no more than 4 inches on center.



Narrow front hipped roof with full front porch

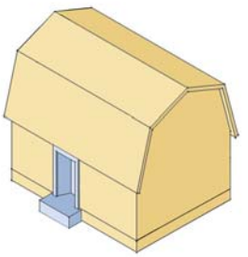


Broad front hipped roof with full front porch

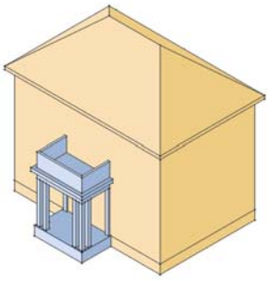


Broad front side gable with add-on porch

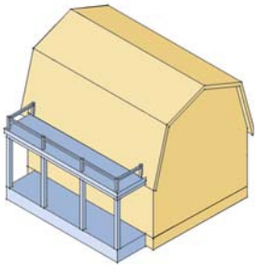
Simple | Common | Elaborate



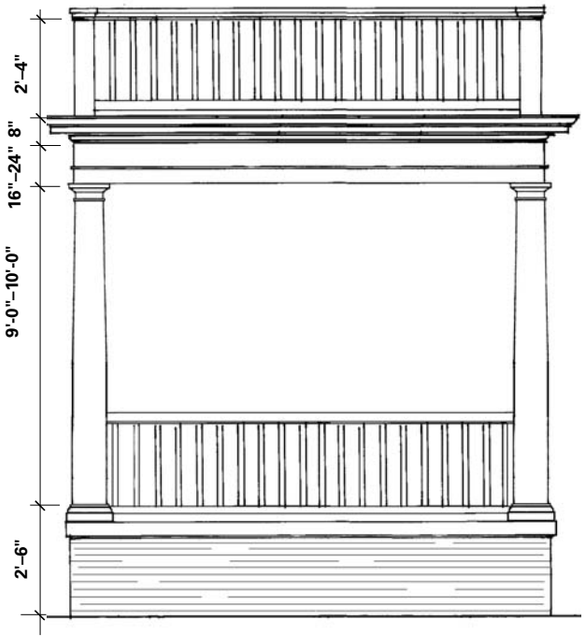
Broad front gambrel with inset entrance porch



Broad front hipped roof with front entrance porch



Broad front gambrel with full front porch



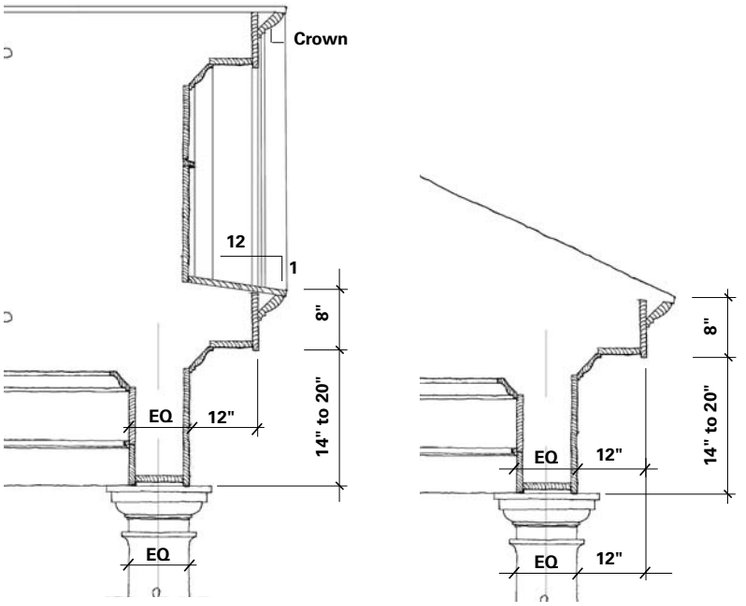




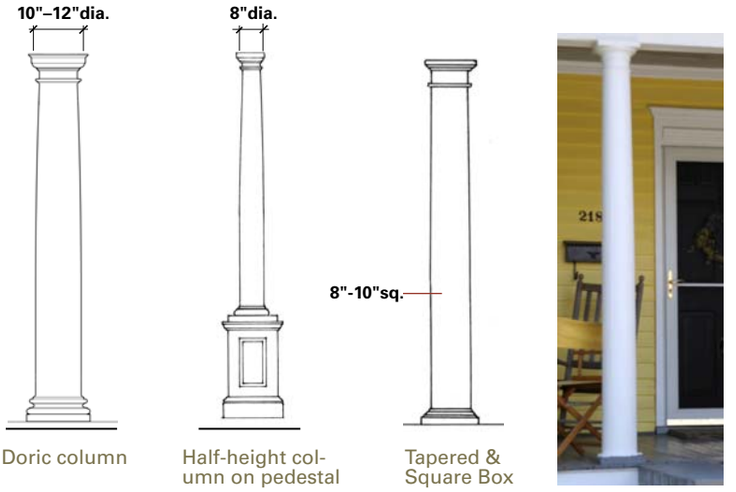


Materials and Applications

PORCH SECTIONS



COLUMN TYPES

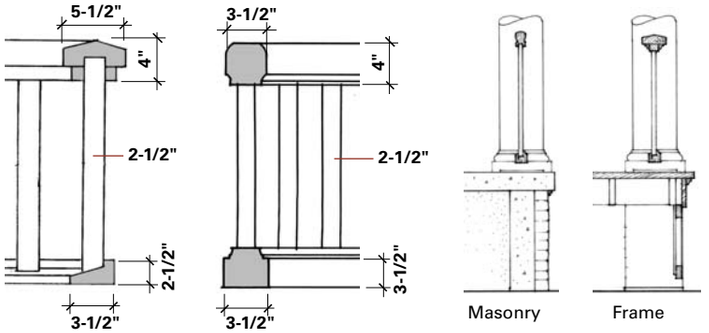


Doric column

Half-height column on pedestal

Tapered & Square Box

RAIL DETAILS



Masonry

Frame

Roofing

>> Sawn shingles, laminated asphalt or composition shingles

Soffits

>> Composition board with smooth finish, tongue-and-groove wood boards, or fiber-cement panels

Gutters and Downspouts

>> Half-round or ogee profile gutters with round or rectangular downspouts in copper, painted or prefinished metal

Cladding

>> Smooth-finish wood or fiber-cement lap siding, 6- to 8-inch exposure, or random-width cut shingles

>> Sand-molded or smooth-finish brick in Common, English or Flemish bond patterns

>> Vinyl siding approved by the Vinyl Siding Institute.

Trim

>> Wood, polyurethane, or composit millwork

>> Manufacturer's vinyl profiles with integral concealed j-channel, engineered lumber rabbeted or over blocking to conceal the j-channel; exposed j-channel trim is not permitted

Foundations and Chimneys

>> Brick veneer, smooth stucco, or cement parging finish

Windows

>> Painted wood or composite, or clad wood or vinyl; true divided light or simulated divided light (SDL) sash with traditional exterior muntin profile (⅞ inch wide)

Doors

>> Wood, fiberglass, or steel with traditional stile-and-rail proportions and raised panel profiles, painted or stained

Shutters

>> Wood or composite, sized to match window sash and mounted with hardware to either be or appear to be operable.

Columns

>> Architecturally-correct Classical proportions and details in wood, fiberglass, or composite material

>> More informal square wooden box columns

Railings

>> Milled wood or composite top and bottom rails with square or turned balusters

>> Wrought iron or solid bar stock square metal picket

Porch Ceilings

>> Plaster, tongue-and-groove wood or composite boards, or beaded-profile plywood

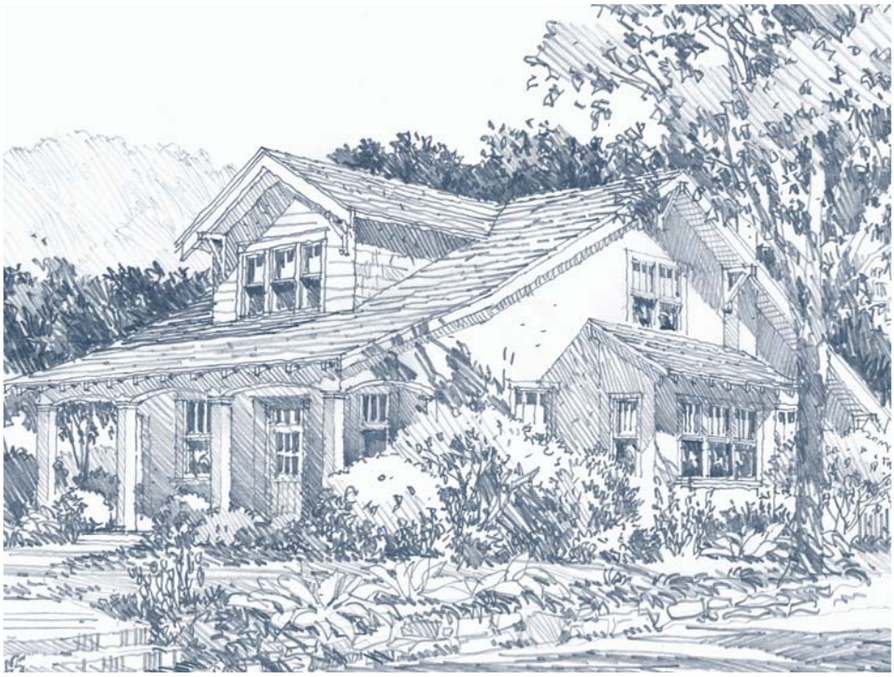
Front Yard Fences

>> Wood picket or composite material to be rendered indistinguishable from wood, or metal with ornamental posts; low brick walls

Lighting

>> Porch pendant, porch fanlight, or wall-mounted lantern





Essential Elements of the Denton Craftsman

- Shallow-pitched roofs with deep overhangs
- Deep, broad, horizontal porch elements with expressive structural components
- Expressive structural elements such as rafters, brackets, and columns
- Predominately crafted with siding
- Asymmetrical window and door compositions on two-story houses and symmetry in bungalows

DENTON
CRAFTSMAN



The Denton Craftsman style emerges from two different stylistic movements. First, the two-story examples evolved from Craftsman elements and details applied to largely Victorian two-story houses. These houses are less distinguished in style than the bungalows and cottages, yet they are distinctly Craftsman in their rugged, expressive detailing. The bungalow forms in the one- and one-and-a-half-story houses are often a product of local builders' use of elements from house plan publications and mail order sources. The Arts & Crafts movement espoused a simple decorative expression of structural elements and built-in furniture that builders found suitable for cottage houses. Building during this movement was prolific since bungalows suited well the residential needs of the time.

The Denton Craftsman style is characterized by broad, open porches, roofs with deep overhangs, and exposed rafter tails or decorative brackets; asymmetric compositions, though bungalows are more regular; grouped windows with a variety of upper muntin patterns; expressive trim; and porches with brackets. Columns on Craftsman houses are very diverse in both form and material, and are much less formal than in the other architectural styles represented in this Pattern Book.









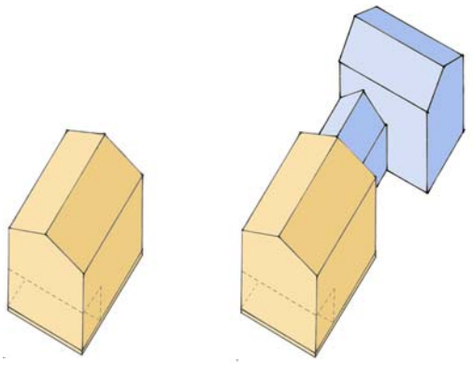


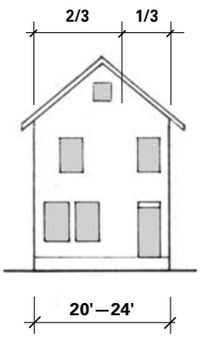


Massing and Composition

Narrow Front

- Rectangular volume with a 6 in 12 to 8 in 12 roof pitch and gable facing the street
- Symmetrically or asymmetrically placed front and /or shed roofed porches are common; either one- or two-story.
- An inset one-story porch may also run the full width of the house.

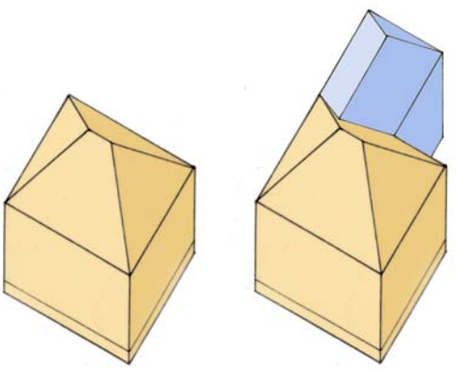




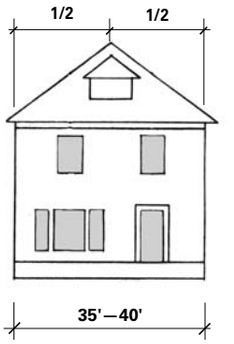


Hipped

- Rectangular or square volume with a 6 in 12 to 8 in 12 roof pitch; the ridge line, if any, runs parallel with the front of the house.
- Front gabled and/or shed roofed porches with a 3 in 12 to 5 in 12 pitch are placed symmetrically or asymmetrically on the front facade or as full-facade elements.
- Porches are typically one story.

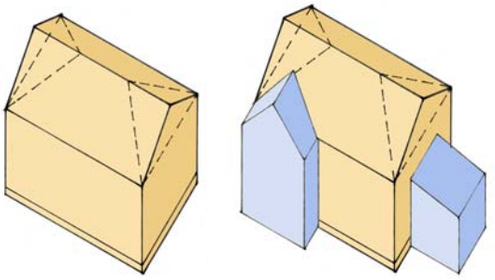


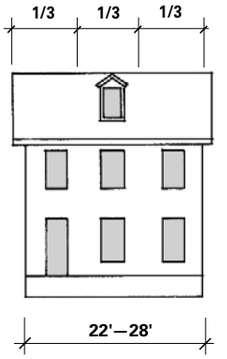


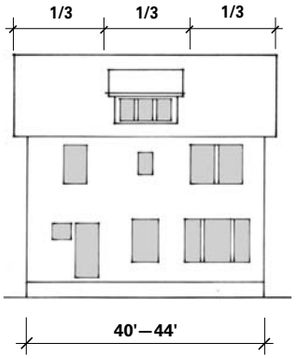


Broad Front

- Rectangular volume with a 6 in 12 to 8 in 12 roof pitch
- Asymmetrically placed gabled and/or shed roofed porches are common.
- Porches are typically one story.

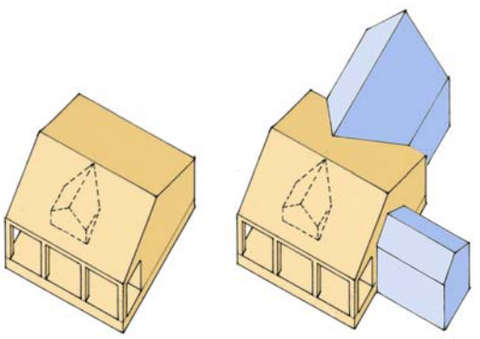


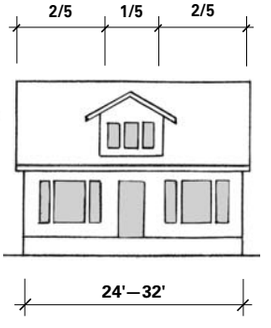


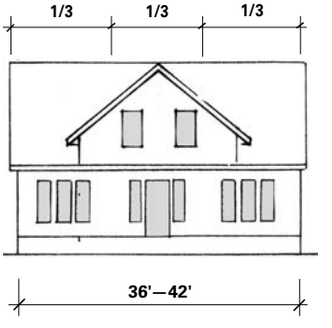


Broad front/Integral Porch

- Rectangular one-and-one-half-story volume with a 6 in 12 to 8 in 12 roof pitch.
- The integral porch is set under occupiable interior space, made possible by a dormer and high knee wall on the second floor.
- Integral front porches range from half to the full length of the front facade.
- Symmetrically placed gabled or shed dormers have a 3 in 12 roof pitch.







Typical Wall Sections and Eaves

ROOFS

>> The roof pitch on most houses varies from 6 to 8 in 12.

WALL

>> For one-story houses, the minimum floor-to-ceiling height is 9 feet. For two-story houses, the minimum floor-to-ceiling height is 9 feet for the first floor and 8 feet for the second floor. Window head heights should be 8 feet above the floor for first-floor windows and 7 to 8 feet for second-floor windows.

>> Cladding should be consistent on all facades of primary mass. Exceptions include: gables, dormers, and garages.

EAVES

>> Deep eaves are a dominant characteristic.

>> Open eaves typically have a 2 x 6 or 2 x 8 shaped rafter tail 16 to 24 inches on center. Gables feature deeper rake boards.

>> Boxed eaves often have profiled outriggers or brackets at 24 inches on center.

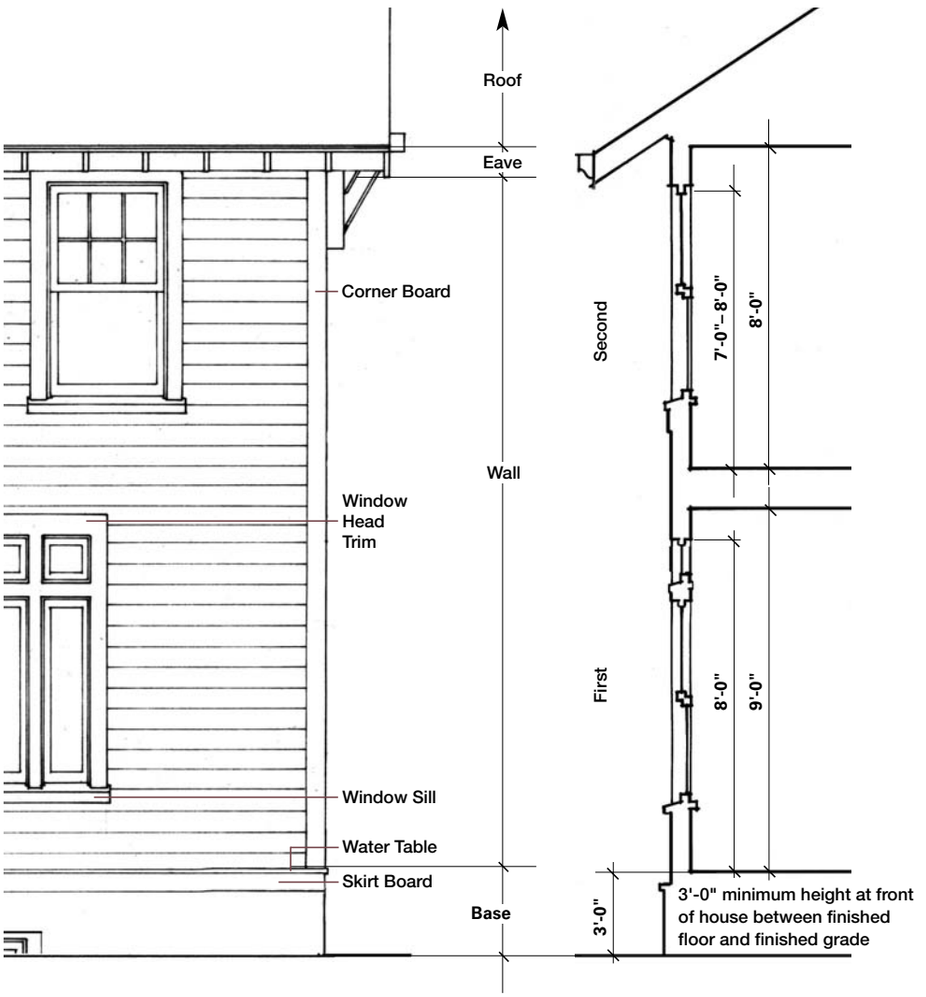
>> Frieze board, if used, is 8 to 12 inch either touching/co-planar with, or no more than 8 inches above the window head trim.

BASE

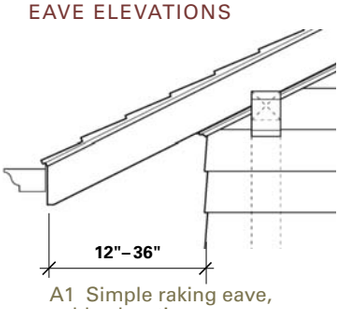
>> The first floor is typically set three feet above the finished grade. Wood clad houses have 8 to 10 inch wide skirt boards. When window wells are used, center under windows.



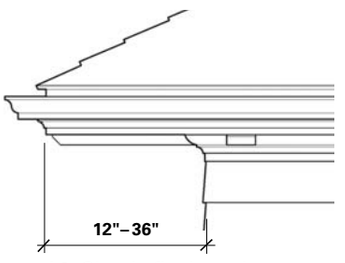




EAVE ELEVATIONS

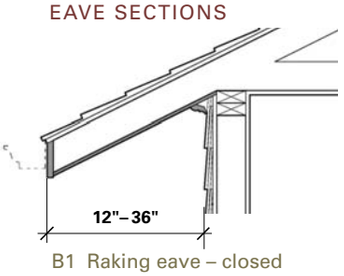


A1 Simple raking eave, gable elevation

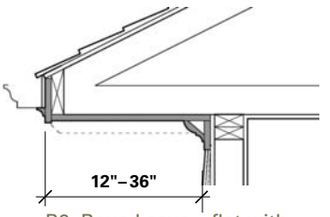


A2 Simple flat boxed eave, hip elevation

EAVE SECTIONS



B1 Raking eave – closed



B2 Boxed eave – flat with optional 2x4 outrigger

Windows and Doors

STANDARD WINDOWS

- Windows are typically vertical in proportion and have a 3 over 1, 6 over 1, or 9 over 1 muntin pattern.
- Standard windows are double hung.

SPECIAL WINDOWS

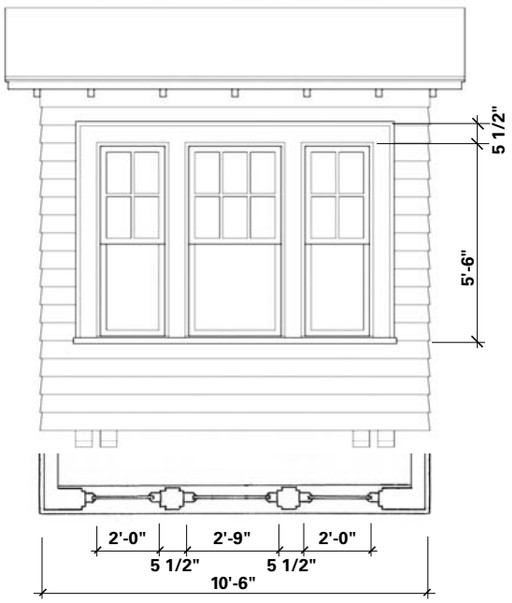
- Special windows include paired or triple windows, small square accent windows, and box bay windows supported on wood brackets.
- Broad, horizontal windows divided into several vertical panes occur in dormers and gables. Other dormer windows are ganged together in wide gabled or shed dormers.

DOORS

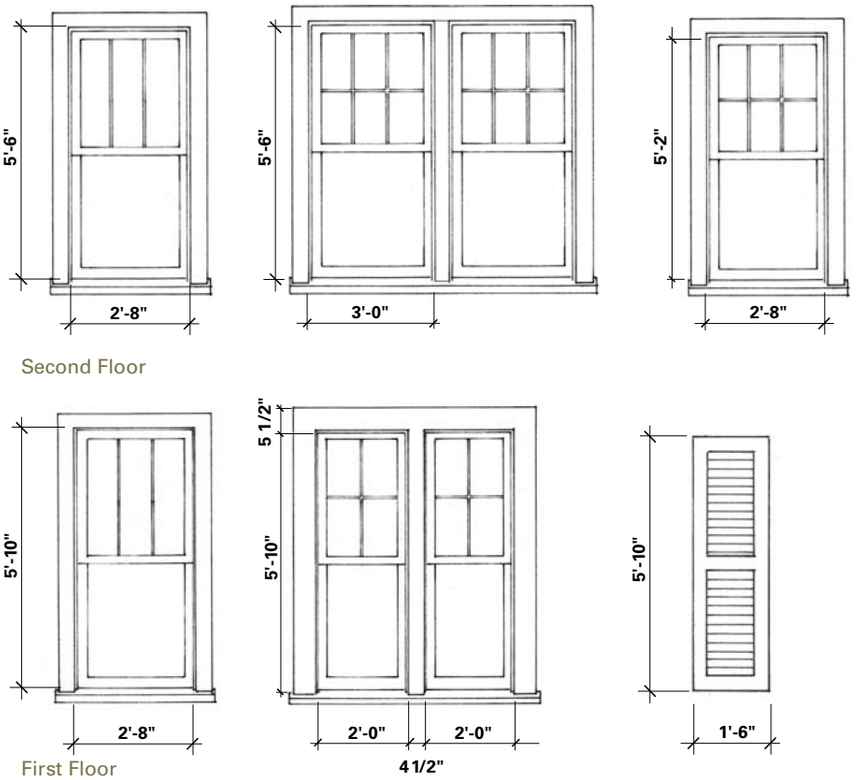
- Doors are often stained wood with either wood plank design or a panel door with the top half glazed.
- Doors may have sidelights or transoms

TRIM

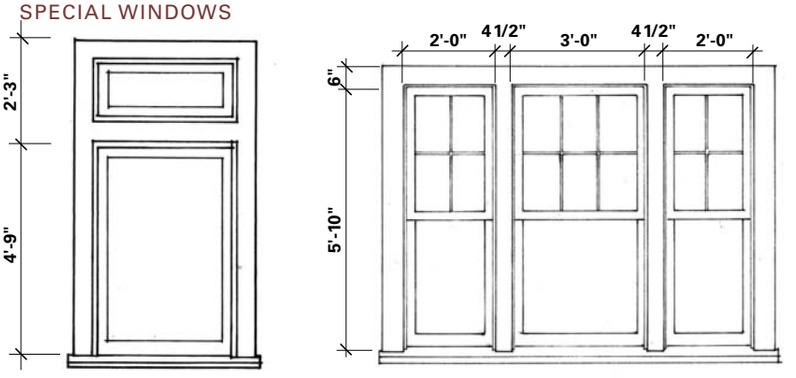
- Windows and doors have 6-inch straight or tapered flat trim.
- Window and door trim carries a simple molding and cap above.



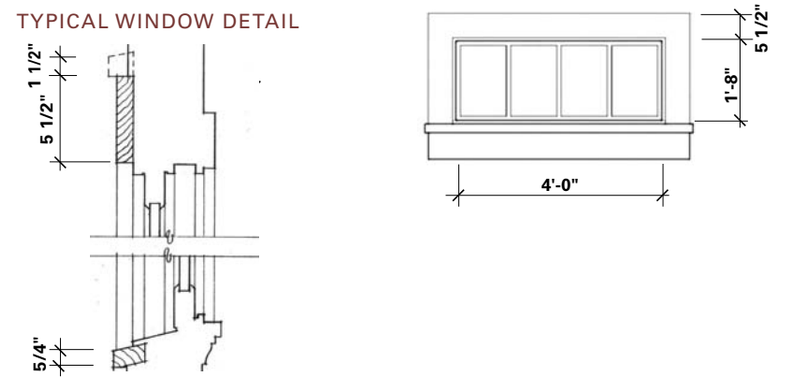
WINDOWS



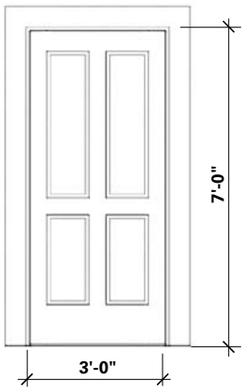
SPECIAL WINDOWS

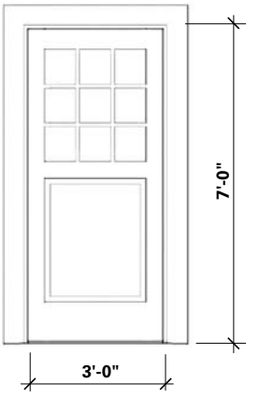


TYPICAL WINDOW DETAIL



SIMPLE DOORS

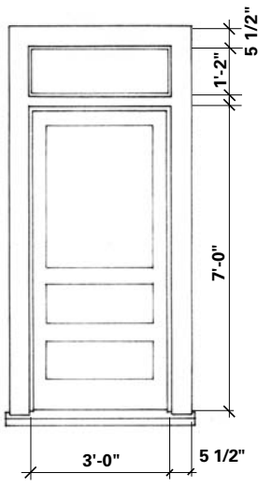


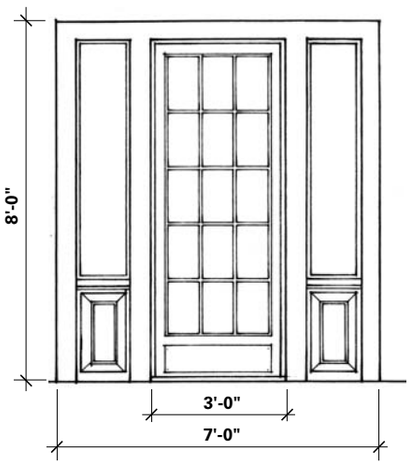






COMMON DOORS

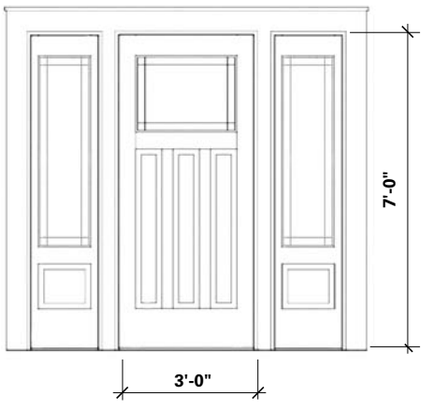


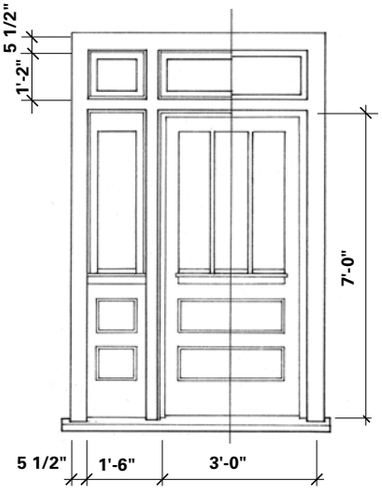






ELABORATE DOORS









Porches

PORCH LOCATION AND MASSING

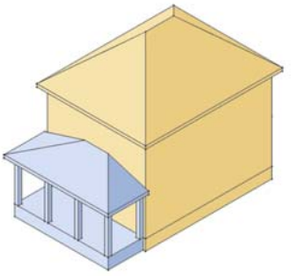
- Porches are broad and low when present, and can wrap the house or fill in the void created by an L-shaped house plan.
- Full front porches are encouraged. Minimum porch depth is 6 feet, but 8 feet is recommended.
- For wood deck porches, the gaps between brick piers are infilled with lattice panels. Solid porches should be faced in brick.

COLUMNS AND RAILINGS

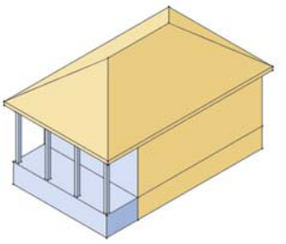
- Bungalows have Classically-styled columns set on square piers or solid porch balustrades. These porches are usually matched with bracketed box eaves.
- Columns include full-height tapered box, half-height paneled box, and three-quarter-height paired box columns.

PORCH ROOFS AND EAVES

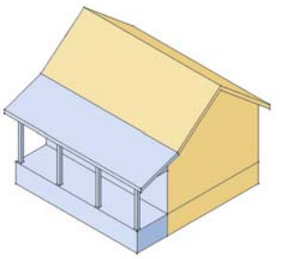
- Porches can have gable-ends, shed roofs or combinations of the two forms.
- Gable-end porches are designed to express structural elements. Shed and hip porches typically have a 3 in 12 to 4 in 12 pitch.
- Porches have deep eaves often repeating the same rafter or eave treatment as the main house body.
- Exposed rafter tails are either shaped or cut plumb.



Hipped roof double-story, with full front hipped porch



Hipped roof single-story, with full front inset porch

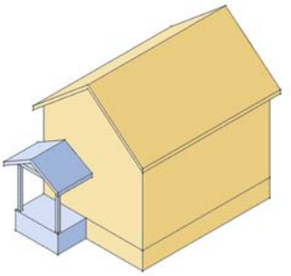


Side gable double-story, full front entry porch of shallower roof pitch

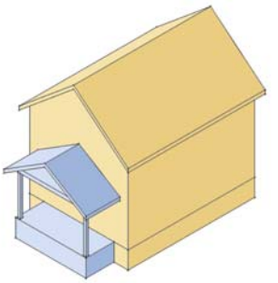
Simple

Common

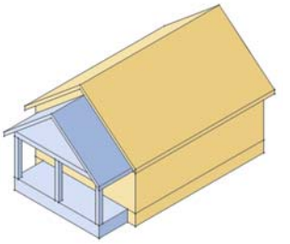
Elaborate



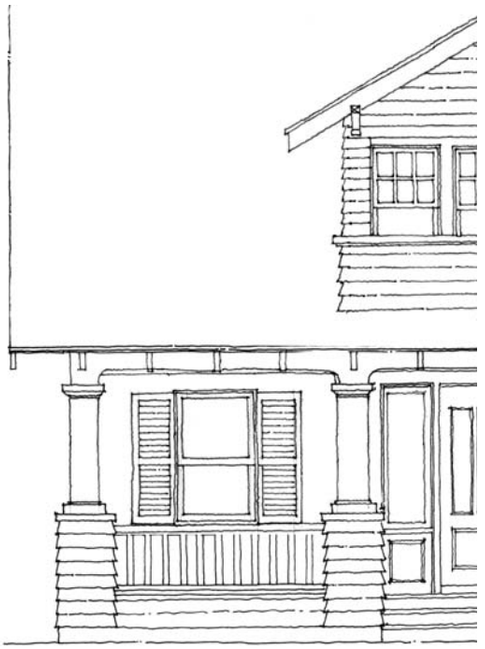
Front gable two-story, with single-bay porch at entry

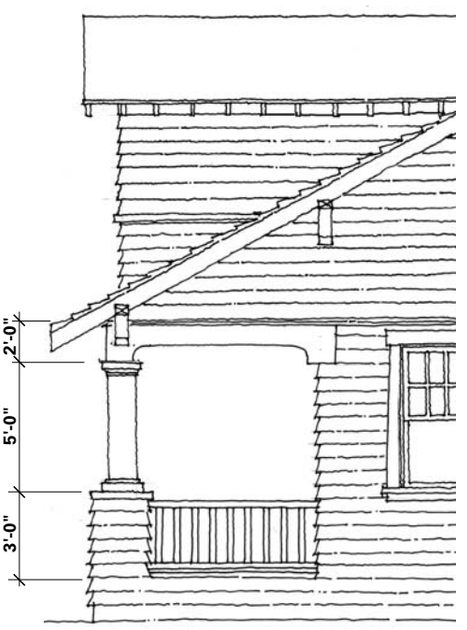


Front gable double-story, with centered two-bay porch at entry



Front gable single-story, with nested gable full front porch



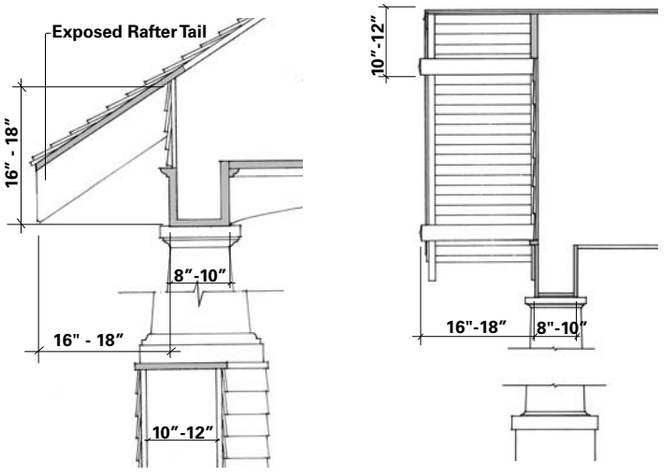




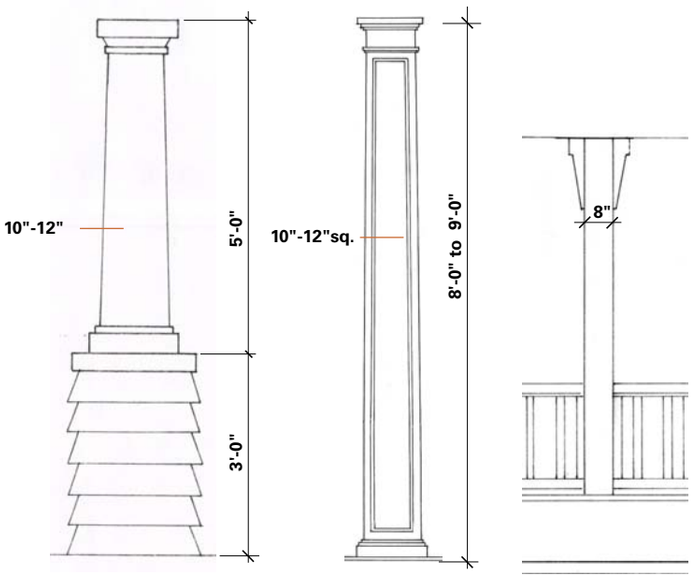


Materials and Applications

PORCH SECTIONS

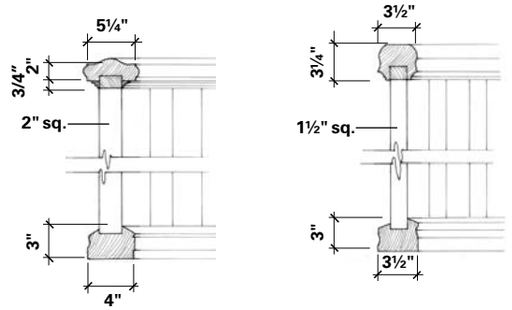


COLUMN TYPES



Column on Pedestal | Tapered Box | Single Post

RAIL DETAILS



Roofing

>> Cedar shakes, sawn shingles, laminated asphalt or composition shingles

Soffits

>> Composition board with smooth finish, tongue-and-groove wood boards, or fiber-cement panels

Gutters and Downspouts

>> Half-round or ogee profile gutters with round or rectangular down spouts in copper, painted or prefinished metal

Cladding

>> Smooth-finish wood or fiber-cement lap siding, 4 to 8 inches exposure, with mitered corners or ¾ x 6-inch corner board trim

>> Random-width cut wood or fiber-cement shingles with mitered corners or ¾ x 6-inch corner board trim

>> Smooth-finish brick in common bond pattern

>> Vinyl siding as approved by the Vinyl Siding Institute

Foundations, Piers and Chimneys

>> Brick veneer, smooth stucco, or cement parging finish

Trim

>> Wood, polyurethane, or composit millwork

>> Manufacturer's vinyl profiles with integral concealed j-channel, engineered lumber rabbeted or over blocking to conceal the j-channel; exposed j-channel trim is not permitted

Shutters

>> Wood or composite, sized to match window sash and mounted with hardware to either be or appear to be operable.

Windows

>> Painted wood or composite, or clad wood or vinyl; true divided light or simulated divided light (SDL) sash with traditional exterior muntin profile (⅞ inch wide)

Doors

>> Wood, fiberglass or steel with traditional stile-and-rail proportions and panel profiles, painted or stained

Columns

>> Wood, fiberglass, or composite material

Railings

>> Wood or composite top and bottom rails with square balusters

>> Solid rails clad in siding, shingles, brick or stone veneer

Brackets

>> Wood or fibercement

Porch Ceilings

>> Plaster, tongue-and-groove wood or composite boards, or beaded-profile plywood

Front Yard Fences

>> Wood picket or composite material to be rendered indistinguishable from wood, or metal with ornamental posts; low brick walls

Lighting

>> Porch pendant, porch fanlight, or wall-mounted lantern



Materials and Methods (For All Styles)

Material Usage

The use and placement of materials are very important in constructing a house of lasting value that fits in with its environment. Because of its durability, brick is an important building material. Three options are shown for brick placement, all of which respect the historic usage patterns of brick as well as prevent poor detailing in transitioning between brick and other facade materials.

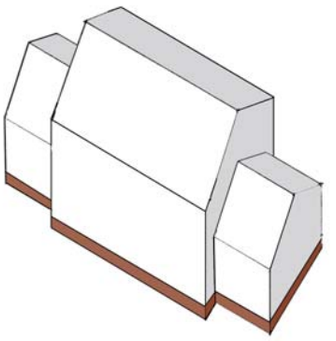
Window and Door Placement

Windows and doors should be placed to provide natural light to all rooms in a house. Do not neglect the side facades, where windows and doors can be used to animate those building faces as well as provide as much natural light as possible to the interior of the house. Side windows are particularly important on houses on corners and those that wrap along curving streets and spaces.

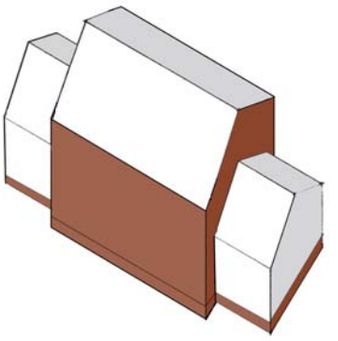
Main Body Massing

The desire for large houses often results in houses that look oversized for their lots. A common problem, this issue can be dealt with by maintaining a main body size or mass that is no larger than 44 feet wide. In studies of historic houses in Denton and across the United States, wings and additions that are of a different scale are used to add floor area, not an extrusion of the main body of the house. Wings should be set back from the main body facade a minimum of 4 feet to provide visual definition. If a wing is a garage, it should be set back at least 8 feet to hide the parking of an adjacent automobile.

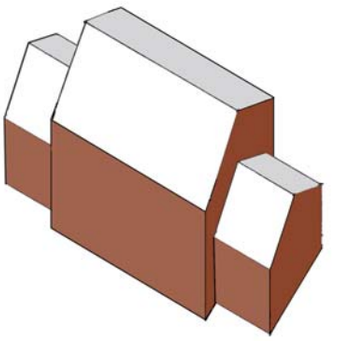
MATERIALS: USE OF BRICK



1 Wrap the entire foundation of the house with brick.



2 Use brick on the entire foundation and all sides of the main body, with wings of other materials.



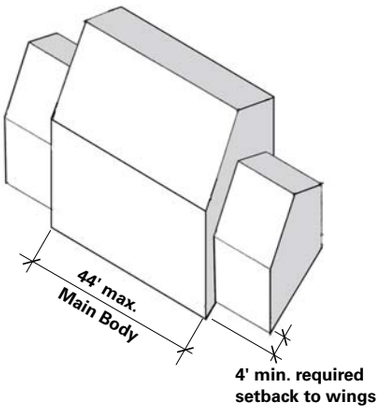
3 Use brick on all sides of the main body and wings.

WINDOW AND DOOR PLACEMENT



Houses need windows on all sides. Windows must occur on the side of the main body and wings.

SCALE OF HOUSE AND WINGS



Architectural Resources

The following partial list of national manufacturers of building products, developed by Urban Design Associates, provides a starting point for home owners searching for appropriate home improvement materials. These products have been selected due to their appropriateness for the architectural styles outlined in the Pattern Book.

Windows

Marvin (http://www.marvin.com)
- >> Wood double-hung and casement
- >> Clad double-hung and casement with aluminum trim accessories
- >> Replacement sash with profiled aluminum panning
- >> Wood or clad simulated divided lights (SDL)
- >> French doors

Caradco (http://www.jeld-wen.com/windows/wood/caradco)
- >> Wood double-hung and casement
- >> Clad double-hung and casement with aluminum trim accessories
- >> Wood or clad simulated divided lights (SDL)
- >> French doors

Windsor (http://www.windsorwindows.com)
- >> Wood double-hung and casement
- >> Cellular PVC Legend Series double-hung and casement
- >> Wood or PVC simulated divided light (SDL)
- >> Direct set transoms and sidelights

Entry Doors

Simpson (http://www.simpsondoor.com)
- >> Wood doors: Appropriate for all styles; hard to find Arts & Crafts door (#1662) is less than $400; several hard-to-find 2-over-3-light Victorian doors; European Romantic doors

Nord (http://jeld-wen.com/windows/wood/norco)
- >> Wood doors: Classical and Colonial Revival styles, some Victorian and European Romantic doors

ThermaTru (http://www.thermatru.com)
- >> Fiberglass and Premium Steel Series
- >> Steel Doors: Classical, Colonial Revival and Victorian styles; acceptable European Romantic and Arts & Crafts doors

Stanley (http://www.stanleyworks.com)
- >> Fiberglass and steel doors: Classical, Colonial Revival and Victorian styles; acceptable European Romantic doors

Peachtree (http://www.peach99.com)
- >> Fiberglass and steel doors: Classical, Colonial Revival and Victorian styles; acceptable European Romantic doors

Screen and Storm Doors

Paul Argoe Screens, Inc.

J&L Shutters (http://www.jlshutters.com)
- >> Stephen Fuller Signature Series (composite shutters, Permex)

Columns

Turncraft (http://www.turncraft.com)
- >> Architecturally correct round and square composite and wood columns; Arts & Crafts tapered square *Polybox*; composite columns

Column and Post (http://www.columnpost.com)
- >> Architecturally correct round and square composite columns

Somerset (http://www.somersetcolumns.com)
- >> Architecturally correct round and square wood columns and pilasters

HB&G (http://www.hbgcolumns.com)
- >> PermaPorch system: Cellular pvc; 2x2 square or turned balusters with 'Savannah' top rail

Shutters

Southern Shutter Company (http://www.southernshutter.com)

Paul Argoe Screens, Inc.

Exterior Siding (synthetic options)

James Hardie (http://www.jameshardie.com)
- >> Hardiplank (fiber cement)lap siding, shingle, panel, and soffit products

Georgia-Pacific (http://www.gp.com)
- >> Fiber cement cladding board

Vinyl Siding Institute (http://www.vinylsiding.org)
- >> Approved vinyl siding

Exterior Molding, Trim and Brackets (synthetic options)

Chemcrest (http://www.chemcrest.com)
- >> Classic Moulding and Door: Crown, bed, casing, and brackets in polyurethane

Azek (http://www.azek.com)
- >> Cellular PVC flat sheet (4 x 8, 4 x 10 and 4 x 12 feet) for gables, soffits, etc. ¾"-thick trim boards, ⅝"-thick trim boards (4" and 6" widths), tongue-and-groove paneling

Royal Wood (http://www.royalwood.com)
- >> Composite 1x trim boards, brickmold and T&G paneling for porch ceilings

Fypon or Duraflex (http://www.fypon.com)

Porch Ceilings

Georgia-Pacific (http://www.gp.com)
- >> *PlyBead Classic* or T&G beaded paneling

Fencing (synthetic options)

Kroy (http://www.kroybp.com)
- >> Classic Manor Collection: Vinyl fences in traditional designs and profiles

Garage Doors

Designer Door (http://www.designerdoors.com)

Clopay Doors (http://www.clopay.com)

Roof Shingles and Tiles (synthetic options)

Majestic Skylines (http://www.majesticskylines.com)
- >> Synthetic slate

Owens Corning (http://www.miravistaroof.com)
- >> MiraVista specialty roofing: synthetic shakes, slate, copper, and metal
- >> Berkshire Collection: composite shingles

SECTION F

GREEN BUILDING GUIDELINES

Whether the term used is green building, sustainable design, or high performance buildings, all refer to the planning, design, construction, and maintenance of buildings that are energy-efficient, healthy, and environmentally friendly. The Denton Pattern Book presents an unprecedented opportunity to help developers and home owners incorporate green building strategies and systems into existing houses, infill and redevelopment, as well as new construction.

Although traditional and older architecture in Denton uses climatically responsive design strategies that enhance human comfort without the use of electricity such as porches, tall ceilings, large windows, and roof overhangs, newer houses generally have relied almost exclusively on fossil-fuel-dependent mechanical systems for heating and cooling. Whether the energy source is electricity, gas, oil, wind, or solar, increasing the efficiency of a house reduces energy bills and lessens the negative effect on the environment. Using 30% less energy translates directly into financial savings. Moreover, the small increase in up-front construction costs attributable to energy efficiency measures will be returned in longer-term savings to the home owner or renter. Green building strategies are important, therefore, not only because of their environmental and human benefits, but for the cost savings and increased affordability they provide.

A systems approach is essential to successful green building and every well-designed, energy-efficient building incorporates an interrelated roster of active and passive elements that control, move, circulate, or retain energy, air, and water to achieve human comfort, functionality, and safety. For example, climate and solar orientation should be factored into to decisions about the location and number of windows. Insulation choices, tightness of the building envelope, and foundation choices all contribute to the size of the heating-ventilation-air conditioning (HVAC) system. Buildings that are designed to interrelate these elements achieve greater energy efficiency, comfort, safety, and affordability for their owners and occupants.

Strategies

Active Energy–Efficient Strategies

Energy-efficient houses provide significant benefits including reductions in energy demand, utility costs, and pollution, as well as enhanced human comfort, health, durability, quality, and control. One way to achieve energy efficiency in new construction is to follow the Energy Star Program, a national, voluntary program sponsored by the U.S. Environmental Protection Agency (EPA) to reduce greenhouse gas emissions and protect the environment. Energy Star houses are 15-30% more energy efficient than houses built to national or state energy codes. Program requirements are typically met through a combination of building-envelope upgrades, high-performance windows, controlled air infiltration, upgraded heating and air conditioning systems, and tight duct systems. These features contribute to improved house quality and home owner comfort, lower energy demand, lower utility bills, and reduced air pollution. The program is clear and easy to use, affordable, and is monitored to ensure high quality and efficient construction.

MECHANICAL HEATING, COOLING, AND DEHUMIDIFICATION

To achieve the highest energy efficiency, mechanical units must be sized properly for a given house or building. Under- or oversized systems do not achieve the desired balance of heating, cooling, and dehumidification for human comfort. The hot, humid climate along the Eastern Shore for more than half the year necessitates a high-efficiency, central air-conditioning unit to provide comfort, significant energy reductions, and substantial cost savings. An optional, dedicated, whole-house dehumidifier will help to further control indoor humidity and increase comfort.

APPLIANCES AND LIGHTING

Appliances and lighting account for 40% of home energy usage with refrigerators typically being the single biggest energy-consuming home appliance. Energy Star appliances meet specific energy criteria set by the EPA and use an average of 10-15% less energy than non-certified products, thereby reducing energy costs and pollution.

WATER HEATERS

Water heating is typically the second largest household energy expense. Greater efficiency can be achieved simply and affordably by using less hot water, setting the heater temperature at 115°F, and wrapping the heater and pipes with insulation. Tankless (on-demand) hot water heaters typically cost less and are more efficient because they do not store hot water if there is no demand. Solar hot water heaters use the sun to heat water or a heat-transfer fluid in collectors, reducing the need for conventional water heating by about two-thirds.

Passive Design Strategies

Passive design strategies refer to non-mechanical systems or architectural features that use the sun's natural energy to heat living spaces during the colder seasons and minimize heat gain in the warmer ones. Solar energy is a renewable, non-polluting natural energy source. Passive design features do not generate greenhouse gases, deplete fossil fuels, or rely upon costly, and at times unreliable, energy sources. The architectural features described on the next two pages are all examples of effective passive design elements suitable for use in all the traditional Denton architectural styles. Passive systems should be considered early in the design process, and used in conjunction with a well-built, well-insulated house that has an efficient mechanical HVAC system.











ROOFS

Roofs are the greatest source of potential heat gain in the warmest months of the year when the midday sun is directly overhead. A light-colored, reflective roof surface is most effective in minimizing heat gain.

OVERHANGS

Roof overhangs on the south side of the house can be sized to provide shade in the summer (when the sun is high in the sky), yet allow sunlight and warmth into the house in winter (when the sun is at a lower altitude). Overhangs also prevent water from draining directly onto the house and its foundation.

PORCHES

Porches provide shade and outdoor living space with the south side of the house the most critical to shade. Screened porches provide breezy outdoor space while keeping out insects.

SHUTTERS

Aesthetically pleasing, operable exterior shutters keep the hot sun out while allowing cooling breezes to ventilate the house. They also provide an effective window insulation system, enhanced weather protection, and household security.

CEILING HEIGHT

Traditional architectural styles often use 12-foot ceilings, rather than the 8-foot baseline typical of new development. Higher ceilings, even 9 or 10 feet, provide more space for hot air to rise, increasing human comfort in warm weather. Coupled with large windows, higher ceilings also provide more effective ventilation.

CEILING FANS

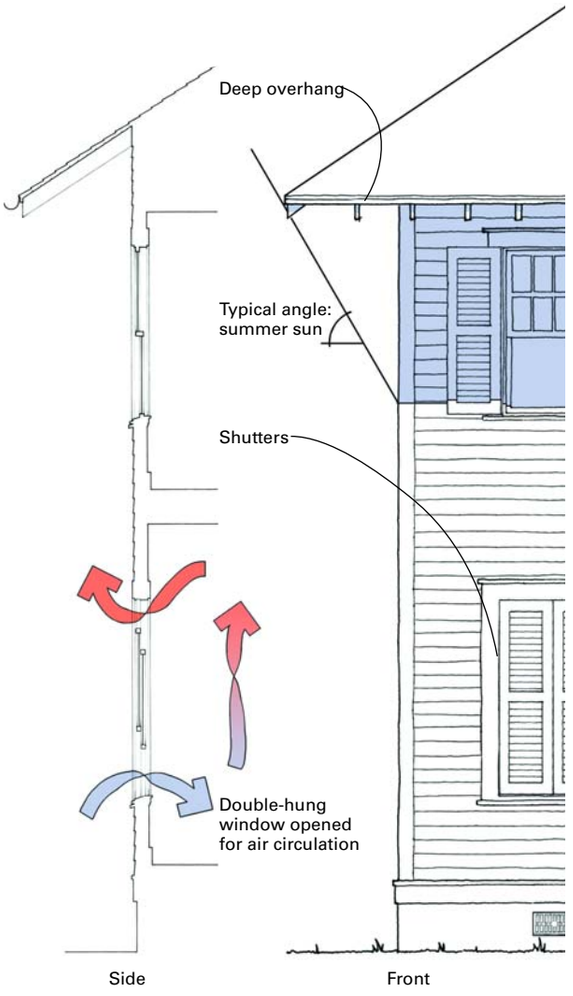
Ceiling fans increase comfort by providing air movement that aids the body's evaporative cooling system, rather than by regulating temperature. Fans also increase ventilation on outdoor porches and help keep away insects. Fans should be turned off when the room is not occupied.

WINDOWS

Size, number, type, and placement of windows affect the comfort and energy efficiency of any house. Reduce the size and number of windows on the heat-intensive west side. Use larger windows for greater ventilation and day lighting on the north and east sides. Choose double-pane, insulated, and Low-E coated windows that hinder radiant heat flow through glass layers and allow in light and air. Double-hung windows are ideal for ventilation: cooler air enters through the raised bottom sash; hot air escapes through the lowered upper sash. All windows and doors should be sealed, flashed, and properly installed to reduce air and moisture infiltration.

VEGETATED SHADING

Shade is a valuable and affordable resource that can be created by planting deciduous trees and shrubs on the west, east, southwest, and southeast sides of the house shades. This protects against solar heat gain in the summer and lets in sunlight in the winter. Small shrubs and groundcover used to shade pavement around the house, also keep the house and outdoor spaces cooler by reducing reflected heat.



Correctly-proportioned overhangs and shutters provide shade, decreasing heat gain. Double-hung windows allow cooler air to enter through the raised bottom sash, while hot air escapes through the lowered upper sash. High ceilings allow hot air to rise above the occupied areas, increasing human comfort.





WALL SECTION

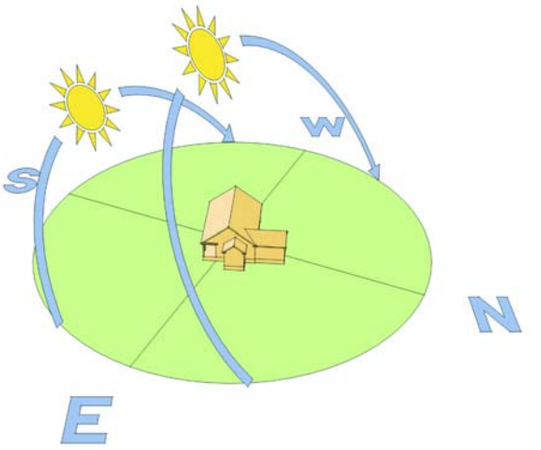
A well-insulated, properly constructed exterior wall can increase the comfort, efficiency, and health of a house. Traditional wood framing is likely to remain the most common and accessible building system available. Framed houses, 2x6 Optimum Value Engineered (OVE) with structural sheathing, generally cost about the same as standard framed houses but have added benefits. OVE reduces framing time, lowers construction costs, conserves resources, and reduces annual energy costs. OVE also reduces the amount of lumber used in the exterior wall while increasing the insulation.

INSULATION

Insulation is critical in building energy-efficient, comfortable houses. Insulation should exceed the required minimums to save on overall energy costs and make the house more comfortable. Use recycled wet-blown cellulose for better insulation and insect control.

FOUNDATION SYSTEMS

Foundation systems should be carefully designed according to site characteristics. The well-built, well-insulated foundation can add greatly to the comfort and energy efficiency of a house.



Keeping in mind the arc of the sun when orienting a house on a lot provides passive solar energy and can contribute to the overall energy efficiency of the house.

Materials and Indoor Air Quality

Initial decisions in the construction of a house can have a significant impact on maintenance and replacement costs over time. Consider selecting roof materials with extended warranties and using a cementitious fiberboard for siding. Selecting high quality materials and assemblies may add to upfront costs, but will likely provide long-term savings through greater durability, strength, and reduced replacement costs.

Because people spend an average of 65% of their time indoors, indoor air quality is critical to the health of residents, especially more vulnerable groups such as children, seniors, and individuals with existing respiratory problems and compromised immune systems. Toxic materials have associated negative human health effects including cancer, allergies, and 'sick building syndrome.' Sources of indoor air pollution include:

- Building materials and furnishings, such as insulation, carpeting, and cabinetry, that may contain phthalates, arsenic, and formaldehyde
- Polyvinyl chloride, commonly called PVC or vinyl is a hazard (approximately 75% of all PVC manufactured is used in construction materials)
- Adhesives that release formaldehyde
- Cleaning and maintenance products containing toxic chemicals
- Interior paints, primers, and removers that release volatile organic compounds

Materials should be selected with low or zero volatile organic compounds (VOCs), PVC, formaldehyde, arsenic, chromium, and other toxic chemicals. There are many alternative construction materials that can be used in place of vinyl including composite materials, fiber-cement board siding, metal roofing, natural linoleum, tile, wood flooring, sustainably-harvested wood, fiberglass, and aluminum windows and doors.



SECTION G

HOME OWNER'S GUIDE

This section of the Pattern Book is intended to assist Denton's home owners and those undertaking infill housing projects to build or renovate their houses. Following the more general information that appears on the opposite page about the basic components and form of a house, the section provides basic guidelines for making appropriate renovations, additions, and transformations to houses in Denton.

You'll want to use the information in this section in combination with that presented in the Architectural Styles section of the Pattern Book. There you'll find information about the three primary architectural styles in Denton (Victorian, Colonial Revival, and Craftsman), their characteristics, and the materials appropriate for each. At the end of that section, you'll also find a list of nationally respected Material Manufacturers that may be useful to you in selecting materials for your home improvement projects.

Building the Denton House

Most traditional houses consist of a **Main Body** that is always the most important portion of the house's form. Additional space is treated as secondary additions to this Main Body.

The first step in designing your house is to determine the Main Body Massing Type. This will guide the development of your house plan or the modifications to your existing house.

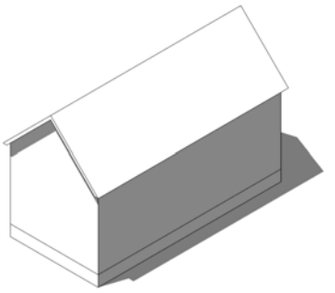
In general, additions should be treated as **Wings**. Side wings can be either one, or one-and-one-half stories, set back from the front facade of the Main Body. Two-story additions can be added to two-story Main Bodies, but should be set back from the front facade and limited in width to a maximum of one-third the width of the Main Body. Side wings and rear wings can be added in many combinations.

Once the massing and the floor-to-floor heights have been determined, various **Window and Door Compositions** can be explored. Most traditional house styles have very definite patterns. These were used to create balanced or picturesque compositions that produce a harmonious and pleasing image. Window proportions, location, and spacing are all important and were well understood by early house builders.

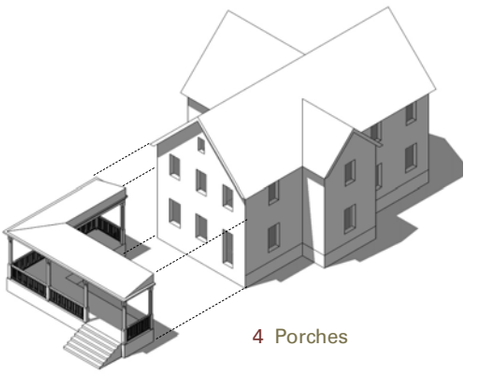
Porches are important elements in the history and culture of Denton. These major elements are found in every architectural style or vocabulary. Setting the appropriate column types, porch cornices, railings, and balustrades are important to establishing the character of the house.

While **Windows and Doors** are available today from a wide range of manufacturers and come in almost any shape and size, selecting correctly proportioned and detailed Windows and Doors is key to creating or preserving the stylistic integrity of the design of your house. The Pattern Book illustrates standard window and door types used for each architectural style and special windows and doors used as accents.

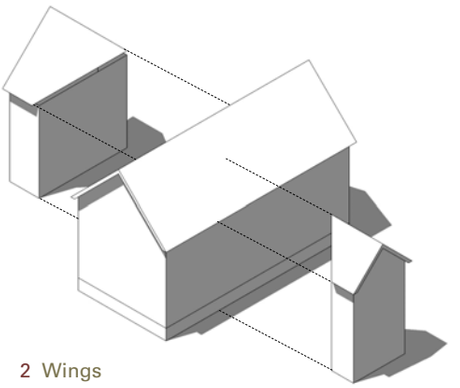
The **Final Assembly** of the various components should produce a house of recognized character and quality, no matter what the size. Within the Architectural Styles Section, a series of three possibilities are provided for each style demonstrating the effective application of the Pattern Book guidelines.



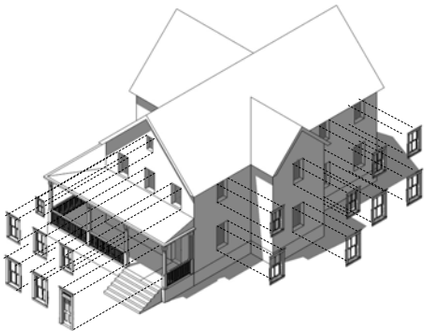
1 Main Body



4 Porches



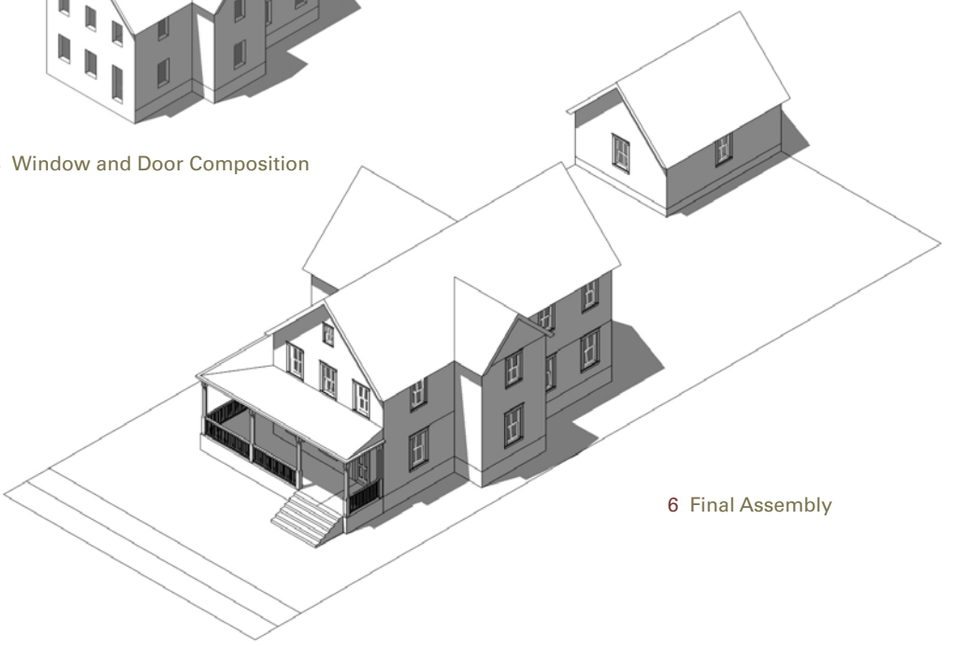
2 Wings



5 Windows and Doors



3 Window and Door Composition



6 Final Assembly

Renovations





House renovations vary from applying a new coat of paint or replacing windows to adding an upper floor or a wing to a house. These options provide more living space while enhancing the quality and value of your house. A poorly executed renovation can turn even the most beautiful house into an eyesore regardless of the nature, extent, or major expenditure involved. Similarly, an inexpensive, but well-detailed modification to an existing house could add significant value.

The key to effective renovating lies in understanding the appropriate design elements, massing, and materials which create the architecture of your house.

Scope

Before starting, it's important to determine the scope of your project. Is it cosmetic to help you add character and value? Or based on a need, such as additional living or parking space? Or is your purpose to repair old or damaged elements? By answering some simple questions about the scope of your project, the age of your house and its architectural style, you'll be better able to determine whether your project is a weekend project for you or a major building project requiring a professional and a building permit.

Renovations may include window replacement, a new front door, front porch restoration, roof and gutter replacement, brick repointing and repair, new paint, new siding, or the replacement of aged or damaged siding. Larger renovations may include adding box and bay windows, dormers, and porches.



Additions are generally larger than renovations and may consist of major changes in terms of the massing of the house. Additions may include the construction of a wing – typically on the side or rear, the addition of a second habitable level, or the construction of an ancillary structure, such as a garage or carriage unit. In general, additions should reflect the architectural style of the main house body.

Transformations, on the other hand, are more drastic changes that allow the home owner to build value into an existing house by fitting it into one of the recognizable styles prevalent among the building traditions of Denton. Transformations are encouraged as they often result in a rise in property value and also further the contribution these structures make to the overall quality of the neighborhood.

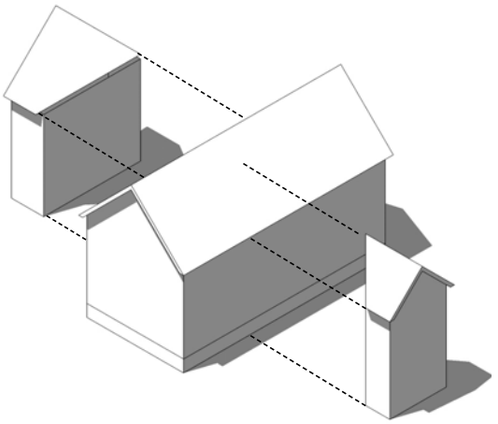
Age

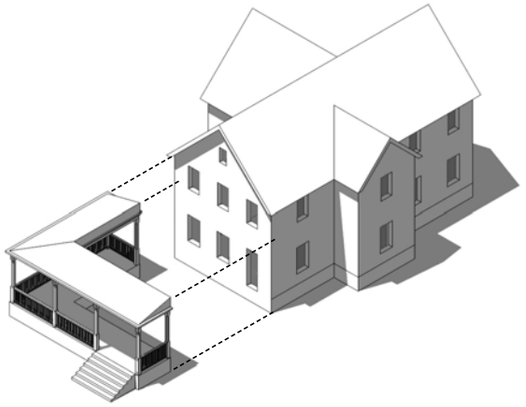
After you have a sense of the size of your project, determine the age of your house. The age of your neighborhood may be a starting point. The Museum of Rural Life, as well as historic maps and governmental property data are all sources for finding the age and era of your house. Knowing the age of your house not only helps you understand the status of the building's structure, it also helps you decide whether the investments you're contemplating are worthwhile.

Style

Finally, identify the architectural style of your house.

1. Determine its Massing Form by comparing the shape of your house to the massing possibilities of the significant Denton architectural styles.
2. Determine the Roof Pitch by measuring the vertical rise for the roof for every 12 inches of run. A 10 in 12 pitch means that the rafter rises 10 inches vertically for every 12 inches of horizontal distance. If you cannot measure your roof pitch, then visually approximate it to help assign a family style to it.
3. Refer to the Denton Architectural Style pages to find an appropriate style for your house. There you will find information on details and materials appropriate for each style and photographic examples of Denton houses to help you identify the style of your house and to serve as precedent examples for your project.








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Additions





Additions are a common house investment, often driven by the growth of families or the changes in living patterns compared to historic architectural development. To protect and enhance the value of your house, it is important to pay careful attention to the way you add onto it, ensuring that the house remains contextual in manner and that the addition reinforces the original facade composition.

Additions are generally larger than renovations and may consist of major changes to the massing of the house. Additions may include the construction of a wing typically on the side or rear, the addition of a second habitable level, or the construction of an ancillary structure (for example, a garage or carriage unit). In general, additions should reflect the architectural style of the main house body.

Successful additions add both beauty and value to the house while making the house more inhabitable to its residents. The facing page illustrates some of the design principles (presented below) applied to two possible additions, using existing houses in Denton as models. For each example, a photograph and two drawings present a comparative study of the house before and after the proposed addition. The massing composition diagram helps you visualize the effect of the addition on the overall lot layout.

The first step in determining what type of addition is appropriate is to understand the dimensions and massing of your existing house and lot so that an appropriately sized addition can be designed relative to the size of the main body.

Side Wings

Particularly prevalent in the Colonial Revival and Victorian styles, side wings should step back no less than 2 feet from the front facade of the main body to ensure that the addition is subordinate in scale to the greater house.

Generally, the height of the main body governs the scale of any addition in terms of height and mass. No addition should be taller or more massive than the house to which it will be attached since to do otherwise would cause the addition and the house in its totality to look unnatural. Many examples of both good and poorly conceived additions can be found throughout Denton.

One-story wings should never exceed half the width of the Main Body of the house. Two-story wings should not exceed one-third of the house width. Wings may be built off either side of a house, however, particularly with the Colonial Revival style, two balanced wings are traditional. You can also balance a house wing with a garage or carriage porch/carport.

Setbacks

Setbacks from the front facade are necessary to provide visual relief and hierarchy to the overall house. Garage or porch wings should be set back a distance equal to the width of the wing.





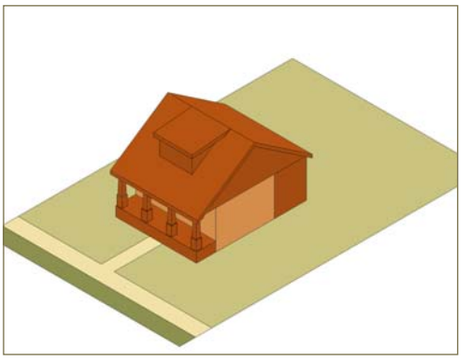
Addition No.1

This house is typical of the many bungalows, loosely designed in the Colonial Revival style, throughout Denton. A rather common addition to a one-story house is the introduction of an additional bedroom or home office. Since many bungalows occupy similarly tight lots, and because many home owners do not wish to reduce outdoor space, such as the backyard, building living space into the roof is very common for this massing type.

In this particular example, multiple issues are resolved or improved by the addition of another half-story. Window and porch column rebuilding or refacing allows the bungalow to migrate into the Craftsman style, more typical for houses of this type. The porch columns recenter the entry and make for a balanced composition. The same Craftsman windows are used in the dormer, and the typical ganged set of windows allows much light into this second-story living space. The gable dormer is a type found frequently throughout Denton.



Existing House



Massing Composition



Before Addition



After Addition

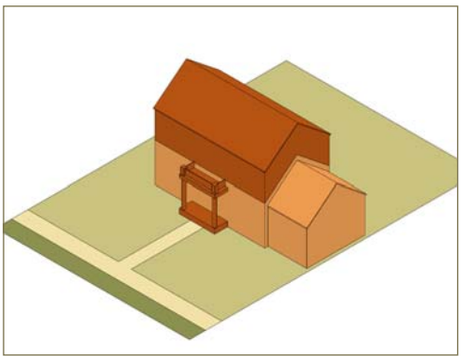
Addition No.2

This house is another example of a building that is likely to be too small for most family types or residents. In order to address the issue of lack of living space, a two-story pop-up, or addition out the roof is illustrated. It provides a much larger house in the identical building footprint, creating additional interior square footage without consuming valuable yard space

The house suffers from a lack of architectural character, though less so than a house in need of transformation. Properly-sized, shuttered windows arranged in a symmetrical manner create a traditional two-story Colonial Revival house, characteristic of those found throughout Denton. A portico is added to shield visitors and residents from the elements when entering the house. With this type of addition, much more substantial than the one shown above, this house is doubled in size, yet feels appropriate on its lot (as opposed to the extension of the main body mass itself).



Existing House



Massing Composition



Before Addition



After Addition

Transformations







Many of Denton's blocks and streets, particularly those that reach out farthest from the core of town, were developed in later eras, long after the town's historic Victorian era development. Like most cities, this later influx brought with it myriad house types that often did not respect the pre-existing residential fabric surrounding them. In consequence, these houses look like the later insertions they were and often have nothing to do with the architectural heritage of their neighbors.

Sadly, much production building nowadays possesses the same telltale signs of placelessness resulting from a single-minded focus on mass production and efficiency over craftsmanship and character. Although the large homebuilding industry is firmly established in America, its effect and its potential erosion of the character of existing places need not continue as it is possible to build in a manner that is contextual and gets the details right for any house. Investing in the proper design of the transformation at the beginning of a building project goes a long way to eliminating the common problems of 'anywhere' houses – particularly complicated massing that attempts to make up for cheap materials and shoddy detailing.

The transformation examples are some of the most important in the Pattern Book because the guidelines speak to both renovation of existing structures, as well as developers' builder sets that can be tweaked in design to produce houses relating to Denton's existing fabric and enduring traditions. The two transformations presented on the facing page provide direction for appropriately enlarging a house while also enhancing its existing architectural style references. Where no distinct style is apparent, refer to the Architectural Style pages to help you select an appropriate, distinctly Denton style and character based on the massing and proportions of your house.

Common transformation methods include the pop-up, nose, wing, and porch since these are most often the missing parts that traditional architectural vocabularies used to animate and create residential architecture. **Pop-ups** add living space by building a partial or full second floor on the house, or a half-story dormer. **Noses** are wings that face front and project into the front yard. These elements are not more than half the width of the house and must be at least 8 feet in width to be a usable interior space, usually as annexes to living and dining rooms. **Wings** project from the side and rear, and follow the proportional rules set out in the previous pages on additions. **Porches** are typically the most cost-effective addition, and often the introduction of a simple, well-scaled porch can do much to minimize the undesirable effects of poorly scaled or proportioned architectural elements that remain, such as windows, doors, and the like. In Denton, as in many other small towns throughout the region, front porch life provides more than outdoor living space, it also contributes to the sense of hometown feel.





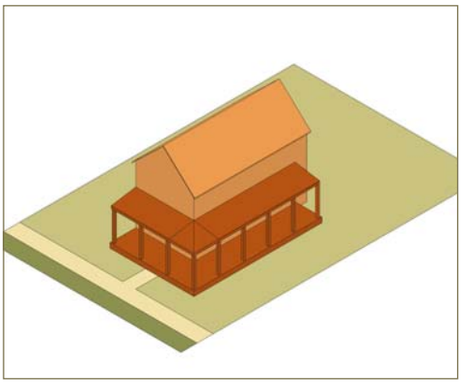
Transformation No.1

Beneath the siding of this Denton house likely lies other framed openings, and possibly another sheathing material altogether. Transforming it back into a consistent architectural style is a worthy goal, and will add a great deal of value to the house once it is seen as part of the overall community through the use of more direct architectural forms. In addition to the value added by style, more natural light and ventilation can be achieved by introducing additional second-story windows and a typical, wraparound porch which augments the amount of livable space without enveloping much of the lot.

Through transformation, the house shown here which was devoid of any style, can be identified as a Victorian house, in keeping with Denton's architectural heritage and traditions.



Existing House



Massing Composition



Before Transformation



After Transformation

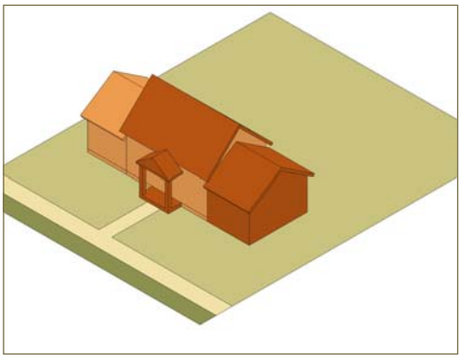
Transformation No.2

This relatively small house can take full advantage of its wider, shallower lot through the addition of a wing and new roof with dormers for extra upstairs living space. In this case, the wing is shown as a garage since the current house lacks an indoor parking space and that form of storage.

In terms of the active living space, much of the investment is applied to gaining more natural light in the form of larger, operable, well-proportioned windows. Operable windows in the three dormers on the second story also provide new opportunities for upstairs rooms, such as bedrooms or a second bath. With the addition of second-story living space, the roof pitches which were formerly shallow, can take on the appropriate pitch for a Colonial Revival house, a style which this house can now rightfully claim.



Existing House



Massing Composition



Before Transformation



After Transformation

Garages, Driveways, and Yards







The landscape elements in front yards, particularly garages and driveways greatly affect the overall character of the lot. These elements strike the balance between the landscaping of the individual house and its contribution to the overall character of the street. Wide variations in these elements exist among the five neighborhood types described in Section B of this Pattern Book. There are also elements which unite them all.

Garages

The principal issues with garages are the size, location, and detailing for the doors, as well as garage additions that often overwhelm the scale and character of the house.

For houses on corner lots, the garage should be located in the rear yard, turned to face the side street, and set back to match the house setback. It is preferable to locate the garage so that the parking area in front of the garage is at least 18 feet inboard of the side street property line to prevent parked cars from encroaching into the public sidewalk. Corner lots are also good places for two- or three-car carriage houses incorporating small apartments above. Single-width garage doors up to 8 feet wide are recommended. Large double-width doors are not in keeping with the scale of houses. Paneled door styles appropriate to the style of the house should be used.

In many cases, there may be enough room to build up to a three-car garage in the rear yard of a relatively narrow lot. Access to the garage is typically from a narrow driveway, usually 8 to 9 feet wide, that slips along one side of the house.

A carriage porch, or carport, is often used to provide a drop-off at the house, as well as screen the back yard from the street. It is recommended that the garage be placed in the rear of the lot to provide turnaround space between the house and the garage.

If an attached garage is preferred, a one-car garage is recommended. This garage must be placed behind a line established at the intersection of a 45-degree line (cast on the ground plane from the front corner of the house) and the side setback or driveway line. This proportion creates garages that do not overburden the main body of the house. Attached two-car garage additions often appear wider than the house, which is not recommended.

Attached one-car garages should be treated as wing additions in terms of setback from the front of the house (45 degree rule noted above). Their architectural character should match that of the house.

Driveways

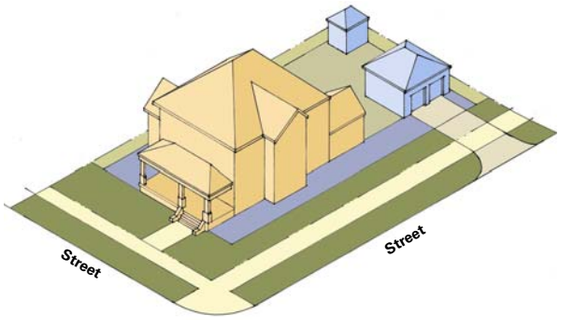
Driveways should be seen as landscape elements within the yard that enhance the beauty and setting of the house and garage, if present. As such, driveways should not be dominant elements on house lots. Whenever possible, porous, natural materials or special materials (stone, brick, crushed stone, or pebbles), should be used to blend in driveways with the surrounding yard or garden space. In particular, using large expanses of cement as a driveway material tends to detract from the character of the house. If cement is used, it should only be poured for the tire tracks, or for a single driveway that slips past the house as unnoticeably as possible.

Yards

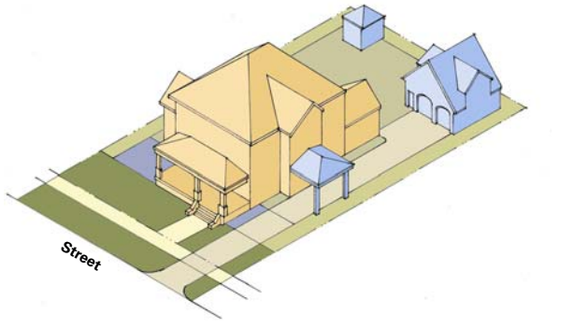
The gallery of photos illustrate some of the best practices in planting yards to make them inviting extensions of the private realm into the public realm and design of the streets and neighborhoods. For more information about appropriate plant materials and environmentally responsible landscape design, refer to the final section of this Pattern Book, Environmentally Responsible Landscape Design, which follows immediately.



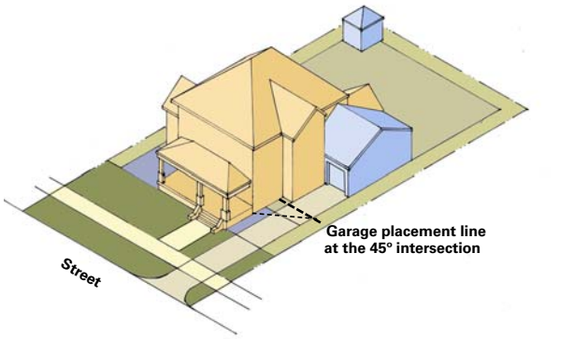




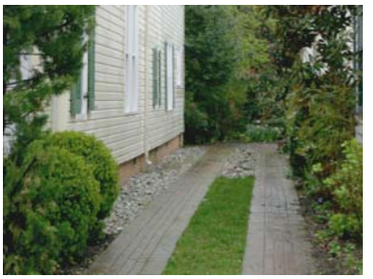
Ancillary structures include storage sheds and detached garages on a corner lot



A carriage porch or carport and a carriage house shown on a mid-block lot



An attached garage and a storage shed on a mid-block lot

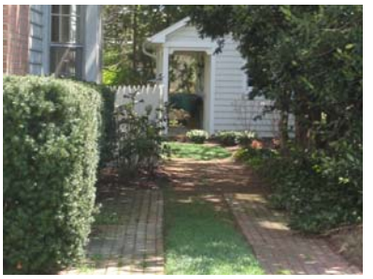








Garage and carriage house types



Driveway types





SECTION H

ENVIRONMENTALLY RESPONSIBLE LANDSCAPE DESIGN

The Eastern Shore of Maryland has wonderful watersheds, marshes, and wetlands, as well as agricultural lands between its various towns and villages. Denton's location along the Choptank River and within the Chesapeake Bay watershed of Maryland's Eastern Shore contributes strongly to the town's character and sense of place. How we as citizens relate to and interact with these resources – which are of economic value to our community – is critical in protecting and preserving them as assets of our town.

This section of the Pattern Book presents specific techniques for environmentally responsible landscape design. Overall, these techniques are intended to conserve water, reduce energy consumption, and lessen the impact on our streams, rivers and the Bay. In many cases, the techniques will also improve habitat and save the property owner time, energy and money in ongoing maintenance.

By applying these techniques to any new development, redevelopment, or redesign of existing residential landscape in Denton, we can each do our part to be responsible stewards of our precious resources. On the pages which follow, home owners, builders, developers, and landscape architects will find a series of readily implementable techniques from which to choose. We encourage you to use as many of these as possible for your particular project.

To further assist you in making environmentally responsible landscape design decisions, we've included a Plant Palette which identifies plant materials appropriate for use in Denton. Non-native and exotic plant materials are strongly discouraged as they typically require frequent watering, considerable maintenance, and have the potential to become invasive, crowding out native plant species and upsetting the ecological balance of the region. The section concludes with a Landscape Resources list to help you obtain additional information and assistance in adopting the techniques presented.

Strategies and Techniques

As a compact, mixed-use town, Denton, by its very nature, does its part to strike a balance between the man-made and natural environments. Denton is committed to promoting the widespread use of environmentally responsible, sustainable, landscape design practices in our community.

In the chart on this page, you'll find a number of specific techniques you can use to practice environmentally responsible landscape design around your home or for your development project. The techniques presented are by no means an exhaustive list of the possibilities. Rather, they are some of the most common and most easily implemented. Home owners, builders and developers are encouraged to incorporate as many of these techniques as possible in their particular realm.

Builders, developers and landscape architects should note that the State of Maryland requires that certain visionary elements be incorporated into all local plans. The information presented in this section responds to these three visionary elements contained in the State Comprehensive Planning Requirements:

- Sensitive areas are protected.
- Stewardship of the Chesapeake Bay and the land is a universal ethic.
- Conservation of resources, including a reduction in resource consumption, is practiced.

In addition, local and State development regulations and building codes establish minimum performance standards for land development and construction. The environmental design techniques presented in this section will assist you in achieving some of the goals and objectives set forth in the Denton Comprehensive Plan. The techniques also supplement the development and design standards in the Denton Zoning Ordinance and Subdivision Regulations.

SOME ENVIRONMENTALLY RESPONSIBLE LANDSCAPE DESIGN TECHNIQUES

Technique	Domestic Initiatives	Infill/ Redevelopment	Large-Scale Development
Use Native Plants and Materials	X	X	
Install a Rain Barrel	X	X	X
Establish a Rain Garden	X		
Make House More Energy Efficient	X	X	X
Reduce Impervious Surfaces		X	X
Environmentally Treat Stormwater		X	X
Utilize Surrounding Environment		X	
Plan Neighborhood Design			X
Design for Pedestrians			X

A Few Key Principles

Land Stewardship

Avoid environmentally sensitive sites and lands located in designated greenbelt areas.

Encourage selection of infill sites already served by existing infrastructure.

Design and construct buildings with minimal impact on the building lot.

Community and Neighborhood Character

Promote environmentally and socially responsible land development.

Minimize dependence on automobiles by encouraging patterns that allow for alternative means of transportation, such as walking, biking, and transit.

Encourage compact development patterns in order to use land efficiently and conserve natural lands.

Environmental Design

Install landscapes that minimize water demand.

Minimize erosion and run-off from sites.

Avoid use of poisons for insect and disease control.

Reduce local heat island effects by use of shading.











Use Native Plants, Grasses and Materials

Use plants, grasses and materials native to the region. When shopping for plant materials at a nursery, be sure to let them know you prefer to use native plants. They're naturally suited for this environment, reduce the need for chemical pesticides and herbicides, help control unwanted pests, can provide wildlife habitat, and typically save you time and money in the upkeep of your garden.

> Deep rooted plants, such as most trees, shrubs, and perennials make better use of rain water than typical lawn grasses, and so require less watering once established. These plants are also better at trapping and removing nitrogen and pollutants from rain water so that they are not released into nearby bodies of water.

Install a Rain Barrel

Relatively simple and inexpensive to construct, a rain barrel can sit conveniently under any residential gutter downspout, collecting and storing water from your roof for use when you need it most – during periods of drought – to water plants, wash your car, or top off a swimming pool.

Rain barrels help protect the environment and save money and energy by decreasing the demand for treated tap water. They provide home owners with an ample supply of free 'soft water' containing no chlorine, lime or calcium, making the water ideal for gardens, flower pots, and car and window washing. They also divert water from storm drains, decreasing the impact of runoff to streams and the Chesapeake Bay. A rain barrel is an easy way for you to 'Save the Bay' and have a consistent supply of clean, fresh water for outdoor use.

If the rain barrel is hooked to a drip irrigation system or used regularly, there should be little maintenance required. During drier months or with little use, the barrel may require seasonal cleaning.

> Installing a rain barrel will save most home owners about 1,300 gallons of water during peak summer months.

Establish a Rain Garden

A rain garden is a specifically designed landscaped area that allows rainwater to naturally collect and soak into the ground. Water can be directed to these gardens straight from rooftop downspouts, driveways and other paved areas. Rain gardens slow the rush of water from these hard surfaces, hold the water for a short period of time, and allow it to naturally infiltrate into the ground.

Rain gardens help filter runoff pollution, recharge local groundwater, conserve water, reduce the potential of house flooding, and create habitat for birds and butterflies. While they will need less maintenance than more manicured gardens, rain gardens are not completely maintenance-free. They will need to be weeded, cleaned-up, and re-mulched in the early spring and fall.

> Simple rain gardens are 3- to 6-inch-deep, saucer-shaped depressions. While rain garden dimensions vary, remember, any size rain garden is better than no rain garden at all.

Make Your House More Energy Efficient

Reduce your energy bills – and be kind to the environment at the same time – by making your house more energy efficient. There are many ways to save money and use less energy in your home. Some techniques need to be installed during the construction of the house, but many can be added at any time. Techniques include: selecting only those heating and cooling systems, insulation, windows, doors, and appliances that have high energy efficiency ratings; using solar panels and compact fluorescent light bulbs instead of traditional incandescent bulbs; making it a habit to turn off lights and computers when not in use; and applying water conservation methods.

While some of these techniques may cost a bit more upfront, they typically recoup that additional cost quickly as well as provide subsequent cost savings. For example, while compact fluorescent light bulbs cost more than traditional bulbs, they last for years and use a fraction of the energy. ENERGY STAR appliances also cost more upfront, but they enable home owners to quickly recoup that additional cost through higher energy efficiency and then provide the home owner with ongoing savings over the life of the appliances.

> If every household in the U.S. replaced one light bulb with an ENERGY STAR qualified compact fluorescent lamp (CFL), it would prevent enough pollution to equal removing one million cars from the road.
>
> Home owners can enjoy up to 40% energy savings from shade trees in the summer and pine trees in the winter that block cold winds.

Reduce Impervious Surfaces

Minimizing the amount of impervious surface will reduce peak discharge, total volume and the amount of stormwater that needs to be treated, help increase groundwater

recharge, lessen the disruption of the water cycle, improve site appearance, and may also save money by installing less pavement. To reduce impervious surfaces, make streets narrower, design for shared parking, incorporate compact car spaces and grassy sections in parking areas, and use surfaces for parking that allow water to infiltrate back to the ground before it would run off.

Although accommodating emergency vehicle width on the site is an important consideration for developers, many roads can be reduced from conventional standards and still allow for buses and emergency vehicles to travel safely. Permeable paving is not appropriate in soils with low permeability or high shrink-swell potential (for example, tight clay). Also, systems such as reinforced grass paving can only be used for low traffic volume areas.

Allowing rainwater to locally infiltrate through a permeable paving system can decrease the amount of runoff leaving the site by up to 90%, facilitate pollutant removal, help to control streambed and riverbank erosion, provide for ground water recharge, and create a more aesthetically pleasing landscape.

Environmentally Treat Stormwater

Incorporating non-structural techniques for treating rainwater from the site before it reaches the local stormwater system is a highly environmentally responsible method for removing pollutants and allowing water to infiltrate back into the ground instead of directing the water off-site to a stormwater drain. A variety of techniques – ranging from the very simple to more technical – can be used to accomplish this. Among them are landscaped bioretention areas with locally adapted plants, grass filter strips, and vegetated swales. Whatever techniques are employed, the goal is to design the project so that rainwater is directed into the natural treatment systems by the slope of the parking area, curb cuts, or downspouts. Conventional stormwater systems can still be used as a backup for large storm events, but should follow the non-structural treatments.

Utilize the Surrounding Environment

Taking advantage of existing building structures as well as community resources such as adjacent neighborhoods, parks, open space, sidewalks, and parking areas will enhance the environmental responsiveness and sensitivity of any project's design. This technique creates wonderful opportunities to repair past or avoid future environmental damage, stop pollutant loading and improve water quality, restore or preserve wildlife habitat and natural spaces and corridors, save money, utilize existing buildings, and provide community connections which make infill, redevelopment, or new development projects feel like an integral part of the community.

Carefully Plan the Neighborhood Design

When designing a new neighborhood, it's important to minimize its footprint, design for pedestrian movement throughout the community, and incorporate energy efficiency into the construction of all new buildings in order to minimize the impact of the new development on the environment. Concentrating houses and other structures on a smaller portion of land will allow most of the land to remain in its natural condition. This reduces clearing costs, creates more efficient street and utility patterns, maintains habitat and green infrastructure, maintains more pre-development hydrology conditions, and improves the overall appearance of the developed project. As open space is set aside, a clear plan for management and ownership of the land should be established (County, Land Trust or Homeowners Association).

When new residential or commercial development is grouped the result can minimize visual impact, preserve workable farmland, connect neighborhoods and other recreation areas through trails, and can provide vegetated buffers to reduce runoff and maintain water quality.

Design for Pedestrians

Designing for pedestrians means incorporating alternative transportation modes into the neighborhood, including bike and pedestrian pathways. It also requires that destinations such as schools, libraries and commercial areas be located within walking distance from residential areas. Some of the environmental benefits derived from making neighborhoods pedestrian-friendly include reduced vehicle emissions, improved air quality, health benefits to community residents, and a range of transportation choices. Pedestrian pathways must allow for the safe movement of pedestrians through an area including personal safety (lighting, access) in addition to safety from vehicular traffic (grass strips or parking lane between walkways and roads).

More Marylanders die each year from cardiovascular disease than from all forms of cancer, AIDS, suicide, and traffic injuries combined. According to the Centers for Disease Control and Prevention, moderate physical activity such as walking and bicycling offers substantial health benefits.











Plant Palette

General Class	Scientific name	Common Name	Soil Moisture	Sunlight	Height	Color	Bloom
Fern	Botrychium virginianum	rattlesnake fern	M/D	PS/SH	1.5 ft		
Fern	Osmunda regalis	royal fern	W/M	S/PS/SH	2–3 ft		
Grass	Carex pensylvanica	sedge	D	PS/SH	0.5–1.5 ft	R/W	May–Jun
Grass	Panicum virgatum	Virginia switchgrass	W/M	S	3–6 ft		Jul–Oct
Grass	Schizachyrium scoparium	little bluestem	D	S/PS	4 ft		Aug–Oct
Groundcover	Chrysogonum virginianum	green-and-gold	M/D	PS	1 ft	Y	Mar–Jun
Groundcover	Sedum ternatum	mountain stonecrop	M	PS/SH	1 ft	G/W	Apr
Herbaceous	Asclepias syriaca	common milk weed	D	S	6 ft	Pu	Jun–Aug
Herbaceous	Aster novae-angliae	New England aster	M/D	S/PS	6 ft	Pu	Sept–Oct
Herbaceous	Caltha palustris	marsh marigold	W/M	S/PS	1–2 ft	Y	Apr–Juny
Herbaceous	Chrysogonum virginianum	green-and-gold	M/D	PS	1 ft	Y	Mar–Jun
Herbaceous	Eupatorium dubium	Joe-Pye weed	W/M	S/PS	4–7 ft	Pu	Jul–Sep
Herbaceous	Eupatorium fistulosum	Joe-Pye weed	M/D	S/PS	1.5–6 ft	P	Jul–Sep
Herbaceous	Liatris spicata	*gayfreather, blazingstar*	W/M	S	3 ft	Pu	Aug–Oct
Herbaceous	Lobelia cardinalis	cardinal flower	W/M	S/PS	3 ft	R	Jul–Sep
Herbaceous	Polygonatum biflorum	Solomon's seal	M/D	PS/SH	0.5-2 ft	W	May–Jun
Herbaceous	Rudbeckia hirta	black-eyed Susan	M/D	S/PS	2 ft	Y	Jun–Oct
Herbaceous	Tradescantia virginiana	Virginia spiderwort	M	S/PS/SH	2–3 ft	Bl/Pu	Apr–Jun
Herbaceous	Trillium grandiflorum	white trillium	M	SH	1 ft	W	Apr–Jun
Tree small/medium	Asimina triloba	paw paw	M	S	39 ft	Y/R	Mar–Apr
Tree small/medium	Cornus florida	flowering dogwood	M/D	PS/SH	35–50 ft	W	Apr–May
Tree small/medium	Ilex opaca	American holly	M	S/PS	65 ft	W	May–Jun
Tree small/medium	Juniperus virginiana	eastern red cedar	M/D	S/PS	50 ft		Mar–Apr
Tree small/medium	Pyrus (Malus) coronaria	sweet crabapple	M	S	20–26 ft	P	Apr–May
Tree Tall (canopy)	Acer rubrum	red maple	W/M	S/PS	40–60 ft		
Tree Tall (canopy)	Betula nigra	river birch	W/M	S/PS	30–50 ft		
Tree Tall (canopy)	Fagus grandifolia	American beech	M	S/PS	50–100 ft		
Tree Tall (canopy)	Pinus taeda	loblolly pine	W/M	S	70–90 ft		
Tree Tall (canopy)	Pinus virginiana	Virginia pine	M/D	S	50–80 ft		
Tree Tall (canopy)	Quercus marilandica	blackjack oak	D	PS	50 ft		
Tree Tall (canopy)	Ulmus americana	American elm	M	S	100 ft		



Joe-Pye weed (Eupatorium dubium)



Green and gold groundcover
(Chrysogonum virginianum)



Black-eyed Susan (Rudbeckia hirta)



Virginia switchgrass (Panicum virgatum)



Sedg (Carex pensylvanica)



Little bluestem (Cchizachyrium scoparium)



American holly (Ilex opaca)



American beech
(Fagus grandifolia)



American elm
(Ulmus americana)



Eastern red cedar
(Juniperus virginiana)

Landscape Resources

The following partial list of landscape resources (developed by the Maryland Department of Natural Resources) provides a starting point for home owners in identifying appropriate strategies for landscaping and green building in their home improvement efforts. These resources augment the information provided in this Pattern Book and can assist you in implementing the techniques presented.

Use Native Plants

For information:
- Maryland Department of Natural Resources [www.dnr.maryland.gov/ed/landscape.html]
- US Fish and Wildlife's BayScaping Program [www.fws.gov/chesapeakebay/Bayscapes.htm]
- Alliance for the Chesapeake Bay's BayScaping Program [www.alliancechesbay.org/bayscapes.cfm]
- Maryland Native Plant Society [www.mdflora.org]

To purchase native species:
- Adkins Arboretum: Ridgely, MD [www.adkinsarboretum.org]
- Environmental Concern, Inc. : St. Michael's, MD [www.wetland.org]
- Eastern Shore Nurseries, Easton, MD [410/822-1320]
- Water's Edge Nursery: Federalsburg, MD [410/479-9037]
- Ed Collins' Greenhouses: Preston, MD [410/673-7361]
- John S. Ayton State Tree Nursery [www.dnr.state.md.us/forests/nursery]

Install A Rain Barrel

For information:
- Maryland Department of Natural Resources [http://www.dnr.state.md.us/ed/rainbarrel.html]
- Arlington Echo Outdoor Education Center [www.arlingtonecho.net/rainbarrel.htm]

To purchase a rainbarrel:
- Arlington Echo Outdoor Environmental Center [www.arlingtonecho.net/rainbarrel.htm]

How to make your own rain barrel:
- Maryland Department of Natural Resources [www.dnr.state.md.us/ed/rainbarrel.html]
- [www.rainbarrelsandmore.com]
- [www.composters.com]

Establish A Rain Garden

For information:
- The Rain Garden Network [www.raingardennetwork.com]
- Maryland Department of Natural Resources [www.dnr.state.md.us/ed/editorials/RainGarden-Final.pdf]
- Prince George's County Maryland [www.goprincegeorgescounty.com/pgcounty/government/agencyindex/der/ppd/lid/bioretention.asp]
- Weems Creek Conservancy [www.weemscreek.org/proj-mine-raingarden.html]

Make Your House More Energy Efficient

For information:
- Maryland Department of Natural Resources [www.dnr.state.md.us /ed]
- Maryland Energy Administration [www.energy.state.md.us]
- Energy Star [www.energystar.gov]

To purchase energy efficient materials:
- Most materials are available at your local hardware store or on the web

Reduce Imperivous Surfaces

For information on roadway and parking lot design:
- Boston Metropolitan Area Planning Council [www.mapc.org/regional_planning/LID/roadways_parking_lots.html]
- US Environmental Protection Agency [www.epa.gov/owow/nps/lid]

For information on permeable paving:
- Low Impact Development Center [www.lowimpactdevelopment.org/epa03/pavespec.htm] [www.lid-stormwater.net/permeable_pavers/permpavers_benefits.htm]
- Cahill Associates [www.thcahill.com/pub.html]
- Most permeable paving materials can be found at local suppliers using specs from the above mentioned websites.

Environmentally Treat Stormwater

For more general environmental design information:
- Maryland Department of the Environment [www.mde.state.md.us/assets/document/chapter5.pdf]
- Maryland Department of Natural Resources [www.dnr.state.md.us/ed]
- Boston Metropolitan Area Planning Council [www.mapc.org/LID.html]
- Low Impact Development Center [www.lowimpactdevelopment.org]
- Center for Watershed Protection [www.cwp.org]
- Most commerical design and construction firms are versed in these techniques.

For more information on bioretention areas:
- Boston Metropolitan Area Planning Council [www.mapc.org/LID.html]
- US Environmental Protection Agency [www.cwp.org/Downloads/ELC_PWP110.pdf]
- Low Impact Development Center [www.lowimpactdevelopment.org/epa03/biospec.htm]
- Federal Highway Agency [www.fhwa.dot.gov/environment.ultraurb/3fs3.htm]

For more information on grass filter strips:
- Boston Metropolitan Area Planning Council [www.mapc.org/regional_planning/LID/grass_strip_filters.html]
- Stormwater Managers Resource Center, operated by the Center for Watershed Protection [www.stormwatercenter.net (select Fact Sheets; Stormwater Management; scroll down to Stormwater Management Practices; select Grassed Filter Strip from pulldown menu)]
- The Maryland Stormwater Design Manual www.mde.state.md.us/assets/document/chapter5.pdf

For more information on vegetated swales:
- Environmental Protection Agency [www.epa.gov/owmitnet/mbt/vegswale.pdf]
- Boston Metropolitan Area Planning Council [www.mapc.org/regional_planning/LID/swales.html]
- Low Impact Development Center [www.lowimpactdevelopment.org/epa03/LIDrans/L07_Swales.pdf]

Utilize Surrounding Environment

For information:
- Maryland Department of Planning [www.mdp.state.md.us]
- Urban Land Institute [www.uli.org]

Design for Pedestrians

For more information:
- The International City/County Management Association [www.icma.org/main/topic.asp?tpid=31&hsid=1]
- Fact Sheet on Design for Biking and Walking [www.icma.org/upload/library/2004-04/{1E040E8A-4A45-4BC0-B560-07D8BD2CE6D1}.pdf]
- Walkable Communities, Inc. [www.walkable.org]
- Healthy U of Delmarva [www.healthyudelmarva.org]

Glossary of Terms

Architectural Vocabulary A collection of related architectural elements, materials or stylistic conventions used to describe a building or structure.

Architrave The lowest part of an entablature, sometimes used by itself.

Backband A rabbeted molding applied to the outside perimeter of window and door casing to create a thicker appearance.

Balustrade An entire railing system including a top rail, balusters, and often a bottom rail.

Bioretention A water quality practice that utilizes landscaping and soils to treat stormwater runoff by collecting it before filtering through a fabricated planting soil media.

Boxed Eave (boxed cornice) A hollow eave enclosed by the roofing, the soffit and the building wall.

Brickmold Window or door trim, typically 2 inches wide.

Carriage Porch A roofed structure over a driveway at the door to a building, protecting those entering or leaving a vehicle from the weather.

Cartway That part of a road or street that is reserved for unimpeded vehicular travel.

Casement A window sash which swings open along its entire length; usually on hinges fixed to the sides.

Colonial Revival In the U.S. in the late nineteenth and early twentieth centuries, style utilizing American Georgian and colonial design.

Common Bond Brick masonry bond pattern of one course of headers to every three to five stretcher-courses.

Corner Board A board which is used as trim on the external corner of a wood-frame structure.

Cornice An ornamental molding at the meeting of the roof and walls; usually consists of bed molding, soffit, fascia, and crown molding.

Dentil One of a band of small, square, tooth-like blocks forming part of the characteristic ornamentation of some classical orders.

Encroachments Permitted intrusion into required setbacks.

Entablature In classical architecture, the elaborated beam member carried by the columns, horizontally divided into architrave, frieze, and cornice.

Facade Zone Designated area for the principal front and/or side face of a structure.

Fascia Generally, the vertical band or member that terminates a roof at the eave.

Filter Strips A vegetated area that treats ground water flow by removing sediment and other pollutants.

Frieze The middle horizontal member of a classical entablature, above the architrave and below the cornice.

Front Yard Setback Minimum distance between the front property line and the Front Facade Zone.

Gable The vertical triangular portion of the end of a building having a double-sloping roof, from the level of the cornice or eaves to the ridge of the roof.

Gable L Describes the massing of a house having a hipped roof with a projecting gable form at the front, typically two-thirds the width of the facade.

Gable Roof A roof having a gable at one or both ends.

Gambrel Roof A ridged roof with two slopes on each side, the lower slope having the steeper pitch.

Georgian Colonial The Classically-inspired architecture of the British colonies in North America; monumental, symmetrical, and richly decorated.

Hipped Roof A roof that slopes upward from all four sides of a building, requiring a hip rafter at each corner.

Impervious/Impermeable Material which prevents the infiltration or passage of liquid through it; any surface in the urban landscape that cannot effectively absorb or infiltrate rainfall.

Ionic Order The classical order of architecture characterized by its capital with large volutes, a fasciated entablature, continuous frieze, usually dentils in the cornice, and by its elegant detailing.

Knee wall Short, vertical partition wall that closes off the low space created by a sloping ceiling and the floor.

Light A pane of glass, a window or a subdivision of a window.

Lintel A horizontal structural member (such as a beam) over an opening which carries the weight of the wall above it.

Louver An assembly of sloping, overlapping blades or slats designed to admit air and/or light and exclude rain and snow.

Mullion and Muntin The vertical and horizontal members separating (and often supporting) windows, doors, or panels set in series.

Ogee Curve A double curve resembling an S-shape.

Pediment In classical architecture, the triangular gable end of the roof above the horizontal cornice. Also, a surface used ornamentally over doors or windows.

Pilaster An engaged pier or pillar, often with capital and base.

Porte cochère Large doorway that permits wheeled vehicles to enter from the street; also a carriage porch.

Portico A porch or covered walk consisting of a roof supported by columns; a colonnaded porch.

Private Zone Designated area of the lot between the Facade Zone(s) and Setbacks.

Rafter Tails A rafter, bracket, or joist which projects beyond the side of a building and supports an overhanging portion of the roof.

Rain Barrel A barrel that has been outfitted as a temporary storage container, connected to a roof downspout, typically including a hose attachment to allow for reuse of rooftop runoff.

RearYard Setback Minimum distance between the rear property line and the Private Zone.

Retention The amount of precipitation on a drainage area that does not escape as runoff. It is the difference between total precipitation and total runoff.

Roof Pitch The slope of a roof expressed as a ratio of its vertical rise to its horizontal span.

Sash Any framework of a window. May be movable or fixed; may slide in a vertical plane or pivoted.

Shed Dormer A dormer window whose eave line is parallel to the eave line of the main roof instead of being gabled.

Shed Roof A roof shape having only one sloping plane.

Side Gable Describes the massing of a house having the gable end (or roof ridgeline) perpendicular to the street.

Side Street Setback Minimum distance between the side street property line and the Side Yard Facade Zone.

SideYard Setback Minimum distance between the side yard property line and the buildable area.

Simulated Divided Light Refers to a light in a window sash that is visually subdivided by applied muntins that simulates a true divided sash.

Skirt Board A board set horizontally at the bottom of wall cladding.

Soffit The exposed undersurface of any overhead component of a building, such as a beam, cornice, lintel, or vault.

Stile-and-rail Type of door construction that utilizes a framework of vertical and horizontal members infilled with panels.

Swale An open drainage channel or depression, frequently covered with vegetation, designed to detain and promote the filtration of stormwater runoff.

Tongue-and-groove Method of joining materials, usually wood, where a tongue or projection in one board fits the groove of its neighbor.

Transom A horizontal bar of wood or stone across a window. Also the window or opening above the transom bar.

Verge The edge projecting over the gable of a roof. Also, the area of planting, lawn or pavement between the sidewalk and the curb on a street.

Vergeboard An ornamental board hanging from the rake, or verge, of a gable roof; also barge board.

Vernacular Architecture A mode of building based on indigenous forms and materials.

Vocabulary (also Architectural Vocabulary) A collection of related architectural elements, materials or stylistic conventions used to describe a building or structure.

Watershed The topographic boundary within which water drains into a particular river, stream, wetland, or body of water.

Wing a subsidiary part of a building extending out from the main portion or body.

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A Pattern Book History

All across this country, in small towns, large cities, villages and hamlets, you will find remarkably beautiful traditional neighborhoods. Denton is no exception. These collections of houses were designed and grouped together to create a series of neighborhood streets and spaces of remarkable charm and character. Much though we admire the variety and individuality of these houses, we are most struck by the way in which each individual house and public building relates to its neighbors and the consistently high design standards followed by all. There is never a discordant or incorrect house.

Initially, houses and towns were built on the frontier of the wilderness, often far removed from civilization. The rapid growth of our country resulted in a series of building booms, in which thousands of houses were built each decade in each community. And yet, the results of this mass production were carefully crafted houses in a variety of architectural styles, all with superb proportions and ornament. Windows, doors, roof forms, and porches followed complex and sophisticated design principles and patterns.

How was such a sophisticated level of design maintained across so wide a geographic area and for nearly 150 years? There were certainly not enough architects to design each of the houses. Architects did, however, contribute designs and principles to the building industry in a series of builders' handbooks known as Pattern Books. These books contained the principles and key details for a variety of architectural styles. They were the direct descendants of books created since Roman times, the means by which architects have passed along their knowledge of design to builders in remote places. From Vitruvius, to Palladio, to Asher Benjamin, to William Ware, architects provided helpful guides for the building industry.

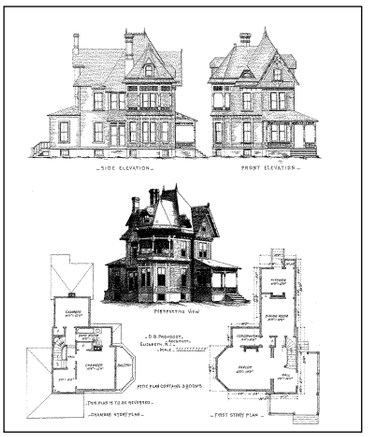
In the second half of the nineteenth century, Pattern Books became part of builders' marketing programs. These attractively designed books were easy to understand. Their pages combined realistic drawings of houses along with floor plans and important details. There were many choices of floor plans and arrangements of architectural elements, but all used the details and proportions of the style.

Pattern Books set the rules, but each builder found ways of interpreting them, elaborating them, or even bending them. The result is the much-admired balance between individual expression and unity found in traditional neighborhoods. The patterns and elements of style were expressed differently in each region and often elements were 'cross-bred' across different styles. They represented a consensus among architects, builders, realtors, and home buyers on the way to design buildings and communities. Later on in the early and mid portions of the twentieth century, mail order houses were enormously popular. Companies such as Sears, Alladin, Standard Homes Company, and others, created volumes of varied house designs available directly to consumers.

A PATTERN BOOK REVIVAL

Our goal in reviving the Pattern Book tradition is to help builders, home owners and architects understand the elements and principles of design that help create the distinct character and image of each distinct tradition.

Urban Design Associates (UDA) Pattern Books are designed as a 'kit of parts,' with a great deal of flexibility for the designers and builders who use them.



This example of Pattern Book pages originally published by William T. Comstock in 1881 is typical of the books used by American builders through the early part of the twentieth century.

Key construction and proportioning details were illustrated and described in a popular nineteenth-century builder's reference entitled *The Builder's Companion,* by Asher Benjamin (example below).

