TOWN OF NEWBURGH
PLANNING BOARD
TECHNICAL REVIEW COMMENTS

PROJECT NAME:	**CHADWICK WOODS**
PROJECT NO.:	**2019-02**
PROJECT LOCATION:	**SECTION 14, BLOCK 1, LOT 51**
REVIEW DATE:	**14 FEBRUARY 2022**
MEETING DATE:	**17 FEBRUARY 2022**
PROJECT REPRESENTATIVE:	**TALCOTT ENGINEERING/CHARLIE BROWN**

1. Applicant is requested to confirm that a 4' water main will be permitted by Town of Newburgh Water Department and Orange County Health Department Standards to serve the residential subdivision. Status of the County's review of the water main should be received. Copies of all information submitted to the County should be provided for the Planning Boards record file.

2. Status of DOT's review of the access road and utility connections should be received.

3. Plans should be checked for compliance with Orange County Filing Standards. Lettering, notes, leaders etc. cross. The Orange County Real Property Department will reject plans which have illegible writing.

4. Construction of the private roadway requires compliance with Town of Newburgh Stormwater Management Regulations including the provision for both peak flow reduction and water quality treatment.

5. The Drainage Analysis identifies that rain gardens and roof disconnect will be utilized for Stormwater Management on the site. Design of the rain gardens should be incorporated into the plans. Mechanism for long term maintenance of the rain gardens as well as deed restrictions requiring the rain gardens remain on the site should be provided. Deferral of the rain gardens until Building Permit per the note on Sheet #5 is not acceptable.

6. The undersigned has provided the applicants representative with the details for water main tapping in the Town of Newburgh in response to their reply comment #6.

7. A review of the hydraulic model in the SWPPP identifies that sheet flow of 1,400 feet has been utilized in the calculations. Sheet flow is limited to 100 feet per NYSDEC Design Standards. SWPPP must be revised to reflect the maximum 100 foot sheet flow. The use of the 1,400 sheet flow identifies a time on concentration value of 120 minutes, which appears excessive on the site.

8. We would request written approval by the Water Department for use of the HDPE water service lines which are not consistent with the Town of Newburgh Water System notes. This office believes

conversations have been held with the Water Department regarding this.

9. Rain garden detail should be modified in compliance with NYSDEC Standards. Soil media should be specifically specified. Location of discharge for all rain gardens should be identified. Rain gardens should be coordinated with subsurface sanitary sewer disposal systems on the site.

10. A Public Hearing is required to be held.

Respectfully submitted,

MHE Engineering, D.P.C.

Patrick J. Hines
Principal
PJH/kbw

Talcott Engineering
DESIGN, PLLC
1 GARDNERTOWN ROAD ~ NEWBURGH, NY 12550
(845) 569-8400* ~ (fax) (845) 569-4583

February 10, 2022

Mr. John Ewasutyn, Chairman
Town of Newburgh
Planning Board
308 Gardnertown Road
Newburgh, NY 12550

Re: Resubmission Letter
Chadwick Woods Subdivision
Town Project No. 2019-02
NYS Route 300
SBL: 14-1-51
Job No. 17100-MMR

Dear John,

The following is my response to comments from Pat Hines, Orange County Department of Planning, and the Planning Board from the May 20, 2021, Planning Board meeting;

Pat Hines Comments;

1) Plans have been submitted to the NYSDOT.
2) The 1 ¼" water service line has been changed to 1 ½". HDPE Pipe is now shown from curb stops to the house.
3) Water service notes have been updated.
4) Reference has been removed.
5) Pipe restraints are now on plans.
6) Water department has yet to supply requested tapping details.
7) Plans have been submitted to O.C. Health Department for the watermain extension.
8) Building envelope is now shown for Lot #5.
9) The SWPPP has been completed.

Orange County Department of Planning;

1) We had the wetlands flagged and surveyed and added to plans.
2) We have limited disturbance and therefor tree removal.
3) We are proposing rain gardens for proposed house roofs.

Attached please find 12 sets of plans, I have delivered one set to Pat Hines with the SWPPP, e-mailed one set to Dominic Cordisco, and e-mailed one set to Ken Wersted. In addition, attached please find one copy of the SWPPP for you.

Respectfully yours,

Charles T. Brown, P.E. – President
Talcott Engineering

Pc; Mike Maher, Developer
Pat Hines w/plans
Dominic Cordisco, Esq. w/plans via e-mail
Ken Wersted w/plans via e-mail

STORMWATER POLLUTION PREVENTION PLAN

For the

5 Lot Residential Subdivision
"Chadwick Woods"
S/B/L: 14-1-51
NYS Route 300
Town of Newburgh, NY
Orange County

Prepared for:

Mike Maher
Hudson Asset Homes
50 Cocoa Lane
Newburgh, NY 12550

Prepared by:

Talcott Engineering Design, PLLC
1 Gardnertown Road
Newburgh, New York 12550
Phone: (845) 569-8400
Fax: (845) 569-4583

Project #17100-MMR
January 6, 2022

Table of Contents

Title

Erosion and Sedimentation Control

SECTION I - EROSION AND SEDIMENTATION CONTROL (INCLUDING SWPPP)

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes
1. Installation of temporary and permanent erosion and sedimentation control systems.
2. Installation of temporary and permanent slope protection systems.
3. Storm Water Pollution Prevention Plan. (SWPPP)

B. Related Material
1. Construction Drawings

1.2 ENVIRONMENTAL REQUIREMENTS

A. Protect adjacent properties, any identified endangered or threatened species or critical habitat, any identified cultural or historic resources, and receiving water resources from erosion and sediment damage until final stabilization.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Seed, sod, and ground covers for the establishment of vegetation in accordance with erosion and sedimentation control notes.

B. Silt fencing for sedimentation control as specified on the Construction Drawings.

C. Temporary mulches such as loose straw, wood cellulose, or agricultural silage.

D. Rip-rap if specified in construction drawings.

PART 3 – EXECUTION

3.1 PREPARATION

A. Review the drawings and Storm Water Pollution Prevention Plan (SWPPP).

B. Revise SWPPP, if necessary, to address potential pollution from site identified after issuance of the SWPPP.

C. Conduct storm water pre-construction meeting with Owner/Operator, all ground-disturbing Sub-contractors, Site Engineer, Engineer of Record, and state or local agency personnel in accordance with requirements of special conditions.

3.2 EROSION AND SEDIMENTATION CONTROL AND SLOPE PROTECTION IMPLEMENTATION

A. Place erosion control systems in accordance with the drawings and Storm Water Pollution Prevention Plan, or as may be dictated by site conditions, in order to maintain the intent of the specifications and permits.

B. Deficiencies or changes on the drawings or Storm Water Pollution Prevention Plan shall be corrected or implemented as site conditions change. Changes during construction shall be noted in the Storm Water Pollution Prevention Plan and posted on the drawings (Site Map).

C. Owner/Operator has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation borrow and embankment operations and to direct Contractor to provide immediate permanent or temporary pollution control measures.

D. Maintain temporary erosion and sedimentation control systems as dictated by site conditions, indicated in the construction documents, or as directed by governing authorities or Owner to control sediment until final stabilization. Contractor shall respond to maintenance or additional work ordered by Owner or governing authorities immediately, but in no case, within not more than 7 days, if required, at no additional cost to the Owner.

E. Owner/Operator shall incorporate permanent erosion control features, paving, permanent slope stabilization and vegetation into project at earliest practical time to minimize need for temporary controls.

F. Permanently seed and mulch cut slopes as excavation proceeds to extent considered desirable and practical.

G. Unless required within a shorter timeframe by the applicable General Permit for Storm Water Discharges Associated with Construction Activity, slopes that erode easily or that will not be graded for a period of 14 days or more shall be temporarily stabilized, as work progresses, with vegetation or another acceptable means unless otherwise specified in the Contract Documents. In the event it is not practical to seed areas, slopes must be stabilized with mulch and tackifier, bonded fiber matrix, netting, blankets or other means to reduce the erosive potential of the area.

END OF SECTION

APPENDIX A

NOTICE OF INTENT

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.32

(Submission #: HP4-HG0X-VH1QC, version 1)

Details

Originally Started By	CHARLES BROWN
Submission ID	HP4-HG0X-VH1QC
Submission Reason	New
Status	Draft

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)
HUDSON ASSET HOMES,LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
MAHER

Owner/Operator Contact Person First Name
MIKE

Owner/Operator Mailing Address
4171 ALBANY POST ROAD

City
HYDE PARK

State
NY

Zip
12538

Phone
8455273110

Email
MIKCHIEF99@AOL.COM

Federal Tax ID
811742802

Project Location

Project/Site Name
CHADWICK WOODS

Street Address (Not P.O. Box)
1742 ROUTE 300

Side of Street
East

City/Town/Village (THAT ISSUES BUILDING PERMIT)
NEWBURGH

State
NY

Zip
12550

DEC Region
3

County
ORANGE

Name of Nearest Cross Street
CHAPEL ROAD

Distance to Nearest Cross Street (Feet)
700

Project In Relation to Cross Street
South

Tax Map Numbers Section-Block-Parcel
14-1-51

Tax Map Numbers
NONE PROVIDED

1. Coordinates

Provide the Geographic Coordinates for the project site. The two methods are:
- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

Navigate to your location and click on the map to get the X,Y coordinates
41.5557820557969,-74.07436998413085

Project Details

2. What is the nature of this project?
New Construction

3. Select the predominant land use for both pre and post development conditions.

Pre-Development Existing Landuse
Forest

Post-Development Future Land Use
Single Family Subdivision (Please answer 3a)

3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.
5

---

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

*** ROUND TO THE NEAREST TENTH OF AN ACRE. ***

Total Site Area (acres)
21.0

Total Area to be Disturbed (acres)
2.7

Existing Impervious Area to be Disturbed (acres)
0

Future Impervious Area Within Disturbed Area (acres)
0.8

5. Do you plan to disturb more than 5 acres of soil at any one time?
No

---

6. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)
0

B (%)
0

C (%)
38

D (%)
62

7. Is this a phased project?
No

8. Enter the planned start and end dates of the disturbance activities.

Start Date
2/1/2022

End Date
10/31/2022

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
CHADWICK LAKE

9a. Type of waterbody identified in question 9?
Lake Off Site

Other Waterbody Type Off Site Description
NONE PROVIDED

9b. If "wetland" was selected in 9A, how was the wetland identified?
NONE PROVIDED

10. Has the surface waterbody(ies in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?
No

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?
No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?
Yes

If No, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey?
No

If Yes, what is the acreage to be disturbed?
NONE PROVIDED

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?
No

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
Yes

16. What is the name of the municipality/entity that owns the separate storm sewer system?
TOWN OF NEWBURGH

17. Does any runoff from the site enter a sewer classified as a Combined Sewer?
No

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?
No

19. Is this property owned by a state authority, state agency, federal government or local government?
No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)
No

Required SWPPP Components

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
Yes

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?
No

If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual?
NONE PROVIDED

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

SWPPP Preparer
TALCOTT ENGINEERING

Contact Name (Last, Space, First)
BROWN, CHARLES

Mailing Address
1 GARDNERTOWN ROAD

City
NEWBURGH

State
NY

Zip
12550

Phone
845-569-8400

Email
TALCOTTDESIGN12@GMAIL.COM

Download SWPPP Preparer Certification Form
Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form
3) Scan the signed form
4) Upload the scanned document
Download SWPPP Preparer Certification Form

Please upload the SWPPP Preparer Certification
SWPPP Preparer Cert.pdf - 01/10/2022 01:24 PM
Comment
NONE PROVIDED

Erosion & Sediment Control Criteria

25. Has a construction sequence schedule for the planned management practices been prepared?
Yes

26. Select all of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural
Construction Road Stabilization
Silt Fence

Biotechnical
None

Vegetative Measures
Mulching
Seeding
Topsoiling

Permanent Structural
None

Other
NONE PROVIDED

Post-Construction Criteria

*** IMPORTANT: Completion of Questions 27-39 is not required if response to Question 22 is No.**

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
NONE PROVIDED

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).
NONE PROVIDED

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)
NONE PROVIDED

29. Post-construction SMP Identification
Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet)
NONE PROVIDED

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?
NONE PROVIDED

If Yes, go to question 36. If No, go to question 32.

32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)
NONE PROVIDED

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?
NONE PROVIDED

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs
Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)
NONE PROVIDED

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).
NONE PROVIDED

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?
NONE PROVIDED

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv required and provided or select waiver (#36a), if applicable.

CPv Required (acre-feet)
NONE PROVIDED

CPv Provided (acre-feet)
NONE PROVIDED

36a. The need to provide channel protection has been waived because:
NONE PROVIDED

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (#37a), if applicable.

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)
NONE PROVIDED

Post-Development (CFS)
NONE PROVIDED

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
NONE PROVIDED

Post-Development (CFS)
NONE PROVIDED

37a. The need to meet the Qp and Qf criteria has been waived because:
NONE PROVIDED

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?
NONE PROVIDED

If Yes, Identify the entity responsible for the long term Operation and Maintenance
NONE PROVIDED

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.
NONE PROVIDED

Post-Construction SMP Identification

Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs
Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

Total Contributing Impervious Acres for Vegetated Swale (RR-5)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Garden (RR-6)
NONE PROVIDED

Total Contributing Impervious Acres for Stormwater Planter (RR-7)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)
NONE PROVIDED

Total Contributing Impervious Acres for Porous Pavement (RR-9)
NONE PROVIDED

Total Contributing Impervious Acres for Green Roof (RR-10)
NONE PROVIDED

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)
NONE PROVIDED

Total Contributing Impervious Acres for Infiltration Basin (I-2)
NONE PROVIDED

Total Contributing Impervious Acres for Dry Well (I-3)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
NONE PROVIDED

Total Contributing Impervious Acres for Bioretention (F-5)
NONE PROVIDED

Total Contributing Impervious Acres for Dry Swale (O-1)
NONE PROVIDED

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Pond (P-2)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Extended Detention (P-3)
NONE PROVIDED

Total Contributing Impervious Acres for Multiple Pond System (P-4)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Pond (P-5)
NONE PROVIDED

Total Contributing Impervious Acres for Surface Sand Filter (F-1)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Sand Filter (F-2)
NONE PROVIDED

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)
NONE PROVIDED

Total Contributing Impervious Acres for Organic Filter (F-4)
NONE PROVIDED

Total Contributing Impervious Acres for Shallow Wetland (W-1)
NONE PROVIDED

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)
NONE PROVIDED

Total Contributing Impervious Acres for Pond/Wetland System (W-3)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Wetland (W-4)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Swale (O-2)
NONE PROVIDED

Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Total Contributing Impervious Area for Hydrodynamic
NONE PROVIDED

Total Contributing Impervious Area for Wet Vault
NONE PROVIDED

Total Contributing Impervious Area for Media Filter
NONE PROVIDED

"Other" Alternative SMP?
NONE PROVIDED

Total Contributing Impervious Area for "Other"
NONE PROVIDED

Provide the name and manufaturer of the alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

Manufacturer of Alternative SMP
NONE PROVIDED

Name of Alternative SMP
NONE PROVIDED

Other Permits

40. Identify other DEC permits, existing and new, that are required for this project/facility.
None

If SPDES Multi-Sector GP, then give permit ID
NONE PROVIDED

If Other, then identify
NONE PROVIDED

41. Does this project require a US Army Corps of Engineers Wetland Permit?
No

If "Yes," then indicate Size of Impact, in acres, to the nearest tenth
NONE PROVIDED

42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.
NONE PROVIDED

MS4 SWPPP Acceptance

43. Is this project subject to the requirements of a regulated, traditional land use control MS4?
Yes - Please attach the MS4 Acceptance form below

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?
Yes

MS4 SWPPP Acceptance Form Download
Download form from the link below. Complete, sign, and upload.
MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload
NONE PROVIDED
Comment
NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download
Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.
Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form

Owner Operator Cert.pdf - 01/10/2022 01:29 PM

Comment

NONE PROVIDED

Attachments

Date	Attachment Name	Context	User
1/10/2022 1:29 PM	Owner Operator Cert.pdf	Attachment	CHARLES BROWN
1/10/2022 1:24 PM	SWPPP Preparer Cert.pdf	Attachment	CHARLES BROWN

APPENDIX B

MS4 SWPPP ACCEPTANCE FORM

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information	
1. Owner/Operator Name:	HUDSON ASSET HOMES LLC
2. Contact Person:	MICHAEL MAHER
3. Street Address:	4171 ALBANY POST ROAD
4. City/State/Zip:	HYDE PARK, NY 12538
II. Project Site Information	
5. Project/Site Name:	CHADWICK WOODS SUBDIVISION
6. Street Address:	1743 ROUTE 300
7. City/State/Zip:	NEWBURGH, NY 12550
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	MeGOEY, HAUSER AND EDSALL
9. Title/Position:	PLANNING BOARD ENGINEER
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4:	NEWBURGH
12. MS4 SPDES Permit Identification Number: NYR20A	237
13. Contact Person:	PAT HINES
14. Street Address:	1496 ROUTE 300
15. City/State/Zip:	NEWBURGH, NY 12550
16. Telephone Number:	845-564-7814

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name: GIL PIAQUADIO

Title/Position: TOWN SUPERVISOR

Signature:

Date:

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

APPENDIX C

NOTICE OF TERMINATION

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name: HUDSON ASSET HOMES, LLC

2. Street Address: 4171 ALBANY POST ROAD

3. City/State/Zip: HYDE PARK, NY 12538

4. Contact Person: MIKE MAHER | 4a. Telephone: 845-527-3110

4b. Contact Person E-Mail: MIKCHIEF99@AOL.COM

II. Project Site Information

5. Project/Site Name: CHADWICK WOODS SUBDIVISION

6. Street Address: 1745 ROUTE 300

7. City/Zip: NEWBURGH, NY 12550

8. County: ORANGE

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes ■ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? □ yes □ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

□ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

□ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

□ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

□ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? □ yes □ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

APPENDIX D

OWNER/OPERATOR ACCEPTANCE FORM

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: CHADWICK WOODS SUBDIVISION

eNOI Submission Number: HP4-HG0X-VH1QC

eNOI Submitted by: ☐ **Owner/Operator** ☑ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Owner/Operator First Name M.I. Last Name

Signature

4/12/24

Date

APPENDIX E

SWPP PREPARER CERTIFICATION FORM

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges From Construction Activity (GP-0-20-001)

Project Site Information

Project/Site Name

CHADWICK WOODS SUBDIVISION

Owner/Operator Information

Owner/Operator (Company Name/Private Owner/Municipality Name)

HUDSON ASSET HOMES

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

CHARLES	T	BROWN
First name	MI	Last Name

Signature

1-10-2020

Date

Revised: January 2020

APPENDIX F

STORMWATER MANAGEMENT REPORT

Talcott Engineering
DESIGN, PLLC.
1 Gardnertown Road, Newburgh, New York 12550
(845)-569-8400 * (fax) (845)-569-4583

STORMWATER MANAGEMENT REPORT

for the

5 LOT RESIDENTIAL SUBDIVISION
KNOWN AS "CADWICK WOODS SUBDIVISION"

NYS Route 300
SBL: 14-1-51
Town of Newburgh
Orange County, New York

Report prepared for:

Mike Maher
Hudson Asset Homes
50 Cocoa Lane
Newburgh, NY 12550

Report prepared by:

Charles T. Brown, PE
Talcott Engineering Design, PLLC
1 Gardnertown Road
Newburgh, New York 12550
(845) 569-8400

Job #17100-MMR
January 6, 2022

Contents:

I Commentary

1.0 Purpose:

The purpose of this study is to address the potential impacts, if any, which would be generated by the 6 lot residential subdivision, of a 15 acre parcel (SBL: 14-1-51), known as "Chadwick Woods", located on NYS Route 300 , in the Town of Newburgh, Orange County, New York, and to develop a stormwater management plan for the site.

2.0 Project Description:

The proposed project is a 5 lot residential subdivision of a 15 acre parcel. The proposed lots will be serviced by Town water or on site wells and septic systems that have been designed to current NYS Health Department regulations and all other applicable standards. Project plans detail all improvements as well as erosion and sedimentary control measures and are a part of this report.

3.0 Drainage Analysis:

This study analyses the pre-development and post-development storm drainage flows using the Soil Conservation Service method as outlined in TR-55 ("Urban Hydrology for Small Watersheds", June 1986). Quantitative storm water flows are evaluated per Town of Newburgh and New York State DEC standards.

3.1 Drainage Areas:

General

The area is evaluated for the 1 year, 10 year, 25 year and 100 year storms for existing and developed conditions.

The site area containing all proposed development is comprised of one (1) drainage area, which is the area of proposed development and contributary area.

Drainage Area Summary

The existing and proposed drainage area is summarized below.

Drainage Area	Area	CN	Tc
Existing	21.00	74.95	121 Min.
Proposed	21.00	75.92	121 Min

3.2 Soils:

Based on the current Orange County Soil Survey (Oct, 1981), it was determined that the soils within the drainage area are as follows:

Symbol	Description	Hydrologic Group
MdB, MdC	Mardin Gravelly Silt Loam	"D"
SXC	Swartwoods	"C"

The runoff curve numbers (CN) have been based on "C" and "D" soils.

3.3 Land Coverage:

The type of land coverage for the areas analyzed was determined by field investigation. The parcel in existing conditions is forest

4.0 Qualitative Analysis:

All areas are analyzed for 1 year, 10 year, 25 year and 100 year storms for existing and developed conditions.

Storm Rainfall	1 year 2.9 in	10 year 5.5 in	25 year 6.5	100 year 8.0
Existing	5.21	18.08	23.54	32.06
Developed	5.59	18.65	24.25	32.82
Increase	7.3%	3.2%	3.0%	2.4%

The drainage area flows into woods, then to NYS Wetlands NB-16, then to Chadwick Lake, therefore small increases in runoff will have no affect on drainage facilities.

5.0 Quantitative Management Practices (SMPs):

SMPs for the project have been selected and designed based upon proposed land use as well as regulations and methods set forth by the NYSDEC in the "Stormwater Management Design Manual".

For the entire project, limits on clearing and grading have been established and are shown on project plans ("Reduction of Clearing and Grading", Section 5.1.3)

Soil in all disturbed areas, that are not proposed to be impervious, shall be restored per DEC "Soil Restoration", Section 5.1.6

Each lot will use rain gardens for roof runoff per the DEC "Rain Gardens" section, section 5.3.7.

The rooftops of proposed buildings will be disconnected, per DEC guidelines ("Disconnection of Rooftop Runoff", Section 5.3.5).

6.0 Construction Sequence:

The construction described will be performed in conformance with the following steps:

a) Install temporary sediment control devices and stabilized construction entrances.

b) Stakeout road, and drainage facilities.

c) Clear road areas and stockpile soil.

d) Perform rough site grading.

e) Construct road and swales.

f) Seed soil stockpiles.

g) Fine grade site and seed unpaved areas.

h) Complete construction.

i) Remove temporary erosion control devices.

Roll off dumpsters and trash receptacles are to remain on site for the duration of the project for the proper collection and disposal of all construction debris and additional litter produced by workers. These collection devices are to be emptied regularly.

7.0 Conclusion:

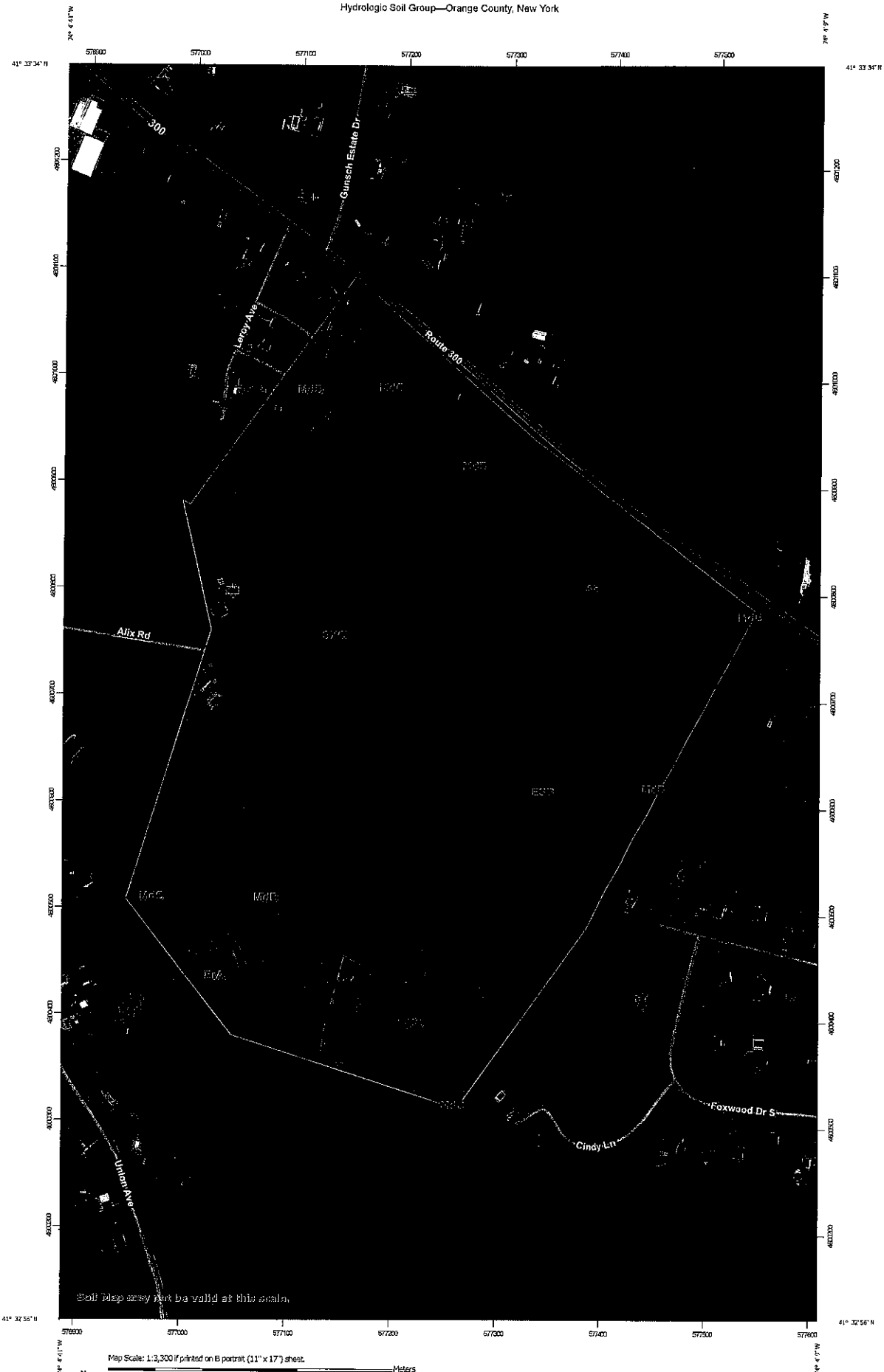
Based on the analysis and results set forth in this study and the associated reference material, it is the professional conclusion of the undersigned that the proposed 5 lot residential subdivision "Chadwick Woods" will cause no adverse impacts on the existing water facilities.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Respectfully submitted,

Charles T. Brown, PE
Talcott Engineering Design, PLLC
President
NYS Lic 065996

II HYDRAULIC CALCULATIONS FOR QUANTITY


576900
577000
577100
577200
577300
577400
577500
577600
41° 33' 34" N
41° 32' 56" N
74° 4' 41" W
74° 4' 9" W
4931200
4931100
4931000
4930900
4930800
4930700
4930600
4930500
4930400
4930300
4930200
300
Gunsch Estate Dr
Leroy Ave
Route 300
Alix Rd
Union Ave
Foxwood Dr S
Cindy Ln
MaB
MaC
MrB
EnA
Soil Map may not be valid at this scale.
Map Scale: 1:3,300 if printed on B portrait (11" x 17") sheet.
Meters
0 45 90 180 270
Feet
0 150 300 600 900
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: Orange County, New York
Survey Area Data: Version 22, Aug 29, 2021

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

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ab	Alden silt loam	C/D	4.6	6.7%
ErA	Erie gravelly silt loam, 0 to 3 percent slopes	D	1.2	1.7%
ESB	Erie extremely stony soils, gently sloping	D	18.8	27.5%
MdB	Mardin gravelly silt loam, 3 to 8 percent slopes	D	15.6	22.9%
MdC	Mardin gravelly silt loam, 8 to 15 percent slopes	D	2.5	3.7%
SXC	Swartswood and Mardin soils, sloping, very stony	C	25.6	37.5%
Totals for Area of Interest			**68.3**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

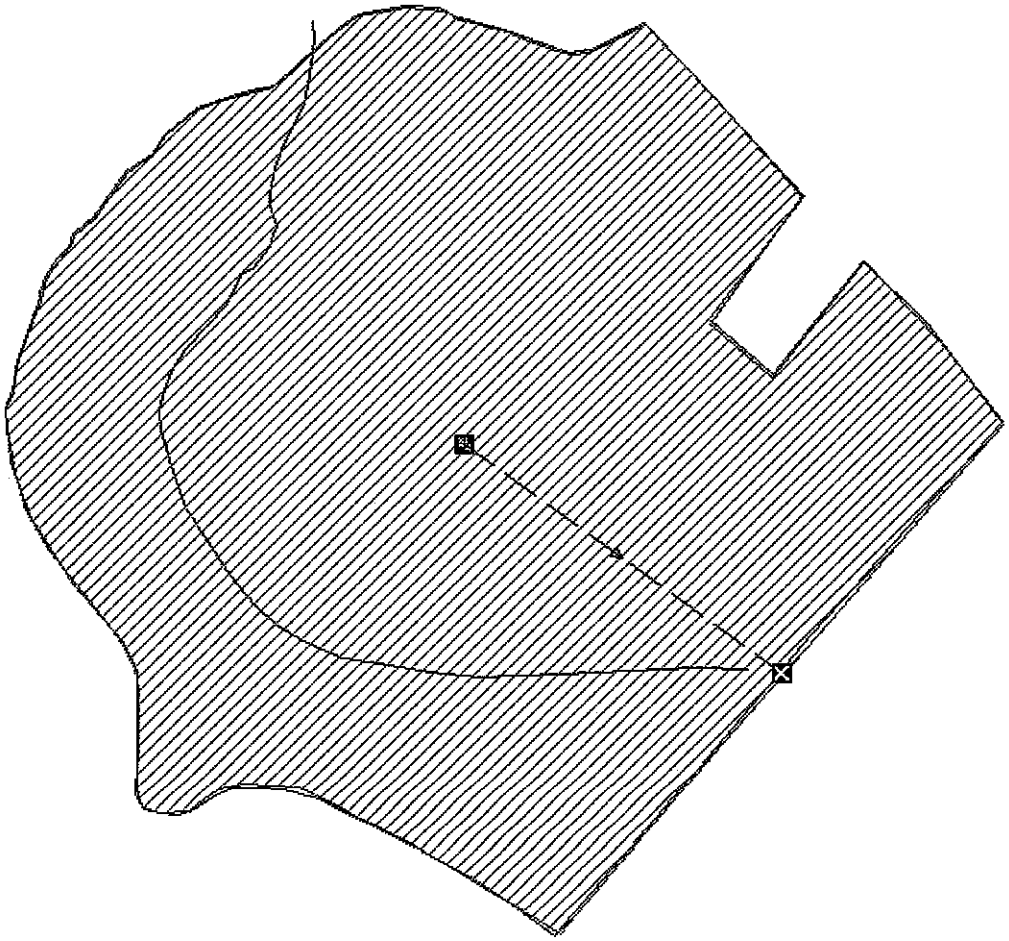
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Project Description

File Name ..... Chadwick Woods4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
Start Reporting On	Aug 14, 2020	05:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	New York	Orange	1	2.90	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	74.95	2.77	0.81	17.05	5.21	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	74.95
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	7.93	C	70.00
Woods, Good	11.62	D	77.00
Paved roads with curbs & sewers	0.70	C	98.00
> 75% grass cover, Good	0.75	C	74.00
Composite Area & Weighted CN	21.00		74.95

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft^2)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

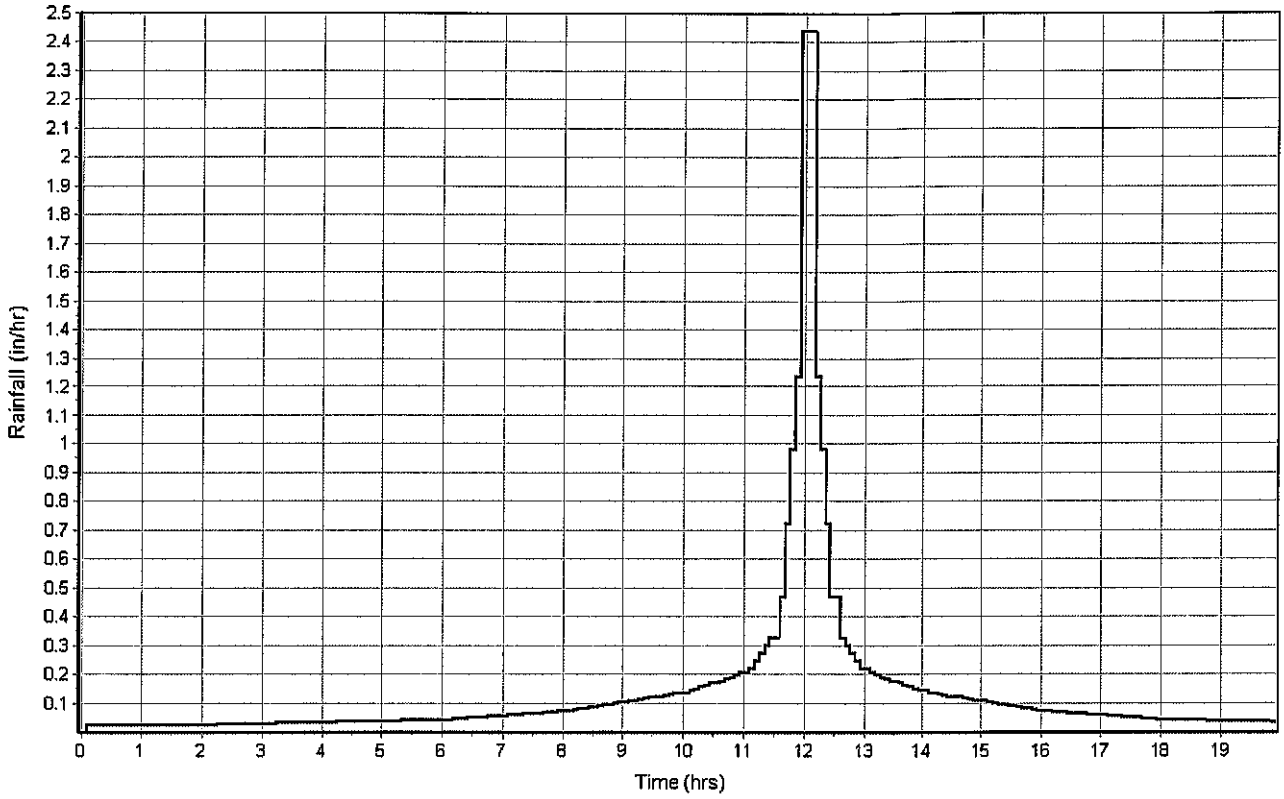
Total TOC (min) 121.00

Subbasin Runoff Results

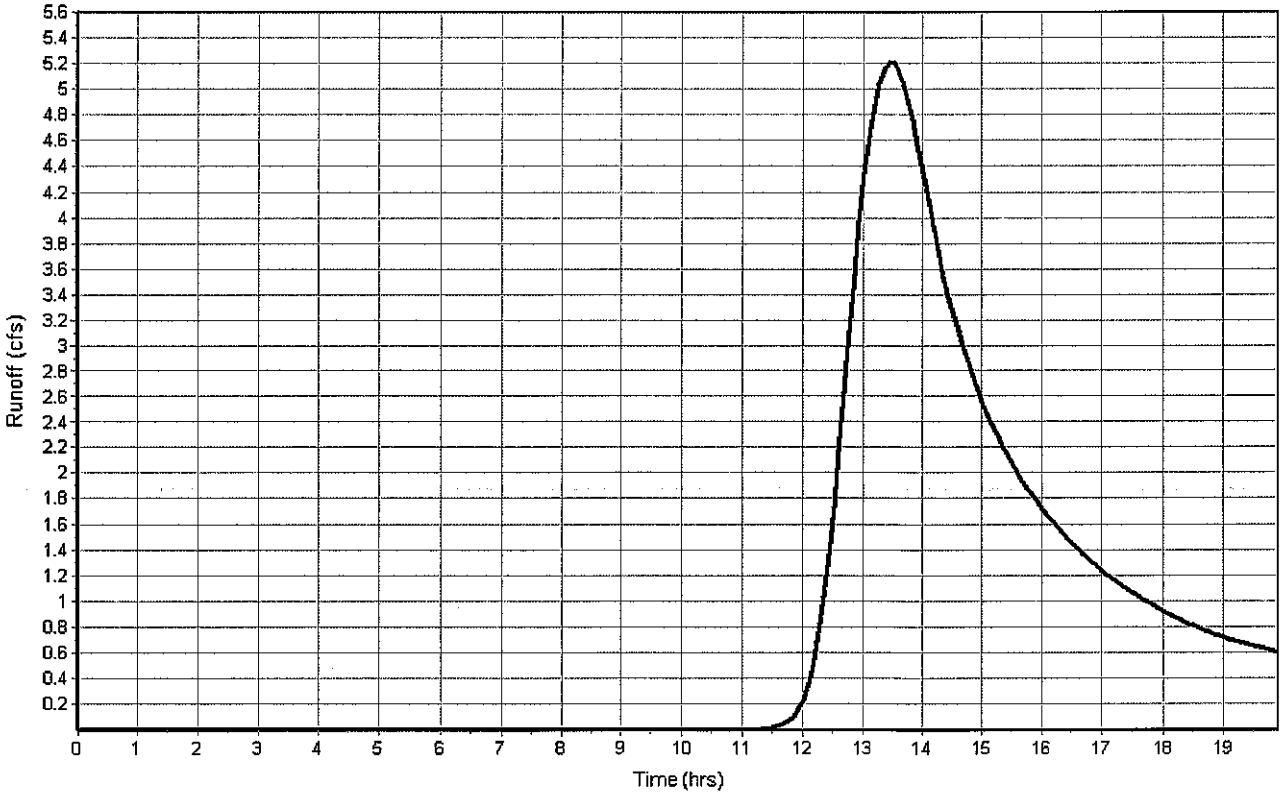
Total Rainfall (in)	2.77
Total Runoff (in)	0.81
Peak Runoff (cfs)	5.21
Weighted Curve Number	74.95
Time of Concentration (days hh:mm:ss)	0 02:01:00

Subbasin : Sub-2

Rainfall Intensity Graph



Runoff Hydrograph



Project Description

File Name ..... Chadwick Woods4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
Start Reporting On	Aug 14, 2020	05:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	New York	Orange	10	5.50	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	74.95	5.26	2.65	55.73	18.08	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	74.95
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	7.93	C	70.00
Woods, Good	11.62	D	77.00
Paved roads with curbs & sewers	0.70	C	98.00
> 75% grass cover, Good	0.75	C	74.00
Composite Area & Weighted CN	21.00		74.95

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

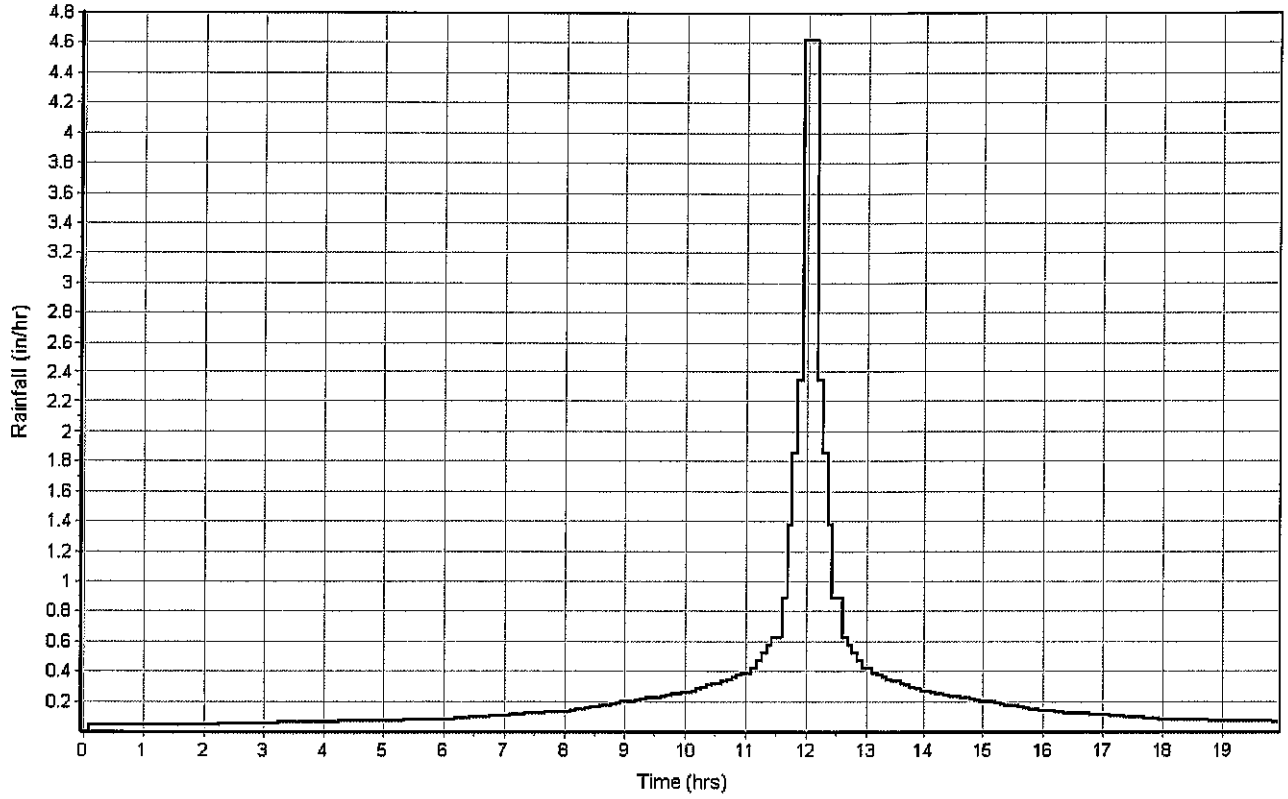
Total TOC (min) 121.00

Subbasin Runoff Results

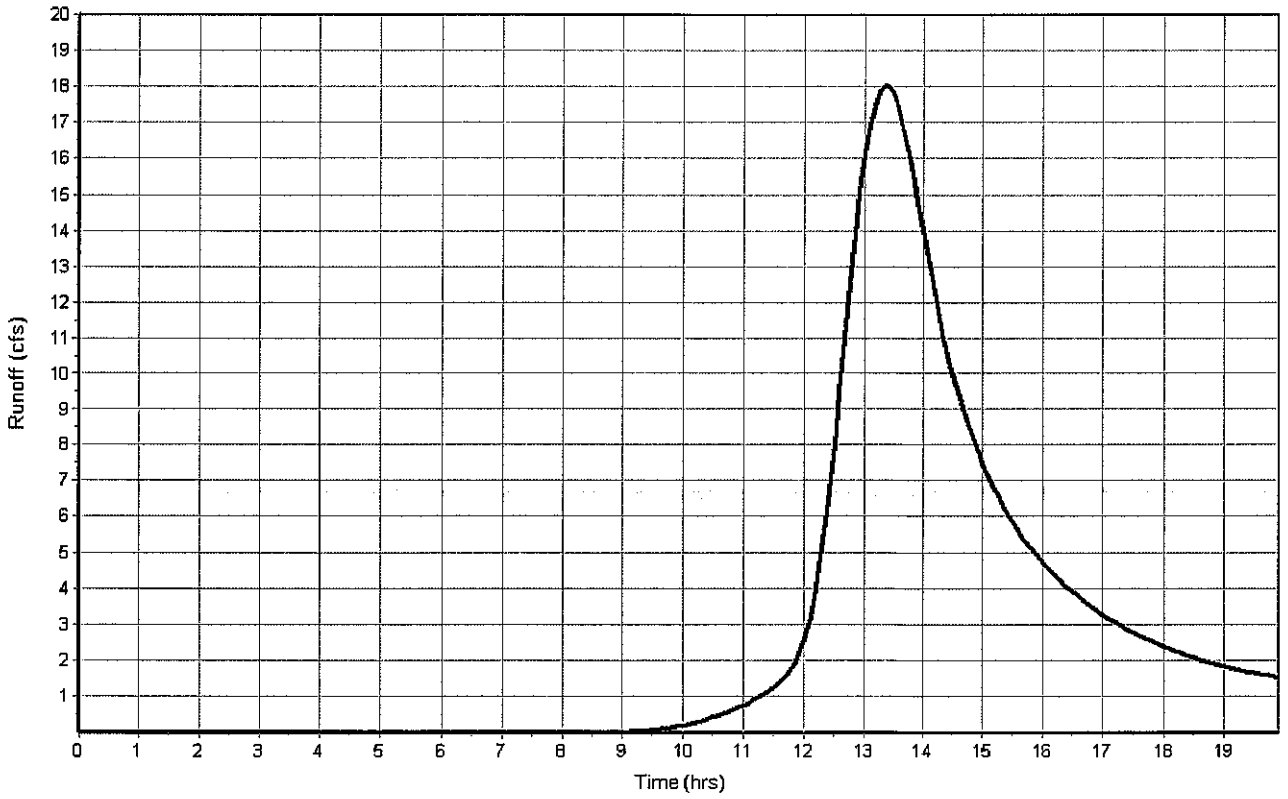
Total Rainfall (in)	5.26
Total Runoff (in)	2.65
Peak Runoff (cfs)	18.08
Weighted Curve Number	74.95
Time of Concentration (days hh:mm:ss)	0 02:01:00

Subbasin : Sub-2

Rainfall Intensity Graph



Runoff Hydrograph



Project Description

File Name ..... Chadwick Woods4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
Start Reporting On	Aug 14, 2020	05:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	New York	Orange	25	6.50	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	74.95	6.21	3.46	72.62	23.54	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	74.95
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	7.93	C	70.00
Woods, Good	11.62	D	77.00
Paved roads with curbs & sewers	0.70	C	98.00
> 75% grass cover, Good	0.75	C	74.00
Composite Area & Weighted CN	21.00		74.95

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

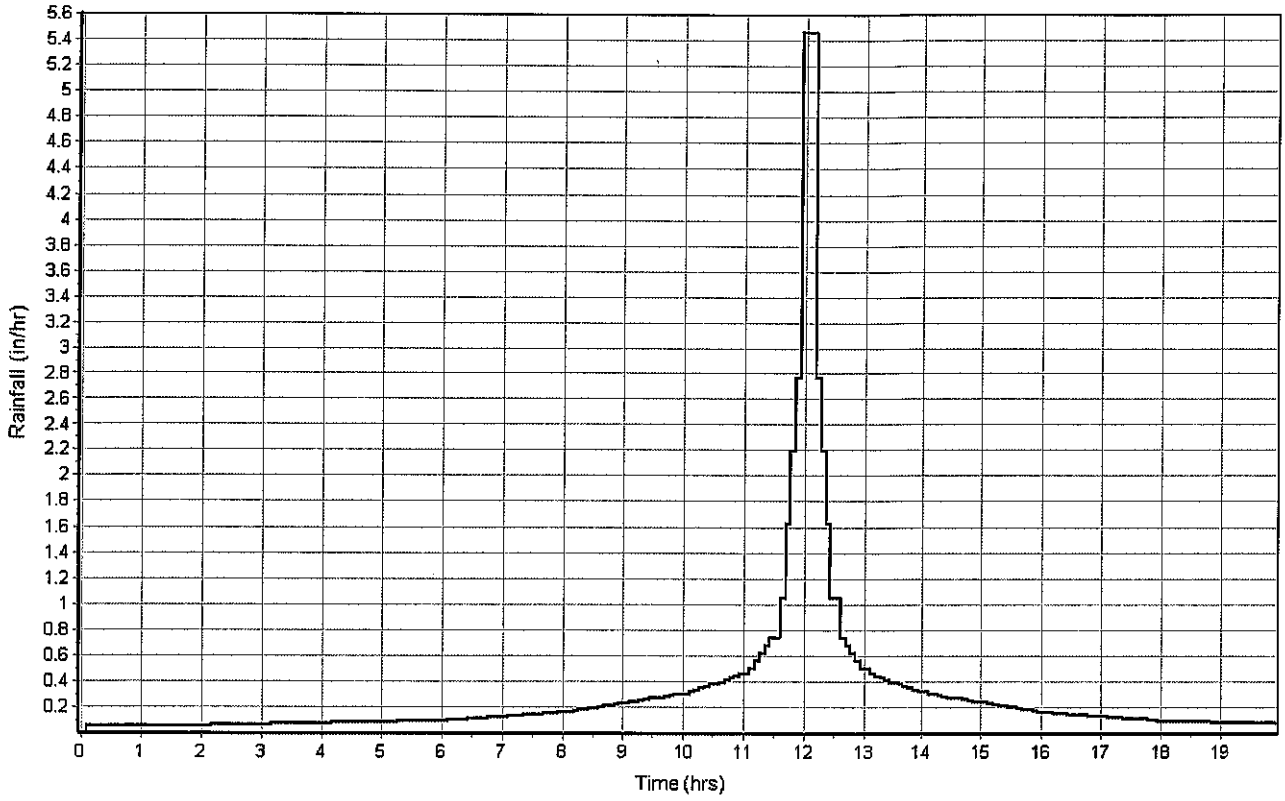
Total TOC (min) 121.00

Subbasin Runoff Results

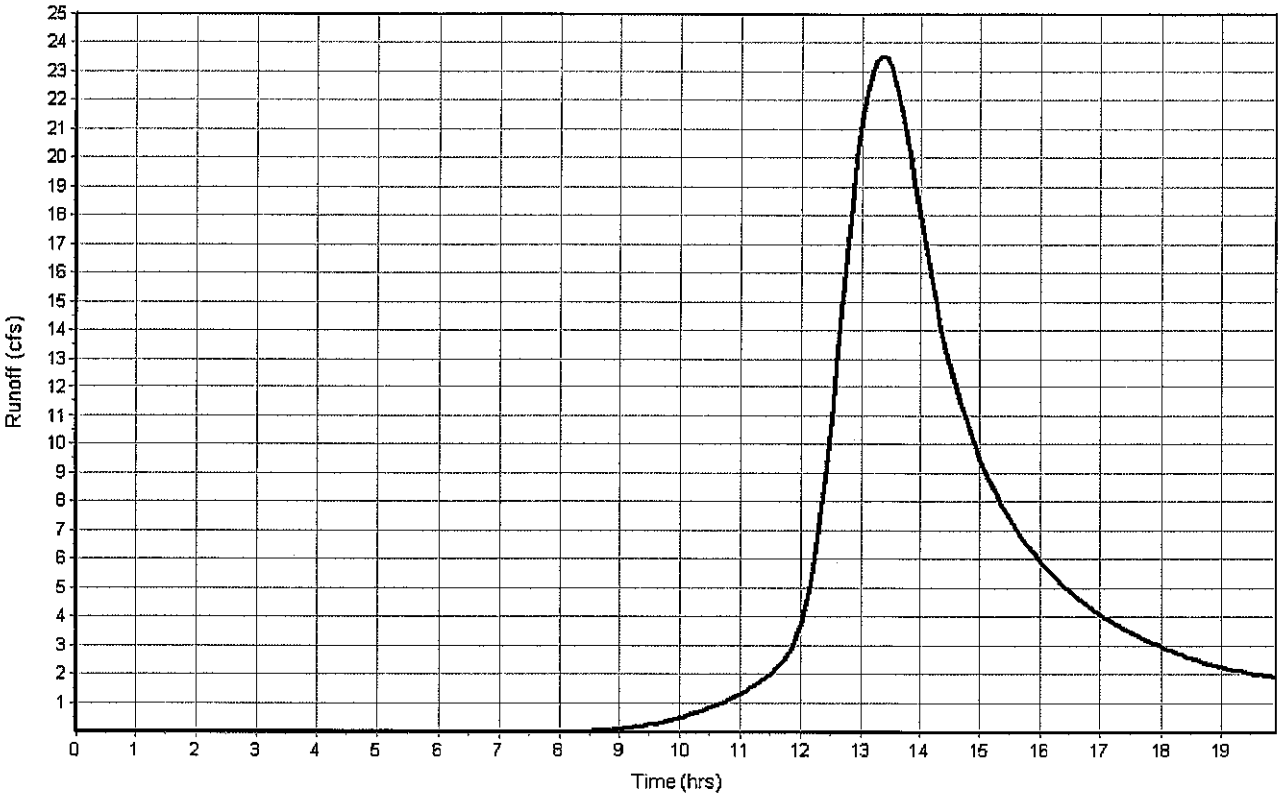
Total Rainfall (in)	6.21
Total Runoff (in)	3.46
Peak Runoff (cfs)	23.54
Weighted Curve Number	74.95
Time of Concentration (days hh:mm:ss)	0 02:01:00

Subbasin : Sub-2

Rainfall Intensity Graph



Runoff Hydrograph



Project Description

File Name ..... Chadwick Woods4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
Start Reporting On	Aug 14, 2020	05:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	New York	Orange	100	8.00	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	74.95	7.65	4.72	99.06	32.06	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	74.95
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	7.93	C	70.00
Woods, Good	11.62	D	77.00
Paved roads with curbs & sewers	0.70	C	98.00
> 75% grass cover, Good	0.75	C	74.00
Composite Area & Weighted CN	21.00		74.95

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

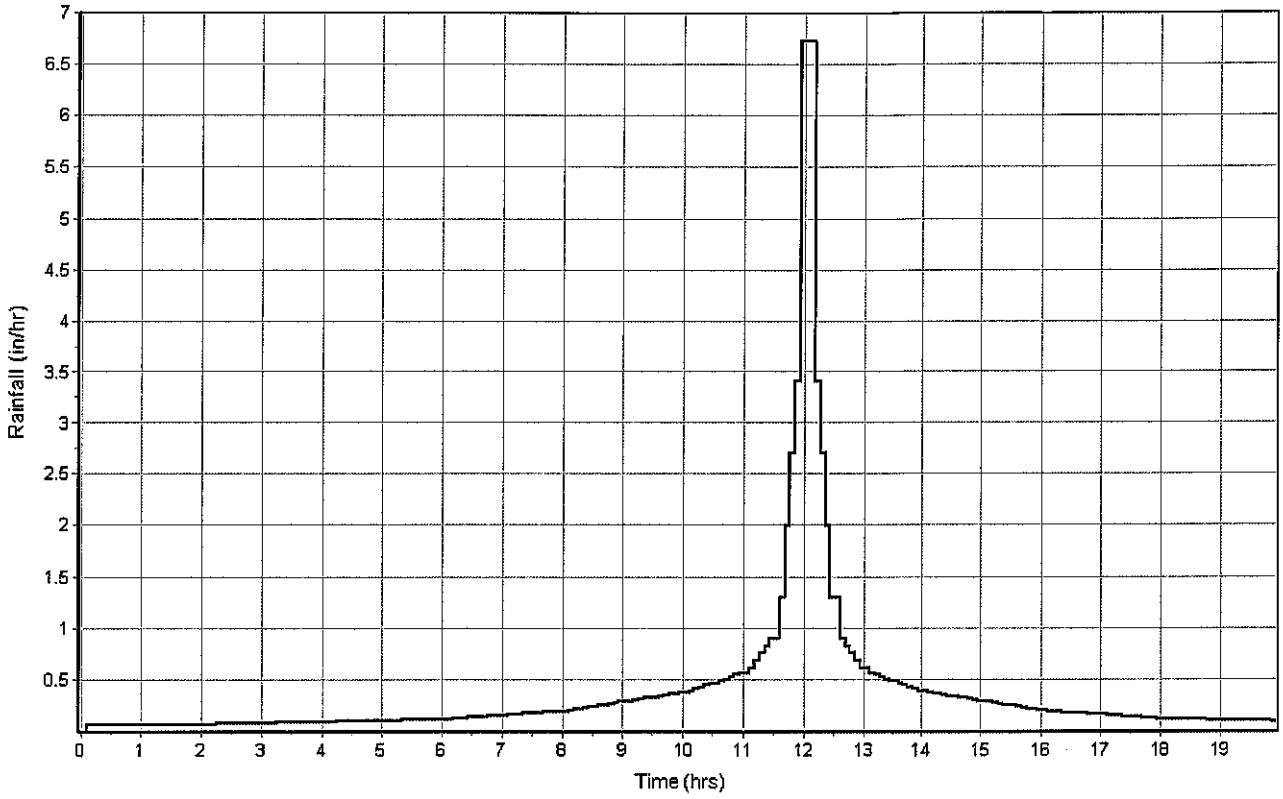
Total TOC (min) 121.00

Subbasin Runoff Results

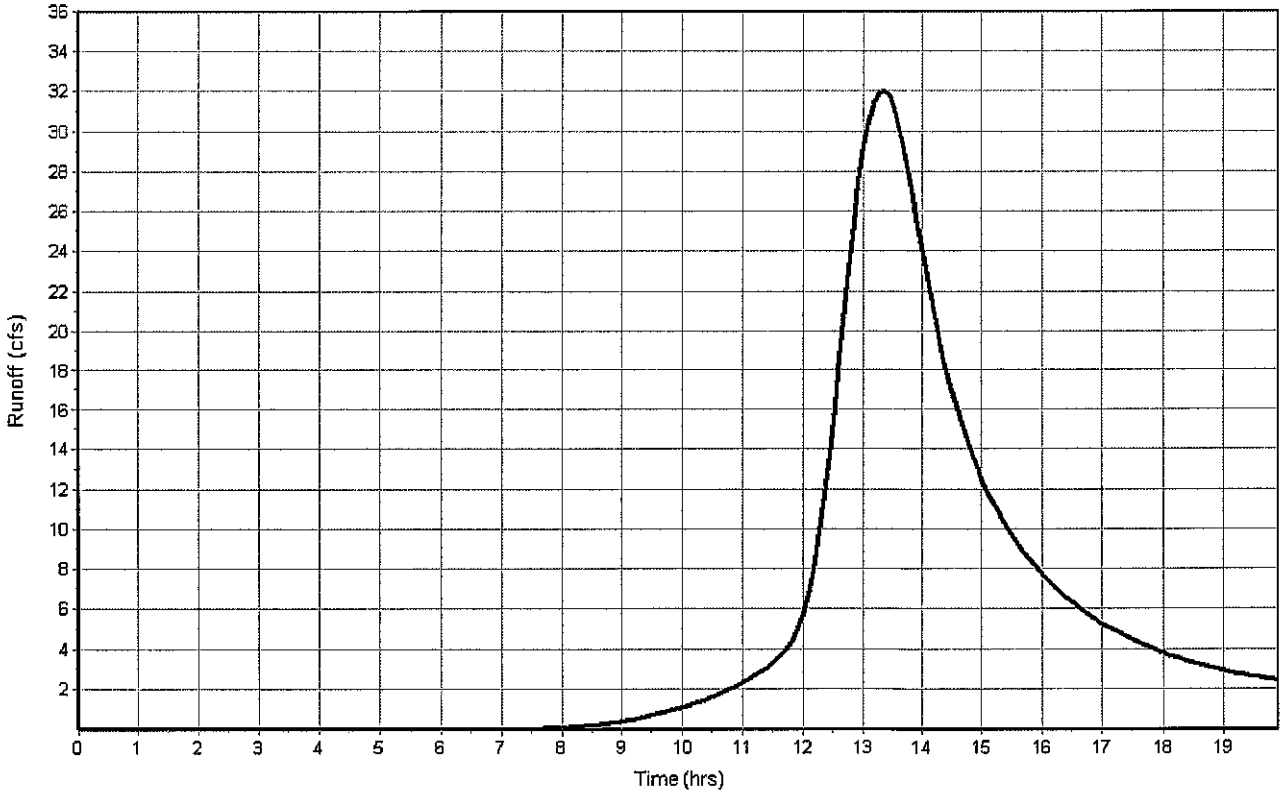
Total Rainfall (in)	7.65
Total Runoff (in)	4.72
Peak Runoff (cfs)	32.06
Weighted Curve Number	74.95
Time of Concentration (days hh:mm:ss)	0 02:01:00

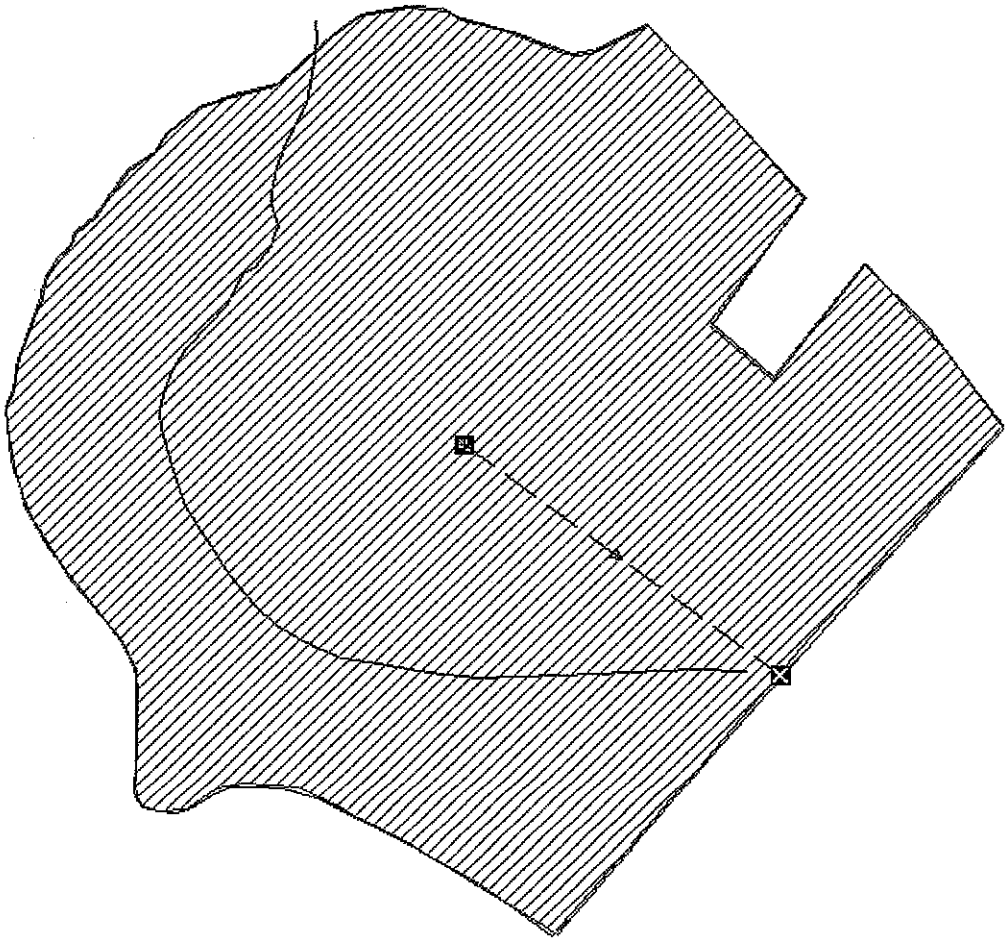
Subbasin : Sub-2

Rainfall Intensity Graph



Runoff Hydrograph





Project Description

File Name ..... Chadwick Woods4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
Start Reporting On	Aug 14, 2020	05:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	Inches	New York	Orange	1	2.90	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	74.95	2.77	0.81	17.05	5.21	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	74.95
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	7.93	C	70.00
Woods, Good	11.62	D	77.00
Paved roads with curbs & sewers	0.70	C	98.00
> 75% grass cover, Good	0.75	C	74.00
Composite Area & Weighted CN	21.00		74.95

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft^2)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

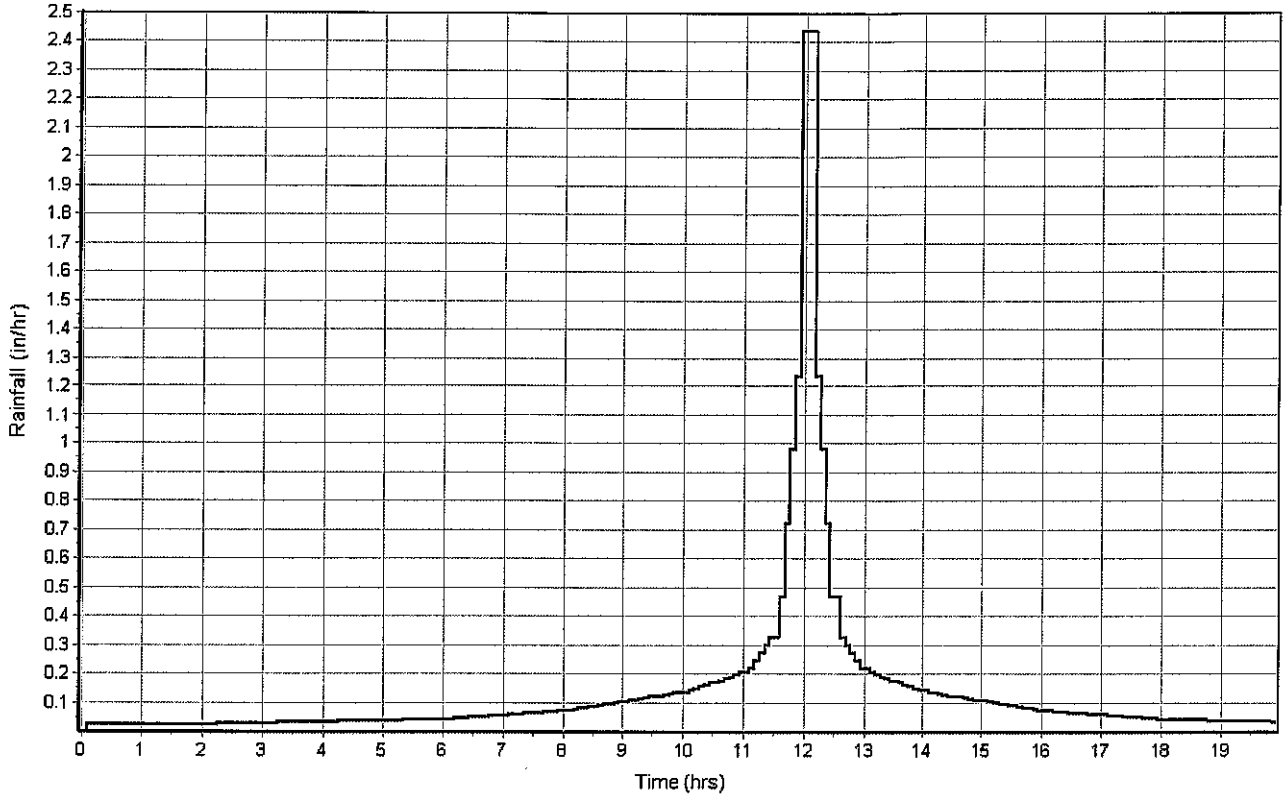
Total TOC (min) 121.00

Subbasin Runoff Results

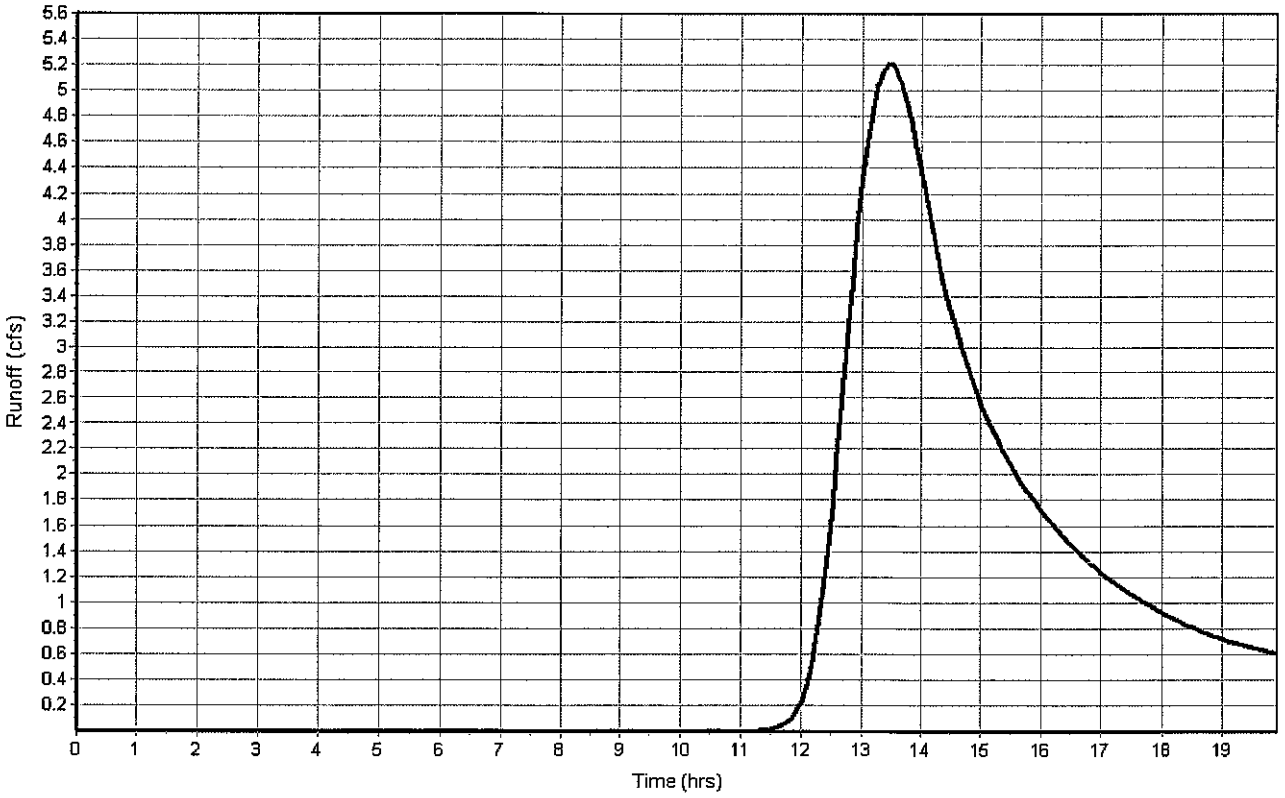
Total Rainfall (in)	2.77
Total Runoff (in)	0.81
Peak Runoff (cfs)	5.21
Weighted Curve Number	74.95
Time of Concentration (days hh:mm:ss)	0 02:01:00

Subbasin : Sub-2

Rainfall Intensity Graph



Runoff Hydrograph



Project Description

File Name ..... Chadwick Woods4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
Start Reporting On	Aug 14, 2020	05:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	New York	Orange	10	5.50	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	74.95	5.26	2.65	55.73	18.08	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	74.95
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	7.93	C	70.00
Woods, Good	11.62	D	77.00
Paved roads with curbs & sewers	0.70	C	98.00
> 75% grass cover, Good	0.75	C	74.00
Composite Area & Weighted CN	21.00		74.95

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft^2)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

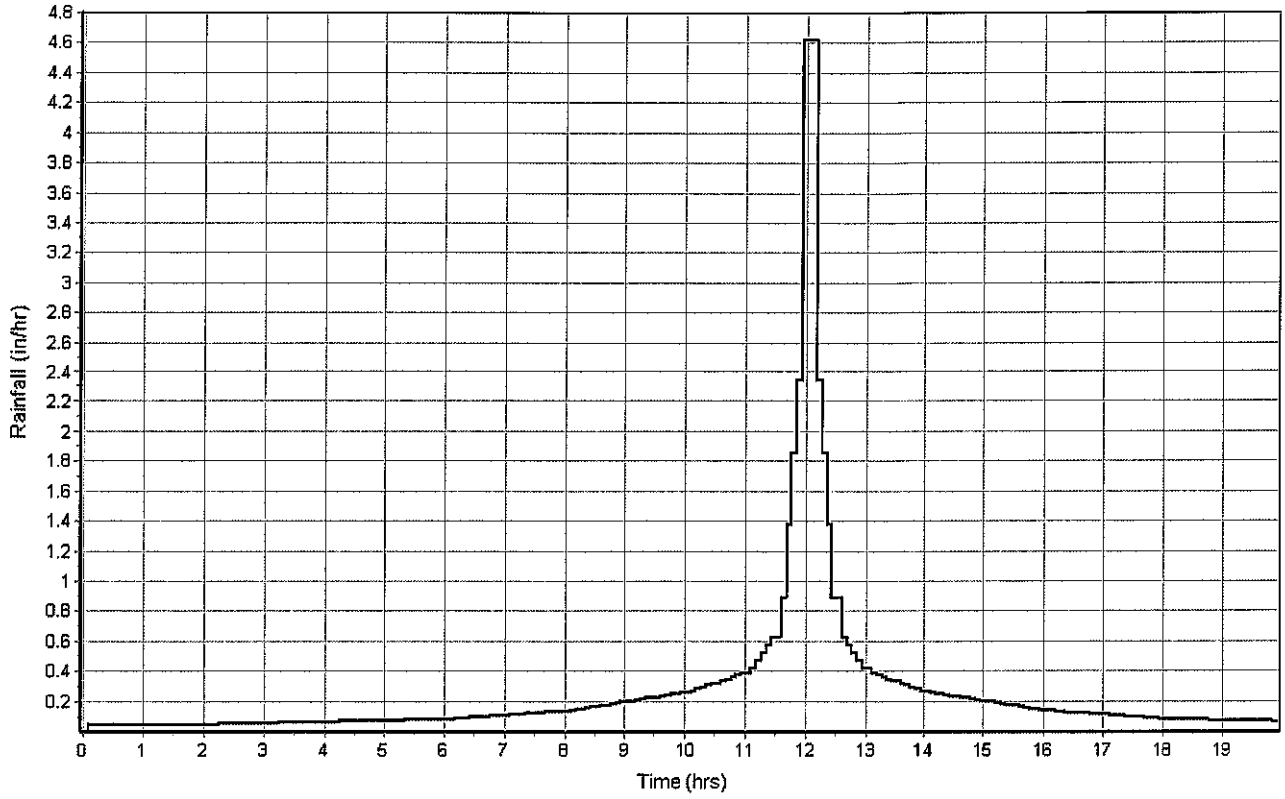
Total TOC (min) 121.00

Subbasin Runoff Results

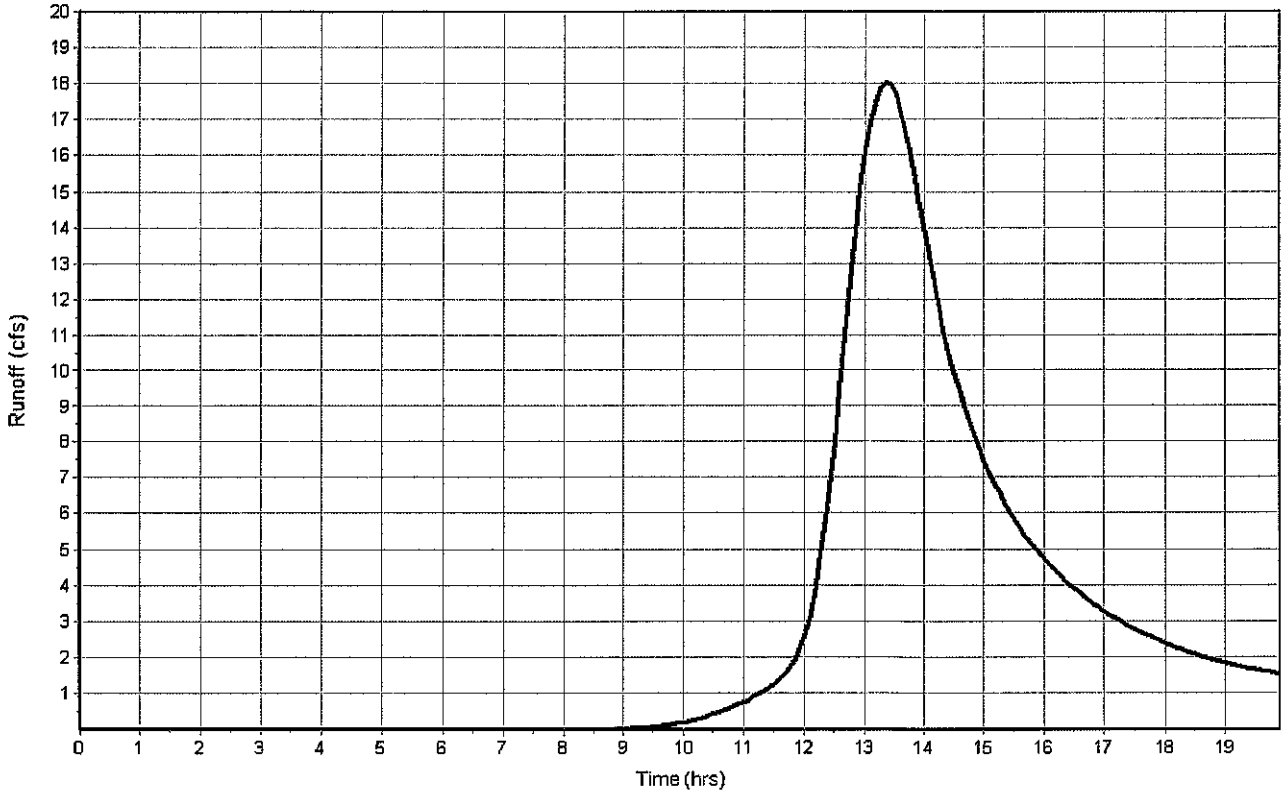
Total Rainfall (in)	5.26
Total Runoff (in)	2.65
Peak Runoff (cfs)	18.08
Weighted Curve Number	74.95
Time of Concentration (days hh:mm:ss)	0 02:01:00

Subbasin : Sub-2

Rainfall Intensity Graph



Runoff Hydrograph



Project Description

File Name ..... Chadwick Woods4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
Start Reporting On	Aug 14, 2020	05:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	New York	Orange	25	6.50	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	74.95	6.21	3.46	72.62	23.54	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	74.95
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	7.93	C	70.00
Woods, Good	11.62	D	77.00
Paved roads with curbs & sewers	0.70	C	98.00
> 75% grass cover, Good	0.75	C	74.00
Composite Area & Weighted CN	21.00		74.95

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

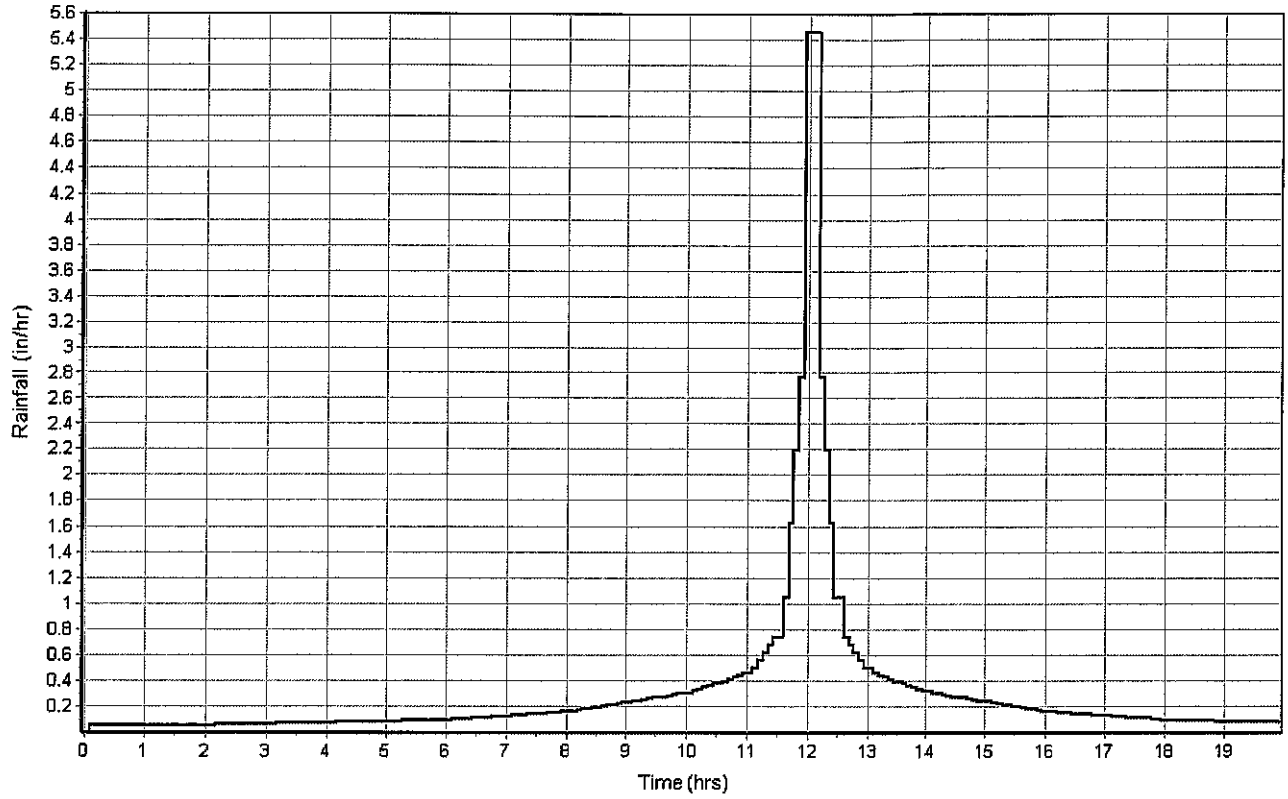
Total TOC (min) 121.00

Subbasin Runoff Results

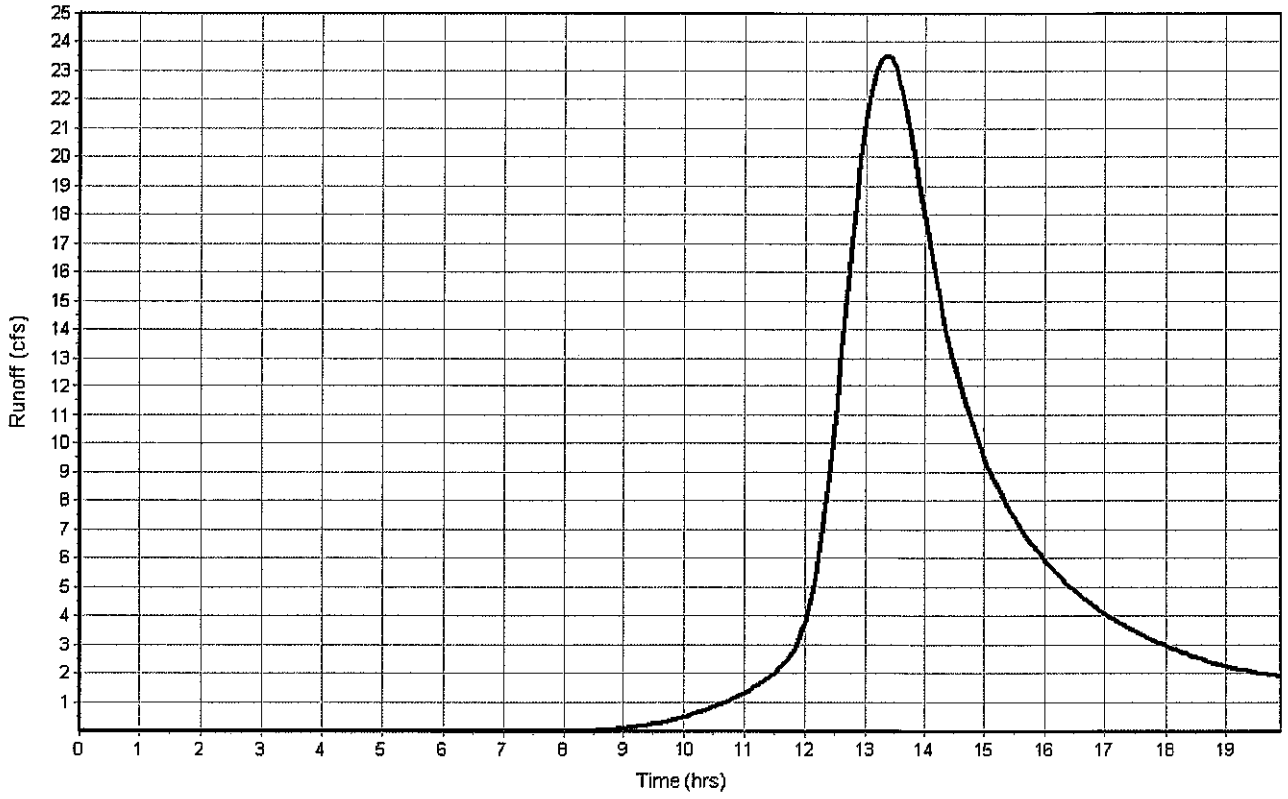
Total Rainfall (in)	6.21
Total Runoff (in)	3.46
Peak Runoff (cfs)	23.54
Weighted Curve Number	74.95
Time of Concentration (days hh:mm:ss)	0 02:01:00

Subbasin : Sub-2

Rainfall Intensity Graph



Runoff Hydrograph



Project Description

File Name ..... Chadwick Woods4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
Start Reporting On	Aug 14, 2020	05:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	New York	Orange	100	8.00	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	74.95	7.65	4.72	99.06	32.06	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	74.95
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	7.93	C	70.00
Woods, Good	11.62	D	77.00
Paved roads with curbs & sewers	0.70	C	98.00
> 75% grass cover, Good	0.75	C	74.00
Composite Area & Weighted CN	21.00		74.95

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

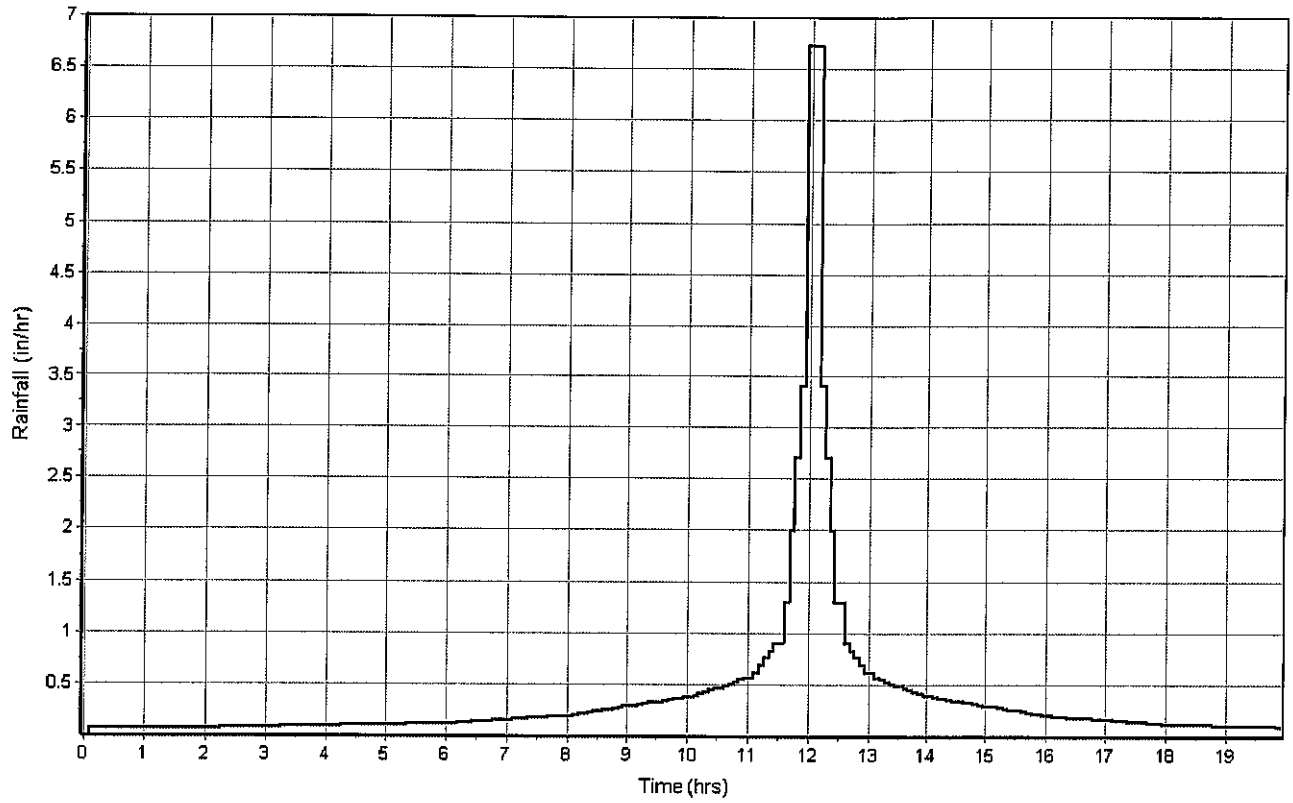
Total TOC (min) 121.00

Subbasin Runoff Results

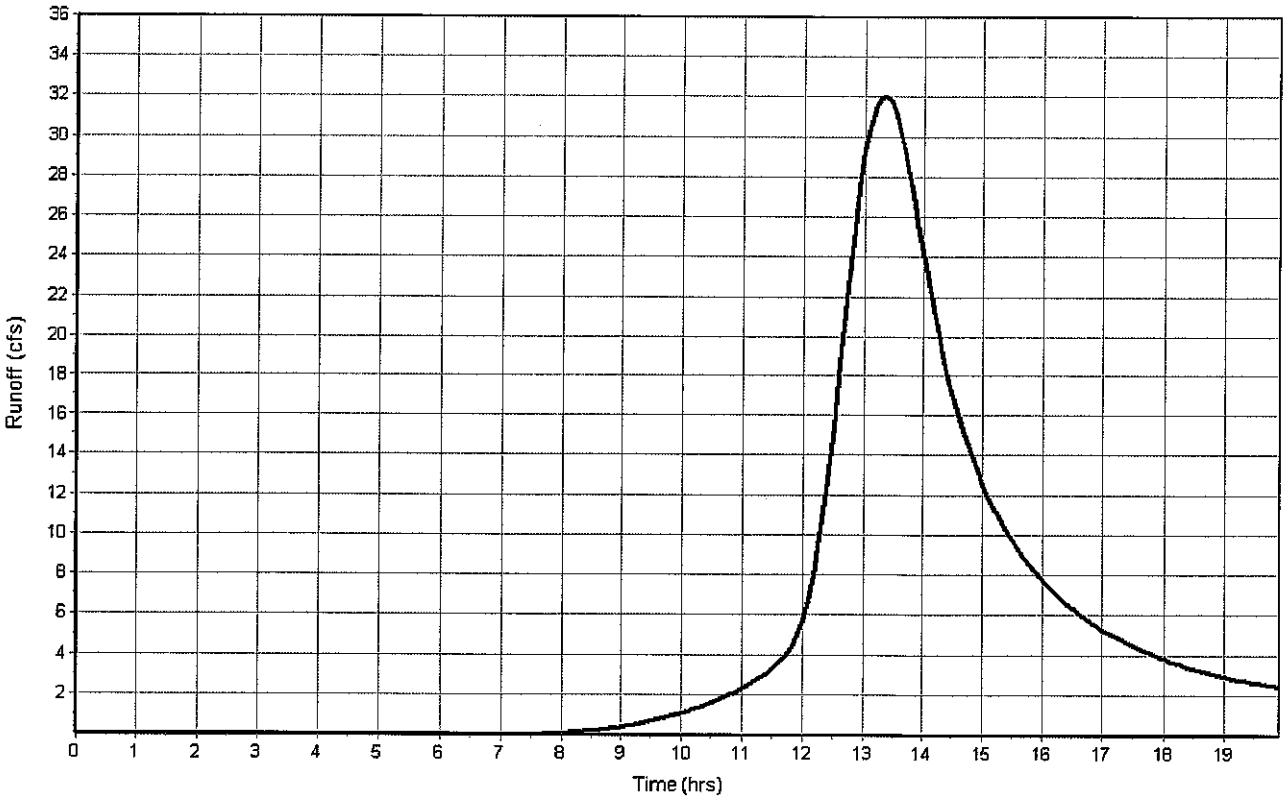
Total Rainfall (in)	7.65
Total Runoff (in)	4.72
Peak Runoff (cfs)	32.06
Weighted Curve Number	74.95
Time of Concentration (days hh:mm:ss)	0 02:01:00

Subbasin : Sub-2

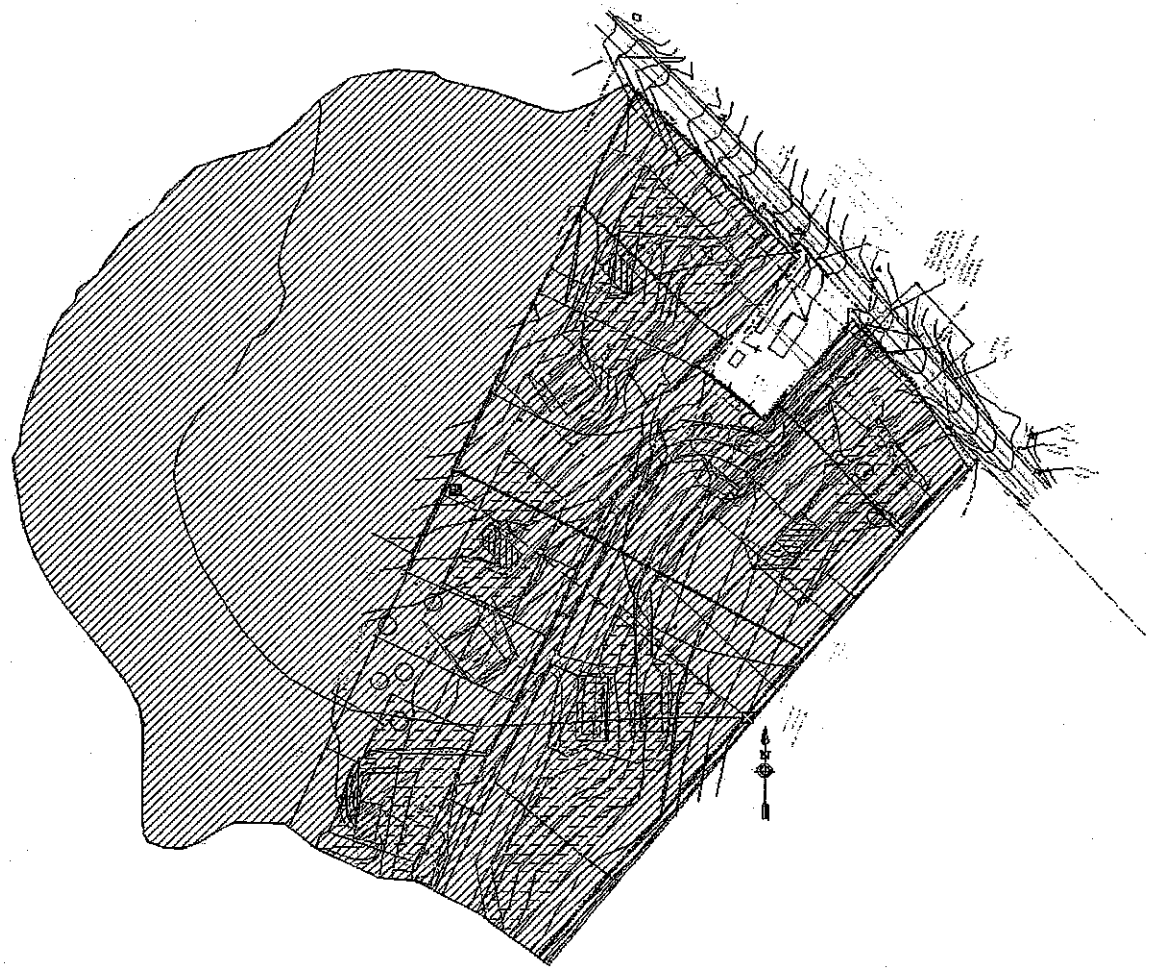
Rainfall Intensity Graph



Runoff Hydrograph



Lemoyne Ave
300



Autodesk Storm and Sanitary Analysis

Project Description

File Name ..... Chadwick Woods3 PRO4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
Start Reporting On	Aug 14, 2020	05:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	New York	Orange	1	2.90	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	75.92	2.77	0.86	18.06	5.59	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	75.92
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	6.93	C	70.00
Woods, Good	10.62	D	77.00
Paved roads with curbs & sewers	0.80	C	98.00
Paved roads with open ditches, 50% imp	0.07	C	92.00
> 75% grass cover, Good	1.05	C	74.00
Paved roads with curbs & sewers	0.06	D	98.00
Paved roads with open ditches, 50% imp	0.42	D	93.00
> 75% grass cover, Good	1.05	D	80.00
Composite Area & Weighted CN	21.00		75.92

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft^2)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

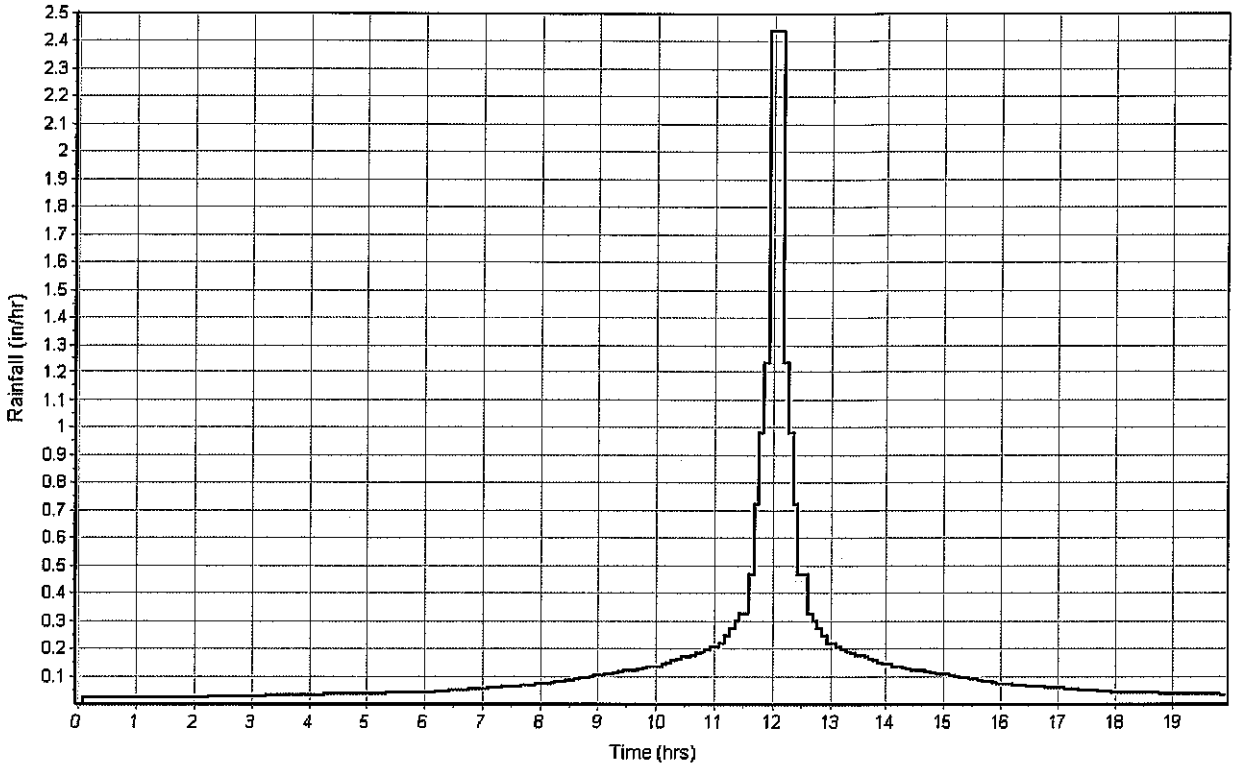
Total TOC (min) 121.00

Subbasin Runoff Results

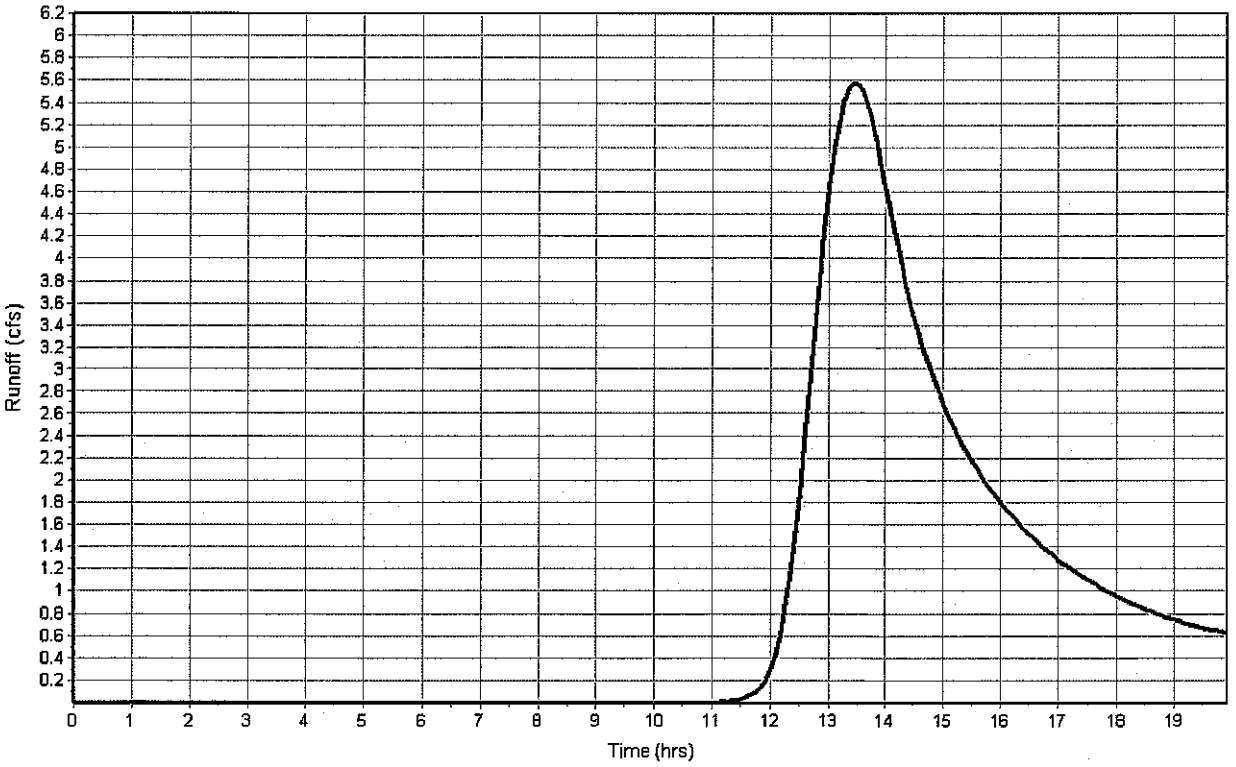
Total Rainfall (in)	2.77
Total Runoff (in)	0.86
Peak Runoff (cfs)	5.59
Weighted Curve Number	75.92
Time of Concentration (days hh:mm:ss)	0 02:01:00

Subbasin : Sub-2

Rainfall Intensity Graph



Runoff Hydrograph



Project Description

File Name ..... Chadwick Woods3 PRO4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
Start Reporting On	Aug 14, 2020	05:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	New York	Orange	10	5.50	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	75.92	5.26	2.74	57.56	18.65	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	75.92
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	6.93	C	70.00
Woods, Good	10.62	D	77.00
Paved roads with curbs & sewers	0.80	C	98.00
Paved roads with open ditches, 50% imp	0.07	C	92.00
> 75% grass cover, Good	1.05	C	74.00
Paved roads with curbs & sewers	0.06	D	98.00
Paved roads with open ditches, 50% imp	0.42	D	93.00
> 75% grass cover, Good	1.05	D	80.00
Composite Area & Weighted CN	21.00		75.92

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

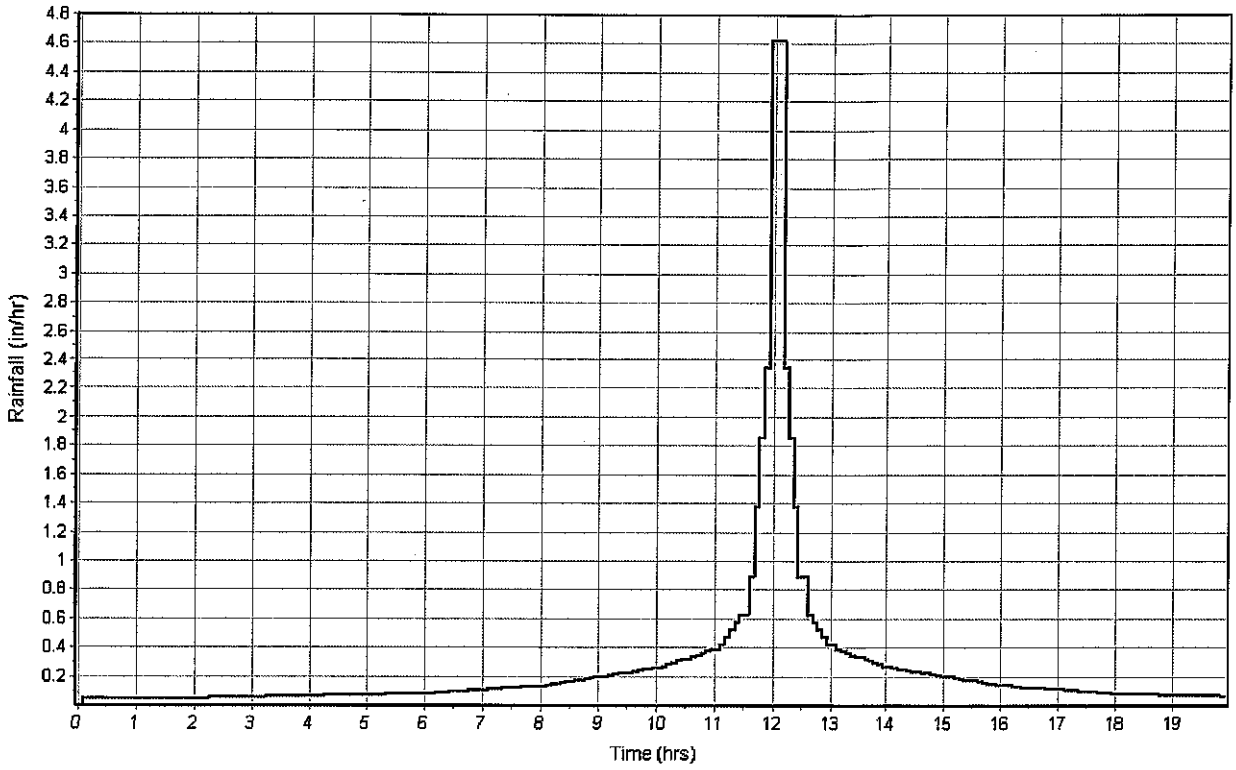
Total TOC (min) 121.00

Subbasin Runoff Results

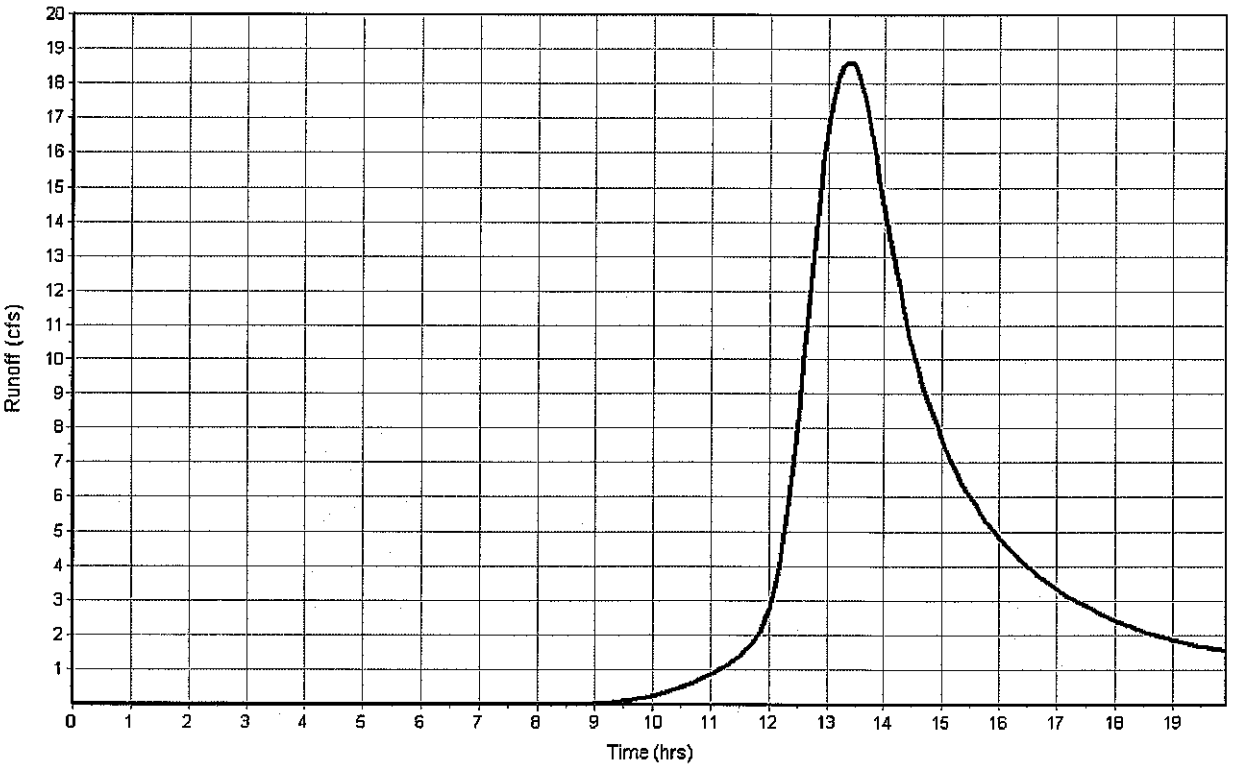
Total Rainfall (in)	5.26
Total Runoff (in)	2.74
Peak Runoff (cfs)	18.65
Weighted Curve Number	75.92
Time of Concentration (days hh:mm:ss)	0 02:01:00

Subbasin : Sub-2

Rainfall Intensity Graph



Runoff Hydrograph



Project Description

File Name ..... Chadwick Woods3 PRO4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
Start Reporting On	Aug 14, 2020	05:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	New York	Orange	25	6.50	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	75.92	6.21	3.56	74.68	24.25	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	75.92
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	6.93	C	70.00
Woods, Good	10.62	D	77.00
Paved roads with curbs & sewers	0.80	C	98.00
Paved roads with open ditches, 50% imp	0.07	C	92.00
> 75% grass cover, Good	1.05	C	74.00
Paved roads with curbs & sewers	0.06	D	98.00
Paved roads with open ditches, 50% imp	0.42	D	93.00
> 75% grass cover, Good	1.05	D	80.00
Composite Area & Weighted CN	21.00		75.92

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
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V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft^2)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

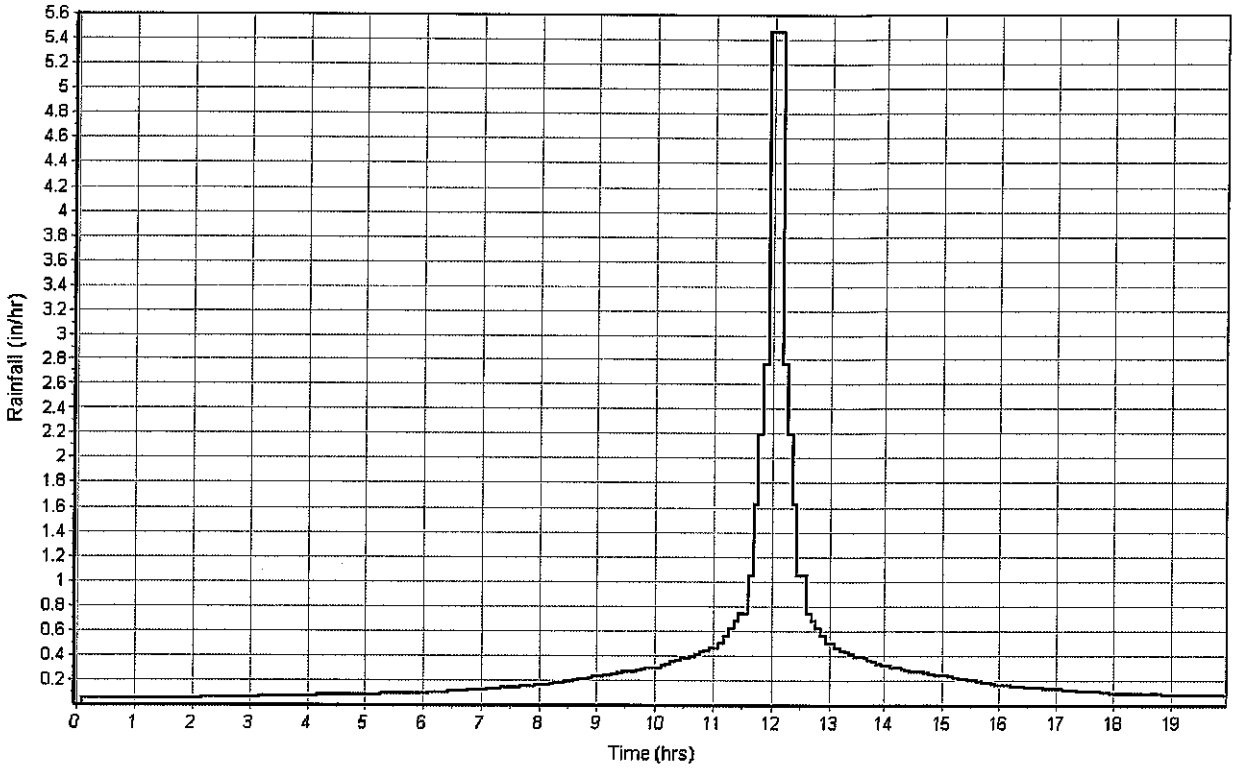
Total TOC (min) 121.00

Subbasin Runoff Results

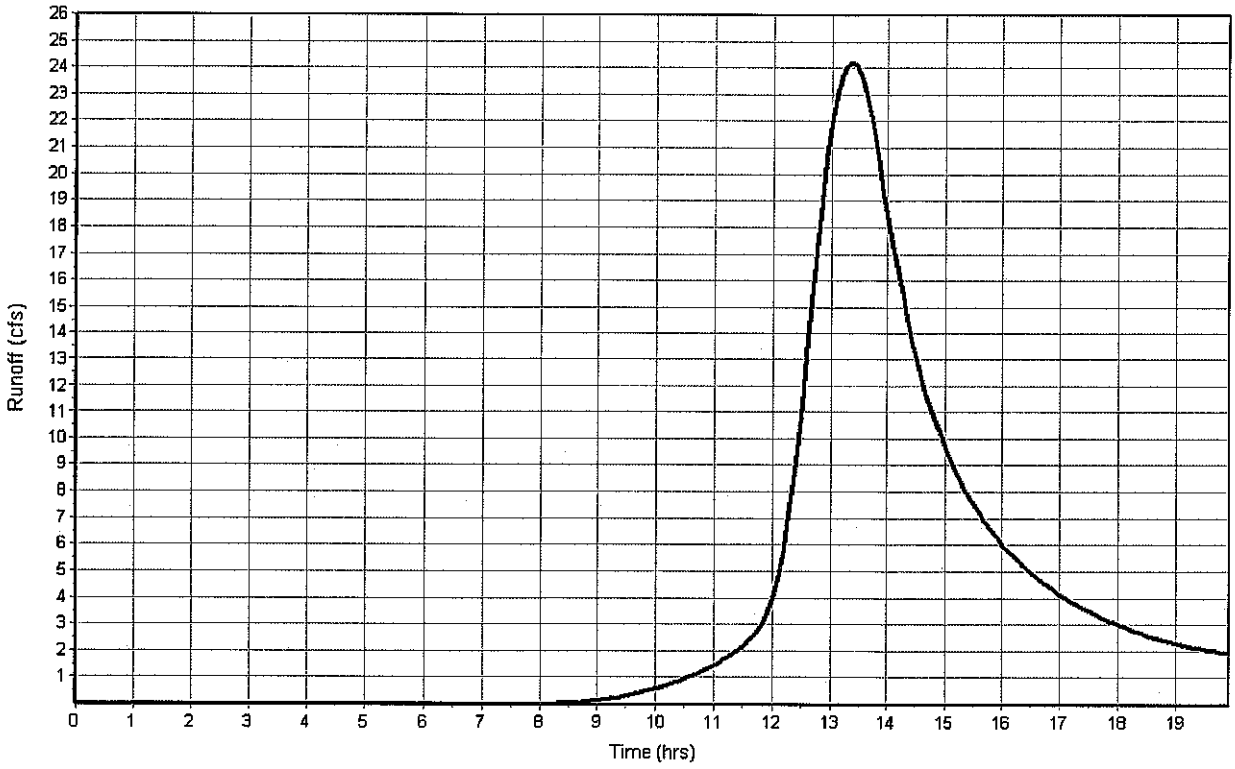
Total Rainfall (in)	6.21
Total Runoff (in)	3.56
Peak Runoff (cfs)	24.25
Weighted Curve Number	75.92
Time of Concentration (days hh:mm:ss)	0 02:01:00

Subbasin : Sub-2

Rainfall Intensity Graph



Runoff Hydrograph



Project Description

File Name ..... Chadwick Woods3 PRO4.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Aug 14, 2020	05:00:00
End Analysis On	Aug 15, 2020	01:00:00
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Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-01	Intensity	inches	New York	Orange	100	8.00	SCS Type III 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-2	21.00	484.00	75.92	7.65	4.83	101.37	32.82	0 02:01:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-1	Outfall	489.00					0.00	0.00					

Subbasin Hydrology

Subbasin : Sub-2

Input Data

Area (ac)	21.00
Peak Rate Factor	484.00
Weighted Curve Number	75.92
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Good	6.93	C	70.00
Woods, Good	10.62	D	77.00
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Paved roads with open ditches, 50% imp	0.07	C	92.00
> 75% grass cover, Good	1.05	C	74.00
Paved roads with curbs & sewers	0.06	D	98.00
Paved roads with open ditches, 50% imp	0.42	D	93.00
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Composite Area & Weighted CN	21.00		75.92

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

$Tc = (0.007 * ((n * Lf)^{0.8})) / ((P^{0.5}) * (Sf^{0.4}))$

Where :

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V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
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R = Aq / Wp
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Where :

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V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.40	0.00	0.00
Flow Length (ft) :	1400	0.00	0.00
Slope (%) :	4.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.5	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	120.59	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	70	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	0.42	0.00	0.00

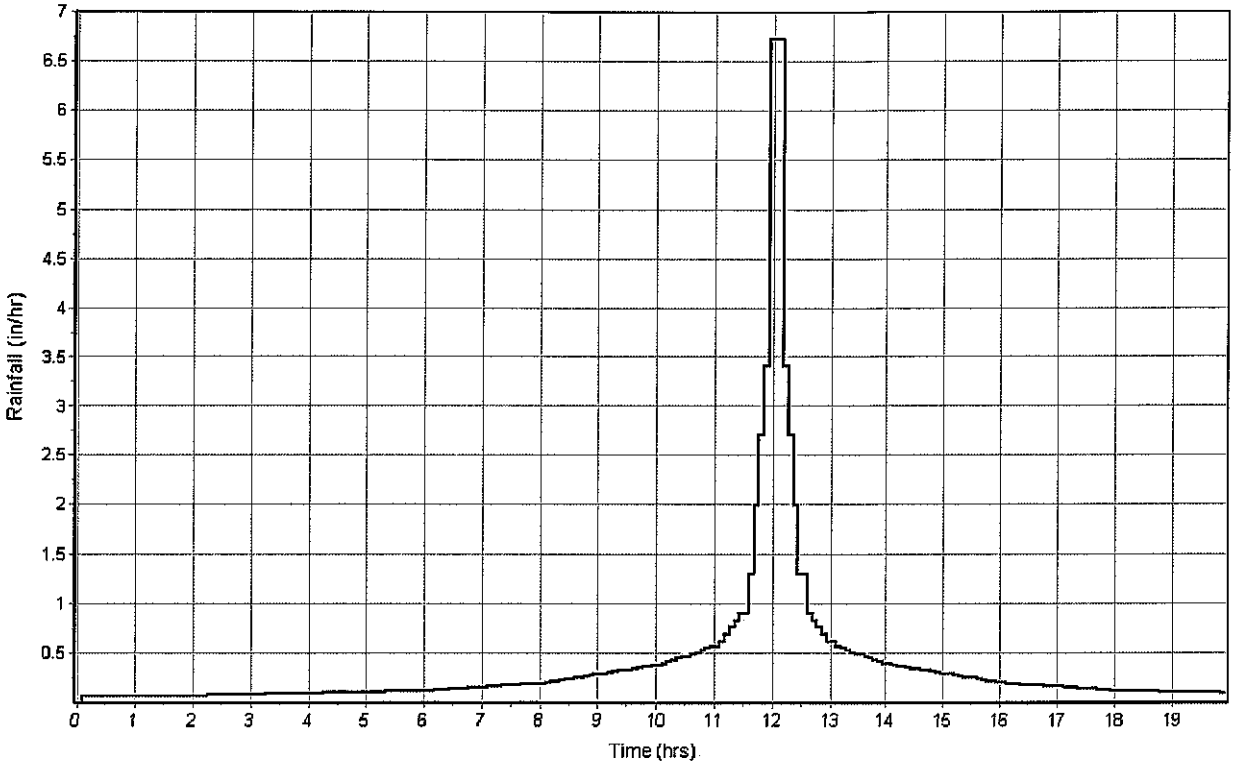
Total TOC (min) 121.00

Subbasin Runoff Results

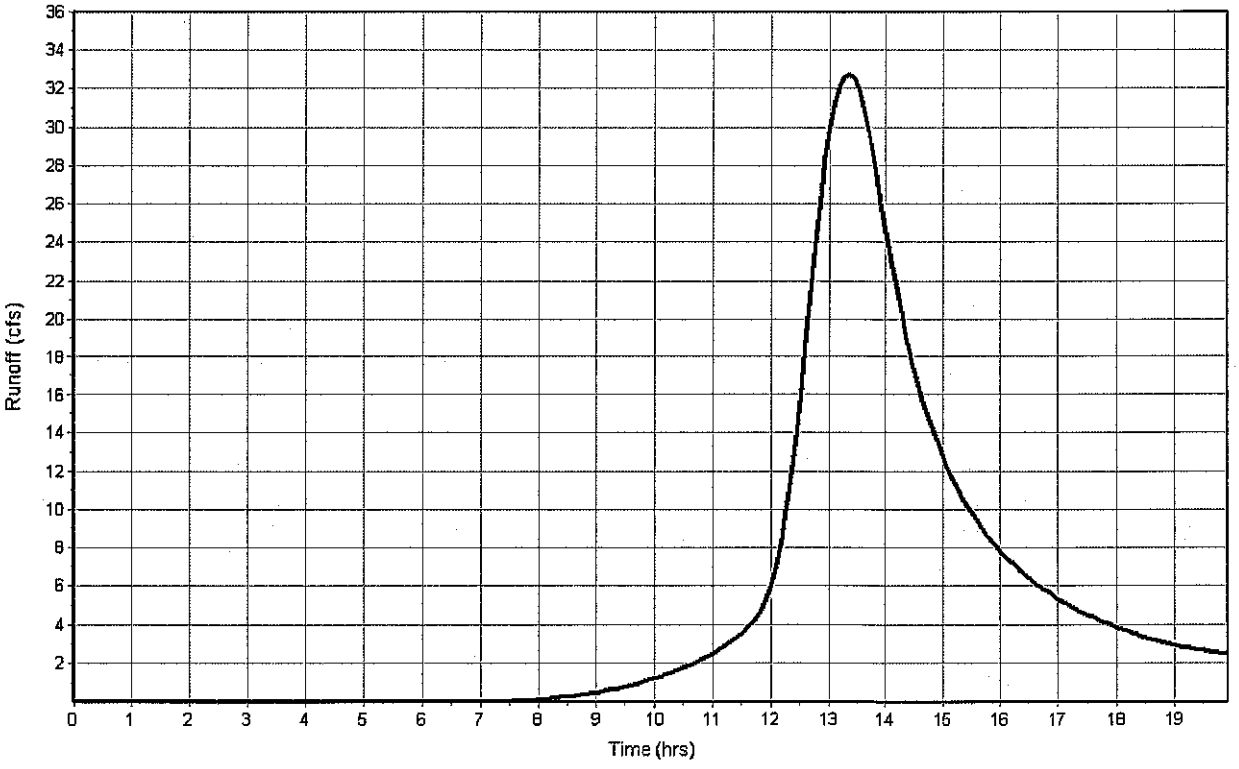
Total Rainfall (in)	7.65
Total Runoff (in)	4.83
Peak Runoff (cfs)	32.82
Weighted Curve Number	75.92
Time of Concentration (days hh:mm:ss)	0 02:01:00

Subbasin : Sub-2

Rainfall Intensity Graph

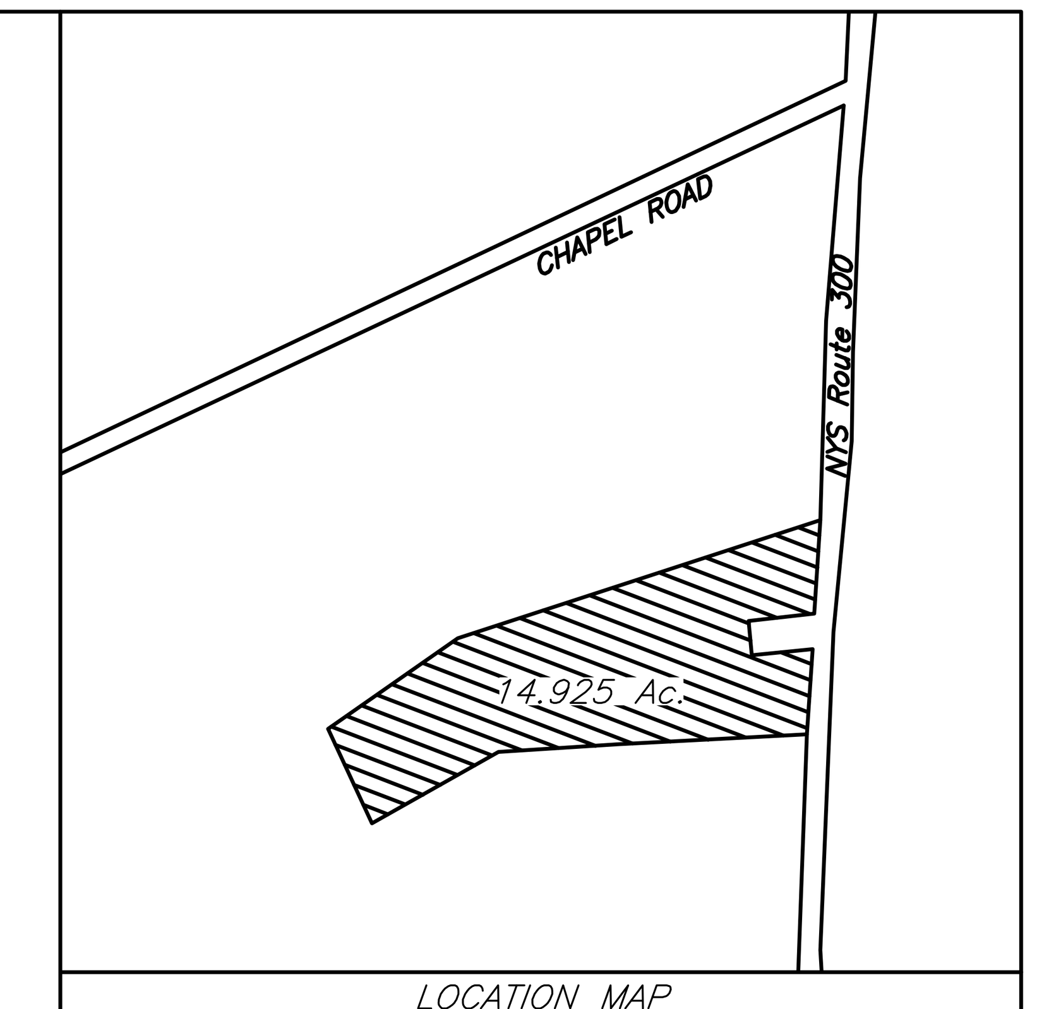


Runoff Hydrograph



LOT NOTES:

1. LOT SPECIFIC PLOT PLAN'S FOR EACH LOT SHALL BE SUBMITTED WITH EACH BUILDING PERMIT APPLICATIONS AND FOUNDATIONS, WELLS AND SEPTIC FIELDS SHALL BE STAKED OUT PER PLOT PLANS BY A LICENSED SURVEYOR PLAN PRIOR TO CONSTRUCTION.
2. AN ASBUILT SURVEY AND CERTIFICATION SHALL BE PROVIDED TO THE TOWN OF NEWBURGH CODE ENFORCEMENT DEPARTMENT PRIOR TO ISSUANCE OF A CERTIFICATION OF OCCUPANCY.
3. THE DEC WETLANDS WERE FLAGGED BY MICHAEL NOWIKI AND LOCATED BY THE SURVEYOR OF RECORD JULY 2021.



LEGEND:

- PROPERTY LINE EXISTING
- PROPERTY LINE PROPOSED
- PROPERTY LINE ADJOINING
- EXISTING CONTOURS (2')
- EXISTING CONTOURS (10')
- CONTOURS PROPOSED (2')
- CONTOURS PROPOSED (10')
- EASEMENT PROPOSED
- SETBACKS
- SILT FENCE
- WATER/POND/STREAM
- STABILIZED CONSTRUCTION ENTRANCE
- DEC WETLANDS
- WATER VALVE PROPOSED
- FIRE HYDRANT PROPOSED
- FIRE HYDRANT EXISTING
- WATER VALVE
- UTILITY POLE
- SWALE
- STONEWALL
- WELL EXISTING
- WATER VALVE — W — 1" OR 1 1/2" WATER SERVICE .
- GATE VALVE — WM — 4" WATERMAIN LINE PROPOSED
- HOUSE EXISTING
- HOUSE PROPOSED
- SEPTIC TANK
- PUMP CHAMBER
- CO — CLEANOUT
- CURTAIN DRAIN
- DISTRIBUTION BOX
- LATERALS
- PERFORATED / NON-PERFORATED
- EXPANSION AREA
- *P# PERCOLATION TEST
- D# DEEP TEST

CALL BEFORE YOU DIG.... IT'S THE LAW

WHETHER YOU'RE LAYING A FOUNDATION FOR A BUILDING OR PLANTING A TREE, YOU MUST FIRST CHECK FOR THE EXISTENCE OF UNDERGROUND UTILITY LINES AND CABLES. IF YOU OR YOUR CONTRACTOR DISRUPT ANY OF THESE LINES, THE RESULTS CAN BE DANGEROUS – AND COSTLY– TO EVERYONE. CALL BEFORE YOU DIG, TOLL FREE, 811

DRAWING INDEX

1. PROPOSED LAYOUT
2. PROPOSED LAYOUT & GRADING
3. SEPTIC DESIGN & TESTING
4. SEPTIC DETAILS
5. EROSION CONTROL DETAILS
6. WATER LINE DETAILS 1
7. ROAD PROFILE & WATER LINE DETAILS 2

APPLICANT:
HUDSON ASSET HOMES, LLC "MIKE MAHER"
50 COCOA LANE
NEWBURGH NY 12550

RECORD OWNER'S CONSENT NOTE:

THE UNDERSIGNED OWNERS OF THE PROPERTY HEREON STATE THAT THEY ARE FAMILIAR WITH THIS PLAN, ITS CONTENTS AND ITS LEGENDS AND HEREBY CONSENT TO ALL SAID TERMS AND CONDITIONS AS STATED HEREON AND TO THE FILING OF THIS PLAN IN THE OFFICE OF THE CLERK OF THE COUNTY OF ORANGE, IF SO REQUIRED.

RECORD OWNER'S SIGNATURE

HUDSON ASSET HOMES, LLC
50 COCOA LANE
NEWBURGH NY 12550

SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY TO THE PARTIES OF INTEREST LISTED BELOW THAT THIS MAP SHOWS THE RESULTS OF AN ACTUAL SURVEY COMPLETED IN THE FIELD IN AUGUST 2021

SIGNATURE — JONATHAN N. MILLEN, LL.S.

TOWN PROJECT # 2019-02
THIS SHEET IS INVALID AND VOID UNLESS ACCOMPANIED BY REMAINING SHEETS IN SET.

REVISIONS

REV.:	DATE:	BY:	DESCRIPTION:
5	2/10/22	RBM	REVISED PER BOARD PB COMMENTS
4	12/09/21	RBM	REVISED PER OCHD
3	07/07/21	RBM	REVISED PER BOARD PB COMMENTS
2	05/12/21	RBM	REVISED PER BOARD PB COMMENTS
1	06/18/20	RBM	REVISED PER BOARD PB COMMENTS

SURVEYOR	ENGINEER
JONATHAN N. MILLEN, LL.S.	CHARLES T. BROWN,P.E.

TALCOTT ENGINEERING DESIGN PLLC
1 GARDNERTOWN ROAD
NEWBURGH, NY 12550
(845)-569-8400
(FAX)(845)-569-4583
TALCOTTDESIGN12@GMAIL.COM

PROPOSED LAYOUT

PROPOSED SUBDIVISION ENTITLED
CHADWICK WOODS
ROUTE 300, SBL 14-1-51
TOWN OF NEWBURGH, ORANGE COUNTY, NY

DATE	SCALE	JOB NUMBER	SHEET NUMBER
01/09/19	1"=50'	17100-MMR	1 OF 7

now or formally
Esposito
14-1-74.5(well)

now or formally
Penuel Pentecostal
Tabernacle (UPC)
14-1-53.32(vanant)

now or formally
Burton
14-1-59(vacant)

now or formally
BURTON
14-1-58(well?)

now or formally
Duff
14-1-53.4(well)

now or formally
Rossi
14-1-53.31(town water)

LOT 4
2.01AC

LOT #3
2.07AC

LOT #1
2.06AC

LOT #5
6.77AC

LOT #2
2.00AC

GF 516
FF 525

GF 516
FF 512

GF 525
FF 527

GF 502
FF 511

GF 496
FF 505

CLEARING AREA

CLEARING AREA (TYP.)

CLEARING AREA

CLEARING AREA

CLEARING AREA

CLEARING AREA

x511.04

10'

1"ø

SLEEVE

PROPOSED SLEEVE

PROPOSED CHECK DAM SWALE

AREA RESERVED FOR DRAINAGE

"CHADWICK WOODS COURT" PROPOSED PRIVATE ROAD

wire fence

EDGE OF PAVEMENT

EXISTING 12" culvert

PROPOSED 12" CULVERT CONECTED TO EXSTING

TIE INTO EXISTING CURBING

BURIED WELL LOCATION PER OWNER

paved drive

now or formally
SCOTT
14-1-52

NYS ROUTE 300
aka North Plank Road (R.O.W. width varies)
POSTED SPEED LIMIT 45MPH

STABILIZED CONSTRUCTION ENTRANCE

PROPOSED; 4" WATER TO CONNECT TO EXISTING 12" MAIN WITH 12"x4" TAPPING SLEEVE AD GATE VALVE IN ACCORDANCE WITH WATER DEPARTMENT REQUIREMENTS.

UTILITY POLE TO BE REMOVED

PROPOSED 15"HDPE CULVERT

EXISTING
12" WATER MAIN
70PSI±

guard rail

now or formally
LOWES
14-1-31

now or formally
LENT
14-1-32

now or formally
MAINES
14-1-33

now or formally
ALEX
14-1-29

now or formally
Hudson Valley Ice Cream
Products Distributor, LLC
14-1-48

NO WELL AND/OR
SEPTIC WITHIN
200' OF PROPERTY LINE

NO WELL AND/OR
SEPTIC WITHIN
200' OF PROPERTY LINE

now of formally
Barnes
14-1-47

LEGEND:

- PROPERTY LINE EXISTING
- PROPERTY LINE PROPOSED
- PROPERTY LINE ADJOINING
- EXISTING CONTOURS (2')
- EXISTING CONTOURS (10')
- CONTOURS PROPOSED (2')
- CONTOURS PROPOSED (10')
- EASEMENT PROPOSED
- SETBACKS
- SILT FENCE
- WATER/POND/STREAM
- STABILIZED CONSTRUCTION ENTRANCE
- DEC WETLANDS
- WATER VALVE PROPOSED
- FIRE HYDRANT PROPOSED
- FIRE HYDRANT EXISTING
- WATER VALVE
- UTILITY POLE
- SWALE
- STONEWALL
- WELL EXISTING
- WATER VALVE — 1" OR 1 1/2" WATER SERVICE PROPOSED
- GATE VALVE — 4" WATERMAIN LINE PROPOSED
- HOUSE EXISTING
- HOUSE PROPOSED
- SEPTIC TANK
- PUMP CHAMBER
- CO — CLEANOUT
- CURTAIN DRAIN
- DISTRIBUTION BOX — EXPANSION AREA
- LATERALS
- P# — PERCOLATION TEST
- D# — DEEP TEST

50'
ROADSIDE SWALE 2'
20'
2'
R.O.W.
MAX. SLOPE
1/4"/FT
1/4"/FT
SEED SLOPES (TYP.)
SEE PAVEMENT SECTION DETAIL TYPICAL
CUT
FILL
ORIGINAL GRADE
HEIGHT OF EMBANKMENT
PRIVATE ROAD CROSS SECTION
N.T.S.
REMOVE ALL TOPSOIL AND UNSUITABLE MATERIAL AS NECESSARY. (TYPICAL)

2" TYPE 3, BITUMINOUS CONCRETE
DOUBLE SURFACE GRAVEL
12" SUBBASE MATERIAL
6" R.O.B GRAVEL OVER
6" CRUSHED SHALE
PAVEMENT SECTION
N.T.S.

CALL BEFORE YOU DIG.... IT'S THE LAW

WHETHER YOU'RE LAYING A FOUNDATION FOR A BUILDING OR PLANTING A TREE, YOU MUST FIRST CHECK FOR THE EXISTENCE OF UNDERGROUND UTILITY LINES AND CABLES. IF YOU OR YOUR CONTRACTOR DISRUPT ANY OF THESE LINES, THE RESULTS CAN BE DANGEROUS – AND COSTLY– TO EVERYONE. CALL BEFORE YOU DIG, TOLL FREE, 811

REVISIONS

REV.:	DATE:	BY:	DESCRIPTION:
5	02/10/22	RBM	REVISED PER BOARD PB COMMENTS
4	12/09/21	RBM	REVISED PER OCHD
3	07/07/21	RBM	REVISED PER BOARD PB COMMENTS
2	05/12/21	RBM	REVISED PER BOARD PB COMMENTS
1	06/18/20	RBM	REVISED PER BOARD PB COMMENTS

TOWN PROJECT # 2019-02
THIS SHEET IS INVALID AND VOID UNLESS ACCOMPANIED BY REMAINING SHEETS IN SET.

ENGINEER

CHARLES T. BROWN, P.E.

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TALCOTTDESIGN12@GMAIL.COM

PROPOSED LAYOUT & GRADING

PROPOSED SUBDIVISION ENTITLED
CHADWICK WOODS
ROUTE 300, SBL 14-1-51
TOWN OF NEWBURGH, ORANGE COUNTY, NY

DATE	SCALE	JOB NUMBER	SHEET NUMBER
01/09/19	1" = 40'	17100- MMR	2 OF 7

LOT #	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5
DEEP TEST DATA:	**D1** 60" DEEP 04/24/17 0–6" TOP SOIL 6"–28" CLAY LOAM W/GRAVEL 28"–60" CLAY LOAM W/GRAVEL "DAMP" NO ROCK, WATER, OR MOTTLING **D2** 78" DEEP 04/24/17 0–6" TOP SOIL 6–32" CLAY LOAM 32–78" CLAY LOAM "DAMP" NO ROCK, WATER , OR MOTTLING **D3** 88" DEEP 04/24/17 0–6" TOP SOIL 6"–55" CLAY LOAM 55"–88" CLAY LOAM "DAMP" NO ROCK, NO WATER, MOTTLING @ 55"	**D11** 72" DEEP 04/24/17 0–6" TOP SOIL 6"–72" CLAY LOAM NO ROCK, WATER @ 50", NO MOTTLING **D12** 72" DEEP 04/24/17 0–6" TOP SOIL 6"–72" CLAY LOAM NO ROCK, WATER @ BOTTOM, MOTTLING @ 46" **D13** 30" DEEP 07/01/19 0–6" TOP SOIL 6"–30" CLAY LOAM NO ROCK, WATER @ BOTTOM, NO MOTTLING	**D4** 84" DEEP 04/24/17 0–6" TOP SOIL 6"–42" CLAY LOAM 42"–84" CLAY LOAM W/SMALL STONES "DAMP" NO ROCK, WATER, OR MOTTLING **D5** 60" DEEP 04/24/17 0–6" TOP SOIL 6"–60" CLAY LOAM NO ROCK, WATER @ 12", MOTTLING @ 12" **D6** 60" DEEP 4/24/17 0–6" TOP SOIL 6–40" CLAY LOAM 40–60" WET CLAY LOAM W/GRAVEL NO ROCK, WATER @ 40", MOTTLING @ 40" **D7** 60" DEEP 4/24/17 0–12" TOP SOIL 12–60" WET CLAY LOAM NO ROCK, WATER @ 24", MOTTLING @ 24" **D10** 30" DEEP 07/01/19 0–6" TOP SOIL 6"–30" CLAY LOAM NO ROCK, WATER, OR MOTTLING	**D41** 72" DEEP 04/24/17 0–6" TOP SOIL 6"–24" CLAY LOAM W/GRAVEL 24"–72" CLAY LOAM NO ROCK, WATER SEEAGE @ 30" **D42** 72" DEEP 04/24/17 0–6" TOP SOIL 6"–24" CLAY LOAM W/GRAVEL 24"–72" CLAY LOAM NO ROCK, WATER SEEAGE @ 30"	**D9** 60" DEEP 04/24/17 0–6" TOP SOIL 6"–60" CLAY LOAM W/STONES NO ROCK, WATER @ 40", NO MOTTLING **D8** 60" DEEP 04/24/17 0–6" TOP SOIL 6"–60" WET CLAY LOAM NO ROCK, WATER @ 28", MOTTLING @ 28" **D14** 30" DEEP 04/24/17 0–6" TOP SOIL 6"–30" CLAY LOAM NO ROCK, WATER, OR MOTTLING
PERCOLATION DATA:	* P1 15" DEEP 04/24/17 1 2 3 FINISH 3:55 4:22 4:50 START 3:11 3:55 4:23 TIME :24 :27 :27 STABILIZED PERCOLATION RATE: 27 MINUTES /INCH *** P2A** 12" DEEP 06/15/17 1 2 3 4 5 FINISH 2:20 2:38 3:20 4:05 4:09 START 2:12 2:21 2:39 3:22 4:06 TIME :08 :17 :41 :43 :43 STABILIZED PERCOLATION RATE: 43 MINUTES /INCH *** P2B** 24" DEEP 06/15/17 1 2 3 4 5 FINISH 1:10 1:47 2:32 3:29 4:49 START 12:52 1:11 1:48 2:35 3:30 TIME :18 :36 :44 :54 :54 STABILIZED PERCOLATION RATE: 54 MINUTES /INCH *** P3A** 12" DEEP 06/15/17 1 2 3 FINISH 2:21 2:30 2:39 START 2:14 2:22 2:31 TIME :07 :08 :08 STABILIZED PERCOLATION RATE: 8 MINUTES /INCH *** P3B** 24" DEEP 06/15/17 1 2 3 4 3 FINISH 1:24 2:03 2:44 3:27 4:18 START 12:55 1:25 2:04 2:38 3:29 TIME :29 :38 :40 :49 :49 STABILIZED PERCOLATION RATE: 49 MINUTES /INCH ****USED FOR DESIGN**	* P11 12" DEEP 11/08/17 1 2 3 FINISH :39 3:45 4:51 START 1:52 2:39 3:45 TIME :47 :66 :66 STABILIZED PERCOLATION RATE: 66 MINUTES /INCH * P12 12" DEEP 11/08/17 1 2 3 FINISH 1:45 3:40 4:40 START 2:40 2:40 3:40 TIME :55 :60 :60 STABILIZED PERCOLATION RATE: 60 MINUTES /INCH * P17 12" DEEP 07/03/18 1 2 3 FINISH 3:41 3:47 3:54 START 3:39 3:41 3:48 TIME :02 :06 :06 STABILIZED PERCOLATION RATE: 6 MINUTES /INCH *** P19** 12" DEEP 07/01/19 1 2 3 FINISH 3:02 3:17 3:32 START 2:49 3:03 3:18 TIME :13 :14 :14 STABILIZED PERCOLATION RATE: 14 MINUTES /INCH ****USED FOR DESIGN**	* P4 16" DEEP 06/15/17 1 2 3 4 FINISH 3:42 4:10 4:40 START 3:29 3:43 4:13 TIME :13 :27 :27 STABILIZED PERCOLATION RATE: 27 MINUTES /INCH * P5 12" DEEP 06/16/17 1 2 3 4 FINISH 2:27 3:05 3:53 4:40 START 2:20 2:30 3:08 3:55 TIME :07 :35 :45 :45 STABILIZED PERCOLATION RATE: 45 MINUTES /INCH *** P6** 12" DEEP 06/16/18 1 2 3 FINISH 12:40 1:30 2:18 START 12:20 12:43 1:31 TIME :20 :47 :47 STABILIZED PERCOLATION RATE: 47 MINUTES /INCH * P7 12" DEEP 06/16/18 1 2 3 FINISH 10:28 11:21 12:15 START 10:17 10:29 11:25 TIME :11 :50 :50 STABILIZED PERCOLATION RATE: 50 MINUTES /INCH * P13 12" DEEP 07/03/18 1 2 3 FINISH 11:26 11:30 11:35 START 11:24 11:26 11:31 TIME :02 :04 :04 STABILIZED PERCOLATION RATE: 4 MINUTES /INCH * P14 12" DEEP 07/03/18 1 2 3 FINISH 12:02 12:30 12:57 START 11:51 12:04 12:31 TIME :11 :26 :26 STABILIZED PERCOLATION RATE: 26 MINUTES /INCH * P15 12" DEEP 07/03/18 1 2 3 FINISH 1:35 1:49 2:02 START 1:24 1:37 1:50 TIME :11 :12 :12 STABILIZED PERCOLATION RATE: 12 MINUTES /INCH *** P18** 12" DEEP 07/01/19 1 2 3 FINISH 3:00 3:17 3:34 START 2:45 3:01 3:18 TIME :15 :16 :16 STABILIZED PERCOLATION RATE: 16 MINUTES /INCH ****USED FOR DESIGN**	* P10 12" DEEP 11/08/17 1 2 3 4 FINISH 12:34 12:44 1:57 4:07 START 11:40 1:40 2:57 3:07 TIME :54 :56 :60 :60 STABILIZED PERCOLATION RATE: 60 MINUTES /INCH *** P41** 12" DEEP 12/20/18 1 2 3 FINISH 1:31 2:29 3:27 START 12:47 1:32 2:30 TIME :44 :57 :57 STABILIZED PERCOLATION RATE: 57 MINUTES /INCH *** P42** 12" DEEP 12/20/18 1 2 3 4 5 FINISH 1:12 1:20 1:38 2:02 2:49 START 1:05 1:12 1:21 1:38 2:14 TIME :07 :08 :17 :24 :25 STABILIZED PERCOLATION RATE: 25 MINUTES /INCH ****USED FOR DESIGN**	* P8 12" DEEP 07/20/17 1 2 3 FINISH 12:41 1:05 3:12 START 1:03 1:50 3:57 TIME :22 :45 :45 STABILIZED PERCOLATION RATE: 45 MINUTES /INCH *** P9** 12" DEEP 07/120/17 1 2 3 4 FINISH 12:05 12:57 1:48 2:39 START 11:30 12:11 12:48 1:49 TIME :35 :46 :50 :50 STABILIZED PERCOLATION RATE: 50 MINUTES /INCH *** P16** 12" DEEP 07/03/18 1 2 3 FINISH 2:36 2:44 2:53 START 2:33 2:37 2:46 TIME :03 :07 :07 STABILIZED PERCOLATION RATE: 7 MINUTES /INCH ****USED FOR DESIGN**
SEPTIC DESIGN CRITERIA:	1. NO. OF BEDROOMS– 4 2. SEPTIC TANK DESIGN–1,250 GAL 3. STABILIZED PERCOLATION RATE– 45–60 MIN 4. FLOW RATE (GALS /DAY)– 440 5. DESIGN LENGTHS: 4 ROWS OF 11 ELJEN UNITS(44'ROWs) = 44 units total((41units REQ'D) * 6. SHALLOW FILL SYSTEM(18") 7. CURTAIN DRAIN REQUIRED	1. NO. OF BEDROOMS– 4 2. SEPTIC TANK DESIGN–1,250 GAL 3. STABILIZED PERCOLATION RATE– 31–45 MIN 4. FLOW RATE (GALS /DAY)– 440 5. DESIGN LENGTHS: 4 ROWS OF 10 ELJEN UNITS(40'ROWs) = 40 units total((37units REQ'D) * 6. SHALLOW FILL SYSTEM(18") 7. CURTAIN DRAIN REQUIRED	1. NO. OF BEDROOMS– 4 2. SEPTIC TANK DESIGN–1,250 GAL 3. STABILIZED PERCOLATION RATE– 45–60 MIN 4. FLOW RATE (GALS /DAY)– 440 5. DESIGN LENGTHS: 4 ROWS OF 11 ELJEN UNITS(44'ROWs) = 44 units total((41units REQ'D) * 6. SHALLOW FILL SYSTEM 7. CURTAIN DRAIN REQUIRED 8. RESERVE AREA REQUIRED PUMP CHAMBER	1. NO. OF BEDROOMS– 4 2. SEPTIC TANK DESIGN–1,250 GAL 3. STABILIZED PERCOLATION RATE– 46–60 MIN 4. FLOW RATE (GALS /DAY)– 440 5. DESIGN LENGTHS: 4 ROWS OF 11 ELJEN UNITS(44'ROWs) = 44 units total((41units REQ'D) * 6. SHALLOW FILL SYSTEM (18") 7. CURTAIN DRAIN REQUIRED	1. NO. OF BEDROOMS– 4 2. SEPTIC TANK DESIGN–1,250 GAL 3. STABILIZED PERCOLATION RATE– 46–60 MIN 4. FLOW RATE (GALS /DAY)– 440 5. DESIGN LENGTHS: 4 ROWS OF 11 ELJEN UNITS(44'ROWs) = 44 units total((41units REQ'D) * 6. SHALLOW FILL SYSTEM(18") 7. CURTAIN DRAIN REQUIRED 8.PUMP CHAMBER REQUIRED

SEPTIC SYSTEM GENERAL NOTES:

1. ALL PORTIONS OF THE SEPTIC FIELD WILL BE A MINIMUM DISTANCE OF 200 FEET UP SLOPE AND 100 FEET DOWN SLOPE FROM ANY WELL.
2. SEPTIC TANK TO BE LOCATED A MINIMUM DISTANCE OF 10 FEET FROM ANY BUILDING OR PROPERTY LINE AND 50' FROM WELL.
3. CELLAR DRAINS, ROOF DRAINS OR FOOTING DRAINS SHALL NOT BE DISCHARGED IN OR INTO THE VICINITY OF ABSORPTION FIELD.
4. NO SWIMMING POOLS, DRIVEWAYS, OR STRUCTURES THAT MAY COMPACT THE SOIL SHALL BE CONSTRUCTED OVER ANY PORTION OF THE ABSORPTION FIELD.
5. NO TRENCHES TO BE INSTALLED IN WET SOIL.
6. RAKE SIDES AND BOTTOM OF TRENCH PRIOR TO PLACING GRAVEL IN ABSORPTION TRENCH.
7. GROUT ALL PIPE PENETRATIONS TO CONC. SEPTIC TANK & DISTRIBUTION BOX.
8. DISTRIBUTION LINES ARE TO BE CAPPED.
9. THE PERIMETER OF THE ABSORPTION FIELD SHOULD BE GRADED TO DIVERT SURFACE WATER.
10. ALL NEWLY DISTURBED AREAS SHALL BE IMMEDIATELY STABILIZED UPON CONSTRUCTION COMPLETION USING GRASS SEED & MULCH.
11. NO SEWAGE SYSTEM SHALL BE PLACED WITHIN 100' OF ANY WATER COURSE OR 35' DRAINAGE DITCH.
12. ALL LAUNDRY AND KITCHEN WASTES SHALL BE DISCHARGED INTO SEWAGE SYSTEM.
13. BENDS SHALL BE USED WHEN ENTRANCE OR EXIT FROM SEPTIC TANK IS NOT APPROXIMATELY STRAIGHT. IF BENDS ARE USED AT POINTS OTHER THAN ENTRANCE OR EXIT POINTS, THEN A CLEANOUT IS REQUIRED.
14. THE DESIGN AND LOCATION OF THE SANITARY FACILITIES SHALL NOT BE CHANGED WITHOUT RESUBMISSION FOR APPROVAL.
15. HEAVY EQUIPMENT SHALL BE KEPT OFF THE AREA OF THE ABSORPTION FIELDS EXCEPT DURING THE ACTUAL CONSTRUCTION. THERE SHALL BE NO UNNECESSARY MOVEMENT OF CONSTRUCTION EQUIPMENT IN THE ABSORPTION FIELD AREA BEFORE, DURING, OR AFTER CONSTRUCTION.
16. THIS SYSTEM WAS NOT DESIGNED TO ACCOMMODATE GARBAGE GRINDERS, JACUZZI TYPE SPA TUBS OVER 100 GALLONS, OR WATER CONDITIONERS. AS SUCH, THESE ITEMS SHALL NOT BE INSTALLED UNLESS THE SYSTEM IS REDESIGNED TO ACCOUNT FOR THESE.
17. THERE MUST BE AN UNINTERRUPTED POSITIVE SLOPE FROM THE SEPTIC TANK (OR ANY PUMPING OR DOSING CHAMBER) TO THE HOUSE, ALLOWING SEPTIC GASES TO DISCHARGE THROUGH THE STACK VENT.
18. THE PURCHASER OF THIS LOT SHALL BE PROVIDED WITH A COPY OF THE APPROVED PLANS AND AN ACCURATE AS–BUILT DRAWING OF ANY EXISTING SANITARY FACILITIES.
19. THE DESIGN ENGINEER WILL BE REQUIRED TO CERTIFY THE COMPLETED DISPOSAL FACILITY.
20. AN ASBUILT SURVEY AND CERTIFICATION SHALL BE PROVIDED TO THE TOWN OF NEWBURGH CODE ENFORCEMENT DEPARTMENT PRIOR TO ISSUANCE OF A CERTIFICATION OF OCCUPANCY.

STANDARD NOTES:

THE DESIGN, CONSTRUCTION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THIS PLAN AND GENERALLY ACCEPTED STANDARDS IN EFFECT AT THE TIME OF CONSTRUCTION WHICH INCLUDE:

"APPENDIX 75–A, WASTE TREATMENT – INDIVIDUAL HOUSEHOLD SYSTEMS, NEW YORK STATE SANITARY CODE."
"WASTE TREATMENT HANDBOOK, INDIVIDUAL HOUSEHOLD SYSTEMS, NEW YORK STATE DEPARTMENT OF HEALTH."
"RURAL WATER SUPPLY, NEW YORK STATE DEPARTMENT OF HEALTH."
"PLANNING THE SUBDIVISION AS PART OF THE TOTAL ENVIRONMENT, NEW YORK STATE DEPARTMENT OF HEALTH."

"THIS PLAN IS APPROVED AS MEETING THE APPROPRIATE AND APPLIED TECHNICAL STANDARDS, GUIDELINES, POLICIES AND PROCEDURES FOR ARRANGEMENT OF SEWAGE DISPOSAL AND TREATMENT AND WATER SUPPLY FACILITIES.

ALL WELLS AND S.D.S. EXISTING OR APPROVED WITHIN 200' OF THE PROPOSED WELLS AND S.D.S. ARE SHOWN ON THIS PLAN ALONG WITH ANY OTHER ENVIRONMENTAL HAZARDS IN THE AREA THAT MAY AFFECT THE DESIGN AND FUNCTIONAL ABILITY OF THE S.D.S. AND WELL. IT SHALL BE DEMONSTRATED BY THE CONTRACTOR TO THE CERTIFYING ENGINEER THAT THE SEPTIC TANK IS SEALED, WATER TIGHT AND ACCEPTABLE FOR USE. THIS SHALL REQUIRE, AS A MINIMUM, THE FILLING OF THE TANK WITH WATER TO OBSERVE IF IT IS IN FACT SEALED, WATERTIGHT AND ACCEPTABLE FOR USE.

ALL PROPOSED WELLS AND SERVICE LINES ON THIS PLAN ARE ACCESSIBLE FOR INSTALLATION AND PLACEMENT.

TRENCH BOTTOMS TO BE SET LEVEL AND PARALLEL TO EXISTING CONTOURS.

MAXIMUM DEPTH OF USABLE FILL PLUS 6" OF TOPSOIL SHALL NOT EXCEED 30".

* SEWAGE DISPOSAL SYSTEMS MUST BE CONSTRUCTED USING THE "ELJEN B43 GSF TRENCH" AS MANUFACTURED BY ELJEN SYSTEMS. SEE ELJEN SYSTEMS NOTES AND DETAILS ON SHEET 4

REVISIONS			
REV.:	DATE:	BY:	DESCRIPTION:
6	02/10/22	RBM	REVISED PER BOARD PB COMMENTS
5	12/09/21	RBM	REVISED PER OCHD
4	07/07/21	RBM	REVISED PER BOARD PB COMMENTS
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ENGINEER

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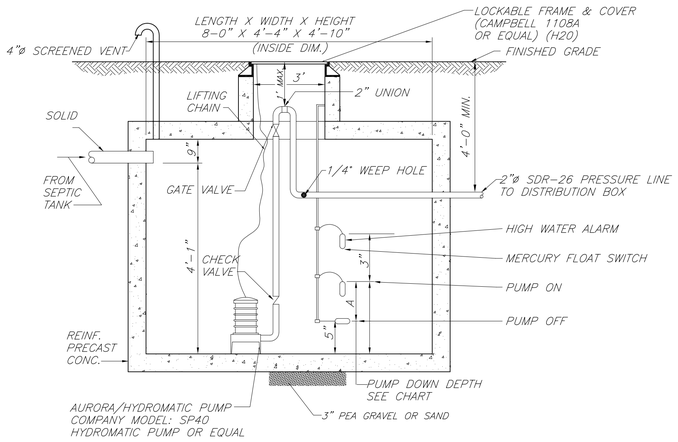
TALCOTTDESIGN12@GMAIL.COM

SEPTIC DESIGN & TESTING

PROPOSED SUBDIVISION ENTITLED
CHADWICK WOODS
ROUTE 300, SBL 14–1–51
TOWN OF NEWBURGH, ORANGE COUNTY, NY

DATE	SCALE	JOB NUMBER	SHEET NUMBER
01/11/19	N.T.S.	17100– MMR	3 OF 7



PUMP CHAMBER
N.T.S.

PUMP CHAMBER NOTES:

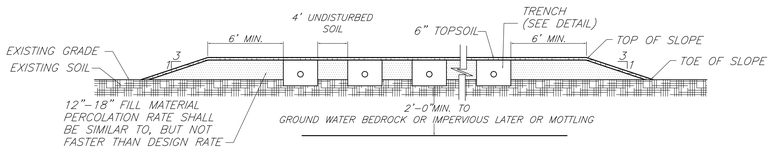
1. CONTRACTOR SHALL DETERMINE LENGTHS OF REQUIRED ELECTRICAL CABLE AND AVAILABLE VOLTAGE PRIOR TO ORDERING EQUIPMENT.
2. ALL WIRING SHALL CONFORM TO NATIONAL ELECTRICAL CODE & LOCAL CODE REQUIREMENTS.
3. THE POWER AND CONTROL WIRING SHALL BE MADE DIRECTLY TO THE CONTROL PANEL WITHOUT AND OUTSIDE SPLICES. CONTROL PANEL TO BE LOCATED INSIDE BASEMENT OF HOUSE AUDIBLE ALARMS AND FLASHING LIGHT.
4. A N.Y.S. PROFESSIONAL ENGINEER MUST CERTIFY TO THE CONSTRUCTION OF THE SYSTEM.
5. QUANTITY DOSED IS BASED UPON 3.5GAL/ELJEN UNIT AND 100% OF FORCE MAIN.
6. QUANTITY STORED IS BASED UPON (1) DAYS FLOW MINIMUM.
7. AS-BUILT MUST SHOW FORCE MAIN LOCATION.

LOT 5 PUMP CHAMBER DATA

PUMP DOWN DEPTH: 7 1/2"(A)
STORAGE CALC.: 21.61 GALS/IN
STORAGE DEPTH: 2'-9 1/2"
DOSE QTY (GALS.): 162.08 GALS.
STORAGE QTY (GALS.): 723.84 GALS.
MAX. ELEV. DIFFERENTIAL: 30'

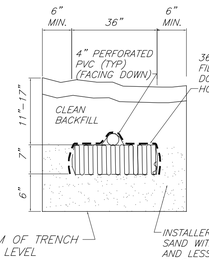
LOT 5 DOSING QUANTITY

FORCE MAIN: 75' X 0.163GAL/LF = 12.23 GAL.
ELJEN LATS.:44@3.5= 154.00 GAL.
166.23 GAL. TOTAL

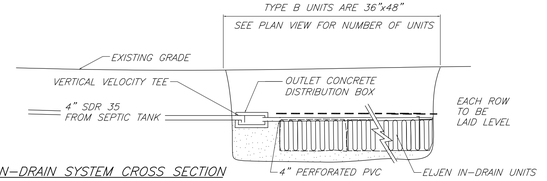


SHALLOW SYSTEM DETAIL
N.T.S.

NOTES:
1. BOTTOM OF ALL TRENCHES SHALL NOT BE ABOVE ORIGINAL USABLE SOIL
2. MAXIMUM DEPTH OF USABLE FILL PLUS 6" OF TOPSOIL SHALL NOT EXCEED 30".
3. MAXIMUM COVER OVER TRENCH AGGREGATE SHALL NOT EXCEED 12".



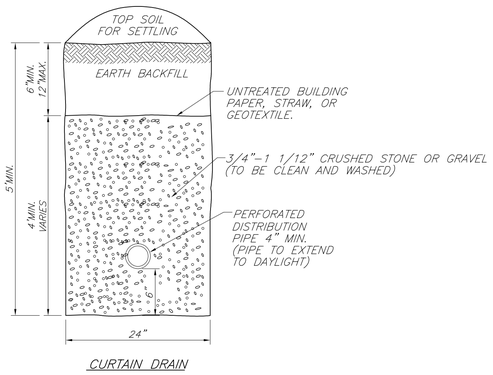
ELJEN IN-DRAIN SYSTEM CROSS SECTION
N.T.S.



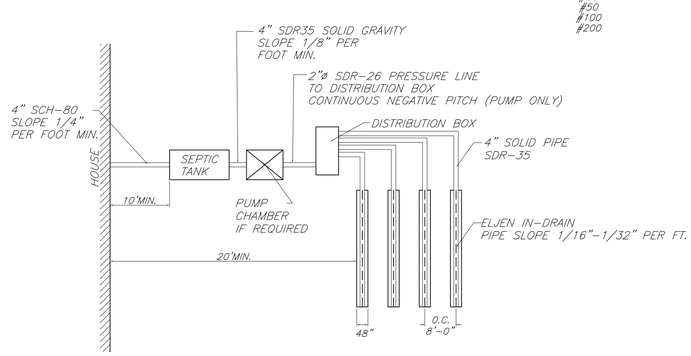
ELJEN IN-DRAIN SYSTEM
N.T.S.

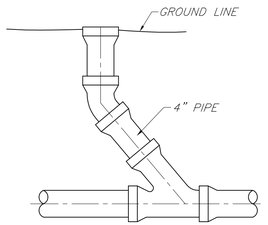
ASTM C33
SAND SPECIFICATION

SIEVE SIZE	SIEVE SQUARE OPENING SIZE	SPECIFICATIONS PERCENT PASSING (WET SIEVE)
0.375"	9.5mm	100.0-100.0
#4	4.75mm	95.0-100.0
#8	2.36mm	80.0-100.0
#16	1.18mm	50.0-85.0
#30	600um	25.0-60.0
#50	300um	5.0-30.0
#100	150um	<10.0
#200	75um	<5.0



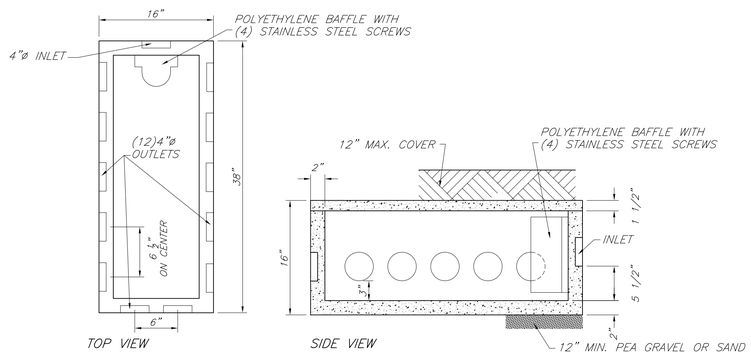
CURTAIN DRAIN





CLEANOUT DETAIL
N.T.S.

TO BE INSTALLED BEFORE BEND AT ALL BEND LOCATIONS AND AT EVER 75' OF STRAIGHT PIPE. (DO NOT USED WITH PUMP CHAMBER)

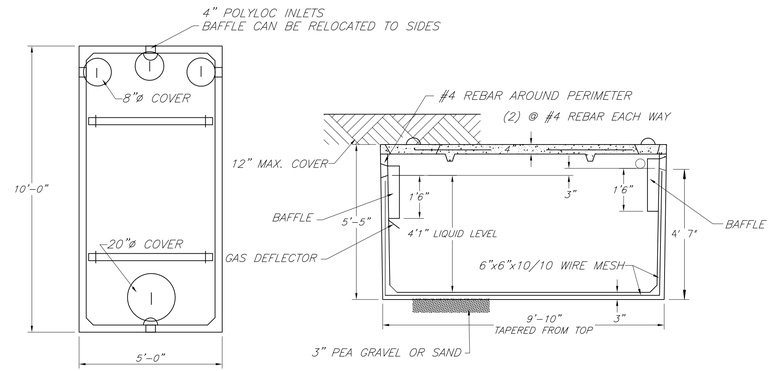


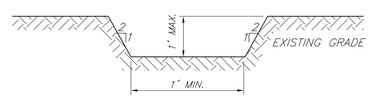
WOODARD'S 12 OUTLET DISTRIBUTION BOX OR EQUAL
N.T.S.

SPECIFICATIONS
CONCRETE MINIMUM STRENGTH- 4,000 PSI AT 28 DAYS
REINFORCEMENT- 6"x6"10GA. WIRE MESH
AIR ENTRAPMENT- 5%
PIPE CONNECTION- POLYLOK SEAL (PATENTED)
LOAD RATING- 300PSF WEIGHT= 325 LBS.

1. INSERT A SPEED LEVELER IN THE END OF ALL OUTLET PIPES IN THE DROPBOX.
2. ROTATE UNTIL EFFLUENT ENTERS ALL OUTLETS EQUALLY.

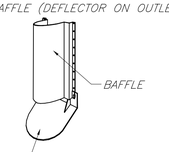
WOODARD'S SPEED LEVELER FSL-4
N.T.S.





GRASS SWALE DETAIL
N.T.S.

BAFFLE (DEFLECTOR ON OUTLET ONLY)



WOODARD'S 1250gal. SEPTIC TANK OR EQUAL
N.T.S.

SPECIFICATIONS
CONCRETE MINIMUM STRENGTH- 4,000 PSI AT 28 DAYS
REINFORCEMENT- 6"x6"10GA. WWF, #4 REBAR
AIR ENTRAPMENT- 5%
CONSTRUCTION JOINT- BUTYL RUBBER - BASE CEMENT
PIPE CONNECTION- POLYLOC SEAL (PATENTED)
LOAD RATING- 300PSF WEIGHT = 9,500LBS

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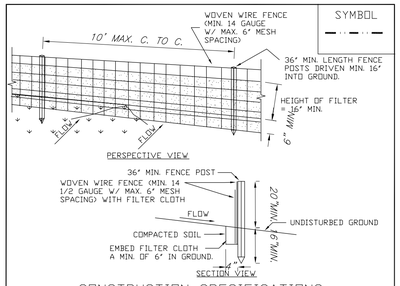
SEPTIC DETAILS

PROPOSED SUBDIVISION ENTITLED
CHADWICK WOODS
ROUTE 300, SBL 14-1-51
TOWN OF NEWBURGH, ORANGE COUNTY, NY

DATE	SCALE	JOB NUMBER	SHEET NUMBER
01/11/19	N.T.S.	17100- MMR	4 OF 7

CONSTRUCTION SCHEDULE FOR EACH LOT

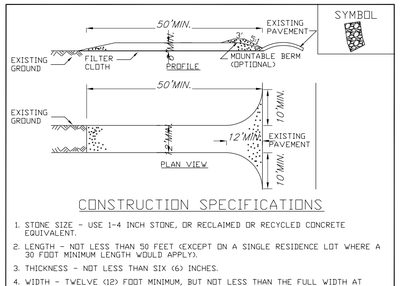
1. OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2. FLAG THE WORK LIMITS
3. HOLD PRE-CONSTRUCTION CONFERENCE AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION.
4. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT.
5. INSTALL SILT FENCE
6. COMPLETE SITE CLEARING
7. ROUGH GRADE SITE, STOCKPILE TOPSOIL, INSTALL DRIVEWAY CULVERT
8. EXCAVATE FOR FOUNDATION
9. BUILD FOUNDATION
10. FRAME HOUSE
11. BACKFILL FOUNDATION
12. FINISH THE SLOPES AROUND BUILDINGS AS SOON AS ROUGH GRADING IS COMPLETE. LEAVE THE SURFACE SLIGHTLY ROUGHENED AND VEGETATE AND MULCH IMMEDIATELY.
13. COMPLETE FINAL GRADING FOR DRIVEWAY AND BUILDING.
14. AFTER THE SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.
15. ESTIMATED TIME BEFORE FINAL STABILIZATION--9 MONTHS.



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

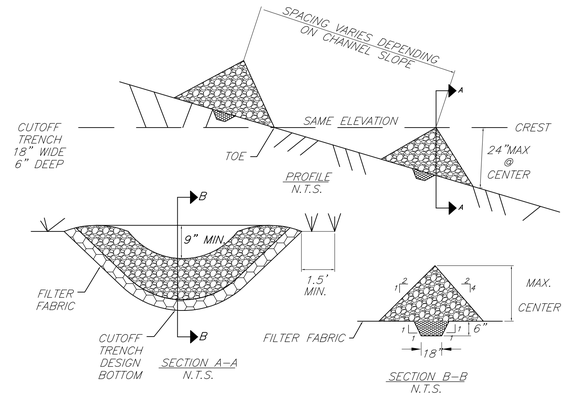
ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	SILT FENCE



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ACCESS SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STABILIZED CONSTRUCTION ACCESS



ROCK DAMS FOR SILTATION CONTROL
N.T.S.

DRAINAGE AREA: <5ac
BOTTOM WIDTH: 4'
DEPTH:1'
SIDE SLOPE: 2:1 OR FLATER
GRADE: .5%min-20%max.

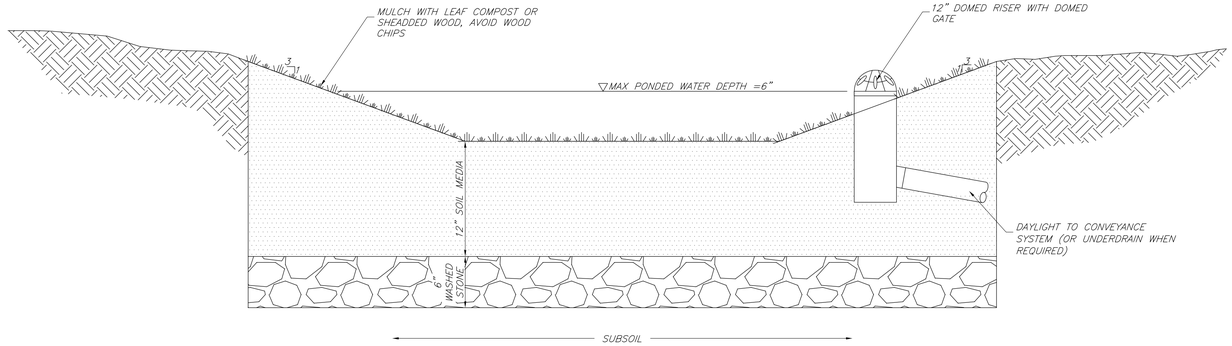
VEGETATION REQUIREMENTS

1.) SITE PREPARATION
A. INSTALL NEEDED WATER AND EROSION CONTROL MEASURES AND BRING AREA TO BE SEEDED TO DESIRED GRADES USING A MINIMUM OF 4 IN. TOPSOIL.
B. PREPARE SEEDBED BY LOOSENING SOIL TO A DEPTH OF 4-6 INCHES.
C. LIME TO A PH OF 6.5
E. FERTILIZE AS PER SOIL TEST OR, IF FERTILIZER MUST BE APPLIED BEFORE SOIL TEST RESULTS ARE RECEIVED, APPLY 850 POUNDS OF 5-10-10 OR EQUIVALENT
PER ACRE (20 LBS/1,000 SQ. FT.)
F. INCORPORATE LIME AND FERTILIZER IN TOP 2-4 INCHES OF TOPSOIL.
G. SMOOTH. REMOVE ALL STONES OVER 1 INCH IN DIAMETER, STICKS, AND FOREIGN MATTER FROM THE SURFACE. FIRM THE SEEDBED.
2.) PLANTING--SUNNY LOCATION.
USE A CULTIPACKER TYPE SEEDER IF POSSIBLE. SEED TO A DEPTH OF 1/8 TO 1/4 INCH. IF SEED IS TO BE BROADCAST, CULTIPACK OR ROLL AFTER SEEDING. IF
HYDROSEEDED, LIME AND FERTILIZER MAY BE APPLIED THROUGH THE SEEDER AND ROLLING IS NOT PRACTICAL. SEED USING THE FOLLOWING MIX AND RATES

GRASS SEEDING CHART

SPECIES (% BY WEIGHT)	LBS./1,000SQ.FT	LBS./ACRE
65% KENTUCKY BLUEGRASS BLEND	2.0-2.6	85-114
20% PERENNIAL RYEGRASS	0.6-0.8	26-35
15% FINE FENSCUE	0.4-0.6	19-26
	3.0-4.0	130-175
100% TALL FENSCUE, TURF-TYPE, FINE LEAF	3.4-4.6	150-200

3.) WHEN USING THE CULTIPACKER OR BROADCAST SEED METHOD, MULCH USING SMALL GRAIN STRAW, APPLIED AT A RATE OF 2 TONS PER ACRE; AND ANCHOR
WITH A NETTING OR TACKIFIER. HYDROSEED APPLICATIONS SHOULD INCLUDE MULCH, FERTILIZER AND SEED.
COMMON WHITE CLOVER CAN BE ADDED TO MIXTURES AT THE RATE OF 1-2 LBS/ACRE TO HELP MAINTAIN GREEN COLOR DURING THE DRY SUMMER PERIOD,
HOWEVER, THEY WILL NOT WITHSTAND HEAVY TRAFFIC. FERTILIZING--FIRST YEAR, (SPRING SEEDLINGS) THREE TO FOUR WEEKS AFTER GERMINATION APPLY 1
POUND NITROGEN/1,000 SQUARE FEET USING A COMPLETE FERTILIZER WITH A 2-1-1 OR 4-1-3 RATIO OR AS RECOMMENDED BY SOIL TEST RESULTS. FOR
SUMMER AND EARLY FALL SEEDINGS, APPLY AS ABOVE UNLESS AIR TEMPERATURES ARE ABOVE 85°F FOR EXTENDED PERIOD. WAIT UNTIL HEAT WAVE IS OVER
TO FERTILIZE: FOR LATE FALL/ WINTER SEEDINGS, FERTILIZE IN SPRING. RESTRICT USE--NEW SEEDLINGS SHOULD BE PROTECTED FROM USE FOR ONE FULL YEAR TO
ALLOW DEVELOPMENT OF A DENSE SOD WITH GOOD ROOT STRUCTURE



RAIN GARDEN PROFILE
N.T.S.

NOTES:
1. RAIN GARDENS SHALL BE SPECIFICALLY LOCATED ON PLOT PLAN FOR BUILDING PERMITS.
2. RAIN GARDENS SHALL BE SIZED AND CONSTRUCTED PER 5.3.7. OF THE NYS STORM WATER DESIGN MANUAL.
3. RAIN GARDEN SHALL BE SIZED PER SPECIFIC PROPOSED HOUSE ON EACH LOT.
4. RAIN GARDEN CALCS SHALL BE ON EACH PLOT PLANS.

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EROSION CONTROL DETAILS

PROPOSED SUBDIVISION ENTITLED
CHADWICK WOODS
ROUTE 300, SBL 14-1-51
TOWN OF NEWBURGH, ORANGE COUNTY, NY

DATE	SCALE	JOB NUMBER	SHEET NUMBER
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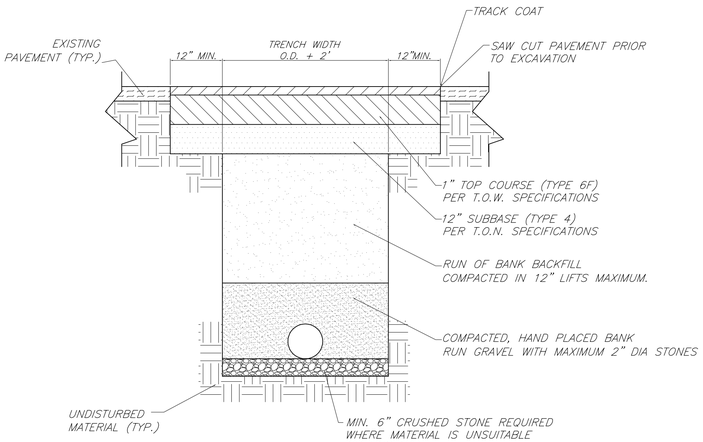
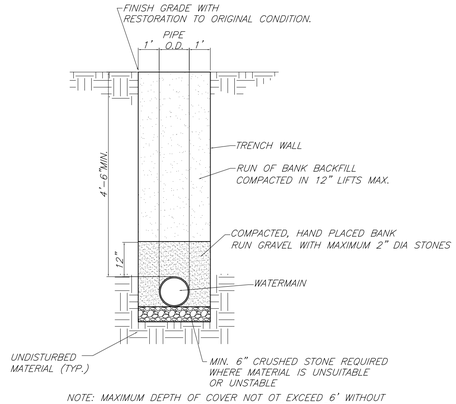


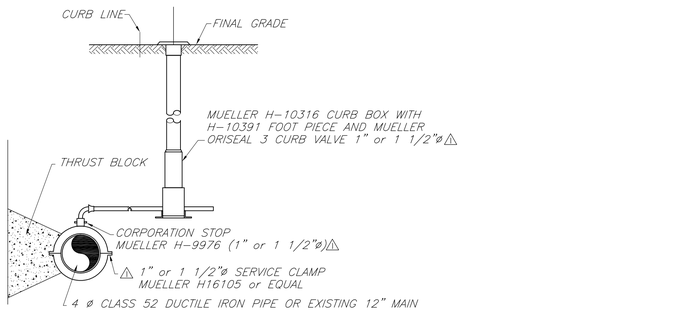
NOTE: MAXIMUM DEPTH OF COVER NOT OTC EXCEED 6' WITHOUT APPROVAL OF THE TOWN WATER SUPERINTENDENT.

TRENCH EXCAVATION AND BACKFILL (UNDER PAVEMENT)
N.T.S.



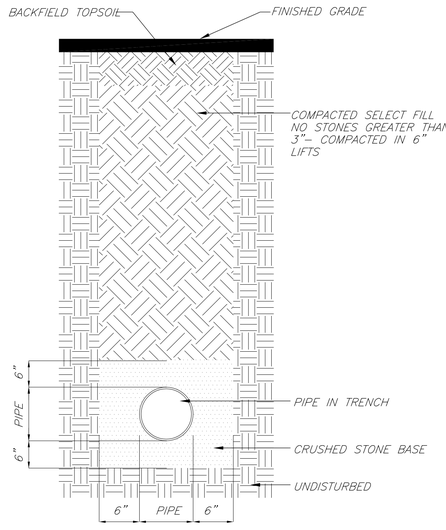
NOTE: MAXIMUM DEPTH OF COVER NOT OT EXCEED 6' WITHOUT APPROVAL OF THE TOWN WATER SUPRTINTENDENT.

WATERMAIN TRENCH EXCAVATION AND BACKFILL (OUTSIDE PAVEMENT)
N.T.S.



NOTES
1. ALL WATER SERVICE LINES TO BE TYPE K COPPER TO CURB BOX, HDPE FROM CURB BOX TO HOUSE PLACED AT 4'-6' min. DEPTH.
2. PROVIDED SLEEVES WHERE CURB BOX LIP WILL BE SET IN CONCRETE
3. THE FOLLOWING ACCESSORIES SHALL BE PROVIDED TO THE THE OWNER:
   A. SIX (6) SPARE LIDS w/PLUG (MUELLER 89981)
   B. TWO (2) PENTAGON KEYS (MUELLER H-10323)
   C. TWO (2) SHUT-OFF KEYS (MUELLER H-10321)

CURB STOP DETAIL
N.T.S.



PIPE BEDDING DETAIL
NO SCALE

TOWN OF NEWBURGH WATER SYTEM NOTES FOR SITE PLANS

1. "CONSTRUCTION OF POTABLE WATER UTILITIES AND CONNECTION TO THE TOWN OF NEWBURGH WATER SYSTEM REQUIRES A PERMIT FROM THE TOWN OF NEWBURGH WATER DEPARTMENT. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE NYSDOH AND THE TOWN OF NEWBURGH."
2. ALL WATER SERVICE LINES FOUR (4) INCHES AND LARGER IN DIAMETER SHALL BE CEMENT LINED CLASS 52 DUCTILE IRON PIPE CONFORMING TO ANSI\AWWA C151\A21.51 FOR DUCTILE IRON PIPE, LATEST REVISION. JOINTS SHALL BE EITHER PUSH-ON OR MECHANICAL JOINT AS REQUIRED.
3. THRUST RESTRAINT OF THE PIPE SHALL BE THROUGH THE USE OF JOINT RESTRAINT. THRUST BLOCKS ARE NOT ACCEPTABLE. JOINT RESTRAINT SHALL BE THROUGH THE USE OF MECHANICAL JOINT PIPE WITH RETAINER GLANDS. ALL FITTINGS AND VALVES SHALL ALSO BE INSTALLED WITH RETAINER GLANDS FOR JOINT RESTRAINT. RETAINER GLANDS SHALL BE EBBA IRON MEGALUG SERIES 1100 OR APPROVED EQUAL. THE USE OF A MANUFACTURED RESTRAINED JOINT PIPE IS ACCEPTABLE WITH PRIOR APPROVAL OF THE WATER DEPARTMENT.
4. ALL FITTINGS SHALL BE CAST IRON OR DUCTILE IRON, MECHANICAL JOINT, CLASS 250 AND CONFORM TO ANSI\AWWA C110\A21.10 FOR DUCTILE AND GRAY IRON FITTINGS OR ANSI\AWWA C153\A21.53 FOR DUCTILE IRON COMPACT FITTINGS, LATEST REVISION.
5. ALL VALVES 4 TO 12 INCHES SHALL BE RESILIENT WEDGE GATE VALVES CONFORMING TO ANSI\AWWA C509 SUCH AS MUELLER MODEL A-2360-23 OR APPROVED EQUAL. ALL GATE VALVES SHALL OPEN LEFT (COUNTERCLOCKWISE).
6. TAPPING SLEEVE SHALL BE MECHANICAL JOINT SUCH AS MUELLER H-615 OR EQUAL. TAPPING VALVES 4 TO 12 INCHES SHALL BE RESILIENT WEDGE GATE VALVES CONFORMING TO ANSI\AWWA C509 SUCH AS MUELLER MODEL T-2360-19 OR APPROVED EQUAL. ALL TAPPING SLEEVES AND VALVES SHALL BE TESTED TO 150 PSI MINIMUM; TESTING OF THE TAPPING SLEEVE AND VALVE MUST BE WITNESSED AND ACCEPTED BY THE TOWN OF NEWBURGH WATER DEPARTMENT PRIOR TO CUTTING INTO THE PIPE.
7. ALL HYDRANTS SHALL BE CLOW-EDDY F-2640 CONFORMING TO AWWA STANDARD C502, LATEST REVISION. ALL HYDRANTS SHALL INCLUDE A 5 ¼ INCH MAIN VALVE OPENING, TWO 2 ½ INCH DIAMETER NPT HOSE NOZZLES, ONE 4 INCH NPT STEAMER NOZZLE, A 6 INCH DIAMETER INLET CONNECTION AND A 1 ½ INCH PENTAGON OPERATING NUT. ALL HYDRANTS SHALL OPEN LEFT (COUNTER-CLOCKWISE). HYDRANTS ON MAINS TO BE DEDICATED TO THE TOWN SHALL BE EQUIPMENT YELLOW. HYDRANTS LOCATED ON PRIVATE PROPERTY SHALL BE RED.
8. ALL WATER SERVICE LINES TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING. CORPORATION STOPS SHALL BE MUELLER H-15020N FOR ¾ AND 1 INCH, MUELLER H-15000N OR B-25000N FOR 1 ½ AND 2 INCH SIZES. CURB VALVES SHALL BE MUELLER H-1502-2N FOR ¾ AND 1 INCH AND MUELLER B-25204N FOR 1 ½ AND 2 INCH SIZES. CURB BOXES SHALL BE MUELLER H-10314N FOR ¾ AND 1 INCH AND MUELLER H-10310N FOR 1 ½ AND 2 INCH SIZES.
9. ALL PIPE INSTALLATION SHALL BE SUBJECT TO INSPECTION BY THE TOWN OF NEWBURGH WATER DEPARTMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS AS REQUIRED WITH THE TOWN OF NEWBURGH WATER DEPARTMENT.
10. THE WATER MAIN SHALL BE TESTED, DISINFECTED AND FLUSHED IN ACCORDANCE WITH THE TOWN OF NEWBURGH REQUIREMENTS. ALL TESTING, DISINFECTION AND FLUSHING SHALL BE COORDINATED WITH THE TOWN OF NEWBURGH WATER DEPARTMENT. PRIOR TO PUTTING THE WATER MAIN IN SERVICE SATISFACTORY SANITARY RESULTS FROM A CERTIFIED LAB MUST BE SUBMITTED TO THE TOWN OF NEWBURGH WATER DEPARTMENT. THE TEST SAMPLES MUST BE COLLECTED BY A REPRESENTATIVE OF THE TESTING LABORATORY AND WITNESSED BY THE WATER DEPARTMENT.
11. THE FINAL LAYOUT OF THE PROPOSED WATER AND/OR SEWER CONNECTION, INCLUDING ALL MATERIALS, SIZE AND LOCATION OF SERVICE AND ALL APPURTENANCES, IS SUBJECT TO THE REVIEW AND APPROVAL OF THE TOWN OF NEWBURGH WATER AND/OR SEWER DEPARTMENT. NO PERMITS SHALL BE ISSUED FOR A WATER AND/OR SEWER CONNECTION UNTIL A FINAL LAYOUT IS APPROVED BY THE RESPECTIVE DEPARTMENT.

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TOWN OF NEWBURGH, ORANGE COUNTY, NY

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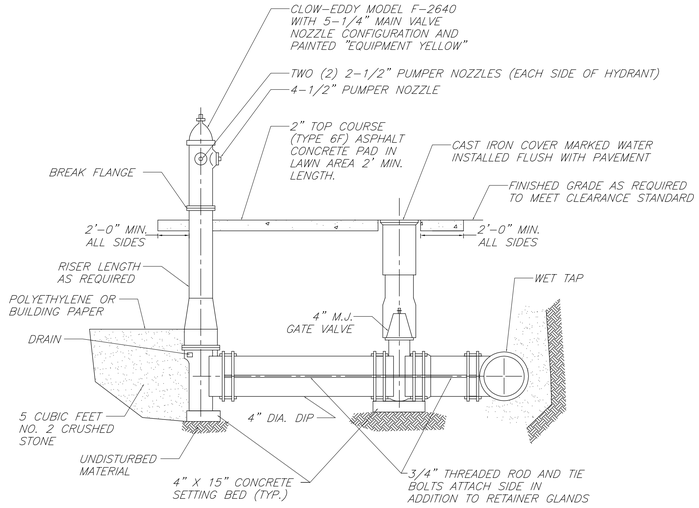
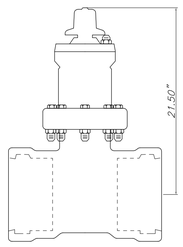
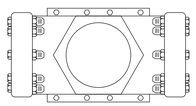


HYDRANT AND VALVE ASSEMBLY INSTALLATION
N.T.S.

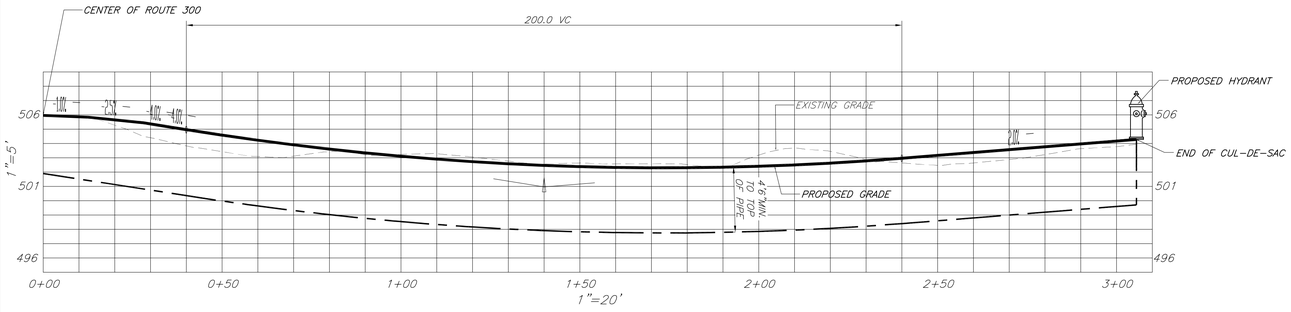
NOTES:
1. PROPOSED LOCATION OF HYDRANTS TO BE FIELD LOCATED (STAKED) AND APPROVED BY WATER SUPERINTENDENT PRIOR TO INSTALLATION
2. HYDRANT TO BE INSTALLED WITHIN RIGHT–OF–WAY.
3. HYDRANT WITH PROPER RISER LENGTH (DEPTH OF BURY) SHALL BE INSTALLED AS REQUIRED TO MEET THE 2" MIN. TO 4" MAX. CLEARANCE BETWEEN THE CENTER OF THE BREAK FLANGES AND THE ASPHALT CONCRETE PAD.
4. WET TAP FITTING SPECIFICATION SHALL BE PROVIDED BY THE WATER DEPARTMENT



MUELLER CO. GATE VALVE A–2360 (4")
N.T.S.



MUELLER CO. MECHANICAL JOINT H–615 (4")
N.T.S.



ROAD AND WATERLINE PROFILE

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