TRILLIUM ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

Roosevelt Trail Site Redevelopment
Major Site Plan Review Application

Date Issued: July 16, 2025

Project Title: Roosevelt Trail – Site Redevelopment

Owner: York Enterprise Park, LLC

Site Location: 4 Roosevelt Trail Windham, ME 04062

TRILLIUM ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

Attachments

A. Cover Letter/Narrative
B. Response to Comments Narrative
C. Application
D. District Design Standard Checklist
E. Agent Authorization Letter
F. Abutters List
G. Deed
H. LLC Docs
I. Technical Capability
J. Financial Capacity
K. Estimated Demands (Water)
L. Ability to Serve Letters (TBS)
M. Wastewater Design Docs
N. Site Lighting/Architectural Detail Sheets
O. Traffic Narrative
P. Stormwater Report
Q. Site Plans

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

A. Cover Letter/Narrative

TRILLIUM ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

July 16, 2025

Windham Town Hall
8 School Rd
Windham, ME 04062

Re: **Roosevelt Trail Site Redevelopment**
Project Narrative – Revised for 7/16 Submission

Dear Planning:

Trillium Engineering Group is pleased to provide this project narrative for the Roosevelt Trail Site Redevelopment Major Site Plan Review Application. This project proposes 2 new, approximately 7,085 SF, contractor services buildings, each with 7 units. Along with proposed buildings, the site also includes a paved drive and parking areas along with other site alterations located at the 4 Roosevelt Trail (Tax Map 7, Lot 1) portion of the project. The proposed units and site alterations, which includes 12 Roosevelt Trail (Lot 3E), has an overall decrease in impervious area from 118,294 SF to 95,808 SF, an approximate decrease of 19.0%. See the stormwater report for more detail regarding the specific breakdown of areas. Please see the attached documentation, the below responses to the application criteria, and site plans for more information.

Submission Requirements:

A. *Completed Major Site Plan Application Form*

- Response: See attached Application.

B. *Evidence of Payment of application & escrow fees*

- Response: Payment has been submitted in the form of a check. See scanned check for confirmation.

C. *Written Information – submitted in a bounded and tabbed report*

1. *A narrative describing the proposed use or activity*

   - Response: As previously stated, the proposed use is contractor services with two contractor service buildings proposed.

2. *Name, address, & phone number of record owner, and applicant if different*

   - Response: See application for owner information and attached agent authorization letter.

3. *Names and addresses of all abutting property owners*

   - Response: See attached Abutters List.

4. *Documentation demonstrating right, title, or interest in the property*

   - Response: See attached Deeds.

TRILLIUM ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

5. *Copies of existing proposed covenants or deed restrictions*

   - Response: N/A

6. *Copies of existing or proposed easements on the property*

   - Response: There are easements described in the deed for 4 Roosevelt Trail that benefit 12 Roosevelt Trail. See both 12 and 4 Roosevelt Trail deeds attached within the revised application package.

7. *Name, registration number, and seal of the licensed professional who prepared the plan, if applicable.*

   - Response: See attached site plans.

8. *Evidence of applicant's technical capability to carry out the project*

   - Response: See attached technical capability letter.

9. *Assessment of the adequacy of any existing sewer and water mains, culverts and drains, on-site sewage disposal systems, wells, underground tanks or installation, and power and telephone lines and poles on the property.*

   - Response: All on-site utilities, etc. can be found on the attached site plans.

10. *Estimated demands for water and sewage disposal.*

    - Response: The project proposes the use of an on-site septic tank system for the disposal of sewage.

      For water demand, with the proposed 14 bathrooms, each consisting of 1 toilet and 1 sink/faucet, based off a template received by Portland Water District which was "adapted from 2009 Maine State Internal Plumbing Code", the approximate increased demand is as follows. Fixture count: (14) "Bathroom Sink" and (14) "Toilet – Tank Type". See attached spreadsheet that was submitted to the Portland Water District for their review of ability to serve.

11. *Provisions for handling all solid wastes, including hazardous and special wastes.*

    - Response: All solid wastes generated by the proposed project will be handled by a contracted service with dumpster(s).

12. *Detail Sheets of proposed light fixtures*

    - Response: Light fixtures to be building-mounted lighting with cut-offs to meet requirements. See attached detail sheets for lighting fixtures.

13. *Listing of proposed trees or shrubs to be used for landscaping.*

    - Response: See attached landscaping drawing

14. *Estimate weekday AM and PM and Saturday peak hours and daily traffic to be generated by the project.*

TRILLIUM ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

- Response: See attached Traffic Narrative.

15. *Description of important or unique natural areas and site features, including floodplains, deer wintering areas, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants*

    - Response: The site features wetland areas which are being avoided, no significant habitats, fisheries, etc.

16. *If the project requires a stormwater permit from MaineDEP or if the Planning Board or if the Staff Review Committee determines that such information is required, submit the following…*

    - Response: See attached Stormwater Report.

17. *If public water or sewage will be utilized, provide a statement from the utility district regarding the adequacy of water supply in terms of quantity and pressure for both domestic and fire flows, and the capacity of the sewer system to accommodate additional wastewater.*

    - Response: As previously stated, the sewer system will be private, on-site, and the Portland Water District has been notified, and we are currently awaiting a response.

18. *Financial Capacity*

    - Response: See attached letter of financial capacity.

19. *Technical Capacity*

    - *Response: See attached technical capacity letter.*

<u>Required & 8 (Additionally Met) Commercial District Design Standards for C-3</u>

A. *Architecture/Building*
   1. Building Style: See architectural documents for building style.
   2. Materials: See architectural documents for material selection.
   3. Color: See architectural documents for color selection.
   4. Roofline: See architectural documents for roofline detail.
   5. Façade: See architectural documents for façade detail.
   6. Building style coordination (multi-building): See architectural documents for building style coordination with the two proposed buildings.
   7. Entrance: See architectural documents for entrance detail.
   8. Architectural Details: See architectural documents.

B. *Site/Parking*
   1. Parking Location: See civil site plans for proposed parking lot location.
   2. Internal Traffic Flow: See civil site plans for proposed parking lot configuration with dimensioned drive aisle.
   3. Interconnected Parking lots: see civil site plans for proposed parking lot configuration which connects 4 Roosevelt parking lot to 12 Roosevelt parking lot, allowing for access between the two lots.

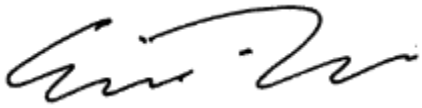
189 Main Street, Suite 200
Yarmouth, ME 04096

4. Orientation of Building: See civil site plans and landscaping plans for proposed location and orientation of the proposed buildings.

C. *Landscaping/Lighting*
1. Lighting/Photometric Plan: See lighting details along with photometric plan.
2. Lighting coordinated with architecture: see photometric plan for how lighting is coordinated with architecture.
3. Light coordinated with landscaping: See photometric plan and landscaping plans showing no interference with proposed lighting and proposed landscaping.
4. Existing trees preserved: See civil site plans for existing tree line preservation boundaries labeled (tree clearing limits).
5. Snow area designated: See civil site plans for snow storage area(s) labeled.
6. Planting Variety: See landscaping plan for planting variety.

Thank you for taking the time to review this. Should you have any further questions or require any additional information, please do not hesitate to ask.

Sincerely



Eric Dube, PE
Trillium Engineering Group

189 Main Street, Suite 200
Yarmouth, ME 04096

June 30, 2025

Windham Town Hall
8 School Rd
Windham, ME 04062

Re: Roosevelt Trail Site Redevelopment
Project Narrative – Revised for 6/30 Submission

Dear Planning:

Trillium Engineering Group is pleased to provide this project narrative for the Roosevelt Trail Site Redevelopment Major Site Plan Review Application. This project proposes 2 new, approximately 7,085 SF, contractor services buildings, each with 7 units. Along with proposed buildings, the site also includes a paved drive and parking areas along with other site alterations located at the 4 Roosevelt Trail (Tax Map 7, Lot 1) portion of the project. The proposed units and site alterations, which includes 12 Roosevelt Trail (Lot 3E), has an overall decrease in impervious area from 118,294 SF to 95,808 SF, an approximate decrease of 19.0%. See the stormwater report for more detail regarding the specific breakdown of areas. Please see the attached documentation, the below responses to the application criteria, and site plans for more information.

Submission Requirements:

A. *Completed Major Site Plan Application Form*

- Response: See attached Application.

B. *Evidence of Payment of application & escrow fees*

- Response: Payment has been submitted in the form of a check. See scanned check for confirmation.

C. *Written Information – submitted in a bounded and tabbed report*

1. *A narrative describing the proposed use or activity*

   - Response: As previously stated, the proposed use is contractor services with two contractor service buildings proposed.

2. *Name, address, & phone number of record owner, and applicant if different*

   - Response: See application for owner information and attached agent authorization letter.

3. *Names and addresses of all abutting property owners*

   - Response: See attached Abutters List.

4. *Documentation demonstrating right, title, or interest in the property*

   - Response: See attached Deeds.

TRILLIUM ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

5. *Copies of existing proposed covenants or deed restrictions*

   - Response: N/A

6. *Copies of existing or proposed easements on the property*

   - Response: There are easements described in the deed for 4 Roosevelt Trail that benefit 12 Roosevelt Trail. See both 12 and 4 Roosevelt Trail deeds attached within the revised application package.

7. *Name, registration number, and seal of the licensed professional who prepared the plan, if applicable.*

   - Response: See attached site plans.

8. *Evidence of applicant's technical capability to carry out the project*

   - Response: See attached technical capability letter.

9. *Assessment of the adequacy of any existing sewer and water mains, culverts and drains, on-site sewage disposal systems, wells, underground tanks or installation, and power and telephone lines and poles on the property.*

   - Response: All on-site utilities, etc. can be found on the attached site plans.

10. *Estimated demands for water and sewage disposal.*

    - Response: The project proposes the use of an on-site septic tank system for the disposal of sewage.

      For water demand, with the proposed 14 bathrooms, each consisting of 1 toilet and 1 sink/faucet, based off a template received by Portland Water District which was "adapted from 2009 Maine State Internal Plumbing Code", the approximate increased demand is as follows. Fixture count: (14) "Bathroom Sink" and (14) "Toilet – Tank Type". See attached spreadsheet that was submitted to the Portland Water District for their review of ability to serve.

11. *Provisions for handling all solid wastes, including hazardous and special wastes.*

    - Response: All solid wastes generated by the proposed project will be handled by a contracted service with dumpster(s).

12. *Detail Sheets of proposed light fixtures*

    - Response: Light fixtures to be building-mounted lighting with cut-offs to meet requirements. See attached detail sheets for lighting fixtures.

13. *Listing of proposed trees or shrubs to be used for landscaping.*

    - Response: See attached landscaping drawing

14. *Estimate weekday AM and PM and Saturday peak hours and daily traffic to be generated by the project.*

TRILLIUM ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

- Response: See attached Traffic Narrative.

15. *Description of important or unique natural areas and site features, including floodplains, deer wintering areas, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants*

    - Response: The site features wetland areas which are being avoided, no significant habitats, fisheries, etc.

16. *If the project requires a stormwater permit from MaineDEP or if the Planning Board or if the Staff Review Committee determines that such information is required, submit the following…*

    - Response: See attached Stormwater Report.

17. *If public water or sewage will be utilized, provide a statement from the utility district regarding the adequacy of water supply in terms of quantity and pressure for both domestic and fire flows, and the capacity of the sewer system to accommodate additional wastewater.*

    - Response: As previously stated, the sewer system will be private, on-site, and the Portland Water District has been notified, and we are currently awaiting a response.

18. *Financial Capacity*

    - Response: See attached letter of financial capacity.

19. *Technical Capacity*

    - *Response: See attached technical capacity letter.*

<u>Required Commercial District Design Standards for C-3</u>

A. *Architecture/Building*
   1. Building Style: See architectural documents for building style.
   2. Materials: See architectural documents for material selection.
   3. Color: See architectural documents for color selection.
   4. Roofline: See architectural documents for roofline detail.
   5. Façade: See architectural documents for façade detail.
   6. Building style coordination (multi-building): See architectural documents for building style coordination with the two proposed buildings.
   7. Entrance: See architectural documents for entrance detail.
   8. Architectural Details: See architectural documents.

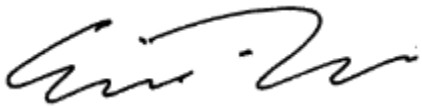
B. *Site/Parking*
   1. This section is N/A for C-3.

C. *Landscaping/Lighting*
   4. Existing trees preserved: See site plans for existing tree line preservation boundaries labeled (tree clearing limits).
   5. Snow area designated: See site plans for snow storage area(s) labeled.

189 Main Street, Suite 200
Yarmouth, ME 04096

Thank you for taking the time to review this. Should you have any further questions or require any additional information, please do not hesitate to ask.

Sincerely



Eric Dube, PE
Trillium Engineering Group

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

B. Response to Comments Narrative

TRILLIUM ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

July 15, 2025

WindhamTown Hall
8 School Road
Windham, ME 04062

Re: **Roosevelt Trail – Proposed Redevelopment**
Response to 7/2 Staff Review & Engineer Comments

Dear Planning/Staff Reviewers:

Trillium Engineering Group is providing this response to the staff review & engineer comments and completeness check originally received from Town Planner Amanda Lessard via email on July 2nd, 2025. Please see all updated material, plans, etc. and the below responses to the received comments.

Final Site Plan Application Completeness:

1. Section: *120-811B(1)(c) Written Information*

   Overview/Comment [1]:
   - *Existing or proposed easements on the property. Provide draft reciprocal cross-travel access easements for the common travel ways through the two project parcels.*

   Response:
   - This is in process for submittal to planning

   Overview/Comment [2]:
   - *The total cost of the development is included in letter of commitment from Camden National Bank. Provide an itemized list of the estimated major expenses.*

   Response:
   - See submitted itemized list of estimated major expenses.

2. Section: *120-811B(1)(d)[2] Plan Information. Proposed Development Activity.*

   Overview/Comment [1]:
   - *The location and dimensions of all provisions for wastewater disposal, and evidence of their adequacy for the proposed use, including soils test pit data if on-site sewage disposal is proposed. Provide an HHE-200 completed by a licensed site evaluator.*

   Response:
   - See "Septic Design Docs" section, Site Plan Sheet C103 & Detail Sheet C201 for wastewater disposal information.

   Overview/Comment [2]:
   - *Show* the location of wastewater disposal system to be installed on the site.

   Response:
   - See Site Plan Sheet C103 for proposed septic locations.

3. Section: *120-811B(2)(g) GIS Data*

   Overview/Comment [1]:
   - *Provide GIS data of the site plan information*

   Response:
   - GIS data has been provided to the Town in the form of a .SHP file.

4. Section: *120-813 Commercial District Design Standards Checklist*

   Overview/Comment [1]:
   - *Complete Section 120-813 Commercial District Design Standards Checklist and provide a*

TRILLIUM ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

narrative of project compliance with standards.

Response:

- The district standards, along with the 8 other designs standards under "Architecture/Building" were addressed in the previous submission on June 30th, 2025. Please see the submitted checklist and project narrative addressing the project compliance with said standards. Also, see the architectural plans outlining the required district design standards are met.

Staff Review/Planning Comments:

1. Overview/Comment [1]:
   - *Provide estimated traffic for existing uses at 12 Roosevelt Trail and quantify cumulative traffic impacts of both properties.*

   Response:
   - See updated traffic narrative that takes the existing demand of 12 Roosevelt into account in the proposed traffic condition.

2. Overview/Comment [2]:
   - *Landscape Plan should include 12 Roosevelt Trail. This parcel should show the required landscape buffer (15 feet) in the area labeled "Loam and Seed" as this area was revegetated by the applicant.*

   Response:
   - See the updated landscaping plans attached to this response.

3. Overview/Comment:
   - *Recommended Conditions of Approval*

   Response:
   - No response needed.

Engineering Review Comments:

1. Section: *120-812 E – Stormwater Management*

   Overview/Comment [1]:
   - *Provide Pre- and Post-Development Drainage Area Maps have striped hatching to indicate the subcatchment areas. We recommend that the hatching be made solid and transparent (or removed) to allow the existing and proposed linework below the subcatchments to be more visible.*

   Response:
   - See revised drawings for better clarity.

   Overview/Comment [2]:
   - *The Pre-Development Drainage Area Map does not show existing grade contours. To minimize our review time, we recommend that existing contours be turned on and time of concentration flow paths be shown on this plan.*

   Response:
   - See revised drawings for existing contours.

   Overview/Comment [3]:
   - *We recommend the proposed contours be better defined on the Post-Development Drainage Area Map so we can understand and confirm the proposed drainage subcatchments.*

   Response:
   - See revised drawings for better clarity/definition.

   Overview/Comment [4]:
   - *The stormwater BMP's as modeled in HydroCAD appear to detain, retain, or result in the infiltration of stormwater from the 24-hour, 2-, 10-, and 25-year storms such that the post-development peak flows do not exceed the pre-development peak flows.*

Response:
- Correct, no response needed.

Overview/Comment [5]:
- *Provide stormwater quality treatment calculations and BMP sizing calculations in accordance with the General Standards of MaineDEP's Chapter 500.*

Response:
- The proposed project site reduces the overall impervious area by 22, 486 sq. ft. therefore treatment is not required for the project. Due to the sensitive water body that we are draining to, we are providing stormwater buffers for the project. Because we are reducing the overall impervious area for the project we are not required to meet Chapter 500 General Standards.

Overview/Comment [6]:
- *The project is located within the watershed of Highland Lake, which is identified as a lake most at risk from new development (not severely blooming) in MaineDEP's Chapter 502. Under Section 4.D.(1).(a) of Chapter 500, the General Standards may be used if the lake is not severely blooming and if the project results in less than 3 acres of impervious area and less than 5 acres of developed area. Our understanding is the Phosphorus Standard will be met by fulfilling the General Standards due to the project creating less than 3 acres of impervious area and less than 5 acres of developed area within the watershed of a non- severely blooming lake most at risk. At the time of this review, the Applicant has not yet demonstrated that the project meets the General Standards.*

Response:
- Please see response above for clarification.

Overview/Comment [7]:
- *Has the condition of the corrugated metal culverts at the entrance on Roosevelt Trail been evaluated? We recommend replacing the culverts with HDPE culverts to prevent failure due to corrosion.*

Response:
- A note has been added to replace w/ HDPE culverts, see revised drawings.

Overview/Comment [8]:
- *Provide/show stable outlet locations for the roof drip strip filters.*

Response:
- See revised drawings for locations.

Overview/Comment [9]:
- *Add a note to the Proposed Site Plan stating, "Meadow buffers shall be maintained as a meadow with a generally tall stand of grass, not as a lawn. The meadow buffers shall not be mown more than twice per calendar year.", or something similar.*

Response:
- See revised drawing C103 for note #13 addressing this comment.

Overview/Comment [10]:
- *Provide a Post-Construction Stormwater Management Infrastructure Inspection and Maintenance Plan that is consistent with Appendix B of MaineDEP's Chapter 500.*

Response:
- We are working on the Inspection and Maintenance plan for the stormwater buffers.

2. Section: *120-812 F – Erosion Control*

Overview/Comment [1]:
- *Provide stabilized construction entrances where the site will be accessed during construction. Provide a detail for the stabilized construction entrance.*

Response:
- See updated drawings for location of stabilized construction entrance and C201 for detail.

3. Section: *120-812 H – Sewage Disposal*

Overview/Comment [1]:
- *The Applicant proposes to utilize on-site wastewater disposal as there does not appear to be a*

TRILLIUM ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

public collection system within 100-feet of the lot. A soil suitability study shall be conducted by a certified professional, and preliminary HHE-200 forms shall be prepared for the proposed disposal system. The proposed disposal system shall meet all standards outlined in the latest edition of the Maine Subsurface Wastewater Disposal Rules.

Response:

- See "Septic Design Docs" section, Site Plan Sheet C103 & Detail Sheet C201 for wastewater disposal information.

Overview/Comment [2]:

- *A conceptual wastewater disposal field area shall be shown on the Proposed Site Plan (Sheet C103).*

Response:

- See updated site drawings showing the disposal fields.

4. Section: *120-812 J – Groundwater Protection*

Overview/Comment [1]:

- *Provide the wastewater design flow that is proposed to be disposed of on-site.*

Response:

- See "Septic Design Docs" section, Site Plan Sheet C103 & Detail Sheet C201 for wastewater disposal information, including design flow within the HHE-200 form.

5. Section: *120-812 K – Water Quality*

Overview/Comment [1]:

- *The project does not appear to discharge any treated, untreated, or inadequately treated liquid, gaseous, or solid materials into the environment.*

Response:

- Correct, no response needed.

Overview/Comment [2]:

- *Further review of the wastewater disposal system is required upon completion of the preliminary designs.*

Response:

- See wastewater documentation.

Thank you for taking the time to review this. Should you have any further questions or require any additional information, please do not hesitate to ask.

Sincerely,

Kyle Berwick
Trillium Engineering Group

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

C. Application

Town of Windham
Planning Department:
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916 -
www.windhammaine.us

MAJOR SITE PLAN REVIEW APPLICATION

FEES FOR MAJOR SITE PLAN REVIEW	**APPLICATION FEE:** (No Bldg.) (W/Bldg.: $25/1,000 SF up to 5,000 SF) **REVIEW ESCROW: (GFA)** 2,000 SF - 5,000 SF = $2,000 5,000 SF - 15,000 SF = $3,000 15,000 SF - 35,000 SF = $4,000 Over 35,000 SF = $5,000 No Building = $2,000	☑ $1,3000.00 ☑ $230.00 ☐ $ ☐ $3,000.00 ☐ $ ☐ $ ☐ $	**TOTAL AMOUNT PAID:** $ DATE: *Office Use:*	
☐ **Amended Site Plan – (Each Revision)**	**AMENDED APPLICATION FEE:** **AMENDED REVIEW ESCROW:**	☐ $350.00 ☐ $250.00		*Office Stamp:*	

PROPERTY DESCRIPTION	**Parcel Information:**	**Map(s):** 7	**Lot(s):** 3-E , 1	**Zoning District(s):**	C-3	**Size of the Parcel in SF:**	141,105 (3-E) 183,388 (1)
	Total Disturbance. >1Ac	☑ Y ☐ N	**Estimated. Building SF:** 6,573 (3-E) - Existing 14,200 (1)	**IF NO BUILDING; Estimated SF of Total Development:**			
	Physical Address:	4 Roosevelt Trail, Windham ME 04062		**Watershed:**	Highland Lake		
PROPERTY OWNER'S INFORMATION	**Name:**	Robert York		**Name of the Business:**	York Enterprise Park, LLC		
	Phone:	(207) 310-8339		**Mailing Address:**			
	Fax or Cell:						
	Email:	roblyork111@yahoo.com					
APPLICANT'S INFORMATION (*IF DIFFERENT FROM OWNER*)	**Name:**	See Owner Info		**Name of Business:**			
	Phone			**Mailing Address:**			
	Fax or Cell						
	Email:						
APPLICANT'S AGENT INFORMATION	**Name:**	**Trillium Engineering Group (TEG)**		**Name of Business:**			
	Phone:	**(207) 307-0872**		**Mailing Address:**	**189 Main St. Suite 200 Yarmouth, ME 04096**		
	Fax or Cell:						
	Email:	**ericd@trilliumeg.com**					

PROJECT INFORMATION

Existing Land Use *(Use extra paper, if necessary)*:

For Lot 3-E the existing land use is - Code: 3220, Store/Shop
For Lot 1 the existing land use is - Code: 3160, comm whse

Provide a narrative description of the Proposed Project *(Use extra paper, if necessary)*:

For Lot 3-E, the plans now accurately depict the existing site conditions with the updated work previously conducted on-site.
For Lot 1, the project proposes a paved drive with parking and (2) 7,085 SF buildings with 7 units each.

Stormwater management has been provided on the plans along with proposed snow storage areas.

The proposed use is Contractor Services.

Provide a narrative description of construction constraints (wetlands, shoreland zone, flood plain, non-conformance, etc.):

For both Lot 3-E and 1, there are wetlands on site, however all work will be done outside of the wetland boundaries and all erosion and sedimentation control methods will be implemented to ensure no disturbance of the existing wetlands along with the Highland Lake watershed which is classified as a, "Lake Most at Risk" by DEP.

MAJOR SITE PLAN REVIEW APPLICATION REQUIREMENTS

Section 120-811 of the Land Use Ordinance

The submission shall contain five (5) copies of the following information, including full plan sets. Along with one (1) electronic version of the entire submission, unless waiver of a submission requirement is granted, and one (1) complete plan set.

The Major Plan document/map:

A) Plan size: 24" X 36"
B) Plan Scale: No greater 1":100'
C) Title block: Applicant's name, project name, and address

- Name of the preparer of plans with professional information
- Parcel's tax map identification (map and lot) and street address, if available

- Complete application submission deadline: three (3) weeks (21-days) before the desired Planning Board meeting.
  - Five copies of the application and plans
  - Application Payment and Review Escrow
- A pre-submission meeting with the Town staff is required.
- Contact information:

Windham Planning Department (207) 894-5960, ext. 2
Steve Puleo, Town Planner sjpuleo@windhammaine.us
Amanda Lessard, Planning Director allessard@windhammaine.us

APPLICANT/PLANNER'S CHECKLIST FOR MAJOR SITE PLAN REVIEW

SUBMITTALS THAT THE TOWN PLANNER DEEMS SUFFICIENTLY LACKING IN CONTENT WILL NOT BE SCHEDULED FOR PLANNING BOARD REVIEW.

The following checklist includes items generally required for development by the Town of Windham's LAND USE ORDINANCE, Sections 120-811, 120-812, 120-813 & 120-814. Due to projects specifics, the applicant is required to provide a complete and accurate set of plans, reports, and supporting documentation (as listed in the checklist below).

IT IS THE RESPONSIBILITY OF THE APPLICANT TO PRESENT A CLEAR UNDERSTANDING OF THE PROJECT.

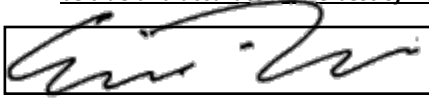
Column #1.			Column #2.		
1. Final Plan -Major Site Plan: Submission Requirements	**Applicant**	**Staff**	**Plan Requirements – Existing Conditions (Continued):**	**Applicant**	**Staff**
A. Completed Major Site Plan Application form	☑	☐	vii. Zoning classification(s), including overlay and/or subdistricts, of the property and the location of zoning district boundaries if the property is located in 2 or more districts or abuts a different district	☑	☐
B. Evidence of Payment of application & escrow fees	☑	☐	viii. Bearings and lengths of all property lines of the property to be developed, and the stamp of the surveyor that performed the survey	☑	☐
C. Written information – submitted in a **bounded and tabbed** report			ix. Existing topography of the site at 2-foot contour intervals.	☑	☐
1. A narrative describing the proposed use or activity.	☑	☐	x. Location and size of any existing sewer and water mains, culverts and drains, on-site sewage disposal systems, wells, underground tanks or installations, and power and telephone lines and poles on the property and on abutting streets or land that may serve the development.	☑	☐
2. Name, address, & phone number of record owner, and applicant if different (see Agent Autorotation form).	☑	☐	xi. Location, names, and present widths of existing public and/or private streets and rights-of-way within or adjacent to the proposed development.	☑	☐
3. Names and addresses of all abutting property owners	☑	☐	xii. Location, dimensions, and ground floor elevation of all existing buildings.	☑	☐
4. Documentation demonstrating right, title, or interest in the property	☑	☐	xiii. Location and dimensions of existing driveways, parking and loading areas, walkways, and sidewalks on or adjacent to the site.	☐	☐
5. Copies of existing proposed covenants or deed restrictions.	☑	☐	xiv. Location of intersecting roads or driveways within 200 feet of the site.	☑	☐
6. Copies of existing or proposed easements on the property.	☑	☐	xv. Location of the following		
7. Name, registration number, and seal of the licensed professional who prepared the plan, if applicable.	☑	☐	a. Open drainage courses	☑	☐
8. Evidence of applicant's technical capability to carry out the project.	☑	☐	b. Wetlands	☑	☐
			c. Stone walls	☑	☐
9. Assessment of the adequacy of any existing sewer and water mains, culverts and drains, on-site sewage disposal systems, wells, underground tanks or installations, and power and telephone lines and poles on the property.	☑	☐	d. Graveyards	☑	☐

Continued from Column #1. (Page 2)			Continued from Column #2. (Page 2)		
10. Estimated demands for water and sewage disposal.	☑	☐	e. Fences	☑	☐
			f. Stands of trees or treeline, and	☑	☐
			g. Other important or unique natural areas and site features, including but not limited to, floodplains, deer wintering areas, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, sand and gravel aquifers, and historic and/or archaeological resources.	☐	☐
11. Provisions for handling all solid wastes, including hazardous and special wastes.	☑	☐	xvi. Direction of existing surface water drainage across the site	☑	☐
12. Detail sheets of proposed light fixtures.	☑	☐	xvii. Location, front view, dimensions, & lighting of exsiting signs.	☑	☐
13. Listing of proposed trees or shrubs to be used for landscaping	☑	☐			
14. Estimate weekday AM and PM and Saturday peak hours and daily traffic to be generated by the project.	☑	☐	xviii. Location & dimensions of existing easements that encumber or benefit the site.	☐	☐
15. Description of important or unique natural areas and site features, including floodplains, deer wintering areas, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and	☐	☐	xix. Location of the nearest fire hydrant, dry hydrant, or other water supply.	☑	☐
16. If the project requires a stormwater permit from MaineDEP or if the Planning Board or if the Staff Review Committee determines that such information is required, submit the following.			**E. Plan Requirements - Proposed Development Activity**		
			i. Location and dimensions of all provisions for water supply and wastewater disposal, and evidence of their adequacy for the proposed use, including soils test pit data if on-site sewage disposal is proposed	☑	☐
a. stormwater calculations.	☑	☐	ii. Grading plan showing the proposed topography of the site at 2-foot contour intervals	☑	☐
b. erosion and sedimentation control measures.	☑	☐	iii. The direction of proposed surface water drainage across the site and from the site, with an assessment of impacts on downstream properties.	☑	☐
c. water quality and/or phosphorous export management provisions.	☑	☐	iv. Location and proposed screening of any on-site collection or storage facilities	☑	☐
17. If public water or sewerage will be utilized, provide a statement from the utility district regarding the adequacy of water supply in terms of quantity and pressure for both domestic and fire flows, and the capacity of the sewer system to accommodate additional wastewater.	☑	☐	v. Location, dimensions, and materials to be used in the construction of proposed driveways, parking, and loading areas, and walkways, and any changes in traffic flow onto or off-site	☑	☐
18. Financial Capacity			vi. Proposed landscaping and buffering	☑	☐
i. Estimated costs of development and itemize estimated major expenses.	☐	☐	vii. Location, dimensions, and ground floor elevation of all buildings or expansions	☐	☐
ii. Financing (submit one of the following)			viii. Location, front view, materials, and dimensions of proposed signs together with a method for securing sign	☑	☐
a. Letter of commitment to fund	☐	☐	ix. Location and type of exterior lighting. Photometric plan to demonstrate the coverage area of all lighting may be required by the Planning Board.	☐	☐
b. Self-financing	☐	☐	x. Location of all utilities, including fire protection systems	☐	☐
1. Annual corporate report	☐	☐	xi. Approval block: Provide space on the plan drawing for the following words, "Approved: Town of Windham Planning Board" along with space for signatures and date	☑	☐
2. Bank Statement	☑	☐	**2. Major Final Site Plan Requirements as Exhibits to the Application**		
c. Other			a. Narrative and/or plan describing how the proposed development plan relates to the sketch plan.	☑	☐
1. Cash equity commitment of 20% of the total cost of development	☐	☐	b. Stormwater drainage and erosion control program shows:		
2. Financial plan for remaining financing.	☐	☐	1. The existing and proposed method of handling stormwater runoff	☑	☐

Continued from Column #1. (Page 3)		
3. Letter from institution indicating intent to finance.	☑	☐
iii. If a registered corporation a Certificate of Good Standing from:		
- Secretary of State, or	☑	☐
- the statement signed by a corporate officer	☐	☐
19. Technical Capacity (address both).		
i. Prior experience relating to developments in the Town.	☑	☐
ii. Personnel resumes or documents showing experience and qualification of development designers	☐	☐
D. Plan Requirements – Existing Conditions		
i. Location Map adequate to locate project within the municipality	☑	☐
ii. Vicinity Plan. Drawn to a scale of not over 400 feet to the inch, and showing area within 250 feet of the property line, and shall show the following:	☑	☐
a. Approximate location of all property lines and acreage of the parcel(s).	☑	☐
b. Locations, widths, and names of existing, filed, or proposed streets, easements, or building footprints.	☑	☐
c. Location and designations of any public spaces.	☑	☐
d. Outline of the proposed site plan, together with its street system and an indication of the future probable street system of the remaining portion of the tract.	☑	☐
iii. North Arrow identifying Grid North; Magnetic North with the declination between Grid and Magnetic; and whether Magnetic or Grid bearings were used.	☑	☐
iv. Location of all required building setbacks, yards, and buffers.	☑	☐
v. Boundaries of all contiguous property under the total or partial control of the owner or applicant.	☑	☐
vi. Tax map and lot number of the parcel(s) on which the project is located	☑	☐

Continued from Column #2. (Page 3)		
2. The direction of the flow of the runoff, through the use of arrows and a description of the type of flow (e.g., sheet flow, concentrated flow, etc.)	☑	☐
3. Location, elevation, and size of all catch basins, dry wells, drainage ditches, swales, retention basins, and storm sewers	☑	☐
4. Engineering calculations were used to determine drainage requirements based on the 25-year, 24-hour storm frequency.	☑	☐
5. Methods of minimizing erosion and controlling sedimentation during and after construction.	☑	☐
c. A groundwater impact analysis prepared by a groundwater hydrologist for projects involving on-site water supply or sewage disposal facilities with a capacity of 2,000 gallons or more per day	☑	☐
d. Name, registration number, and seal of the Maine Licensed Professional Architect, Engineer, Surveyor, Landscape Architect, and/or similar professional who prepared the plan.	☐	☐
e. A utility plan showing, in addition to provisions for water supply and wastewater disposal, the location and nature of electrical, telephone, cable TV, and any other utility services to be installed on the site.	☑	☐
f. A planting schedule keyed to the site plan indicating the general varieties and sizes of trees, shrubs, and other vegetation to be planted on the site, as well as information of provisions that will be made to retain and protect existing trees, shrubs, and other vegetation.	☐	☐
g. Digital transfer of any site plan data to the town (GIS format)	☑	☐
h. A traffic impact study if the project expansion will generate 50 or more trips during the AM or PM peak hour, or if required by the Planning Board)	☐	☐
PDF\Electronic Submission.	☑	☐

The undersigned *hereby makes an application to the Town of Windham for approval of the proposed project and declares the foregoing to be true and accurate to the best of his/her knowledge.*



06/30/25

APPLICANT OR AGENT'S SIGNATURE — DATE

Eric Dube, P.E.

PLEASE TYPE OR PRINT NAME

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

D. District Design Standard Checklist

Town of Windham
Planning Department:
8 School Road
Windham, Maine 04062
Tel: (207) 894-5960 ext. 2
Fax: (207) 892-1916 -
www.windhammaine.us

APPLICANT/PLANNER'S CHECKLIST FOR MAJOR SITE PLAN REVIEW
COMMERCIAL DISTRICT DESIGN STANDARDS SECTION 120-813

The following checklist includes Design Standards for nonresidential developments within Windham's Commercial* 1, Commercial 1 North, Commercial 2, Commercial 3, Village Commercial, and Windham Center Districts.** ***Where there is a conflict between provision of the Design Standards and any other ordinance provision, the more restrictive provision shall apply. In addition to meeting all Design Standards required in the applicable zoning districts, development must comply with he minimum of eight (8) other Design Standards.

For purposed of this section ,"development" shall mean that portion of the project that:

a. Is subject to the site plan review under Article 8 Site Plan Review; or

b. Will renovate twenty percent (20%) or more of the entire wall area of a structure on the site. (For this type of renovation, the renovation will be subject to the required Design Standards in Section A. but will not be subject to other required Design Standards.)

Design Standards Framework

			C-1	C-1N	C-2	C-3	VC	WC	Checklist	
A.	**Architecture/Building**								**Applicant**	**Staff**
	1	Building Style	R[1]	R	R	R	R	R	☐	☐
	2	Materials	R	R	R	R	R	R	☐	☐
	3	Color	R	R	R	R	R	R	☐	☐
	4	Roofline	R	R	R	R	R	R	☐	☐
	5	Façade	R	R	R	R	R	R	☐	☐
	6	Building style coordination (multi-building)	R	R	R	R	R	R	☐	☐
	7	Entrance	R	R	R	R	R	R	☐	☐
	8	Architectural Details	R	R	R	R	R	R	☐	☐
	9	LEED certification							☐	☐
B	**Site/Parking**									
	1	Parking location							☐	☐
	2	Internal traffic flow							☐	☐
	3	Interconnected Parking lots							☐	☐
	4	Orientation of Building							☐	☐
	5	Screening, Parking			R			R	☐	☐
	6	Screening, utilities and service areas/structures	R	R	R		R	R	☐	☐
	7	Parking Lot Landscaping							☐	☐
	8	Low-Impact Design Stormwater							☐	☐
	9	Shared Stormwater Treatment							☐	☐
C	**Landscaping/Lighting**									
	1	Lighting/Photometric Plan	R	R			R		☐	☐
	2	Lighting coordinated with architecture	R	R			R		☐	☐
	3	Light coordinated with landscaping	R	R			R		☐	☐
	4	Existing trees preserved				R		R	☐	☐
	5	Snow area designated	R	R	R	R	R	R	☐	☐
	6	Planting variety							☐	☐
	7	Planting suitability							☐	☐
	8	Mass plantings							☐	☐
	9	Illumination levels							☐	☐
D.	**Bike/Ped**									
	1	Internal walkways	R	R					☐	☐
	2	Links to community	R	R	R		R	R	☐	☐
	3	Outdoor activity area							☐	☐
	4	Sidewalk	R	R				R	☐	☐
	5	Crosswalk	R	R					☐	☐
	6	Bike parking/racks	R	R	R		R	R	☐	☐

1. Any item with an **R** in the Table is a required Design Standards in that zoning district.

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

E. Agent Authorization Letter

189 Main Street, Suite 200
Yarmouth, ME 04096

March 21, 2025

To Whom It May Concern:

We hereby authorize

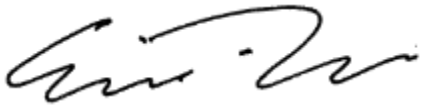
Trillium Engineering Group
189 Main Street
Yarmouth, ME 04096

As our agent to act on our behalf in all matters relating to all town/city processes required for the proposed project located at 4 Roosevelt Trail, Windham Maine

This certification commences on the date of signing and is valid for two years from 3/21/2025 to 3/21/2027.

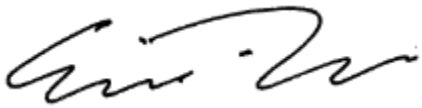
This certificate will become null and void unless it is agreed between both parties to make an extension.

Sincerely,



Eric Dube, P.E.
Trillium Engineering Group

_____
Signature of Owners
York Enterprises Park, LLC (Robert L. York)



_____
Signature of Agent
Eric Dube, P.E.

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

F. Abutters List

4 Roosevelt Trail, Abutters Map

Town of Windham, ME

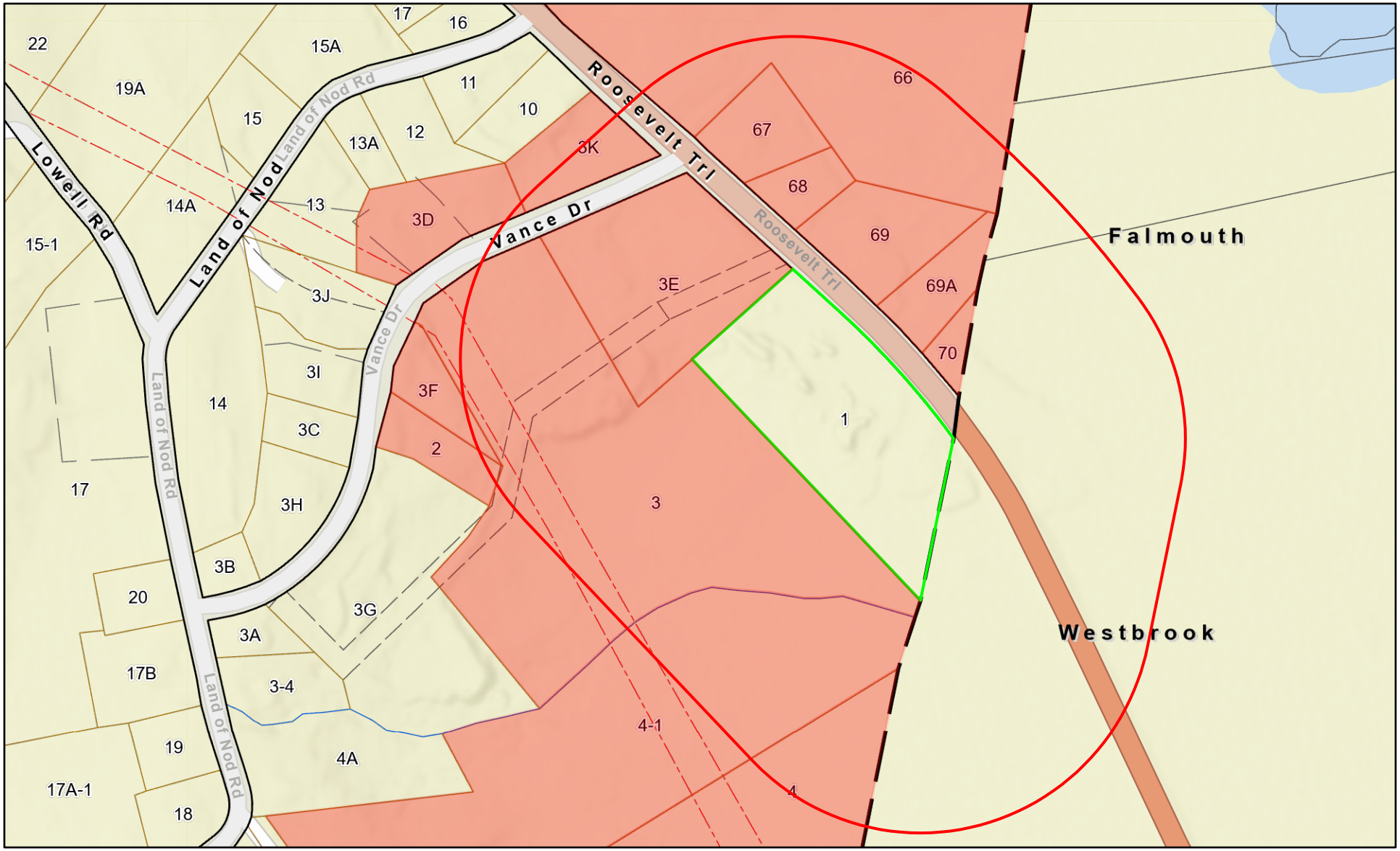
1 inch = 300 Feet

0 300 600 900

June 17, 2025

CAI Technologies
Precision Mapping. Geospatial Solutions.

www.cai-tech.com



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

500 feet Abutters List Report

Windham, ME
June 17, 2025

Subject Property:

Parcel Number:	007001000000	Mailing Address:	YORK ENTERPRISES PARK LLC
CAMA Number:	007-001-000-000		15 RU-BEE RIDGE
Property Address:	4 ROOSEVELT TR		WINDHAM, ME 04062

Abutters:

Parcel Number:	007002000000	Mailing Address:	KENNEY TIMOTHY J & KENNEY KIM M
CAMA Number:	007-002-000-000		32 VANCE DRIVE
Property Address:	32 VANCE DR		WINDHAM, ME 04062
Parcel Number:	007003000000	Mailing Address:	YORK ENTERPRISES PARK LLC
CAMA Number:	007-003-000-000		15 RU-BEE RIDGE
Property Address:	16 VANCE DR		WINDHAM, ME 04062
Parcel Number:	007003D00000	Mailing Address:	WILLIAMS KENNETH & WILLIAMS ELEANOR
CAMA Number:	007-003-D00-000		17 VANCE DR
Property Address:	17 VANCE DR		WINDHAM, ME 04062
Parcel Number:	007003E00000	Mailing Address:	YORK ENTERPRISES PARK LLC
CAMA Number:	007-003-E00-000		15 RU-BEE RIDGE
Property Address:	12 ROOSEVELT TR		WINDHAM, ME 04062
Parcel Number:	007003F00000	Mailing Address:	26 VANCE DR LLC
CAMA Number:	007-003-F00-000		PO BOX 325
Property Address:	26 VANCE DR		WINDHAM, ME 04062
Parcel Number:	007003K00000	Mailing Address:	VANCE JUDITH H
CAMA Number:	007-003-K00-000		73 SABBADY POINT RD
Property Address:	11 VANCE DR		WINDHAM, ME 04062
Parcel Number:	007004000000	Mailing Address:	FRANK TYLER & LYTTLE PHOEBE
CAMA Number:	007-004-000-000		12 LOWELL ROAD
Property Address:	12 LOWELL RD		WINDHAM, ME 04062
Parcel Number:	007004001000	Mailing Address:	COLE CHARLES
CAMA Number:	007-004-001-000		28 LAND OF NOD RD
Property Address:	LOWELL RD		WINDHAM, ME 04062
Parcel Number:	007066000000	Mailing Address:	19 ROOSEVELT TRAIL LLC
CAMA Number:	007-066-000-000		12 LIBERTY HILL ROAD
Property Address:	12 DRIFTWOOD LN		BEDFORD, NH 03110
Parcel Number:	007067000000	Mailing Address:	TIKVESA ESAD & TIKVESA HAJRIJA
CAMA Number:	007-067-000-000		13 ROOSEVELT TRAIL
Property Address:	13 ROOSEVELT TR		WINDHAM, ME 04062

500 feet Abutters List Report

Windham, ME
June 17, 2025

Parcel Number:	007068000000	Mailing Address:	HENNESSEY PATRICK
CAMA Number:	007-068-000-000		11 ROOSEVELT TRAIL
Property Address:	11 ROOSEVELT TR		WINDHAM, ME 04062
Parcel Number:	007069000000	Mailing Address:	PENDEXTER ROBERT
CAMA Number:	007-069-000-000		7 ROOSEVELT TRAIL
Property Address:	7 ROOSEVELT TR		WINDHAM, ME 04062
Parcel Number:	007069A00000	Mailing Address:	MS HOUSING LLC
CAMA Number:	007-069-A00-000		5 ORCHARD CIRCLE
Property Address:	3 ROOSEVELT TR		WESTBROOK, ME 04092
Parcel Number:	007070000000	Mailing Address:	GELSTON JOSHUA L
CAMA Number:	007-070-000-000		53 FALMOUTH ROAD
Property Address:	1 ROOSEVELT TR		WINDHAM, ME 04062

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

G. Deed

DLN:1002440284784

QUIT CLAIM DEED WITH COVENANT

(Maine Statutory Short Form)

KNOW ALL MEN BY THESE PRESENTS, that KR Horizons, LLC, a Maine limited liability company with an address of 15 Ru-Bee Ridge, Windham, Maine 04062, for no consideration, grants to York Enterprises Park, LLC, a Maine limited liability company with an address of 15 Ru-Bee Ridge, Windham, Maine 04062, with Quit Claim Covenant, certain real estate located in Windham, County of Cumberland and State of Maine, which is more particularly described in Exhibit A attached hereto and made a part hereof.

IN WTINESS WHEREOF, Robert L. York, member of KR Horizons, LLC, has caused this instrument to be executed as of the 15 day of August 2024.

KR HORIZONS, LLC

By:_____
Robert L. York, Its Member
Duly Authorized

STATE OF MAINE
Cumberland, ss

August 15 2024

Then personally appeared the above-named Robert L. York, member of KR Horizons, LLC, and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of said Company.

Before me,

_____
Maine Attorney at Law/Notary Public
Print Name: Kelly Packevicz
My Commission Expires: April 22, 2030

Kelly Packevicz
Notary Public, State of Maine
My Commission Expires April 22, 2030

DOC :31070 BK:40946 PG:163
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
08/22/2024, 10:34:09A
Register of Deeds Jessica M. Spaulding E-RECORDED

Exhibit A
Legal Description
12 Roosevelt Trail, Windham, Maine

A certain lot or parcel of land located on the westerly sideline of Route #302 and the southerly sideline of Hillside Drive, in Windham, Cumberland County, Maine. Said parcel being more particularly described as follows:

Beginning at a 5/8-inch iron rod set at the intersection of the southerly sideline of Hillside Drive with the apparent westerly sideline of U.S. Route #302.

Thence, S 31° 12' 11" E a distance of 302.93 feet along the westerly sideline of Route #302 to a 5/8-inch iron rod set.

Thence, S 64° 50' 58" W, a distance of 309.39 feet to a 5/8-inch iron rod set.

Thence, continuing on a course of S 64° 50' 58" W a distance of 153.05 feet to a 5/8-inch iron rod set.

Thence, N 13° 41' 51" W a distance of 423.25 feet to a 5/8-inch iron rod set on the southerly sideline of Hillside Drive.

Thence, N 83° 00' 00" E a distance of 151.03 feet along said sideline of Hillside Drive to a 5/8-inch iron rod set.

Thence, continuing on a course of N 83° 00' 00" E a distance of 213.56 along said sideline of Hillside Drive to the point of beginning.

Said parcel contains 3.358 acres more or less and is subject to a right-of-way as reserved by Kenneth Merle Cole, Jr. by deed recorded in Cumberland County Registry of Deeds, Book 2251, Page 353.

The courses and distances as herein used are the result of a survey made for Donald and Joanne Vance by Delmore A. Maxfield, Jr. Maine RLS #1177, dated September, 1987.

Meaning and intending to describe the property conveyed to KJ Horizons LLC by virtue of a deed from Twelve Roosevelt Trail, LLC, dated June 12, 2023, and recorded in the Cumberland County Registry of Deeds on June 21, 2023, in Book 40193, Page 316.

DLN:1002440284780

QUIT CLAIM DEED WITH COVENANT
(Maine Statutory Short Form)

KNOW ALL MEN BY THESE PRESENTS, that KR Horizons, LLC, a Maine limited liability company with an address of 15 Ru-Bee Ridge, Windham, Maine 04062, for no consideration, grants to York Enterprises Park, LLC, a Maine limited liability company with an address of 15 Ru-Bee Ridge, Windham, Maine 04062, with Quit Claim Covenant, certain real estate located in Windham, County of Cumberland and State of Maine, which is more particularly described in Exhibit A attached hereto and made a part hereof.

IN WTINESS WHEREOF, Robert L. York, member of KR Horizons, LLC, has caused this instrument to be executed as of the 15 day of August 2024.

KR HORIZONS, LLC

By: _____
Robert L. York, Its Member
Duly Authorized

STATE OF MAINE
Cumberland, ss

August 15 2024

Then personally appeared the above-named Robert L. York, member of KR Horizons, LLC, and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of said Company.

Before me,

_____
Maine Attorney at Law/Notary Public
Print Name: Kelly Packevicz
My Commission Expires: April 22, 2030

Kelly Packevicz
Notary Public, State of Maine
My Commission Expires April 22, 2030

DOC :31069 BK:40946 PG:161
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
08/22/2024, 10:32:26A
Register of Deeds Jessica M. Spaulding E-RECORDED

Exhibit A
Legal Description
4 Roosevelt Trail, Windham, ME

A certain lot or parcel of land with any improvements thereon situated on the southwesterly side of Roosevelt Trail in the Town of Windham, County of Cumberland and State of Maine, being more particularly described as follows:

BEGINNING at the intersection of the southwesterly side line of Roosevelt Trail and the Windham/Westbrook town line. Being also the northerly corner of land now or formerly of Medio DiRenzo (2703/449); thence S 28° 07' 00" W along the said town line and land of the said DiRenzo and land now or formerly of the State of Maine (6381/167) a total distance of 357 feet more or less to where a small brook crosses the said town line and land now or formerly of Charles Cole (26426/212) and land now or formerly of Donald E. and Joanne P. Vance (2915/2); thence N 27° 04' W along land of the said Vance 716 feet more or less to a 5/8" capped rebar set in the ground on the southeasterly side line of land now or formerly of Twelve Roosevelt Trail, LLC (15254/117); thence N 64° 50' 58" E along land of the said Twelve Roosevelt Trail, LLC 292.82 feet to a 5/8" capped rebar set in the ground on the said side line of Roosevelt Trail; thence S 31° 22' 28" E along the said side line of Roosevelt Trail 130.37 feet to a point; thence continuing southeasterly along the said side line of Roosevelt Trail following a curve to the right having a radius of 1860.87 feet a distance of 373.82 feet to the point of beginning, containing 4.21 acres.

The above-described property is conveyed subject to an easement which will run with the title to the within described parcel in favor of the 12 Roosevelt Trail, Windham, Maine, parcel described herein for the purposes of shared stormwater facilities, access, snow storage area and landscaping needs.

Meaning and intending to describe the property conveyed to KR Horizons, LLC, by virtue of a deed from David A. Vance dated June 20, 2023, and recorded in the Cumberland County Registry of Deeds on June 21, 2023, in Book 40193, Page 312.

All bearings are Magnetic of the year 1966.

Know all Men by these Presents, That

I, Kenneth Merle Cole Jr., of Windham, County of Cumberland and State of Maine

in consideration of one dollar and other valuable considerations paid by Antonio Mancini and Pauline E. Mancini, both of Westbrook in said County and State

the receipt whereof I do hereby acknowledge, do hereby, give, grant, bargain, sell and convey unto the said Antonio Mancini and Pauline E. Mancini their heirs and assigns forever, as joint tenants with rights of survivorship as such, and not as tenants in common, a certain lot or parcel of land situated in Windham, County and State aforesaid bounded and described as follows: Beginning at a point on the westerly side of the road leading from Portland to Raymond known as Route 302, said point being at the northerly side of a private road known as Wood's Road; thence by the northerly line of said Wood's Road, the same being approximately south fifty-five degrees (55°) east three hundred (300) feet to an iron post set in the ground, said iron post being the northeasterly corner of land heretofore leased to the Cumberland Sand & Gravel Co. Inc.; thence south fifty-five degrees (55°) east by the land leased to said Cumberland Sand & Gravel Co. Inc. to the Westbrook line; thence northerly by the Westbrook line to the westerly side line of said Route 302 and thence northerly by said Route 302 to the point of beginning; reserving to the grantor his heirs and assigns a right of way over said Wood's Road to said Route 302 for any and all land retained by said grantor including land heretofore leased by said grantor to said Cumberland Sand & Gravel Co. Inc.

Reference is made to the deed to the grantor from Charles A. Smith and Nettie M. Smith dated September 17, 1936 and recorded in Cumberland County Registry of Deeds in Book 1508, Page 47 and release from Kenneth Merle Cole to the grantor herein dated May 20, 1949 and recorded in said Registry in Book 1953 Page 271.

To Have and to Hold the aforegranted and bargained premises, with all the privileges and appurtenances thereof, to the said Antonio Mancini and Pauline E. Mancini, their heirs and assigns forever, as joint tenants with rights of survivorship as such, and not as tenants in common, to them and their use and behoof forever. And I do covenant with the said Grantees, their heirs and assigns and the survivor of them,

U.S.I.R. $0.55 K.M.C.Jr. 9/7/55

~~heirs and assigns,~~ that I am lawfully seized in fee of the premises; that they are free of all incumbrances;

that I have good right to sell and convey the same to the said Grantees to hold as aforesaid; and that I and my heirs, shall and will warrant and defend the same to the said Grantees, their heirs and assigns and the survivor of them

~~heirs and assigns~~ forever, against the lawful claims and demands of all persons.

In Witness Whereof. I, the said Kenneth Merle Cole, Jr. and I, Lena T. Cole wife of the said Kenneth Merle Cole, Jr. joining in this deed as Grantor, and relinquishing and conveying my right by descent and all other rights in the above described premises,

our hand s and seal s this 7th day of September have hereunto set in the year of our Lord one thousand nine hundred and fifty-five.

Signed, Sealed and Delivered in presence of

Harold H. Rutter to Both

Kenneth Merle Cole Jr. Seal
Lena T. Cole Seal

State of Maine, CUMBERLAND, ss. September 29, 1955. Personally appeared the above named Kenneth Merle Cole, Jr. and acknowledged the above instrument to be his free act and deed.

Before me, Harold H. Rutter Justice of the Peace.

Received October 4, 19 55, at 11 o'clock 45 m. A. M., and recorded according to the original.

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

H. LLC Docs

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Tue Jun 17 2025 14:03:50. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
YORK ENTERPRISE PARK LLC	202403830DC	LIMITED LIABILITY COMPANY	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
03/18/2024	N/A	MAINE

Other Names **(A=Assumed ; F=Former)**

NONE

Principal Home Office Address

Physical	Mailing
15 RU-BEE RIDGE ROAD WINDHAM, ME 04062	15 RU-BEE RIDGE ROAD WINDHAM, ME 04062

Clerk/Registered Agent

Physical	Mailing
GREGG R. FRAME 267 COMMERCIAL STREET PORTLAND, ME 04101	GREGG R. FRAME 267 COMMERCIAL STREET PORTLAND, ME 04101

New Search

Click on a link to obtain additional information.

List of Filings	View list of filings	
Obtain additional information:		
Certificate of Existence (Good Standing) (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)

Certificate of Legal Existence (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)

You will need Adobe Acrobat version 3.0 or higher in order to view PDF files.
If you encounter problems, visit the troubleshooting page.

If you encounter technical difficulties while using these services, please contact the Webmaster. If you are unable to find the information you need through the resources provided on this web site, please contact the Division of Corporations, UCC & Commissions Reporting and Information Section at 207-624-7752 or e-mail.

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

I. Technical Capability

189 Main Street, Suite 200
Yarmouth, ME 04096

June 20, 2025

30 Main St.
Freeport, ME 04032

Re: **Town of Windham**
Letter of Technical Capability

Dear Town of Windham:

The Applicant has assembled a team of qualified professionals for the design and permitting of the project. Each team member has extensive experience in the design and permitting of projects throughout the state of Maine. The consultant team consists of the following members:

Civil Engineers:

Eric Dube, P.E.
Trillium Engineering Group
189 Main Street Suite 200
Yarmouth, Maine 04096
(207) 307-0872
ericd@trilliumeg.com

Kyle Berwick
Trillium Engineering Group
189 Main Street Suite 200
Yarmouth, Maine 04096
(207) 307-0872
kyleb@trilliumeg.com

Civil Designer:

Brad Van Damm
Trillium Engineering Group
189 Main Street Suite 200
Yarmouth, Maine 04096
(207) 307-0872
bradv@trilliumeg.com

Architect:

Joe Delaney
Whipple Callendar Architects
136 Pleasant Ave.
Portland, Maine 04103
(207) 775-2696
joe@whipplecallender.com

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

J. Financial Capacity

January 23, 2025

York Enterprise Park LLC
Robert and Katherine York
15 Ru Bee Ridge Road
Windham, ME 04062

Subject: Financing Proposal -

Dear Robert and Katherine:

Camden National Bank ("Bank") is pleased to issue this offering letter which shall serve to outline the salient business points of a loan proposal (the "Loan") to fund construction of a 14 unit professional park. The proposed terms and conditions are provided for discussion purposes only and do not constitute an offer, agreement or commitment to lend.

The proposed terms and conditions are based upon the Lender's present understanding of the transaction, borrower and guarantor structure and other preliminary information furnished to the Lender for consideration. The actual terms and conditions upon which the Lender might extend credit are subject to satisfactory completion of due diligence, internal approval, satisfactory review of documentation and such other or different items and conditions as may be determined by the Lender following the completion of its underwriting and as circumstances may dictate upon completion of full due diligence and a more comprehensive review of the borrower, guarantor and/or proposed collateral for the loan.

Terms for discussion are summarized as follows:

Borrower:	York Enterprise Park LLC
Loan Amount:	$1,685,000.00
Purpose:	Fund construction of a 14 unit professional park
Collateral:	First Mortgage and Assignment of Leases and Rents on property located at 4 Roosevelt Trail, Windham, Maine Collateral Assignment of Construction Documents.

Recourse:	Robert and Katherine York shall provide unlimited joint and several guarantees of all loan obligations to Bank.
Loan Term:	10 years.
Repayment:	Interest only for a period of 18 months. Thereafter monthly principal and interest payments based on a 25 year amortization schedule. Payments shall be required to be paid monthly on the due date via an automatic transfer from a Camden deposit account.
Interest Rate:	The Loan shall bear interest at a fixed rate for five (5) years, at the prevailing 5/25 year Federal Home Loan Bank of Boston Amortizing Advance Rate (FHLBB) + 2.85% for the first 60 months of the loan, then variable at WSJ Prime + 0% for the remainder of the term. *(The effective rate as of 1/23/25 is 7.46%).* The initial interest rate will be set 5 business days before closing and not be lower than 6.75%. *Rates may be subject to change should the Loan not close within 90-days of this offering.
Origination Fee:	$8,425 (0.50%) of the Loan amount
Prepayment Premium:	The Loan is subject to a Prepayment Premium in the event of a prepayment of principal during the fixed rate period equal to 3% of the prepaid principal during year 1, 2% during year 2, and 1% during years 3-5. The prepayment premium shall be due and payable at the time the loan is repaid.
Loan Covenants:	Distribution Debt Service Coverage Ratio (DSCR) of 1.25, tested annually. DSCR is calculated based on the ratio of Net Income before taxes, plus interest, depreciation, amortization +/- non-recurring items at Bank's discretion, divided by all actual principal and interest on all Indebtedness.
Appraisal:	The Loan shall be subject to Bank review and acceptance of an appraisal report performed for Bank providing an "As Is","As Complete" and "As Stabilized" valuation. The valuation requirement provides a minimum "As Is" value of $450,000 and a minimum Stabilized Real Estate value of $2,407,150.
Environmental:	Subject to satisfactory environmental due diligence by Bank to include reporting from an environmental firm retained by Bank. The level of reporting shall be in form and substance satisfactory to the Bank at the Borrowers expense.
Annual Site Inspection:	The proposal is subject to a satisfactory site visit by Bank officer. Borrower shall make the Project available for an annual inspection during the term of the Loan.
Financial Reporting:	Borrower shall provide the following financial reports during the term of the Loan:

- Borrower tax returns – annually
- Management financial reports including income statement and balance sheet, upon request
- Project rent roll - annually
- Copies of leases and/or lease amendments (commercial leases only) – upon execution
- Personal Financial Statements and Schedules of Real Estate Owned – annually from all Guarantors.
- Guarantor tax returns – annually

Construction Requirements: Construction requirements shall include the following:

- The Loan shall be subject to a preconstruction review of plans, specifications, and construction budget by a Bank-designated construction consultant.
- Borrower shall provide monthly requisitions on industry-standard construction requisition forms, lien waivers, and any further documentation required by Bank or its consultant.
- Bank consultant shall inspect Project with each requisition and review monthly requisitions for approval and funding by Bank.
- Borrower shall be responsible for fees incurred for preconstruction review and monthly requisition inspections.

Deposit Accounts: Borrower shall open and maintain its primary operating account, capital expenditure reserve account, and security deposit account at Bank prior to closing. The Bank reserves the right to review and modify the interest rate and term of the Loan if the deposit relationship is no longer maintained at the Bank during the term of the Loan.

Insurance: Borrower shall maintain casualty, liability, business interruption and other insurance typical for similar facilities with the Bank. Collateral located in certain flood zones, may require additional flood insurance coverage.

Underwriting Information: Upon acceptance of the proposed terms, Borrower shall provide the following information for Bank to proceed with credit underwriting:

- Guarantor personal financial statement
- Guarantor Schedule of Real Estate Holdings
- Guarantor 2 years of personal tax returns
- Borrower/Guarantor bio / resumes / background information
- Project rent roll
- Copies of Leases

- Copy of Environmental Due Diligence, if available
- Copy of survey, if available
- Construction plans/sketches/renderings
- Construction budget including hard & soft costs
- Contract with General Contractor
- Construction Schedule
- Copies of LLC documents including Articles of Incorporation and LLC Operating Agreement

Pre-Closing requirements and other conditions:

- Borrower to be responsible for all third-party expenses incurred by the Bank whether or not the Loan is approved or closes.
- Bank counsel satisfaction with respect to all matters of title, enforceability, and loan documentation.
- Any loans from shareholders or related parties, present or future, shall be conditionally subordinated to the Bank such that repayment is allowed so long as no defaults occur or exist with any Bank loan(s).
- The borrower shall not further encumber the Bank's collateralized property for the proposed Loan without Bank acknowledgement and consent.
- Receipt and review of pre-leases for the units evidencing sufficient combined income to provide a minimum proforma DSCR, as determined by Bank, of 1.0x prior to closing. (At the current Pro Forma provide by the borrower the number of pre-leased units would need to be eight)

Expiration: This term sheet shall expire at the close of business on February 14, 2025.

If the terms and conditions contained herein meet with your approval, please indicate your acceptance by signing and returning this letter signifying your acceptance. Upon receipt, we will commence the full underwriting process. Your signature shall also serve as your authorization for us to proceed with the transaction as outlined herein and that you will be responsible for all third-party costs incurred by the Bank.

Thank you for the opportunity to provide a proposal for your financing needs.

Sincerely,

Christopher Abbott

Christopher Abbott
Vice President

Borrower:

York Enterprise Park LLC

By:_____
Its

Guarantor(s):

_____
Robert York

_____
Katherine York

PROJECT BUDGET SUMMARY
Estimated Completion Date: June 1, 2025
Total Estimated Project Cost: $2,208,000
Total Project Investment (Including Land): $2,558,000

I. Pre-Development Costs *(Already Invested)*

Description	Vendor(s)	Amount	Notes
Engineering, Architectural, Consultants	Whipple Calendar, Trillium Engineers, Streamline, Bud Harris Septic	$70,000	Fully invested
Land Acquisition	—	$350,000	Fully invested
Subtotal – Pre-Development		**$420,000**	

II. Site Work & Infrastructure

Description	Vendor	Start Date	Estimated Cost	Payment Method
Site Work (trenching, septic, ponds, etc.)	D. Hooper Excavation	5/10/25	$250,000	Out of pocket (partially invested)
Concrete Foundation	CCI Concrete	6/10/25	$200,000	Out of pocket
Septic	Bud Harris Septic	—	Included	Already invested
Subtotal – Site Work			**$450,000**	

III. Building Construction

Description	Vendor	Start Date	Estimated Cost	Payment Method
Building Erection	Irishspan Builders	7/1/24	$1,020,000	$50K down, $970K financed
Electrical	Lawler Electric	8/1/24	$250,000	Financed
Plumbing & Heating (Interior)	207 Plumbing	8/1/24	$208,000	Financed
Life Safety Systems	Cunningham or Eastern Fire	8/1/24	$50,000	Out of pocket

Description	Vendor	Start Date	Estimated Cost	Payment Method
Subtotal – Construction			**$1,528,000**	

IV. Exterior Work & Finishes

Description	Vendor	Start Date	Estimated Cost	Payment Method
Paving	David Ingraham Paving	9/1/24	$45,000	Out of pocket
Landscaping	Roosevelt Trail	9/15/24	$15,000	Out of pocket
Interior Finishing	Owner	TBD	$100,000	Out of pocket
Subtotal – Finishing			**$160,000**	

V. Budget Summary

Category	Amount
Total Project Development Cost (excl. land)	$2,208,000
Total Land Value (already invested)	$350,000
Total Project Investment (All-In)	**$2,558,000**
— of which, Already Invested	$175,000
— Remaining Out-of-Pocket Costs	$355,000
— Financed Costs	$1,628,000

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

K. Estimated Demands (Water)

Peak Flow Based on Fixture Count

Adapted from 2009 Maine State Internal Plumbing Code

Customer	York Enterprises Park, LLC
Street Address	4 Roosevelt Trail
City	Windham, ME

Fixture		Fixture Value 60 psi		No. of Fixtures		Fixture Value
Bathtub		4	x	0	=	0
Bidet		1	x	0	=	0
Dental Unit		1	x	0	=	0
Drinking Fountain - Public		0.5	x	0	=	0
Kitchen Sink		1.5	x	0	=	0
Bathroom Sink		1	x	14	=	14
Showerhead (Shower Only)		2	x	0	=	0
Service Sink		3	x	0	=	0
Toilet	-Flushometer(high pressure)	5	x	0	=	0
	-Tank Type	2.5	x	14	=	35
Urinal	-Flushometer Valve	5	x	0	=	0
	-Tank Type	2	x	0	=	0
Wash Sink (Each Set of Faucets)		2	x	0	=	0
Dishwasher		1.5	x	0	=	0
Washing Machine		4	x	0	=	0
Hose (outdoor spigot)	<3/4 in.	2.5	x	0	=	0
Combined Fixture Value Total						49

Customer Peak Demand From Fig. 4-2 or 4-3	
Pressure Factor From Table 4-1	

Irrigation(Yes/No)?	No
If yes, gpm required by irrigation designer:	

Total Fixed Demand (Peak Flow) **0 gpm**

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

L. Ability to Serve Letters (To Be Submitted)

Kyle Berwick

From: Kyle Berwick
Sent: Friday, June 20, 2025 3:54 PM
To: Robert Bartels
Cc: Eric Dube; Brad Van Damm; Art Colvin
Subject: 4 Roosevelt Trail Windham, ME - New Service Connection +Sprinkler
Attachments: 23-151 C100-C103.pdf; Pages from YRW DRAWING SET 05 20 25.pdf; Peak Flow Based on Fixture Count (York Storage).xls

Hi Robert,

We are currently going through the Planning process with the Town of Windham and are hoping to receive an ability to serve letter from PWD for the proposed project located at 4 Roosevelt Trail. Please see attached for the "Peak Flow Based on…" excel spreadsheet along with the site plan and architectural plan. We are under the assumption that the proposed building will be sprinkled. Please let us know what other information you may need from us for your review.

Thank you,

Kyle Berwick
Project Engineer
Trillium Engineering Group
189 Main Street Suite 200
Yarmouth, ME 04096
Mobile: 603.915.6325

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

M. Wastewater Design Docs

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. Health & Human Services
Div of Environmental Health, 11 SHS
(207) 287-2070 FAX (207) 287-4172

PROPERTY LOCATION

City, Town, or Plantation	WINDHAM
Street or Road	4 ROOSEVELT TRAIL
Subdivision, Lot •	UNIT #1

OWNER/APPLICANT INFORMATION

Name (last, first, MI): YORK ENTERPRISE PARK, LLC ■ Owner ☐ Applicant

Mailing Address of Owner/Applicant: 15 RU-BEE RIDGE ROAD, WINDHAM, ME 04062

Daytime Tel. • 207-310-0250

>> Caution: LPI APPROVAL REQUIRED <<

Town/City _____ Permit • _____

Date Permit Issued ___/___/___ Fee: $_____ Double Fee Charged ( )

_____ L.P.I • _____
Local Plumbing Inspector Signature

☐ Owner ☐ Applicant ☐ State

The Subsurface Wastewater Disposal System *shall not* be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.

Municipal Tax Map • 7 Lot • 11

Owner or Applicant Statement

I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a permit.

_____ _____
Signature of Owner or Applicant Date

Caution: Inspection Required

I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application.

_____ (1st) Date Approved

_____ _____
Local Plumbing Inspector Signature (2nd) Date Approved

PERMIT INFORMATION

TYPE OF APPLICATION

■ 1. First Time System
☐ 2. Replacement System
Type Replaced: _____
Year Installed: _____
☐ 3. Expanded System
☐ a. <25% Expansion
☐ b. ≥25% Expansion
☐ 4. Experimental System
☐ 5. Seasonal Conversion

THIS APPLICATION REQUIRES

■ 1. No Rule Variance
☐ 2. First Time System Variance
☐ a. Local Plumbing Inspector Approval
☐ b. State & Local Plumbing Inspector Approval
☐ 3. Replacement System Variance
☐ a. Local Plumbing Inspector Approval
☐ b. State & Local Plumbing Inspector Approval
☐ 4. Minimum Lot Size Variance
☐ 5. Seasonal Conversion Approval

DISPOSAL SYSTEM COMPONENTS

1. ■ Complete Non-engineered System
2. ☐ Primitive System(graywater & alt toilet)
3. ☐ Alternative Toilet, specify: _____
4. ☐ Non-engineered Treatment Tank (only
5. ☐ Holding Tank, _____ Gallons
6. ☐ Non-engineered Disposal Field (only)
7. ☐ Separated Laundry System
8. ☐ Complete Engineered System(2000gpd+)
9. ☐ Engineered Treatment Tank (only)
10. ☐ Engineered Disposal field (only)
11. ☐ Pre-treatment, specify: _____
12. ☐ Miscellaneous Components

SIZE OF PROPERTY

4.21 ☐ sq. ft. ■ acres

DISPOSAL SYSTEM TO SERVE

1. ☐ Single Family Dwelling Unit, No. of Bedrooms: ____
2. ☐ Multiple Family Dwelling, No of Units: _____
3. ■ Other: COMMERCIAL OFFICES (SPECIFY)

Current Use ☐ Seasonal ☐ Year Round ■ Undeveloped

TYPE OF WATER SUPPLY

1. ☐ Drilled Well 2. ☐ Dug Well 3. ☐ Private
4. ■ Public 5. ☐ Other:

SHORELAND ZONING

☐ Yes ■ No

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK

1. ■ Concrete
a. ■ Regular
b. ☐ Low Profile
2. ☐ Plastic
3. ☐ Other: _____
CAPACITY 1000 gallons

DISPOSAL FIELD TYPE & SIZE

1. ■ Stone Bed 2. Stone Trench
3. ☐ Proprietary Device
a. ☐ cluster array c. ☐ Linear
b. ☐ regular load d. ☐ H-20 loaded
4. ☐ Other: _____
SIZE: 550 ■ sq. ft. ☐ lin. ft.

GARBAGE DISPOSAL UNIT

1. ■ No 3. ☐ Maybe
2. ☐ Yes >> Specify one below:
a. ☐ multi-compartment tank
b. ☐ _____ tanks in series
c. ☐ increase in tank capacity
d. ☐ Filter on tank outlet

DESIGN FLOW

168 gallons per day
BASED ON:
1. ☐ Table 4A (dwelling unit(s))
2. ■ Table 4C (other facilities)
SHOW CALCULATIONS
- for other facilities -
7 INDIVIDUAL OFFICE UNITS WITH 2 EMPLOYEES EACH AT 12 GPD PER/EMP.
3. ☐ Section 4G (meter readings)
ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS

PROFILE CONDITION
7 / C
at Observation Hole • TP-1
Depth 15 "
of Most Limiting Soil Factor

DISPOSAL FIELD SIZING

1. ☐ Medium - 2.6 sq.ft./gpd
2. ■ Medium-Large - 3.3 sq.ft./gpd
3. ☐ Large - 4.1 sq.ft./gpd
4. ☐ Extra-Large - 5.0 sq.ft./gpd

EFFLUENT/EJECTOR PUMP

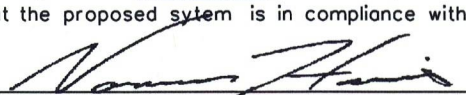
1. ☐ Not required
2. ■ May be required
3. ☐ Required
Specify only for engineered systems:
DOSE: _____ Gallons

LATITUDE AND LONGITUDE

at center of disposal area
Lat. 43 d 45 m 11 s
Lon. 70 d 21 m 42 s
if g.p.s, state margin of error 17'

SITE EVALUATOR STATEMENT

I Certify that on 7/10/25 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).



Site Evaluator Signature | #348 SE • | 7/10/25 Date

NORMAN "BUD" HARRIS (HARRIS SEPTIC SOLUTIONS, INC.) (207) 892-2435
harrisseptic@gmail.com

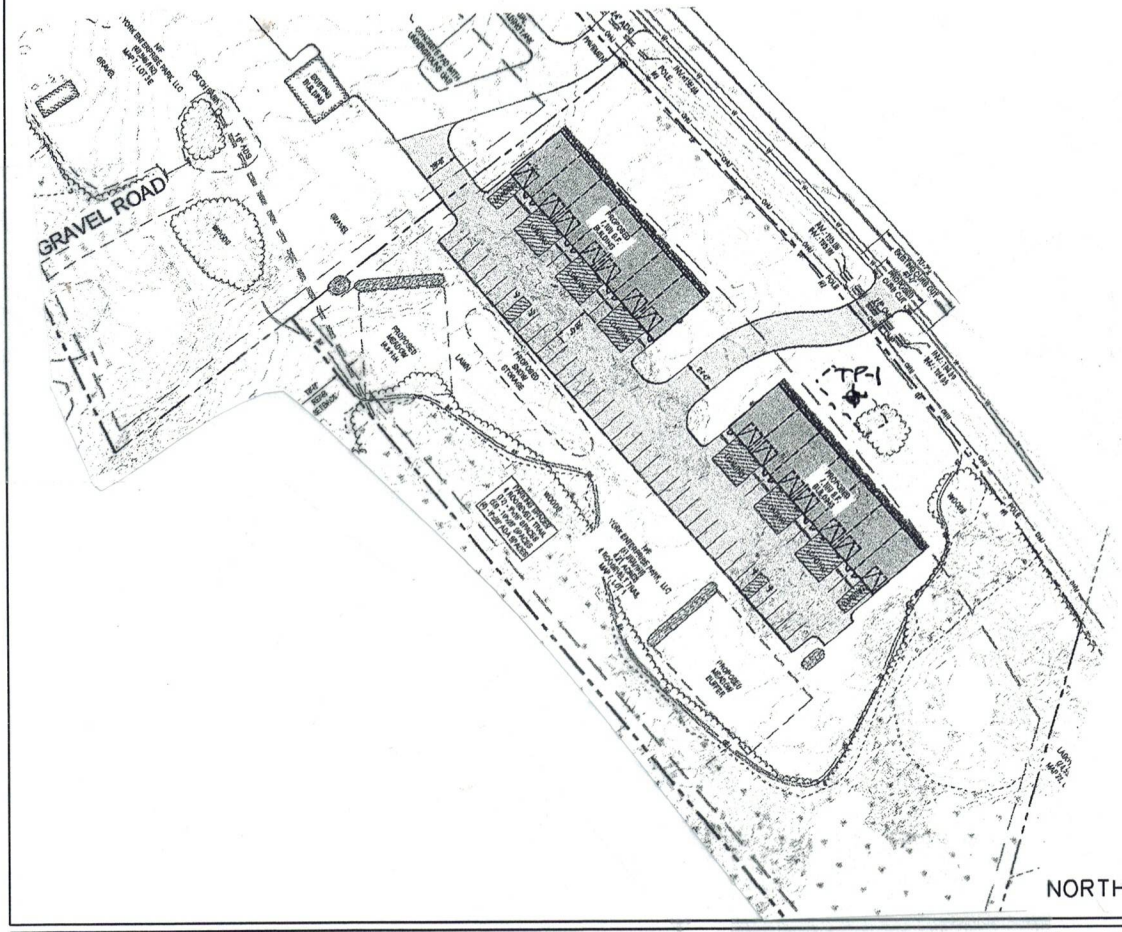
Note: Changes to or deviations from the design should be confirmed with the Site Evaluator.

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. Health & Human Services
Div of Environmental Health, 11 SHS
(207) 287-5672 FAX (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner's Name
WINDHAM	4 ROOSEVELT TRAIL, UNIT #1	YORK ENTERPRISE PARK, LLC

SITE PLAN Scale 1" = NTS ft. or as shown



SITE LOCATION PLAN

NORTH ORIENTATION APPROXIMATE

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-1 ■ Test Pit ☐ Boring
1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0–10	~~SANDY LOAM~~ GRAVELLY LOAMY SAND	FRIABLE	~~DARK BROWN~~ PALE BROWN	
10–20	LOAMY FINE SAND	FRIABLE	STRONG BROWN	FEW & FAINT
20–50	FINE SAND	FIRM	DARK BROWN	

Soil Classification	Slope	Limiting Factor	
7 Profile / C Condition	0-2 %	15 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole _____ ☐ Test Pit ☐ Boring
_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling

Soil Classification	Slope	Limiting Factor	
Profile / Condition	%	"	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Site Evaluator Signature

#348
SE •

7/10/25
Date

NORMAN "BUD" HARRIS (HARRIS SEPTIC SOLUTIONS, INC.) (207) 892-2435
harrisseptic@gmail.com

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

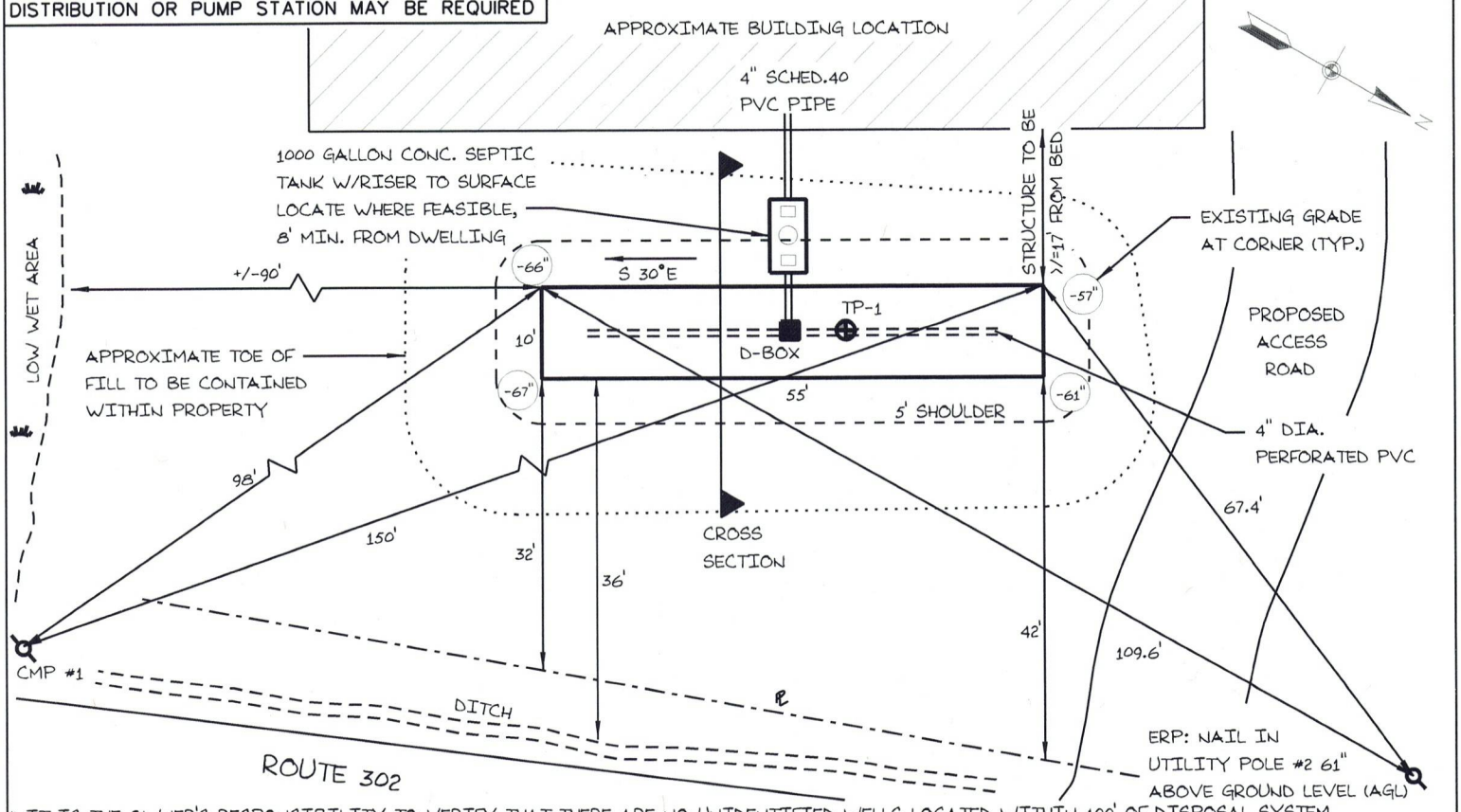
Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 FAX (207) 287-4172

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
WINDHAM	4 ROOSEVELT TRAIL, UNIT #1	YORK ENTERPRISE PARK, LLC

INSTALLER TO CONFIRM ELEVATIONS NECESSARY TO OBTAIN PROPER GRAVITY DISTRIBUTION OR PUMP STATION MAY BE REQUIRED

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE 1" = 20 FT.



* IT IS THE OWNER'S RESPONSIBILITY TO VERIFY THAT THERE ARE NO UNIDENTIFIED WELLS LOCATED WITHIN 100' OF DISPOSAL SYSTEM.
* ALL INFORMATION CONTAINED WITHIN THIS APPLICATION IS AS REPRESENTED BY OWNER, APPLICANT OR OWNER'S/APPLICANT'S REPRESENTATIVE. THE SITE EVALUATOR WILL NOT BE HELD RESPONSIBLE FOR ANY PERTINENT FACTORS NOT IDENTIFIED, DISCLOSED OR INACCURATELY DISCLOSED.

FILL REQUIREMENTS

Depth of Fill (Upslope)	: 20"- 29"
Depth of Fill (Downslope)	: 24"- 30"

CONSTRUCTION ELEVATIONS

Finished Grade Elevation	-37"
Top of Distribution Pipe or Proprietary Device	-49"
Bottom of Disposal Area	-60"

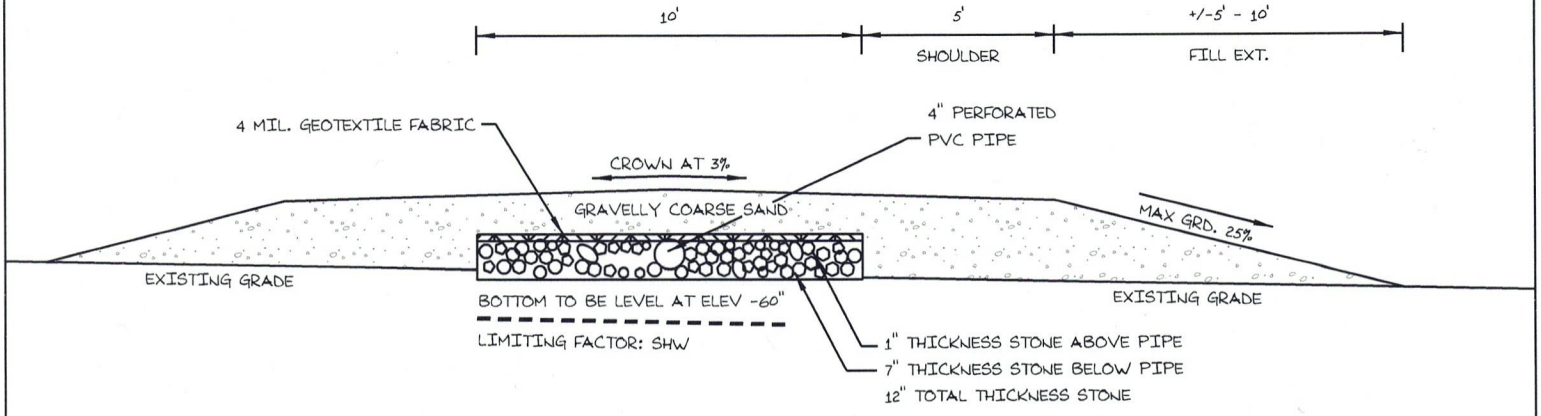
ELEVATION REFERENCE POINT

Location & Description NAIL IN UTILITY POLE #2 61" AGL
Reference Elevation -0"

DISPOSAL FIELD CROSS-SECTION

SCALES:
VERTICAL: 1" = 5 FT
HORIZONTAL: 1" = 5 FT

NOTES:
* BACKFILL TO BE GRAVELLY COARSE SAND FREE OF FINES AND ORGANIC DEBRIS
* FINAL GRADES SHALL BE LOAMED, SEEDED AND OR MULCHED TO PREVENT EROSION
* ANY STONE REQUIRED TO BE FREE OF FINES AND ORGANIC DEBRIS AT A SIZE OF +/- 1 1/2" IN DIAMETER.



* WHERE POSSIBLE, THE AREA UNDER THE DISPOSAL FIELD AND EXTENSIONS SHALL BE SCARIFIED 6 TO 8 INCHES TO CREATE A TRANSITION ZONE

Site Evaluator Signature — #348 SE • — 7/10/25 Date

NORMAN "BUD" HARRIS (HARRIS SEPTIC SOLUTIONS, INC.) (207) 892-2435 harrisseptic@gmail.com

STATEMENT TO OWNER/APPLICANT

(attachment to HHE-200)

A Site Evaluation as defined in The Maine Subsurface Wastewater Disposal Rules (September 23, 2023) is:

" The practice of investigating, evaluating, and reporting the basic soil and site conditions which apply to wastewater treatment and disposal along with a system design in compliance with this rule."

All reported site features are interpreted from information supplied by the owner, applicant or representative. This information in turn is utilized as means to design a disposal system that complies with the Maine Subsurface Wastewater Disposal Rules. The owner, applicant, and/or representative prior to signing of this application must verify this information as correct.

Minimum separation distances required for disposal systems less than 1000 gpd (unless reduced by variance)

Well (owner or neighbor) to any disposal component 100'
Location of neighbor's wells is often difficult to observe. Many wells may be buried or hidden, making them unidentifiable. Confirmation from neighbor that their well is greater than 100' must be obtained prior to installation.

- Water supply line to any disposal component 10'
- Building (full basement) to disposal area 20'
- Building (no full basement) to disposal area 15'
- Building to Septic Tank 8'
- Waterbody (major) to any septic component 100'
- Waterbody (minor) to any septic component 50'
- Property line to any septic component 10'*

* All fill material (fill extension) to be contained within property with 4:1 slope

If after review it is agreed that all information is accurate, the following steps should be taken.

1. Sign the Owner or Applicant Statement section on page 1 of the application
2. Sign any Variance forms or any special circumstance forms that may be attached
3. If required, secure any neighbor variance/release form signatures
4. Repeat signatures on all copies
5. Submit 3 copies to your local Code Enforcement for review and approval

Prior to installation it is recommended that all abutting property owners be notified.

Harris Septic Solutions, Inc.
(207) 892-2435

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. Health & Human Services
Div of Environmental Health, 11 SHS
(207) 287-2070 FAX (207) 287-4172

PROPERTY LOCATION

City, Town, or Plantation	WINDHAM
Street or Road	4 ROOSEVELT TRAIL
Subdivision, Lot •	UNIT #2

OWNER/APPLICANT INFORMATION

Name (last, first, MI): YORK ENTERPRISE PARK, LLC — ■ Owner ☐ Applicant

Mailing Address of Owner/Applicant: 15 RU-BEE RIDGE ROAD, WINDHAM, ME 04062

Daytime Tel. •: 207-310-0250

>> Caution: LPI APPROVAL REQUIRED <<

Town/City _____ Permit • _____

Date Permit Issued ___/___/___ Fee: $_____ Double Fee Charged ( )

_____ L.P.I • _____
Local Plumbing Inspector Signature

☐ Owner ☐ Applicant ☐ State

The Subsurface Wastewater Disposal System *shall not* be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.

Municipal Tax Map • 7 Lot • 11

Owner or Applicant Statement

I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a permit.

_____ _____
Signature of Owner or Applicant — Date

Caution: Inspection Required

I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application.

_____ (1st) Date Approved

_____ _____
Local Plumbing Inspector Signature — (2nd) Date Approved

PERMIT INFORMATION

TYPE OF APPLICATION

■ 1. First Time System
☐ 2. Replacement System
Type Replaced: _____
Year Installed: _____
☐ 3. Expanded System
☐ a. <25% Expansion
☐ b. ≥25% Expansion
☐ 4. Experimental System
☐ 5. Seasonal Conversion

THIS APPLICATION REQUIRES

■ 1. No Rule Variance
☐ 2. First Time System Variance
☐ a. Local Plumbing Inspector Approval
☐ b. State & Local Plumbing Inspector Approval
☐ 3. Replacement System Variance
☐ a. Local Plumbing Inspector Approval
☐ b. State & Local Plumbing Inspector Approval
☐ 4. Minimum Lot Size Variance
☐ 5. Seasonal Conversion Approval

DISPOSAL SYSTEM COMPONENTS

1. ■ Complete Non-engineered System
2. ☐ Primitive System(graywater & alt toilet)
3. ☐ Alternative Toilet, specify: _____
4. ☐ Non-engineered Treatment Tank (only
5. ☐ Holding Tank, _____ Gallons
6. ☐ Non-engineered Disposal Field (only)
7. ☐ Separated Laundry System
8. ☐ Complete Engineered System(2000gpd+)
9. ☐ Engineered Treatment Tank (only)
10. ☐ Engineered Disposal field (only)
11. ☐ Pre-treatment, specify: _____
12. ☐ Miscellaneous Components

SIZE OF PROPERTY

4.21 ☐ sq. ft. ■ acres

SHORELAND ZONING

☐ Yes ■ No

DISPOSAL SYSTEM TO SERVE

1. ☐ Single Family Dwelling Unit, No. of Bedrooms: ___
2. ☐ Multiple Family Dwelling, No of Units: _____
3. ■ Other: COMMERCIAL OFFICES (SPECIFY)

Current Use ☐ Seasonal ☐ Year Round ■ Undeveloped

TYPE OF WATER SUPPLY

1. ☐ Drilled Well 2. ☐ Dug Well 3. ☐ Private
4. ■ Public 5. ☐ Other:

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK

1. ■ Concrete
a. ■ Regular
b. ☐ Low Profile
2. ☐ Plastic
3. ☐ Other: _____
CAPACITY 1000 gallons

DISPOSAL FIELD TYPE & SIZE

1. ■ Stone Bed 2. Stone Trench
3. ☐ Proprietary Device
a. ☐ cluster array c. ☐ Linear
b. ☐ regular load d. ☐ H-20 loaded
4. ☐ Other: _____
SIZE: 550 ■ sq. ft. ☐ lin. ft.

GARBAGE DISPOSAL UNIT

1. ■ No 3. ☐ Maybe
2. ☐ Yes >> Specify one below:
a. ☐ multi-compartment tank
b. ☐ _____ tanks in series
c. ☐ increase in tank capacity
d. ☐ Filter on tank outlet

DESIGN FLOW

168 gallons per day
BASED ON:
1. ☐ Table 4A (dwelling unit(s))
2. ■ Table 4C (other facilities)
SHOW CALCULATIONS
- for other facilities -
7 INDIVIDUAL OFFICE UNITS WITH 2 EMPLOYEES EACH AT 12 GPD PER/EMP.
3. ☐ Section 4G (meter readings)
ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS

PROFILE CONDITION
11/7 / C
at Observation Hole • TP-1
Depth 20 "
of Most Limiting Soil Factor

DISPOSAL FIELD SIZING

1. ☐ Medium - 2.6 sq.ft./gpd
2. ■ Medium-Large - 3.3 sq.ft./gpd
3. ☐ Large - 4.1 sq.ft./gpd
4. ☐ Extra-Large - 5.0 sq.ft./gpd

EFFLUENT/EJECTOR PUMP

1. ☐ Not required
2. ■ May be required
3. ☐ Required
Specify only for engineered systems:
DOSE: _____ Gallons

LATITUDE AND LONGITUDE

at center of disposal area
Lat. 43 d 45 m 12 s
Lon. 70 d 21 m 42 s
if g.p.s, state margin of error 15'

SITE EVALUATOR STATEMENT

I Certify that on 7/10/25 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed sytem is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).

Site Evaluator Signature — #348 SE • — 7/10/25 Date

NORMAN "BUD" HARRIS (HARRIS SEPTIC SOLUTIONS, INC.) (207) 892-2435
harrisseptic@gmail.com

Note: Changes to or deviations from the design should be confirmed with the Site Evaluator.

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

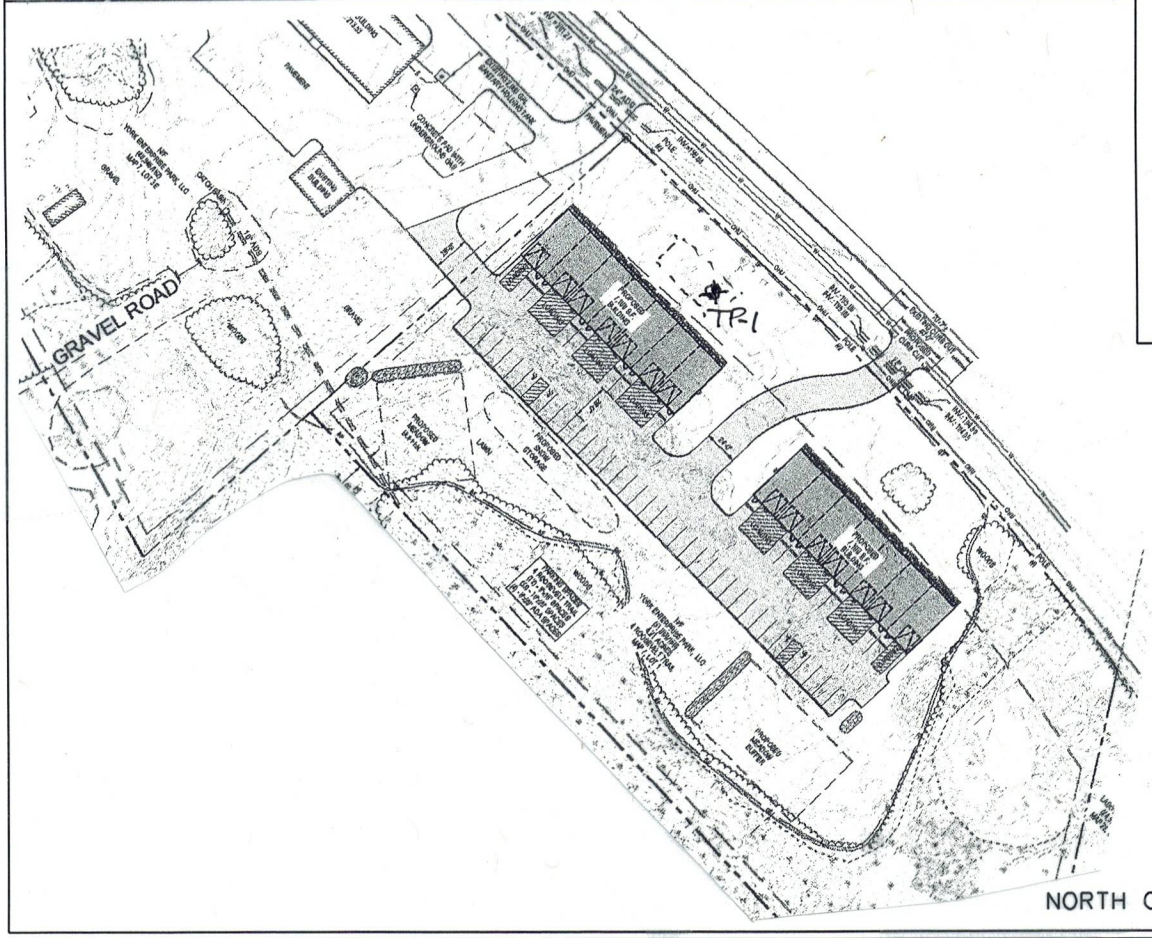
Maine Dept. Health & Human Services
Div of Environmental Health, 11 SHS
(207) 287-5672 FAX (207) 287-3165

Town, City, Plantation: WINDHAM

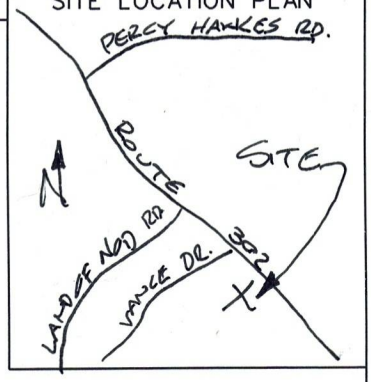
Street, Road, Subdivision: 4 ROOSEVELT TRAIL, UNIT #2

Owner's Name: YORK ENTERPRISE PARK, LLC

SITE PLAN Scale 1" = NTS ft. or as shown



SITE LOCATION PLAN



SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-1 ■ Test Pit ☐ Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	GRAVELLY COARSE SAND	SOMEWHAT FIRM FILL	PALE BROWN	
10	LOAMY FINE SAND	FRIABLE	STRONG BROWN	
20	FINE SAND	FIRM	DARK BROWN	RESTRICTIVE
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
11/7 Profile / C Condition	0-2 %	20 "	☐ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole _____ ☐ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
Profile / Condition	%	"	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Site Evaluator Signature

#348 SE •

7/10/25 Date

NORMAN "BUD" HARRIS (HARRIS SEPTIC SOLUTIONS, INC.) (207) 892-2435 harrisseptic@gmail.com

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

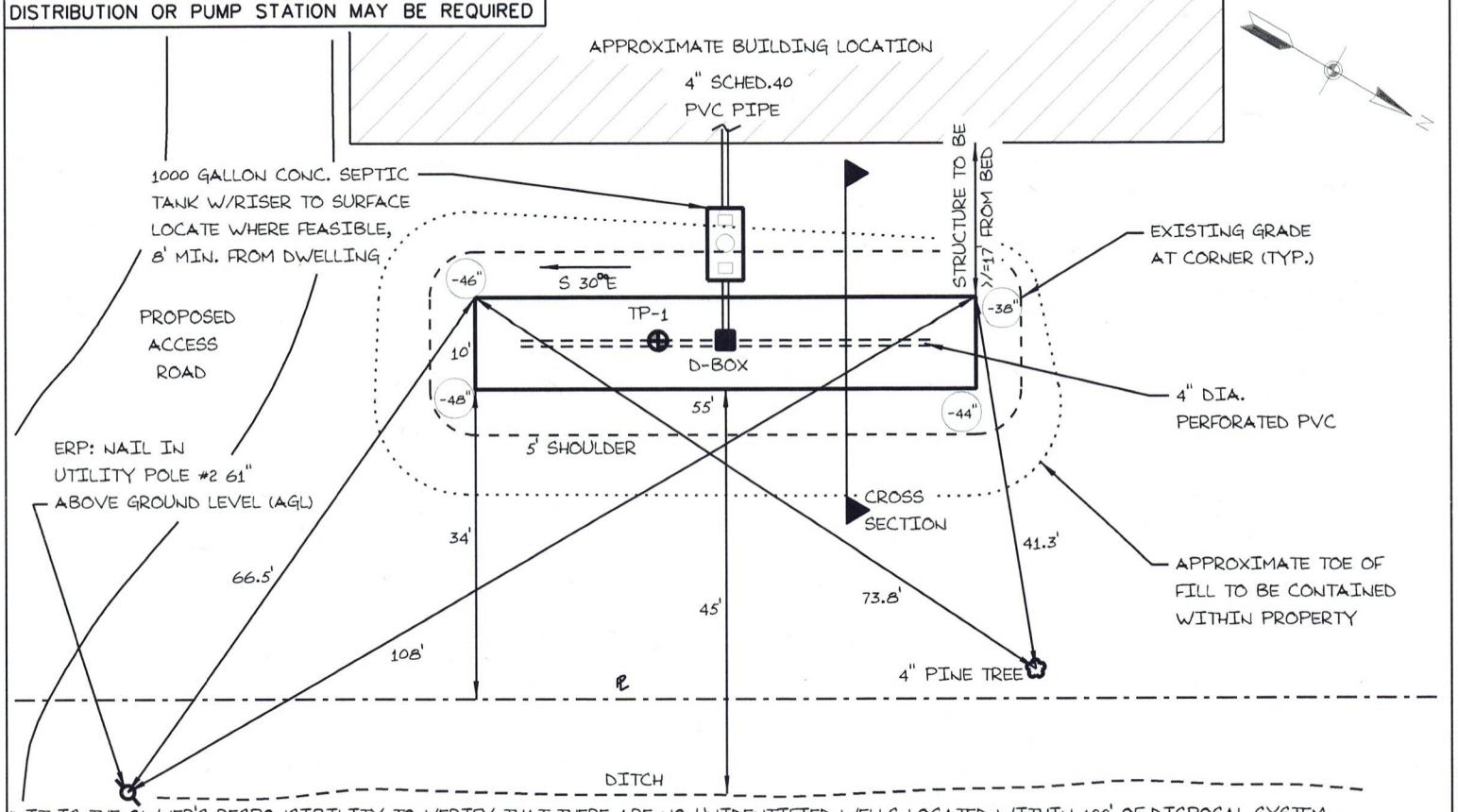
Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 FAX (207) 287-4172

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
WINDHAM	4 ROOSEVELT TRAIL, UNIT #2	YORK ENTERPRISE PARK, LLC

INSTALLER TO CONFIRM ELEVATIONS NECESSARY TO OBTAIN PROPER GRAVITY DISTRIBUTION OR PUMP STATION MAY BE REQUIRED

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE 1" = 20 FT.



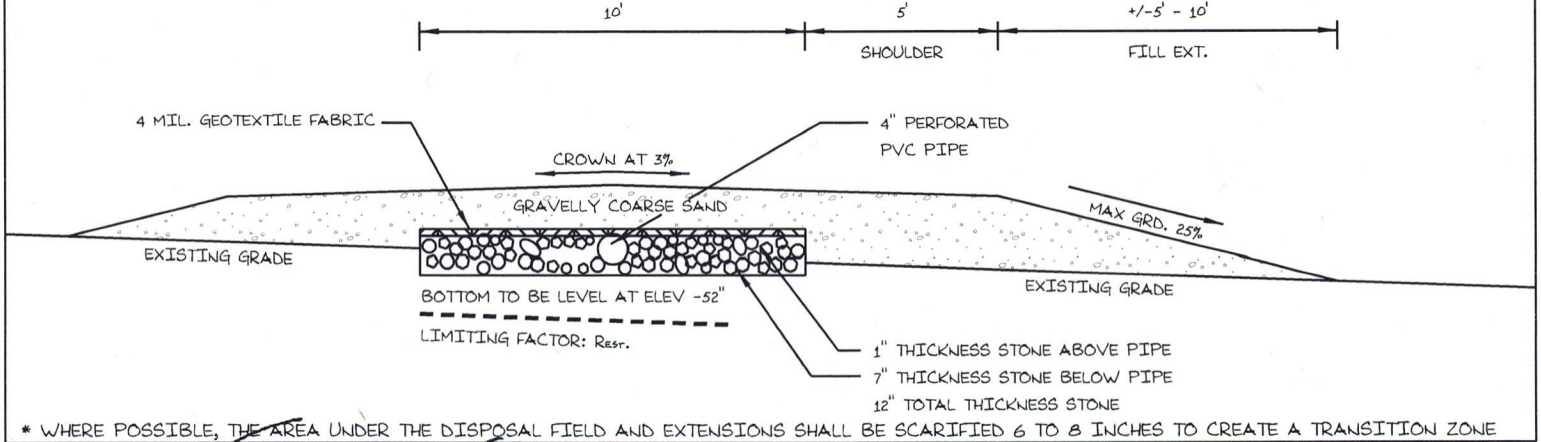
* IT IS THE OWNER'S RESPONSIBILITY TO VERIFY THAT THERE ARE NO UNIDENTIFIED WELLS LOCATED WITHIN 100' OF DISPOSAL SYSTEM.
* ALL INFORMATION CONTAINED WITHIN THIS APPLICATION IS AS REPRESENTED BY OWNER, APPLICANT OR OWNER'S/APPLICANT'S REPRESENTATIVE. THE SITE EVALUATOR WILL NOT BE HELD RESPONSIBLE FOR ANY PERTINENT FACTORS NOT IDENTIFIED, DISCLOSED OR INACCURATELY DISCLOSED.

FILL REQUIREMENTS		CONSTRUCTION ELEVATIONS		ELEVATION REFERENCE POINT	
Depth of Fill (Upslope)	: 9" - 17"	Finished Grade Elevation	-29"	Location & Description	NAIL IN
Depth of Fill (Downslope)	: 15" - 19"	Top of Distribution Pipe or Proprietary Device	-41"		UTILITY POLE #2 61" AGL
		Bottom of Disposal Area	-52"	Reference Elevation	-0"

DISPOSAL FIELD CROSS-SECTION

SCALES:
VERTICAL: 1" = 5 FT
HORIZONTAL: 1" = 5 FT

NOTES:
* BACKFILL TO BE GRAVELLY COARSE SAND FREE OF FINES AND ORGANIC DEBRIS
* FINAL GRADES SHALL BE LOAMED, SEEDED AND OR MULCHED TO PREVENT EROSION
* ANY STONE REQUIRED TO BE FREE OF FINES AND ORGANIC DEBRIS AT A SIZE OF +/- 1 1/2" IN DIAMETER.



* WHERE POSSIBLE, THE AREA UNDER THE DISPOSAL FIELD AND EXTENSIONS SHALL BE SCARIFIED 6 TO 8 INCHES TO CREATE A TRANSITION ZONE

Site Evaluator Signature

#348
SE •

7/10/25
Date

NORMAN "BUD" HARRIS (HARRIS SEPTIC SOLUTIONS, INC.) (207) 892-2435
harrisseptic@gmail.com

STATEMENT TO OWNER/APPLICANT

(attachment to HHE-200)

A Site Evaluation as defined in The Maine Subsurface Wastewater Disposal Rules (September 23, 2023) is:

" The practice of investigating, evaluating, and reporting the basic soil and site conditions which apply to wastewater treatment and disposal along with a system design in compliance with this rule."

All reported site features are interpreted from information supplied by the owner, applicant or representative. This information in turn is utilized as means to design a disposal system that complies with the Maine Subsurface Wastewater Disposal Rules. The owner, applicant, and/or representative prior to signing of this application must verify this information as correct.

Minimum separation distances required for disposal systems less than 1000 gpd (unless reduced by variance)

Well (owner or neighbor) to any disposal component 100'
Location of neighbor's wells is often difficult to observe. Many wells may be buried or hidden, making them unidentifiable. Confirmation from neighbor that their well is greater than 100' must be obtained prior to installation.

• Water supply line to any disposal component	10'
• Building (full basement) to disposal area	20'
• Building (no full basement) to disposal area	15'
• Building to Septic Tank	8'
• Waterbody (major) to any septic component	100'
• Waterbody (minor) to any septic component	50'
• Property line to any septic component	10'*

* All fill material (fill extension) to be contained within property with 4:1 slope

If after review it is agreed that all information is accurate, the following steps should be taken.

1. Sign the Owner or Applicant Statement section on page 1 of the application
2. Sign any Variance forms or any special circumstance forms that may be attached
3. If required, secure any neighbor variance/release form signatures
4. Repeat signatures on all copies
5. Submit 3 copies to your local Code Enforcement for review and approval

Prior to installation it is recommended that all abutting property owners be notified.

Harris Septic Solutions, Inc.
(207) 892-2435

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

N. Site Lighting/Architectural Detail Sheets

Catalog # : _____ Project : _____ Type : _____

Prepared By : _____ Date : _____

Mirada Medium Wall Sconce (XWM)

Outdoor Wall Sconce

IP65 IK08

OVERVIEW	
Lumen Package	3,000 - 21,000
Wattage Range	23 - 175
Efficacy Range (LPW)	125 - 158
Weight lbs(kg)	27 (12.2)
Control Options	IMSBT, ALB, ALS, PCI

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Hinged die-cast aluminum wiring access door located underneath.
- Galvanized-steel universal wall mount bracket comes standard with hinging mechanism to easily access the junction box wire connections without removing the luminaire.
- Optional pole-mounting bracket (XPMA) permits mounting to standard poles.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Max shipping weight: 30lbs in carton

Optical System

- State-of-the-Art one piece silicone optic provides industry leading optical control while also acting as an integrated gasket reducing system complexity and improving fixture reliability.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in Types 2, 3, 4, and FT distributions.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- 5000K, 4000K, 3500K, 3000K, and 2700K color temperatures per ANSI C78.377. Also Available in Phosphor Converted Amber with Peak intensity at 610nm.
- 70 or 80CRI Minimum.

Electrical

- High-performance programmable driver features over-voltage, under-voltage, short-circuit and over temperature protection. Custom lumen and wattage packages available.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L80 Calculated Life: >100k Hours
- Total harmonic distortion (THD): <20%
- 3L to 12L operating temperature: -40°C to +50°C (-40°F to +122°F)
- 15L operating temperature: -40°C to +45°C (-40°F to +113°F).
- 18L operating temperature: -40°C to +40°C (-40°F to +104°F).
- 21L operating temperature: -40°C to +35°C (-40°F to + 95°F).
- Power factor (PF): >.90
- Input power stays constant over life.
- Optional 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed via hinged door.
- Optional integral emergency battery pack provides 90-minutes of constant power to the LED system, ensuring code compliance. A test switch/indicator button is installed on the housing for ease of maintenance. The fixture delivers 1500 lumens during emergency mode.

Controls

- Integral passive infrared Bluetooth™ motion sensor options. Fixtures operate independently and can be commissioned via an iOS or Android configuration app. Updates and modifications to the control strategy are easily implemented via an intuitive app.
- The ALBMRxLR utilizing an external antenna for long range communications allows for Bluetooth Mesh wireless up to 100' from node to node. Ensures reliable wireless communications for applications where only wall-mount fixture product is being utilized.

Installation

- Universal wall mounting plate easily mounts directly to 4" octagonal or square junction box.
- 2 fasteners secure the hinged door underneath the housing and provide quick & easy access to the electrical compartment for installing/servicing.
- Optional terminal block accepts up to 12 ga wire.

Warranty

- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.
- 1 Year warranty on Battery Back-up option.

Listings

- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- DarkSky Approved with 3000K or warmer color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet Locations.
- IP65 rated luminaire per IEC 60598.
- 3G rated for ANSI C136.31 high vibration applications when pole mounted (using optional XPMA bracket) or wall mounted.
- IK08 rated luminiare per IEC 66262 mechanical impact code
- DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Mirada Medium Wall Sconce (XWM) Outdoor Wall Sconce

Type : _____

Have questions? Call us at (800) 436-7800

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: XWM 2 LED 03L 30 UE BRZ ALSC

Family	Distribution	Light Source	Lumen Package	Color Temperature
XWM - Mirada Medium Wall Sconce	**2** - Type 2 **3** - Type 3 **4** - Type 4 **FT** - Type 4 Forward Throw	**LED**	**3L** - 3,000 **4L** - 4,000 **6L** - 6,000 **8L** - 8,000 **12L** - 12,000 **15L** - 15,000 **18L** - 18,000 **21L** - 21,000 **Custom Lumen Packages**[1]	**50** - 5000K (70CRI) **50K8** - 5000K (80CRI) **40** - 4000K (70CRI) **40K8** - 4000K (80CRI) **35K8** - 3500K (80CRI) DarkSky Approved CCT's **30** - 3000K (70 CRI) **30K8** - 3000K (80 CRI) **27K8** - 2700K (80 CRI) **AMB** - Phosphor Converted Amber[2]

Voltage	Finish	Controls	Options
UE - Universal Voltage (120-277V) **HV** - High Voltage (347-480V)	**BLK** - Black **BRZ** - Dark Bronze **GMG** - Gun Metal Gray **GPT** - Graphite **MSV** - Metallic Silver **PLP** - Platinum Plus **SVG** - Satin Verde Green **WHT** - White	**Blank** - None **Wireless Controls** **ALSC** - Airlink Synapse Control System **ALSCS01** - AirLink Synapse Control System with 8-12' Motion Sensor **ALSCS02** - AirLink Synapse Control System with 12-20' Motion Sensor **ALBMR1LR** - AirLink Blue Wireless Motion & Photo Sensor Controller (8 - 15') mounting height)[3] **ALBMR2LR** - AirLink Blue Wireless Motion & Photo Sensor Controller (16 - 40' mounting height)[3] **Standalone Controls** **DIM** - 0-10v Dimming leads extended to housing exterior **IMSBT1L** -Integral Bluetooth™ Motion and Photocell Sensor (8-24' MH)[3,4] **IMSBT2L** - Integral Bluetooth™ Motion and Photocell Sensor (25-40' MH)[3,4] **Button Type Photocells** **PCI120** - 120V **PCI208-277** - 208 -277V **PCI347** - 347V	**Blank** - None **BB** - Battery Back-up (0°C)[5] **CWBB** - Cold Weather Battery Backup (-20°C)[5] **XPMA** - Pole Mounting Bracket **SP1** - 10kV Surge Protection **TB** - Terminal Block

Need more information?
Click here for our glossary

Have additional questions?
Call us at (800) 436-7800

FUSING ACCESSORY ORDERING INFORMATION[6]

Part Number	Description
FK120[7]	FK120 - Single Fusing
FK277[7]	FK277 - Single Fusing
FK347[7]	FK347 - Single Fusing
DFK208[7]	DFK - Double Fusing
DFK240[7]	DFK - Double Fusing (240V)
DFK480[7]	DFK - Double Fusing (480V)

MOUNTING ACCESSORY ORDERING INFORMATION[6]

Part Number[8]	Description
809374CLR	XWM Wet Location Surface Conduit/Wiring Box
751632	10' Linear Bird Spike Kit (2' Recommended per Luminaire)

1 Custom lumen and wattage packages available consult factory. Values are within industry standard tolerances but not DLC listed.
2 Only available in 6L Lumen Package. Consult factory for lead time and availability.
3 IMSBT and ALBMRxLR control options are not available in 3L or 4L lumen packages when high voltage (HV) is specified.
4 IMSBTxL is field configurable via the Leviton app that can be downloaded from your smartphone's app store.
5 Not available in HV.
6 Accessories are shipped separately and field installed.
7 Fusing must be located in a hand hole for pole or in the junction box.
8 "CLR" to be replaced by paint finish selection. See Finish options for paint color selections.

Mirada Medium Wall Sconce (XWM) Outdoor Wall Sconce

Type : _____

Have questions? Call us at (800) 436-7800

PERFORMANCE

Back to Quick Links

Delivered Lumens[1]

Lumen Package	Distribution	CRI	3000K			4000K			5000K			Wattage
			Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
3L	2	70	3,178	138	B1-U0-G1	3,368	146	B1-U0-G1	9,853	159	B1-U0-G1	23
	3		3,224	140	B1-U0-G1	3,416	148	B1-U0-G1	3,361	145	B1-U0-G1	
	4		3,210	140	B1-U0-G2	3,364	146	B1-U0-G2	3,294	143	B1-U0-G2	
	FT		3,160	137	B1-U0-G1	3,349	145	B1-U0-G1	3,294	143	B1-U0-G1	
4L	2	70	4,230	139	B1-U0-G1	4,483	147	B1-U0-G1	4,410	145	B1-U0-G1	30
	3		4,291	141	B1-U0-G1	4,547	150	B1-U0-G1	4,473	147	B1-U0-G1	
	4		4,234	141	B1-U0-G2	4,437	148	B1-U0-G2	4,344	145	B1-U0-G2	
	FT		4,206	138	B1-U0-G1	4,458	147	B1-U0-G1	4,385	144	B1-U0-G1	
6L	2	70	6,326	134	B2-U0-G1	6,704	142	B2-U0-G2	6,595	140	B2-U0-G2	47
	3		6,417	136	B1-U0-G2	6,800	144	B2-U0-G2	6,689	142	B2-U0-G2	
	4		6,336	135	B1-U0-G3	6,640	141	B1-U0-G3	6,500	138	B1-U0-G3	
	FT		6,290	134	B2-U0-G2	6,666	142	B2-U0-G2	6,557	139	B2-U0-G2	
8L	2	70	8,166	128	B2-U0-G2	8,654	135	B2-U0-G2	8,513	133	B2-U0-G2	64
	3		8,283	129	B2-U0-G2	8,778	137	B2-U0-G2	8,635	134	B2-U0-G2	
	4		8,362	131	B1-U0-G3	8,763	137	B2-U0-G3	8,579	134	B1-U0-G3	
	FT		8,120	126	B2-U0-G2	8,605	134	B2-U0-G2	8,465	132	B2-U0-G2	
12L	2	70	11,492	149	B2-U0-G2	12,033	156	B3-U0-G2	11,927	155	B3-U0-G2	77
	3		11,757	153	B2-U0-G2	12,311	160	B2-U0-G2	12,203	158	B2-U0-G2	
	4		11,486	149	B2-U0-G3	12,058	157	B2-U0-G3	11,716	152	B2-U0-G3	
	FT		11,721	152	B2-U0-G2	12,274	159	B2-U0-G3	12,166	158	B2-U0-G3	
15L	2	70	14,221	145	B3-U0-G2	14,891	152	B3-U0-G2	14,760	151	B3-U0-G2	98
	3		14,549	148	B2-U0-G2	15,235	155	B2-U0-G2	15,101	154	B2-U0-G2	
	4		14,099	144	B2-U0-G3	14,801	151	B2-U0-G3	14,382	147	B2-U0-G3	
	FT		14,505	148	B2-U0-G3	15,189	155	B2-U0-G3	15,055	154	B2-U0-G3	
18L	2	70	16,894	138	B3-U0-G3	17,690	145	B3-U0-G3	17,534	144	B3-U0-G3	122
	3		17,285	142	B3-U0-G3	18,099	148	B3-U0-G3	17,940	147	B3-U0-G3	
	4		16,951	139	B2-U0-G3	17,795	146	B3-U0-G3	17,291	142	B3-U0-G3	
	FT		17,231	141	B3-U0-G3	18,044	148	B3-U0-G3	17,885	147	B3-U0-G3	
21L	2	70	19,961	133	B3-U0-G3	20,902	139	B3-U0-G3	20,718	138	B3-U0-G3	150
	3		20,422	136	B3-U0-G3	21,385	143	B3-U0-G3	21,197	141	B3-U0-G3	
	4		19,768	132	B3-U0-G4	20,753	138	B3-U0-G5	20,165	134	B3-U0-G4	
	FT		20,360	136	B3-U0-G3	21,320	142	B3-U0-G3	21,132	141	B3-U0-G3	

LUMEN SCALING FACTOR

70CRI - 80CRI	3000K 70CRI - 3500K 80CRI	3000K 70CRI - 2700K 80CRI
0.93	1.00	0.86

Electrical Data (Amps) - 2700K/3000K/3500K/4000K/5000K[2]

Lumen Package	120V	208V	240V	277V	347V	480V
3L	0.19	0.11	0.10	0.08	0.07	0.05
4L	0.25	0.14	0.13	0.11	0.09	0.06
6L	0.39	0.23	0.20	0.17	0.14	0.10
9L	0.53	0.31	0.27	0.23	0.18	0.13
12L	0.64	0.37	0.32	0.28	0.22	0.16
15L	0.82	0.47	0.41	0.35	0.28	0.20
18L	1.02	0.59	0.51	0.44	0.35	0.25
21L	1.25	0.72	0.63	0.54	0.43	0.31

Recommended Lumen Maintenance - XWM[3]

Ambient Temperature C°	Initial[4]	25K hrs.[4]	50K hrs.[4]	75K hrs.[5]	100K hrs.[5]
35	99%	97%	95%	93%	91%
50	100%	98%	95%	93%	90%

Delivered Lumens (Phosphor Converted Amber)

Lumen Package	Distribution	Amber			Wattage
		Delivered Lumens	Efficacy	BUG Rating	
6L	2	3,325	76	B1-U0-G1	44
	3	3,385	78	B1-U0-G1	
	4	3,310	75	B1-U0-G1	
	FT	3,343	77	B1-U0-G1	

1 LEDs are frequently updated therefore values are nominal
2 Electrical data at 25C (77F). Actual wattage may differ by +/-10%.
3 Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing.
4 In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip).
5 In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times NA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip).

PHOTOMETRICS

Back to Quick Links

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

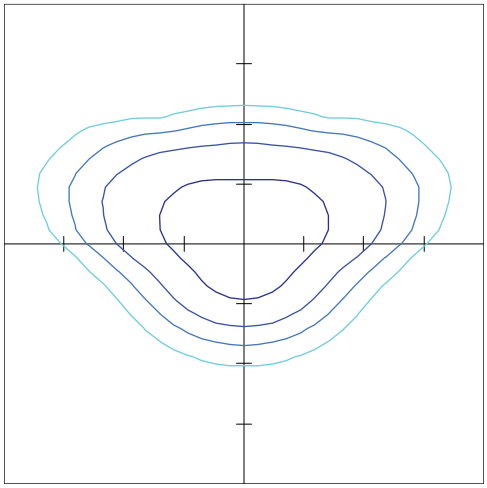
See the individual product page on https://www.lsicorp.com/ for detailed photometric data.

XWM-2-LED-12L-40

Luminaire Data	
Type 2 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,033
Watts	77
Efficacy	156
IES Type	Type II - Short
BUG Rating	B3-U0-G2

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	1,961	16%
Medium (30-60°)	6,874	57%
High (60-80°)	3,014	25%
Very High (80-90°)	184	2%
Uplight (90-180°)	0	0%
Total Flux	12,033	100%

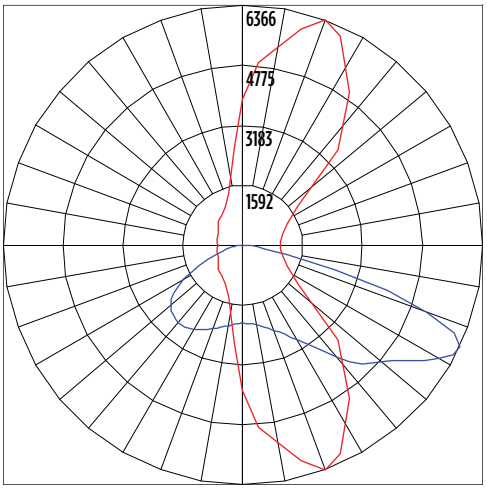
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



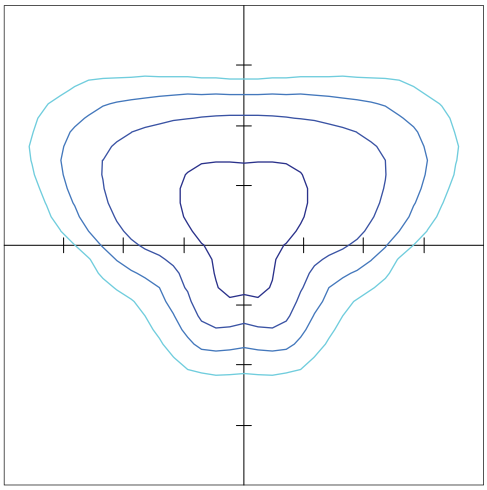
Vertical Plane Horizontal Cone

XWM-3-LED-12L-40

Luminaire Data	
Type 3 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,311
Watts	77
Efficacy	160
IES Type	Type III - Short
BUG Rating	B2-U0-G2

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	1,340	11%
Medium (30-60°)	6,164	50%
High (60-80°)	4,549	37%
Very High (80-90°)	258	2%
Uplight (90-180°)	0	0%
Total Flux	12,311	100%

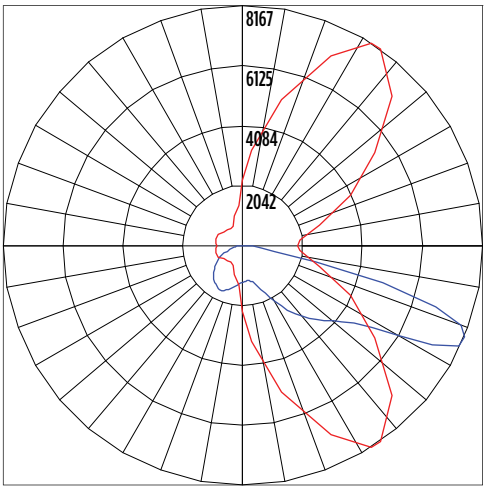
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

10 FC 5 FC 2 FC 1 FC

Polar Curve



Vertical Plane Horizontal Cone

Mirada Medium Wall Sconce (XWM) Outdoor Wall Sconce

Type : _____

Have questions? Call us at (800) 436-7800

PHOTOMETRICS

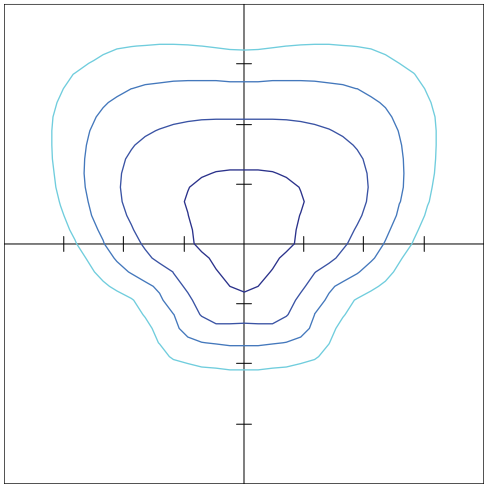
Back to Quick Links

XWM-FT-LED-12L-40

Luminaire Data	
Type FT Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,274
Watts	77
Efficacy	159
IES Type	Type IV - Short
BUG Rating	B2-U0-G3

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	1,578	13%
Medium (30-60°)	5,798	47%
High (60-80°)	4,576	37%
Very High (80-90°)	322	3%
Uplight (90-180°)	0	0%
Total Flux	12,274	100%

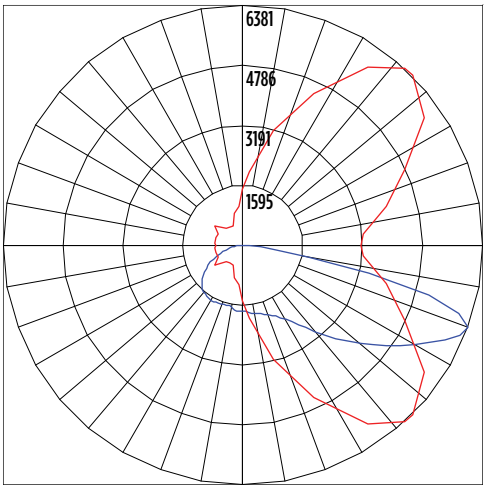
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



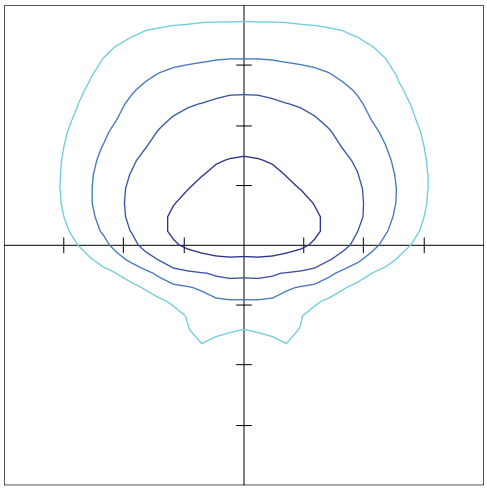
Vertical Plane Horizontal Cone

XWM-4-LED-12L-40

Luminaire Data	
Type 4 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,058
Watts	77
Efficacy	157
IES Type	Type IV - Very Short
BUG Rating	B2-U0-G3

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	1,345	11%
Medium (30-60°)	5,394	45%
High (60-80°)	4,855	40%
Very High (80-90°)	464	4%
Uplight (90-180°)	0	0%
Total Flux	12,058	100%

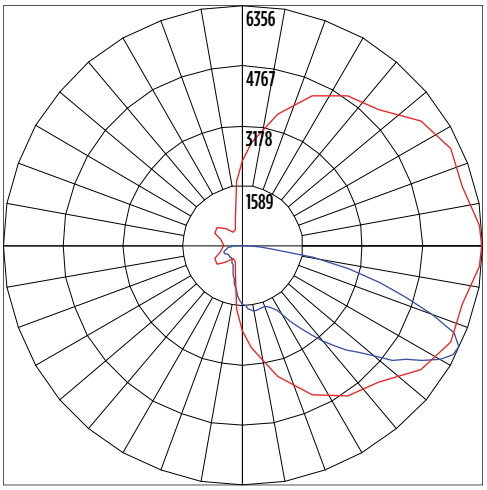
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

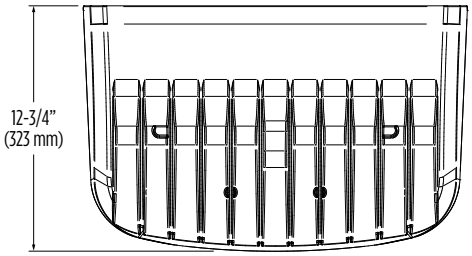
Polar Curve

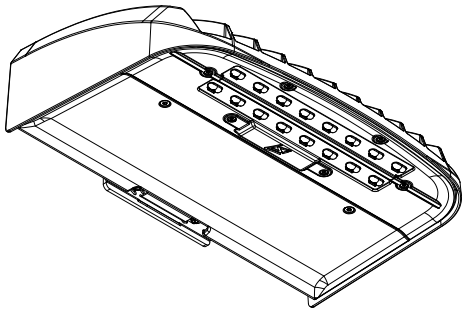


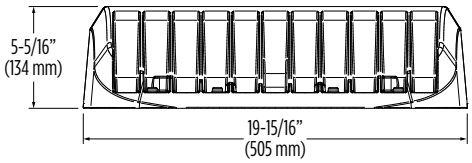
Vertical Plane Horizontal Cone

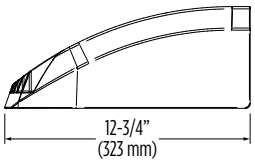
PRODUCT DIMENSIONS

Back to Quick Links



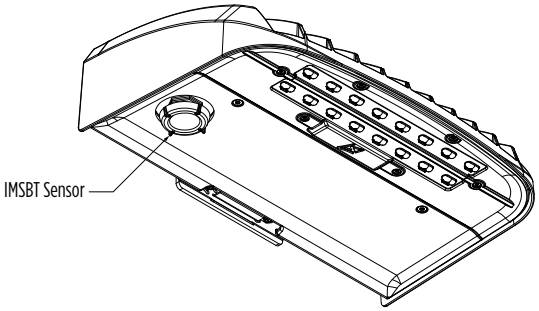






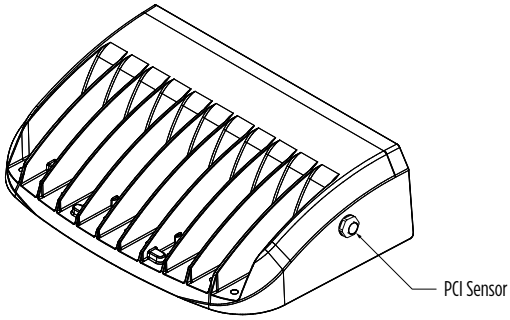
Mirada Medium Wall Sconce with Integral Bluetooth™ Motion and Photocell Sensor

(XWM IMSBTxL)



Mirada Medium Wall Sconce with Button Type Photocell

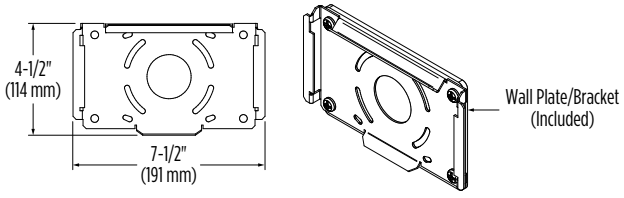
(XWM PCI)



Mounting Options

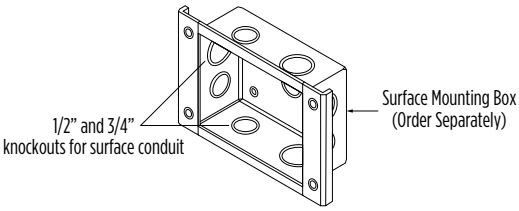
Mounting Over Junction Box

(Standard/Included)



XWM Wet Location Surface Conduit/Wiring Box

(809374CLR)



CONTROLS

Back to Quick Links

Integral Bluetooth™ Motion and Photocell Sensor (IMSBTxL)

Slim low profile sensor provides multi-level control based on motion and/or daylight. Sensor controls 0-10 VDC LED drivers and is IP66 rated for cold and wet locations (-40°F to 167°F). Two unique PIR lenses are available and used based on fixture mounting height. All control parameters are adjustable via an iOS or Android App capable of storing and transmitting sensor profiles.

Click here to learn more details about IMSBT

LEVITON App Apple Android

AirLink Wireless Lighting Controller (ALSC, ALSCS)

The AirLink integrated controller is a California Title 24 compliant lighting controller that provides real-time light monitoring and control with utility-grade power monitoring. It includes a 24V sensor input and power supply to connect a sensor into the outdoor AirLink wireless lighting system. The wireless integrated controller is compatible with this fixture.

Click here to learn more details about AirLink

AirLink Blue (ALBMRxLR)

Wireless Bluetooth Mesh Outdoor Lighting Control System that provides energy savings, code compliance and enhanced safety/security for parking lots and parking garages. Three key components; Bluetooth wireless radio/sensor controller, Time Keeper and an iOS App. Capable of grouping multiple fixtures and sensors as well as scheduling time-based events by zone. Radio/Sensor Controller is factory integrated into Area/Site, Wall Mounted, Parking Garage and Canopy luminaires.

Click here to learn more details about AirLink Blue

AirLink Blue App Apple

Sensor Sequence of Operations

Standard Programming	On Event	Off Event	On Light Level	Dim Light Level	Daylight Harvesting	Delay To Off	Sensitivity
IMSBTxL	Motion	No Motion	100%	N/A	On; Auto Calibration	20 minutes	High

Operation	Description
On Event	Trigger that activates lights to turn on; either automatic via motion detected or manually activated via push of button.
Off Event	Trigger that activates lights to turn off; either automatic via no motion detected or manually activated via push of button.
On Light Level	The light level that the fixtures will turn on to when ON EVENT occurs.
Dim Light Level	The light level that the fixtures will dim down to when no motion is detected.
Delay to Dim	The amount of time after which no motion is detected that the fixtures will be triggered to dim down. This sequence is optional, and sensor can be programmed to only trigger the fixture to turn off by entering 100% in this field.
Delay to Off	The amount of time after which no motion is detected that the fixtures will be triggered to turn off. If delay to dim is part of the programmed functionality, this is the amount of time after which no motion is detected after the fixture have already dimmed down.
Sensitivity	The sensitivity can be set to high, medium, low, or auto where applicable. High will detect smaller, simple motions. Low will only detect larger more complex motions. Auto temperature calibration adjusts the PIR sensitivity as ambient temperature rises to increase detection of heat movement through the field of view.

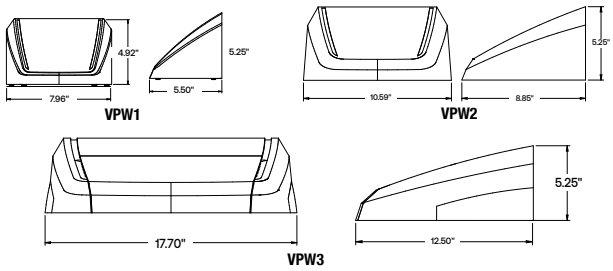
BEACON
design . performance . technology

VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

MICRO STRIKE | OPTICS STRIKE



	Weight
VPW1	4.1 lbs / 1.86 kg
VPW2	7.15 lbs / 3.24 kg
VPW3	17.1 lbs / 7.80 kg

FEATURES

- Low profile LED wall luminaire with a variety of IES distributions for lighting applications such as retail, commercial and industrial building mount
- Featuring Strike and Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual Comfort - Option for Size 2 and Size 3
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, and LightGRID+.
- Battery Backup options available for emergency code compliance
- Quick-mount adapter allows easy installation/maintenance
- 347V and 480V versions for industrial applications and Canada

C US BAA TAA DARKSKY APPROVED

CONTROL TECHNOLOGY

NX CONNECT NX WIRED NX WIRELESS LIGHTGRID+

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 2700K, 3000K, 3500K, 4000K and 5000K CCTs
- Zero uplight distributions
- LED optics provide IES type II, III and IV distributions.

INSTALLATION

- Quick-mount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box)
- Designed for direct j-box mount.

ELECTRICAL

- 120V-277V universal voltage 50/60Hz 0-10V dimming drivers
- 347V input is available in most wattage, 480V is available for 55W and above.
- Ambient operating temperature -40˚C to 40˚C
- Driver RoHS and IP66
- 10kV Surge Protector optional
- Drivers have greater than .90 power factor and less than 20% Total Harmonic Distortion
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options can not be included in one same fixture.
- Dimming drivers are standard. Select CD (Customer Dimming) for the dimming wires to be extended outside the fixture.

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- Button photocontrol is suitable for 120-277V operation
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor

CONTROLS CONTINUED

- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Battery Backup suitable for operating temperatures -20˚C to 40˚C.
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor.

CERTIFICATIONS

- Certified to UL 1598 and CSA 22.2#250.0-24
- IP65 rated housing
- Emergency battery backup options are California Energy Commission (CEC) Title 20 Compliant
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225- 11). See Buy America(n) Solutions (link to https://http://www.currentlighting.com/resources/americasolutions).
- DarkSky approved with 3000K CCT or warmer

WARRANTY

- 5 year limited warranty

BEACON
design . performance . technology

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

ORDERING GUIDE

Example: VPW1–24L-10–3K7–2–UNV–BLS

CATALOG #

Series		Optic Platform		# LEDs - Wattage		CCT/CRI		Distribution		Voltage		Color	
VPW1	Viper Wall 1	**(blank)**	Microstrike	**24L-10**	1,000 Lumens	**27K8**	2700K, 80 CRI[16]	**FR**	Auto Front Row[7,15]	**UNV**	120-277V	**BLT**	Black Matte Textured
		ST	Strike	**24L-15**	2,000 Lumens	**3K7**	3000K, 70 CRI[16]	**2**	IES TYPE 2	**120**	120V	**BLS**	Black Gloss Smooth
				24L-25	3,000 Lumens	**4K7**	4000K, 70 CRI	**3**	IES TYPE 3	**208**	208V	**DBT**	Dark Bronze Matte Textured
VPW2	Viper Wall 2			**48L-15**	2,000 Lumens	**5K7**	5000K, 70 CRI	**4F**	IES TYPE 4 Forward	**240**	240V	**DBS**	Dark Bronze Gloss Smooth
				48L-20	3,000 Lumens	**3K8**	3000K, 80 CRI	**4W**	IES TYPE 4W	**277**	277V	**GTT**	Graphite Matte Textured
				48L-30	4,000 Lumens	**35K8**	3500K, 80 CRI			**347**	347V	**LGS**	Light Grey Gloss Smooth
				48L-35	5,000 Lumens	**4K8**	4000K, 80 CRI			**480**	480V	**LGT**	Light Grey Matte Textured
				48L-45	6,000 Lumens	**5K8**	5000K, 80 CRI					**PSS**	Platinum Silver Smooth
				80L-20	3,000 Lumens	**AP**	Phosphor Converted Amber[1]					**WHT**	White Matte Textured
				80L-25	4,000 Lumens							**WHS**	White Gloss Smooth
				80L-35	5,000 Lumens							**VGT**	Verde Green Textured
				80L-45	6,000 Lumens							**Color Option**	
				80L-55	7,000 Lumens							**CC**	Custom Color
				80L-65	8,000 Lumens								
				80L-70	8,500 Lumens								
				18L-25	3,000 Lumens, Strike Optics								
				18L-30	4,000 Lumens, Strike Optics								
				18L-39	4,750 Lumens, Strike Optics								
				18L-50	6,000 Lumens, Strike Optics								
				18L-60	6,500 Lumens, Strike Optics								
VPW3	Viper Wall 3			**160L-45**	7,000 Lumens								
				160L-70	10,000 Lumens								
				160L-95	12,500 Lumens								
				160L-105	15,000 Lumens								
				160L-135	17,500 Lumens								
				160L-155	20,000 Lumens								
				36L-55	7,000 Lumens, Strike Optics								
				36L-80	9,500 Lumens, Strike Optics								
				36L-100	11,500 Lumens, Strike Optics								
				36L-120	13,000 Lumens, Strike Optics								

Control Options Network[3,7,11,13]	
NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[14]
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor
WIR	LightGRID+ In-Fixture Module[9]
WIRSC	LightGRID+ In-Fixture Moduel with BTS occupancy[9]
Stand Alone Sensors[7,11,13]	
BTS-14F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor[4,9]
BTS-40F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor[4,9]
BTSO-12F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor, up to 12' mounting height[14]
Photocontrol[13]	
PC	Button Photocontrol 120-277V

Options	
F	Fusing[5,7]
E	Battery[6,7,8]
EH	Battery with Heater[6,7,8]
CS	Comfort Shield[7,10]
SP	10kA Surge Protector
2PF	Dual Power Feed[2,7,8]
2DR	Dual Driver[2,7,8]
CD	Customer Dimming[12]
DTS	Dimming Transfer Switch[7]

Notes:

1 Available with Micro Strike Optics only
2 Not available with 480V in Size 1 and Size 2
3 Networked controls cannot be combined with other control options
4 Not available with VPW1 or with 2PF or 2DR options
5 Must specify voltage (VPW1 & VPW2: 120V, 277V or 347V; VPW3: 120V, 208V, 240V, 277V, 347V or 480V)
6 See page 10 for detail Battery configurations
7 Not available in VPW1
8 2PF can't be combined with E or EH; 2DR can't be combined with E or EH in VPW2
9 Not avialable in VPW1 and VPW2
10 Not available with Micro Strike 24L and 48L. Not available with Strike 18L and 36L
11 Not available with 2PF
12 Not available with Network Control options or Stand Alone Sensors. Can be ordered with PC
13 Not available in 480V in VPW2; Only available in 480V in VPW3 in 80W, 100W, 120W, 135W and 155W
14 NXWS12F and BTSO-12F are the only sensors available in VPW2
15 Available with Strike Optics only (18L or 36L)
16 DarkSky approved with 3000K CCT or warmer

BEACON
design . performance . technology

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

ACCESSORIES AND REPLACEMENT PARTS - MADE TO ORDER

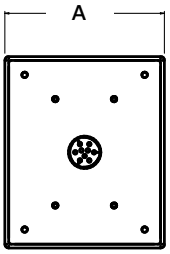
	Catalog Number	Description
☐	**WP-BB-XXX**	Back Box Accessory for conduit entry[1]
☐	**CS**	Comfort Shield[2]

Notes:

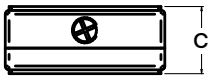
1 replace "xxx" with color option

2 Not available with Micro Strike 24L and 48L or Strike 18L and 36L

DIMENSIONS



Back Box Accessory



A	B	C
4.9" 124mm	5.9" 150mm	2.1" 53mm

CONTROLS FUNCTIONALITY

OUTDOOR LIGHTING CONTROLS OPTIONS

LIGHTGRID+

	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
NX Wireless	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	✓	✓	✓	–	–	✓	✓	✓	–		NXRM2-H
NX Wireless	NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	16ft		NXSMP2-LMO
NX Wireless	NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	40ft		NXSMP2-HMO
LightGRID+	WIR	LightGRID+ In-Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR
Independent	BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	12ft		BTSMP-OMNI-O
Independent	BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	14ft		BTSMP-LMO
Independent	BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	40ft		BTSMP-HMO

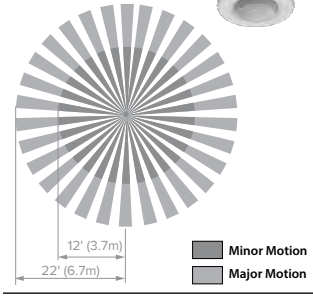
DEFAULT SETTINGS

NX Wireless	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	15 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	0%
Daylight Sensor	Disabled
Bluetooth	Enabled
2.4GHz Wireless Mesh	Off
"Passcode Factory Passcode: HubbN3T!"	Enabled

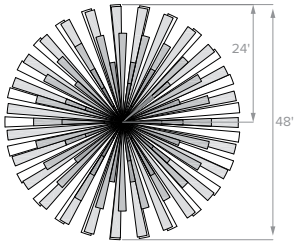
Stand Alone	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	8 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	0% (Off)
Daylight Sensor	Disabled

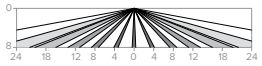
NX WIRELESS COVERAGE PATTERNS

NXSMP2-OMNI



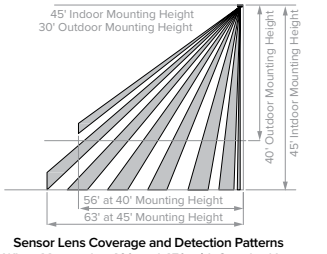
NXSMP2-LMO





Sensor Lens Coverage and Detection Patterns When Mounted at 8ft with Low Mount Lens

NXSMP2-HMO



Sensor Lens Coverage and Detection Patterns When Mounted at 40ft and 45ft with Standard Lens

BEACON
design . performance . technology

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

NX LIGHTING CONTROLS FREE APP

The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminiares and program NX system settings.

Apple App: https://apps.apple.com/us/app/nx-lighting-controls/id962112904

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US

NX LIGHTING CONTROLS

Apple App

Google Play

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

	OPERATING HOURS		
Ambient Temp.	0	25,000	TM-21-22 60,000
25°C / 77°F	1.00	0.91	0.83
40°C / 104°F	0.99	0.90	0.82

Lumen maintenance values calculated per TM-21 using six times the LM-80 test time for the LED and in-situ thermal testing of the luminaire.

MULTIPLIER

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Monochromatic Amber Multiplier			
Amber	0.710		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	0.9	0.81	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1	0.9	0.732
5000K	1	0.9	0.732
Monochromatic Amber Multiplier			
Amber	See Amber Spec Sheet		

PERFORMANCE DATA: MICROSTRIKE

Description	# of LEDs	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
					Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
VPW1	24L	10	6.6	2	1068	141	0	0	0	1068	141	0	0	0	989	131	0	0	0
				3	1076	142	0	0	1	1076	142	0	0	1	997	131	0	0	1
				4F	1052	139	0	0	1	1052	139	0	0	1	974	129	0	0	1
				4W	1041	137	0	0	1	1041	137	0	0	1	964	127	0	0	1
		15	14	2	1993	129	1	0	0	1993	129	1	0	0	1845	119	1	0	0
				3	2008	130	1	0	1	2008	130	1	0	1	1859	120	0	0	1
				4F	1964	127	0	0	1	1964	127	0	0	1	1818	117	0	0	1
				4W	1943	125	1	0	1	1943	125	1	0	1	1799	116	0	0	1
		25	23.0	2	3055	125	1	0	1	3055	125	1	0	1	2828	116	1	0	1
				3	3078	126	1	0	1	3078	126	1	0	1	2850	117	1	0	1
				4F	3010	123	1	0	1	3010	123	1	0	1	2787	114	1	0	1
				4W	2978	122	1	0	1	2978	122	1	0	1	2757	113	1	0	1

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

PERFORMANCE DATA: MICROSTRIKE CONT'D

Description	# of LEDs	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
					Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
VPW2	48L	15	13.1	2	2139	145	1	0	1	2139	145	1	0	1	1981	134	1	0	1
				3	2163	146	1	0	1	2163	146	1	0	1	2003	135	1	0	1
				4F	2097	143	0	0	1	2097	143	0	0	1	1942	132	0	0	1
				4W	2101	143	1	0	1	2101	143	1	0	1	1946	132	0	0	1
		20	20.5	2	2973	141	1	0	1	2973	141	1	0	1	2753	130	1	0	1
				3	3007	142	1	0	1	3007	142	1	0	1	2784	132	1	0	1
				4F	2915	138	1	0	1	2915	138	1	0	1	2699	128	1	0	1
				4W	2921	138	1	0	1	2921	138	1	0	1	2705	128	1	0	1
		30	28.8	2	4000	137	1	0	1	4000	137	1	0	1	3704	126	1	0	1
				3	4045	138	1	0	1	4045	138	1	0	1	3745	128	1	0	1
				4F	3922	134	1	0	1	3922	134	1	0	1	3631	124	1	0	1
				4W	3930	134	1	0	2	3930	134	1	0	2	3638	124	1	0	1
		35	37.3	2	4997	134	1	0	1	4997	134	1	0	1	4627	124	1	0	1
				3	5053	135	1	0	2	5053	135	1	0	2	4679	125	1	0	1
				4F	4899	131	1	0	1	4899	131	1	0	1	4536	122	1	0	1
				4W	4909	132	1	0	2	4909	132	1	0	2	4545	122	1	0	2
		45	45.9	2	5990	127	1	0	1	5990	127	1	0	1	5546	118	1	0	1
				3	6057	128	1	0	2	6057	128	1	0	2	5608	119	1	0	2
				4F	5872	124	1	0	2	5872	124	1	0	2	5437	115	1	0	1
				4W	5884	125	1	0	2	5884	125	1	0	2	5448	115	1	0	2
	80L	20	19.4	2	3485	161	1	0	1	3485	161	1	0	1	3200	147	1	0	1
				3	3516	162	1	0	1	3516	162	1	0	1	3229	149	1	0	1
				4F	3485	161	1	0	1	3485	161	1	0	1	3200	147	1	0	1
				4W	3535	163	1	0	1	3535	163	1	0	1	3246	150	1	0	1
		25	26.7	2	4443	154	1	0	1	4443	154	1	0	1	4080	141	1	0	1
				3	4483	155	1	0	1	4483	155	1	0	1	4117	142	1	0	1
				4F	4443	154	1	0	1	4443	154	1	0	1	4080	141	1	0	1
				4W	4507	156	1	0	1	4507	156	1	0	1	4139	143	1	0	1
		35	34.2	2	5438	147	1	0	1	5438	147	1	0	1	4994	135	1	0	1
				3	5488	148	1	0	1	5488	148	1	0	1	5039	136	1	0	1
				4F	5438	147	1	0	1	5438	147	1	0	1	4994	135	1	0	1
				4W	5516	149	1	0	2	5516	149	1	0	2	5066	137	1	0	1
		45	41.7	2	6369	145	1	0	1	6369	145	1	0	1	5848	133	1	0	1
				3	6427	146	2	0	2	6427	146	2	0	2	5901	134	1	0	1
				4F	6369	145	1	0	1	6369	145	1	0	1	5848	133	1	0	1
				4W	6460	147	1	0	2	6460	147	1	0	2	5933	135	1	0	2
		55	50.6	2	7209	137	2	0	2	7209	137	2	0	2	6620	126	1	0	1
				3	7275	139	2	0	2	7275	139	2	0	2	6680	127	2	0	2
				4F	7209	137	1	0	1	7209	137	1	0	1	6620	126	1	0	1
				4W	7313	139	1	0	2	7313	139	1	0	2	6715	128	1	0	2
		65	58.3	2	7781	130	2	0	2	7781	130	2	0	2	7145	119	2	0	2
				3	7852	131	2	0	2	7852	131	2	0	2	7210	120	2	0	2
				4F	7781	130	2	0	1	7781	130	2	0	1	7145	119	1	0	1
				4W	7893	132	1	0	2	7893	132	1	0	2	7248	121	1	0	2
		70	63.5	2	8367	128	2	0	2	8367	128	2	0	2	7683	117	2	0	2
				3	8443	129	2	0	2	8443	129	2	0	2	7753	119	2	0	2
				4F	8367	128	2	0	1	8367	128	2	0	1	7683	117	2	0	1
				4W	8487	130	1	0	2	8487	130	1	0	2	7794	119	1	0	2

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

PERFORMANCE DATA: MICROSTRIKE CONT'D

Description	# of LEDs	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
					Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
VPW3	160L	45	46.2	2	7623	148	1	0	2	7623	148	1	0	2	7000	136	1	0	1
				3	7626	148	2	0	2	7626	148	2	0	2	7003	136	2	0	2
				4F	7590	147	2	0	1	7590	147	2	0	1	6970	135	1	0	1
				4W	7715	150	1	0	2	7715	150	1	0	2	7084	138	1	0	2
		70	68.3	2	10322	139	2	0	2	10322	139	2	0	2	9478	128	2	0	2
				3	10326	140	2	0	2	10326	140	2	0	2	9482	128	2	0	2
				4F	10277	139	2	0	2	10277	139	2	0	2	9437	128	2	0	2
				4W	10446	141	2	0	2	10446	141	2	0	2	9592	130	1	0	2
		95	91	2	12929	132	2	0	2	12929	132	2	0	2	11872	121	2	0	2
				3	12934	132	3	0	3	12934	132	3	0	3	11877	121	3	0	3
				4F	12873	131	2	0	2	12873	131	2	0	2	11821	120	2	0	2
				4W	13084	133	2	0	3	13084	133	2	0	3	12015	122	2	0	3
		105	106.3	2	15055	138	2	0	2	15055	138	2	0	2	13825	127	2	0	2
				3	15062	138	3	0	3	15062	138	3	0	3	13831	127	3	0	3
				4F	14991	138	2	0	2	14991	138	2	0	2	13766	127	2	0	2
				4W	15236	140	2	0	3	15236	140	2	0	3	13991	129	2	0	3
		135	134.8	2	17533	127	3	0	3	17533	127	3	0	3	16100	116	3	0	3
				3	17541	127	3	0	3	17541	127	3	0	3	16107	116	3	0	3
				4F	17457	126	2	0	2	17457	126	2	0	2	16031	116	2	0	2
				4W	17744	128	2	0	4	17744	128	2	0	4	16294	118	2	0	3
		155	158.3	2	20066	123	3	0	3	20066	123	3	0	3	18426	113	3	0	3
				3	20075	123	3	0	3	20075	123	3	0	3	18434	113	3	0	3
				4F	19980	123	3	0	3	19980	123	3	0	3	18347	113	2	0	2
				4W	20307	125	2	0	4	20307	125	2	0	4	18648	115	2	0	4

PERFORMANCE DATA: STRIKE

Description	# of LEDs	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
					Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
VPW2	18L	25	22.6	2	3314	147	1	0	1	3298	146	1	0	G1	3171	140	1	0	1
				3	3356	148	1	0	1	3340	148	1	0	G1	3212	142	1	0	1
				4F	3367	149	0	0	1	3351	148	0	0	G1	3222	143	0	0	1
				4W	3361	149	1	0	2	3345	148	1	0	G2	3216	142	1	0	2
		30	31.3	2	4124	132	1	0	1	4104	131	1	0	G1	3946	126	1	0	1
				3	4176	133	1	0	2	4156	133	1	0	G2	3996	128	1	0	1
				4F	4189	134	1	0	1	4169	133	1	0	G1	4009	128	1	0	1
				4W	4182	134	1	0	2	4162	133	1	0	G2	4002	128	1	0	2
		39	38.8	2	4894	126	1	0	1	4870	126	1	0	G1	4683	121	1	0	1
				3	4956	128	1	0	2	4932	127	1	0	G2	4742	122	1	0	2
				4F	4972	128	1	0	2	4948	128	1	0	G2	4758	123	1	0	2
				4W	4963	128	1	0	2	4939	127	1	0	G2	4749	122	1	0	2
		50	52.6	2	6325	120	1	0	1	6295	120	1	0	G1	6052	115	1	0	1
				3	6405	122	1	0	2	6374	121	1	0	G2	6129	117	1	0	2
				4F	6426	122	1	0	2	6395	122	1	0	G2	6149	117	1	0	2
				4W	6414	122	1	0	3	6384	121	1	0	G3	6138	117	1	0	3
		60	60.4	2	6865	114	1	0	2	6832	113	1	0	G2	6569	109	1	0	2
				3	6952	115	1	0	2	6919	115	1	0	G2	6652	110	1	0	2
				4F	6974	115	1	0	2	6941	115	1	0	G2	6674	110	1	0	2
				4W	6962	115	1	0	3	6929	115	1	0	G3	6662	110	1	0	3

PERFORMANCE DATA: STRIKE CONT'D

Description	# of LEDs	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
					Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
VPW3	36L	55	63.1	2	7284	135	1	0	2	7249	134	1	0	G2	6970	129	1	0	2
				3	7376	137	1	0	2	7341	136	1	0	G2	7058	131	1	0	2
				4F	7400	137	1	0	2	7364	137	1	0	G2	7081	131	1	0	2
				4W	7387	137	1	0	3	7351	136	1	0	G3	7069	131	1	0	3
		80	77.6	2	9788	126	2	0	2	9741	126	2	0	G2	9366	121	2	0	2
				3	9912	128	1	0	3	9864	127	1	0	G3	9485	122	1	0	3
				4F	9944	128	1	0	2	9896	128	1	0	G2	9516	123	1	0	2
				4W	9926	128	1	0	3	9879	127	1	0	G3	9499	122	1	0	3
		105	108.2	2	12650	128	2	0	2	12589	127	2	0	G2	12105	122	2	0	2
				3	12810	130	2	0	3	12748	129	2	0	G3	12258	124	2	0	3
				4F	12851	130	1	0	3	12790	129	1	0	G3	12298	124	1	0	3
				4W	12829	130	2	0	3	12767	129	2	0	G3	12276	124	2	0	3
		120	120.9	2	13730	114	2	0	2	13664	113	2	0	G2	13138	109	2	0	2
				3	13904	115	2	0	3	13837	114	2	0	G3	13305	110	2	0	3
				4F	13949	115	1	0	3	13882	115	1	0	G3	13348	110	1	0	3
				4W	13924	115	2	0	4	13857	115	2	0	G4	13324	110	2	0	3

ELECTRICAL DATA: STRIKE

# OF LEDS	18L				
NOMINAL WATTAGE	25	30	39	50	60
SYSTEM POWER (W)	22.6	31.3	38.8	52.6	60.4
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.21	0.26	0.32	0.44	0.50
208	0.12	0.15	0.19	0.25	0.29
240	0.10	0.13	0.16	0.22	0.25
277	0.09	0.11	0.14	0.19	0.22
347	0.07	0.09	0.11	0.15	0.17
480	0.05	0.07	0.08	0.11	0.13

# OF LEDS	36L			
NOMINAL WATTAGE	55	80	100	120
SYSTEM POWER (W)	53.9	77.6	98.9	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)			
120	0.45	0.65	0.82	1.01
208	0.26	0.37	0.48	0.58
240	0.22	0.32	0.41	0.50
277	0.19	0.28	0.36	0.44
347	0.16	0.22	0.29	0.35
480	0.11	0.16	0.21	0.25

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

ELECTRICAL DATA: MICROSTRIKE

# OF LEDS	24L		
NOMINAL WATTAGE	10	15	25
SYSTEM POWER (W)	6.6	14.0	23.0
INPUT VOLTAGE (V)	CURRENT (Amps)		
120	0.06	0.12	0.19
208	0.03	0.07	0.11
240	0.03	0.06	0.10
277	0.02	0.05	0.08
347	0.02	0.04	0.07
480	0.01	0.03	0.05

# OF LEDS	48L				
NOMINAL WATTAGE	15	20	30	35	45
SYSTEM POWER (W)	13.1	20.5	28.8	37.3	45.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.11	0.17	0.24	0.31	0.38
208	0.06	0.10	0.14	0.18	0.22
240	0.05	0.09	0.12	0.16	0.19
277	0.05	0.07	0.10	0.13	0.17
347	0.04	0.06	0.08	0.11	0.13
480	0.03	0.04	0.06	0.08	0.10

# OF LEDS	80L						
NOMINAL WATTAGE	20	25	35	45	55	65	70
SYSTEM POWER (W)	19.4	26.7	34.2	41.7	50.6	58.3	63.5
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.16	0.22	0.29	0.35	0.42	0.49	0.53
208	0.10	0.13	0.18	0.22	0.27	0.28	0.31
240	0.08	0.12	0.15	0.19	0.24	0.24	0.26
277	0.07	0.10	0.13	0.17	0.21	0.21	0.23
347	0.06	0.08	0.11	0.13	0.16	0.17	0.18
480	0.04	0.06	0.08	0.10	0.12	0.12	0.13

# OF LEDS	160L					
NOMINAL WATTAGE	45	70	95	105	135	155
SYSTEM POWER (W)	46.2	68.3	91	106.3	134.8	158.3
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	0.39	0.57	0.76	0.89	1.12	1.32
208	0.22	0.33	0.44	0.51	0.65	0.76
240	0.19	0.28	0.38	0.44	0.56	0.66
277	0.17	0.25	0.33	0.38	0.49	0.57
347	0.13	0.20	0.26	0.31	0.39	0.46
480	0.10	0.14	0.19	0.22	0.28	0.33

BEACON
design . performance . technology

VIPER Wall

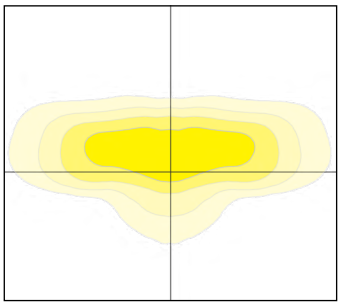
VPW1/VPW2/VPW3 LED WALLPACK

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

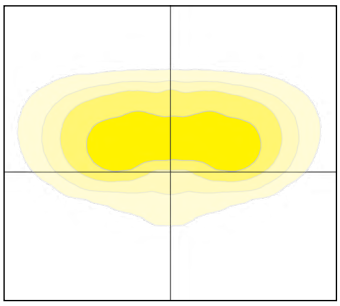
PHOTOMETRY

Mounting Height: 10ft

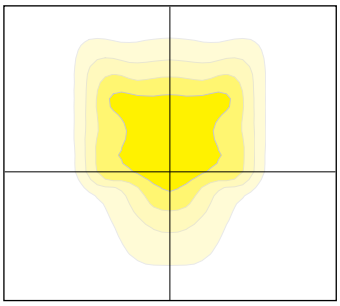
Type 2



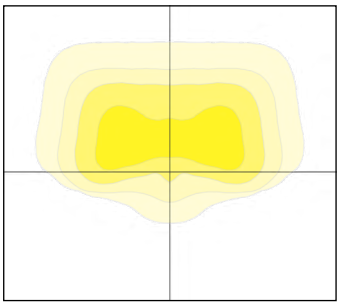
Type 3



Type 4F

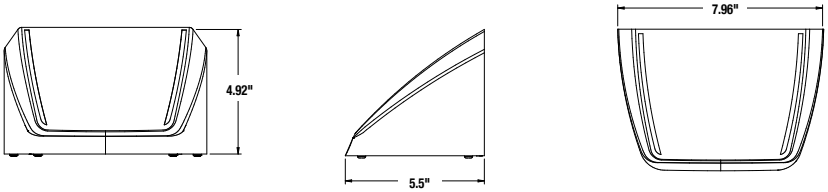


Type 4W

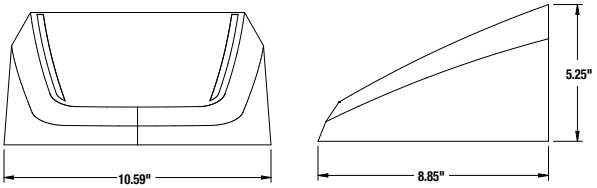


DIMENSIONS

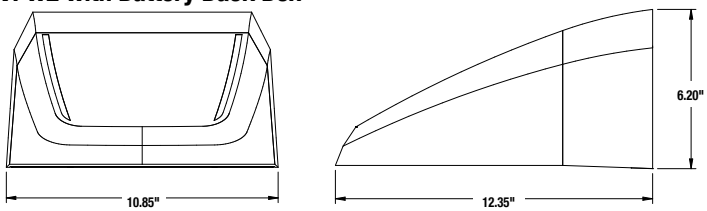
VPW1



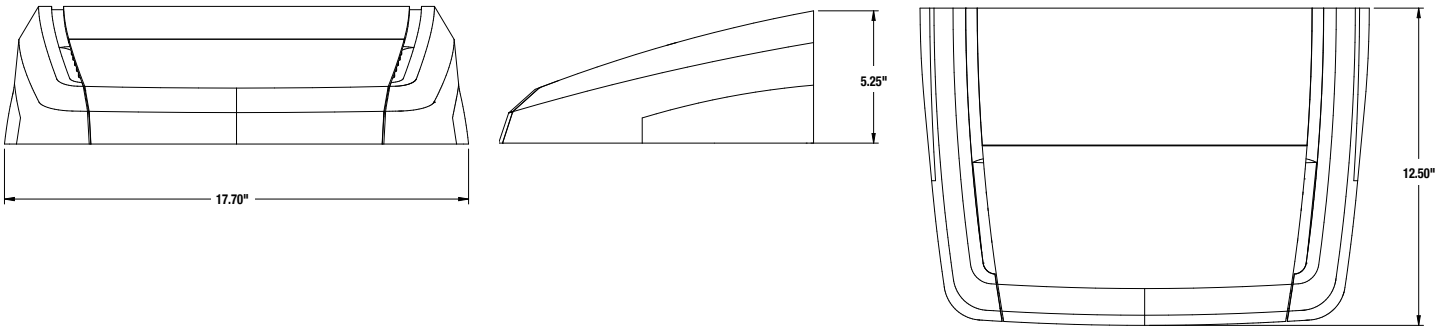
VPW2



VPW2 with Battery Back Box



VPW3



BEACON
design . performance . technology

VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

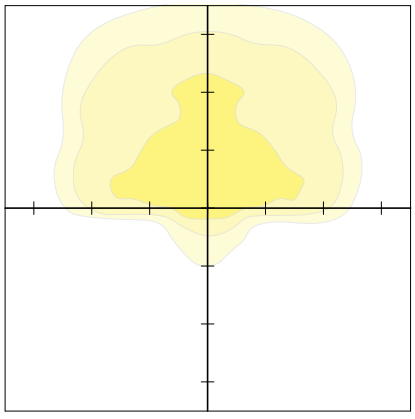
CATALOG #:

BATTERY OPTIONS & HOUSING SIZES

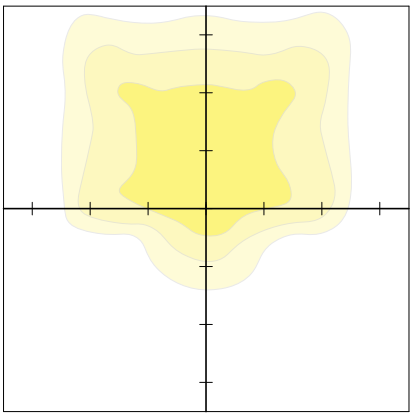
				Battery (E)		Battery with Heater (EH)	
Size	**Optics**	**# LEDs**	**Fixture Wattage**	**E (10W)**	**Housing**	**EH (13W)**	**Housing**
VPW1	Micro Strike	24L	10W	N/A	Not Available	N/A	Not Available
			15W				
			25W				
VPW2	Micro Strike	48L	15W	Y	Standard Housing	Y	Includes Integrated Back Box
			20W	Y	Standard Housing	Y	Includes Integrated Back Box
			30W	N/A	Not Available	Y	Includes Integrated Back Box
			35W	N/A	Not Available	Y	Includes Integrated Back Box
			45W	N/A	Not Available	Y	Includes Integrated Back Box
		80L	20W	N/A	Not Available	Y	Includes Integrated Back Box
			25W			Y	Includes Integrated Back Box
			35W			Y	Includes Integrated Back Box
			45W			Y	Includes Integrated Back Box
			55W			Y	Includes Integrated Back Box
			65W			Y	Includes Integrated Back Box
			70W			Y	Includes Integrated Back Box
	Strike	18L	25W	N/A	Not Available	Y	Includes Integrated Back Box
			30W			Y	Includes Integrated Back Box
			39W			Y	Includes Integrated Back Box
			50W			Y	Includes Integrated Back Box
			60W			Y	Includes Integrated Back Box
VPW3	Micro Strike	160L	45W	N/A	Not Available	Yes	Standard Housing
			70W			Yes	Standard Housing
			95W			Yes	Standard Housing
			105W			N/A	Not Available
			135W			N/A	Not Available
			155W			N/A	Not Available
	Strike	36L	55W	N/A	Not Available	Yes	Standard Housing
			80W			Yes	Standard Housing
			100W			Yes	Standard Housing
			120W			N/A	Not Available

PHOTOMETRY - BATTERY

18L BATTERY PHOTOMETRY



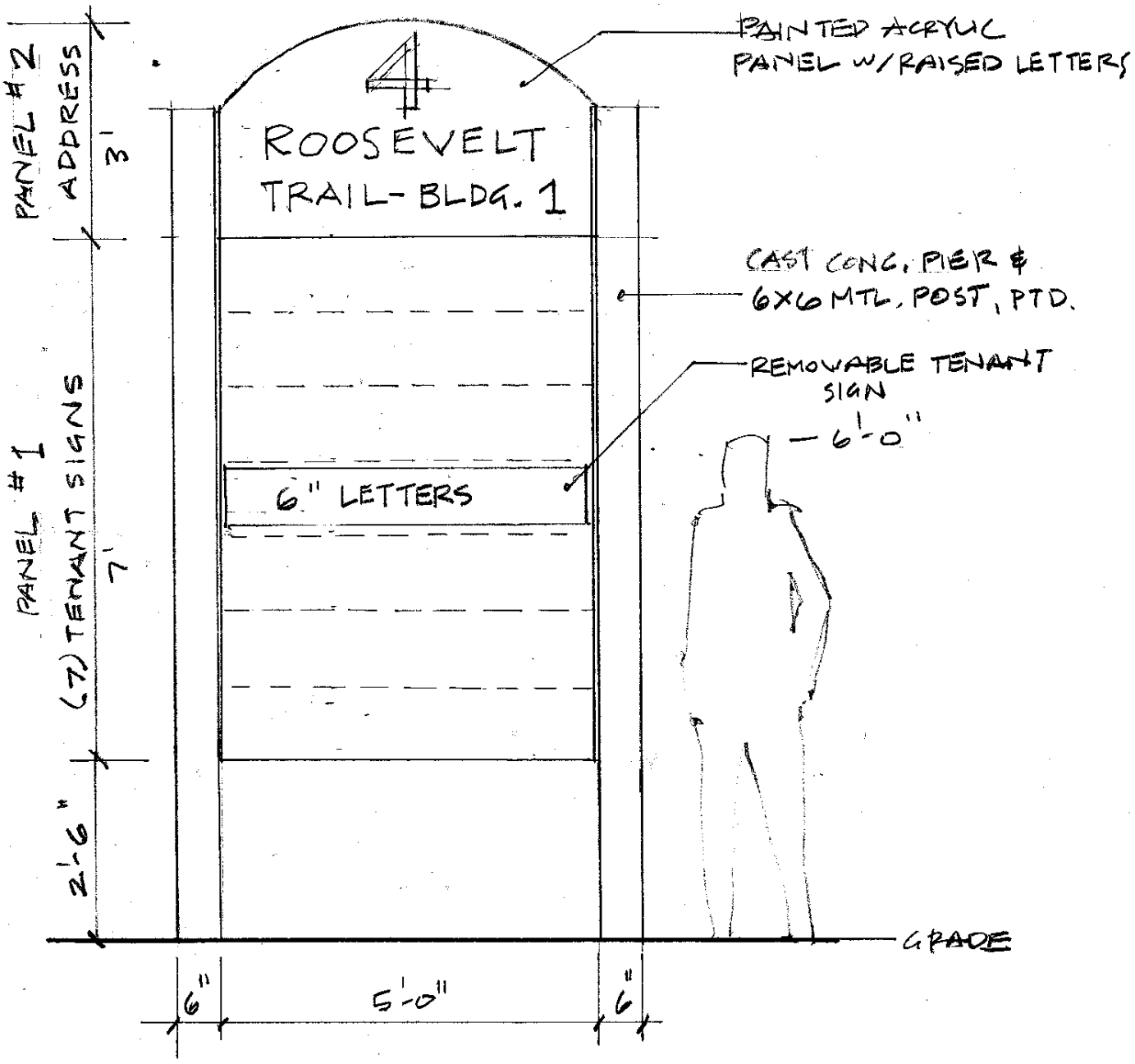
80L BATTERY PHOTOMETRY



Mounting Height: 12ft
Scale: 10ft


2
1


1
2



SIGNAGE SKETCH - (2) PROPOSED @
BOTH SIDES OF ENTRY DRIVE

4 ROOSEVELT TRAIL - YORK ENTERPRISE PARK LLC
½" = 1'-0" 6.30.25

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

O. Traffic Narrative

189 Main Street, Suite 200
Yarmouth, ME 04096

July 15, 2025

Freeport Town Hall
30 Main Street
Freeport, ME 04032

Re: **Roosevelt Trail Site Redevelopment**
Traffic Narrative - Revised for 6/30 Submission

Dear Planning/Reviewer(s):

Trillium Engineering Group is providing this updated traffic narrative to satisfy the application criteria Section C-13 and comments received 6/26 & 7/2.

Traffic Narrative

The project proposes a total of 49 spaces on site with space within the proposed units for contractor vehicles. There are a total of two offices per unit, equating to a total of 28 overall offices. With a minimum of 2 personnel per unit (1 per office space) that would total 28 vehicles, providing ample space for additional vehicles to park within the lot, if needed. Regarding peak-hour traffic (following typical morning and afternoon business hours), the project does not intend to significantly increase peak-hour traffic, an estimated 28 additional vehicles are to be expected during peak hours as a result of the proposed project.

With the existing number of parking spaces on 12 Roosevelt Trail being approx. 22 spaces it can be estimated that around 22 vehicle trips are to be expected during peak-hour for that site. This would mean cumulative traffic impacts of both properties would be around 50 (28 proposed for 4-Roosevelt + 22 existing for 12-Roosevelt) vehicles/trips during peak-hour traffic.

Regarding Saturday peak-hour traffic, as this site is for contractor services (businesses, etc.) an increase in Saturday traffic is not expected as that would fall outside the normal working hours of a business.

Thank you for taking the time to review this. Should you have any further questions or require any additional information, please do not hesitate to ask.

Sincerely,

Kyle Berwick
Trillium Engineering Group

TRILLIUM
ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

P. Stormwater Report

STORMWATER MANAGEMENT REPORT

York Site Plan

4 Rosevelt Trail
Windham, ME 04062

June 23, 2025

PREPARED BY:

TRILLIUM ENGINEERING GROUP
189 MAIN STREET
YARMOUTH, ME 04096
(207) 307-0872

TRILLIUM ENGINEERING GROUP

189 Main Street, Suite 200
Yarmouth, ME 04096

A. Project Background:

The applicant is proposing to redevelop a 7.45-acre parcel of land. The site currently is commercial in nature with local companies using the buildings and parking areas for their business operations. The property being developed is in the Commercial-3 zone. The project will be accessed by street openings along Roosevelt Trail and Vance Road.

B. Existing Site Conditions

The existing site consists of 3 buildings, one of which is a commercial building. The overall square footage of the buildings is approximately 7,686 sf. There is also a gravel drive with gravel parking areas. The overall terrain is gently sloping. The front portion of the site drains north easterly, towards the road ditch along Roosevelt Trail. The rear portion of the site drains southeasterly towards a large swampy area.

C. Wetlands and Streams

Wetlands were field delineated and located by Frick Associates. The wetlands are depicted on the site plan. A small, unnamed brook is located near the southeast corner of the property being redeveloped.

D. Soils

A soils map was generated from the web. A copy of the map has been included as part of the Stormwater narrative. Soils are also delineated on the Pre and Post Development drainage area maps. Hydrologic soils group information was incorporated into the drainage analysis.

E. Proposed Use

The use of the property will not change. It will remain commercial I nature.

F. Stormwater Evaluations

Stormwater Quantity

The site has been modeled through Hydrocad software. We have analyzed the pre and post-developed peak flows form the 2-yr., 10-yr. and 25-yr. design storms. (2) analysis points were analyzed for any potential increases in post-developed peak flows. These analysis points are depicted on both the pre and post developed drainage area maps. The analysis points can also be found in the Hyrocad output report for comparison purposes. The model showed that the post developed peak flows for both Analysis point #1, and Analysis point #2 were at or below pre-developed levels without the use of structural BMP's. .

Stormwater Model Summary
CFS (Cubic Feet per Second = Rate)
Value based on flow entering Analysis Point 1 (AP-1)

Analysis Point	2-Yr (Pre)	2-Yr (Post)	10-Yr (Pre)	10-Yr (Post)	25-Yr (Pre)	25-Yr (Post)
AP-1	13.4	13.0	26.9	26.4	39.5	38.0
AP-2	4.9	3.3	7.7	5.7	9.9	7.6

189 Main Street, Suite 200
Yarmouth, ME 04096

Calculations for the 2-, 10-, and 25-year Pre- and Post-Drainage are included in the attached stormwater reports.

Evaluation of Results

As evidenced by the data above, all flow rates stayed at or below pre-developed rates. This is because there will be less impervious areas in the post-developed condition.

Stormwater Quality

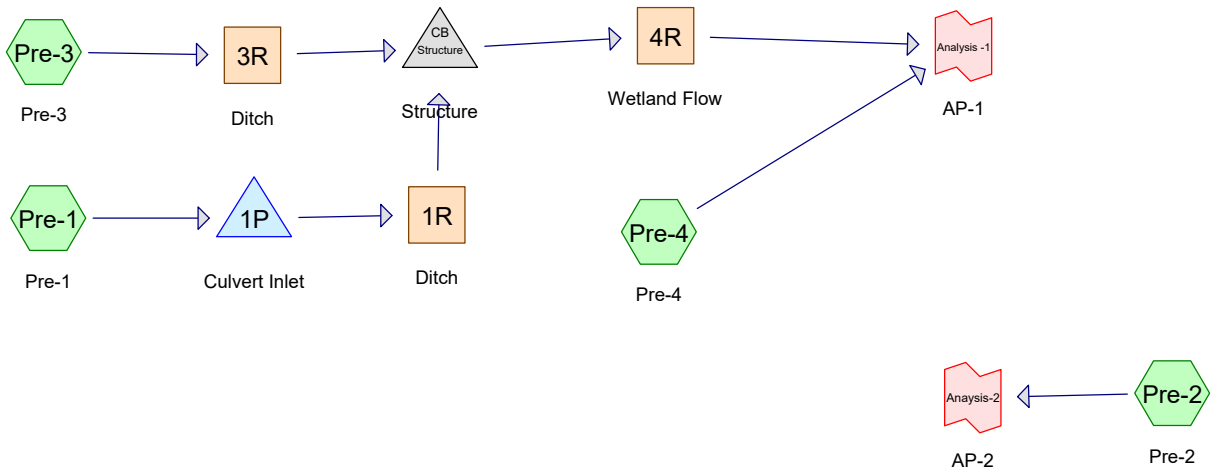
We have provided for treatment of stormwater runoff using (2) different types of BMP's. The BMP's being utilized are stone drip edges along the north sides of the (2) proposed buildings and a (2) buffer and stone berm level lip spreader. A third level lip spreader has been utilized solely for distributing a concentrated flow into sheet flow to avoid erosion and sedimentation. This spreader (LLS #3) does not meet the buffer length for 100% treatment, but some treatment will be provided, nevertheless. Level Lip Spreader #1 and #2, meet all the criteria for DEP Chapter 500 design standards.

Conclusion

We believe that this project will not have any adverse impacts on abutters, downgradient systems or adjacent resources. Moreover, this plan includes all appropriate measures to prevent negative impacts and to keep post development flows and impacts to the resources at a minimum using land grading, reductions in allowable disturbed area, erosion control practices and land use. It is important to note that proper erosion control and re-vegetation of disturbed areas is essential for the proper operation of the stormwater facilities.

Sincerely yours,

Arthur Colvin, P.E., P.L.S.
Trillium Engineering Group



Subcat Reach Pond Link

Routing Diagram for York-Pre6.11.25

Prepared by {enter your company name here}, Printed 6/20/2025

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-YR	Type III 24-hr		Default	24.00	1	3.10	2
2	10-YR	Type III 24-hr		Default	24.00	1	4.60	2
3	25-YR	Type III 24-hr		Default	24.00	1	5.80	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
6.050	77	2 acre lots, 12% imp, HSG C (Pre-1)
0.550	74	>75% Grass cover, Good, HSG C (Pre-2, Pre-3)
3.610	98	Impervious (Pre-2, Pre-3, Pre-4)
1.100	71	Meadow, non-grazed, HSG C (Pre-4)
3.850	70	Woods, Good, HSG C (Pre-3, Pre-4)
15.160	**80**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
11.550	HSG C	Pre-1, Pre-2, Pre-3, Pre-4
0.000	HSG D	
3.610	Other	Pre-2, Pre-3, Pre-4
15.160		**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	6.050	0.000	0.000	6.050	2 acre lots, 12% imp	Pre-1
0.000	0.000	0.550	0.000	0.000	0.550	>75% Grass cover, Good	Pre-2, Pre-3
0.000	0.000	0.000	0.000	3.610	3.610	Impervious	Pre-2, Pre-3, Pre-4
0.000	0.000	1.100	0.000	0.000	1.100	Meadow, non-grazed	Pre-4
0.000	0.000	3.850	0.000	0.000	3.850	Woods, Good	Pre-3, Pre-4
0.000	**0.000**	**11.550**	**0.000**	**3.610**	**15.160**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	1P	230.70	228.40	50.0	0.0460	0.012	0.0	18.0	0.0
2	Structure	205.00	198.60	200.0	0.0320	0.012	0.0	18.0	0.0

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPre-1: Pre-1 Runoff Area=6.050 ac 12.00% Impervious Runoff Depth>1.04"
Flow Length=1,030' Tc=12.9 min CN=77 Runoff=6.19 cfs 0.526 af

SubcatchmentPre-2: Pre-2 Runoff Area=1.670 ac 79.04% Impervious Runoff Depth>2.22"
Flow Length=774' Tc=2.2 min CN=93 Runoff=4.87 cfs 0.309 af

SubcatchmentPre-3: Pre-3 Runoff Area=5.530 ac 40.51% Impervious Runoff Depth>1.29"
Flow Length=516' Tc=5.4 min CN=81 Runoff=8.90 cfs 0.593 af

SubcatchmentPre-4: Pre-4 Runoff Area=1.910 ac 2.62% Impervious Runoff Depth>0.73"
Flow Length=671' Tc=24.3 min CN=71 Runoff=1.02 cfs 0.117 af

Reach 1R: Ditch Avg. Flow Depth=0.70' Max Vel=8.34 fps Inflow=6.15 cfs 0.526 af
n=0.022 L=375.0' S=0.0790 '/' Capacity=182.69 cfs Outflow=6.05 cfs 0.525 af

Reach 3R: Ditch Avg. Flow Depth=0.76' Max Vel=10.29 fps Inflow=8.90 cfs 0.593 af
n=0.022 L=165.0' S=0.1079 '/' Capacity=213.51 cfs Outflow=8.82 cfs 0.592 af

Reach 4R: Wetland Flow Inflow=12.93 cfs 1.118 af
Outflow=12.93 cfs 1.118 af

Pond 1P: Culvert Inlet Peak Elev=232.29' Storage=138 cf Inflow=6.19 cfs 0.526 af
18.0" Round Culvert n=0.012 L=50.0' S=0.0460 '/' Outflow=6.15 cfs 0.526 af

Pond Structure: Structure Peak Elev=209.44' Inflow=12.93 cfs 1.118 af
18.0" Round Culvert n=0.012 L=200.0' S=0.0320 '/' Outflow=12.93 cfs 1.118 af

Link Analysis-1: AP-1 Inflow=13.35 cfs 1.234 af
Primary=13.35 cfs 1.234 af

Link Anaysis-2: AP-2 Inflow=4.87 cfs 0.309 af
Primary=4.87 cfs 0.309 af

Total Runoff Area = 15.160 ac Runoff Volume = 1.544 af Average Runoff Depth = 1.22"
71.40% Pervious = 10.824 ac 28.60% Impervious = 4.336 ac

Summary for Subcatchment Pre-1: Pre-1

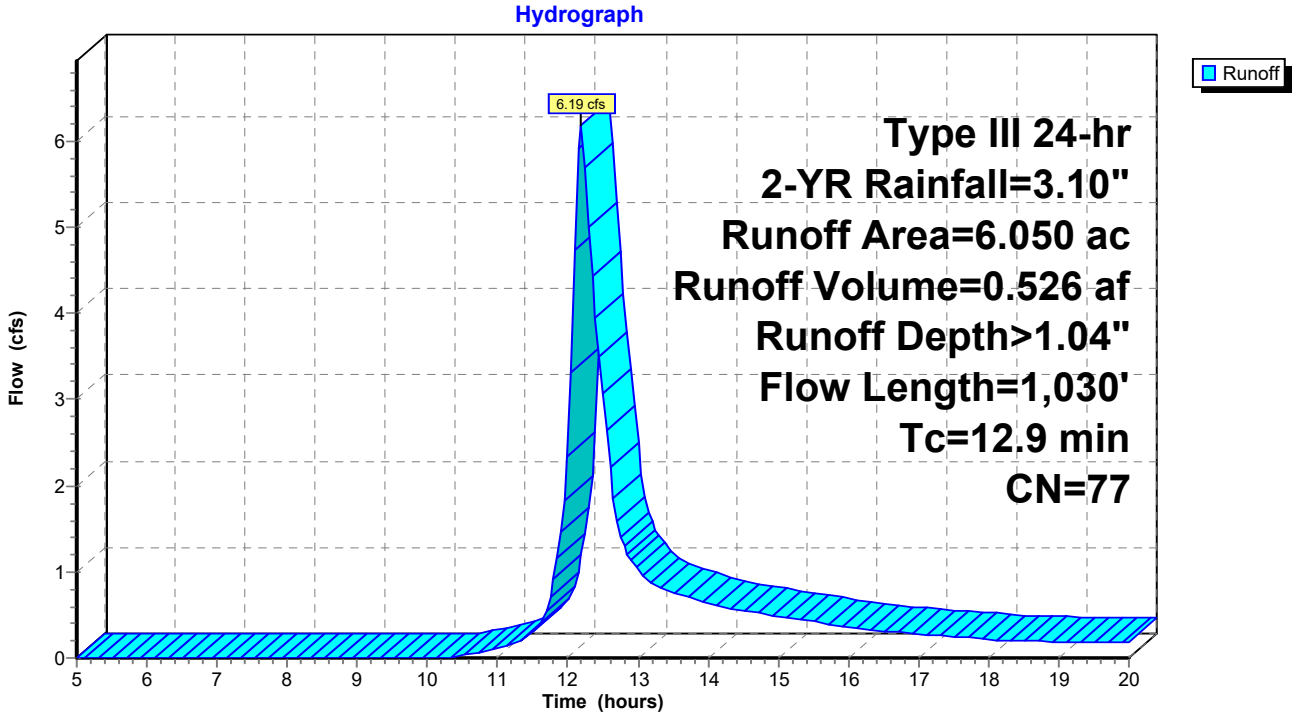
Runoff = 6.19 cfs @ 12.19 hrs, Volume= 0.526 af, Depth> 1.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

Area (ac)	CN	Description
6.050	77	2 acre lots, 12% imp, HSG C
5.324		88.00% Pervious Area
0.726		12.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		**Sheet Flow, Pre-1A** Smooth surfaces n= 0.011 P2= 3.10"
8.4	90	0.0250	0.18		**Sheet Flow, Pre-1B** Grass: Short n= 0.150 P2= 3.10"
3.9	340	0.0840	1.45		**Shallow Concentrated Flow, Pre-3C** Woodland Kv= 5.0 fps
0.4	590	0.0600	23.20	464.04	**Parabolic Channel, Pre-1D** W=10.00' D=3.00' Area=20.0 sf Perim=12.0' n= 0.022 Earth, clean & straight
12.9	1,030	Total			

Subcatchment Pre-1: Pre-1



Summary for Subcatchment Pre-2: Pre-2

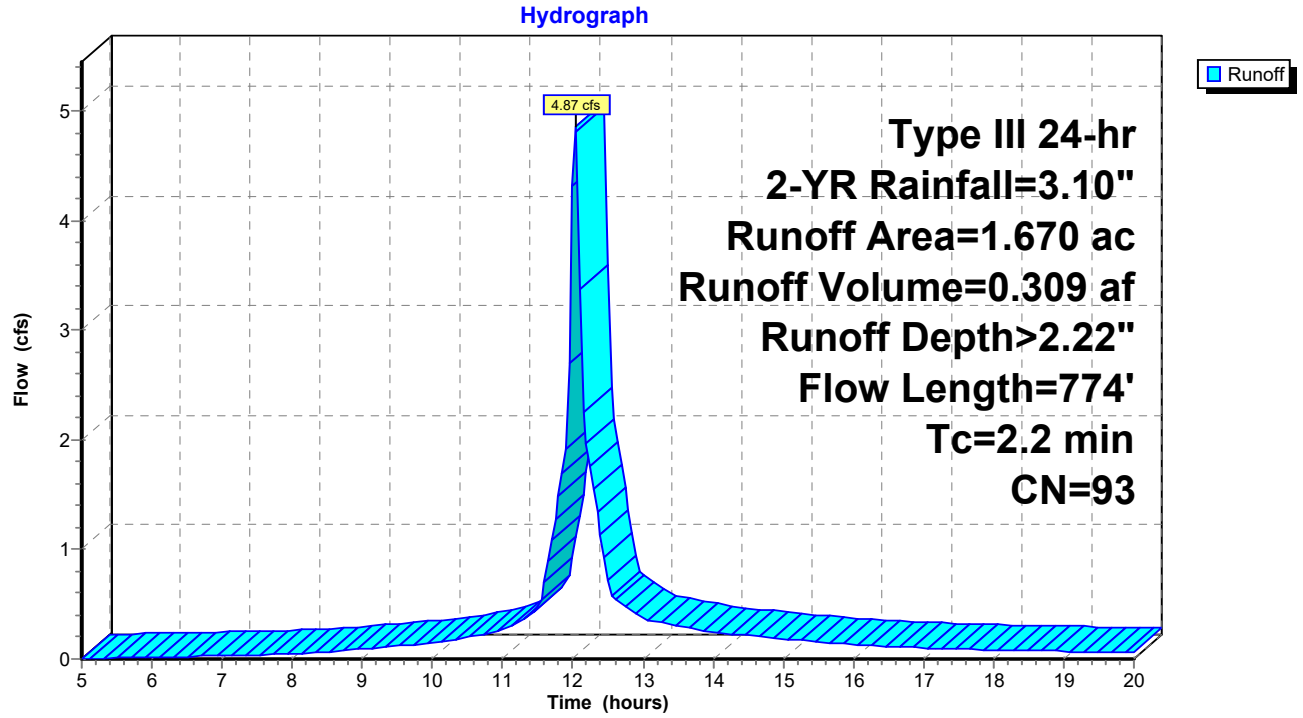
Runoff = 4.87 cfs @ 12.04 hrs, Volume= 0.309 af, Depth> 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

	Area (ac)	CN	Description
*	1.320	98	Impervious
	0.350	74	>75% Grass cover, Good, HSG C
	1.670	93	Weighted Average
	0.350		20.96% Pervious Area
	1.320		79.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0440	1.86		**Sheet Flow, Pre-2A** Smooth surfaces n= 0.011 P2= 3.10"
0.6	105	0.0190	2.80		**Shallow Concentrated Flow, Pre-2B** Paved Kv= 20.3 fps
0.1	14	0.4000	4.43		**Shallow Concentrated Flow, Pre-2C** Short Grass Pasture Kv= 7.0 fps
0.6	555	0.0200	14.25	427.36	**Parabolic Channel, Pre-2D** W=15.00' D=3.00' Area=30.0 sf Perim=16.5' n= 0.022 Earth, clean & straight
2.2	774	Total			

Subcatchment Pre-2: Pre-2



Summary for Subcatchment Pre-3: Pre-3

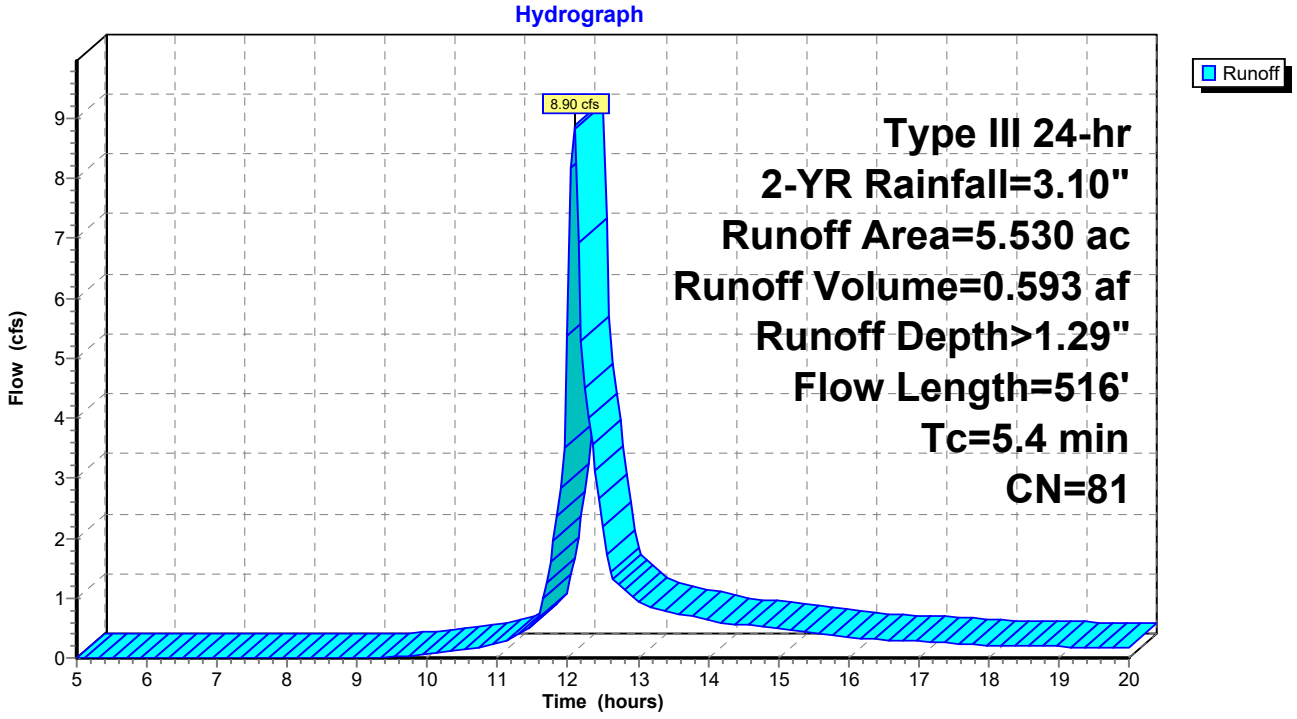
Runoff = 8.90 cfs @ 12.09 hrs, Volume= 0.593 af, Depth> 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

	Area (ac)	CN	Description
*	2.240	98	Impervious
	0.200	74	>75% Grass cover, Good, HSG C
	3.090	70	Woods, Good, HSG C
	5.530	81	Weighted Average
	3.290		59.49% Pervious Area
	2.240		40.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		**Sheet Flow, Pre-3A** Smooth surfaces n= 0.011 P2= 3.10"
0.5	80	0.1200	2.65		**Sheet Flow, Pre-3B** Smooth surfaces n= 0.011 P2= 3.10"
4.6	416	0.0920	1.52		**Shallow Concentrated Flow, Pre-3C** Woodland Kv= 5.0 fps
5.4	516	Total			

Subcatchment Pre-3: Pre-3



Summary for Subcatchment Pre-4: Pre-4

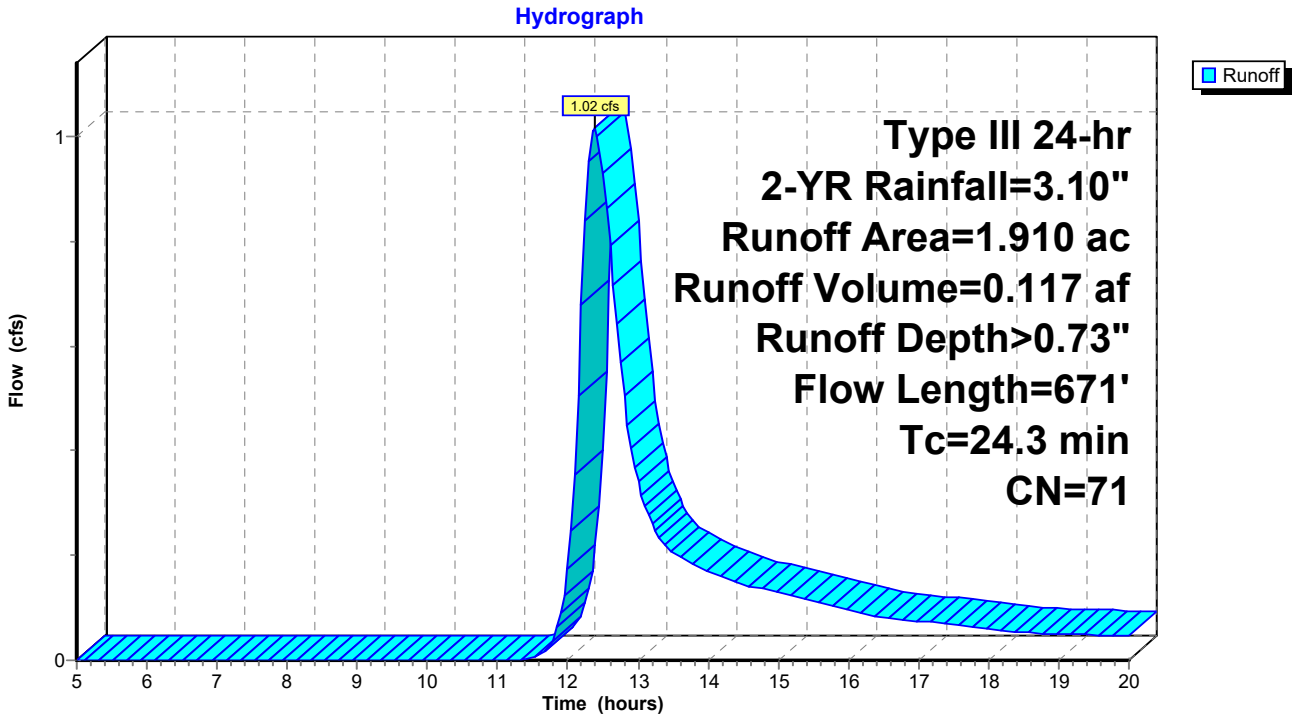
Runoff = 1.02 cfs @ 12.38 hrs, Volume= 0.117 af, Depth> 0.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

	Area (ac)	CN	Description
*	0.050	98	Impervious
	1.100	71	Meadow, non-grazed, HSG C
	0.760	70	Woods, Good, HSG C
	1.910	71	Weighted Average
	1.860		97.38% Pervious Area
	0.050		2.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	96	0.0600	0.18		**Sheet Flow, Pre-4A** Grass: Dense n= 0.240 P2= 3.10"
15.3	575	0.0080	0.63		**Shallow Concentrated Flow, Pre-4B** Short Grass Pasture Kv= 7.0 fps
24.3	671	Total			

Subcatchment Pre-4: Pre-4



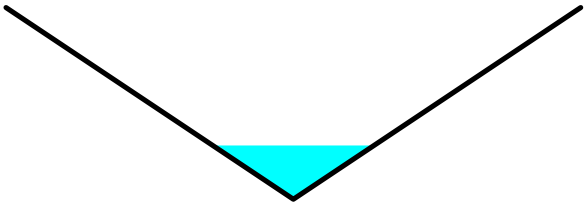
Summary for Reach 1R: Ditch

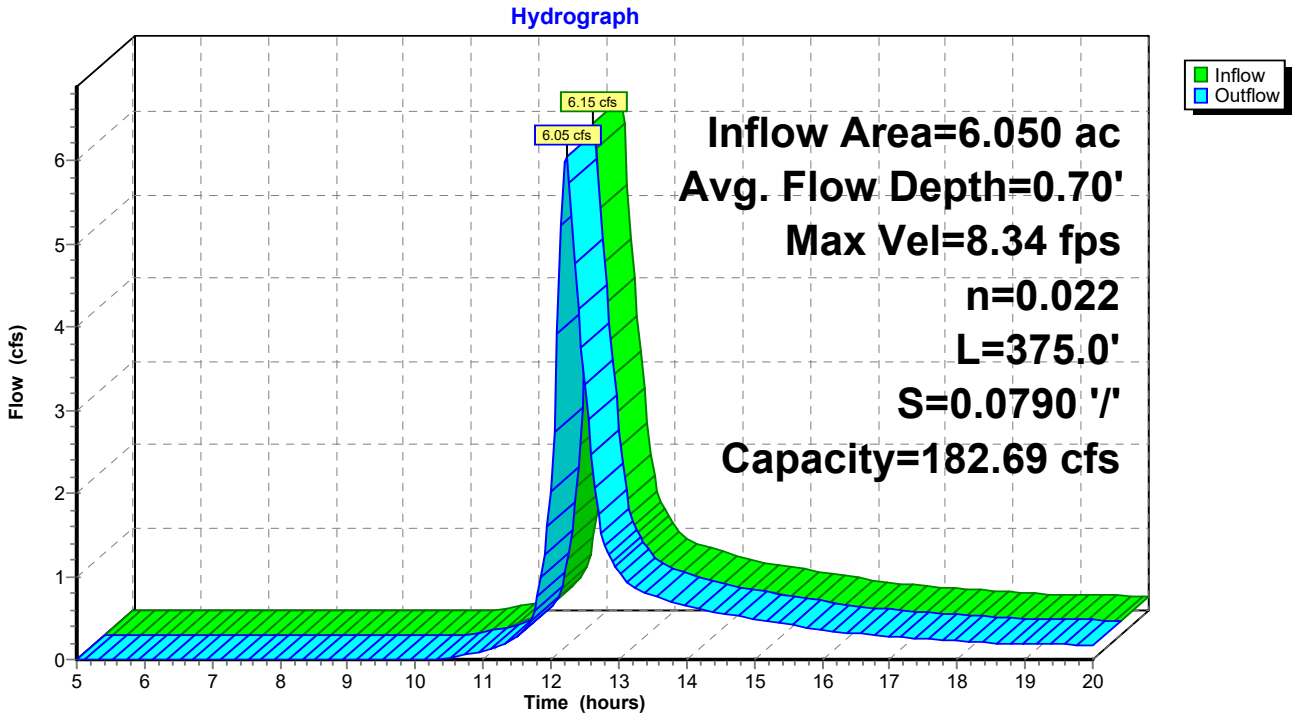
Inflow Area = 6.050 ac, 12.00% Impervious, Inflow Depth > 1.04" for 2-YR event
Inflow = 6.15 cfs @ 12.20 hrs, Volume= 0.526 af
Outflow = 6.05 cfs @ 12.23 hrs, Volume= 0.525 af, Atten= 2%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.34 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 4.20 fps, Avg. Travel Time= 1.5 min

Peak Storage= 276 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.70' , Surface Width= 2.10'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 182.69 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 375.0' Slope= 0.0790 '/'
Inlet Invert= 228.22', Outlet Invert= 198.60'





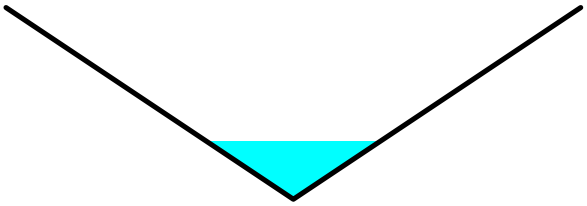
Summary for Reach 3R: Ditch

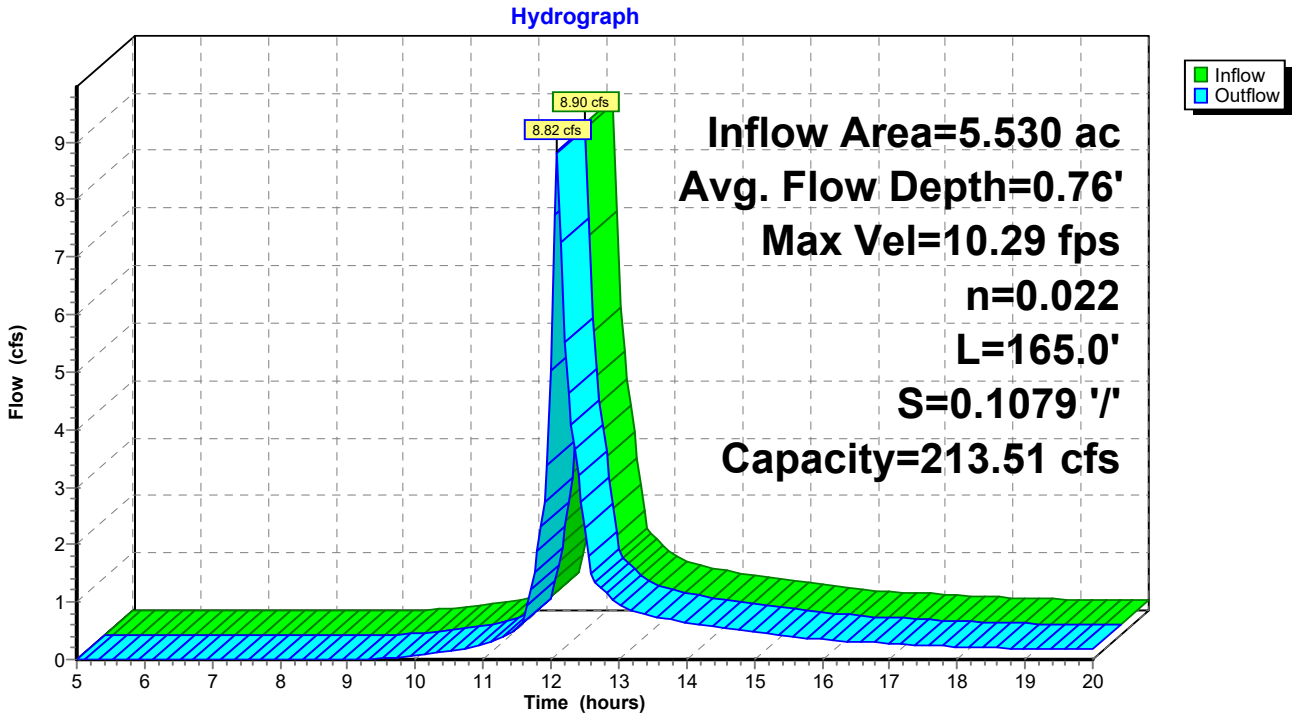
Inflow Area = 5.530 ac, 40.51% Impervious, Inflow Depth > 1.29" for 2-YR event
Inflow = 8.90 cfs @ 12.09 hrs, Volume= 0.593 af
Outflow = 8.82 cfs @ 12.10 hrs, Volume= 0.592 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.29 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 4.70 fps, Avg. Travel Time= 0.6 min

Peak Storage= 143 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.76' , Surface Width= 2.28'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 213.51 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 165.0' Slope= 0.1079 '/'
Inlet Invert= 216.40', Outlet Invert= 198.60'



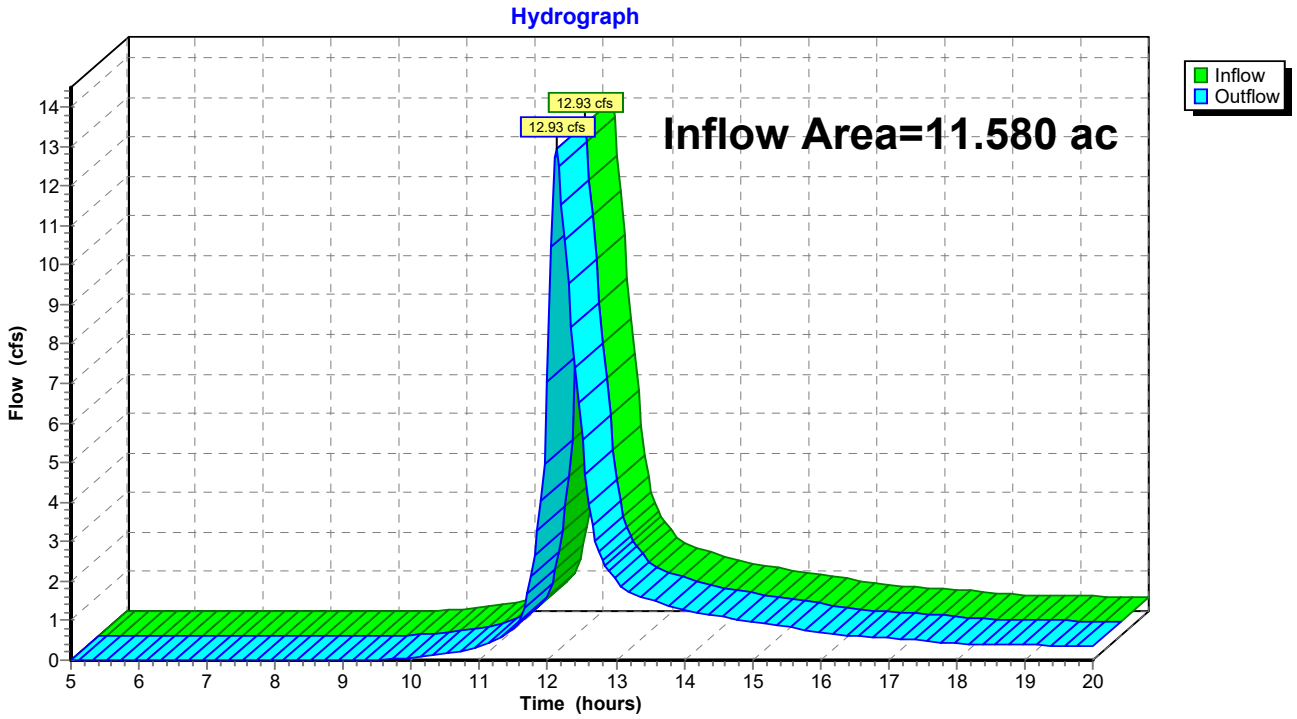


Summary for Reach 4R: Wetland Flow

Inflow Area = 11.580 ac, 25.61% Impervious, Inflow Depth > 1.16" for 2-YR event
Inflow = 12.93 cfs @ 12.12 hrs, Volume= 1.118 af
Outflow = 12.93 cfs @ 12.12 hrs, Volume= 1.118 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 4R: Wetland Flow



Summary for Pond 1P: Culvert Inlet

Inflow Area = 6.050 ac, 12.00% Impervious, Inflow Depth > 1.04" for 2-YR event
Inflow = 6.19 cfs @ 12.19 hrs, Volume= 0.526 af
Outflow = 6.15 cfs @ 12.20 hrs, Volume= 0.526 af, Atten= 1%, Lag= 0.7 min
Primary = 6.15 cfs @ 12.20 hrs, Volume= 0.526 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 232.29' @ 12.20 hrs Surf.Area= 179 sf Storage= 138 cf

Plug-Flow detention time= 0.2 min calculated for 0.526 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (817.9 - 817.7)

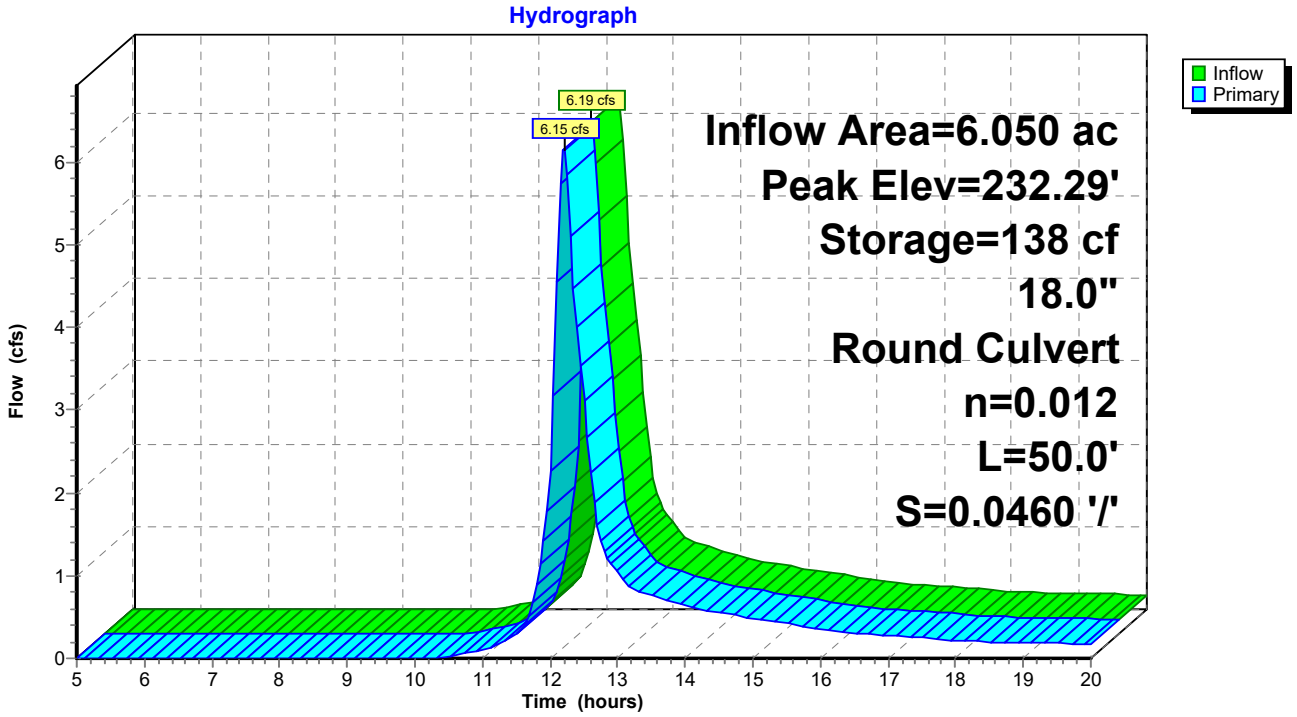
Volume	Invert	Avail.Storage	Storage Description
#1	231.00'	327 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
231.00	83	0	0
232.00	110	97	97
233.00	350	230	327

Device	Routing	Invert	Outlet Devices
#1	Primary	230.70'	**18.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.70' / 228.40' S= 0.0460 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=6.12 cfs @ 12.20 hrs HW=232.28' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 6.12 cfs @ 3.46 fps)

Pond 1P: Culvert Inlet



Summary for Pond Structure: Structure

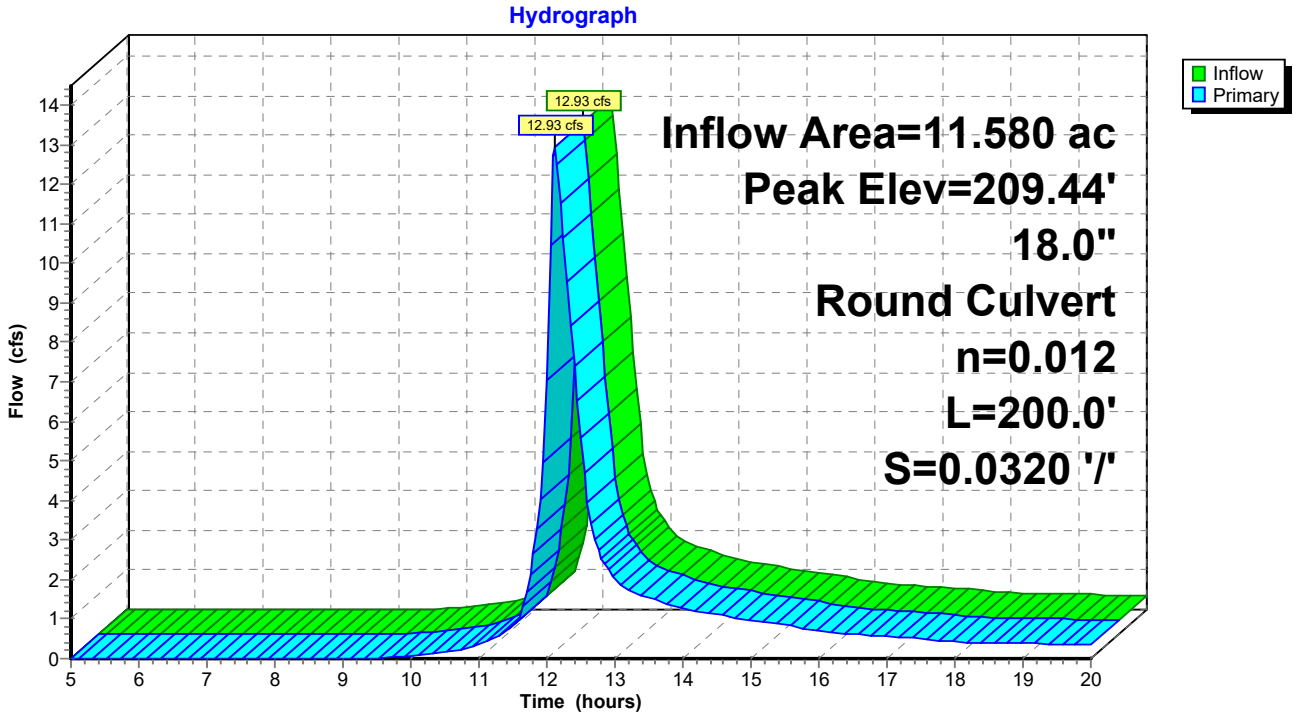
Inflow Area = 11.580 ac, 25.61% Impervious, Inflow Depth > 1.16" for 2-YR event
Inflow = 12.93 cfs @ 12.12 hrs, Volume= 1.118 af
Outflow = 12.93 cfs @ 12.12 hrs, Volume= 1.118 af, Atten= 0%, Lag= 0.0 min
Primary = 12.93 cfs @ 12.12 hrs, Volume= 1.118 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 209.44' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	205.00'	**18.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 205.00' / 198.60' S= 0.0320 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=12.63 cfs @ 12.12 hrs HW=209.29' (Free Discharge)
1=Culvert (Inlet Controls 12.63 cfs @ 7.15 fps)

Pond Structure: Structure

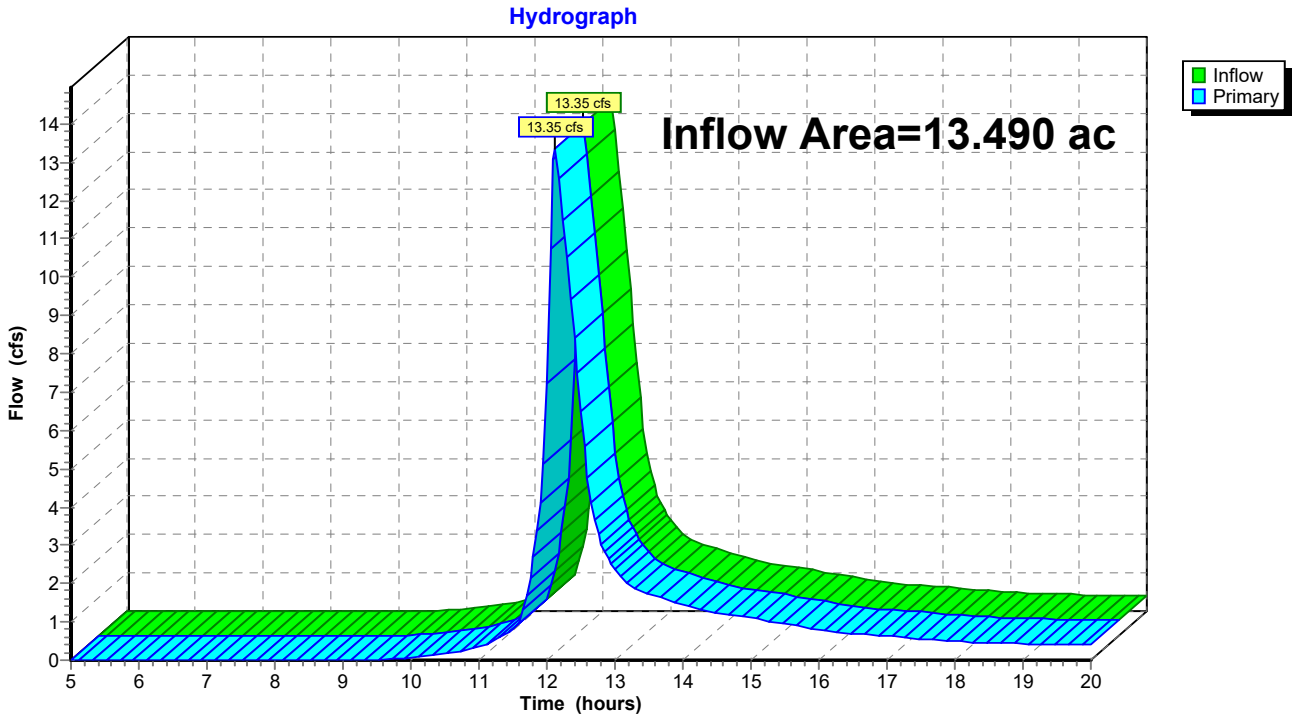


Summary for Link Analysis -1: AP-1

Inflow Area = 13.490 ac, 22.36% Impervious, Inflow Depth > 1.10" for 2-YR event
Inflow = 13.35 cfs @ 12.12 hrs, Volume= 1.234 af
Primary = 13.35 cfs @ 12.12 hrs, Volume= 1.234 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link Analysis -1: AP-1

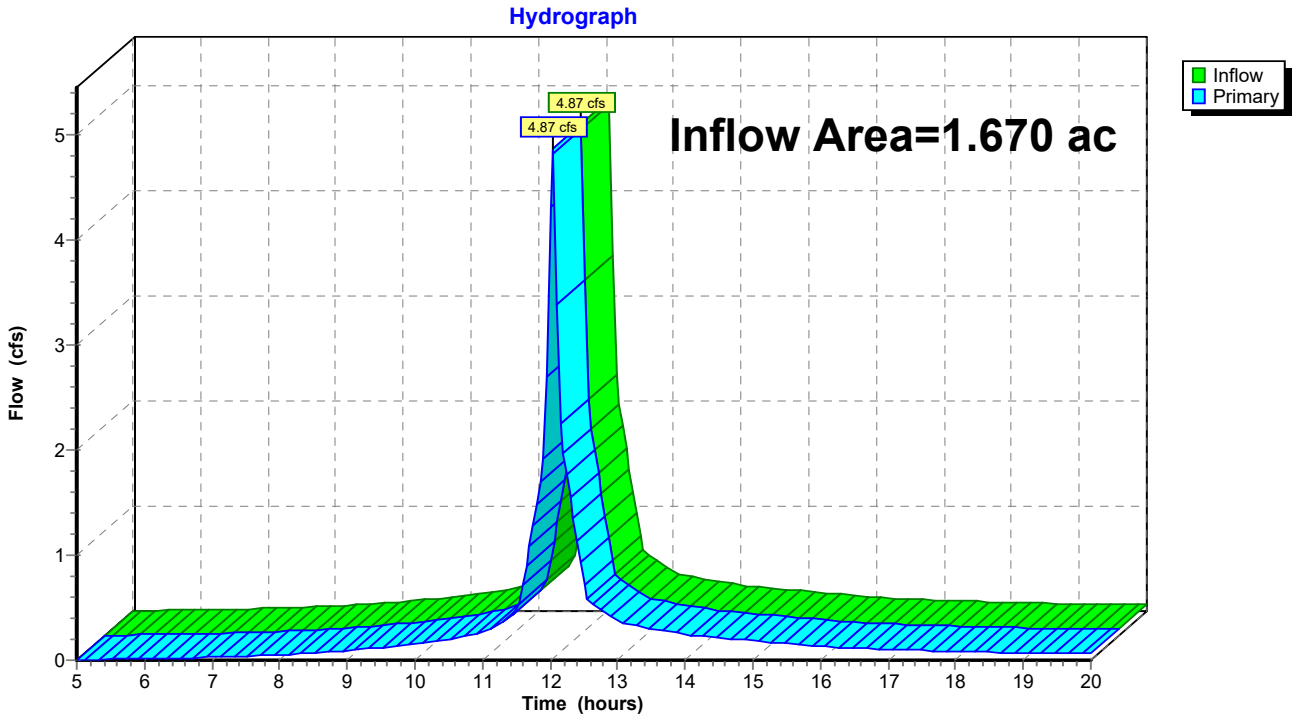


Summary for Link Anaysis-2: AP-2

Inflow Area = 1.670 ac, 79.04% Impervious, Inflow Depth > 2.22" for 2-YR event
Inflow = 4.87 cfs @ 12.04 hrs, Volume= 0.309 af
Primary = 4.87 cfs @ 12.04 hrs, Volume= 0.309 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link Anaysis-2: AP-2



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPre-1: Pre-1 Runoff Area=6.050 ac 12.00% Impervious Runoff Depth>2.12"
Flow Length=1,030' Tc=12.9 min CN=77 Runoff=12.83 cfs 1.070 af

SubcatchmentPre-2: Pre-2 Runoff Area=1.670 ac 79.04% Impervious Runoff Depth>3.60"
Flow Length=774' Tc=2.2 min CN=93 Runoff=7.67 cfs 0.501 af

SubcatchmentPre-3: Pre-3 Runoff Area=5.530 ac 40.51% Impervious Runoff Depth>2.46"
Flow Length=516' Tc=5.4 min CN=81 Runoff=16.95 cfs 1.134 af

SubcatchmentPre-4: Pre-4 Runoff Area=1.910 ac 2.62% Impervious Runoff Depth>1.66"
Flow Length=671' Tc=24.3 min CN=71 Runoff=2.46 cfs 0.264 af

Reach 1R: Ditch Avg. Flow Depth=0.93' Max Vel=10.01 fps Inflow=13.64 cfs 1.070 af
n=0.022 L=375.0' S=0.0790 '/' Capacity=182.69 cfs Outflow=12.60 cfs 1.069 af

Reach 3R: Ditch Avg. Flow Depth=0.97' Max Vel=12.07 fps Inflow=16.95 cfs 1.134 af
n=0.022 L=165.0' S=0.1079 '/' Capacity=213.51 cfs Outflow=16.84 cfs 1.134 af

Reach 4R: Wetland Flow Inflow=25.60 cfs 2.203 af
Outflow=25.60 cfs 2.203 af

Pond 1P: Culvert Inlet Peak Elev=235.55' Storage=327 cf Inflow=12.83 cfs 1.070 af
18.0" Round Culvert n=0.012 L=50.0' S=0.0460 '/' Outflow=13.64 cfs 1.070 af

Pond Structure: Structure Peak Elev=220.26' Inflow=25.60 cfs 2.203 af
18.0" Round Culvert n=0.012 L=200.0' S=0.0320 '/' Outflow=25.60 cfs 2.203 af

Link Analysis-1: AP-1 Inflow=26.94 cfs 2.467 af
Primary=26.94 cfs 2.467 af

Link Anaysis-2: AP-2 Inflow=7.67 cfs 0.501 af
Primary=7.67 cfs 0.501 af

Total Runoff Area = 15.160 ac Runoff Volume = 2.969 af Average Runoff Depth = 2.35"
71.40% Pervious = 10.824 ac 28.60% Impervious = 4.336 ac

Summary for Subcatchment Pre-1: Pre-1

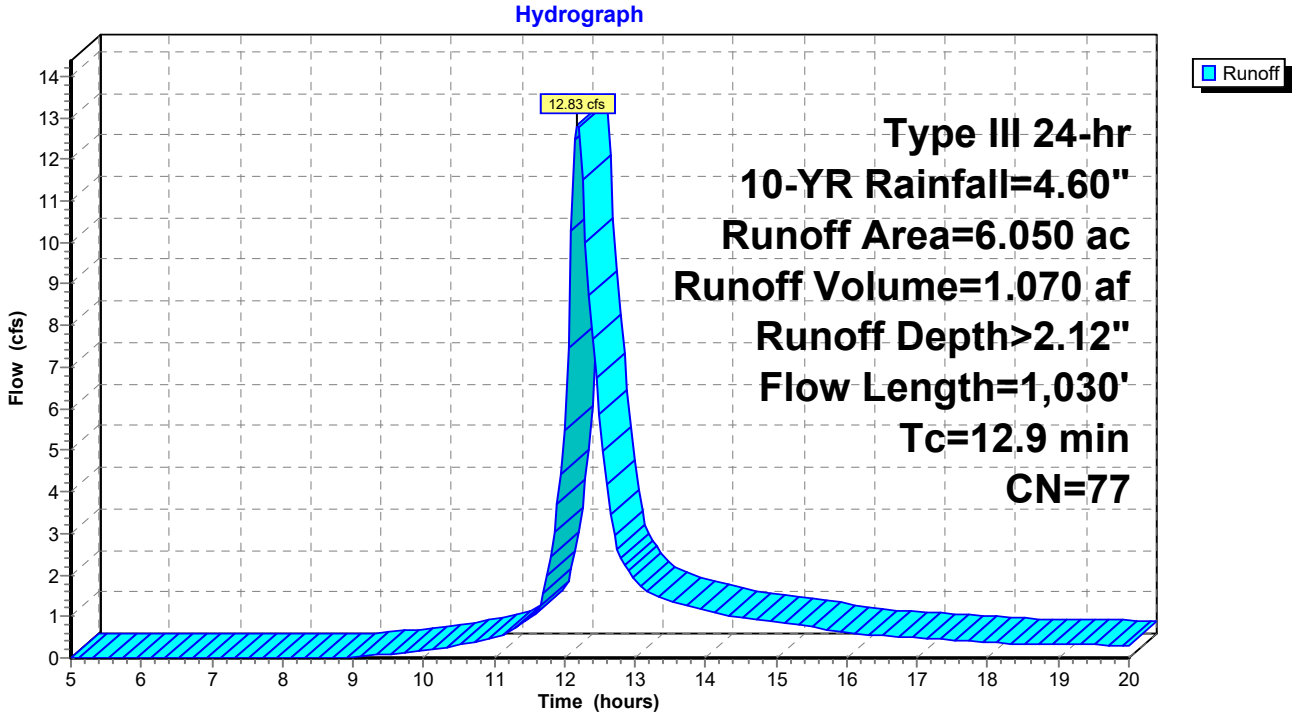
Runoff = 12.83 cfs @ 12.18 hrs, Volume= 1.070 af, Depth> 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (ac)	CN	Description
6.050	77	2 acre lots, 12% imp, HSG C
5.324		88.00% Pervious Area
0.726		12.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		**Sheet Flow, Pre-1A** Smooth surfaces n= 0.011 P2= 3.10"
8.4	90	0.0250	0.18		**Sheet Flow, Pre-1B** Grass: Short n= 0.150 P2= 3.10"
3.9	340	0.0840	1.45		**Shallow Concentrated Flow, Pre-3C** Woodland Kv= 5.0 fps
0.4	590	0.0600	23.20	464.04	**Parabolic Channel, Pre-1D** W=10.00' D=3.00' Area=20.0 sf Perim=12.0' n= 0.022 Earth, clean & straight
12.9	1,030	Total			

Subcatchment Pre-1: Pre-1



Summary for Subcatchment Pre-2: Pre-2

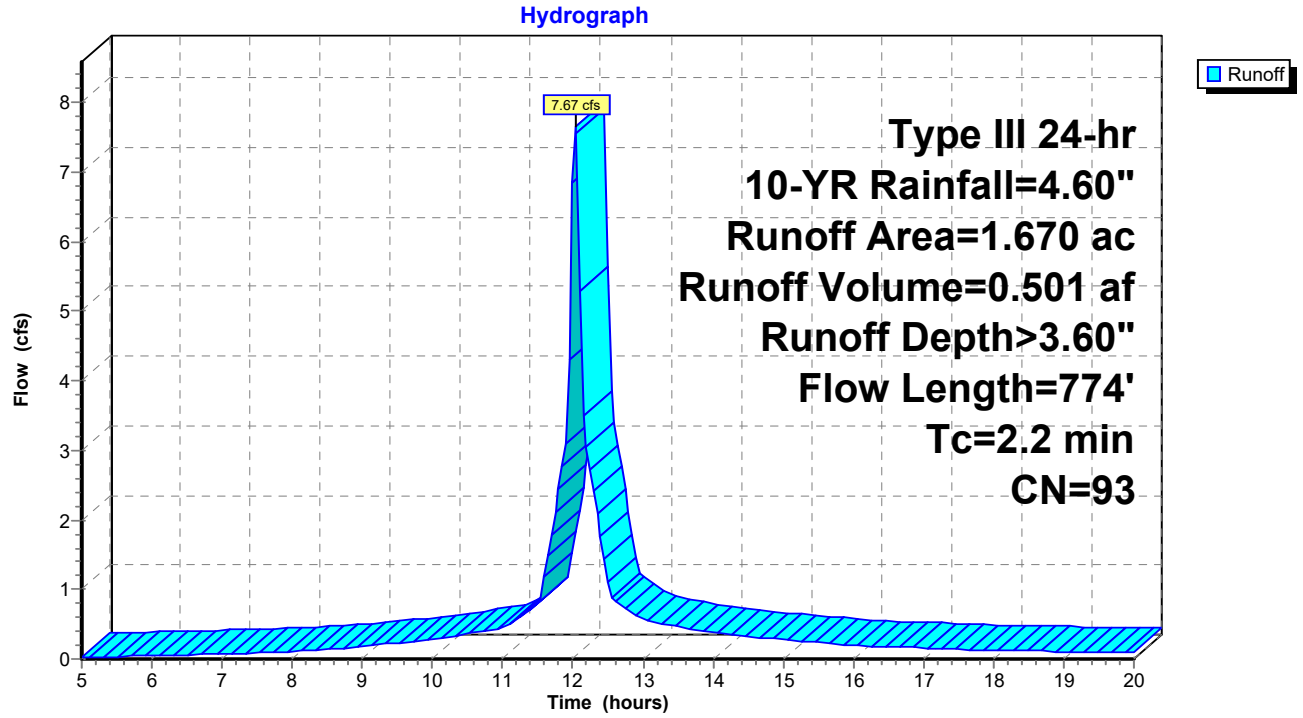
Runoff = 7.67 cfs @ 12.04 hrs, Volume= 0.501 af, Depth> 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

	Area (ac)	CN	Description
*	1.320	98	Impervious
	0.350	74	>75% Grass cover, Good, HSG C
	1.670	93	Weighted Average
	0.350		20.96% Pervious Area
	1.320		79.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0440	1.86		**Sheet Flow, Pre-2A** Smooth surfaces n= 0.011 P2= 3.10"
0.6	105	0.0190	2.80		**Shallow Concentrated Flow, Pre-2B** Paved Kv= 20.3 fps
0.1	14	0.4000	4.43		**Shallow Concentrated Flow, Pre-2C** Short Grass Pasture Kv= 7.0 fps
0.6	555	0.0200	14.25	427.36	**Parabolic Channel, Pre-2D** W=15.00' D=3.00' Area=30.0 sf Perim=16.5' n= 0.022 Earth, clean & straight
2.2	774	Total			

Subcatchment Pre-2: Pre-2



Summary for Subcatchment Pre-3: Pre-3

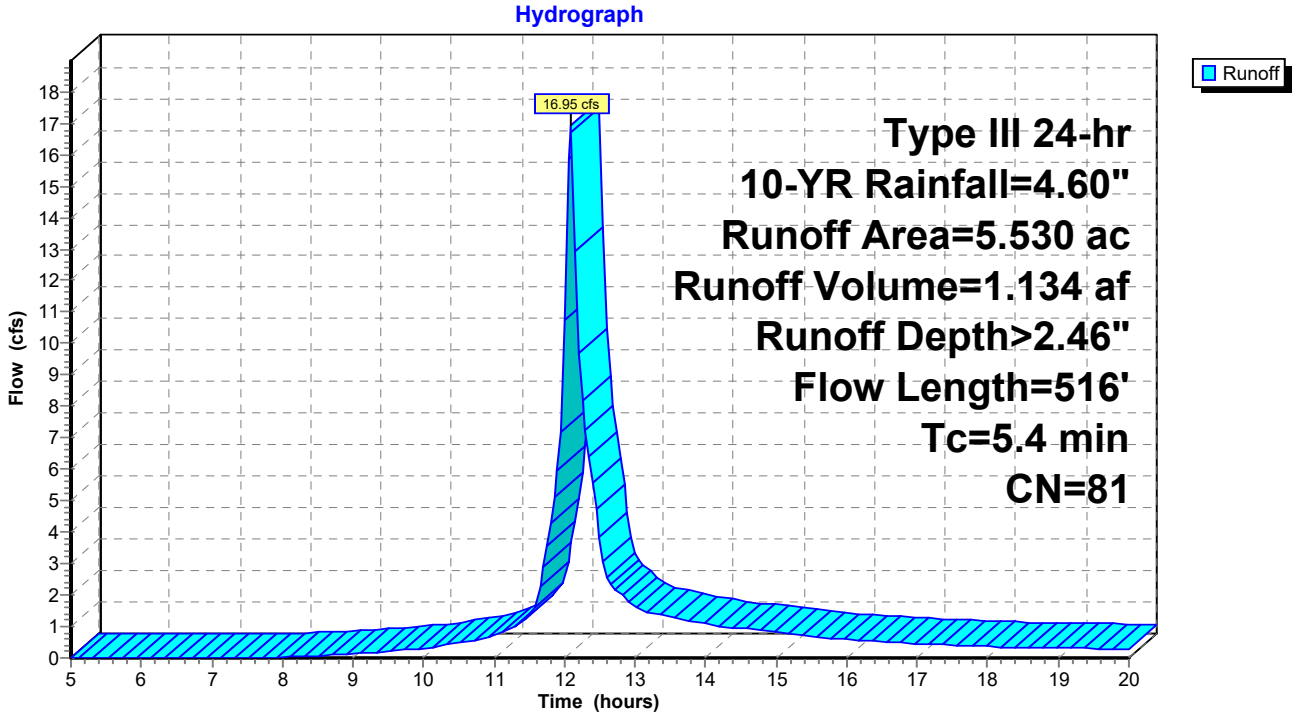
Runoff = 16.95 cfs @ 12.08 hrs, Volume= 1.134 af, Depth> 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

	Area (ac)	CN	Description
*	2.240	98	Impervious
	0.200	74	>75% Grass cover, Good, HSG C
	3.090	70	Woods, Good, HSG C
	5.530	81	Weighted Average
	3.290		59.49% Pervious Area
	2.240		40.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		**Sheet Flow, Pre-3A** Smooth surfaces n= 0.011 P2= 3.10"
0.5	80	0.1200	2.65		**Sheet Flow, Pre-3B** Smooth surfaces n= 0.011 P2= 3.10"
4.6	416	0.0920	1.52		**Shallow Concentrated Flow, Pre-3C** Woodland Kv= 5.0 fps
5.4	516	Total			

Subcatchment Pre-3: Pre-3



Summary for Subcatchment Pre-4: Pre-4

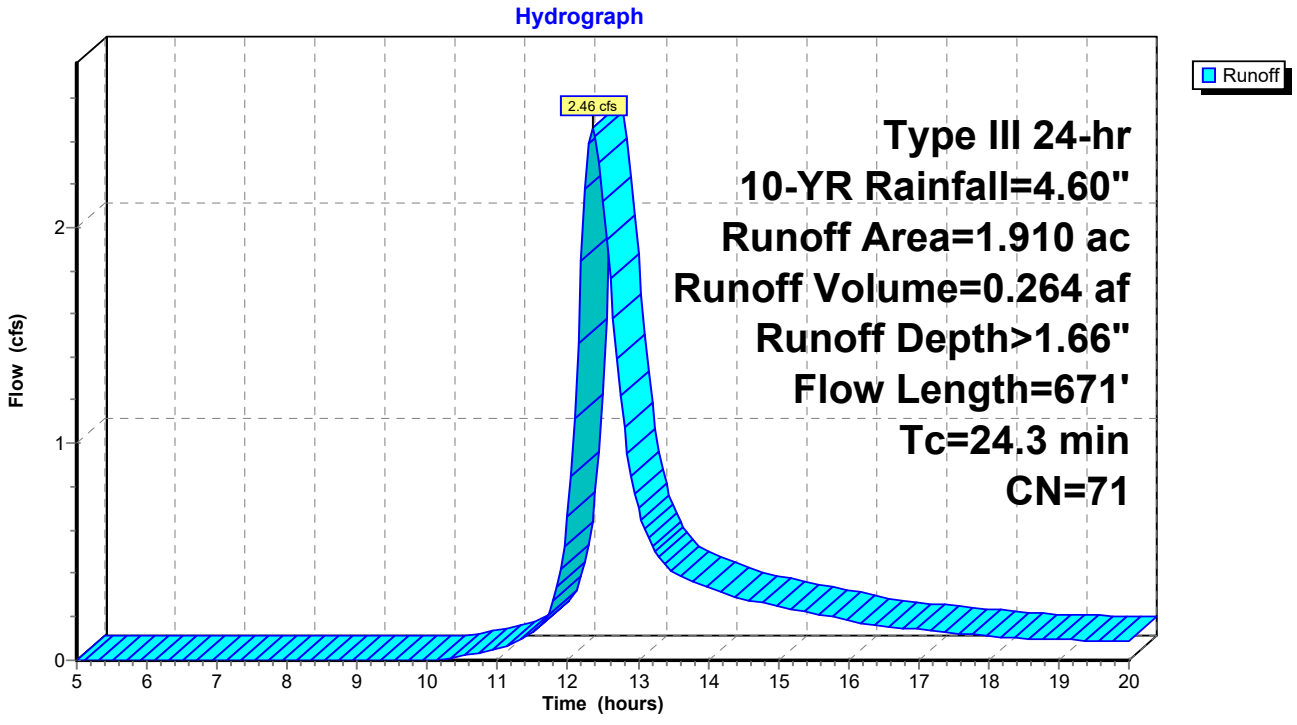
Runoff = 2.46 cfs @ 12.36 hrs, Volume= 0.264 af, Depth> 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

	Area (ac)	CN	Description
*	0.050	98	Impervious
	1.100	71	Meadow, non-grazed, HSG C
	0.760	70	Woods, Good, HSG C
	1.910	71	Weighted Average
	1.860		97.38% Pervious Area
	0.050		2.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	96	0.0600	0.18		**Sheet Flow, Pre-4A** Grass: Dense n= 0.240 P2= 3.10"
15.3	575	0.0080	0.63		**Shallow Concentrated Flow, Pre-4B** Short Grass Pasture Kv= 7.0 fps
24.3	671	Total			

Subcatchment Pre-4: Pre-4



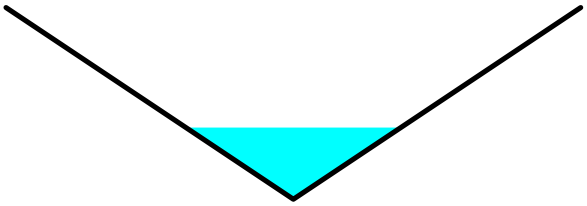
Summary for Reach 1R: Ditch

Inflow Area = 6.050 ac, 12.00% Impervious, Inflow Depth > 2.12" for 10-YR event
Inflow = 13.64 cfs @ 12.16 hrs, Volume= 1.070 af
Outflow = 12.60 cfs @ 12.20 hrs, Volume= 1.069 af, Atten= 8%, Lag= 2.6 min

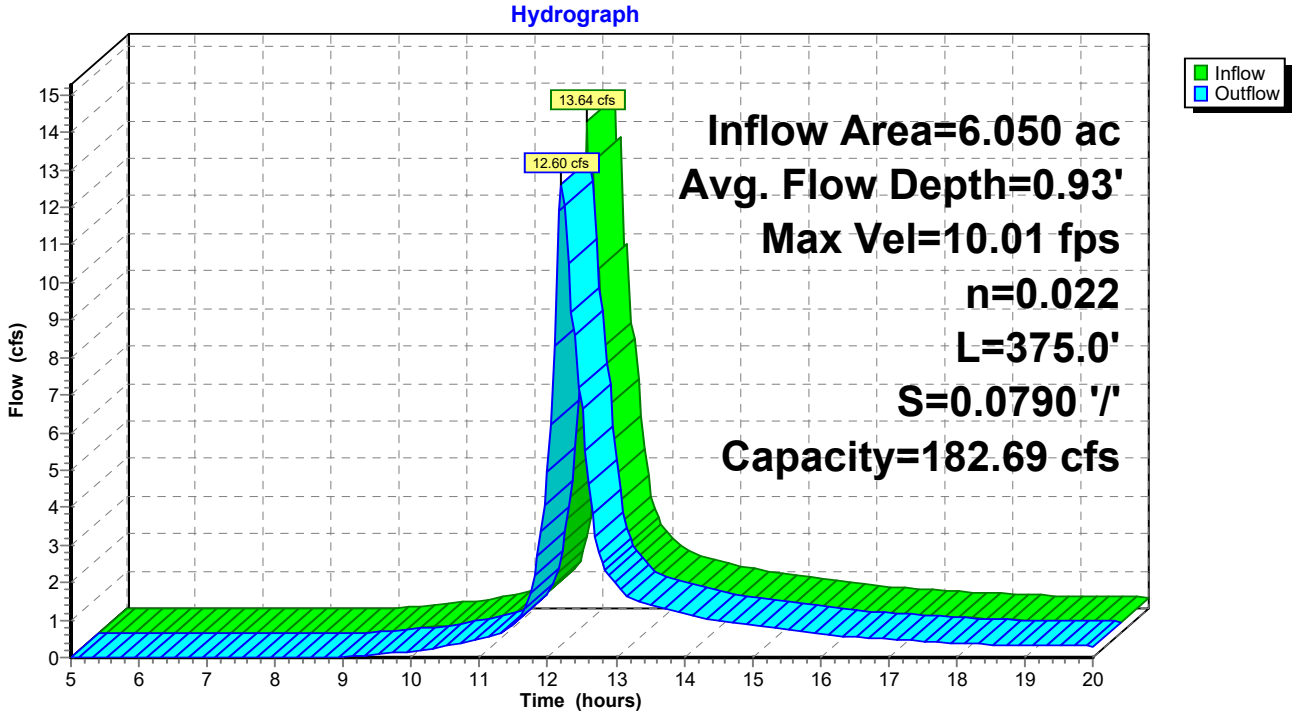
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.01 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 4.75 fps, Avg. Travel Time= 1.3 min

Peak Storage= 489 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.93' , Surface Width= 2.80'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 182.69 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 375.0' Slope= 0.0790 '/'
Inlet Invert= 228.22', Outlet Invert= 198.60'



Reach 1R: Ditch



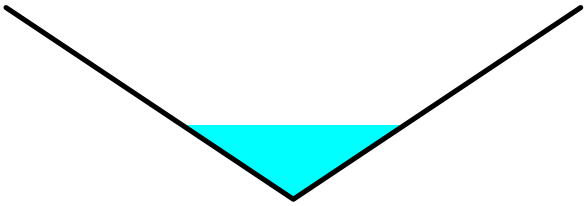
Summary for Reach 3R: Ditch

Inflow Area = 5.530 ac, 40.51% Impervious, Inflow Depth > 2.46" for 10-YR event
Inflow = 16.95 cfs @ 12.08 hrs, Volume= 1.134 af
Outflow = 16.84 cfs @ 12.09 hrs, Volume= 1.134 af, Atten= 1%, Lag= 0.4 min

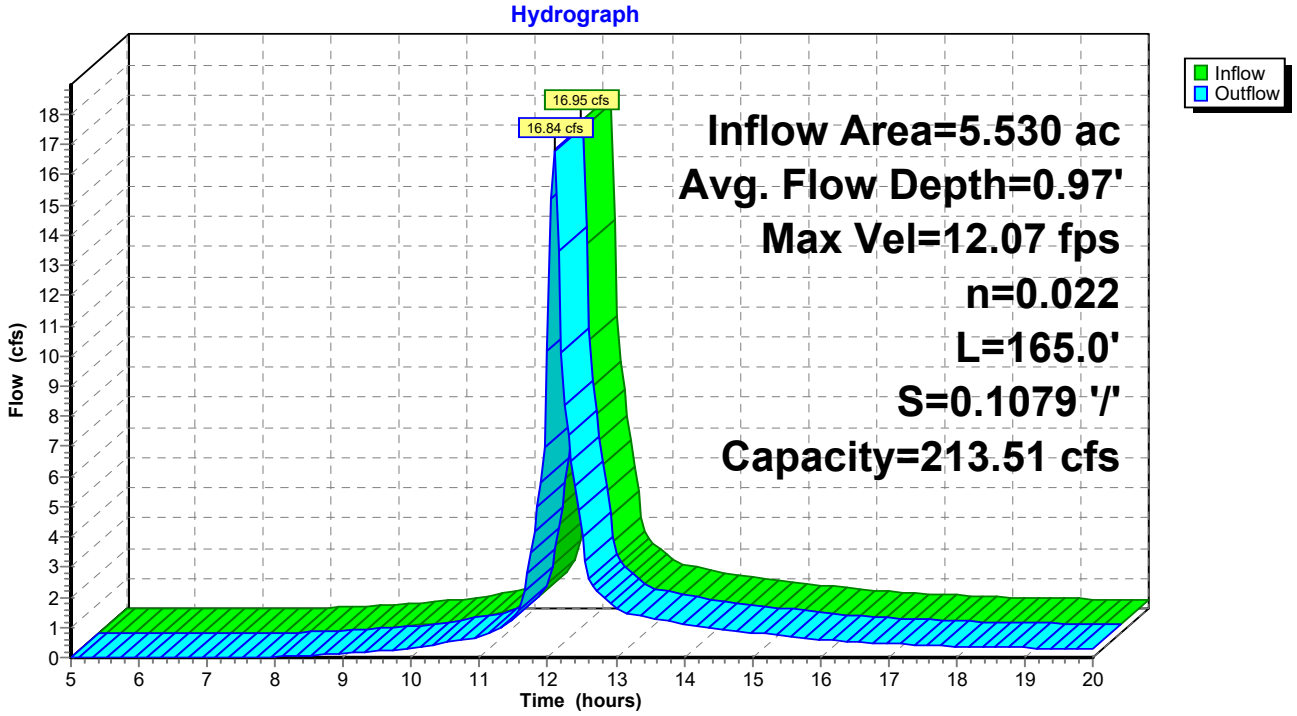
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.07 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 5.25 fps, Avg. Travel Time= 0.5 min

Peak Storage= 232 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.97' , Surface Width= 2.91'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 213.51 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 165.0' Slope= 0.1079 '/'
Inlet Invert= 216.40', Outlet Invert= 198.60'



Reach 3R: Ditch

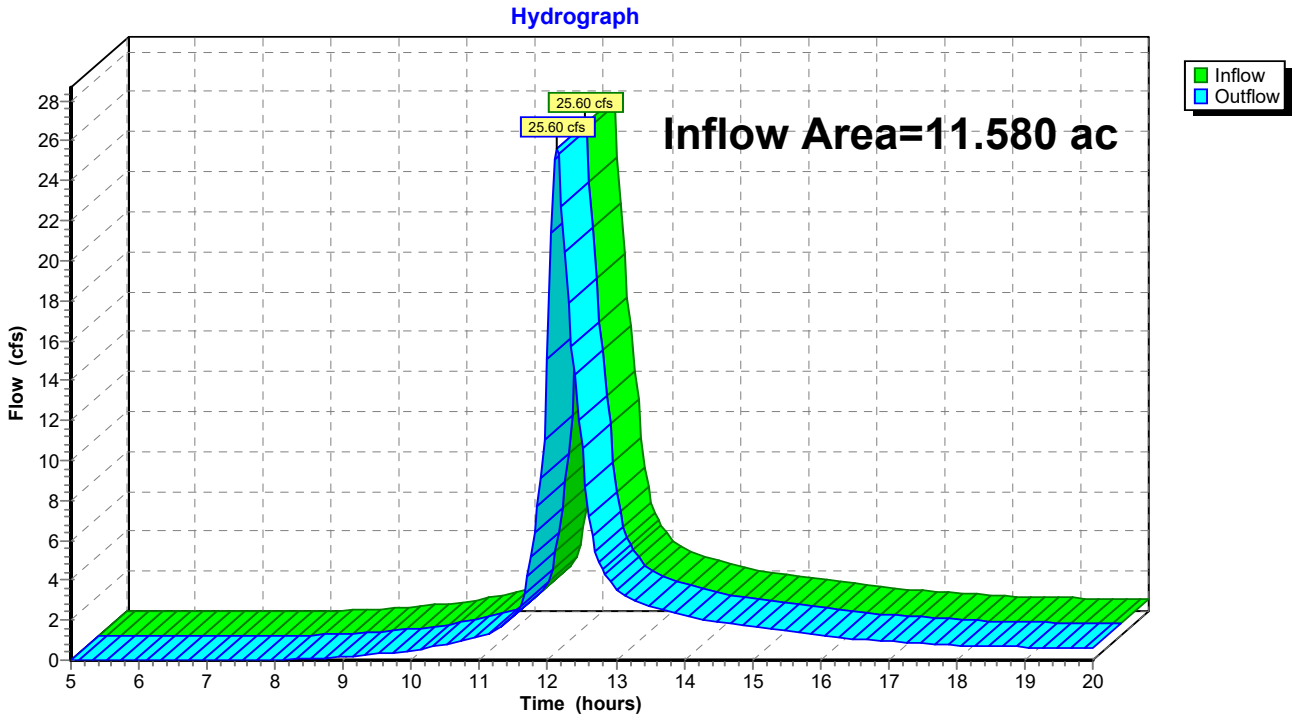


Summary for Reach 4R: Wetland Flow

Inflow Area = 11.580 ac, 25.61% Impervious, Inflow Depth > 2.28" for 10-YR event
Inflow = 25.60 cfs @ 12.13 hrs, Volume= 2.203 af
Outflow = 25.60 cfs @ 12.13 hrs, Volume= 2.203 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 4R: Wetland Flow



Summary for Pond 1P: Culvert Inlet

Inflow Area = 6.050 ac, 12.00% Impervious, Inflow Depth > 2.12" for 10-YR event
Inflow = 12.83 cfs @ 12.18 hrs, Volume= 1.070 af
Outflow = 13.64 cfs @ 12.16 hrs, Volume= 1.070 af, Atten= 0%, Lag= 0.0 min
Primary = 13.64 cfs @ 12.16 hrs, Volume= 1.070 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 235.55' @ 12.16 hrs Surf.Area= 350 sf Storage= 327 cf

Plug-Flow detention time= 0.3 min calculated for 1.070 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (802.3 - 801.9)

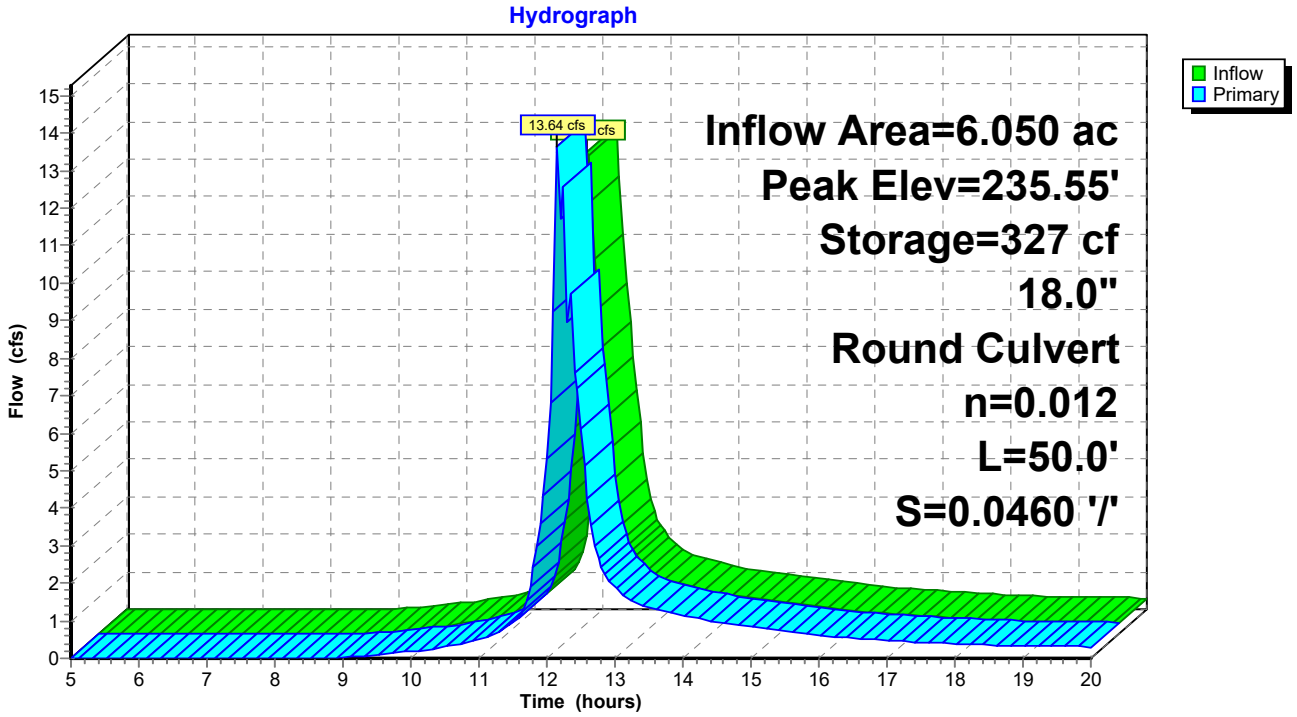
Volume	Invert	Avail.Storage	Storage Description
#1	231.00'	327 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
231.00	83	0	0
232.00	110	97	97
233.00	350	230	327

Device	Routing	Invert	Outlet Devices
#1	Primary	230.70'	**18.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.70' / 228.40' S= 0.0460 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=13.16 cfs @ 12.16 hrs HW=235.29' (Free Discharge)
1=Culvert (Inlet Controls 13.16 cfs @ 7.45 fps)

Pond 1P: Culvert Inlet



Summary for Pond Structure: Structure

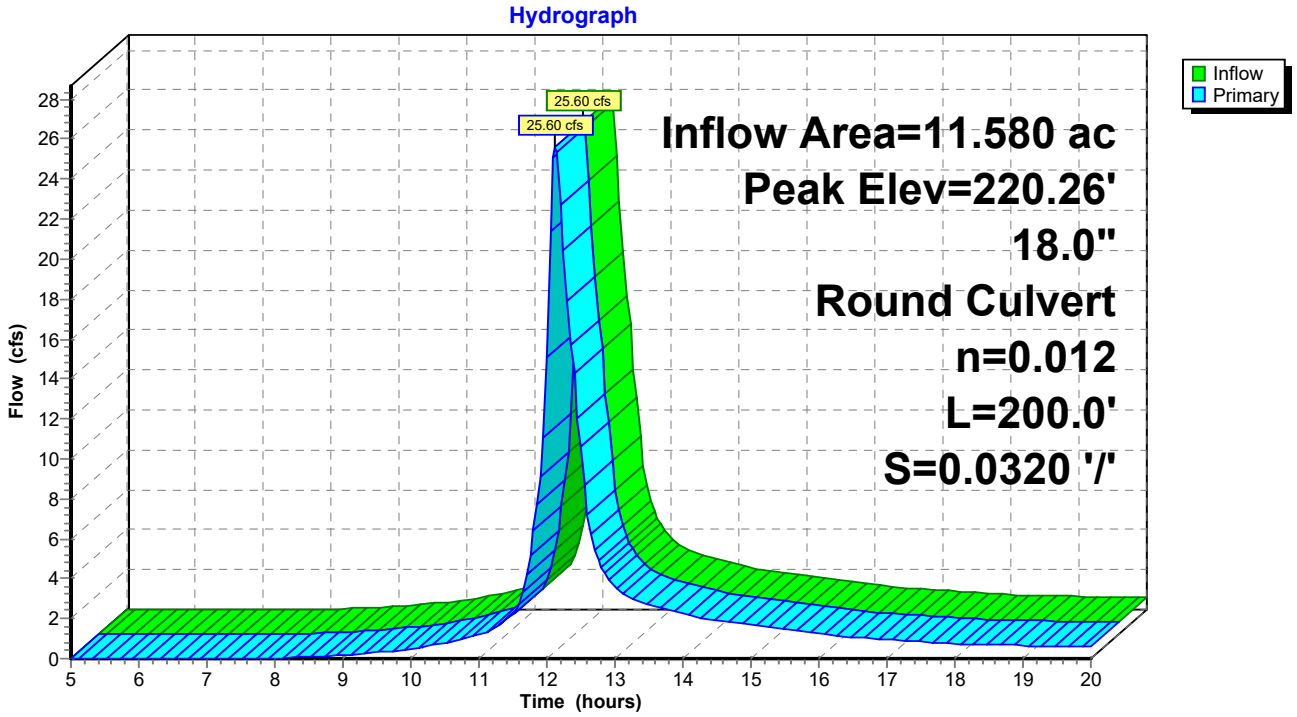
Inflow Area = 11.580 ac, 25.61% Impervious, Inflow Depth > 2.28" for 10-YR event
Inflow = 25.60 cfs @ 12.13 hrs, Volume= 2.203 af
Outflow = 25.60 cfs @ 12.13 hrs, Volume= 2.203 af, Atten= 0%, Lag= 0.0 min
Primary = 25.60 cfs @ 12.13 hrs, Volume= 2.203 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 220.26' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	205.00'	**18.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 205.00' / 198.60' S= 0.0320 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=25.25 cfs @ 12.13 hrs HW=219.87' (Free Discharge)
1=Culvert (Inlet Controls 25.25 cfs @ 14.29 fps)

Pond Structure: Structure

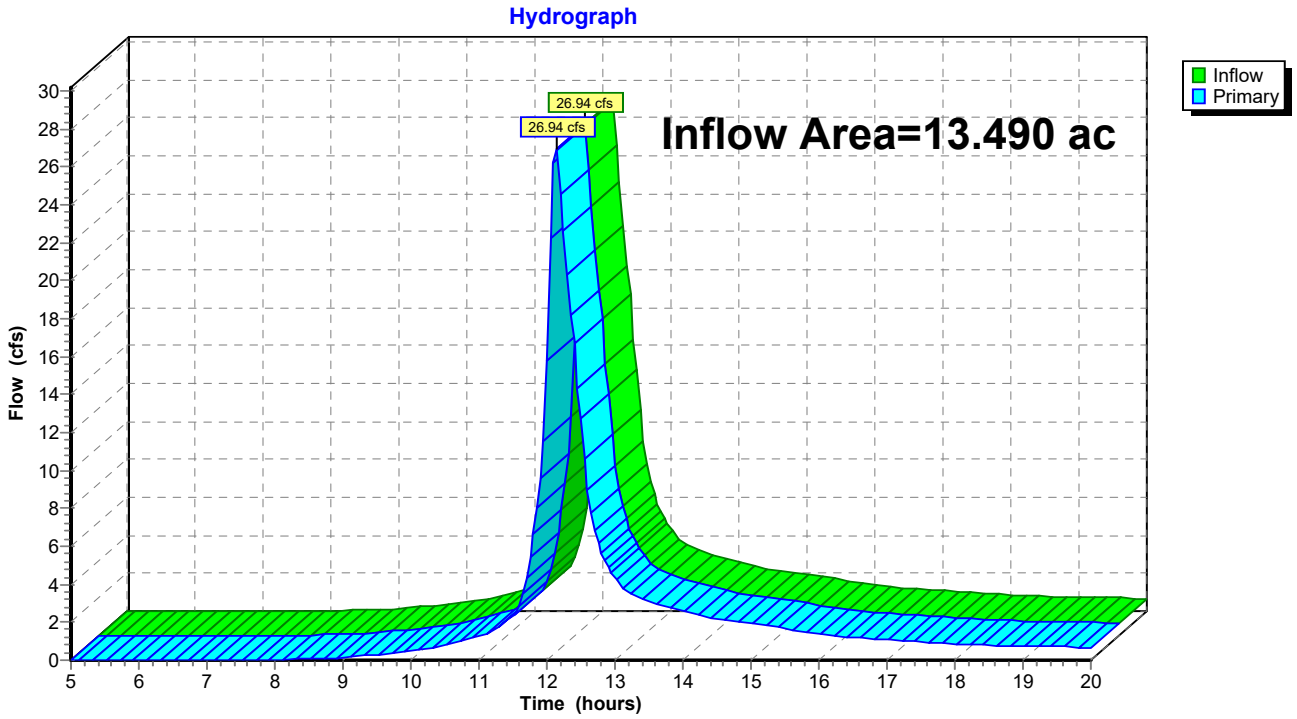


Summary for Link Analysis -1: AP-1

Inflow Area = 13.490 ac, 22.36% Impervious, Inflow Depth > 2.19" for 10-YR event
Inflow = 26.94 cfs @ 12.14 hrs, Volume= 2.467 af
Primary = 26.94 cfs @ 12.14 hrs, Volume= 2.467 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link Analysis -1: AP-1

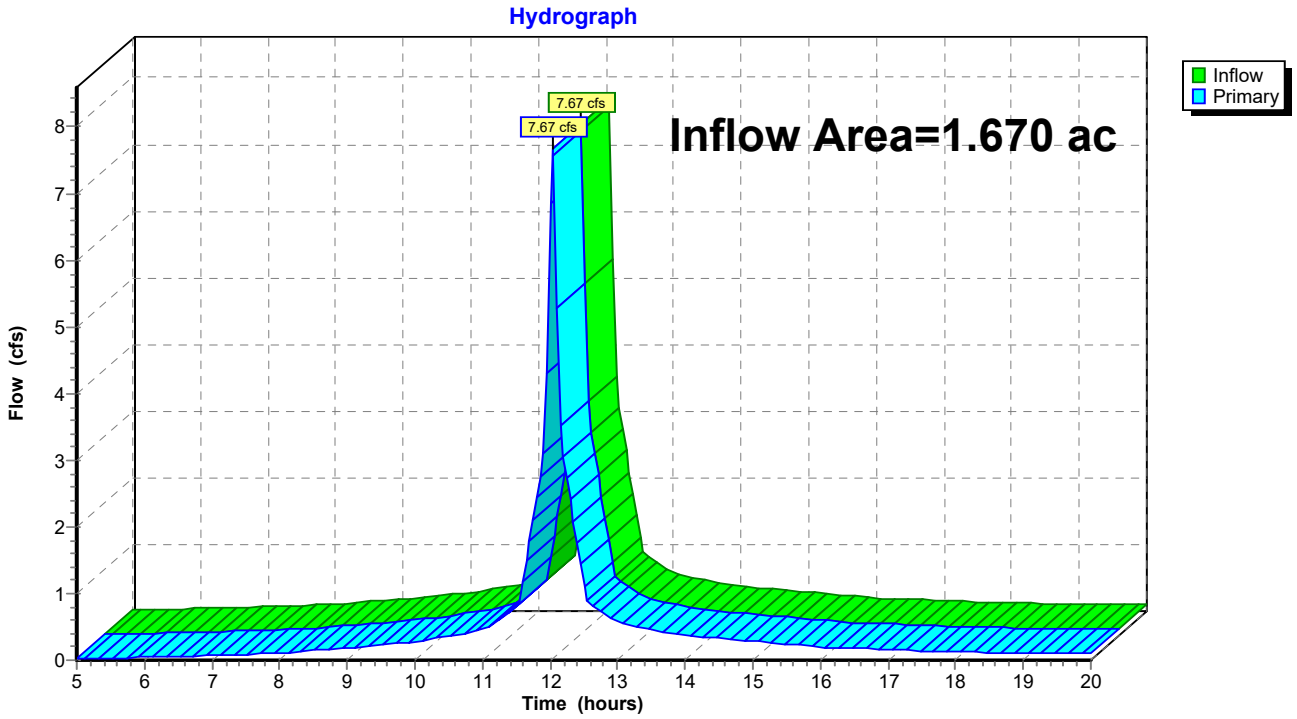


Summary for Link Anaysis-2: AP-2

Inflow Area = 1.670 ac, 79.04% Impervious, Inflow Depth > 3.60" for 10-YR event
Inflow = 7.67 cfs @ 12.04 hrs, Volume= 0.501 af
Primary = 7.67 cfs @ 12.04 hrs, Volume= 0.501 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link Anaysis-2: AP-2



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPre-1: Pre-1 Runoff Area=6.050 ac 12.00% Impervious Runoff Depth>3.08"
Flow Length=1,030' Tc=12.9 min CN=77 Runoff=18.56 cfs 1.552 af

SubcatchmentPre-2: Pre-2 Runoff Area=1.670 ac 79.04% Impervious Runoff Depth>4.71"
Flow Length=774' Tc=2.2 min CN=93 Runoff=9.89 cfs 0.655 af

SubcatchmentPre-3: Pre-3 Runoff Area=5.530 ac 40.51% Impervious Runoff Depth>3.47"
Flow Length=516' Tc=5.4 min CN=81 Runoff=23.67 cfs 1.600 af

SubcatchmentPre-4: Pre-4 Runoff Area=1.910 ac 2.62% Impervious Runoff Depth>2.52"
Flow Length=671' Tc=24.3 min CN=71 Runoff=3.77 cfs 0.401 af

Reach 1R: Ditch Avg. Flow Depth=1.06' Max Vel=11.01 fps Inflow=18.74 cfs 1.552 af
n=0.022 L=375.0' S=0.0790 '/' Capacity=182.69 cfs Outflow=18.43 cfs 1.551 af

Reach 3R: Ditch Avg. Flow Depth=1.10' Max Vel=13.12 fps Inflow=23.67 cfs 1.600 af
n=0.022 L=165.0' S=0.1079 '/' Capacity=213.51 cfs Outflow=23.53 cfs 1.600 af

Reach 4R: Wetland Flow Inflow=37.55 cfs 3.151 af
Outflow=37.55 cfs 3.151 af

Pond 1P: Culvert Inlet Peak Elev=239.22' Storage=327 cf Inflow=18.56 cfs 1.552 af
18.0" Round Culvert n=0.012 L=50.0' S=0.0460 '/' Outflow=18.74 cfs 1.552 af

Pond Structure: Structure Peak Elev=236.91' Inflow=37.55 cfs 3.151 af
18.0" Round Culvert n=0.012 L=200.0' S=0.0320 '/' Outflow=37.55 cfs 3.151 af

Link Analysis-1: AP-1 Inflow=39.54 cfs 3.552 af
Primary=39.54 cfs 3.552 af

Link Anaysis-2: AP-2 Inflow=9.89 cfs 0.655 af
Primary=9.89 cfs 0.655 af

Total Runoff Area = 15.160 ac Runoff Volume = 4.208 af Average Runoff Depth = 3.33"
71.40% Pervious = 10.824 ac 28.60% Impervious = 4.336 ac

Summary for Subcatchment Pre-1: Pre-1

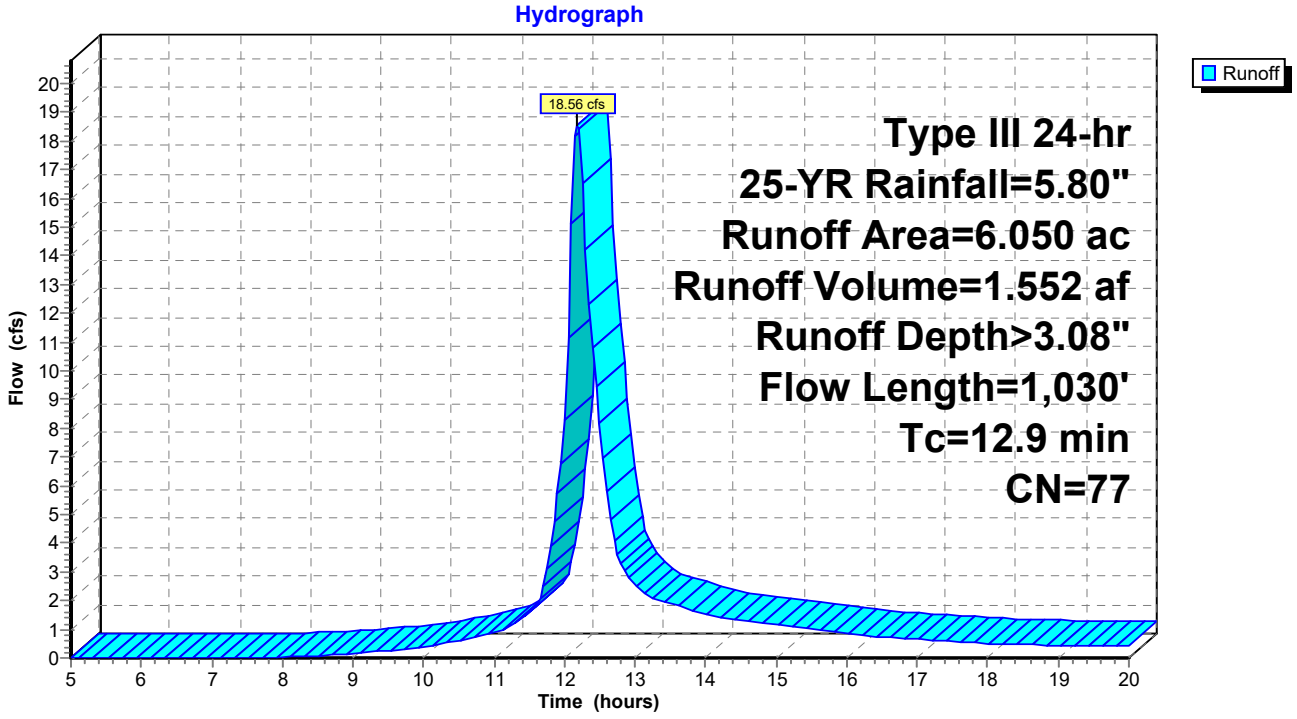
Runoff = 18.56 cfs @ 12.18 hrs, Volume= 1.552 af, Depth> 3.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (ac)	CN	Description
6.050	77	2 acre lots, 12% imp, HSG C
5.324		88.00% Pervious Area
0.726		12.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		**Sheet Flow, Pre-1A** Smooth surfaces n= 0.011 P2= 3.10"
8.4	90	0.0250	0.18		**Sheet Flow, Pre-1B** Grass: Short n= 0.150 P2= 3.10"
3.9	340	0.0840	1.45		**Shallow Concentrated Flow, Pre-3C** Woodland Kv= 5.0 fps
0.4	590	0.0600	23.20	464.04	**Parabolic Channel, Pre-1D** W=10.00' D=3.00' Area=20.0 sf Perim=12.0' n= 0.022 Earth, clean & straight
12.9	1,030	Total			

Subcatchment Pre-1: Pre-1



Summary for Subcatchment Pre-2: Pre-2

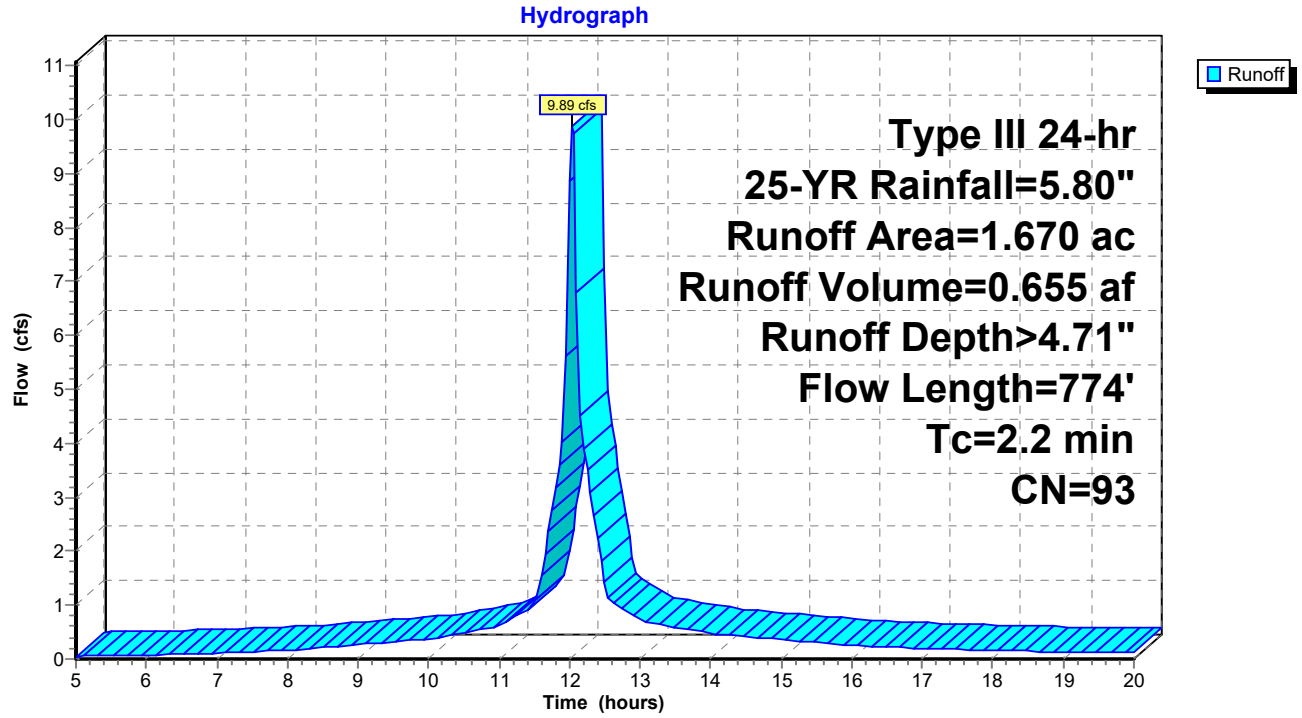
Runoff = 9.89 cfs @ 12.04 hrs, Volume= 0.655 af, Depth> 4.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (ac)	CN	Description
*	1.320	98	Impervious
	0.350	74	>75% Grass cover, Good, HSG C
	1.670	93	Weighted Average
	0.350		20.96% Pervious Area
	1.320		79.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0440	1.86		**Sheet Flow, Pre-2A** Smooth surfaces n= 0.011 P2= 3.10"
0.6	105	0.0190	2.80		**Shallow Concentrated Flow, Pre-2B** Paved Kv= 20.3 fps
0.1	14	0.4000	4.43		**Shallow Concentrated Flow, Pre-2C** Short Grass Pasture Kv= 7.0 fps
0.6	555	0.0200	14.25	427.36	**Parabolic Channel, Pre-2D** W=15.00' D=3.00' Area=30.0 sf Perim=16.5' n= 0.022 Earth, clean & straight
2.2	774	Total			

Subcatchment Pre-2: Pre-2



Summary for Subcatchment Pre-3: Pre-3

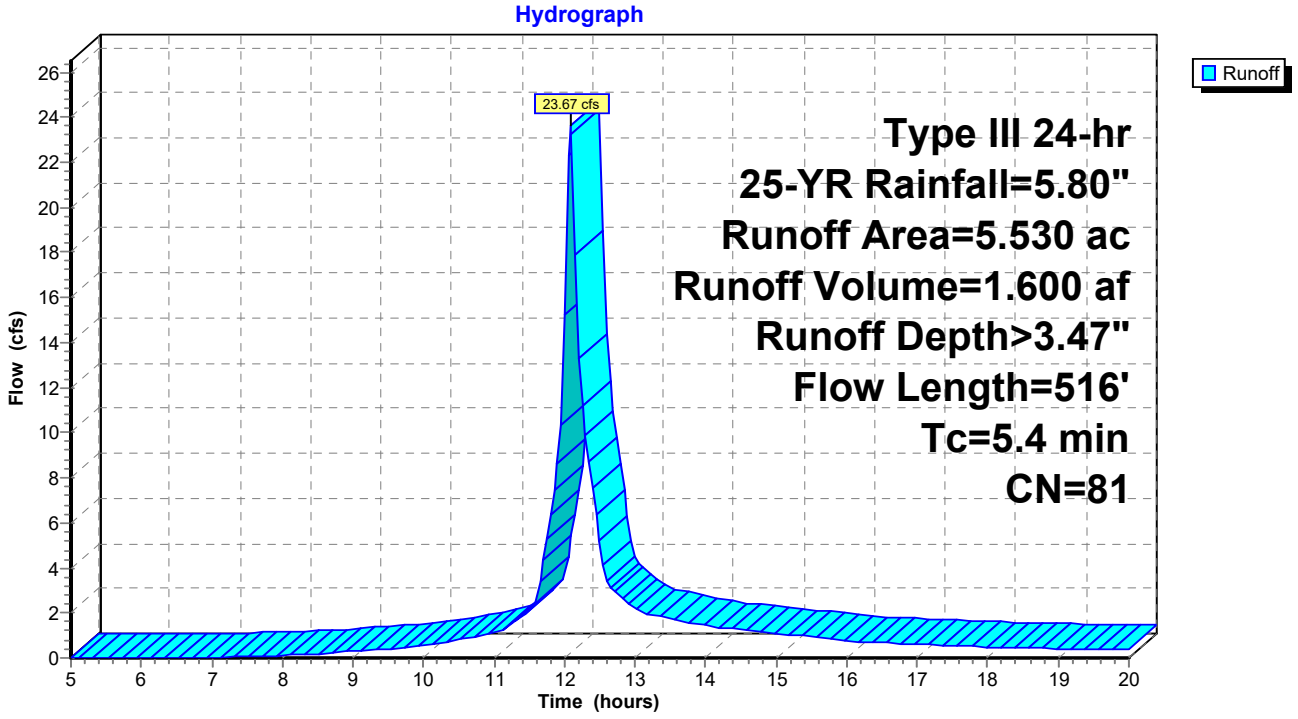
Runoff = 23.67 cfs @ 12.08 hrs, Volume= 1.600 af, Depth> 3.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (ac)	CN	Description
*	2.240	98	Impervious
	0.200	74	>75% Grass cover, Good, HSG C
	3.090	70	Woods, Good, HSG C
	5.530	81	Weighted Average
	3.290		59.49% Pervious Area
	2.240		40.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	0.98		**Sheet Flow, Pre-3A** Smooth surfaces n= 0.011 P2= 3.10"
0.5	80	0.1200	2.65		**Sheet Flow, Pre-3B** Smooth surfaces n= 0.011 P2= 3.10"
4.6	416	0.0920	1.52		**Shallow Concentrated Flow, Pre-3C** Woodland Kv= 5.0 fps
5.4	516	Total			

Subcatchment Pre-3: Pre-3



Summary for Subcatchment Pre-4: Pre-4

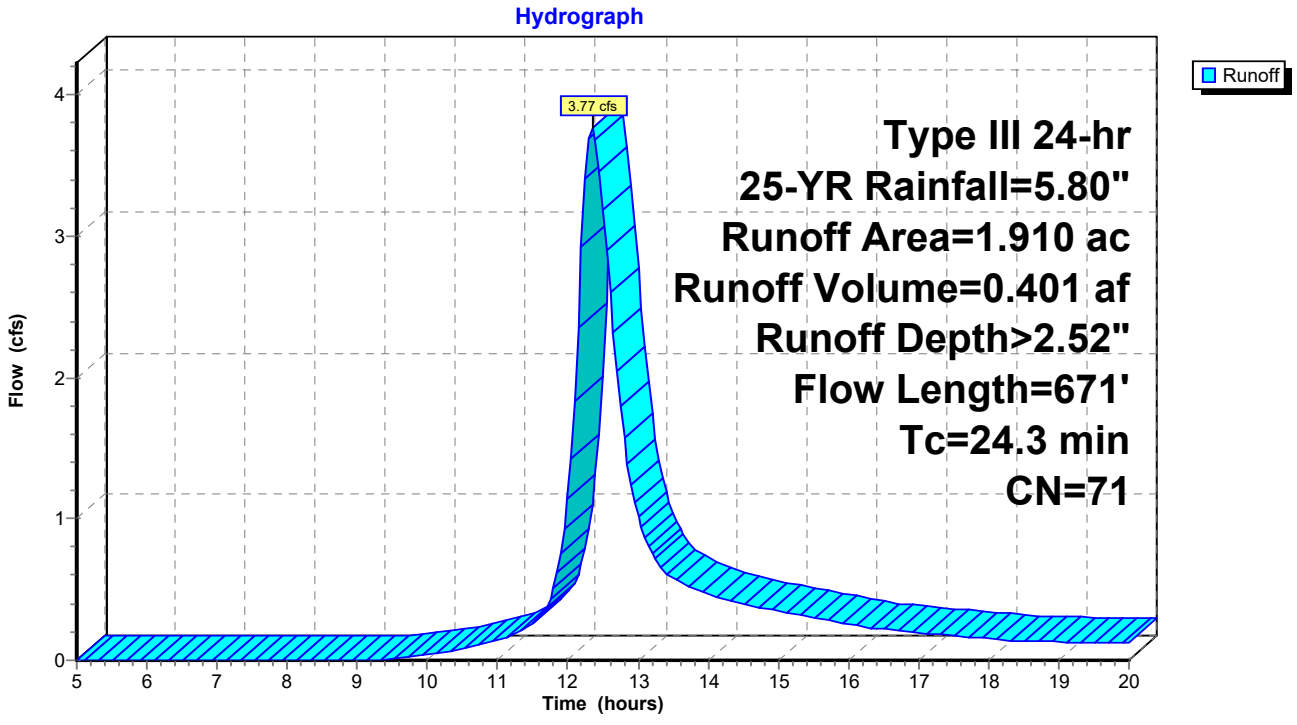
Runoff = 3.77 cfs @ 12.35 hrs, Volume= 0.401 af, Depth> 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (ac)	CN	Description
*	0.050	98	Impervious
	1.100	71	Meadow, non-grazed, HSG C
	0.760	70	Woods, Good, HSG C
	1.910	71	Weighted Average
	1.860		97.38% Pervious Area
	0.050		2.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	96	0.0600	0.18		**Sheet Flow, Pre-4A** Grass: Dense n= 0.240 P2= 3.10"
15.3	575	0.0080	0.63		**Shallow Concentrated Flow, Pre-4B** Short Grass Pasture Kv= 7.0 fps
24.3	671	Total			

Subcatchment Pre-4: Pre-4



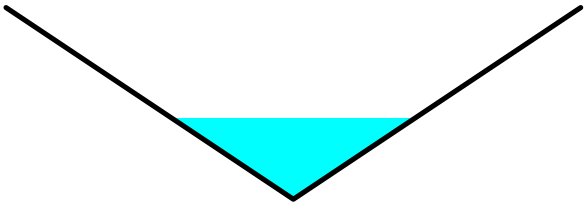
Summary for Reach 1R: Ditch

Inflow Area = 6.050 ac, 12.00% Impervious, Inflow Depth > 3.08" for 25-YR event
Inflow = 18.74 cfs @ 12.19 hrs, Volume= 1.552 af
Outflow = 18.43 cfs @ 12.20 hrs, Volume= 1.551 af, Atten= 2%, Lag= 0.8 min

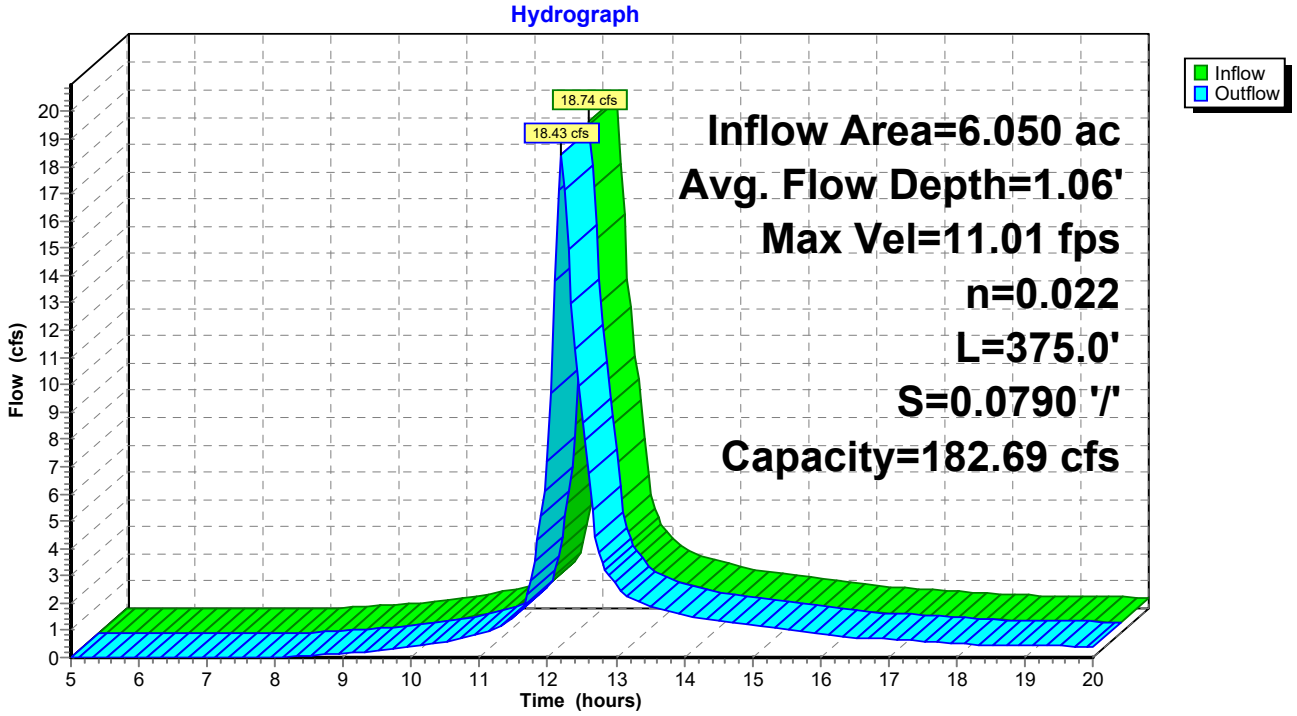
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.01 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 5.05 fps, Avg. Travel Time= 1.2 min

Peak Storage= 634 cf @ 12.19 hrs
Average Depth at Peak Storage= 1.06' , Surface Width= 3.19'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 182.69 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 375.0' Slope= 0.0790 '/'
Inlet Invert= 228.22', Outlet Invert= 198.60'



Reach 1R: Ditch



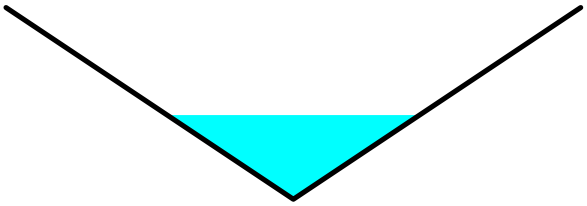
Summary for Reach 3R: Ditch

Inflow Area = 5.530 ac, 40.51% Impervious, Inflow Depth > 3.47" for 25-YR event
Inflow = 23.67 cfs @ 12.08 hrs, Volume= 1.600 af
Outflow = 23.53 cfs @ 12.09 hrs, Volume= 1.600 af, Atten= 1%, Lag= 0.4 min

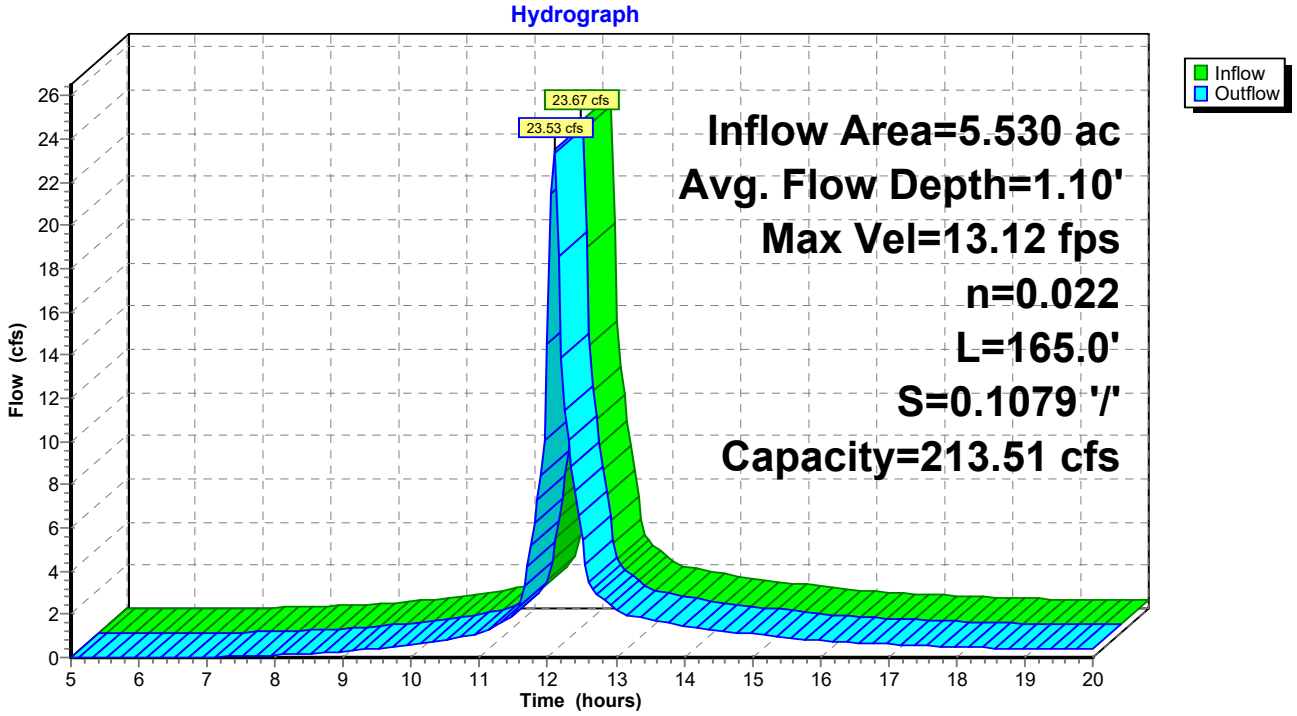
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.12 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 5.56 fps, Avg. Travel Time= 0.5 min

Peak Storage= 298 cf @ 12.09 hrs
Average Depth at Peak Storage= 1.10' , Surface Width= 3.29'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 213.51 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 165.0' Slope= 0.1079 '/'
Inlet Invert= 216.40', Outlet Invert= 198.60'



Reach 3R: Ditch

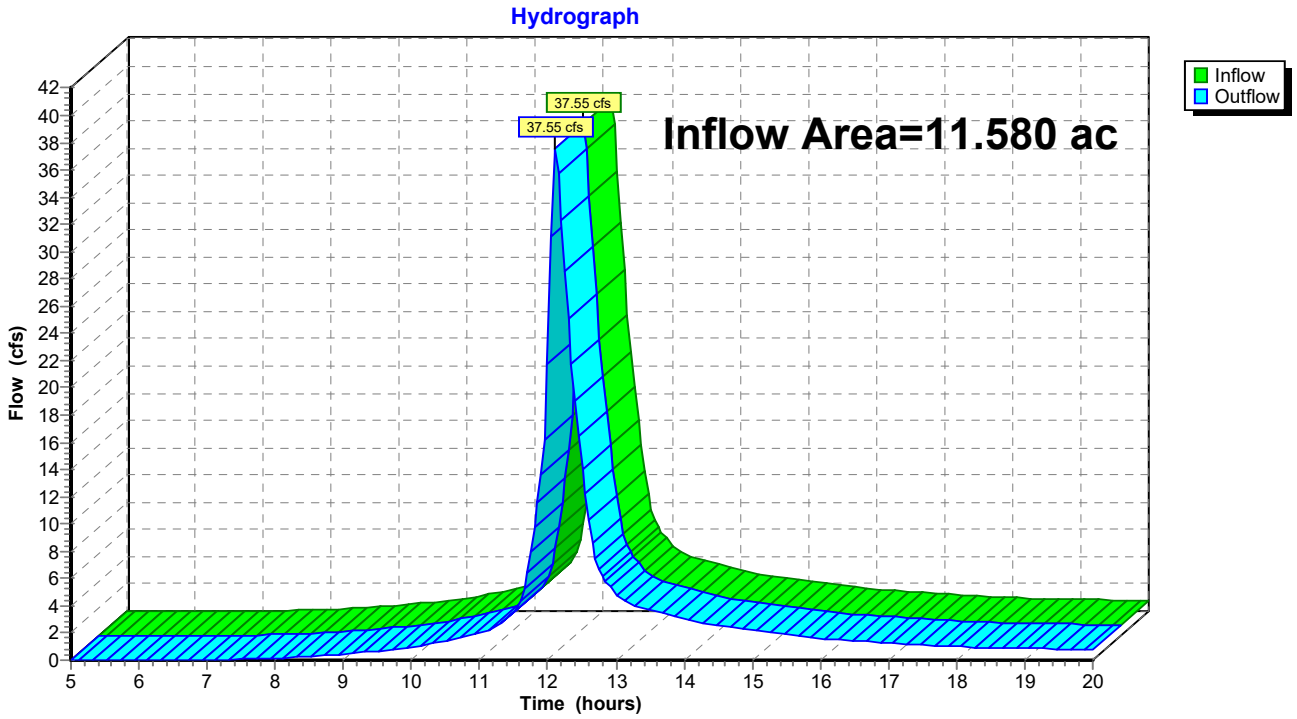


Summary for Reach 4R: Wetland Flow

Inflow Area = 11.580 ac, 25.61% Impervious, Inflow Depth > 3.26" for 25-YR event
Inflow = 37.55 cfs @ 12.12 hrs, Volume= 3.151 af
Outflow = 37.55 cfs @ 12.12 hrs, Volume= 3.151 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 4R: Wetland Flow



Summary for Pond 1P: Culvert Inlet

Inflow Area = 6.050 ac, 12.00% Impervious, Inflow Depth > 3.08" for 25-YR event
Inflow = 18.56 cfs @ 12.18 hrs, Volume= 1.552 af
Outflow = 18.74 cfs @ 12.19 hrs, Volume= 1.552 af, Atten= 0%, Lag= 0.4 min
Primary = 18.74 cfs @ 12.19 hrs, Volume= 1.552 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 239.22' @ 12.19 hrs Surf.Area= 350 sf Storage= 327 cf

Plug-Flow detention time= 0.3 min calculated for 1.552 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (793.8 - 793.5)

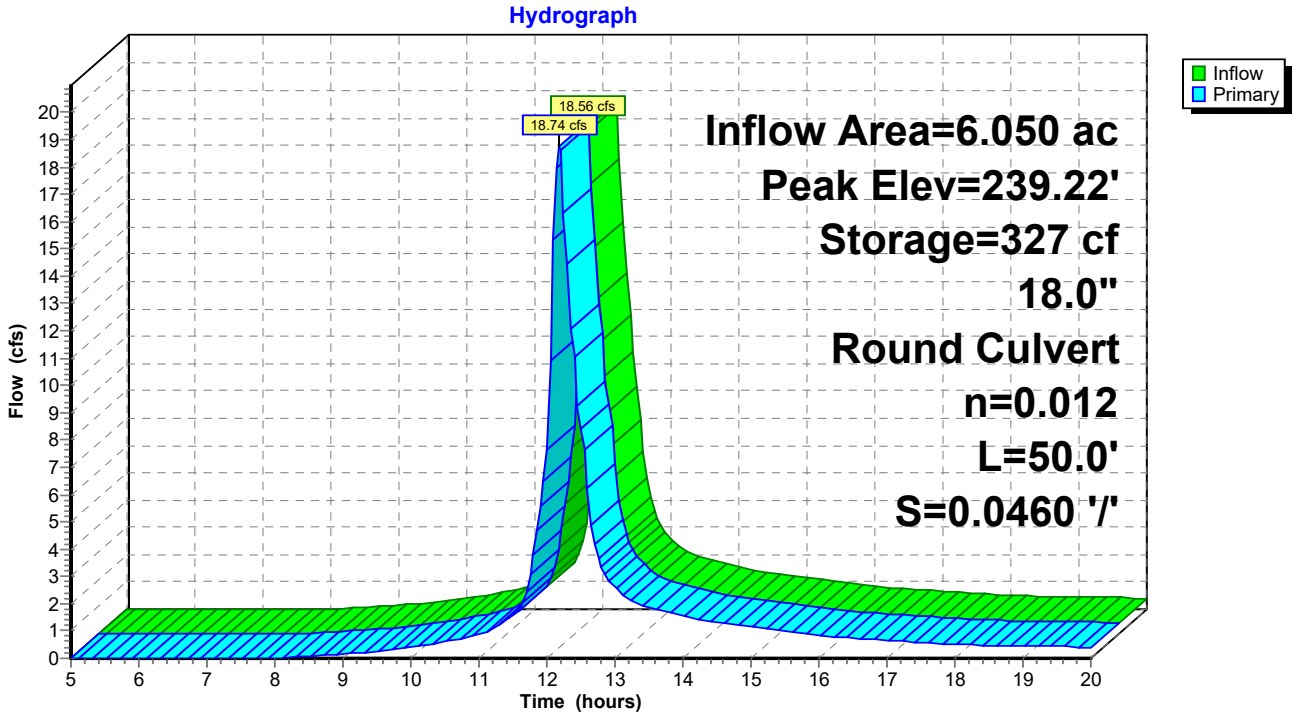
Volume	Invert	Avail.Storage	Storage Description
#1	231.00'	327 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
231.00	83	0	0
232.00	110	97	97
233.00	350	230	327

Device	Routing	Invert	Outlet Devices
#1	Primary	230.70'	**18.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.70' / 228.40' S= 0.0460 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=18.44 cfs @ 12.19 hrs HW=238.99' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 18.44 cfs @ 10.43 fps)

Pond 1P: Culvert Inlet



Summary for Pond Structure: Structure

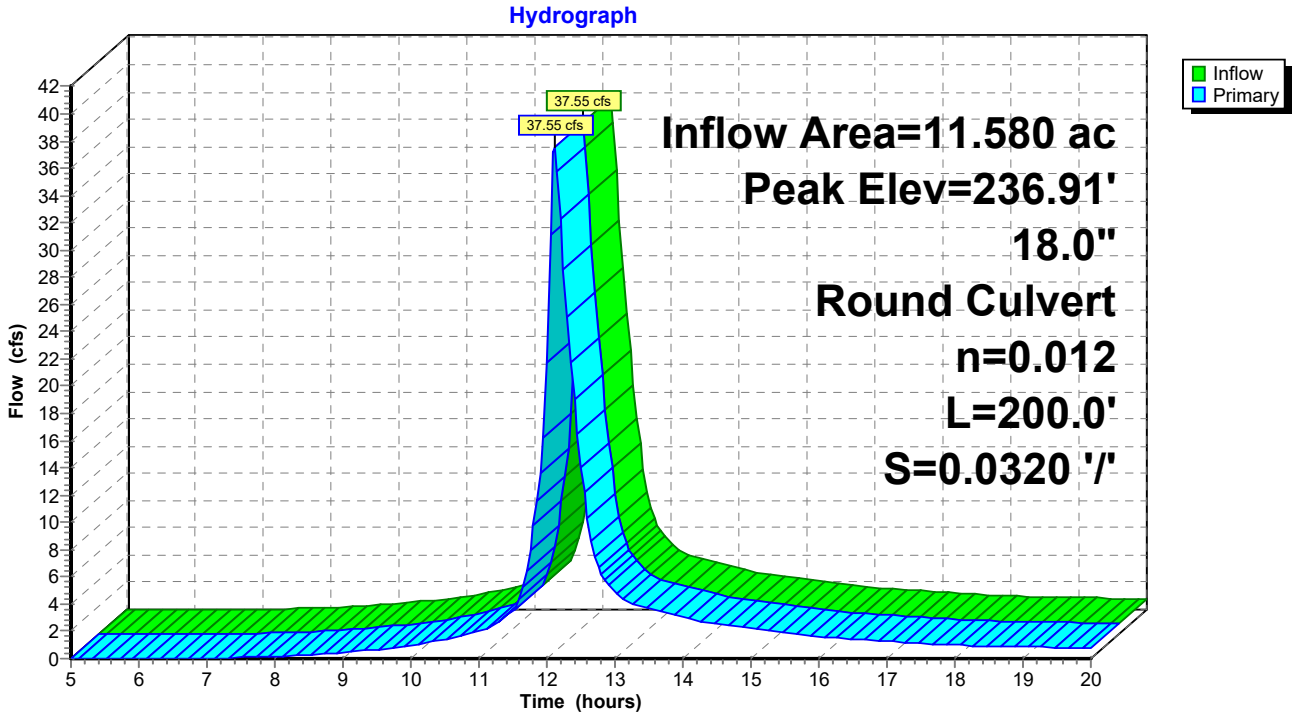
Inflow Area = 11.580 ac, 25.61% Impervious, Inflow Depth > 3.26" for 25-YR event
Inflow = 37.55 cfs @ 12.12 hrs, Volume= 3.151 af
Outflow = 37.55 cfs @ 12.12 hrs, Volume= 3.151 af, Atten= 0%, Lag= 0.0 min
Primary = 37.55 cfs @ 12.12 hrs, Volume= 3.151 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 236.91' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	205.00'	**18.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 205.00' / 198.60' S= 0.0320 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=36.75 cfs @ 12.12 hrs HW=235.69' (Free Discharge)
1=Culvert (Inlet Controls 36.75 cfs @ 20.80 fps)

Pond Structure: Structure

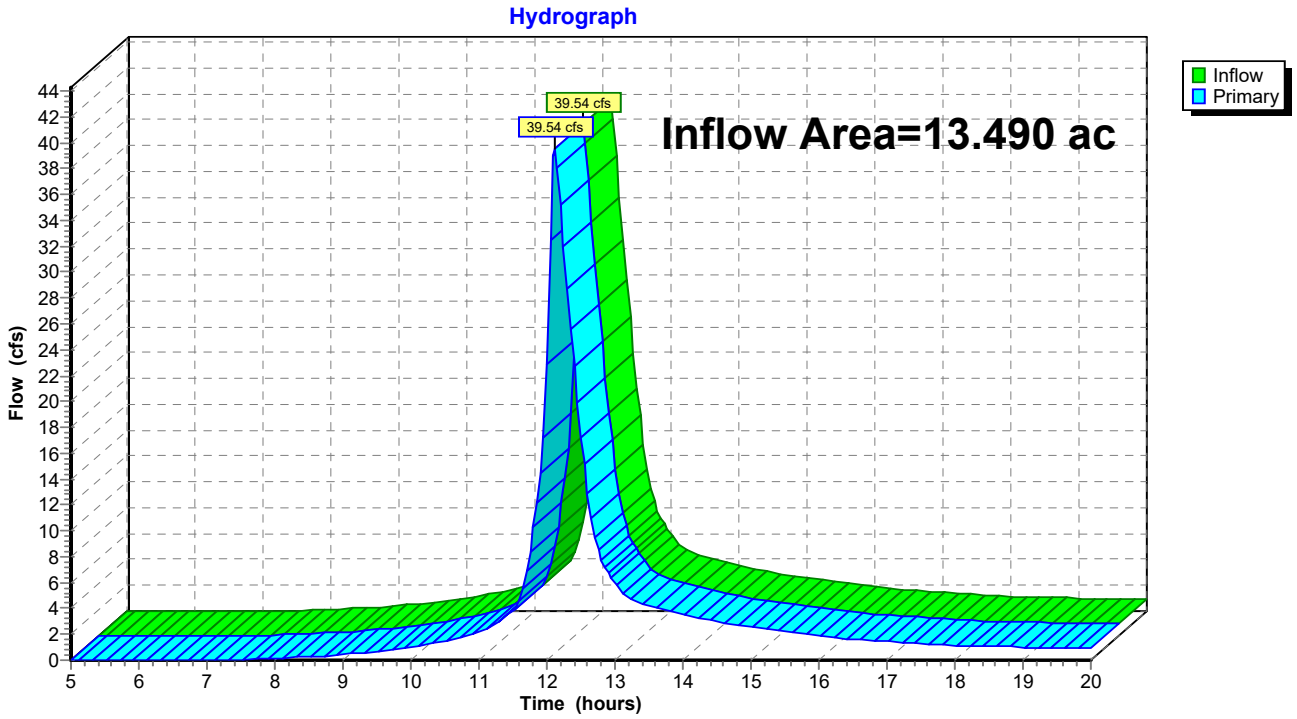


Summary for Link Analysis -1: AP-1

Inflow Area = 13.490 ac, 22.36% Impervious, Inflow Depth > 3.16" for 25-YR event
Inflow = 39.54 cfs @ 12.12 hrs, Volume= 3.552 af
Primary = 39.54 cfs @ 12.12 hrs, Volume= 3.552 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link Analysis -1: AP-1

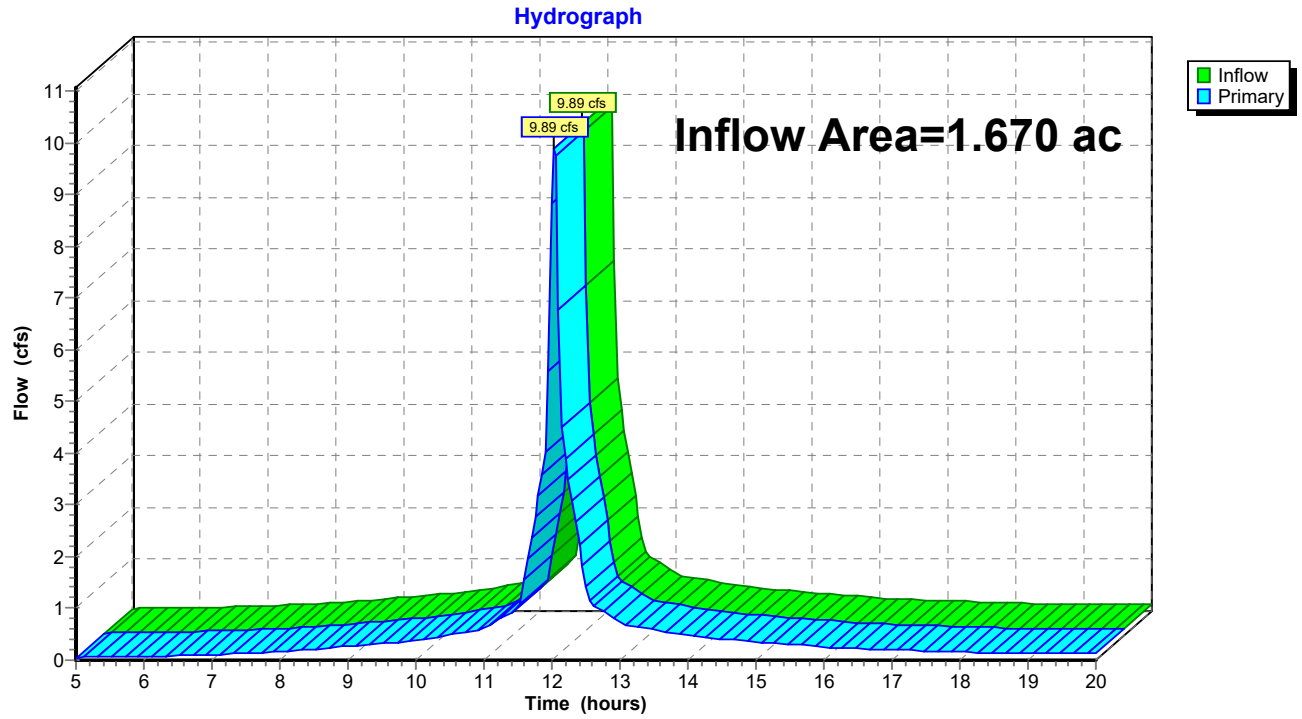


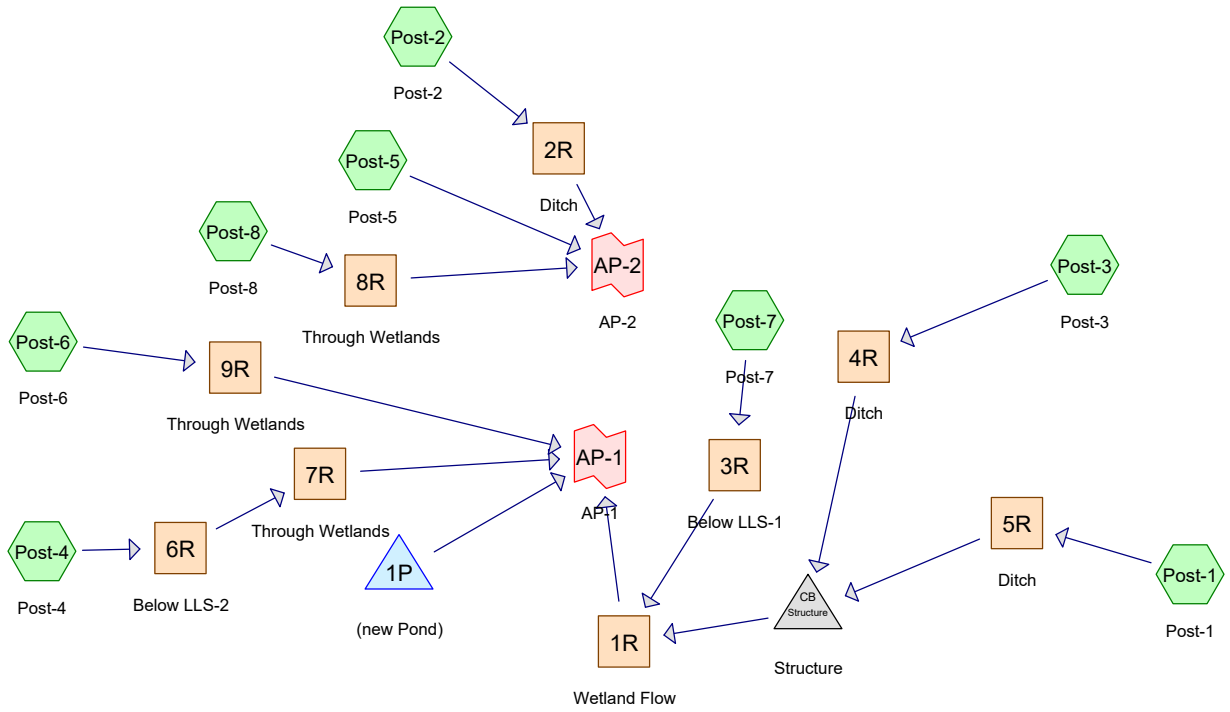
Summary for Link Anaysis-2: AP-2

Inflow Area = 1.670 ac, 79.04% Impervious, Inflow Depth > 4.71" for 25-YR event
Inflow = 9.89 cfs @ 12.04 hrs, Volume= 0.655 af
Primary = 9.89 cfs @ 12.04 hrs, Volume= 0.655 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link Anaysis-2: AP-2





Subcat Reach Pond Link

Routing Diagram for York-Post6.20.25
Prepared by {enter your company name here}, Printed 6/20/2025

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-YR	Type III 24-hr		Default	24.00	1	3.10	2
2	10-YR	Type III 24-hr		Default	24.00	1	4.60	2
3	25-YR	Type III 24-hr		Default	24.00	1	5.80	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
6.050	77	2 acre lots, 12% imp, HSG C (Post-1)
0.260	79	50-75% Grass cover, Fair, HSG C (Post-2)
2.360	74	>75% Grass cover, Good, HSG C (Post-3, Post-4, Post-5, Post-7)
2.590	98	Impervious (Post-2, Post-3, Post-4, Post-5, Post-7, Post-8)
0.470	71	Meadow, non-grazed, HSG C (Post-6)
3.500	70	Woods, Good, HSG C (Post-3, Post-6)
15.230	**78**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
12.640	HSG C	Post-1, Post-2, Post-3, Post-4, Post-5, Post-6, Post-7
0.000	HSG D	
2.590	Other	Post-2, Post-3, Post-4, Post-5, Post-7, Post-8
15.230		**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	6.050	0.000	0.000	6.050	2 acre lots, 12% imp	Post-1
0.000	0.000	0.260	0.000	0.000	0.260	50-75% Grass cover, Fair	Post-2
0.000	0.000	2.360	0.000	0.000	2.360	>75% Grass cover, Good	Post-3, Post-4, Post-5, Post-7
0.000	0.000	0.000	0.000	2.590	2.590	Impervious	Post-2, Post-3, Post-4, Post-5, Post-7, Post-8
0.000	0.000	0.470	0.000	0.000	0.470	Meadow, non-grazed	Post-6
0.000	0.000	3.500	0.000	0.000	3.500	Woods, Good	Post-3, Post-6
0.000	**0.000**	**12.640**	**0.000**	**2.590**	**15.230**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	Structure	202.70	197.90	245.0	0.0196	0.012	0.0	18.0	0.0

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPost-1: Post-1 Runoff Area=6.050 ac 12.00% Impervious Runoff Depth>1.04"
Flow Length=1,030' Tc=12.9 min CN=77 Runoff=6.19 cfs 0.526 af

SubcatchmentPost-2: Post-2 Runoff Area=0.530 ac 50.94% Impervious Runoff Depth>1.87"
Tc=6.0 min CN=89 Runoff=1.20 cfs 0.082 af

SubcatchmentPost-3: Post-3 Runoff Area=4.510 ac 12.86% Impervious Runoff Depth>0.94"
Tc=6.0 min CN=75 Runoff=5.08 cfs 0.352 af

SubcatchmentPost-4: Post-4 Runoff Area=0.730 ac 84.93% Impervious Runoff Depth>2.31"
Flow Length=453' Tc=3.8 min CN=94 Runoff=2.13 cfs 0.141 af

SubcatchmentPost-5: Post-5 Runoff Area=1.090 ac 51.38% Impervious Runoff Depth>1.63"
Flow Length=1,369' Tc=8.4 min CN=86 Runoff=2.03 cfs 0.148 af

SubcatchmentPost-6: Post-6 Runoff Area=1.230 ac 0.00% Impervious Runoff Depth>0.69"
Flow Length=470' Tc=20.8 min CN=70 Runoff=0.64 cfs 0.071 af

SubcatchmentPost-7: Post-7 Runoff Area=0.920 ac 42.39% Impervious Runoff Depth>1.49"
Flow Length=100' Slope=0.0440 '/' Tc=0.9 min CN=84 Runoff=1.93 cfs 0.114 af

SubcatchmentPost-8: Post-8 Runoff Area=0.170 ac 100.00% Impervious Runoff Depth>2.68"
Tc=6.0 min CN=98 Runoff=0.50 cfs 0.038 af

Reach 1R: Wetland Flow Inflow=11.03 cfs 0.991 af
Outflow=11.03 cfs 0.991 af

Reach 2R: Ditch Avg. Flow Depth=0.94' Max Vel=0.80 fps Inflow=1.20 cfs 0.082 af
n=0.022 L=200.0' S=0.0005 '/' Capacity=14.54 cfs Outflow=1.04 cfs 0.082 af

Reach 3R: Below LLS-1 Avg. Flow Depth=0.18' Max Vel=0.88 fps Inflow=1.93 cfs 0.114 af
n=0.080 L=77.0' S=0.0390 '/' Capacity=17.62 cfs Outflow=1.75 cfs 0.114 af

Reach 4R: Ditch Avg. Flow Depth=0.62' Max Vel=8.95 fps Inflow=5.08 cfs 0.352 af
n=0.022 L=165.0' S=0.1079 '/' Capacity=213.51 cfs Outflow=5.01 cfs 0.352 af

Reach 5R: Ditch Avg. Flow Depth=0.70' Max Vel=8.36 fps Inflow=6.19 cfs 0.526 af
n=0.022 L=375.0' S=0.0790 '/' Capacity=182.69 cfs Outflow=6.11 cfs 0.525 af

Reach 6R: Below LLS-2 Avg. Flow Depth=0.25' Max Vel=0.56 fps Inflow=2.13 cfs 0.141 af
n=0.080 L=100.0' S=0.0100 '/' Capacity=8.93 cfs Outflow=1.93 cfs 0.140 af

Reach 7R: Through Wetlands Inflow=1.93 cfs 0.140 af
Outflow=1.93 cfs 0.140 af

Reach 8R: Through Wetlands Inflow=0.50 cfs 0.038 af
Outflow=0.50 cfs 0.038 af

Reach 9R: Through Wetlands Avg. Flow Depth=0.16' Max Vel=0.30 fps Inflow=0.64 cfs 0.071 af
n=0.080 L=199.0' S=0.0050 '/' Capacity=6.33 cfs Outflow=0.55 cfs 0.069 af

Pond 1P: (new Pond)

Pond Structure: Structure Peak Elev=205.63' Inflow=9.91 cfs 0.877 af
18.0" Round Culvert n=0.012 L=245.0' S=0.0196 '/' Outflow=9.91 cfs 0.877 af

Link AP-1: AP-1 Inflow=12.98 cfs 1.201 af
Primary=12.98 cfs 1.201 af

Link AP-2: AP-2 Inflow=3.26 cfs 0.268 af
Primary=3.26 cfs 0.268 af

Total Runoff Area = 15.230 ac Runoff Volume = 1.472 af Average Runoff Depth = 1.16"
78.23% Pervious = 11.914 ac 21.77% Impervious = 3.316 ac

Summary for Subcatchment Post-1: Post-1

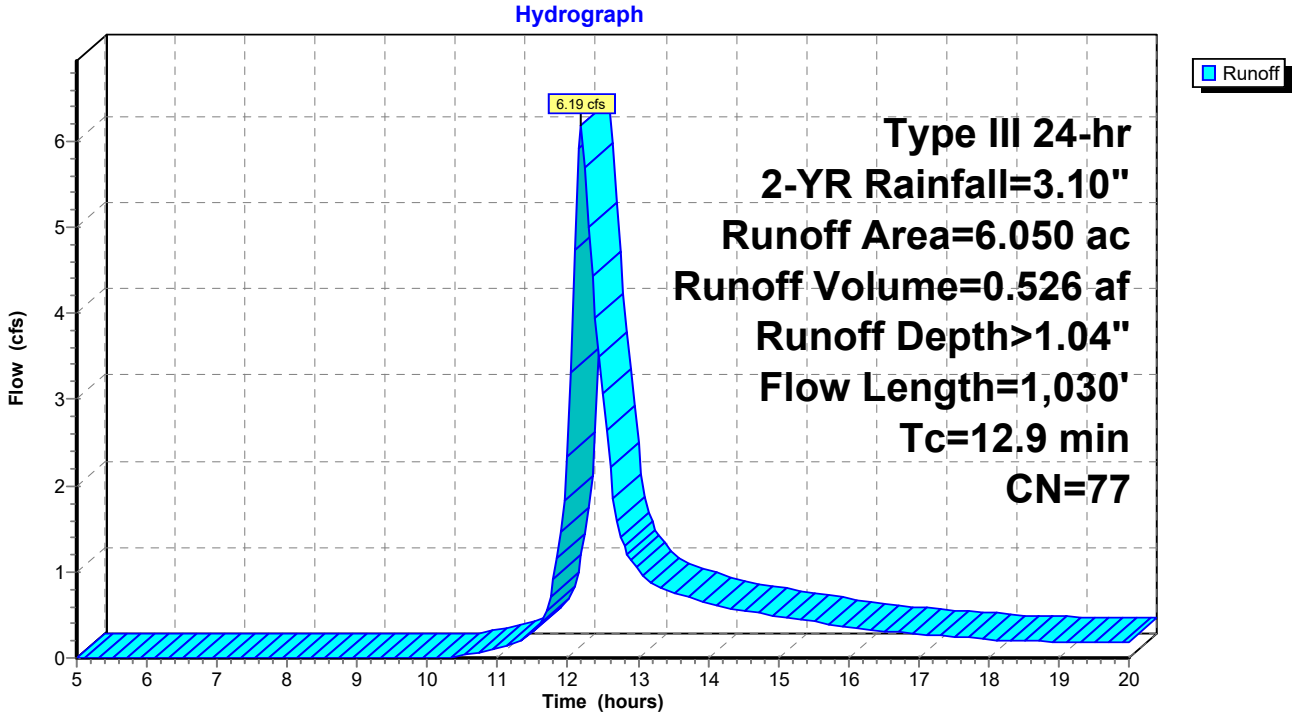
Runoff = 6.19 cfs @ 12.19 hrs, Volume= 0.526 af, Depth> 1.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

Area (ac)	CN	Description
6.050	77	2 acre lots, 12% imp, HSG C
5.324		88.00% Pervious Area
0.726		12.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		**Sheet Flow, Pre-1A** Smooth surfaces n= 0.011 P2= 3.10"
8.4	90	0.0250	0.18		**Sheet Flow, Pre-1B** Grass: Short n= 0.150 P2= 3.10"
3.9	340	0.0840	1.45		**Shallow Concentrated Flow, Pre-3C** Woodland Kv= 5.0 fps
0.4	590	0.0600	23.20	464.04	**Parabolic Channel, Pre-1D** W=10.00' D=3.00' Area=20.0 sf Perim=12.0' n= 0.022 Earth, clean & straight
12.9	1,030	Total			

Subcatchment Post-1: Post-1



Summary for Subcatchment Post-2: Post-2

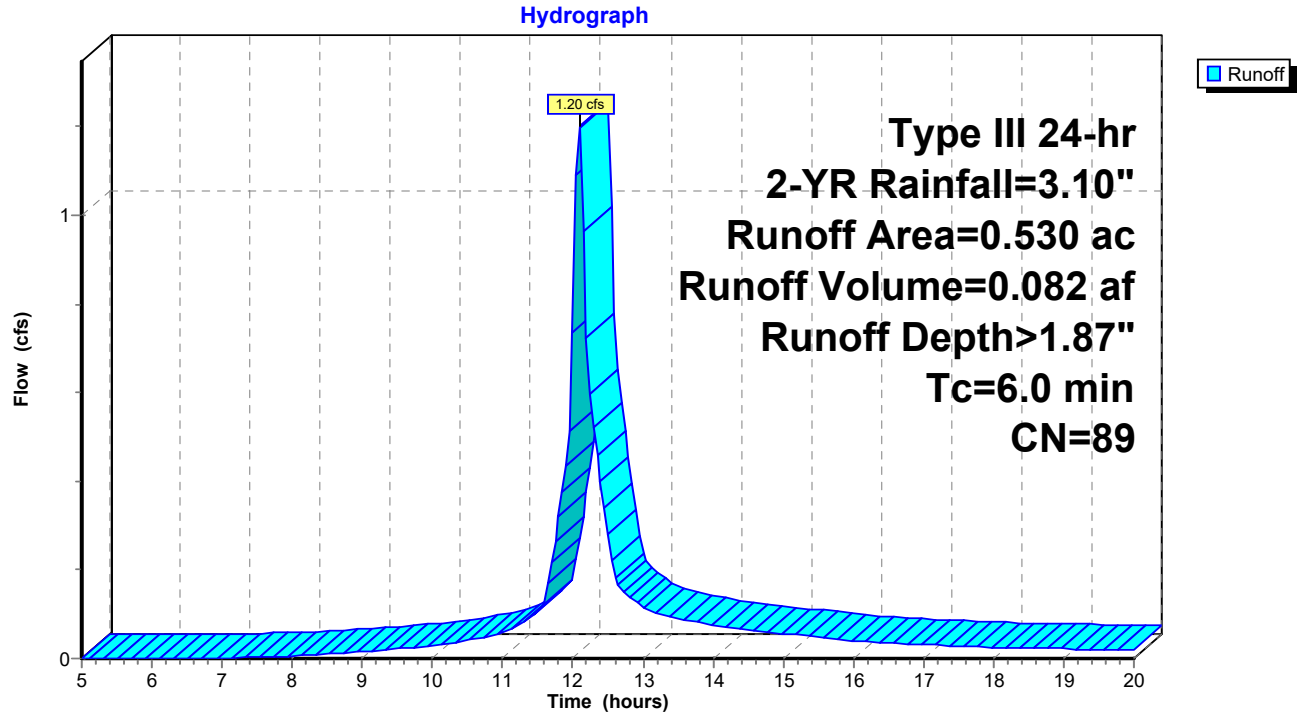
Runoff = 1.20 cfs @ 12.09 hrs, Volume= 0.082 af, Depth> 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

	Area (ac)	CN	Description
*	0.270	98	Impervious
	0.260	79	50-75% Grass cover, Fair, HSG C
	0.530	89	Weighted Average
	0.260		49.06% Pervious Area
	0.270		50.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Post 2 A**

Subcatchment Post-2: Post-2



Summary for Subcatchment Post-3: Post-3

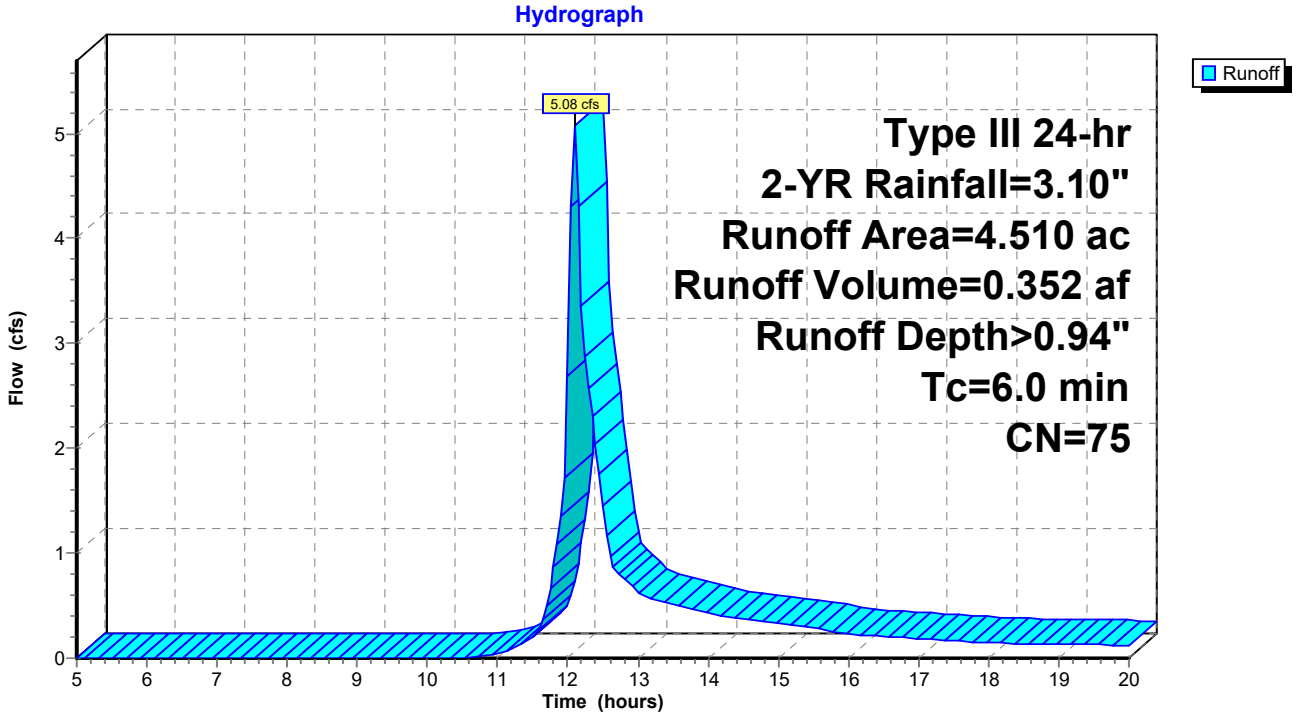
Runoff = 5.08 cfs @ 12.10 hrs, Volume= 0.352 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

	Area (ac)	CN	Description
*	0.580	98	Impervious
	1.190	74	>75% Grass cover, Good, HSG C
	2.740	70	Woods, Good, HSG C
	4.510	75	Weighted Average
	3.930		87.14% Pervious Area
	0.580		12.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Post 3A**

Subcatchment Post-3: Post-3



Summary for Subcatchment Post-4: Post-4

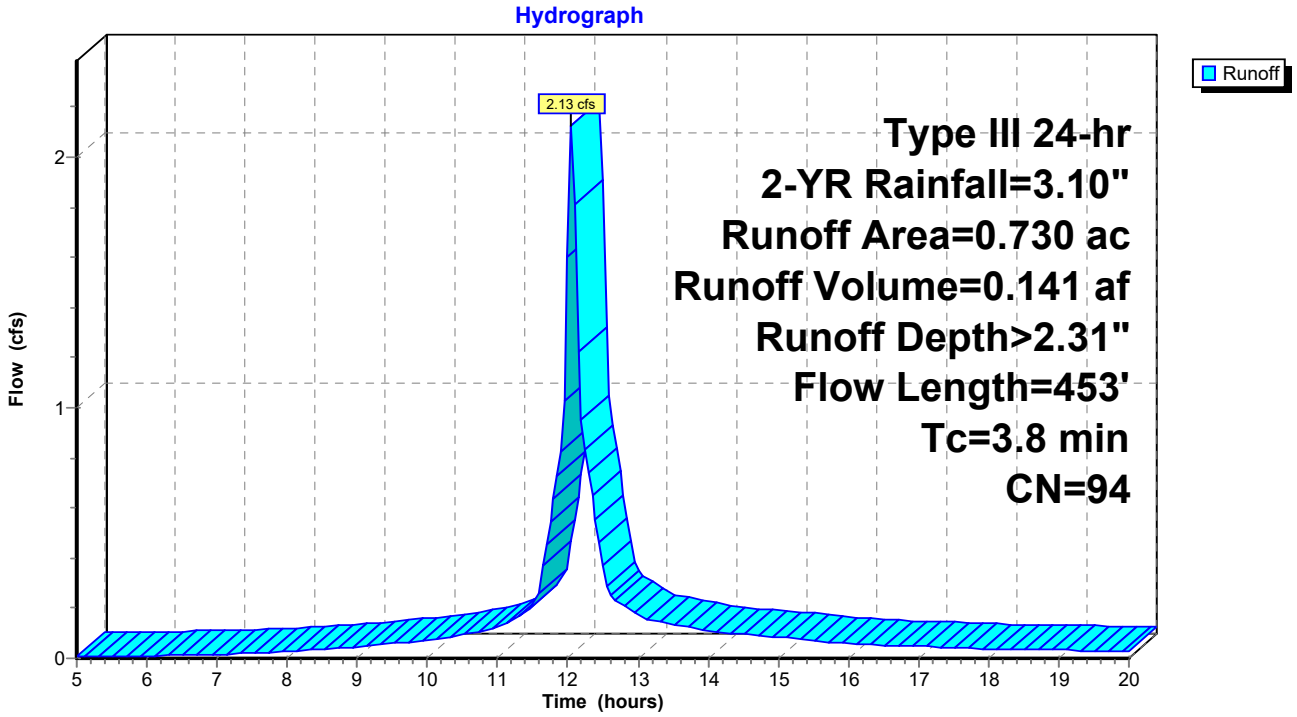
Runoff = 2.13 cfs @ 12.06 hrs, Volume= 0.141 af, Depth> 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

	Area (ac)	CN	Description
*	0.620	98	Impervious
	0.110	74	>75% Grass cover, Good, HSG C
	0.730	94	Weighted Average
	0.110		15.07% Pervious Area
	0.620		84.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.79		**Sheet Flow, Post-4A** Smooth surfaces n= 0.011 P2= 3.10"
1.3	231	0.0200	2.87		**Shallow Concentrated Flow, Post-4B** Paved Kv= 20.3 fps
0.1	40	0.3300	7.79	15.59	**Channel Flow, Post-4C** Area= 2.0 sf Perim= 4.0' r= 0.50' n= 0.069 Riprap, 6-inch
1.5	82	0.0200	0.90	4.49	**Channel Flow, Post-4D** Area= 5.0 sf Perim= 25.0' r= 0.20' n= 0.080 Earth, long dense weeds
3.8	453	Total			

Subcatchment Post-4: Post-4



Summary for Subcatchment Post-5: Post-5

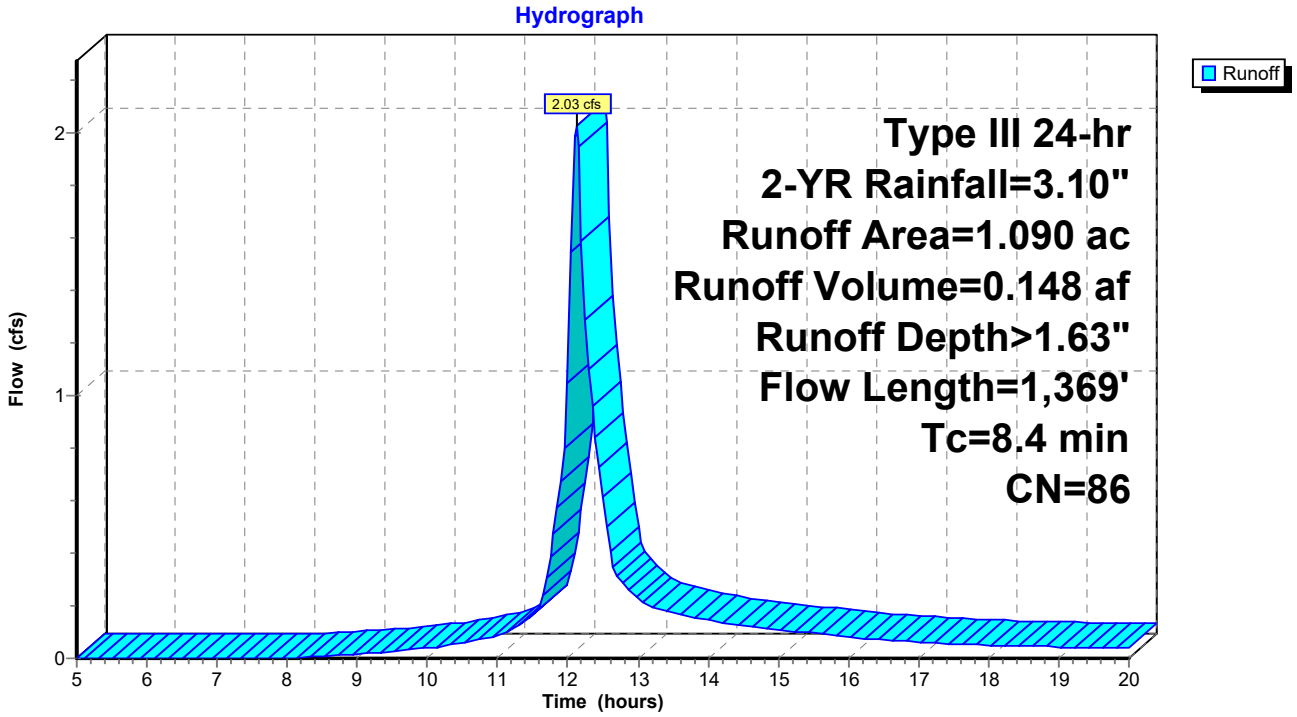
Runoff = 2.03 cfs @ 12.12 hrs, Volume= 0.148 af, Depth> 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

	Area (ac)	CN	Description
*	0.560	98	Impervious
	0.530	74	>75% Grass cover, Good, HSG C
	1.090	86	Weighted Average
	0.530		48.62% Pervious Area
	0.560		51.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	94	0.0440	0.23		**Sheet Flow, Post-5A** Grass: Short n= 0.150 P2= 3.10"
0.0	8	0.3300	4.02		**Shallow Concentrated Flow, Post-5B** Short Grass Pasture Kv= 7.0 fps
0.0	52	0.0520	17.53	233.72	**Parabolic Channel, Post-5C** W=10.00' D=2.00' Area=13.3 sf Perim=11.0' n= 0.022 Earth, clean & straight
0.7	555	0.0200	12.52	300.41	**Channel Flow, Pre-2D** Area= 24.0 sf Perim= 16.0' r= 1.50' n= 0.022 Earth, clean & straight
0.8	660	0.0200	14.25	427.36	**Parabolic Channel, Post-5D** W=15.00' D=3.00' Area=30.0 sf Perim=16.5' n= 0.022 Earth, clean & straight
8.4	1,369	Total			

Subcatchment Post-5: Post-5



Summary for Subcatchment Post-6: Post-6

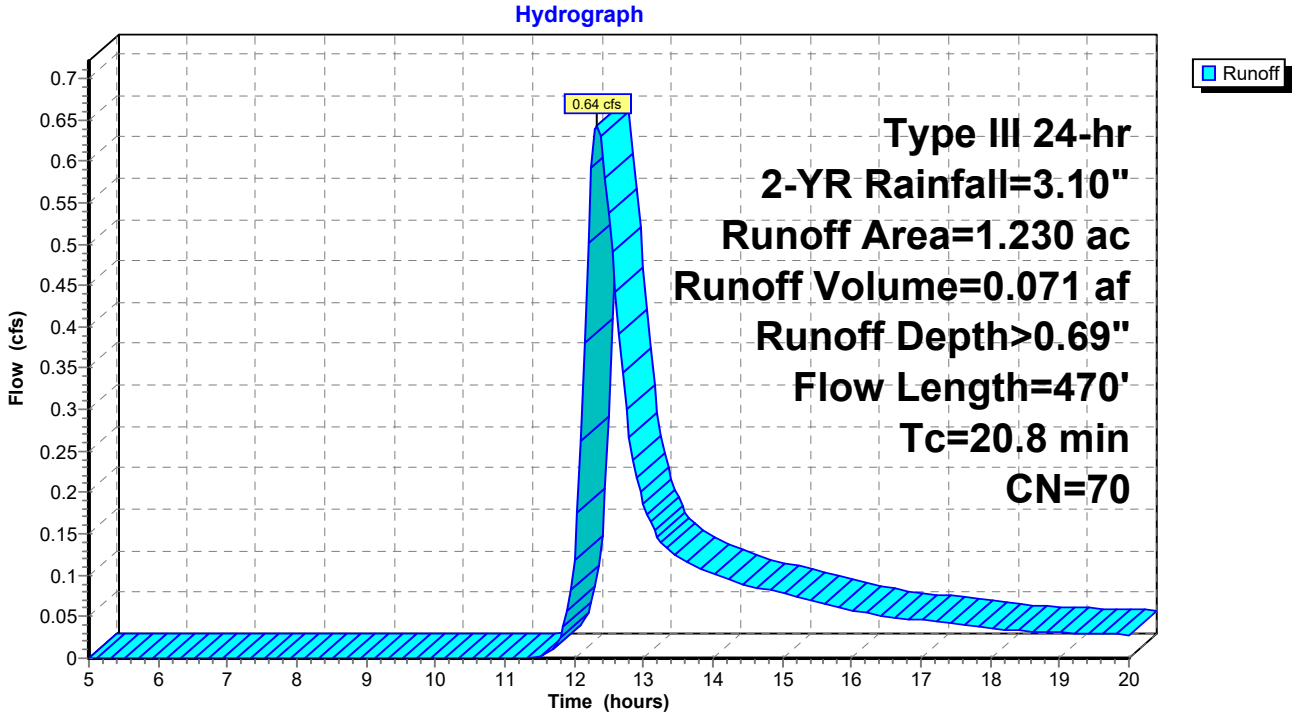
Runoff = 0.64 cfs @ 12.33 hrs, Volume= 0.071 af, Depth> 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

Area (ac)	CN	Description
0.470	71	Meadow, non-grazed, HSG C
0.760	70	Woods, Good, HSG C
1.230	70	Weighted Average
1.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	100	0.0400	0.15		**Sheet Flow, Post-6A** Grass: Dense n= 0.240 P2= 3.10"
9.8	370	0.0080	0.63		**Shallow Concentrated Flow, Post-6B** Short Grass Pasture Kv= 7.0 fps
20.8	470	Total			

Subcatchment Post-6: Post-6



Summary for Subcatchment Post-7: Post-7

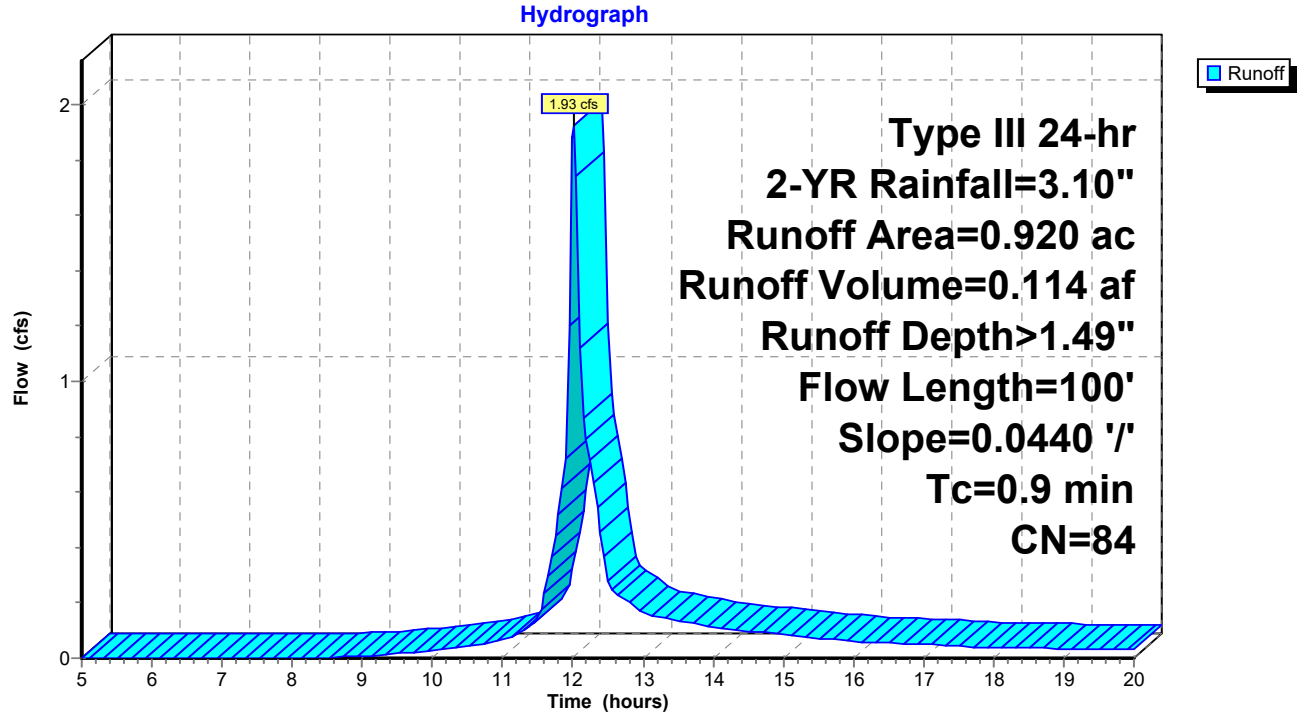
Runoff = 1.93 cfs @ 12.02 hrs, Volume= 0.114 af, Depth> 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

	Area (ac)	CN	Description
*	0.390	98	Impervious
	0.530	74	>75% Grass cover, Good, HSG C
	0.920	84	Weighted Average
	0.530		57.61% Pervious Area
	0.390		42.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0440	1.86		**Sheet Flow, Post-7A** Smooth surfaces n= 0.011 P2= 3.10"

Subcatchment Post-7: Post-7



Summary for Subcatchment Post-8: Post-8

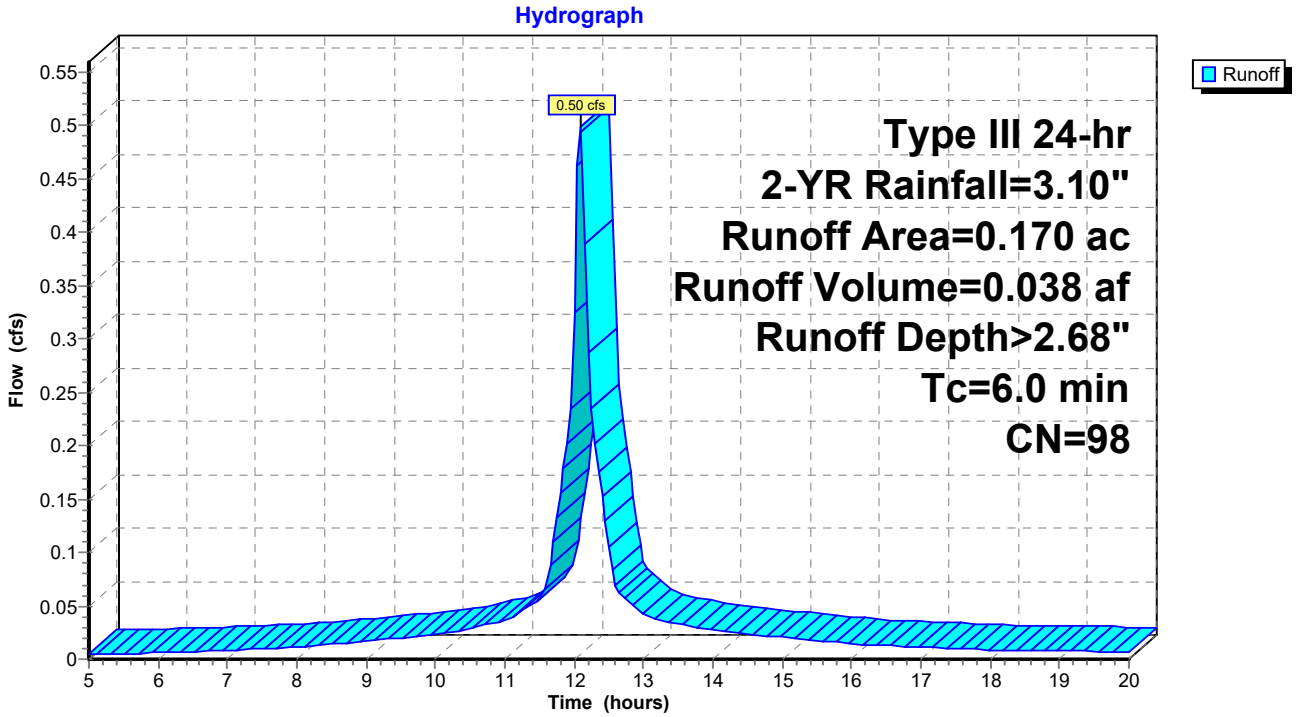
Runoff = 0.50 cfs @ 12.09 hrs, Volume= 0.038 af, Depth> 2.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.10"

	Area (ac)	CN	Description
*	0.170	98	Impervious
	0.170		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Post-8A**

Subcatchment Post-8: Post-8

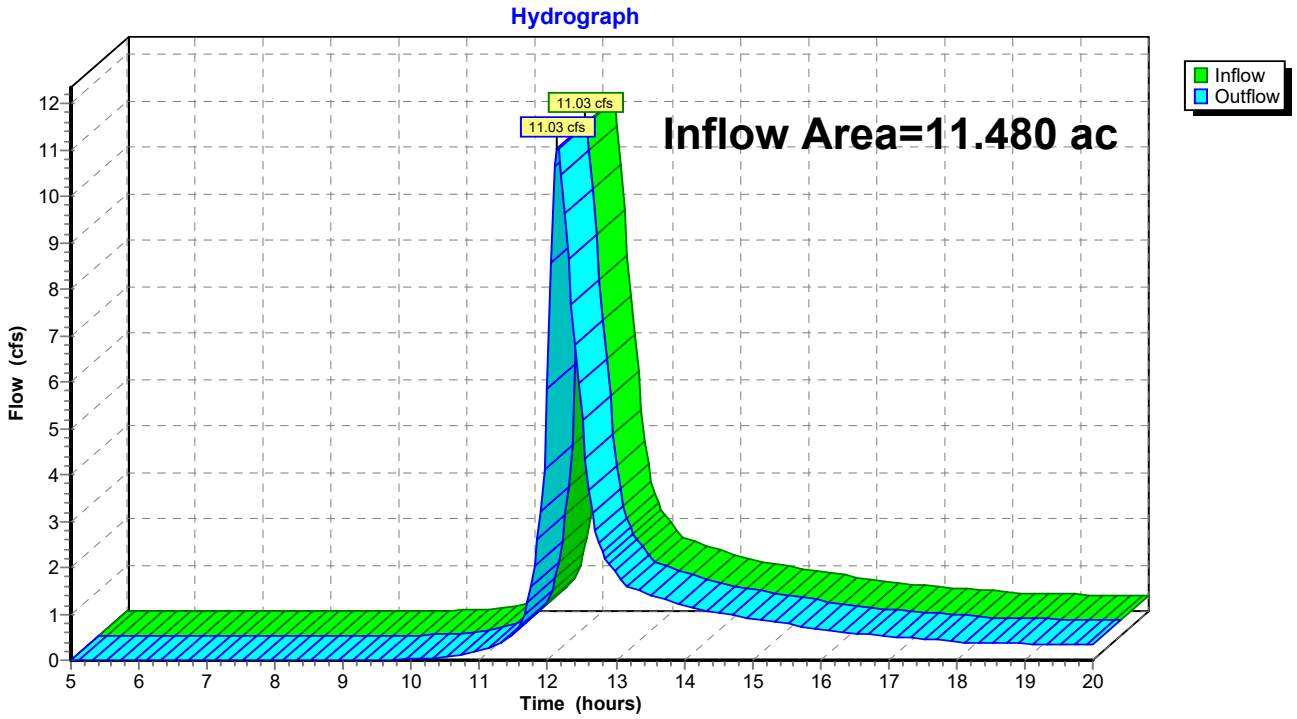


Summary for Reach 1R: Wetland Flow

Inflow Area = 11.480 ac, 14.77% Impervious, Inflow Depth > 1.04" for 2-YR event
Inflow = 11.03 cfs @ 12.14 hrs, Volume= 0.991 af
Outflow = 11.03 cfs @ 12.14 hrs, Volume= 0.991 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: Wetland Flow



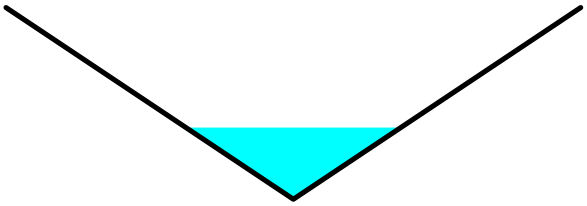
Summary for Reach 2R: Ditch

Inflow Area = 0.530 ac, 50.94% Impervious, Inflow Depth > 1.87" for 2-YR event
Inflow = 1.20 cfs @ 12.09 hrs, Volume= 0.082 af
Outflow = 1.04 cfs @ 12.21 hrs, Volume= 0.082 af, Atten= 14%, Lag= 7.0 min

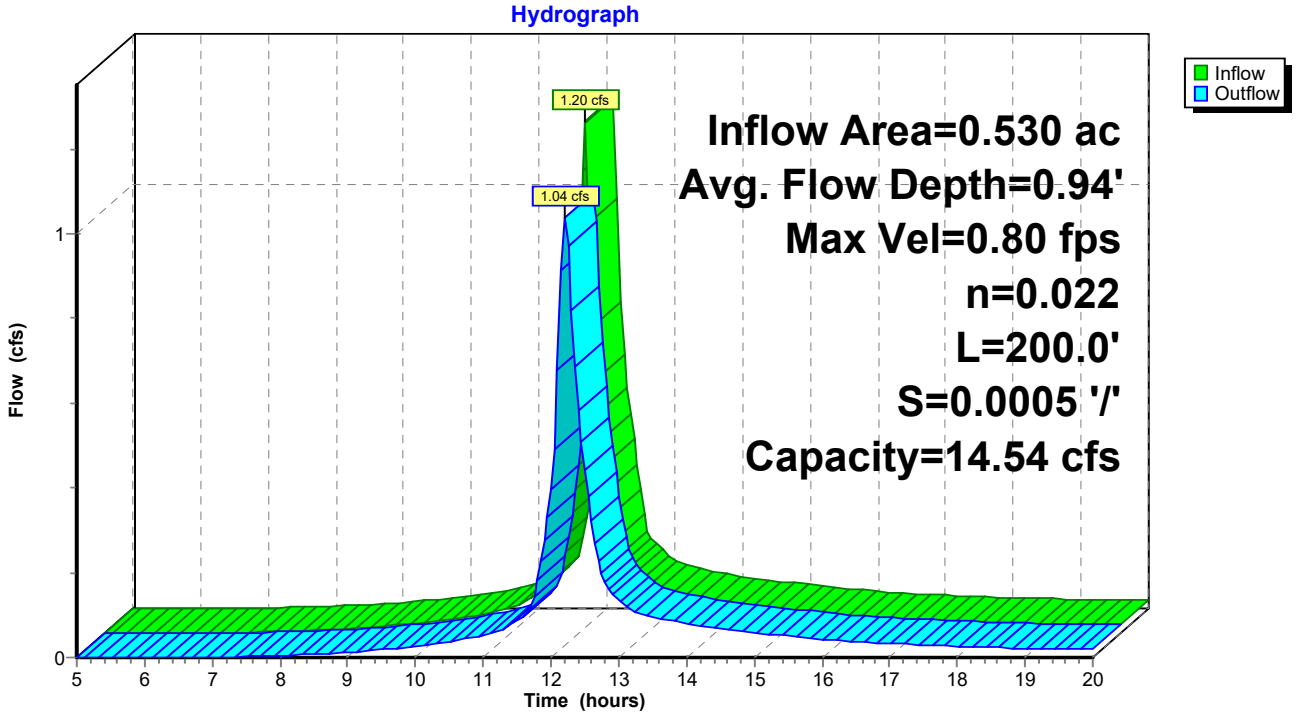
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.80 fps, Min. Travel Time= 4.1 min
Avg. Velocity = 0.35 fps, Avg. Travel Time= 9.5 min

Peak Storage= 263 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.94' , Surface Width= 2.81'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 14.54 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 200.0' Slope= 0.0005 '/'
Inlet Invert= 195.10', Outlet Invert= 195.00'



Reach 2R: Ditch



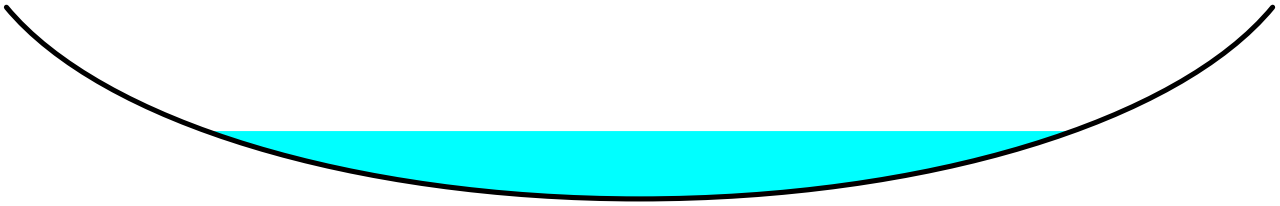
Summary for Reach 3R: Below LLS-1

Inflow Area = 0.920 ac, 42.39% Impervious, Inflow Depth > 1.49" for 2-YR event
Inflow = 1.93 cfs @ 12.02 hrs, Volume= 0.114 af
Outflow = 1.75 cfs @ 12.06 hrs, Volume= 0.114 af, Atten= 9%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.88 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 0.32 fps, Avg. Travel Time= 4.0 min

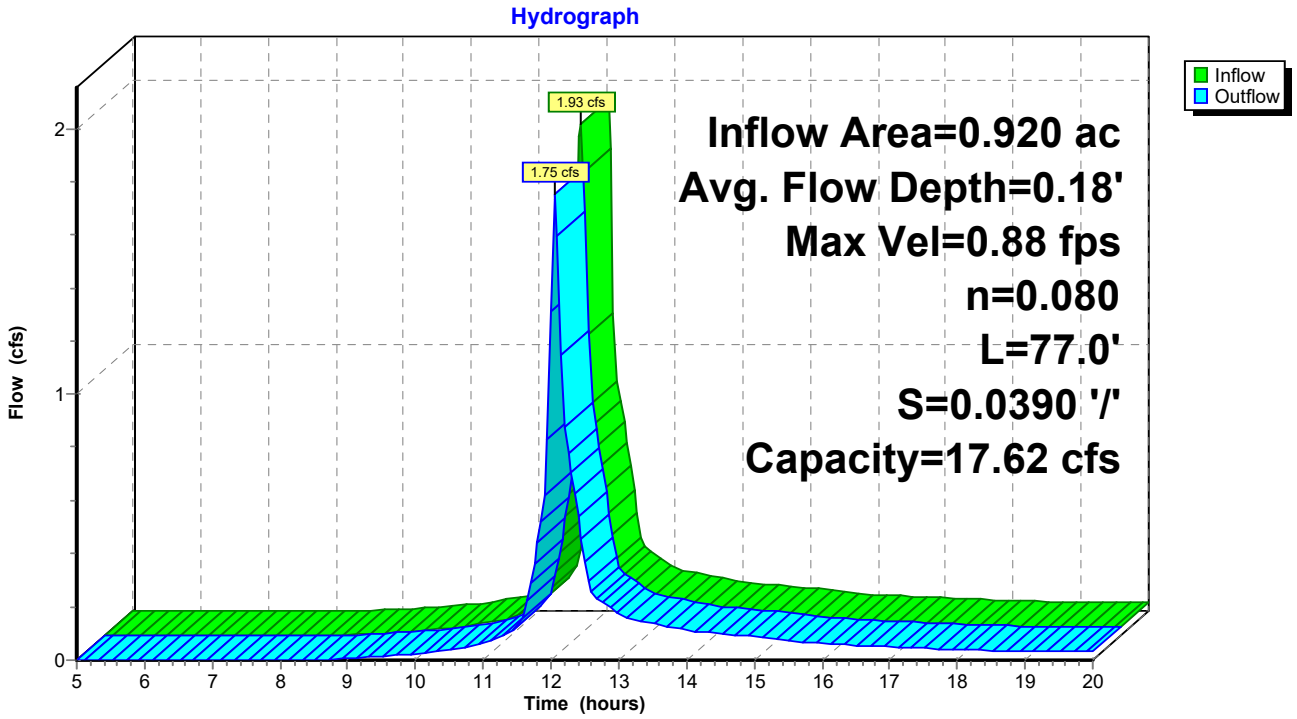
Peak Storage= 162 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.18' , Surface Width= 17.86'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 17.62 cfs

30.00' x 0.50' deep Parabolic Channel, n= 0.080 Earth, long dense weeds
Length= 77.0' Slope= 0.0390 '/'
Inlet Invert= 203.00', Outlet Invert= 200.00'



‡

Reach 3R: Below LLS-1



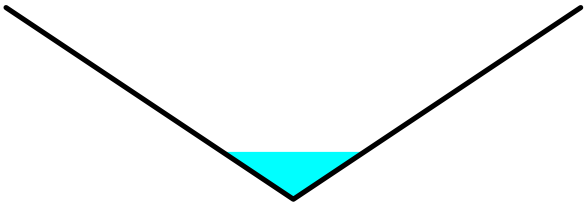
Summary for Reach 4R: Ditch

Inflow Area = 4.510 ac, 12.86% Impervious, Inflow Depth > 0.94" for 2-YR event
Inflow = 5.08 cfs @ 12.10 hrs, Volume= 0.352 af
Outflow = 5.01 cfs @ 12.11 hrs, Volume= 0.352 af, Atten= 1%, Lag= 0.5 min

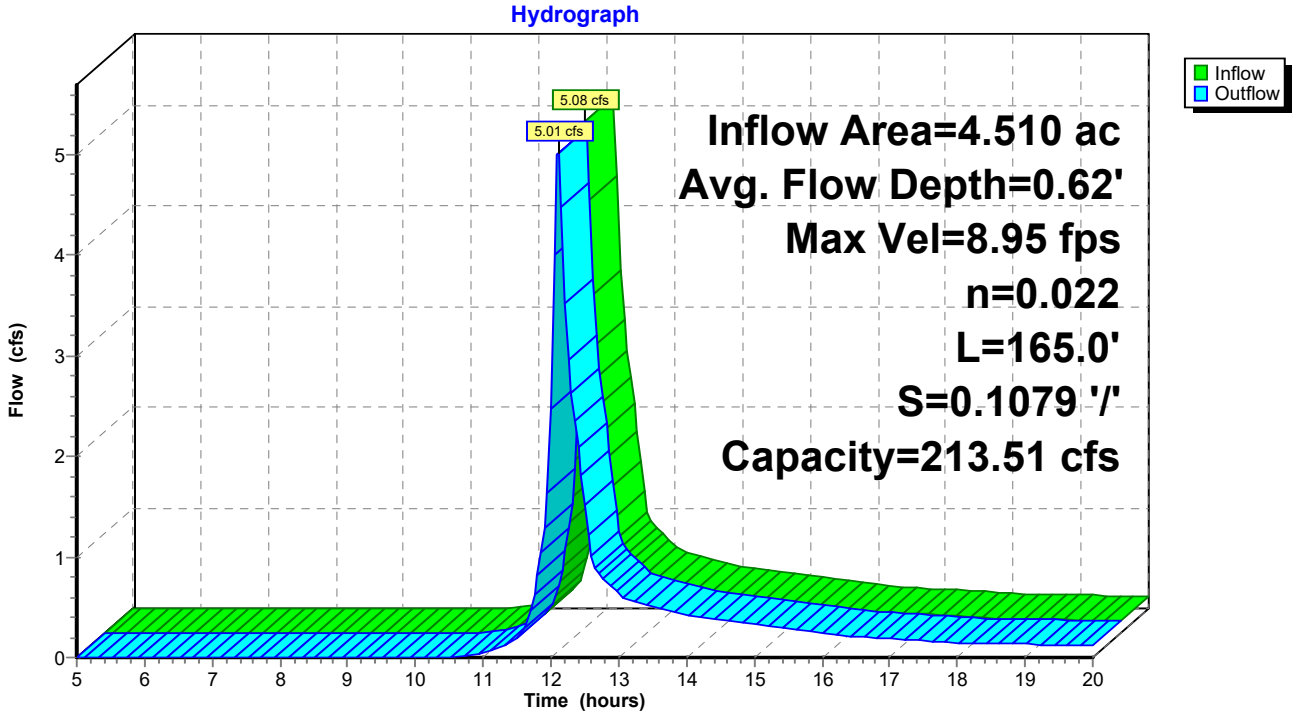
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.95 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 4.35 fps, Avg. Travel Time= 0.6 min

Peak Storage= 94 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.62' , Surface Width= 1.85'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 213.51 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 165.0' Slope= 0.1079 '/'
Inlet Invert= 216.40', Outlet Invert= 198.60'



Reach 4R: Ditch



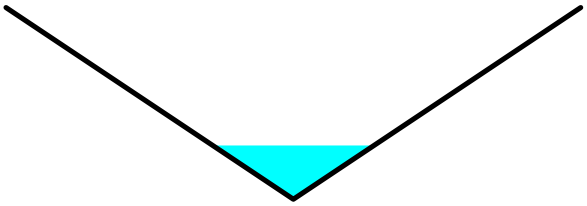
Summary for Reach 5R: Ditch

Inflow Area = 6.050 ac, 12.00% Impervious, Inflow Depth > 1.04" for 2-YR event
Inflow = 6.19 cfs @ 12.19 hrs, Volume= 0.526 af
Outflow = 6.11 cfs @ 12.21 hrs, Volume= 0.525 af, Atten= 1%, Lag= 1.4 min

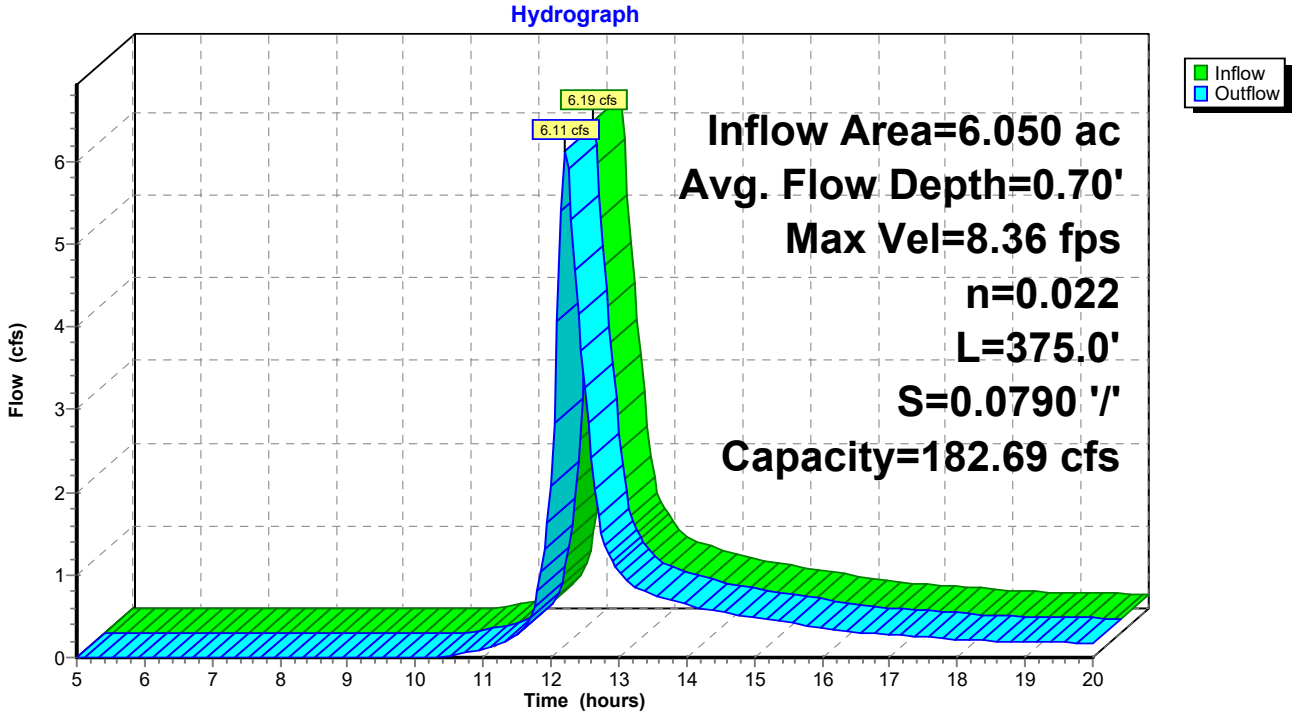
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.36 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 4.20 fps, Avg. Travel Time= 1.5 min

Peak Storage= 278 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.70' , Surface Width= 2.11'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 182.69 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 375.0' Slope= 0.0790 '/'
Inlet Invert= 228.22', Outlet Invert= 198.60'



Reach 5R: Ditch



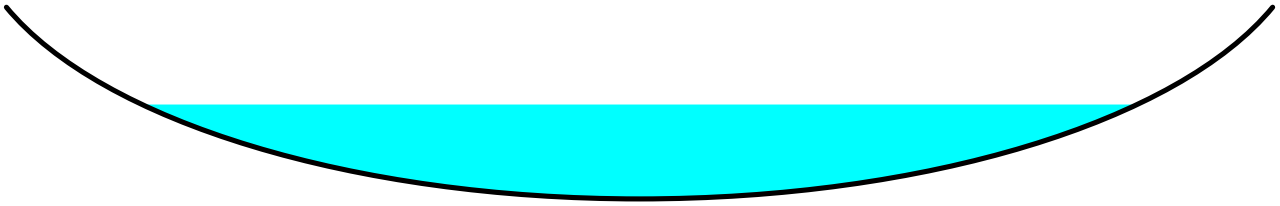
Summary for Reach 6R: Below LLS-2

Inflow Area = 0.730 ac, 84.93% Impervious, Inflow Depth > 2.31" for 2-YR event
Inflow = 2.13 cfs @ 12.06 hrs, Volume= 0.141 af
Outflow = 1.93 cfs @ 12.14 hrs, Volume= 0.140 af, Atten= 9%, Lag= 5.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.56 fps, Min. Travel Time= 3.0 min
Avg. Velocity = 0.20 fps, Avg. Travel Time= 8.5 min

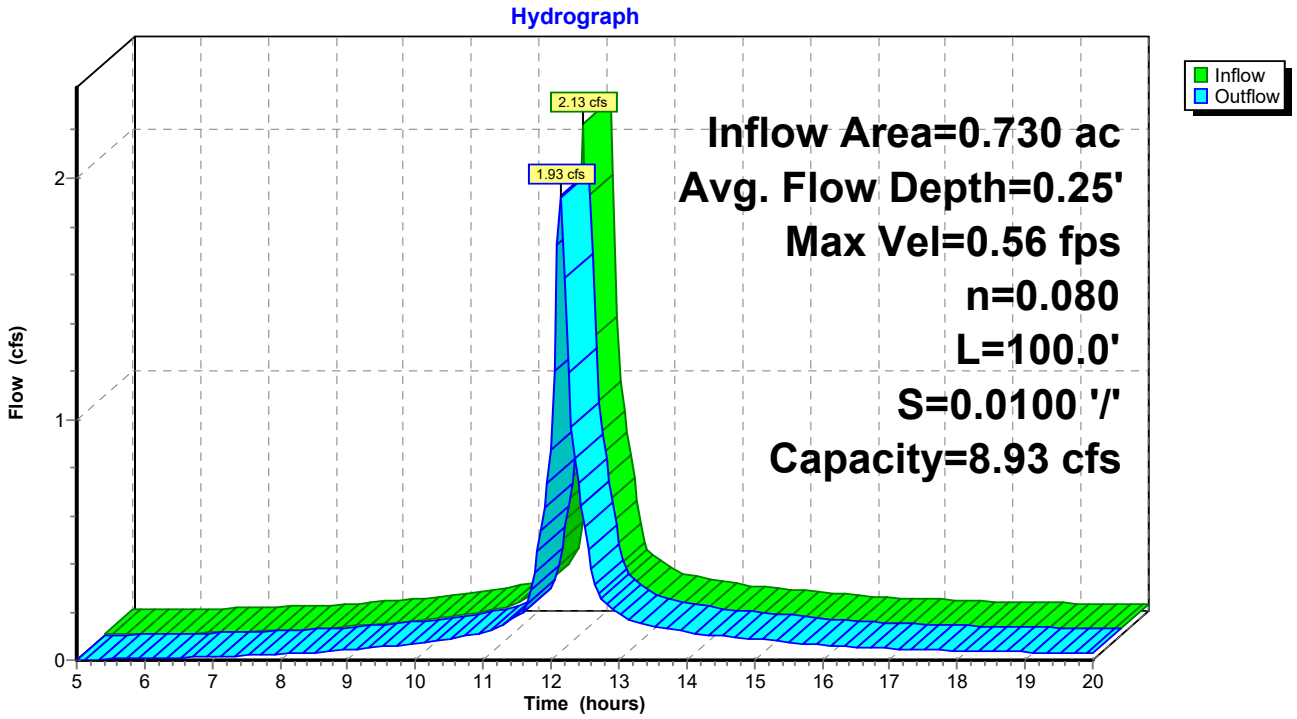
Peak Storage= 346 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.25' , Surface Width= 21.07'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 8.93 cfs

30.00' x 0.50' deep Parabolic Channel, n= 0.080 Earth, long dense weeds
Length= 100.0' Slope= 0.0100 '/'
Inlet Invert= 197.00', Outlet Invert= 196.00'



‡

Reach 6R: Below LLS-2

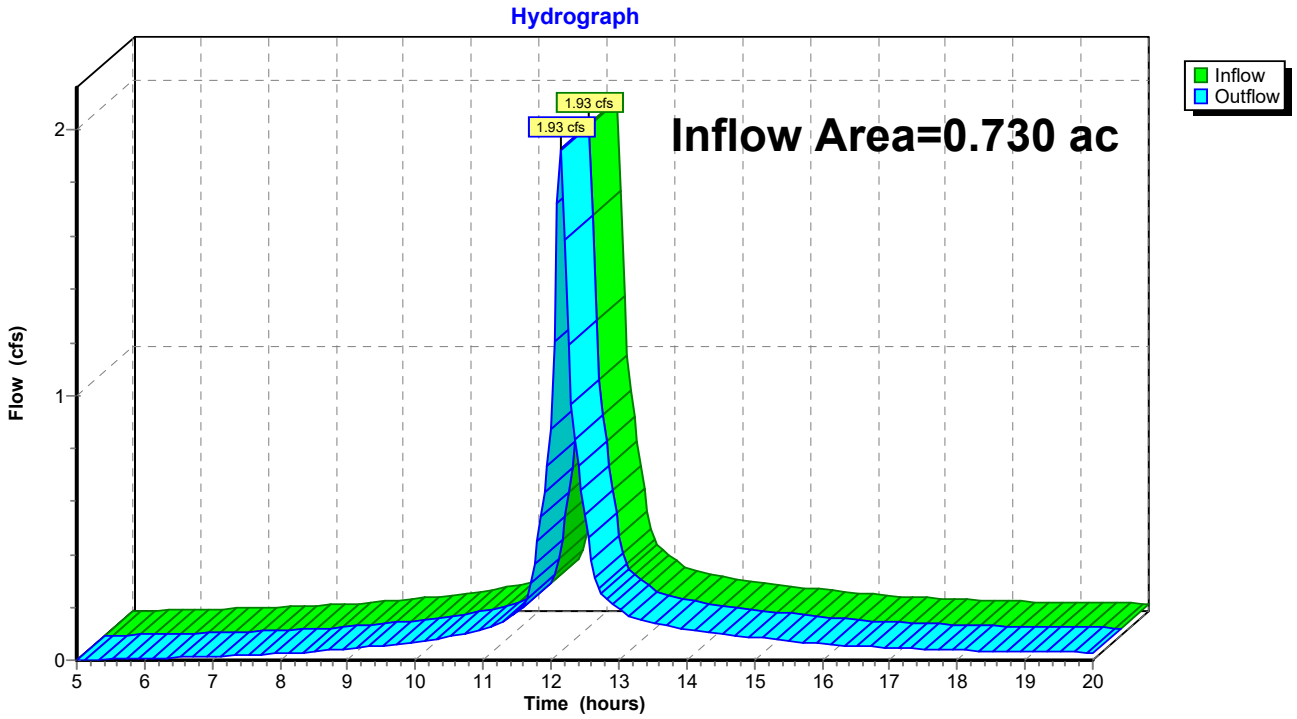


Summary for Reach 7R: Through Wetlands

Inflow Area = 0.730 ac, 84.93% Impervious, Inflow Depth > 2.30" for 2-YR event
Inflow = 1.93 cfs @ 12.14 hrs, Volume= 0.140 af
Outflow = 1.93 cfs @ 12.14 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 7R: Through Wetlands

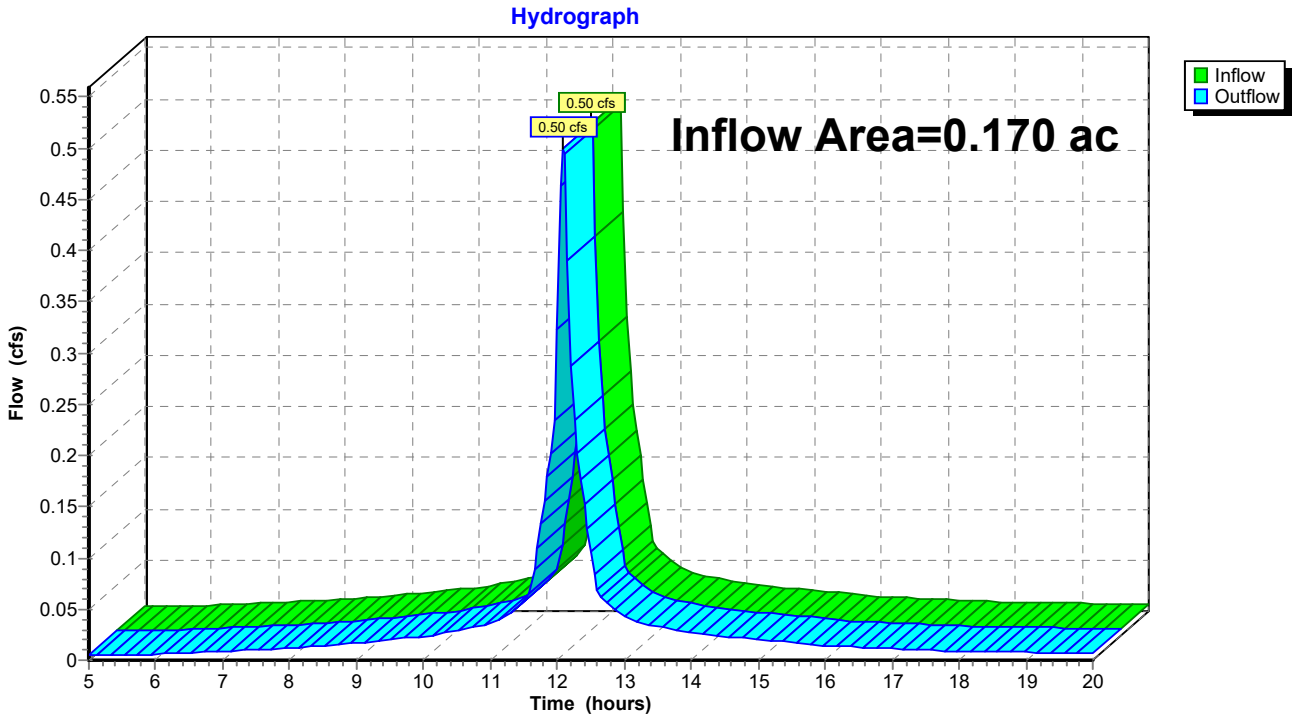


Summary for Reach 8R: Through Wetlands

Inflow Area = 0.170 ac,100.00% Impervious, Inflow Depth > 2.68" for 2-YR event
Inflow = 0.50 cfs @ 12.09 hrs, Volume= 0.038 af
Outflow = 0.50 cfs @ 12.09 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: Through Wetlands



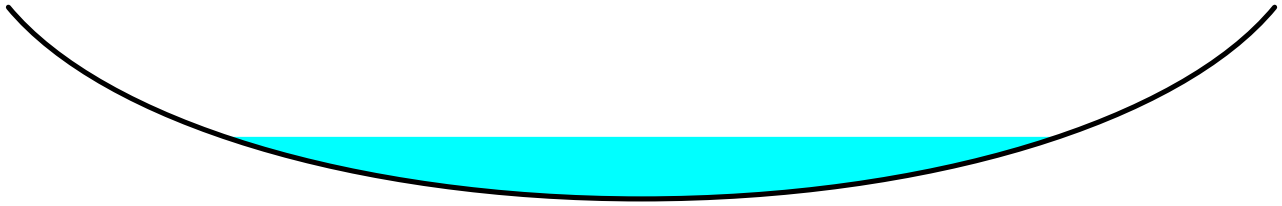
Summary for Reach 9R: Through Wetlands

Inflow Area = 1.230 ac, 0.00% Impervious, Inflow Depth > 0.69" for 2-YR event
Inflow = 0.64 cfs @ 12.33 hrs, Volume= 0.071 af
Outflow = 0.55 cfs @ 12.68 hrs, Volume= 0.069 af, Atten= 15%, Lag= 20.7 min

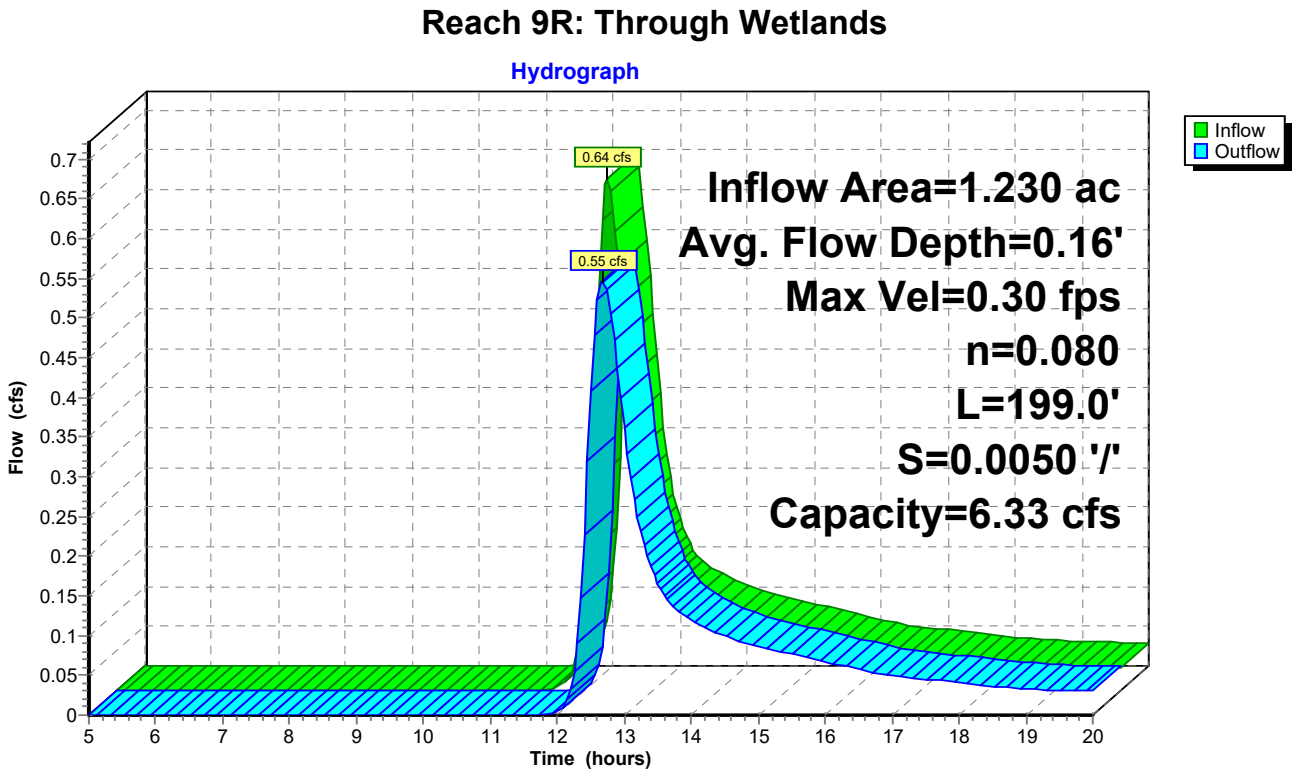
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.30 fps, Min. Travel Time= 11.1 min
Avg. Velocity = 0.16 fps, Avg. Travel Time= 21.1 min

Peak Storage= 365 cf @ 12.49 hrs
Average Depth at Peak Storage= 0.16' , Surface Width= 17.05'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 6.33 cfs

30.00' x 0.50' deep Parabolic Channel, n= 0.080 Earth, long dense weeds
Length= 199.0' Slope= 0.0050 '/'
Inlet Invert= 199.00', Outlet Invert= 198.00'



‡



Summary for Pond 1P: (new Pond)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' TW=0.00' (Free Discharge)

Summary for Pond Structure: Structure

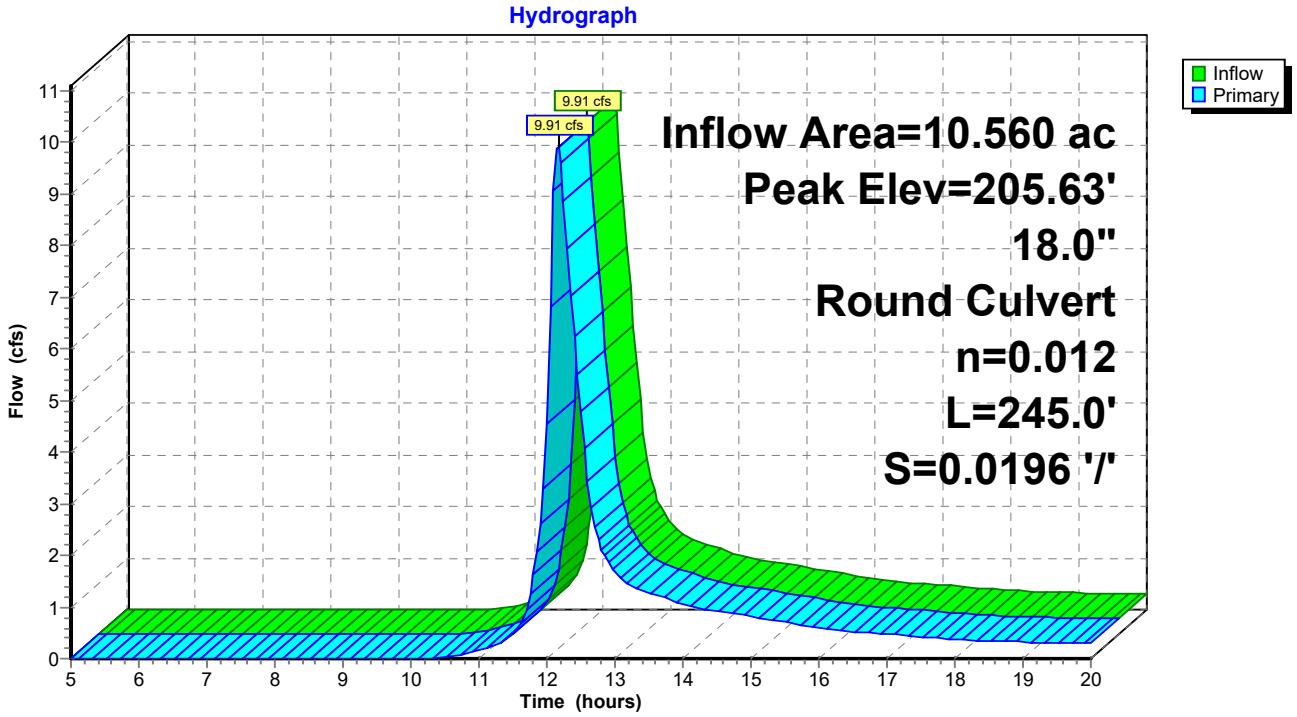
Inflow Area = 10.560 ac, 12.37% Impervious, Inflow Depth > 1.00" for 2-YR event
Inflow = 9.91 cfs @ 12.16 hrs, Volume= 0.877 af
Outflow = 9.91 cfs @ 12.16 hrs, Volume= 0.877 af, Atten= 0%, Lag= 0.0 min
Primary = 9.91 cfs @ 12.16 hrs, Volume= 0.877 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 205.63' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	202.70'	**18.0" Round Culvert** L= 245.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 202.70' / 197.90' S= 0.0196 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=9.81 cfs @ 12.16 hrs HW=205.58' (Free Discharge)
1=Culvert (Inlet Controls 9.81 cfs @ 5.55 fps)

Pond Structure: Structure

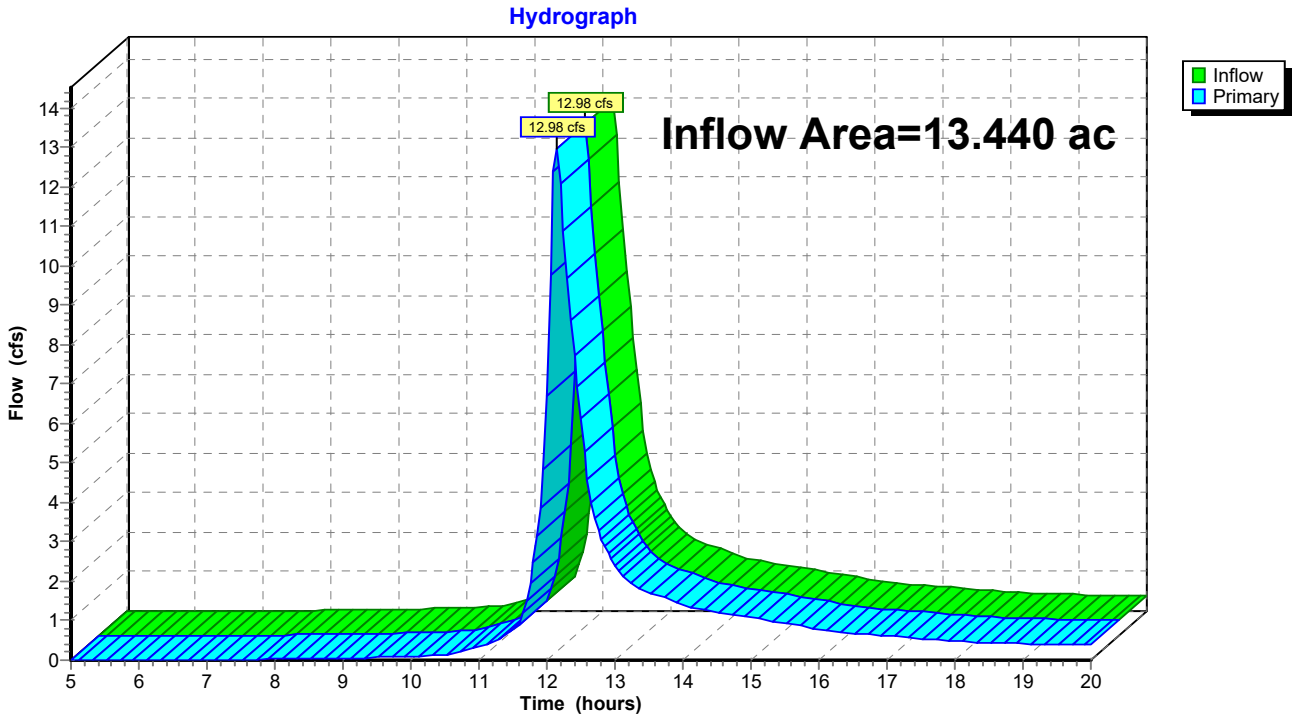


Summary for Link AP-1: AP-1

Inflow Area = 13.440 ac, 17.23% Impervious, Inflow Depth > 1.07" for 2-YR event
Inflow = 12.98 cfs @ 12.14 hrs, Volume= 1.201 af
Primary = 12.98 cfs @ 12.14 hrs, Volume= 1.201 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

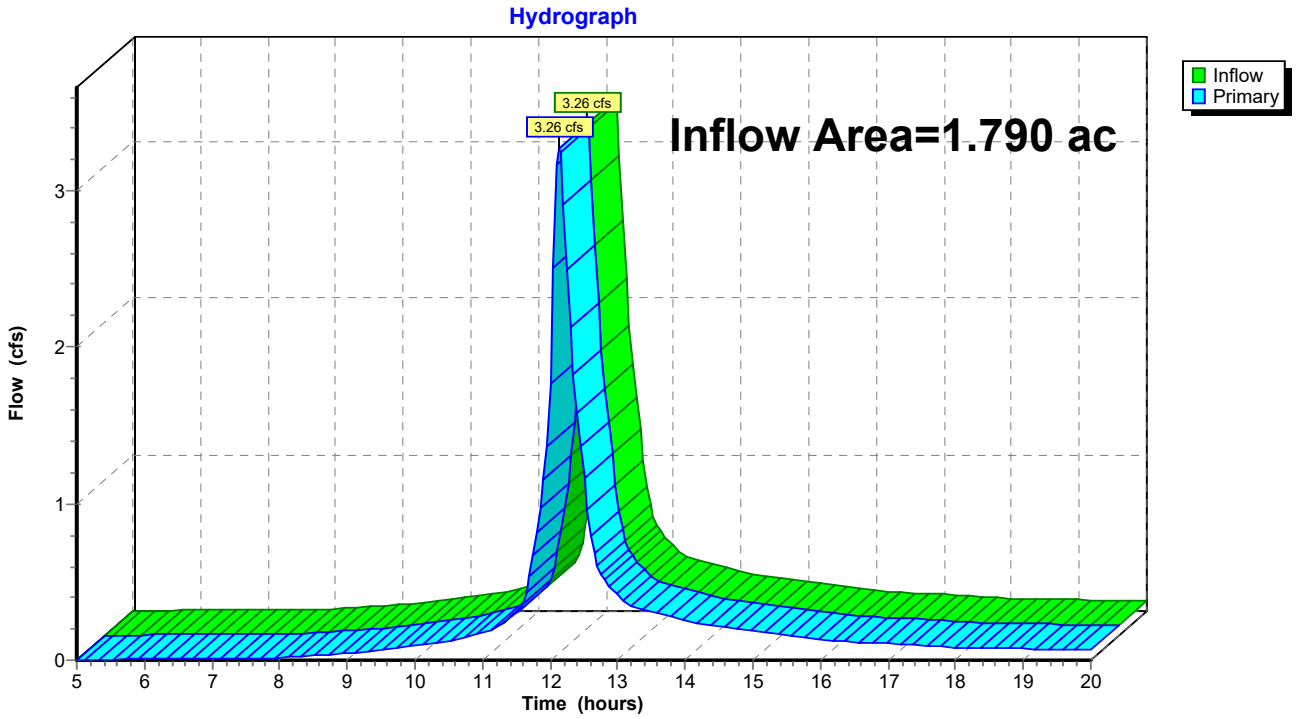


Summary for Link AP-2: AP-2

Inflow Area = 1.790 ac, 55.87% Impervious, Inflow Depth > 1.80" for 2-YR event
Inflow = 3.26 cfs @ 12.14 hrs, Volume= 0.268 af
Primary = 3.26 cfs @ 12.14 hrs, Volume= 0.268 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPost-1: Post-1 Runoff Area=6.050 ac 12.00% Impervious Runoff Depth>2.12"
Flow Length=1,030' Tc=12.9 min CN=77 Runoff=12.83 cfs 1.070 af

SubcatchmentPost-2: Post-2 Runoff Area=0.530 ac 50.94% Impervious Runoff Depth>3.20"
Tc=6.0 min CN=89 Runoff=2.01 cfs 0.141 af

SubcatchmentPost-3: Post-3 Runoff Area=4.510 ac 12.86% Impervious Runoff Depth>1.97"
Tc=6.0 min CN=75 Runoff=10.98 cfs 0.741 af

SubcatchmentPost-4: Post-4 Runoff Area=0.730 ac 84.93% Impervious Runoff Depth>3.70"
Flow Length=453' Tc=3.8 min CN=94 Runoff=3.31 cfs 0.225 af

SubcatchmentPost-5: Post-5 Runoff Area=1.090 ac 51.38% Impervious Runoff Depth>2.91"
Flow Length=1,369' Tc=8.4 min CN=86 Runoff=3.56 cfs 0.264 af

SubcatchmentPost-6: Post-6 Runoff Area=1.230 ac 0.00% Impervious Runoff Depth>1.59"
Flow Length=470' Tc=20.8 min CN=70 Runoff=1.61 cfs 0.163 af

SubcatchmentPost-7: Post-7 Runoff Area=0.920 ac 42.39% Impervious Runoff Depth>2.73"
Flow Length=100' Slope=0.0440 '/' Tc=0.9 min CN=84 Runoff=3.49 cfs 0.209 af

SubcatchmentPost-8: Post-8 Runoff Area=0.170 ac 100.00% Impervious Runoff Depth>4.05"
Tc=6.0 min CN=98 Runoff=0.75 cfs 0.057 af

Reach 1R: Wetland Flow Inflow=23.13 cfs 2.019 af
Outflow=23.13 cfs 2.019 af

Reach 2R: Ditch Avg. Flow Depth=1.14' Max Vel=0.92 fps Inflow=2.01 cfs 0.141 af
n=0.022 L=200.0' S=0.0005 '/' Capacity=14.54 cfs Outflow=1.78 cfs 0.141 af

Reach 3R: Below LLS-1 Avg. Flow Depth=0.23' Max Vel=1.05 fps Inflow=3.49 cfs 0.209 af
n=0.080 L=77.0' S=0.0390 '/' Capacity=17.62 cfs Outflow=3.22 cfs 0.209 af

Reach 4R: Ditch Avg. Flow Depth=0.82' Max Vel=10.85 fps Inflow=10.98 cfs 0.741 af
n=0.022 L=165.0' S=0.1079 '/' Capacity=213.51 cfs Outflow=10.88 cfs 0.740 af

Reach 5R: Ditch Avg. Flow Depth=0.92' Max Vel=10.03 fps Inflow=12.83 cfs 1.070 af
n=0.022 L=375.0' S=0.0790 '/' Capacity=182.69 cfs Outflow=12.71 cfs 1.069 af

Reach 6R: Below LLS-2 Avg. Flow Depth=0.30' Max Vel=0.64 fps Inflow=3.31 cfs 0.225 af
n=0.080 L=100.0' S=0.0100 '/' Capacity=8.93 cfs Outflow=2.99 cfs 0.224 af

Reach 7R: Through Wetlands Inflow=2.99 cfs 0.224 af
Outflow=2.99 cfs 0.224 af

Reach 8R: Through Wetlands Inflow=0.75 cfs 0.057 af
Outflow=0.75 cfs 0.057 af

Reach 9R: Through Wetlands Avg. Flow Depth=0.25' Max Vel=0.40 fps Inflow=1.61 cfs 0.163 af
n=0.080 L=199.0' S=0.0050 '/' Capacity=6.33 cfs Outflow=1.45 cfs 0.161 af

Pond 1P: (new Pond)

Pond Structure: Structure Peak Elev=213.30' Inflow=21.09 cfs 1.810 af
18.0" Round Culvert n=0.012 L=245.0' S=0.0196 '/' Outflow=21.09 cfs 1.810 af

Link AP-1: AP-1 Inflow=26.37 cfs 2.404 af
Primary=26.37 cfs 2.404 af

Link AP-2: AP-2 Inflow=5.68 cfs 0.462 af
Primary=5.68 cfs 0.462 af

Total Runoff Area = 15.230 ac Runoff Volume = 2.871 af Average Runoff Depth = 2.26"
78.23% Pervious = 11.914 ac 21.77% Impervious = 3.316 ac

Summary for Subcatchment Post-1: Post-1

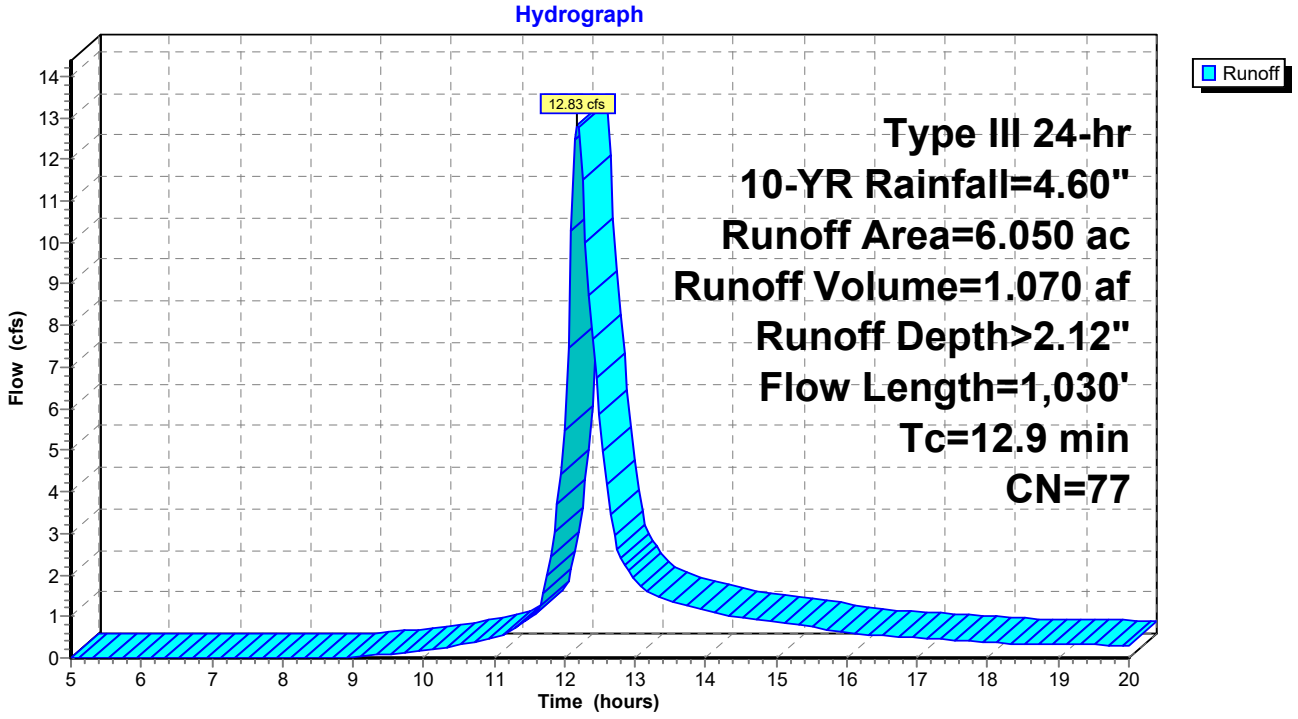
Runoff = 12.83 cfs @ 12.18 hrs, Volume= 1.070 af, Depth> 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (ac)	CN	Description
6.050	77	2 acre lots, 12% imp, HSG C
5.324		88.00% Pervious Area
0.726		12.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		**Sheet Flow, Pre-1A** Smooth surfaces n= 0.011 P2= 3.10"
8.4	90	0.0250	0.18		**Sheet Flow, Pre-1B** Grass: Short n= 0.150 P2= 3.10"
3.9	340	0.0840	1.45		**Shallow Concentrated Flow, Pre-3C** Woodland Kv= 5.0 fps
0.4	590	0.0600	23.20	464.04	**Parabolic Channel, Pre-1D** W=10.00' D=3.00' Area=20.0 sf Perim=12.0' n= 0.022 Earth, clean & straight
12.9	1,030	Total			

Subcatchment Post-1: Post-1



Summary for Subcatchment Post-2: Post-2

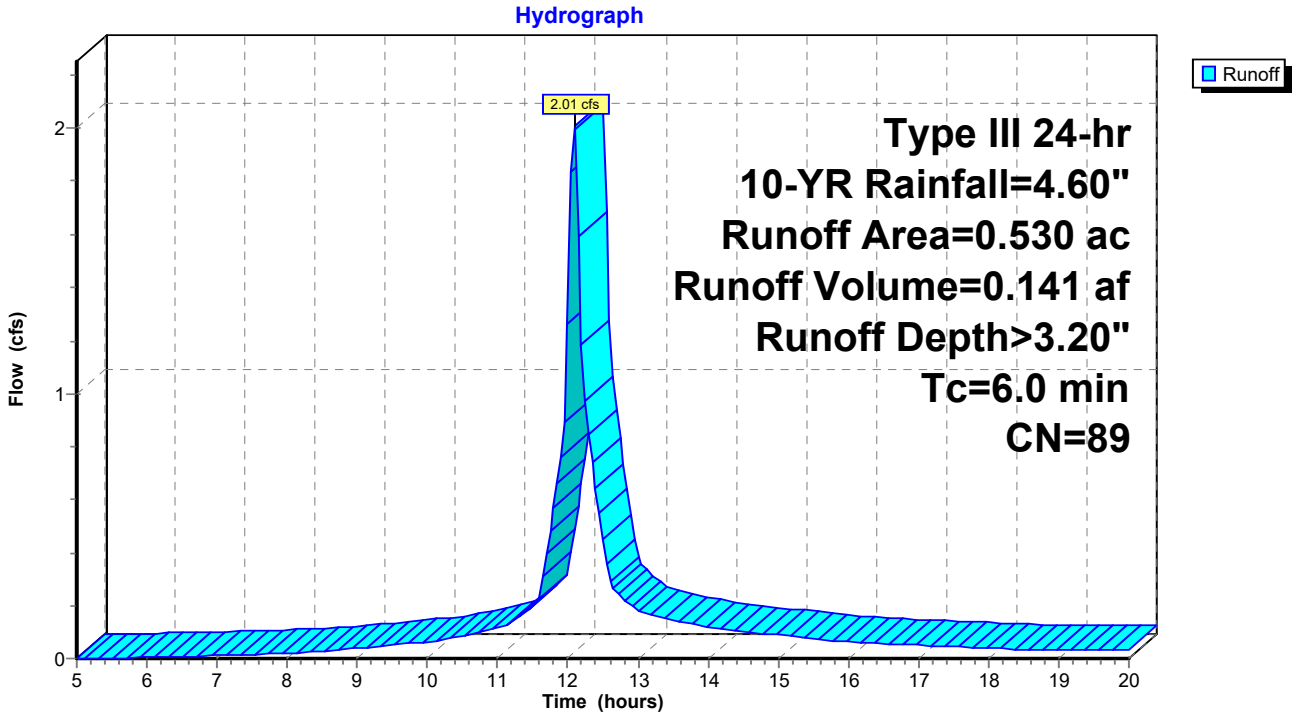
Runoff = 2.01 cfs @ 12.09 hrs, Volume= 0.141 af, Depth> 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

	Area (ac)	CN	Description
*	0.270	98	Impervious
	0.260	79	50-75% Grass cover, Fair, HSG C
	0.530	89	Weighted Average
	0.260		49.06% Pervious Area
	0.270		50.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Post 2 A**

Subcatchment Post-2: Post-2



Summary for Subcatchment Post-3: Post-3

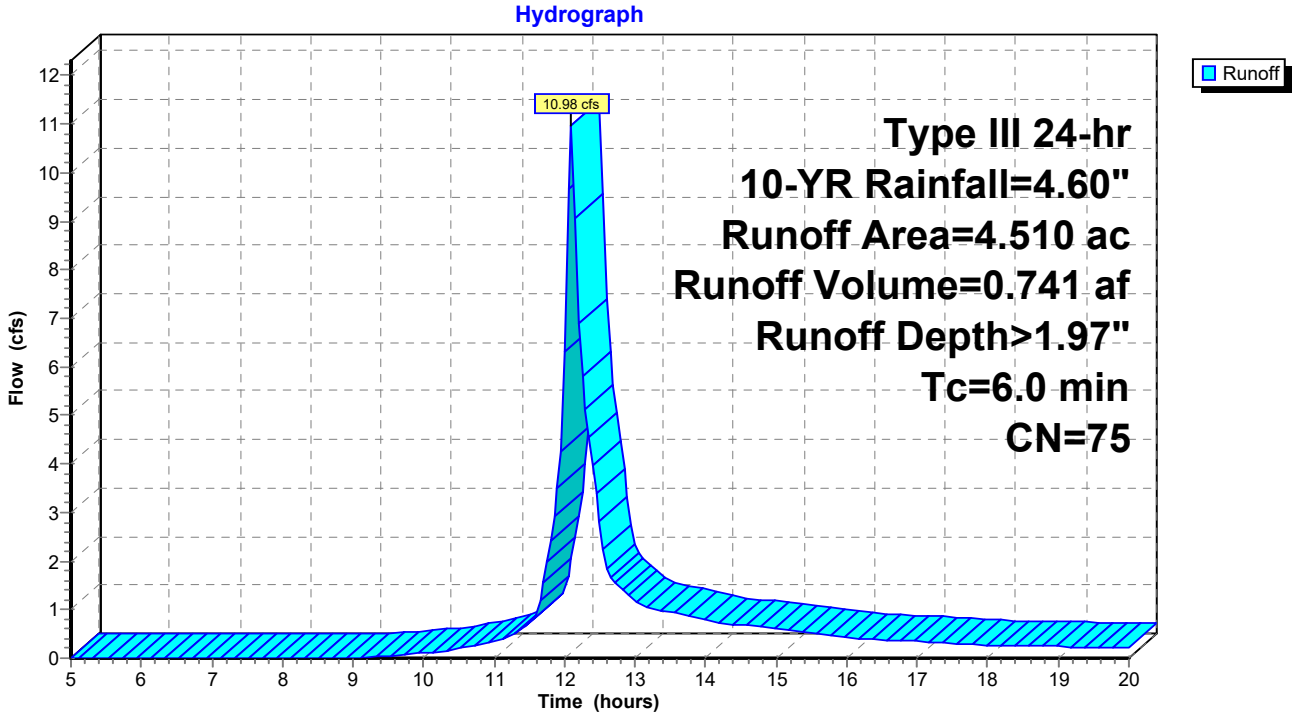
Runoff = 10.98 cfs @ 12.10 hrs, Volume= 0.741 af, Depth> 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

	Area (ac)	CN	Description
*	0.580	98	Impervious
	1.190	74	>75% Grass cover, Good, HSG C
	2.740	70	Woods, Good, HSG C
	4.510	75	Weighted Average
	3.930		87.14% Pervious Area
	0.580		12.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Post 3A**

Subcatchment Post-3: Post-3



Summary for Subcatchment Post-4: Post-4

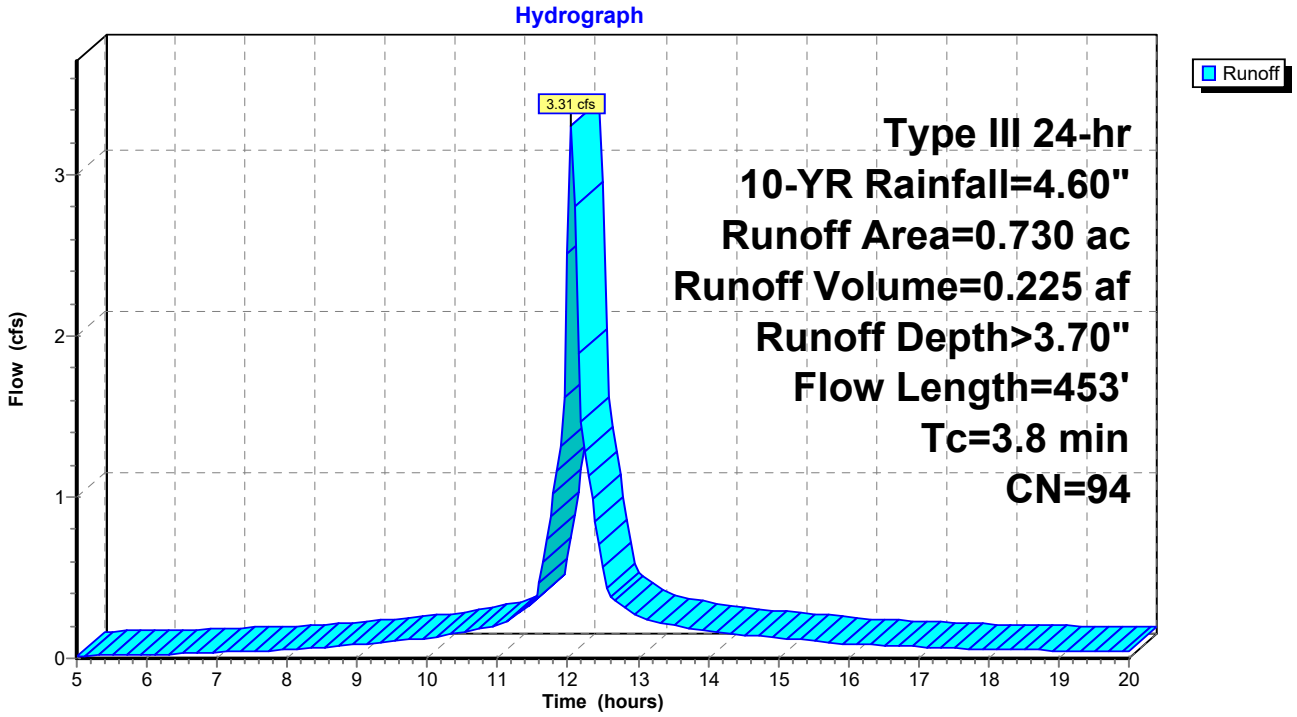
Runoff = 3.31 cfs @ 12.06 hrs, Volume= 0.225 af, Depth> 3.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

	Area (ac)	CN	Description
*	0.620	98	Impervious
	0.110	74	>75% Grass cover, Good, HSG C
	0.730	94	Weighted Average
	0.110		15.07% Pervious Area
	0.620		84.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.79		**Sheet Flow, Post-4A** Smooth surfaces n= 0.011 P2= 3.10"
1.3	231	0.0200	2.87		**Shallow Concentrated Flow, Post-4B** Paved Kv= 20.3 fps
0.1	40	0.3300	7.79	15.59	**Channel Flow, Post-4C** Area= 2.0 sf Perim= 4.0' r= 0.50' n= 0.069 Riprap, 6-inch
1.5	82	0.0200	0.90	4.49	**Channel Flow, Post-4D** Area= 5.0 sf Perim= 25.0' r= 0.20' n= 0.080 Earth, long dense weeds
3.8	453	Total			

Subcatchment Post-4: Post-4



Summary for Subcatchment Post-5: Post-5

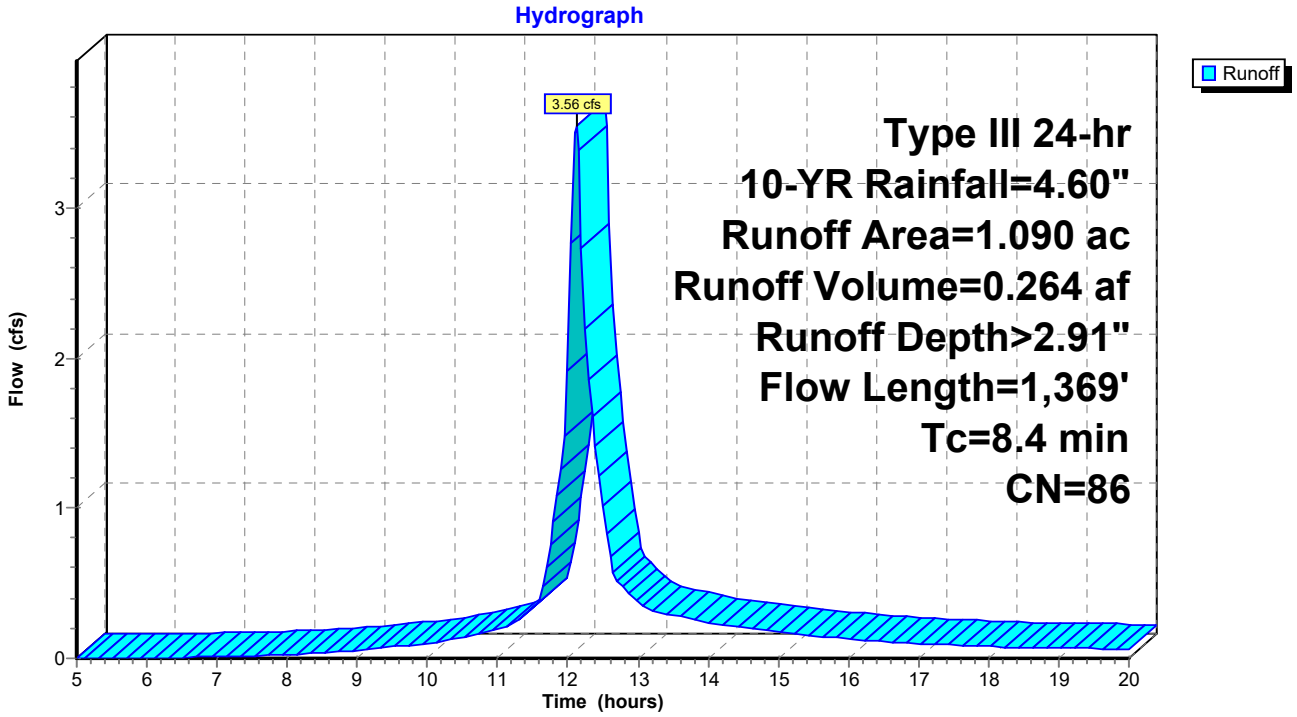
Runoff = 3.56 cfs @ 12.12 hrs, Volume= 0.264 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

	Area (ac)	CN	Description
*	0.560	98	Impervious
	0.530	74	>75% Grass cover, Good, HSG C
	1.090	86	Weighted Average
	0.530		48.62% Pervious Area
	0.560		51.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	94	0.0440	0.23		**Sheet Flow, Post-5A** Grass: Short n= 0.150 P2= 3.10"
0.0	8	0.3300	4.02		**Shallow Concentrated Flow, Post-5B** Short Grass Pasture Kv= 7.0 fps
0.0	52	0.0520	17.53	233.72	**Parabolic Channel, Post-5C** W=10.00' D=2.00' Area=13.3 sf Perim=11.0' n= 0.022 Earth, clean & straight
0.7	555	0.0200	12.52	300.41	**Channel Flow, Pre-2D** Area= 24.0 sf Perim= 16.0' r= 1.50' n= 0.022 Earth, clean & straight
0.8	660	0.0200	14.25	427.36	**Parabolic Channel, Post-5D** W=15.00' D=3.00' Area=30.0 sf Perim=16.5' n= 0.022 Earth, clean & straight
8.4	1,369	Total			

Subcatchment Post-5: Post-5



Summary for Subcatchment Post-6: Post-6

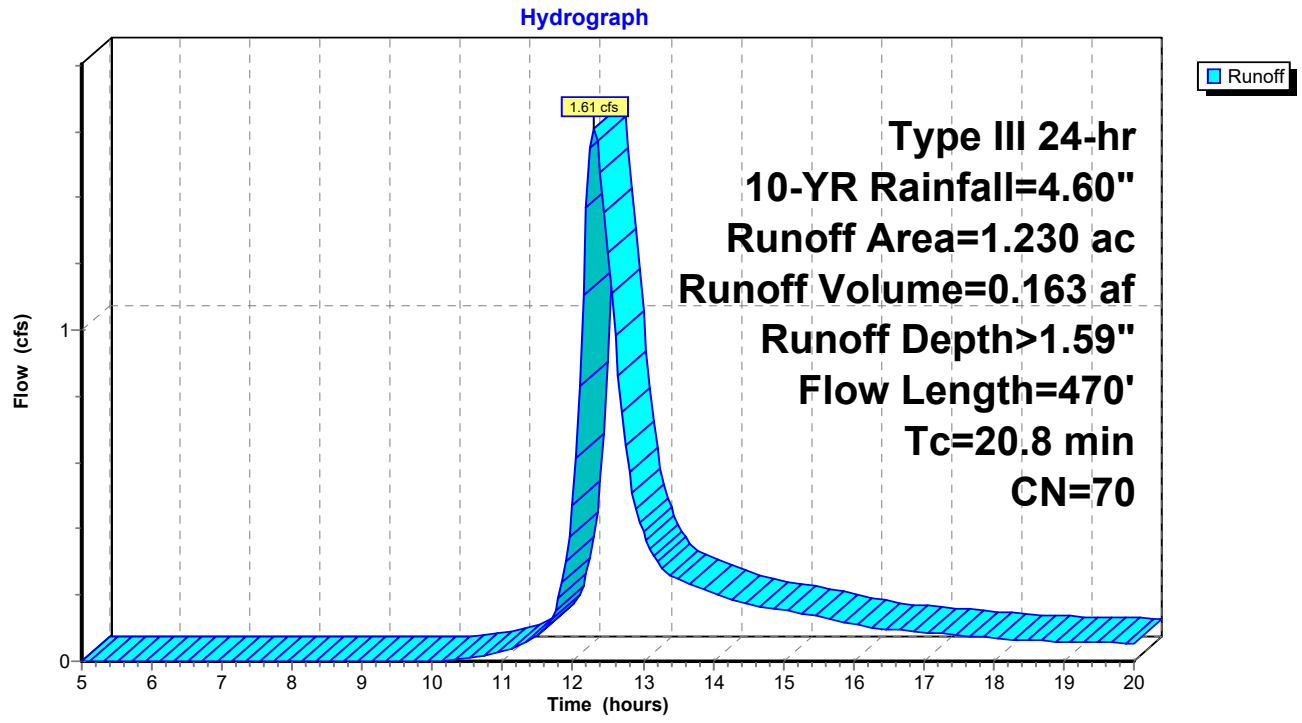
Runoff = 1.61 cfs @ 12.31 hrs, Volume= 0.163 af, Depth> 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

Area (ac)	CN	Description
0.470	71	Meadow, non-grazed, HSG C
0.760	70	Woods, Good, HSG C
1.230	70	Weighted Average
1.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	100	0.0400	0.15		**Sheet Flow, Post-6A** Grass: Dense n= 0.240 P2= 3.10"
9.8	370	0.0080	0.63		**Shallow Concentrated Flow, Post-6B** Short Grass Pasture Kv= 7.0 fps
20.8	470	Total			

Subcatchment Post-6: Post-6



Summary for Subcatchment Post-7: Post-7

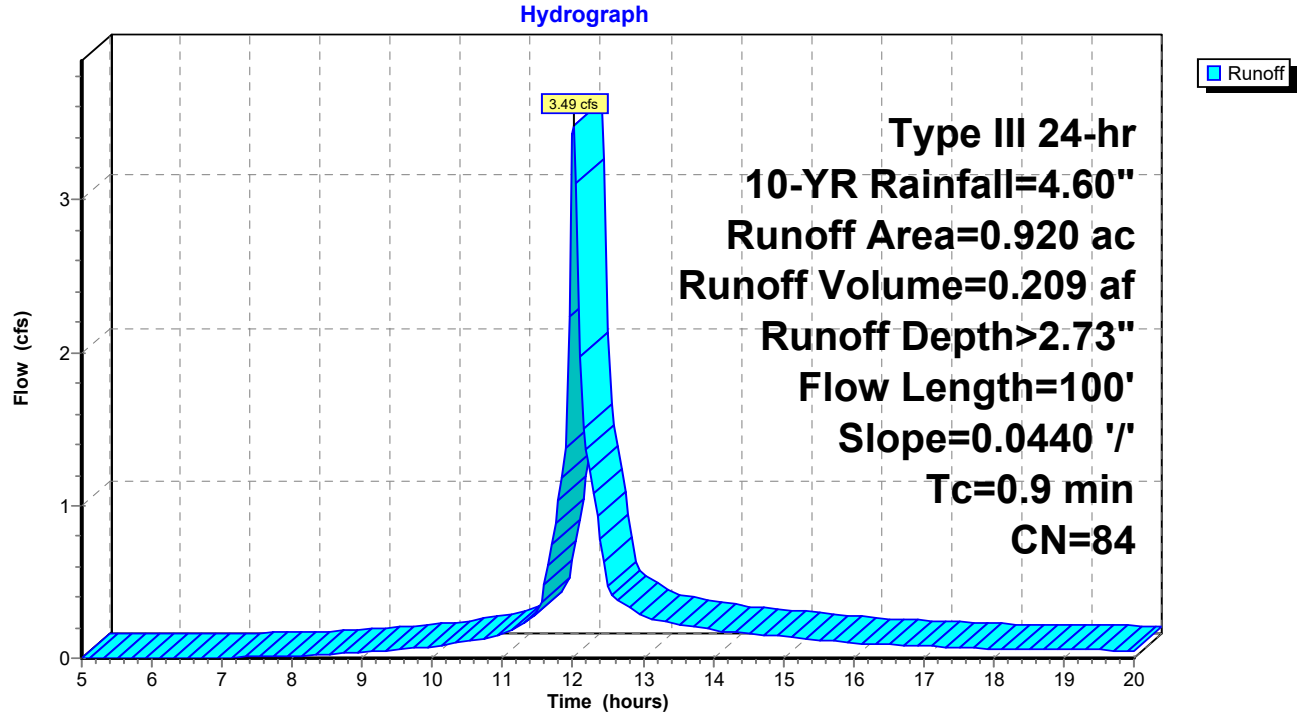
Runoff = 3.49 cfs @ 12.01 hrs, Volume= 0.209 af, Depth> 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

	Area (ac)	CN	Description
*	0.390	98	Impervious
	0.530	74	>75% Grass cover, Good, HSG C
	0.920	84	Weighted Average
	0.530		57.61% Pervious Area
	0.390		42.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0440	1.86		**Sheet Flow, Post-7A** Smooth surfaces n= 0.011 P2= 3.10"

Subcatchment Post-7: Post-7



Summary for Subcatchment Post-8: Post-8

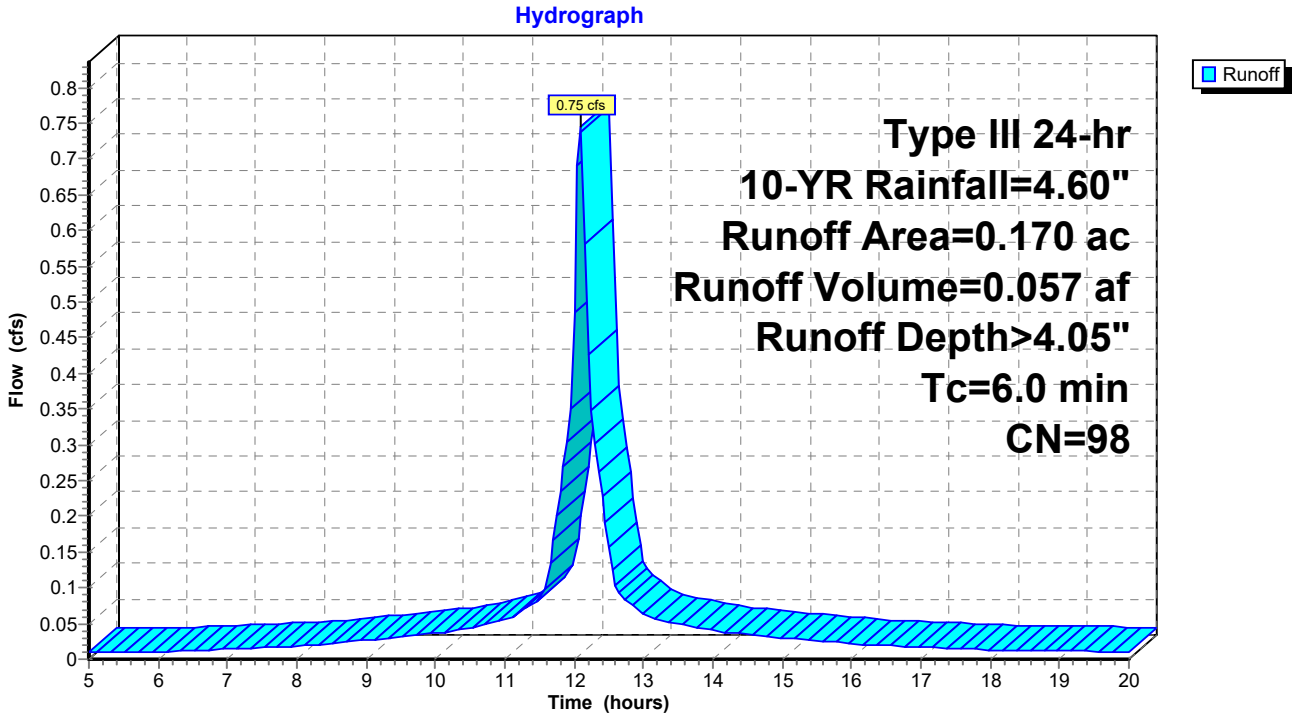
Runoff = 0.75 cfs @ 12.09 hrs, Volume= 0.057 af, Depth> 4.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.60"

	Area (ac)	CN	Description
*	0.170	98	Impervious
	0.170		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Post-8A**

Subcatchment Post-8: Post-8

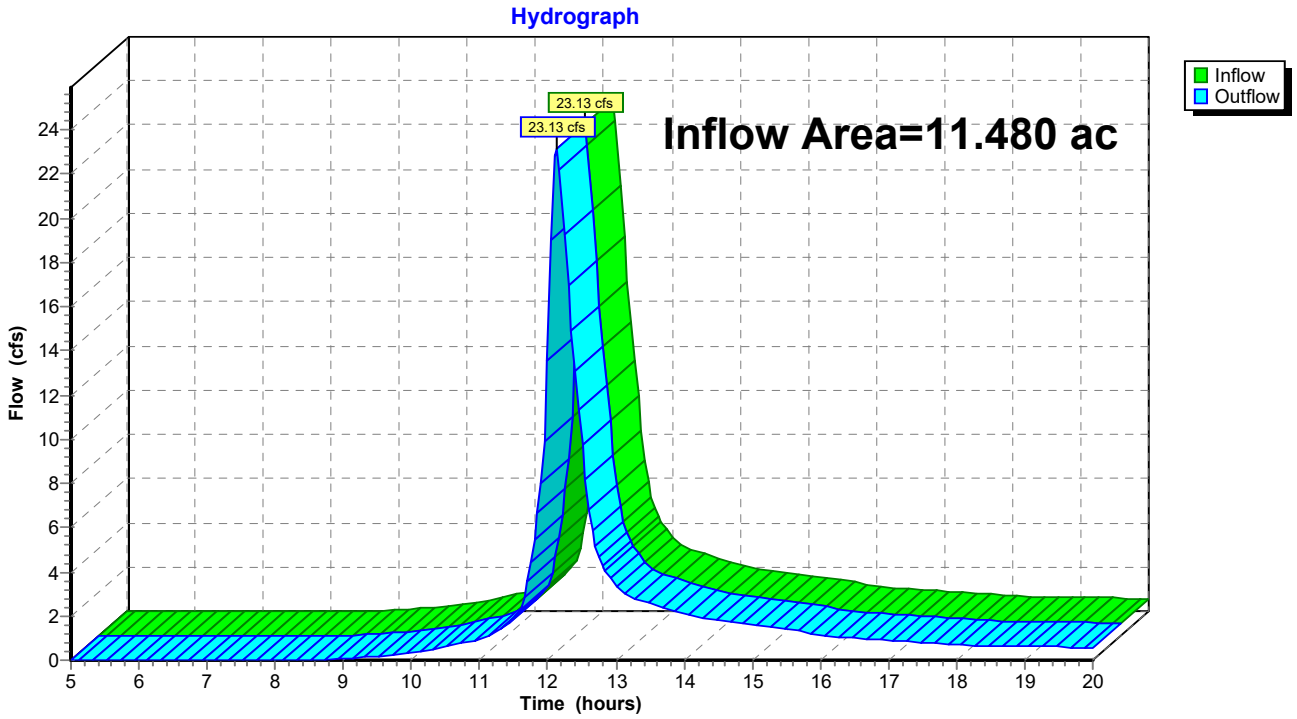


Summary for Reach 1R: Wetland Flow

Inflow Area = 11.480 ac, 14.77% Impervious, Inflow Depth > 2.11" for 10-YR event
Inflow = 23.13 cfs @ 12.13 hrs, Volume= 2.019 af
Outflow = 23.13 cfs @ 12.13 hrs, Volume= 2.019 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: Wetland Flow



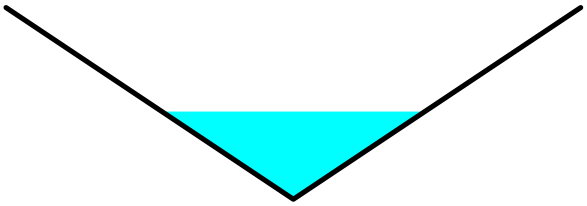
Summary for Reach 2R: Ditch

Inflow Area = 0.530 ac, 50.94% Impervious, Inflow Depth > 3.20" for 10-YR event
Inflow = 2.01 cfs @ 12.09 hrs, Volume= 0.141 af
Outflow = 1.78 cfs @ 12.19 hrs, Volume= 0.141 af, Atten= 12%, Lag= 6.2 min

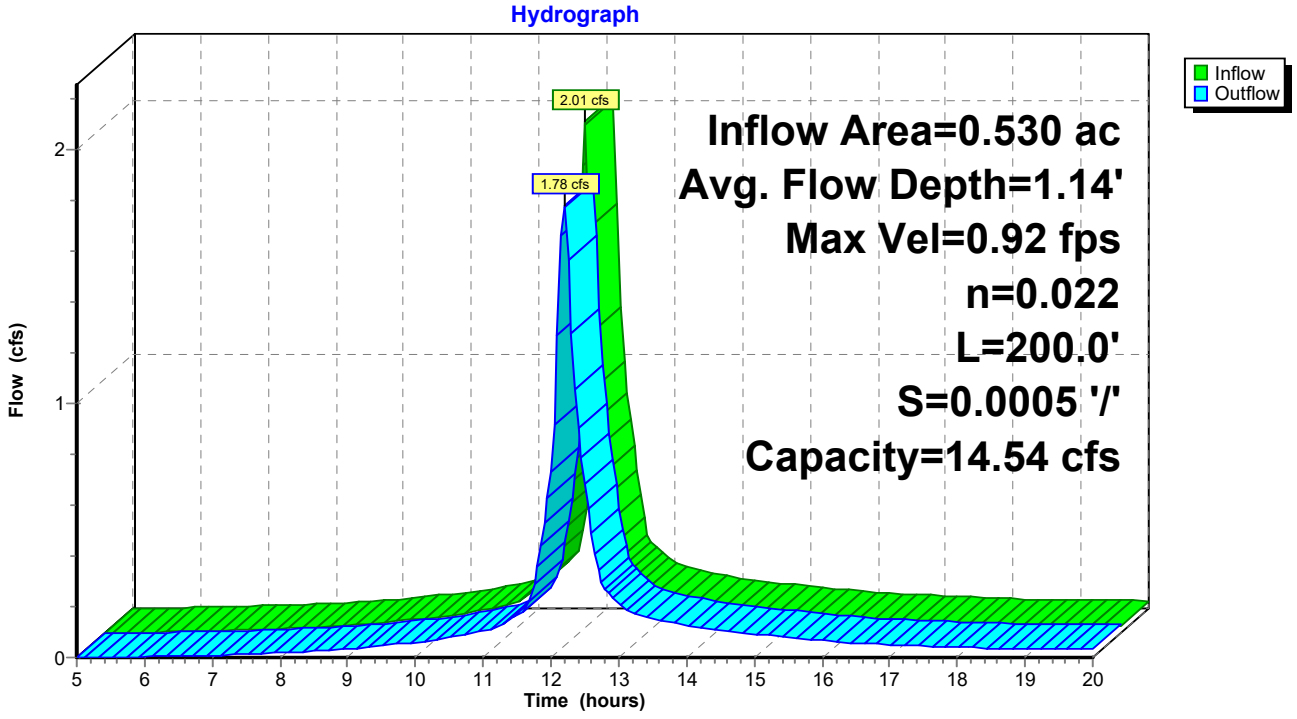
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.92 fps, Min. Travel Time= 3.6 min
Avg. Velocity = 0.39 fps, Avg. Travel Time= 8.6 min

Peak Storage= 392 cf @ 12.13 hrs
Average Depth at Peak Storage= 1.14' , Surface Width= 3.43'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 14.54 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 200.0' Slope= 0.0005 '/'
Inlet Invert= 195.10', Outlet Invert= 195.00'



Reach 2R: Ditch



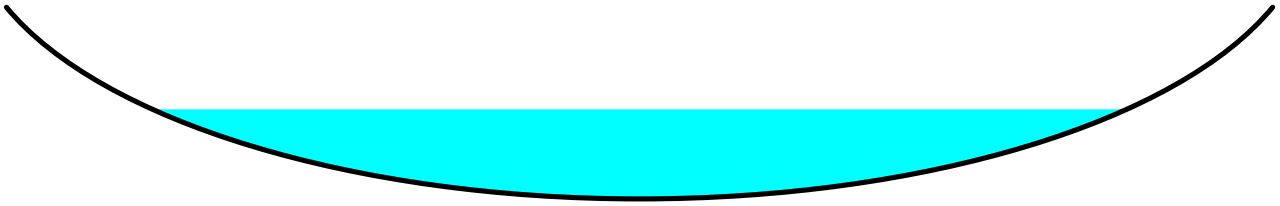
Summary for Reach 3R: Below LLS-1

Inflow Area = 0.920 ac, 42.39% Impervious, Inflow Depth > 2.73" for 10-YR event
Inflow = 3.49 cfs @ 12.01 hrs, Volume= 0.209 af
Outflow = 3.22 cfs @ 12.05 hrs, Volume= 0.209 af, Atten= 8%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.05 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.36 fps, Avg. Travel Time= 3.5 min

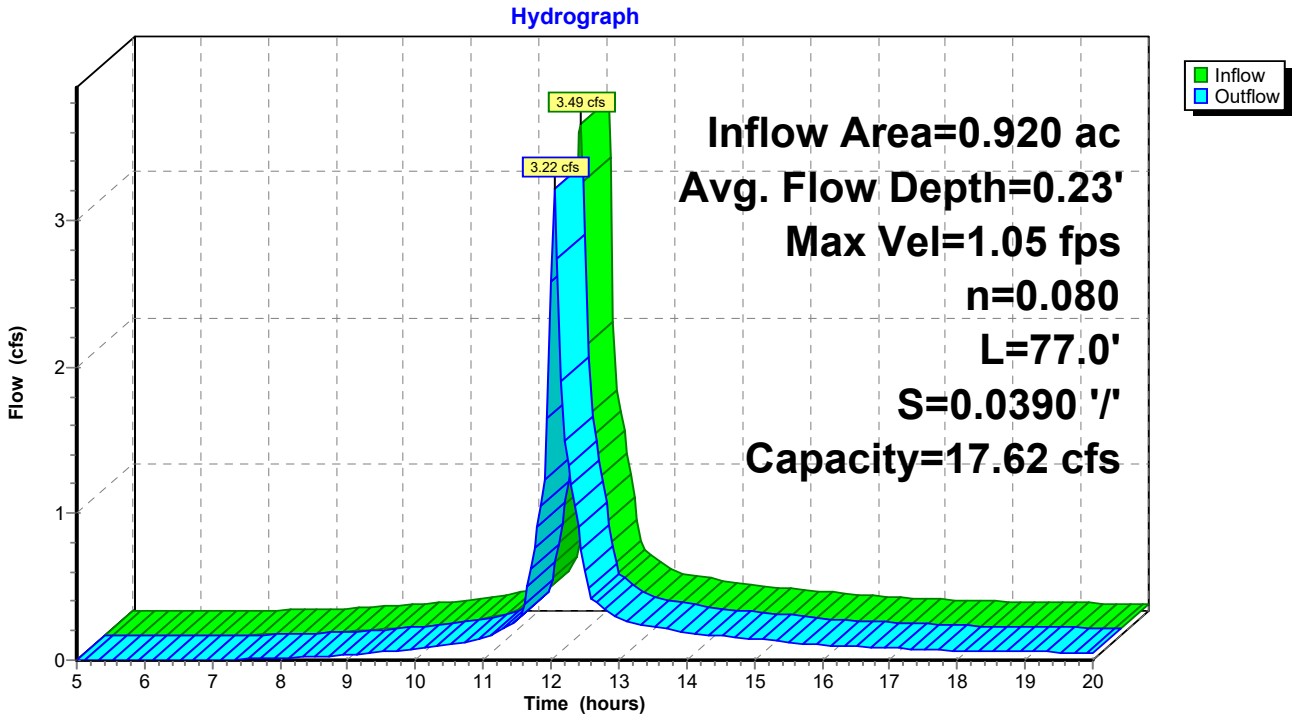
Peak Storage= 246 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.23' , Surface Width= 20.50'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 17.62 cfs

30.00' x 0.50' deep Parabolic Channel, n= 0.080 Earth, long dense weeds
Length= 77.0' Slope= 0.0390 '/'
Inlet Invert= 203.00', Outlet Invert= 200.00'



‡

Reach 3R: Below LLS-1



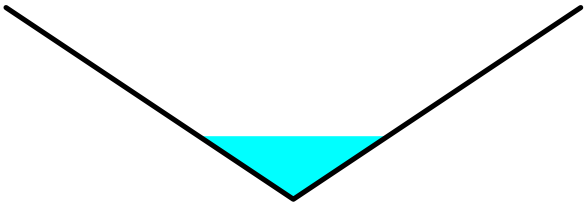
Summary for Reach 4R: Ditch

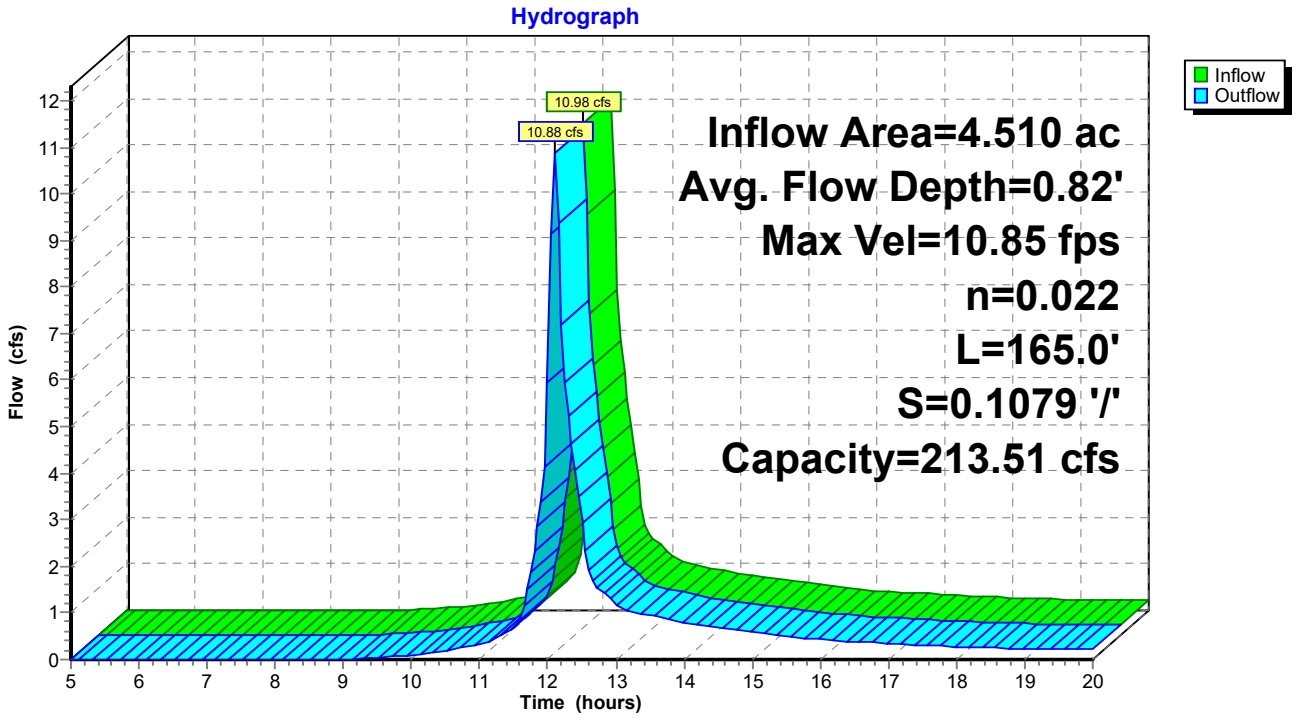
Inflow Area = 4.510 ac, 12.86% Impervious, Inflow Depth > 1.97" for 10-YR event
Inflow = 10.98 cfs @ 12.10 hrs, Volume= 0.741 af
Outflow = 10.88 cfs @ 12.10 hrs, Volume= 0.740 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.85 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 4.94 fps, Avg. Travel Time= 0.6 min

Peak Storage= 167 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.82' , Surface Width= 2.47'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 213.51 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 165.0' Slope= 0.1079 '/'
Inlet Invert= 216.40', Outlet Invert= 198.60'





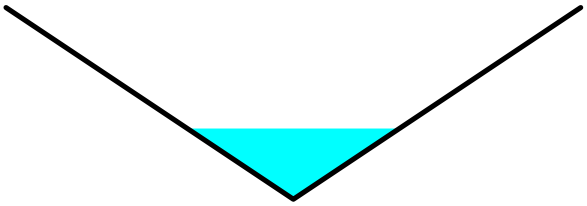
Summary for Reach 5R: Ditch

Inflow Area = 6.050 ac, 12.00% Impervious, Inflow Depth > 2.12" for 10-YR event
Inflow = 12.83 cfs @ 12.18 hrs, Volume= 1.070 af
Outflow = 12.71 cfs @ 12.20 hrs, Volume= 1.069 af, Atten= 1%, Lag= 1.2 min

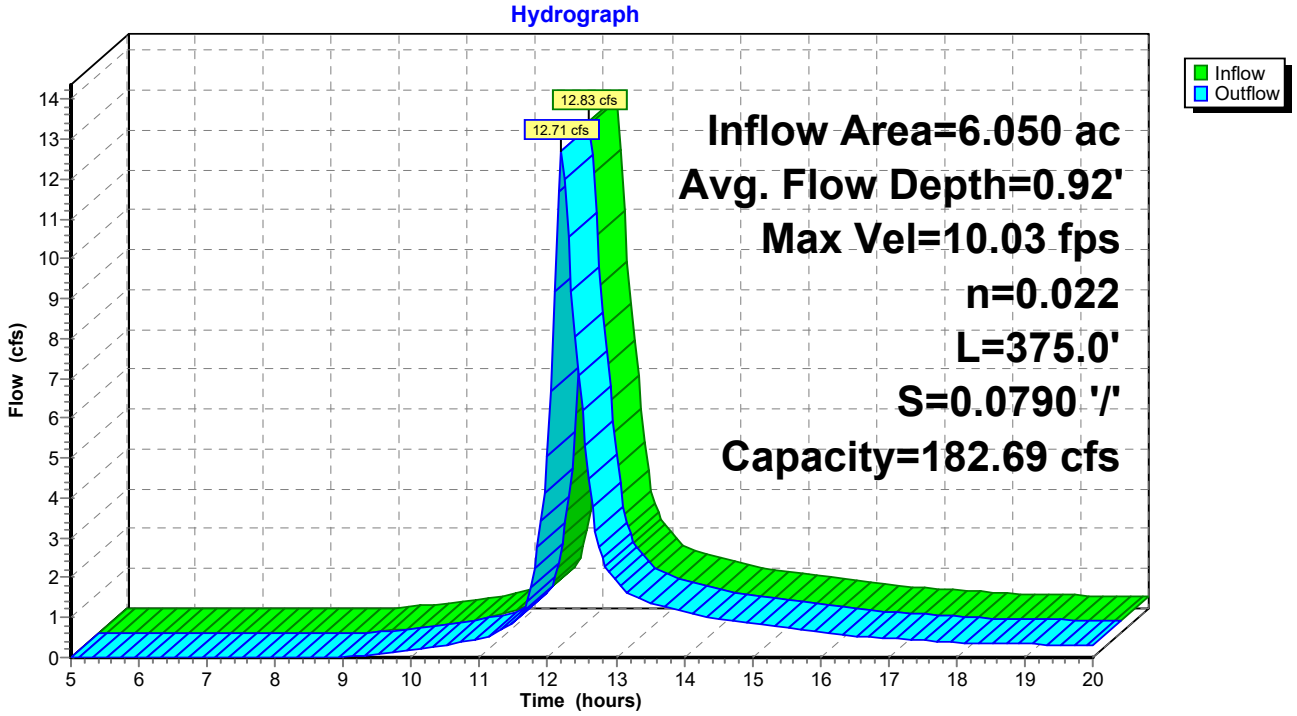
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.03 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 4.75 fps, Avg. Travel Time= 1.3 min

Peak Storage= 480 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.92' , Surface Width= 2.77'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 182.69 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 375.0' Slope= 0.0790 '/'
Inlet Invert= 228.22', Outlet Invert= 198.60'



Reach 5R: Ditch



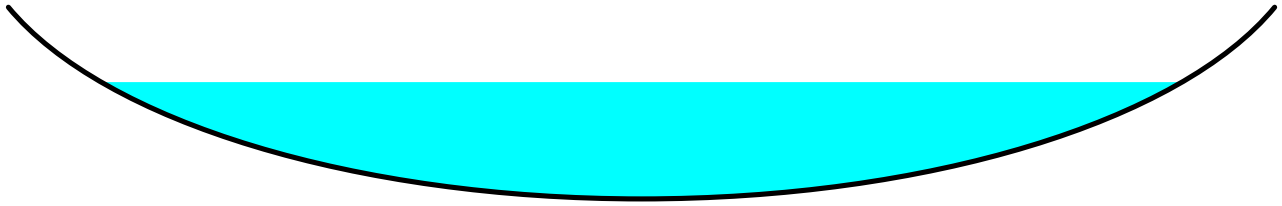
Summary for Reach 6R: Below LLS-2

Inflow Area = 0.730 ac, 84.93% Impervious, Inflow Depth > 3.70" for 10-YR event
Inflow = 3.31 cfs @ 12.06 hrs, Volume= 0.225 af
Outflow = 2.99 cfs @ 12.13 hrs, Volume= 0.224 af, Atten= 10%, Lag= 4.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.64 fps, Min. Travel Time= 2.6 min
Avg. Velocity = 0.23 fps, Avg. Travel Time= 7.2 min

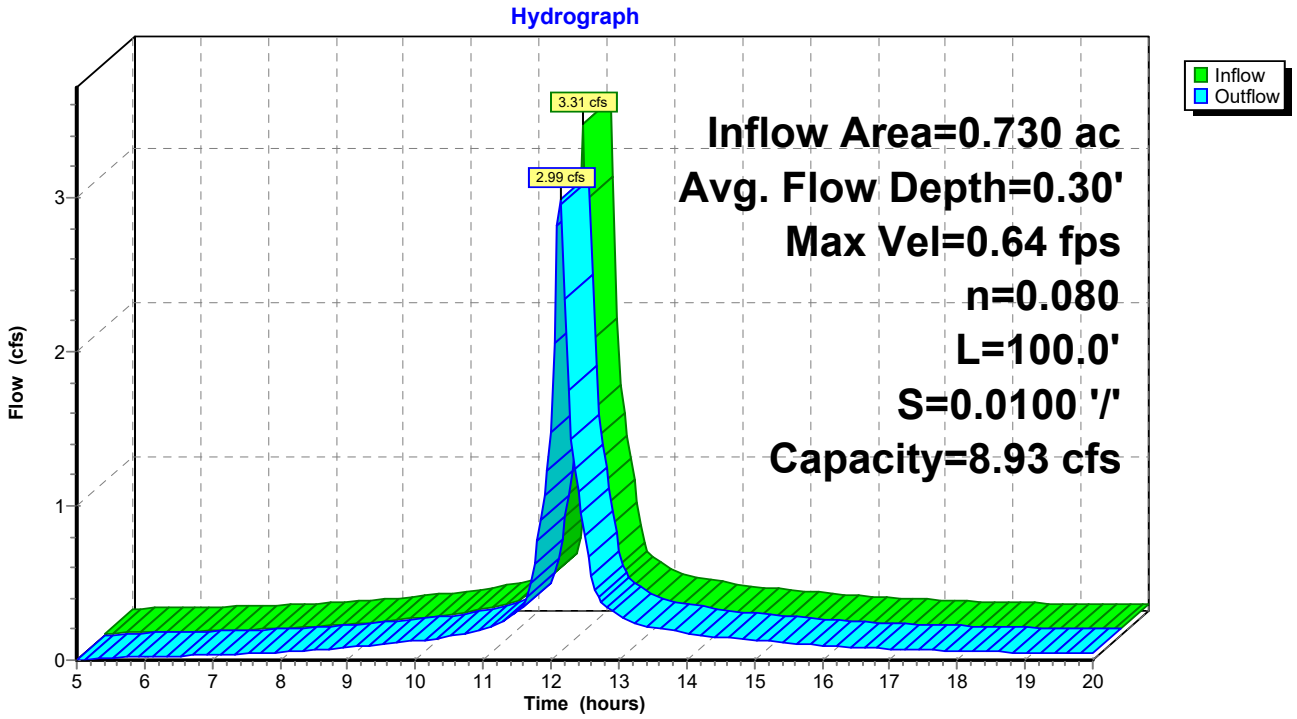
Peak Storage= 475 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.30' , Surface Width= 23.41'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 8.93 cfs

30.00' x 0.50' deep Parabolic Channel, n= 0.080 Earth, long dense weeds
Length= 100.0' Slope= 0.0100 '/'
Inlet Invert= 197.00', Outlet Invert= 196.00'



‡

Reach 6R: Below LLS-2

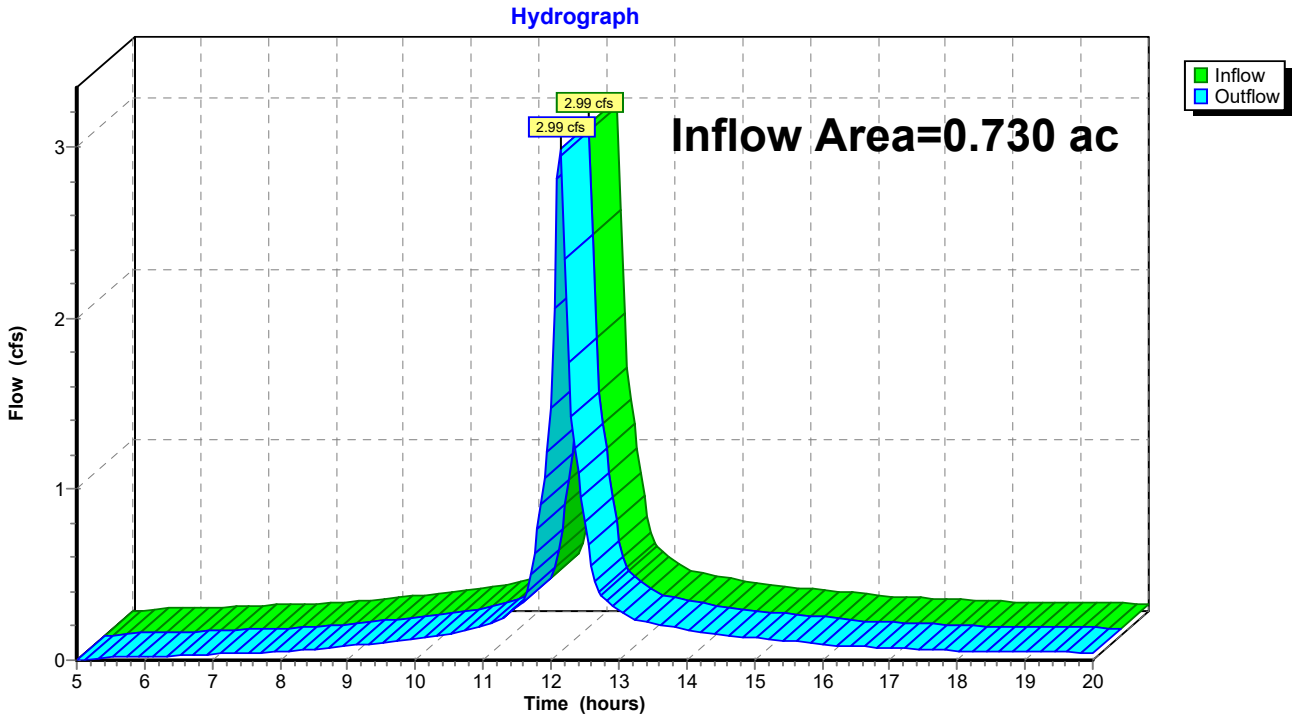


Summary for Reach 7R: Through Wetlands

Inflow Area = 0.730 ac, 84.93% Impervious, Inflow Depth > 3.68" for 10-YR event
Inflow = 2.99 cfs @ 12.13 hrs, Volume= 0.224 af
Outflow = 2.99 cfs @ 12.13 hrs, Volume= 0.224 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 7R: Through Wetlands

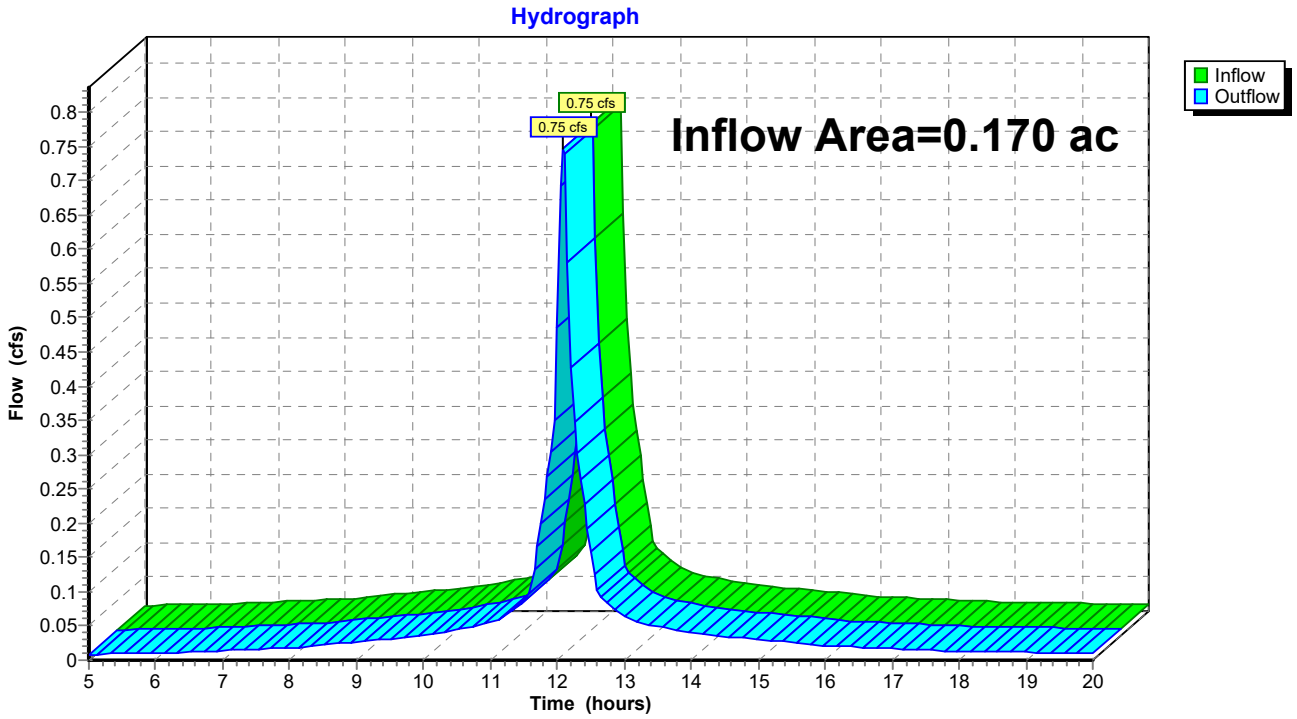


Summary for Reach 8R: Through Wetlands

Inflow Area = 0.170 ac,100.00% Impervious, Inflow Depth > 4.05" for 10-YR event
Inflow = 0.75 cfs @ 12.09 hrs, Volume= 0.057 af
Outflow = 0.75 cfs @ 12.09 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: Through Wetlands



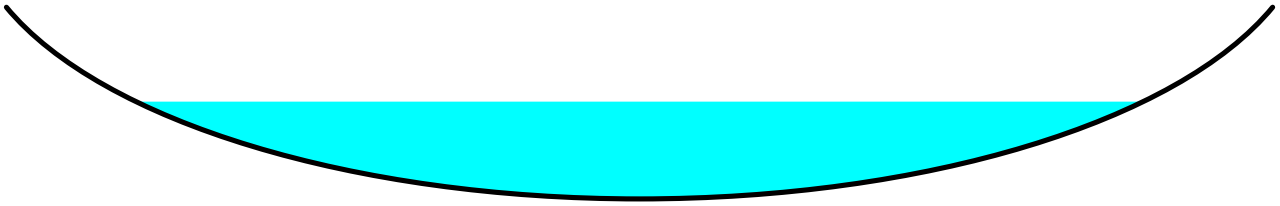
Summary for Reach 9R: Through Wetlands

Inflow Area = 1.230 ac, 0.00% Impervious, Inflow Depth > 1.59" for 10-YR event
Inflow = 1.61 cfs @ 12.31 hrs, Volume= 0.163 af
Outflow = 1.45 cfs @ 12.55 hrs, Volume= 0.161 af, Atten= 10%, Lag= 14.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.40 fps, Min. Travel Time= 8.2 min
Avg. Velocity = 0.19 fps, Avg. Travel Time= 17.7 min

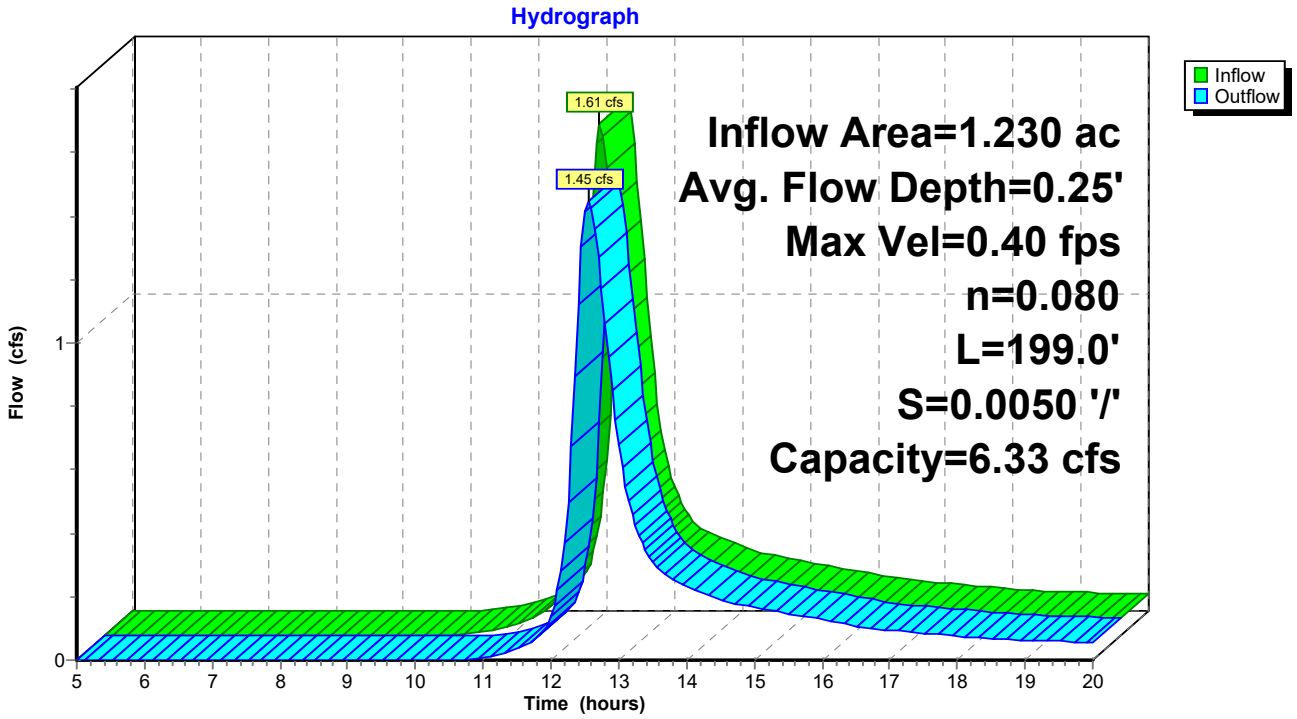
Peak Storage= 719 cf @ 12.41 hrs
Average Depth at Peak Storage= 0.25' , Surface Width= 21.37'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 6.33 cfs

30.00' x 0.50' deep Parabolic Channel, n= 0.080 Earth, long dense weeds
Length= 199.0' Slope= 0.0050 '/'
Inlet Invert= 199.00', Outlet Invert= 198.00'



‡

Reach 9R: Through Wetlands



Summary for Pond 1P: (new Pond)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' TW=0.00' (Free Discharge)

Summary for Pond Structure: Structure

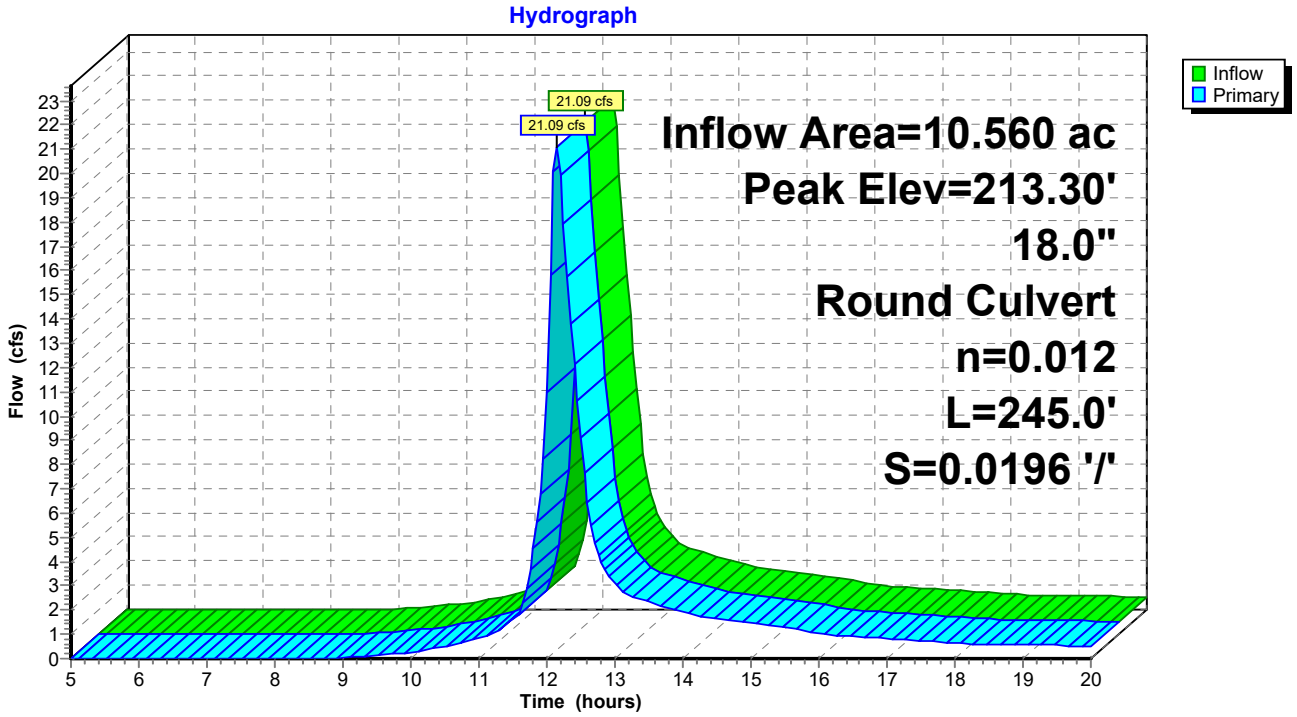
Inflow Area = 10.560 ac, 12.37% Impervious, Inflow Depth > 2.06" for 10-YR event
Inflow = 21.09 cfs @ 12.15 hrs, Volume= 1.810 af
Outflow = 21.09 cfs @ 12.15 hrs, Volume= 1.810 af, Atten= 0%, Lag= 0.0 min
Primary = 21.09 cfs @ 12.15 hrs, Volume= 1.810 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 213.30' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	202.70'	**18.0" Round Culvert** L= 245.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 202.70' / 197.90' S= 0.0196 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=21.05 cfs @ 12.15 hrs HW=213.27' (Free Discharge)
1=Culvert (Inlet Controls 21.05 cfs @ 11.91 fps)

Pond Structure: Structure

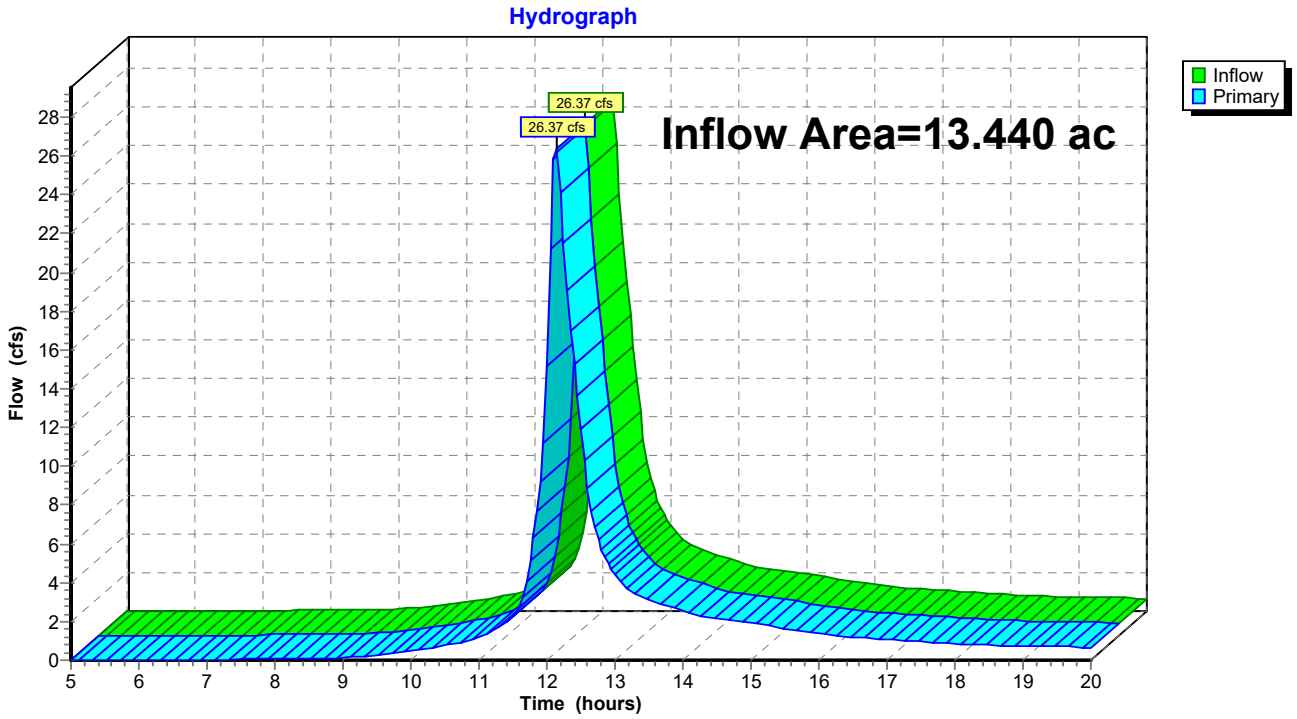


Summary for Link AP-1: AP-1

Inflow Area = 13.440 ac, 17.23% Impervious, Inflow Depth > 2.15" for 10-YR event
Inflow = 26.37 cfs @ 12.13 hrs, Volume= 2.404 af
Primary = 26.37 cfs @ 12.13 hrs, Volume= 2.404 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

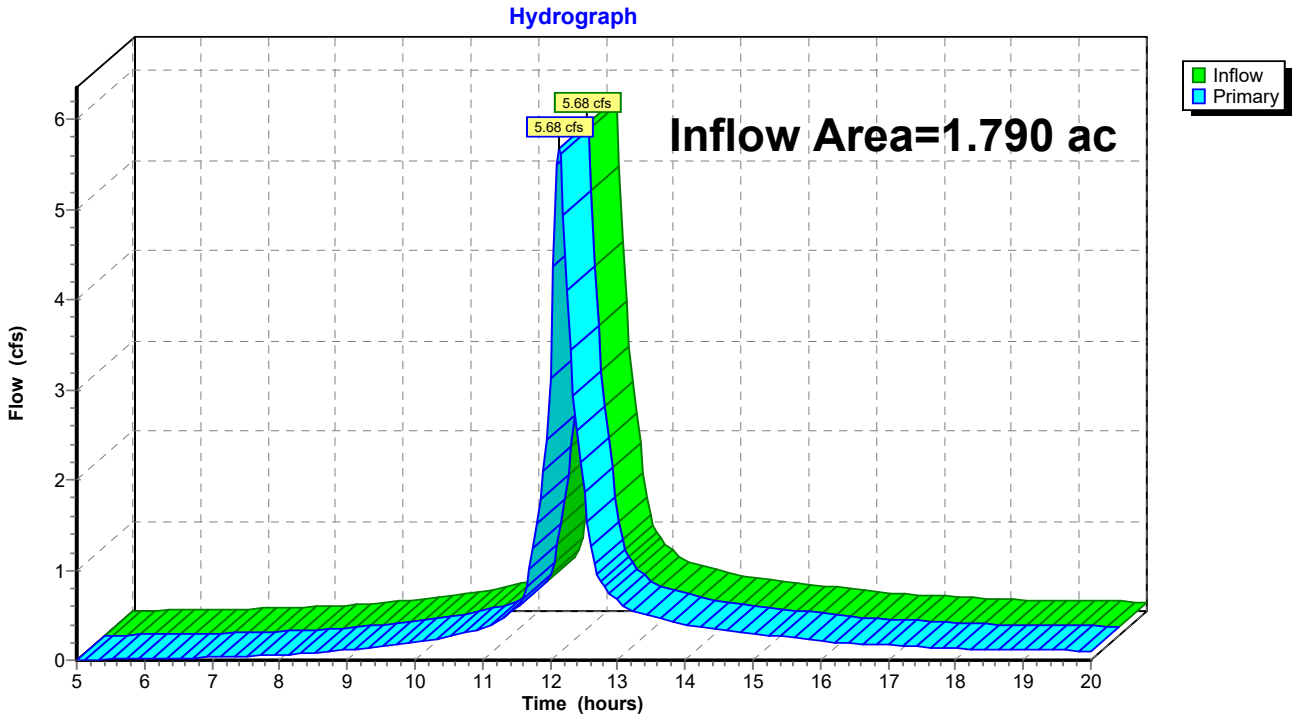


Summary for Link AP-2: AP-2

Inflow Area = 1.790 ac, 55.87% Impervious, Inflow Depth > 3.10" for 10-YR event
Inflow = 5.68 cfs @ 12.13 hrs, Volume= 0.462 af
Primary = 5.68 cfs @ 12.13 hrs, Volume= 0.462 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPost-1: Post-1 Runoff Area=6.050 ac 12.00% Impervious Runoff Depth>3.08"
Flow Length=1,030' Tc=12.9 min CN=77 Runoff=18.56 cfs 1.552 af

SubcatchmentPost-2: Post-2 Runoff Area=0.530 ac 50.94% Impervious Runoff Depth>4.29"
Tc=6.0 min CN=89 Runoff=2.65 cfs 0.190 af

SubcatchmentPost-3: Post-3 Runoff Area=4.510 ac 12.86% Impervious Runoff Depth>2.90"
Tc=6.0 min CN=75 Runoff=16.14 cfs 1.089 af

SubcatchmentPost-4: Post-4 Runoff Area=0.730 ac 84.93% Impervious Runoff Depth>4.80"
Flow Length=453' Tc=3.8 min CN=94 Runoff=4.25 cfs 0.292 af

SubcatchmentPost-5: Post-5 Runoff Area=1.090 ac 51.38% Impervious Runoff Depth>3.98"
Flow Length=1,369' Tc=8.4 min CN=86 Runoff=4.80 cfs 0.361 af

SubcatchmentPost-6: Post-6 Runoff Area=1.230 ac 0.00% Impervious Runoff Depth>2.44"
Flow Length=470' Tc=20.8 min CN=70 Runoff=2.50 cfs 0.250 af

SubcatchmentPost-7: Post-7 Runoff Area=0.920 ac 42.39% Impervious Runoff Depth>3.78"
Flow Length=100' Slope=0.0440 '/' Tc=0.9 min CN=84 Runoff=4.77 cfs 0.290 af

SubcatchmentPost-8: Post-8 Runoff Area=0.170 ac 100.00% Impervious Runoff Depth>5.15"
Tc=6.0 min CN=98 Runoff=0.94 cfs 0.073 af

Reach 1R: Wetland Flow Inflow=33.98 cfs 2.929 af
Outflow=33.98 cfs 2.929 af

Reach 2R: Ditch Avg. Flow Depth=1.27' Max Vel=0.98 fps Inflow=2.65 cfs 0.190 af
n=0.022 L=200.0' S=0.0005 '/' Capacity=14.54 cfs Outflow=2.38 cfs 0.189 af

Reach 3R: Below LLS-1 Avg. Flow Depth=0.27' Max Vel=1.16 fps Inflow=4.77 cfs 0.290 af
n=0.080 L=77.0' S=0.0390 '/' Capacity=17.62 cfs Outflow=4.42 cfs 0.289 af

Reach 4R: Ditch Avg. Flow Depth=0.95' Max Vel=11.95 fps Inflow=16.14 cfs 1.089 af
n=0.022 L=165.0' S=0.1079 '/' Capacity=213.51 cfs Outflow=16.00 cfs 1.089 af

Reach 5R: Ditch Avg. Flow Depth=1.06' Max Vel=11.00 fps Inflow=18.56 cfs 1.552 af
n=0.022 L=375.0' S=0.0790 '/' Capacity=182.69 cfs Outflow=18.40 cfs 1.551 af

Reach 6R: Below LLS-2 Avg. Flow Depth=0.34' Max Vel=0.69 fps Inflow=4.25 cfs 0.292 af
n=0.080 L=100.0' S=0.0100 '/' Capacity=8.93 cfs Outflow=3.82 cfs 0.291 af

Reach 7R: Through Wetlands Inflow=3.82 cfs 0.291 af
Outflow=3.82 cfs 0.291 af

Reach 8R: Through Wetlands Inflow=0.94 cfs 0.073 af
Outflow=0.94 cfs 0.073 af

Reach 9R: Through Wetlands Avg. Flow Depth=0.31' Max Vel=0.46 fps Inflow=2.50 cfs 0.250 af
n=0.080 L=199.0' S=0.0050 '/' Capacity=6.33 cfs Outflow=2.29 cfs 0.247 af

Pond 1P: (new Pond)

Pond Structure: Structure Peak Elev=226.43' Inflow=30.84 cfs 2.640 af
18.0" Round Culvert n=0.012 L=245.0' S=0.0196 '/' Outflow=30.84 cfs 2.640 af

Link AP-1: AP-1 Inflow=38.00 cfs 3.467 af
Primary=38.00 cfs 3.467 af

Link AP-2: AP-2 Inflow=7.64 cfs 0.623 af
Primary=7.64 cfs 0.623 af

Total Runoff Area = 15.230 ac Runoff Volume = 4.097 af Average Runoff Depth = 3.23"
78.23% Pervious = 11.914 ac 21.77% Impervious = 3.316 ac

Summary for Subcatchment Post-1: Post-1

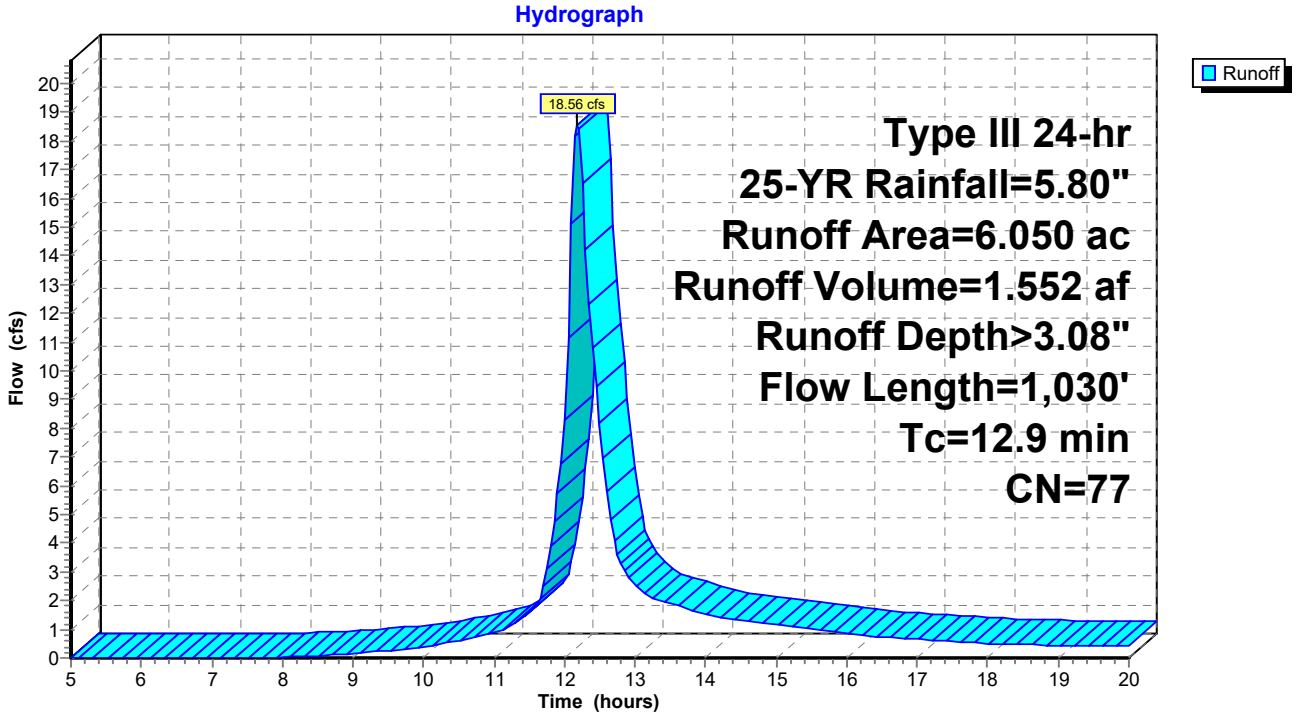
Runoff = 18.56 cfs @ 12.18 hrs, Volume= 1.552 af, Depth> 3.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (ac)	CN	Description
6.050	77	2 acre lots, 12% imp, HSG C
5.324		88.00% Pervious Area
0.726		12.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0200	0.85		**Sheet Flow, Pre-1A** Smooth surfaces n= 0.011 P2= 3.10"
8.4	90	0.0250	0.18		**Sheet Flow, Pre-1B** Grass: Short n= 0.150 P2= 3.10"
3.9	340	0.0840	1.45		**Shallow Concentrated Flow, Pre-3C** Woodland Kv= 5.0 fps
0.4	590	0.0600	23.20	464.04	**Parabolic Channel, Pre-1D** W=10.00' D=3.00' Area=20.0 sf Perim=12.0' n= 0.022 Earth, clean & straight
12.9	1,030	Total			

Subcatchment Post-1: Post-1



Summary for Subcatchment Post-2: Post-2

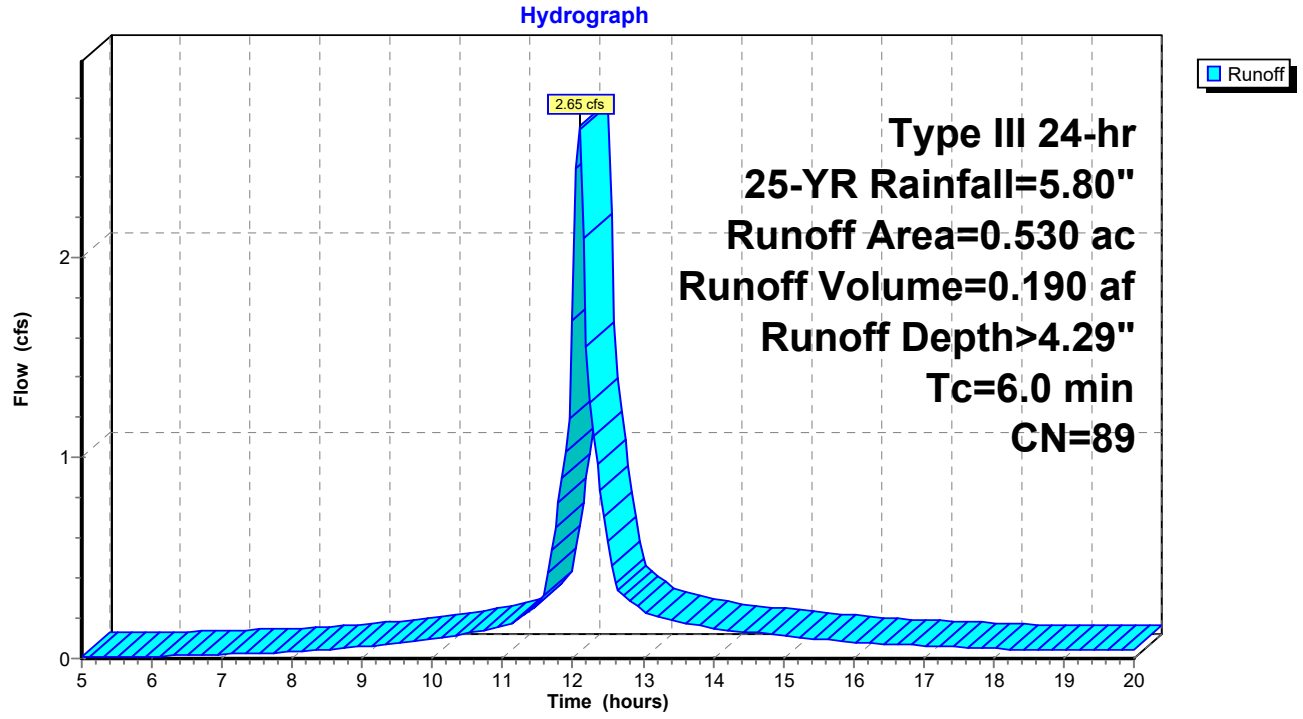
Runoff = 2.65 cfs @ 12.09 hrs, Volume= 0.190 af, Depth> 4.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (ac)	CN	Description
*	0.270	98	Impervious
	0.260	79	50-75% Grass cover, Fair, HSG C
	0.530	89	Weighted Average
	0.260		49.06% Pervious Area
	0.270		50.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Post 2 A**

Subcatchment Post-2: Post-2



Summary for Subcatchment Post-3: Post-3

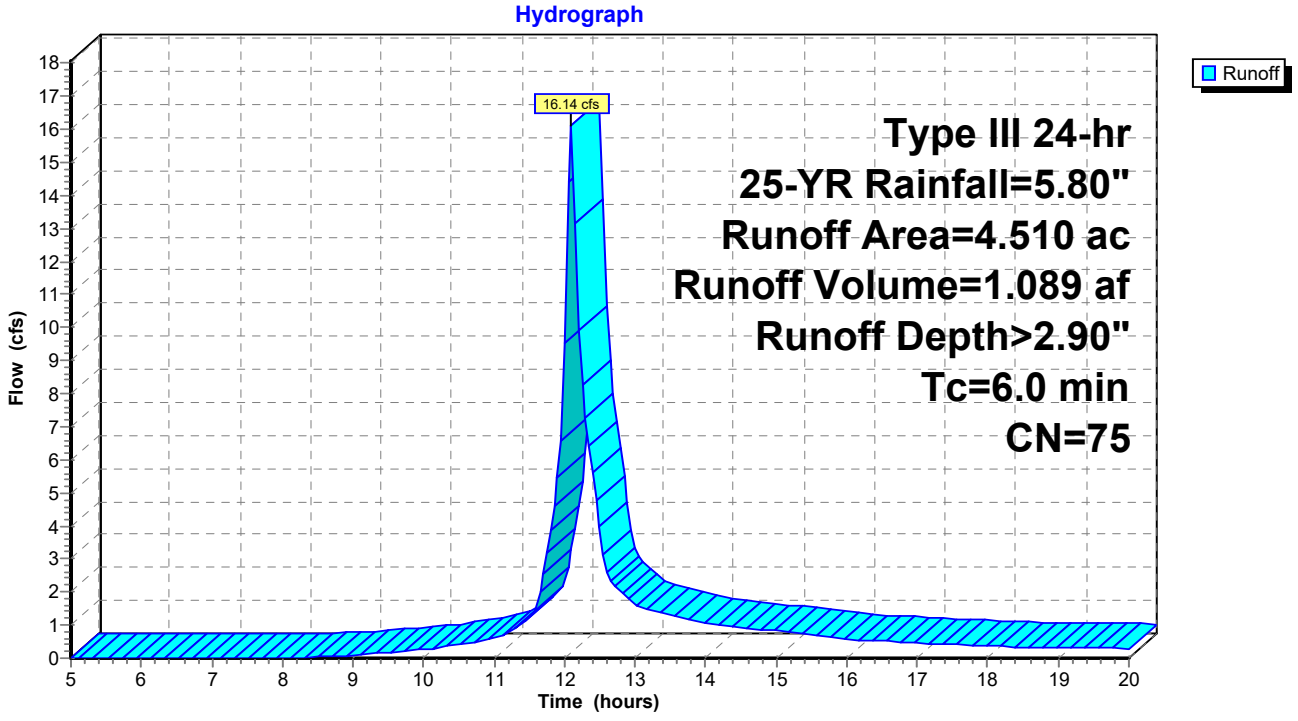
Runoff = 16.14 cfs @ 12.09 hrs, Volume= 1.089 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (ac)	CN	Description
*	0.580	98	Impervious
	1.190	74	>75% Grass cover, Good, HSG C
	2.740	70	Woods, Good, HSG C
	4.510	75	Weighted Average
	3.930		87.14% Pervious Area
	0.580		12.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Post 3A**

Subcatchment Post-3: Post-3



Summary for Subcatchment Post-4: Post-4

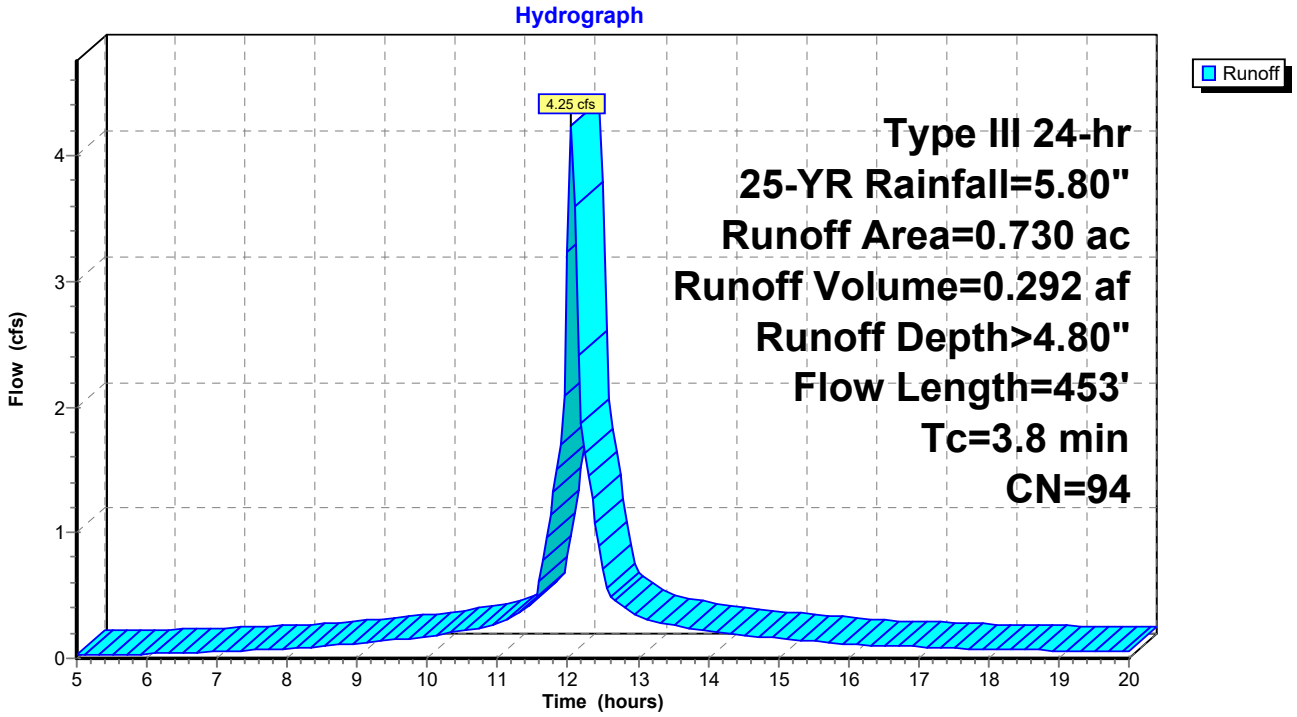
Runoff = 4.25 cfs @ 12.06 hrs, Volume= 0.292 af, Depth> 4.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (ac)	CN	Description
*	0.620	98	Impervious
	0.110	74	>75% Grass cover, Good, HSG C
	0.730	94	Weighted Average
	0.110		15.07% Pervious Area
	0.620		84.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.79		**Sheet Flow, Post-4A** Smooth surfaces n= 0.011 P2= 3.10"
1.3	231	0.0200	2.87		**Shallow Concentrated Flow, Post-4B** Paved Kv= 20.3 fps
0.1	40	0.3300	7.79	15.59	**Channel Flow, Post-4C** Area= 2.0 sf Perim= 4.0' r= 0.50' n= 0.069 Riprap, 6-inch
1.5	82	0.0200	0.90	4.49	**Channel Flow, Post-4D** Area= 5.0 sf Perim= 25.0' r= 0.20' n= 0.080 Earth, long dense weeds
3.8	453	Total			

Subcatchment Post-4: Post-4



Summary for Subcatchment Post-5: Post-5

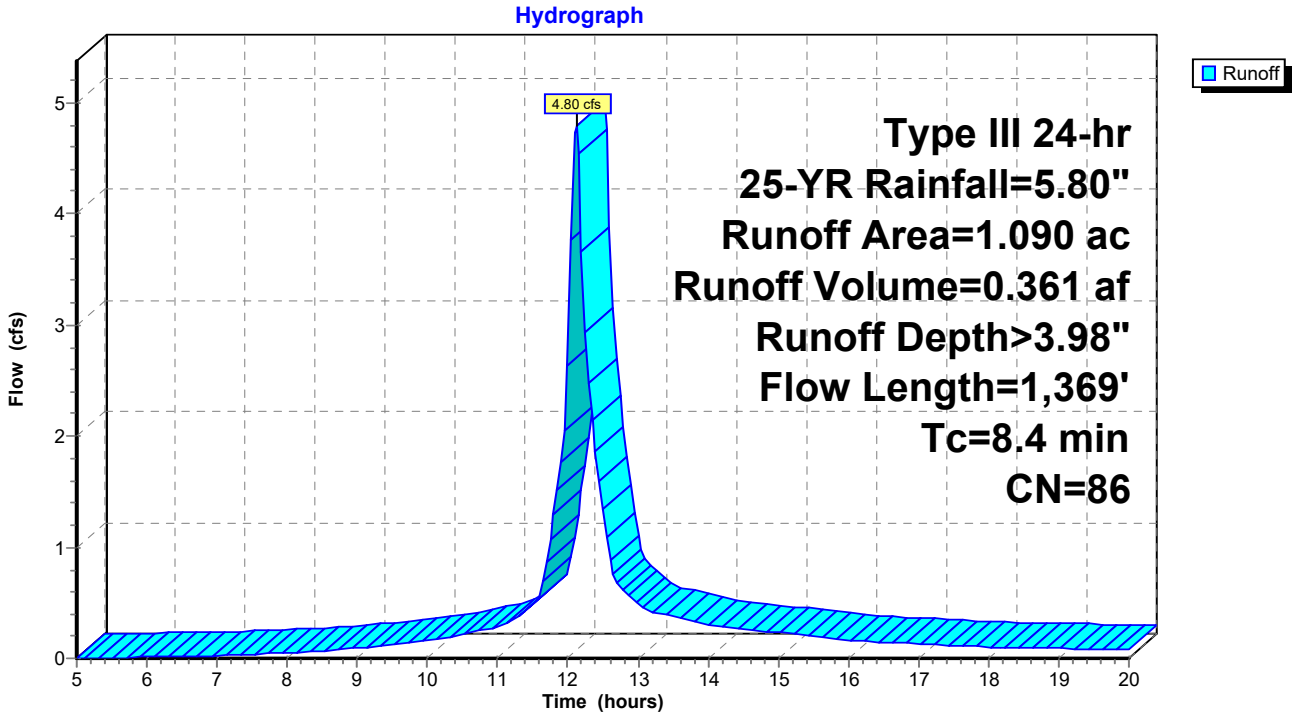
Runoff = 4.80 cfs @ 12.12 hrs, Volume= 0.361 af, Depth> 3.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (ac)	CN	Description
*	0.560	98	Impervious
	0.530	74	>75% Grass cover, Good, HSG C
	1.090	86	Weighted Average
	0.530		48.62% Pervious Area
	0.560		51.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	94	0.0440	0.23		**Sheet Flow, Post-5A** Grass: Short n= 0.150 P2= 3.10"
0.0	8	0.3300	4.02		**Shallow Concentrated Flow, Post-5B** Short Grass Pasture Kv= 7.0 fps
0.0	52	0.0520	17.53	233.72	**Parabolic Channel, Post-5C** W=10.00' D=2.00' Area=13.3 sf Perim=11.0' n= 0.022 Earth, clean & straight
0.7	555	0.0200	12.52	300.41	**Channel Flow, Pre-2D** Area= 24.0 sf Perim= 16.0' r= 1.50' n= 0.022 Earth, clean & straight
0.8	660	0.0200	14.25	427.36	**Parabolic Channel, Post-5D** W=15.00' D=3.00' Area=30.0 sf Perim=16.5' n= 0.022 Earth, clean & straight
8.4	1,369	Total			

Subcatchment Post-5: Post-5



Summary for Subcatchment Post-6: Post-6

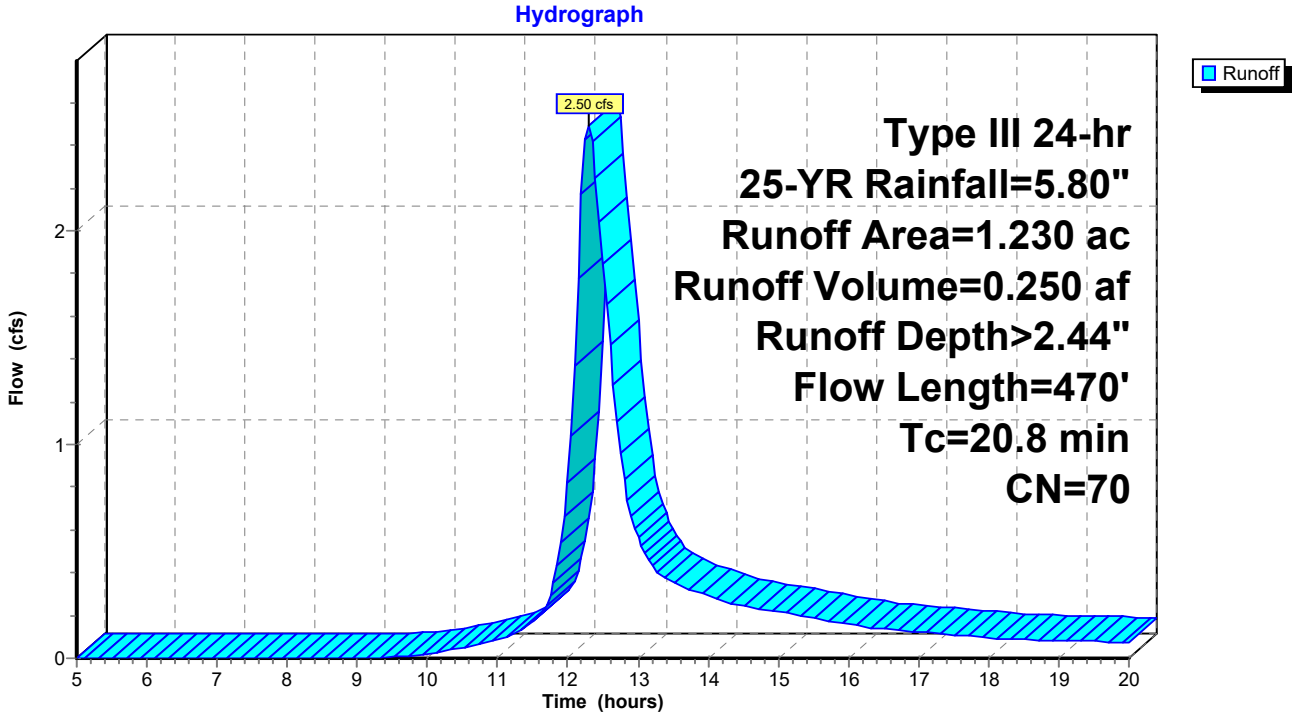
Runoff = 2.50 cfs @ 12.30 hrs, Volume= 0.250 af, Depth> 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (ac)	CN	Description
0.470	71	Meadow, non-grazed, HSG C
0.760	70	Woods, Good, HSG C
1.230	70	Weighted Average
1.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	100	0.0400	0.15		**Sheet Flow, Post-6A** Grass: Dense n= 0.240 P2= 3.10"
9.8	370	0.0080	0.63		**Shallow Concentrated Flow, Post-6B** Short Grass Pasture Kv= 7.0 fps
20.8	470	Total			

Subcatchment Post-6: Post-6



Summary for Subcatchment Post-7: Post-7

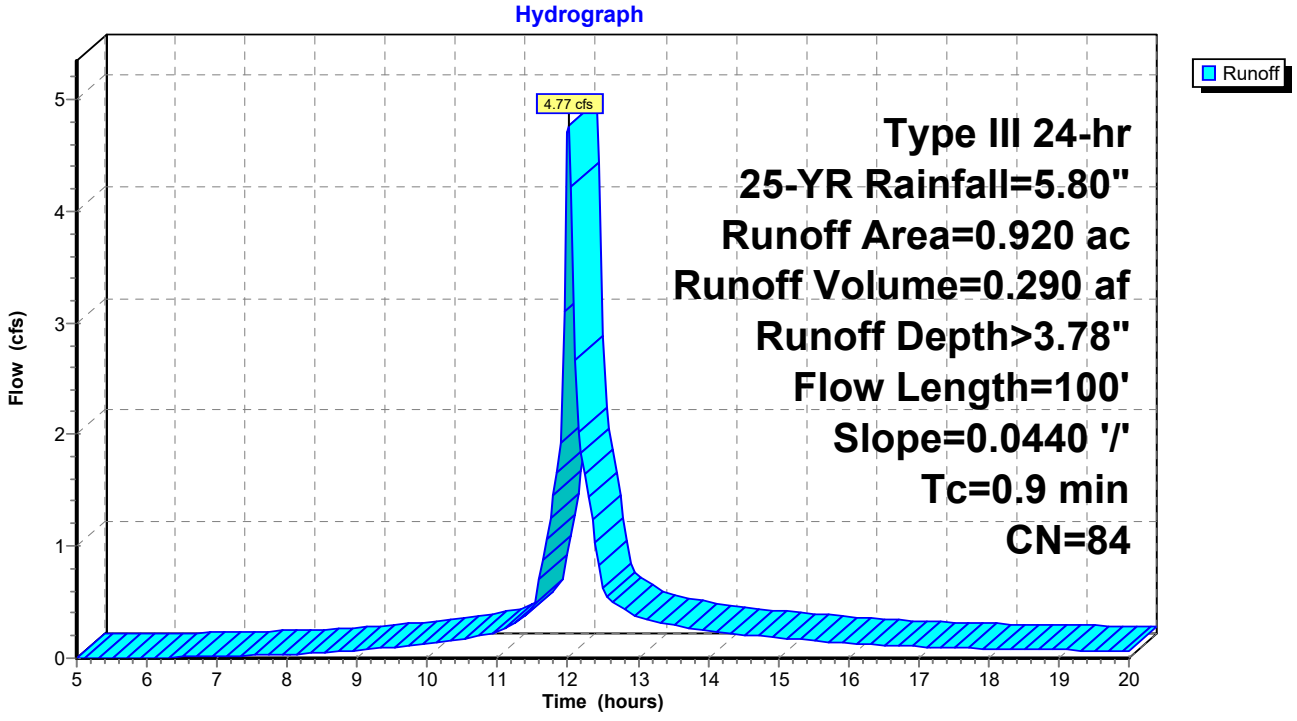
Runoff = 4.77 cfs @ 12.01 hrs, Volume= 0.290 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (ac)	CN	Description
*	0.390	98	Impervious
	0.530	74	>75% Grass cover, Good, HSG C
	0.920	84	Weighted Average
	0.530		57.61% Pervious Area
	0.390		42.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0440	1.86		**Sheet Flow, Post-7A** Smooth surfaces n= 0.011 P2= 3.10"

Subcatchment Post-7: Post-7



Summary for Subcatchment Post-8: Post-8

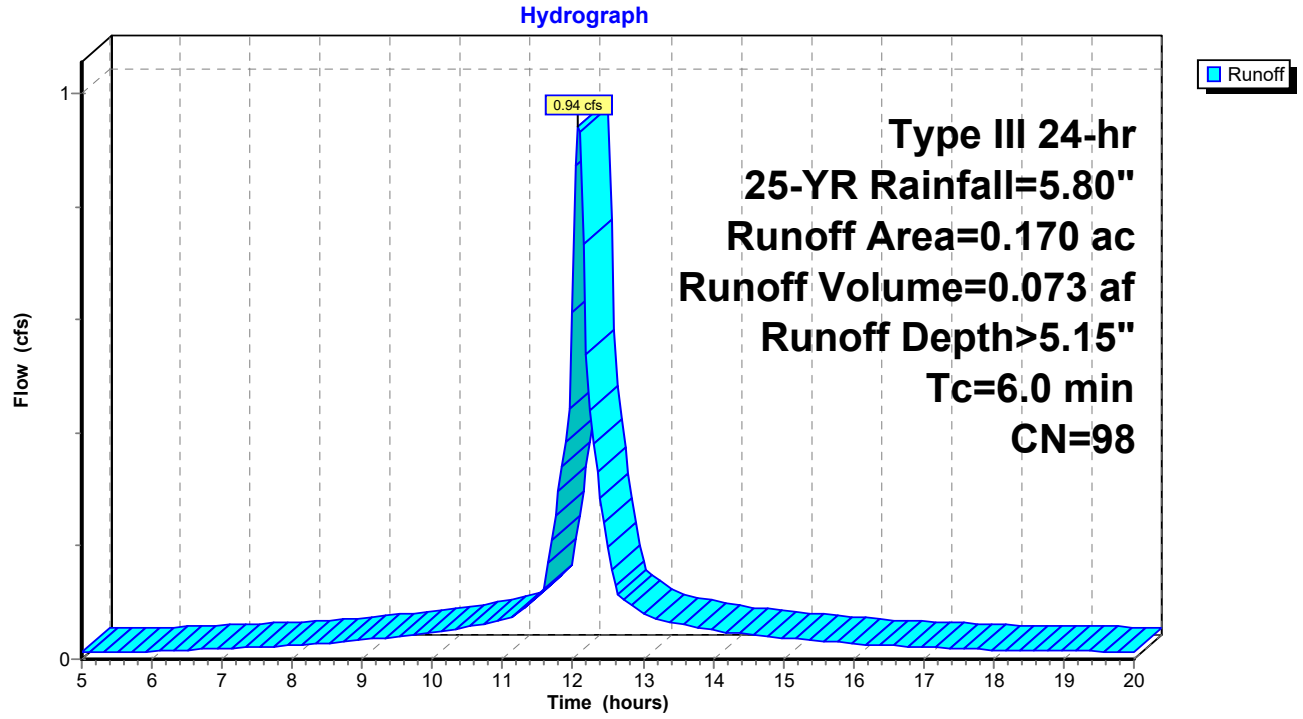
Runoff = 0.94 cfs @ 12.09 hrs, Volume= 0.073 af, Depth> 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (ac)	CN	Description
*	0.170	98	Impervious
	0.170		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Post-8A**

Subcatchment Post-8: Post-8

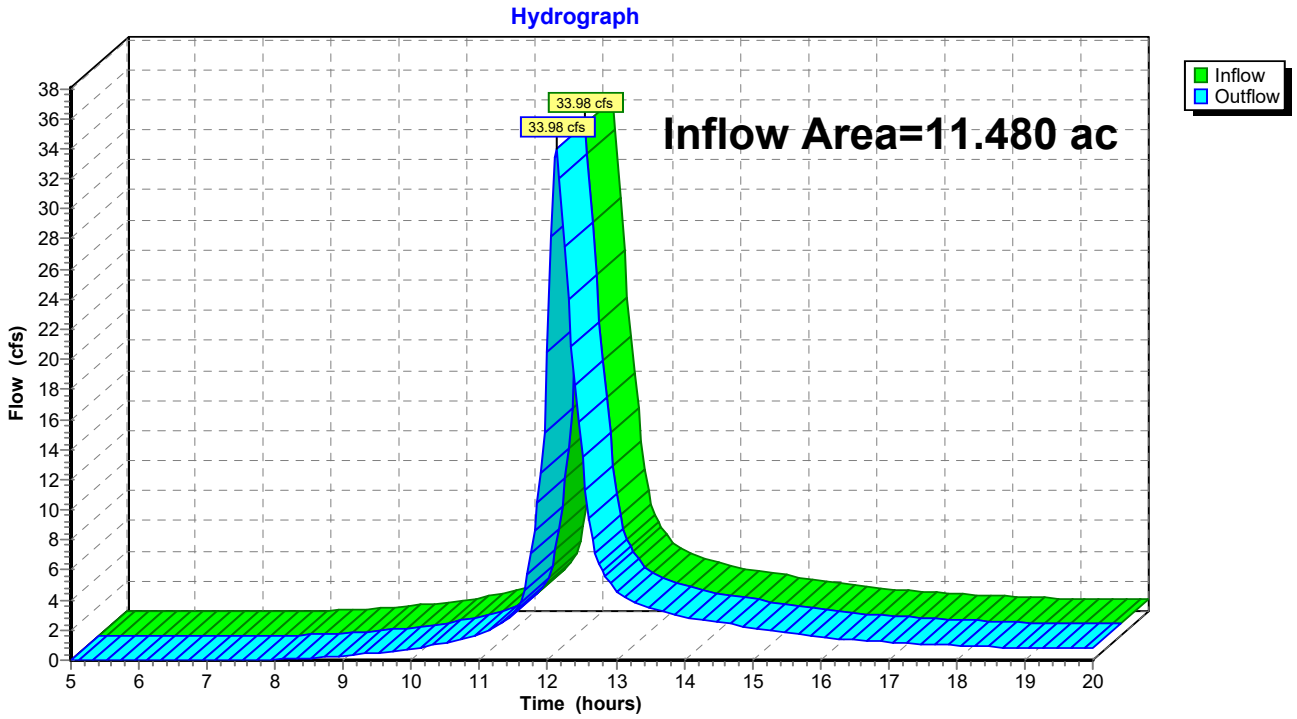


Summary for Reach 1R: Wetland Flow

Inflow Area = 11.480 ac, 14.77% Impervious, Inflow Depth > 3.06" for 25-YR event
Inflow = 33.98 cfs @ 12.12 hrs, Volume= 2.929 af
Outflow = 33.98 cfs @ 12.12 hrs, Volume= 2.929 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: Wetland Flow



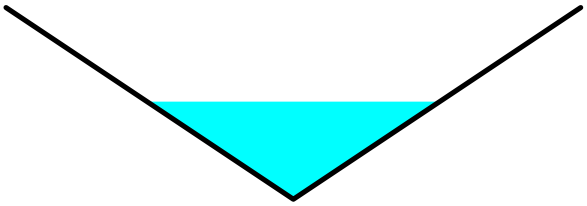
Summary for Reach 2R: Ditch

Inflow Area = 0.530 ac, 50.94% Impervious, Inflow Depth > 4.29" for 25-YR event
Inflow = 2.65 cfs @ 12.09 hrs, Volume= 0.190 af
Outflow = 2.38 cfs @ 12.18 hrs, Volume= 0.189 af, Atten= 10%, Lag= 5.8 min

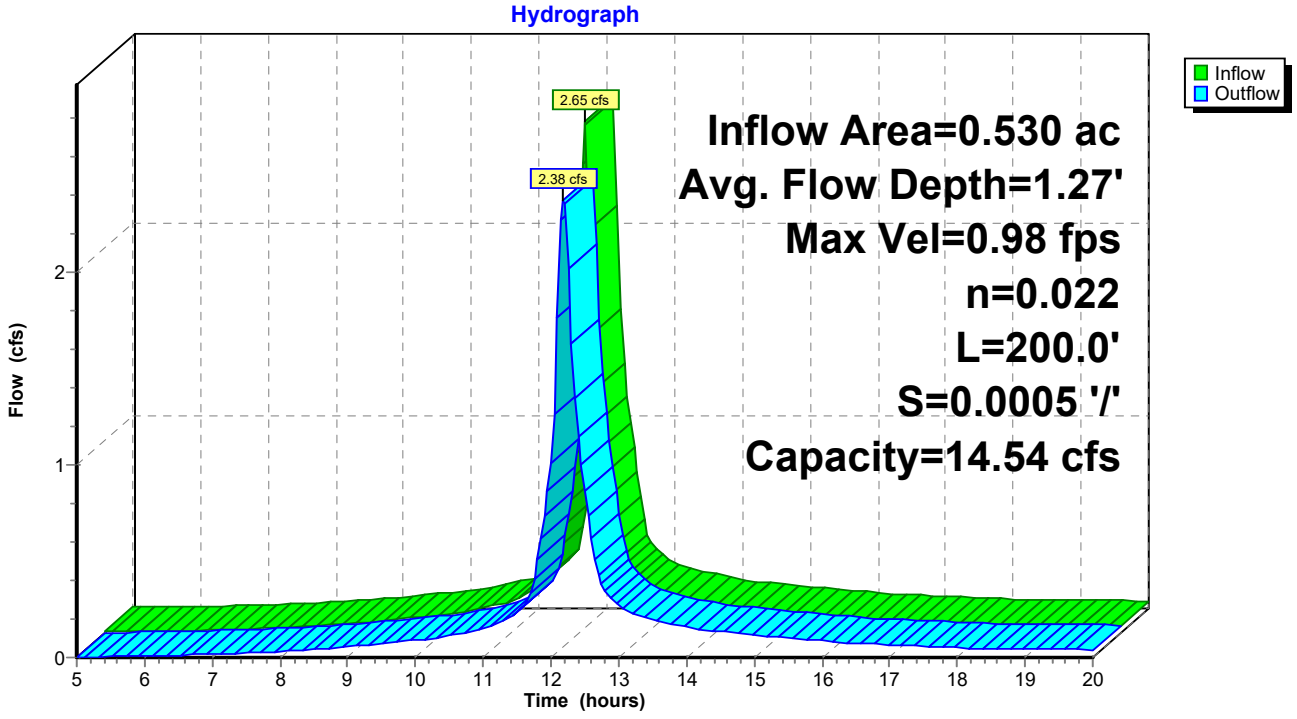
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.98 fps, Min. Travel Time= 3.4 min
Avg. Velocity = 0.43 fps, Avg. Travel Time= 7.8 min

Peak Storage= 486 cf @ 12.13 hrs
Average Depth at Peak Storage= 1.27' , Surface Width= 3.82'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 14.54 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 200.0' Slope= 0.0005 '/'
Inlet Invert= 195.10', Outlet Invert= 195.00'



Reach 2R: Ditch



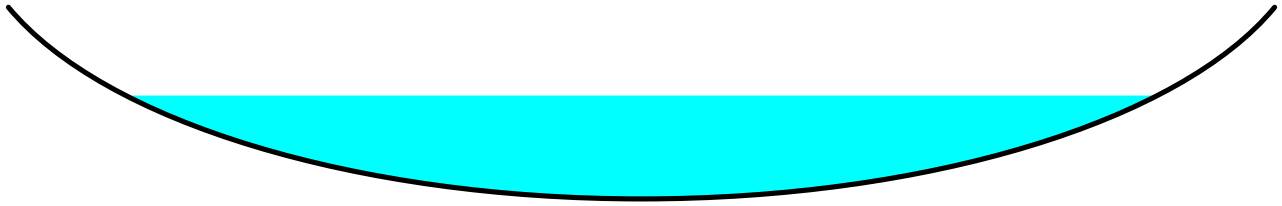
Summary for Reach 3R: Below LLS-1

Inflow Area = 0.920 ac, 42.39% Impervious, Inflow Depth > 3.78" for 25-YR event
Inflow = 4.77 cfs @ 12.01 hrs, Volume= 0.290 af
Outflow = 4.42 cfs @ 12.05 hrs, Volume= 0.289 af, Atten= 7%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.16 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 0.39 fps, Avg. Travel Time= 3.3 min

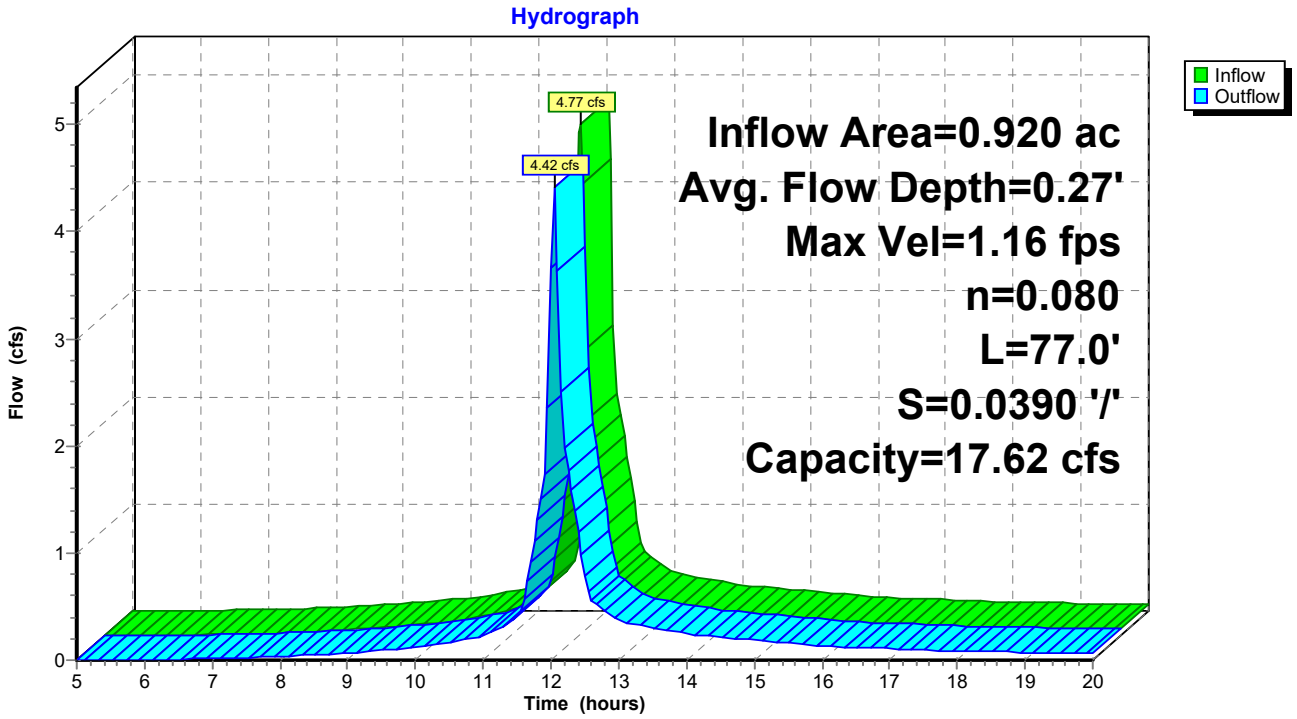
Peak Storage= 305 cf @ 12.03 hrs
Average Depth at Peak Storage= 0.27' , Surface Width= 22.04'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 17.62 cfs

30.00' x 0.50' deep Parabolic Channel, n= 0.080 Earth, long dense weeds
Length= 77.0' Slope= 0.0390 '/'
Inlet Invert= 203.00', Outlet Invert= 200.00'



‡

Reach 3R: Below LLS-1



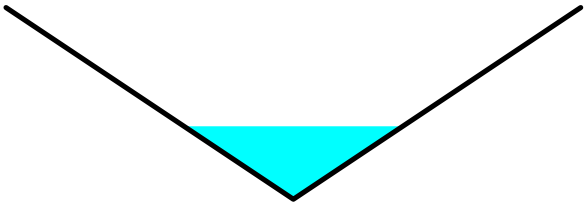
Summary for Reach 4R: Ditch

Inflow Area = 4.510 ac, 12.86% Impervious, Inflow Depth > 2.90" for 25-YR event
Inflow = 16.14 cfs @ 12.09 hrs, Volume= 1.089 af
Outflow = 16.00 cfs @ 12.10 hrs, Volume= 1.089 af, Atten= 1%, Lag= 0.4 min

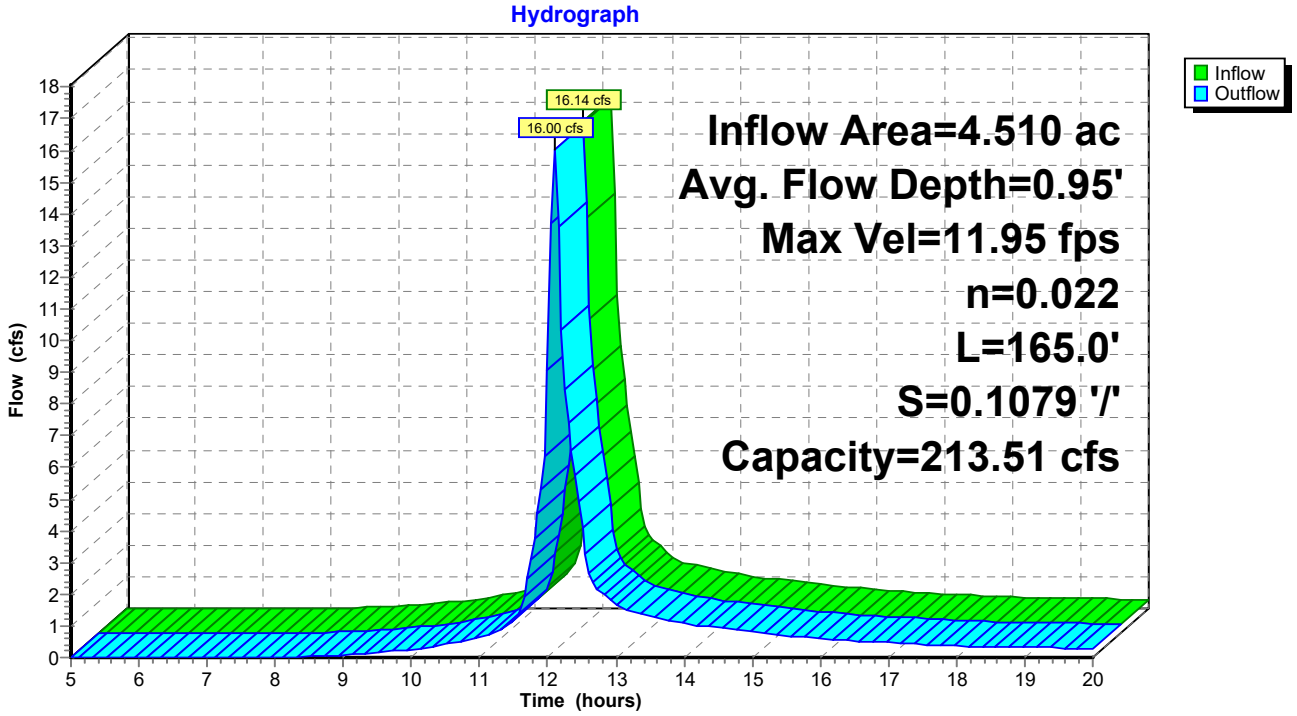
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.95 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 5.27 fps, Avg. Travel Time= 0.5 min

Peak Storage= 223 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.95' , Surface Width= 2.85'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 213.51 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 165.0' Slope= 0.1079 '/'
Inlet Invert= 216.40', Outlet Invert= 198.60'



Reach 4R: Ditch



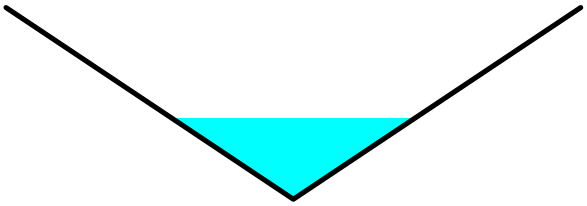
Summary for Reach 5R: Ditch

Inflow Area = 6.050 ac, 12.00% Impervious, Inflow Depth > 3.08" for 25-YR event
Inflow = 18.56 cfs @ 12.18 hrs, Volume= 1.552 af
Outflow = 18.40 cfs @ 12.20 hrs, Volume= 1.551 af, Atten= 1%, Lag= 1.2 min

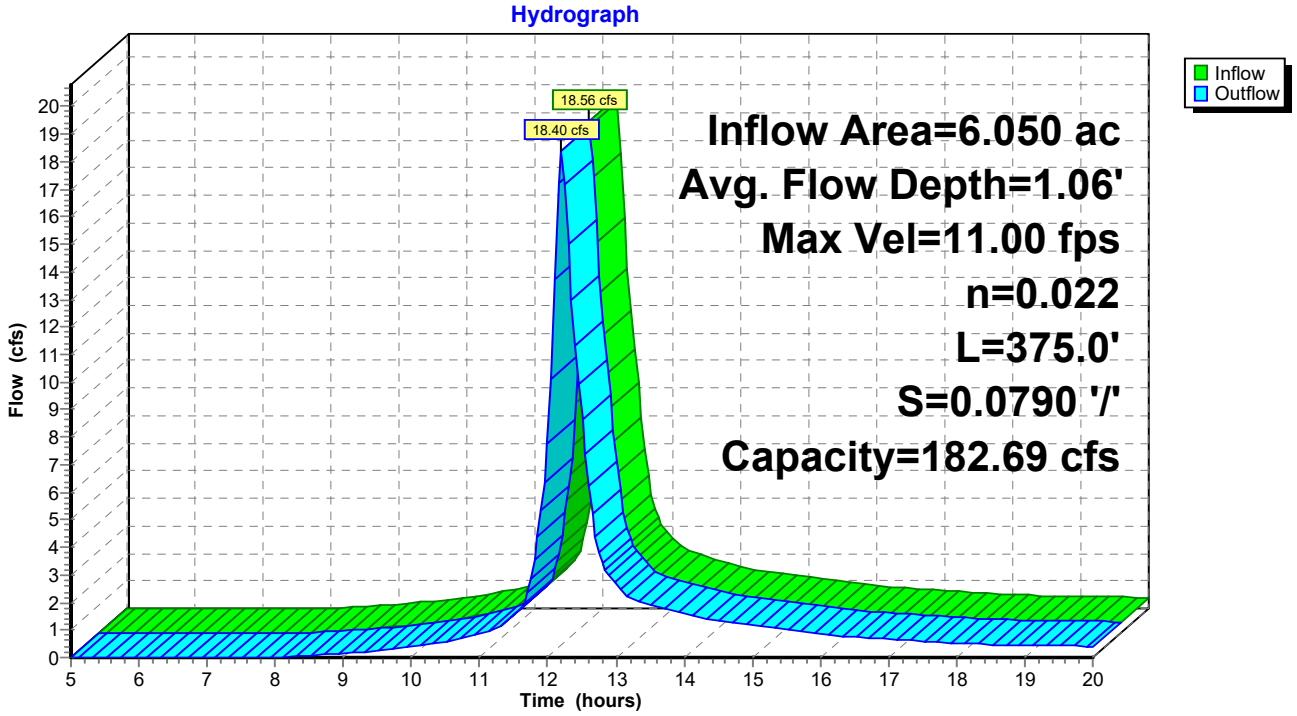
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.00 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 5.05 fps, Avg. Travel Time= 1.2 min

Peak Storage= 633 cf @ 12.19 hrs
Average Depth at Peak Storage= 1.06' , Surface Width= 3.18'
Bank-Full Depth= 2.50' Flow Area= 9.4 sf, Capacity= 182.69 cfs

0.00' x 2.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 1.5 '/' Top Width= 7.50'
Length= 375.0' Slope= 0.0790 '/'
Inlet Invert= 228.22', Outlet Invert= 198.60'



Reach 5R: Ditch



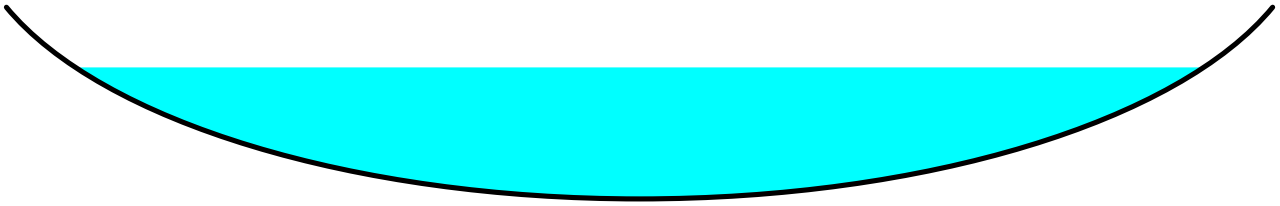
Summary for Reach 6R: Below LLS-2

Inflow Area = 0.730 ac, 84.93% Impervious, Inflow Depth > 4.80" for 25-YR event
Inflow = 4.25 cfs @ 12.06 hrs, Volume= 0.292 af
Outflow = 3.82 cfs @ 12.13 hrs, Volume= 0.291 af, Atten= 10%, Lag= 4.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.69 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 0.25 fps, Avg. Travel Time= 6.6 min

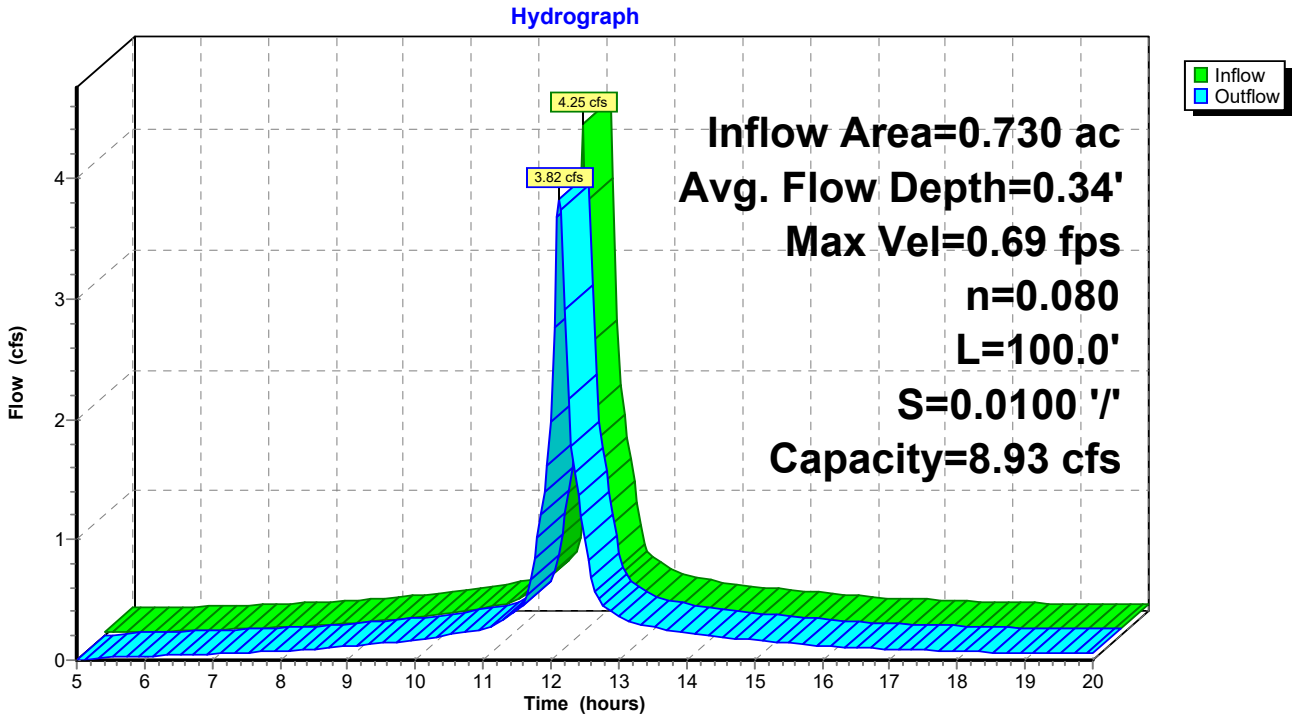
Peak Storage= 568 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.34' , Surface Width= 24.84'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 8.93 cfs

30.00' x 0.50' deep Parabolic Channel, n= 0.080 Earth, long dense weeds
Length= 100.0' Slope= 0.0100 '/'
Inlet Invert= 197.00', Outlet Invert= 196.00'



‡

Reach 6R: Below LLS-2

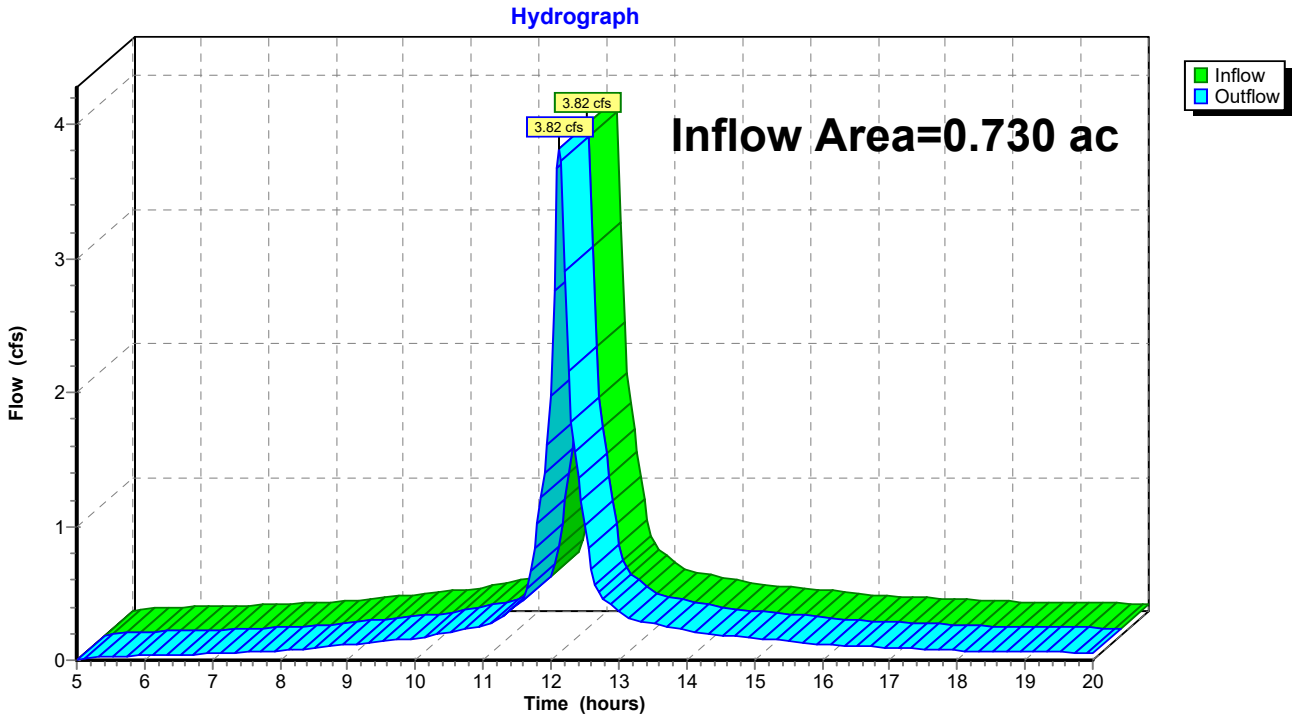


Summary for Reach 7R: Through Wetlands

Inflow Area = 0.730 ac, 84.93% Impervious, Inflow Depth > 4.79" for 25-YR event
Inflow = 3.82 cfs @ 12.13 hrs, Volume= 0.291 af
Outflow = 3.82 cfs @ 12.13 hrs, Volume= 0.291 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 7R: Through Wetlands

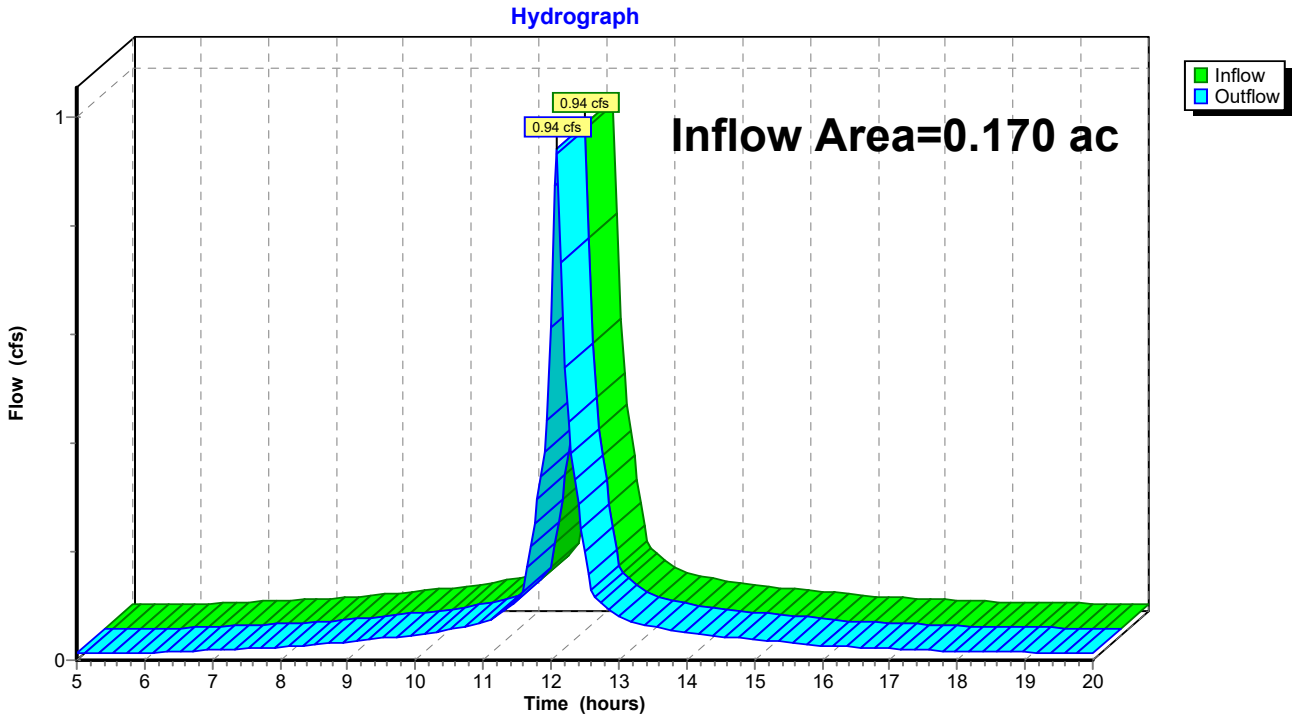


Summary for Reach 8R: Through Wetlands

Inflow Area = 0.170 ac,100.00% Impervious, Inflow Depth > 5.15" for 25-YR event
Inflow = 0.94 cfs @ 12.09 hrs, Volume= 0.073 af
Outflow = 0.94 cfs @ 12.09 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: Through Wetlands



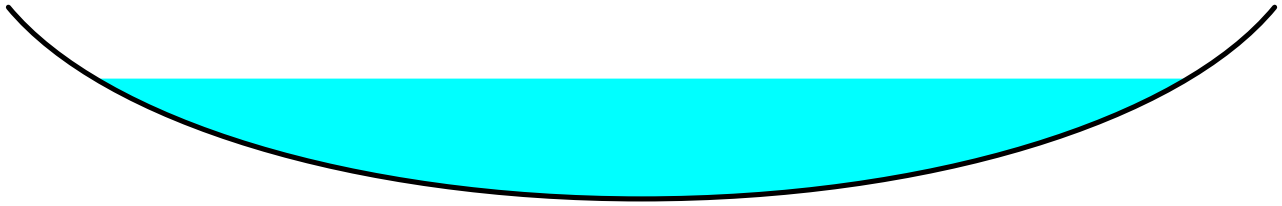
Summary for Reach 9R: Through Wetlands

Inflow Area = 1.230 ac, 0.00% Impervious, Inflow Depth > 2.44" for 25-YR event
Inflow = 2.50 cfs @ 12.30 hrs, Volume= 0.250 af
Outflow = 2.29 cfs @ 12.51 hrs, Volume= 0.247 af, Atten= 8%, Lag= 12.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.46 fps, Min. Travel Time= 7.2 min
Avg. Velocity = 0.20 fps, Avg. Travel Time= 16.2 min

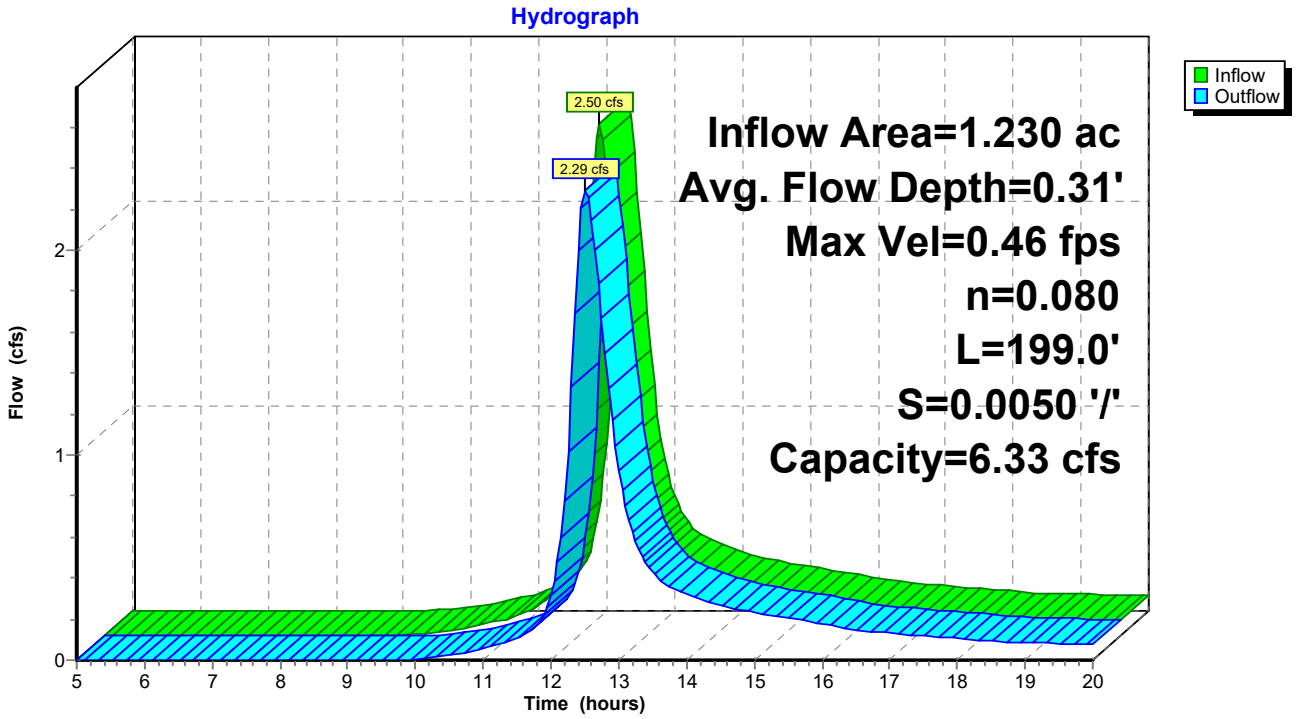
Peak Storage= 988 cf @ 12.39 hrs
Average Depth at Peak Storage= 0.31' , Surface Width= 23.76'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 6.33 cfs

30.00' x 0.50' deep Parabolic Channel, n= 0.080 Earth, long dense weeds
Length= 199.0' Slope= 0.0050 '/'
Inlet Invert= 199.00', Outlet Invert= 198.00'



‡

Reach 9R: Through Wetlands



Summary for Pond 1P: (new Pond)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' TW=0.00' (Free Discharge)

Summary for Pond Structure: Structure

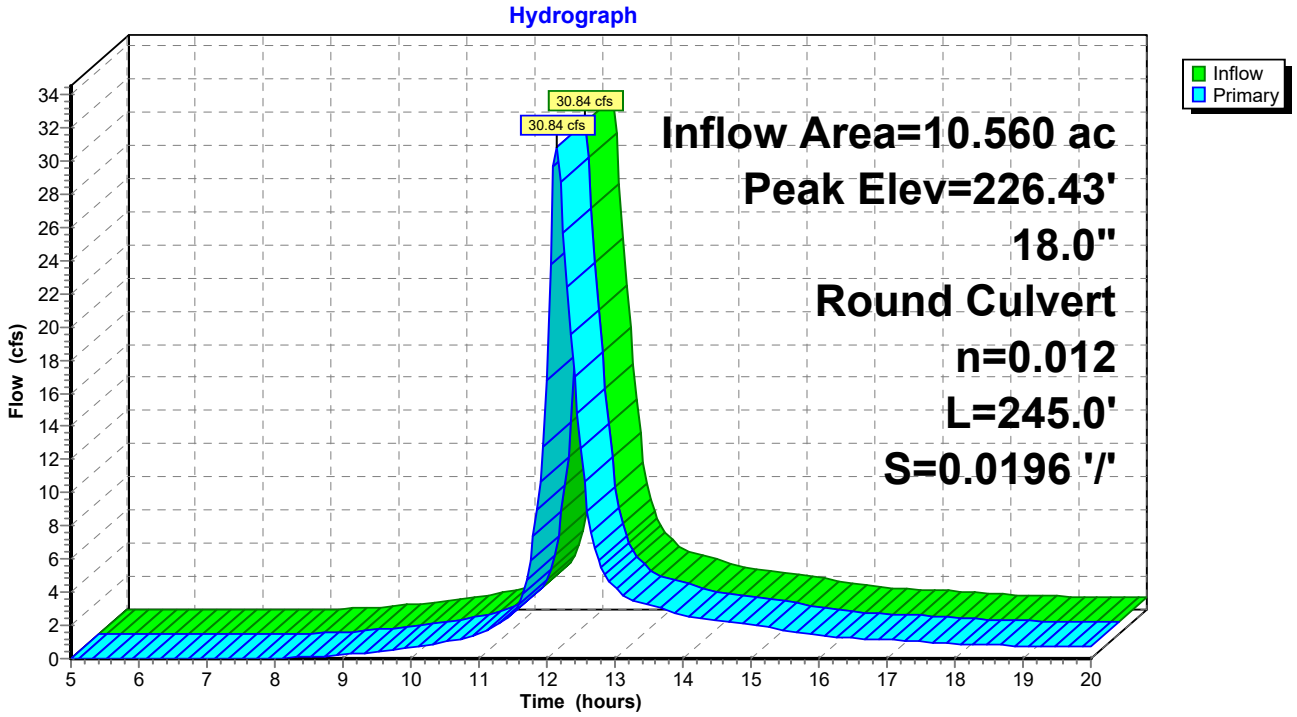
Inflow Area = 10.560 ac, 12.37% Impervious, Inflow Depth > 3.00" for 25-YR event
Inflow = 30.84 cfs @ 12.14 hrs, Volume= 2.640 af
Outflow = 30.84 cfs @ 12.14 hrs, Volume= 2.640 af, Atten= 0%, Lag= 0.0 min
Primary = 30.84 cfs @ 12.14 hrs, Volume= 2.640 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 226.43' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	202.70'	**18.0" Round Culvert** L= 245.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 202.70' / 197.90' S= 0.0196 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=30.63 cfs @ 12.14 hrs HW=226.07' (Free Discharge)
1=Culvert (Barrel Controls 30.63 cfs @ 17.33 fps)

Pond Structure: Structure

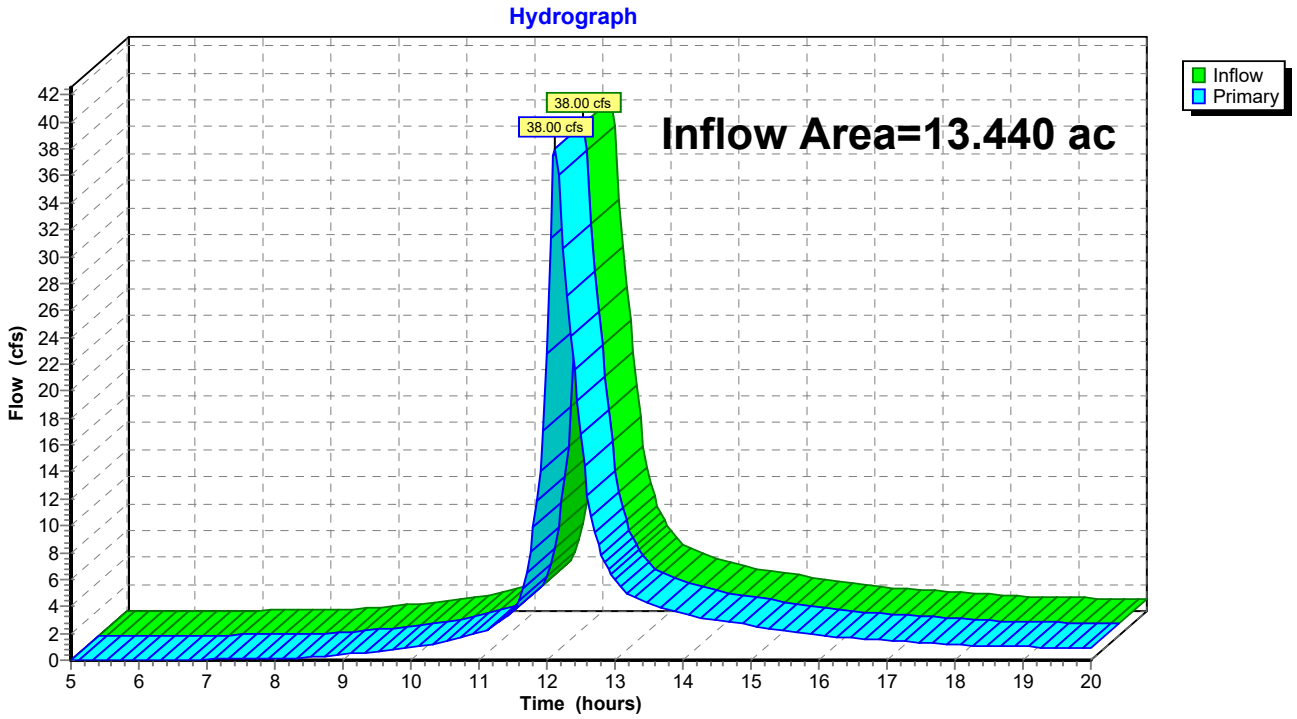


Summary for Link AP-1: AP-1

Inflow Area = 13.440 ac, 17.23% Impervious, Inflow Depth > 3.10" for 25-YR event
Inflow = 38.00 cfs @ 12.13 hrs, Volume= 3.467 af
Primary = 38.00 cfs @ 12.13 hrs, Volume= 3.467 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

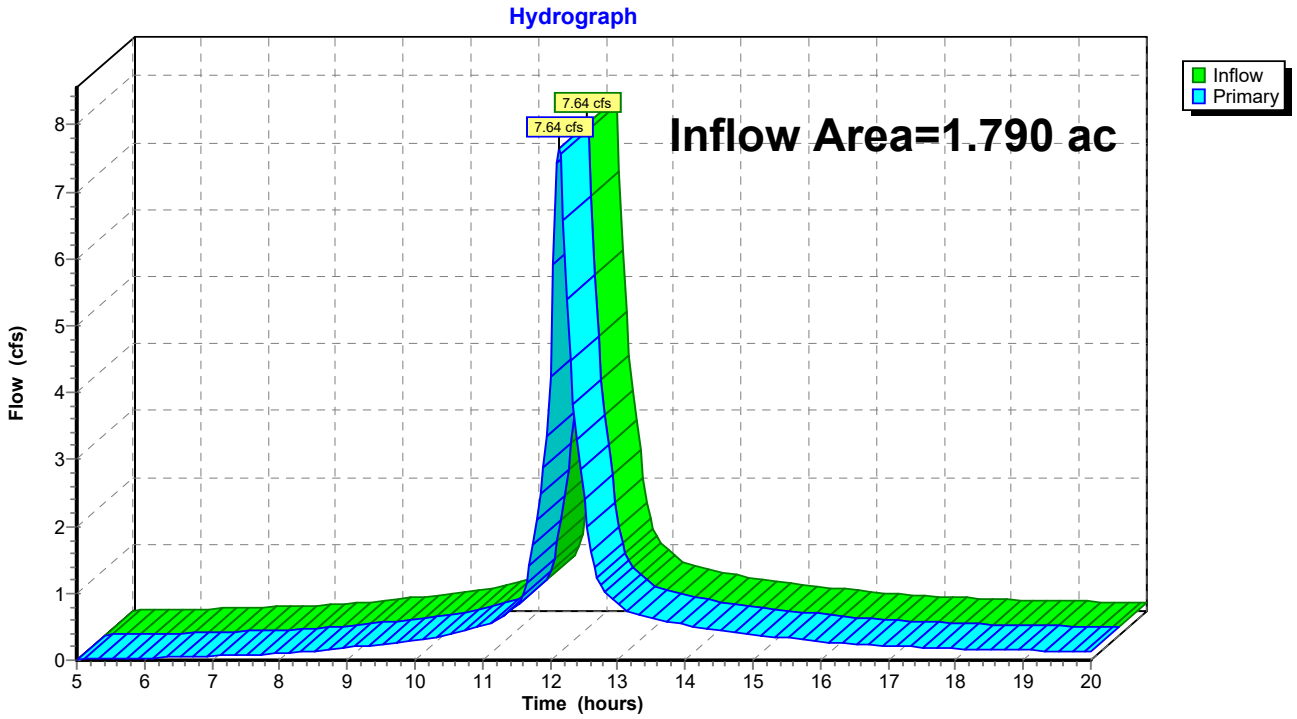


Summary for Link AP-2: AP-2

Inflow Area = 1.790 ac, 55.87% Impervious, Inflow Depth > 4.18" for 25-YR event
Inflow = 7.64 cfs @ 12.13 hrs, Volume= 0.623 af
Primary = 7.64 cfs @ 12.13 hrs, Volume= 0.623 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine

March 5, 2024

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,990 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 20, Sep 5, 2023

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cu	Cut and fill land	5.6	14.7%
HsC	Lyman-Abram complex, 8 to 15 percent slopes, very rocky	2.2	5.9%
PbB	Paxton fine sandy loam, 3 to 8 percent slopes	1.3	3.4%
PfB	Paxton very stony fine sandy loam, 3 to 8 percent slopes	17.4	45.7%
PfC	Paxton very stony fine sandy loam, 8 to 15 percent slopes	0.9	2.5%
RgA	Ridgebury very stony fine sandy loam, 0 to 3 percent slopes	3.0	7.7%
Sn	Scantic silt loam, 0 to 3 percent slopes	0.9	2.4%
Sp	Sebago mucky peat	4.0	10.6%
Sz	Swanton fine sandy loam	2.2	5.7%
WrB	Woodbridge fine sandy loam, 0 to 8 percent slopes	0.6	1.5%
Totals for Area of Interest		**38.2**	**100.0%**

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the

scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Cumberland County and Part of Oxford County, Maine

Cu—Cut and fill land

Map Unit Composition

Cut and fill land: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill Land

Typical profile

H1 - 0 to 65 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr)
Depth to water table: About 24 to 42 inches
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

HsC—Lyman-Abram complex, 8 to 15 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 2x1d1
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lyman and similar soils: 45 percent
Abram and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144BY701ME - Shallow Till
Hydric soil rating: No

Description of Abram

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy subglacial till

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material
E - 2 to 3 inches: loam
Bs - 3 to 6 inches: loam
R - 6 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 3 to 13 inches to lithic bedrock
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D

Ecological site: F144BY701ME - Shallow Till
Hydric soil rating: No

PbB—Paxton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bljf
Elevation: 0 to 930 feet
Mean annual precipitation: 48 to 50 inches
Mean annual air temperature: 45 to 46 degrees F
Frost-free period: 145 to 155 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 87 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 40 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 30 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

PfB—Paxton very stony fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bljj
Elevation: 20 to 770 feet
Mean annual precipitation: 49 to 50 inches
Mean annual air temperature: 45 degrees F
Frost-free period: 145 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material
H1 - 2 to 8 inches: fine sandy loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 18 to 40 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 30 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

PfC—Paxton very stony fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: bljk
Elevation: 80 to 1,050 feet
Mean annual precipitation: 49 to 49 inches
Mean annual air temperature: 45 to 46 degrees F
Frost-free period: 145 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton and similar soils: 86 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlinoid ridges
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material
H1 - 2 to 8 inches: fine sandy loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 18 to 40 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 30 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

RgA—Ridgebury very stony fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: bljt
Elevation: 10 to 2,500 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury

Setting

Landform: Till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
H1 - 2 to 8 inches: fine sandy loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 10 to 20 inches to densic material
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C/D
Ecological site: F144BY305ME - Wet Loamy Flat
Hydric soil rating: Yes

Sn—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2slv3
Elevation: 10 to 900 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Scantic and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting

Landform: River valleys, marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glaciomarine deposits

Typical profile

Ap - 0 to 9 inches: silt loam
Bg1 - 9 to 16 inches: silty clay loam
Bg2 - 16 to 29 inches: silty clay
Cg - 29 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: F144BY304ME - Wet Clay Flat
Hydric soil rating: Yes

Sp—Sebago mucky peat

Map Unit Setting

National map unit symbol: blk0
Elevation: 10 to 2,100 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Sebago and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sebago

Setting

Landform: Bogs
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Organic material

Typical profile

Oe - 0 to 36 inches: mucky peat
Oi - 36 to 65 inches: mucky peat

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 6.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Very high (about 18.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Ecological site: F144BY230ME - Acidic Peat Wetland Complex
Hydric soil rating: Yes

Sz—Swanton fine sandy loam

Map Unit Setting

National map unit symbol: blk4
Elevation: 10 to 900 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 39 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Swanton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swanton

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 32 inches: fine sandy loam
H3 - 32 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

WrB—Woodbridge fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: blkf
Elevation: 0 to 1,180 feet
Mean annual precipitation: 48 to 50 inches
Mean annual air temperature: 45 to 46 degrees F
Frost-free period: 145 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge and similar soils: 86 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge

Setting

Landform: Till plains
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

H1 - 0 to 3 inches: fine sandy loam
H2 - 3 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 16 to 36 inches to densic material
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

TRILLIUM
ENGINEERING GROUP

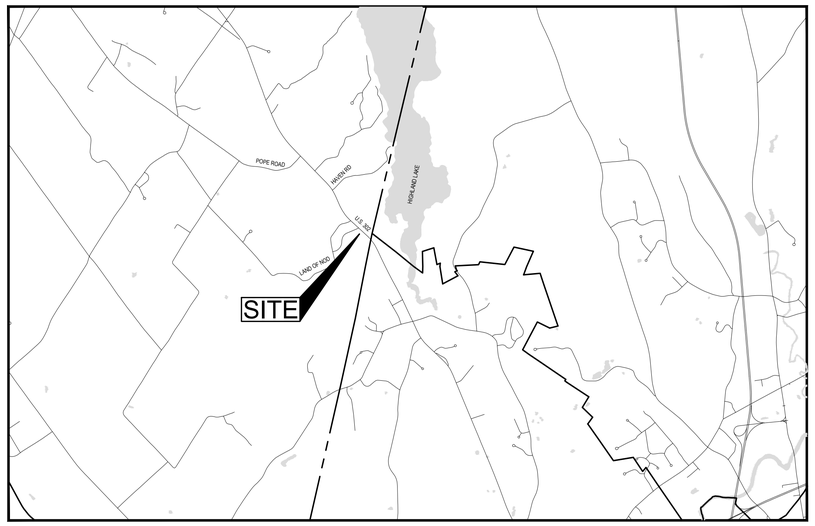
189 Main Street, Suite 200
Yarmouth, ME 04096

Q. Site Plans

4 ROOSEVELT TRAIL SITE REDEVELOPMENT

4 ROOSEVELT TRAIL, WINDHAM, MAINE

JULY, 2025



LOCUS MAP

NOT TO SCALE

DRAWING LIST

OWNER:

YORK ENTERPRISE PARK, LLC
15 RU-BEE RIDGE ROAD
WINDHAM, ME 04062

CONSULTANTS:

TRILLIUM ENGINEERING GROUP
189 MAIN STREET
YARMOUTH, ME 04096

WHIPPLE CALLENDER ARCHITECTS
136 PLEASANT AVE
PORTLAND, ME 04103

TRILLIUM
ENGINEERING GROUP
189 MAIN STREET SUITE 200
YARMOUTH, ME 04096

CLIENT:
YORK ENTERPRISE PARK, LLC.

15 RU-BEE RIDGE ROAD
WINDHAM, ME 04062

STATE OF MAINE
PRELIMINARY
NOT FOR CONSTRUCTION
LICENSED PROFESSIONAL ENGINEER
7/15/2025

4 ROOSEVELT TRAIL
SITE REDEVELOPMENT

4 ROOSEVELT TRAIL
WINDHAM, ME 04062

ISSUED

NUMBER	DESCRIPTION	BY	DATE
A	SKETCH PLAN REVIEW	ED	4/7/2025
B	ADDED OVERALL PLANS	ED	4/23/2025
C	RESPONSE TO TOWN COMMENTS	ED	6/23/2025
D	RESPONSE TO COMMENTS	ED	7/15/2025

SHEET TITLE:

COVER SHEET

DESIGNED BY:	BVD
DRAWN BY:	BVD
DATE:	4/7/2025
PROJECT NUMBER:	23-151

C001

Z:\01 - PROJECTS\2022\23-151 YORK STORAGE\03 - DWG\23-151 C100.DWG - 7/15/2025 - BRAD VAN DAMM