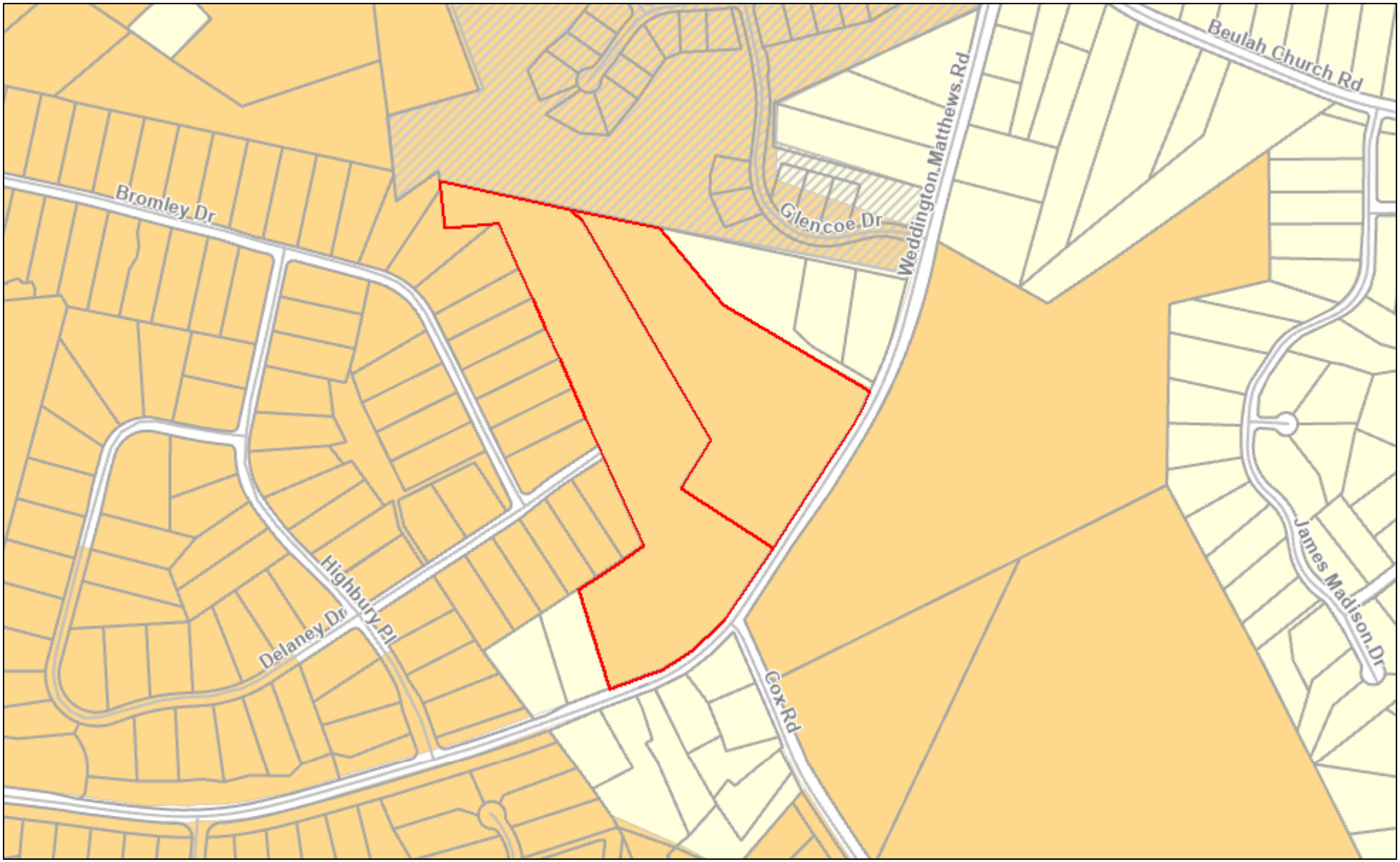
LUNA SUBDIVISION



September 18, 2023

Weddington Zoning

- B1 (CD)
- B2 (CD)
- ED
- MX
- R-40
- R-40D
- R-60
- R-80
- R-CD
- RE
- Conditional Zoning
- Downtown Overlay

1:7,367

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Luna Subdivision - Community Meeting Report

COMMUNITY MEETING REPORT
Petitioner: Toll Brothers
Note: This Petition is not for rezoning.
The current R-CD zoning designation will remain.

This Community Meeting Report is being provided to Town of Weddington Planning Staff/Administrator pursuant to the provisions of the "Town of Weddington, NC Unified Development Ordinance" Section D-607.C.5.

PERSONS AND ORGANIZATIONS CONTACTED WITH DATE AND EXPLANATION OF HOW CONTACTED:

McKim & Creed, a representative of the Petitioner, provided the Town of Weddington (the Town) with a written notice of the date, time, and instructions for interested parties to respond to the notice of the Community Meeting on August 8, 2023. The Town then mailed that notice to adjacent property owners within 1,300 linear feet of the proposed development by depositing such notice in the U.S. mail and posted the notice on the Town's website. The mailing list is attached hereto as Exhibit A. A copy of the written notice is attached hereto as Exhibit B.

DATE, TIME AND LOCATION OF MEETING:

The Community Meeting was held on (08/15/2023) at (6:00pm) online via Zoom.

PERSONS IN ATTENDANCE AT MEETING (see **attached copy of participants**)**:**

The Community Meeting was attended by those individuals identified on the Zoom screen and attached hereto as Exhibit C. The Petitioner was represented at the Community Meeting by Beth Johnston and Tracey McCormick of McKim & Creed.

SUMMARY OF PRESENTATION/DISCUSSION:

Minutes: The Petitioner's agent, Beth Johnston, welcomed the participants, explained that there would be a short presentation and a time for questions at the end of the presentation, and introduced the Petitioner's team. Ms. Johnston indicated that Toll Brothers proposed to develop the approximately 29-acre site located at 5932 Weddington-Matthews Road, Weddington, NC, with the intention to subdivide the parcel into 18 lots to construct for-sale, market-rate single-family homes. Ms. Johnston conducted the presentation that described the existing site conditions, described the proposed site plan, and presented a typical conceptual timeline of the review and approval process. At the conclusion of the presentation, the meeting was opened for questions and concerns from participants. A copy of the presentation is attached hereto as Exhibit D.

Twenty-three (23) log-in names, not including petitioner or petitioner's representatives, were recorded in attendance as set out in Exhibit E. Many spoke with questions and comments, with the main concerns being: 1) The increase in traffic volume on Weddington-Matthews Road, 2) Cut-through traffic in Bromley due to the proposed connection at Delaney Drive, 3) Potential issues with an increase in sewer volume if connecting to existing lines in Bromley, 4) The potential adverse effect of stormwater runoff from Luna into Bromley and the potential for Bromley homeowners to have to pay for further repairs, 5) Potential safety issues from the alignment of the main entry for Luna with Cox Road, 6) The need for a traffic study, and 7) the lack of a buffer between Bromley and Luna.

A summary of questions asked/*replies given*, and comments is as follows:

From Bill Deter:
- Clarified that the site is 28.9 acres. *Beth misspoke during the presentation and gave the acreage as 18.9.*
- Can you explain the Buffer along Matthews-Weddington Road?
  The buffer is a 50' landscaped buffer required when the side or rear of lots are adjacent to an existing road. The plant material must create a year-round screen.
- Will the streets be curbed? *Yes*
- Other concerns: The BMP located between Luna Lot 10 and the property boundary (*positioned as topography and drainage area requires and is shown connecting to an existing 20' storm drain easement)*, Sight Distance at Weddington-Matthews Road (*Site Distance study will be a part of civil design)*, and would like to see turn lanes added, especially a left-turn so traffic doesn't back up (*The Town determines if a TIA will be required, and has determined that Luna does not meet the threshold established in the TIA Ordinance)*

From Chris Gushue:
- Concerned that the only other entrance into Luna besides the Matthews-Weddington Road one is via a connection to Delaney Drive, and the cut-through traffic that connection will inflict on Bromley. Feels this

connection will impede Bromley homeowners. *When a road is stubbed at a property line, the Town's UDO requires a connection.*
- Stated that Bromley homeowners pay a yearly HOA fee for shared amenities and are currently paying an additional assessment for repairs to the existing lake due to stormwater damage. Concerned that stormwater from Luna will adversely affect Bromley's system, causing Bromley's homeowners to pay for possible damage without consequences to Luna homeowners. Proposed that, as mitigation to this possibility, HOA's for Bromley and Luna be combined. *Storm facilities will be designed per local and state requirements, which have become more rigorous since Bromley's infrastructure was designed.*
- Concerned about connecting Luna to the existing sanitary sewer in Bromley. Stated the there is a current issue with unacceptable results from a system clean-out by the Town to eliminate blockages for some homes in Bromley. *Since public water and sewer are controlled by Union County, per that UDO, when sewer is available within 300', new development must connect.*
- Concerned about traffic speed, and asked if there will be barriers and/or speed bumps. *Neither are required or planned at this time.*
- Stated that he would like the Town to provide existing residents with an opportunity to voice concerns about layout and road connections. *Robert Tefft, Weddington Town Planner, responded that the current plan is neither final nor approved, and that there will be a public hearing if/when the plan reaches Town Council.*
- Requested that Toll Brothers provide an opportunity for Bromley residents to voice their concerns about the proposed plan and stated that he will submit his concerns to the Bromley HOA board.

From Jolon Shields:
- Lives at the corner of Bromley Drive and Delaney Drive and backs up to the Luna property line.
- Is there a possible connection from Luna to Hemby Road. *No – the Luna parcel does not reach Hemby Road.*
- Is there fencing required or proposed between Luna & Bromley. *No, there is no fencing proposed, as the zoning designation and use for both communities is the same, but it will be brought to the attention of Toll Brothers.*
- Can there be a gate installed in Luna at the connection to Delaney. *Currently, Delaney is a public street, so the extension into Laney will have to be public as well. NCDOT will not allow gates on a public street.*

From Richard:
- Lives in Bromley and has the same issues as Mr. Gushue.
- Also is concerned with the proposed connection point for Luna at Cox Road. Cox already has speed issues and feels the connection alignment is not safe, needs review and possible realignment.
- Is concerned that sanitary sewer capacity is not adequate.
- What are the proposed price points for homes in Luna? *The market will ultimately determine price, but homes are expected to be priced similarly to those in The Enclave at Baxley, at the corner of Providence and Hemby Roads. (Current median list price is $1,514,402)* Is concerned that Enclave at Baxley pricing is much lower than the current Bromley price point.

From Bill Fox:
- Requested a copy of the presentation. *PDF copy emailed to Mr. Fox 8/16/2023.*

From Gale Swartz:
- Concerned about construction traffic, damage to streets, noise, etc. Stated she would like to have assurance that no construction traffic will go through Bromley. *Tracey McCormick stated that civil plans approved for construction will be noted that all construction traffic shall use the provided construction entrance, which should be off of Matthews-Weddington Road.*

From Debra O'Hara:
- Lives on the property adjacent to Luna at the northern boundary. Will there be a buffer between the two properties? *No, there is no buffer required or proposed, as the zoning designation and use for both properties is the same. Per the UDO, there will be a 40' rear setback on all lots in Luna.*

From Wanda Shaver:
- Lives adjacent to Weddington-Matthews Road just north of the Luna parcel. Requests that a buffer be provided in Luna along the adjacent boundary. Concerned about the speed of traffic on both Weddington-Matthews Road and Cox Road, as well as drivers not stopping at the intersection of Weddington-Matthews and Cox Roads, and that the addition of an entrance to Luna will be detrimental to the safety of the intersection.

From Robert Tefft, Weddington Town Planner:
The most likely date for the project to come before the Planning Commission is the September 25th meeting.

From Robert Price, Land Development Director, Charlotte, Toll Brothers:
Believes Luna will be a great addition to the community of Weddington and is excited for the project to move forward.

From Zoom Chat Log:

00:36:10 Robert Tefft: This project will not be on the Planning Board agenda for August 28th.

00:49:17 Gale Schwartz: Who is addressing this question

00:49:50 Bill Deter: Robert Teft Town Planner

01:10:31 Ken Mertzel: Thanks for the update. I strongly agree with the need for the left turn lane. I also believe the HOAs should be combined as long as our Bromley fees are not increased.

01:16:32 Gale Schwartz: Traffic in Bromley as well at Cox Rd will be a BIG ISSUE. Please do a proper study on this.

Respectfully submitted, this 1st day of September 2023.

EXHIBIT A

ADJOINING OWNERS, INDIVIDUALS AND ORGANIZATIONS

BEECHWOOD WEDDINGTON LLC
C/O THE BEECHWOOD ORGANIZATION
JERICHO, NY 11753

ORR GERALD D
125 LAUREN DR
INDIAN TRAIL, NC 28079

ORR JOHN WAYNE
6100 MATTHEWS WEDDINGTON RD
MATTHEWS, NC 28104-9345

ORR J WAYNE
6100 MATTHEWS WEDDINGTON RD
MATTHEWS, NC 28104

WHITE DERYCK
1217 BROMLEY DR
WEDDINGTON, NC 28104

REYNOLDS TYLER EDWARD TRUSTEE
1221 BROMLEY DR
MATTHEWS, NC 28104

ATIENZA ORLANDO O
1225 BROMLEY DR
WEDDINGTON, NC 28104

TROUTMAN TERRY
1229 BROMLEY DR
WEDDINGTON, NC 28104

WILLIAMS THOMAS M
1233 BROMLEY DR
WEDDINGTON, NC 28104

GARBER J DEAN
1237 BROMLEY DR
WEDDINGTON, NC 28104

FLOWERS SETH RICHARD
1241 BROMLEY DR
WEDDINGTON, NC 28104

SHIELDS SONNIA T
1401 DELANEY DR
MATTHEWS, NC 28104

LEMMETTI JOSEE C
1404 DELANEY DR
WEDDINGTON, NC 28104

DUNLAP DONNA
1400 DELANEY DR
WEDDINGTON, NC 28104

SARIN VIKRAM
1316 DELANEY DR
WEDDINGTON, NC 28104

HOWELL TARA
1213 BROMLEY DR
MATTHEWS, NC 28104

O'HARA SCOTT S
5810 MATTHEWS WEDDINGTON RD
MATTHEWS, NC 28104

HINSON FARMS, LLC
1300 COX RD
MATTHEWS, NC 28104

FAHRUDIN, AJANOVIC
1040 JAMES MADISON DR
WEDDINGTON, NC 28104

KONDRATUK, PEDRO
3008 PROVIDENCE FOREST DRIVE
MATTHEWS, NC 28104

JONES, PATRICIA
5516 WEDDINGTON MATTEWS RD
MATTHEWS, NC 28104

HP NORTH CAROLINA, LLC
120 S RIVERSIDE PLAZA
CHICAGO, IL 60606

SHAVER, WANDA Y
5800 WEDDINGTON MATTHEWS RD
MATTHEWS, NC 28104

COX, RONALD DOUGLAS
6015 WEDDINGTON MATTHEWS RD
MATTHEWS, NC 28104

ARROWOOD, KIM C
6011 WEDDINGTON MATTHEWS RD
MATTHEWS, NC 28104

COX, RONALD D
6001 WEDDINGTON MATTHEWS RD
MATTHEWS, NC 28104

COX, KENNETH MORRIS
6101 WEDDINGTON MATTHEWS RD
MATTHEWS, NC 28104

RODOLFO, LEIVA
6110 WEDDINGTON MATTHEWS RD
MATTHEWS, NC 28104

SCHICK, JOHN T
5017 HEMBY ROAD
MATTHEWS, NC 28104

KHALID, KEVIN
1216 COX RD
MATTHEWS, NC 28104

GHORY, WILLIAM JOSEPH TRUSTEE
1032 MADISON DR
MATTHEWS, NC 28104

WILSON, JOHNNY RAY
6009 WEDDINGTON MATTHEWS RD
MATTHEWS, NC 28104

TROUTMAN, TERRY
1229 BROMLEY DR
WEDDINGTON, NC 28104

WHITE, DERYCK
1217 BROMLEY DRIVE
WEDDINGTON, NC 28104

HOWELL, TARA
1213 BROMLEY DRIVE
WEDDINGTON, NC 28104

KALASCH, CRAIG D
1201 BROMLEY DRIVE
WEDDINGTON, NC 28104

CHUDGAR, ASHOK B
1208 BROMLEY DRIVE
WEDDINGTON, NC 28104

WILLIAMS, THOMAS
1233 BROMLEY DRIVE
WEDDINGTON, NC 28104

SHIELDS, SONNIA T
1401 DELANEY DRIVE
WEDDINGTON, NC 28104

LEAKE, JASON L
1238 BROMLEY DRIVE
WEDDINGTON, NC 28104

STEWART, LAMAR SR.
PO BOX 78351
CHARLOTTE, NC 28271

JENSON, KIRK
1140 BROMLEY DRIVE
WEDDINGTON, NC 28104

ORLANDO, ARTIENZA O
1225 BROMLEY DRIVE
WEDDINGTON, NC 28104

VITALE, RORY D
1218 BROMLEY DRIVE
WEDDINGTON, NC 28104

ARRESE, MANUEL R TRUSTEE
1209 BROMLEY DRIVE
WEDDINGTON, NC 28104

MARTIN, MATTHEW A
1139 BROMLEY DRIVE
WEDDINGTON, NC 28104

SUTTON, ERIC CHRISTOPHER TRUSTEE
3009 HIGHBURY PLACE
WEDDINGTON, NC 28104

GARBER, DEAN J
1237 BROMLEY DRIVE
WEDDINGTON, NC 28104

RAMIREZ, RICHARD
1230 BROMLEY DRIVE
WEDDINGTON, NC 28104

RANDAZZO, JAMES
3121 HIGHBURY PLACE
WEDDINGTON, NC 28104

JONES, JAMES SCOTT, JR.
5532 WEDDINGTON MATTHEWS RD
MATTHEWS, NC 28104

BADALYAN, GRIGOR
3017 HIGHBURY PLACE
MATTHEWS, NC 28104

REYNOLDS, TYLER EDWARDS TRUSTEE
1221 BROMLEY DRIVE
WEDDINGTON, NC 28104

ANELLI, CHRISTOPHER R
1226 BROMLEY DRIVE
WEDDINGTON, NC 28104

BERRY, JESSE WADE
1205 BROMLEY DRIVE
WEDDINGTON, NC 28104

INCALCATERA, SALVATORE
1133 BROMLEY DRIVE
WEDDINGTON, NC 28104

MATTHEWS, GRANT J
3013 HIGHBURY PLACE
WEDDINGTON, NC 28104

FLOWERS, SETH RICHARD
1241 BROMLEY DRIVE
WEDDINGTON, NC 28104

JIANG, LIANG
1234 BROMLEY DRIVE
WEDDINGTON, NC 28104

PATEL, MILAPKUMAR R
3129 HIGHBURY PLACE
WEDDINGTON, NC 28104

CLYNES, VICENTE FUSCO
1305 DELANEY DRIVE
WEDDINGTON, NC 28104

FIELDING, ROBERT J
1309 DELANEY DRIVE
WEDDINGTON, NC 28104

LEMMENTTI, JOSEE C
1404 DELANEY DRIVE
WEDDINGTON, NC 28104

DUNLAP, DONNA
1400 DELANEY DRIVE
WEDDINGTON, NC 28104

SARIN, VIKRIM
1316 DELANEY DRIVE
WEDDINGTON, NC 28104

LIU, WEICHENG
1312 DELANEY DRIVE
WEDDINGTON, NC 28104

MALISETTY, RAMYA
1308 DELANEY DRIVE
WEDDINGTON, NC 28104

ALROMAIZAN, WALEED SALEH
1304 DELANEY DRIVE
WEDDINGTON, NC 28104

SCHWARTZ, STEVEN A
3201 HIGHBURY PLACE
WEDDINGTON, NC 28104

CASTALDO, CHRISTOPHER
3225 HIGHBURY PLACE
WEDDINGTON. NC 28104

PARIKH, DOLLYBEN V
3217 HIGHBURY PLACE
WEDDINGTON, NC 28104

OLLMAN, RICHARD J
3209 HIGHBURY PLACE
WEDDINGTON, NC 28104

PATEL, JAY G
320 SQUASH HARVEST COURT
WEDDINGTON, NC 28104

APPEL, FREDRIK F
324 SQUASH HARVEST COURT
WEDDINGTON, NC 28104

SCOTT, TROY B
321 SQUASH HARVEST COURT
WEDDINGTON, NC 28104

BROMLEY COMMUNITY ASSOCIATION, INC
312 BULKHEAD WAY, STE 104-301
CLOVER, SC 29710

PALARDY, MICHAEL
501 WINTER WHEAT COURT
WEDDINGTON, NC 28104

HONOR NC, LLC
PO BOX 79306
CHARLOTTE, NC 28271

PALARDY, MICHAEL
6001 WEDDINGTON MATTHEWS ROAD
MATTHEWS, NC 28104

BEECHWOOD ORGANIZATION, LLC
200 ROBBINS LN
JERICHO, NY 11753

MOBRAY, WANDA MORRIS
5207 HEMBY RD
MATTHEWS, NC 28104 - 9300

DIXON, RYAN E
3105 HIGHBURY PLACE
MATTHEWS, NC 28104

EATON, JONATHAN
1121 BROMLEY DRIVE
MATTHEWS, NC 28104

HARP, DEAN J
1125 BROMLEY DRIVE
MATTHEWS, NC 28104

CONES, JOHN ANTHONY
1129 BROMLEY DRIVE
MATTHEWS, NC 28104

DROST, JAMES EDWARD TRUSTEE
1203 DELANEY DRIVE
WEDDINGTON, NC 28104

ALLENSPACH, BRIAN THOMAS
1206 DELANEY DRIVE
WEDDINGTON, NC 28104

LOWE, CARL JARRETT JR.
3106 HIGHBURY PLACE
WEDDINGTON, NC 28104

MCLAUGHLIN, MICHAEL & ELLEN FLODIN TRUST
3021 HIGHBURY PLACE
WEDDINGTON, NC 28104

ZELENZ, JOHN H
3018 HIGHBURY PLACE
WEDDINGTON, NC 28104-2400

TOPETE, KARLA A
3018 HIGHBURY PLACE
MATTHEWS, NC 28104-2400

DAVIS, GREORGE R
1134 BROMLEY DRIVE
WEDDINGTON, NC 28104

PATTISON, ERIC HAYES
1130 BROMLEY DR
WEDDINGTON, NC 28104

WARREN, KEVIN O
1134 BROMLEY DRIVE
WEDDINGTON, NC 28104

CULBREATH, IKO JERMAINE
1134 BROMLEY DRIVE
WEDDINGTON, NC 28104

GADIRAJU, RAVI
1120 BROMLEY DRIVE
WEDDINGTON, NC 28104

GADIRAJU, RAVI
1120 BROMLEY DRIVE
WEDDINGTON, NC 28104

PATEL, PRANAV
3118 HIGHBURY PLACE
WEDDINGTON, NC 28104

DENDY, COREY O
3109 HIGHBURY PLACE
WEDDINGTON, NC 28104

HATAM, MATTHEW K
3115 HIGHBURY PLACE
WEDDINGTON, NC 28104

FOX, WILLIAM A III
1269 DELANEY DRIVE
MATTHEWS, NC 28104

CHELLAMANI, RAJESH
3200 HIGHBURY PLACE
WEDDINGTON, NC 28104

CHEN, HONG
1269 DELANEY DRIVE
MATTHEWS, NC 28104

VATTEPU, NARENDER
1269 DELANEY DRIVE
WEDDINGTON, NC 28104

LOPES, ALEXANDRE RICARTE
1265 DELANEY DRIVE
WEDDINGTON, NC 28104

WIGGERS, MICHAEL J TRUSTEE
1261 DELANEY DRIVE
MATTHEWS, NC 28104

PRABHU, VIJAYA S TRUSTEE
3208 HIGHBURY PLACE
WEDDINGTON, NC 28104

PATEL, DAPESH
3216 HIGHBURY PLACE
WEDDINGTON, NC 28104

HUBER, MARK EDWARD
312 SQUASH HARVEST COURT
WEDDINGTON, NC 28104

HOWARD, GORDON F
316 SQUASH HARVEST COURT
MATTHEWS, NC 28104

WALTHALL, JEFFERY D
317 SQUASH HARVEST COURT
WEDDINGTON, NC 28104

WEIBEL, TIMOTH JOHN JR
413 WHEATBERRY HILL DRIVE
MATTHEWS, NC 28104

DETIG, JEFFREY K
417 WHEATBERRY HILL DRIVE
MATTHEWS, NC 28104

ALPERN, JASON STANLEY
421 WHEATBERRY HILL DRIVE
MATTHEWS, NC 28104

SWEENEY, BRANDON
608 WINTER WHEAT COURT
MATTHEWS, NC 28104

HICKEY, WALTER L
604 WINTER WHEAT COURT
MATTHEWS, NC 28104

VAZIRI, KIM ANN
600 WINTER WHEAT COURT
MATTHEWS, NC 28104

PATEL, KETALKUMAR
512 WINTER WHEAT COURT
MATTHEWS, NC 28104

BHATIA, TEJWANT
504 WINTER WHEAT COURT
MATTHEWS, NC 28104

CIAMPI, JOSEPH J
500 WINTER WHEAT COURT
MATTHEWS, NC 28104

PALARDY, MICHAEL
501 WINTER WHEAT COURT
MATTHEWS, NC 28104

PORTER, SHEILA DIANE TRUSTEE
509 WINTER WHEAT COURT
MATTHEWS, NC 28104

BERTOSSI, PAUL
513 WINTER WHEAT COURT
MATTHEWS, NC 28104

NOONAN, EDWARD WILLIAM
601 WINTER WHEAT COURT
MATTHEWS, NC 28104

EKWONU, NWAMAKA N TRUSTEE
605 WINTER WHEAT COURT
MATTHEWS, NC 28104

GILBOY, KRISTOPHER
609 WINTER WHEAT COURT
MATTHEWS, NC 28104

ORAVEC, JEFFREY G
613 WINTER WHEAT COURT
MATTHEWS, NC 28104

STEWART, MATTHEW STEPHAN
1120 COX DRIVE
MATTHEWS, NC 28104

NOONAN, EDWARD WILLIAM
112 GLENCOE DRIVE
MATTHEWS, NC 28104

EXHIBIT C

NOTICE TO INTERESTED PARTIES
OF COMMUNITY MEETING

Subject: Community Meeting – Application filed by Toll Brothers, Inc. to develop approximately 29 acres located at 5932 Matthews-Weddington Rd, Matthews, NC 28104 within the Town of Weddington, consisting of eighteen (18) single family detached lots and required associated improvements.

Date and Time of Meeting: August 15, 2023; 6:00 – 7:00pm

Place of Meeting: Virtual via Zoom link.
Instructions to obtain the link are outlined below.

Petitioner: Toll Brothers, Inc.

Petition No.: TBD

We are assisting Toll Brothers, Inc. (the "Petitioner") with a Development Application filed with the Town of Weddington. The petitioner is not seeking a rezoning. The parcels will remain R-CD as currently zoned and developed according to the standards applicable to R-CD. The Town of Weddington utilizes the Conditional Zoning Application form and review process for any residential development over 5 lots.

In accordance with the requirements of the Town of Weddington, the Petitioner will hold a Community Meeting prior to the Planning Board review on this Development Application to discuss this proposal with nearby property owners and organizations. The Town of Weddington's records indicate that either you are:

1) An owner of property that adjoins, is located across the street from, or is near the Site, or
2) A representative of a registered neighborhood organization.

Accordingly, on behalf of the Petitioner, we give you notice that representatives of the Petitioner will hold a Virtual Community Meeting regarding this Development Application on August 15, 2023, via Zoom from 6:00-7:00 pm. The Petitioner's representative's look forward to sharing this proposal with you and to answering questions you may have with respect to this Development Application.

To request a direct link to the presentation and community meeting, please email
communitymeetingaccess@mckimcreed.com

You will receive a reply email containing a direct link to the presentation and community meeting, which will be accessible 15 minutes prior to the stated start time.

In the meantime, should you have any questions or comments about this matter, please call Tracey McCormick at 704-945-3367.

cc: File

EXHIBIT D

LIST OF PARTICIPANTS

Community Information Meeting via Zoom
Luna Subdivision
August 15, 2023
6:00 pm

Beth Bailey Johnston– Presenting – McKim & Creed, Petitioner's Representative
Tracey McCormick – McKim & Creed, Petitioner's Representative

Robert Price – Toll Brothers, Petitioner

1. Eileen Fellmeth
2. Kim Topalian
3. Sharon Barber
4. Wanda Shaver
5. Craig Horn
6. Gale Swartz
7. Jolon Shields
8. Jim Bell
9. Chris Fault
10. Bill Deter
11. Richard
12. Ruth Pagano
13. Chris Gushue
14. Dolly Parkih
15. George
16. Ken Mertzel
17. Harold Washington
18. Josee Lemmetti
19. Terry Troutman
20. Bill Fox
21. ipad
22. Robert Tefft – Town of Weddington
23. Kim Dewey – Town of Weddington

EXHIBIT E

PRESENTATION

Luna

August 15, 2023

6:00 – 7:00 pm

McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

OUR TEAM

Toll Brothers
AMERICA'S LUXURY HOME BUILDER®

ROBERT PRICE
Land Development Director, Charlotte

McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

TRACEY M. McCORMICK, PE
Senior Project Manager

BETH BAILEY, PLA
Senior Landscape Architect

McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

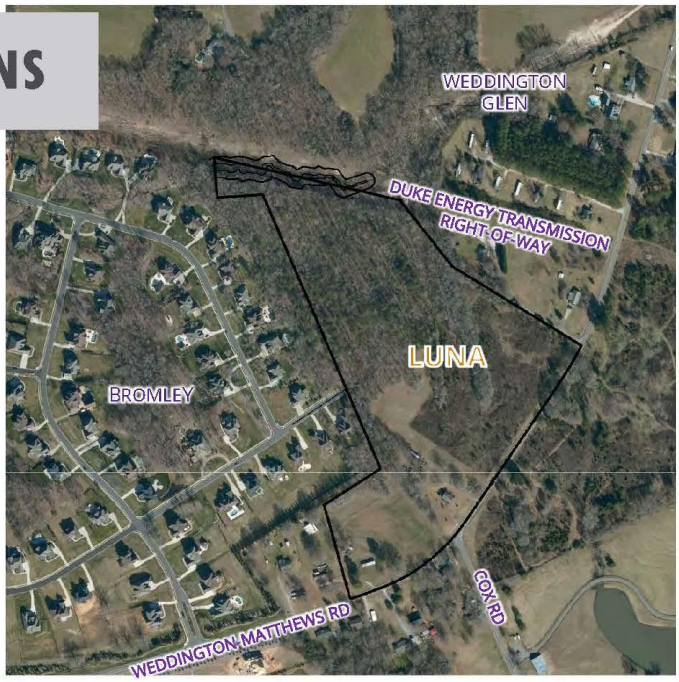
WHERE WE ARE

01 Approved Sketch Plan: Town of Weddington

02 Approved Utility Sketch Plan: Union County

03 Civil Design Underway

EXISTING CONDITIONS



LUNA

01	R-CD Zoning Average Lot Size: 40,000 sf (.92 Acres) Minimum Lot Width: 120'
02	18 Single-Family Homes (1.61 DUA)
03	Open Space: +/- 2.92 Acres (10% of site)

N

McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

PROCESS FORWARD

01 COMMUNITY MEETING REPORT TO TOWN STAFF
Week of August 21

02 PLANNING BOARD REVIEW
Tentatively September 25

03 PUBLIC HEARING / TOWN COUNCIL VOTE
Tentatively October 9

If / When Approved by Town Council:

- Civil Design / Construction Drawings submitted to Weddington & Union County Public Works: August 2023
- Review & Permitting: 3 – 4 Months
- Construction Begins: Summer 2024

ARCHITECTURE

01 Proposed Exteriors: Fiber-Cement Siding & Trim, Stone, Brick

02 Size Range: 4,075 sf - 4,307 sf

03 Height Range: 2-Story

04 Proposed Plans: 4 – 5- BR / 2.53 – 4 BA

05 Projected Price Range: Similar to Enclave at Baxley (Corner of Providence & Hemby Roads)

EXAMPLE ELEVATION #1: ASHDALE

McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

EXAMPLE ELEVATION #2: DUNMORE




McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

EXAMPLE ELEVATION #3: HALSTEAD



McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

EXAMPLE ELEVATION #4: KENDRICK

McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

EXAMPLE ELEVATION #5: STONERIDGE

McKIM&CREED
ENGINEERS SURVEYORS PLANNERS

EXHIBIT E

LUNA SUBDIVISION

MC # ***02741-0010***

CALCULATIONS FOR:

Downstream
Stormwater
Analysis

DATE: ***10/02/23***

REV: ***N/A***

8020 TOWER POINT DRIVE. CHARLOTTE, NORTH CAROLINA 28227
TEL 704.841.2588 www.mckimcreed.com

TABLE OF CONTENTS

LUNA SUBDIVISION
DOWNSTREAM ANALYSIS NARRATIVE

Luna is a proposed 18-lot single-family subdivision located on +/- 29 acres in Weddington, Union County, North Carolina. The existing site conditions include a mix of grass and trees. The predominant soil types according to the USDA Soil Survey are Cecil, Helena & Appling, both Cecil and Appling have a hydrologic soil group rating of "B" while Helena has a hydrologic soil group rating of "D". The site is located in the Sixmile Creek watershed, within the Catawba River Basin. The development will be located off Weddington-Matthews Road, adjacent to the existing Bromley Subdivision.

Stormwater management for the project will be designed in accordance with the Charlotte-Mecklenburg Stormwater Design Manual, with exceptions where Weddington's ordinances list a stricter regulation. Over 20,000 square feet of new impervious will be created as part of the Luna development, therefore stormwater detention will be provided to control runoff to pre-developed rates for the 2-, 10-, 25-, 50- and 100-year, 24-hour storm events. Volume control for the 1-year, 24-hour storm will also be provided.

A downstream analysis of the existing Bromley subdivision storm system was performed to ensure that the proposed Luna development will not create downstream drainage issues. The existing Bromley storm system was modeled using Bentley StormCAD to compare flows under existing conditions versus flows after the development of Luna subdivision. The storm system was modeled for the 10-, 25- and 100-year storm events.

The summary tables provided on the following page demonstrate that flows entering Bromley Subdivision will decrease as a result of the Luna development. Stormwater Control Measure (SCM) #2 located behind Bromley lots 23-25 is designed to restrict flows leaving the site at point of interest (POI) #2 to below pre-development rates. The offsite drainage area flowing to Bromley lots 19-22 and the dead end of Delaney Drive will be reduced from 2.99 acres to approximately 0.15 acres

PRE-DEVELOPMENT FLOWS TO POINT OF INTEREST #2

STORM EVENT	PEAK FLOW (CFS)
2-YEAR	6.65
10-YEAR	17.78
25-YEAR	25.64
50-YEAR	32.31
100-YEAR	39.50

POST-DEVELOPMENT FLOWS TO POINT OF INTEREST #2

STORM EVENT	PEAK FLOW (CFS)
2-YEAR	5.60
10-YEAR	13.75
25-YEAR	19.66
50-YEAR	24.51
100-YEAR	29.68

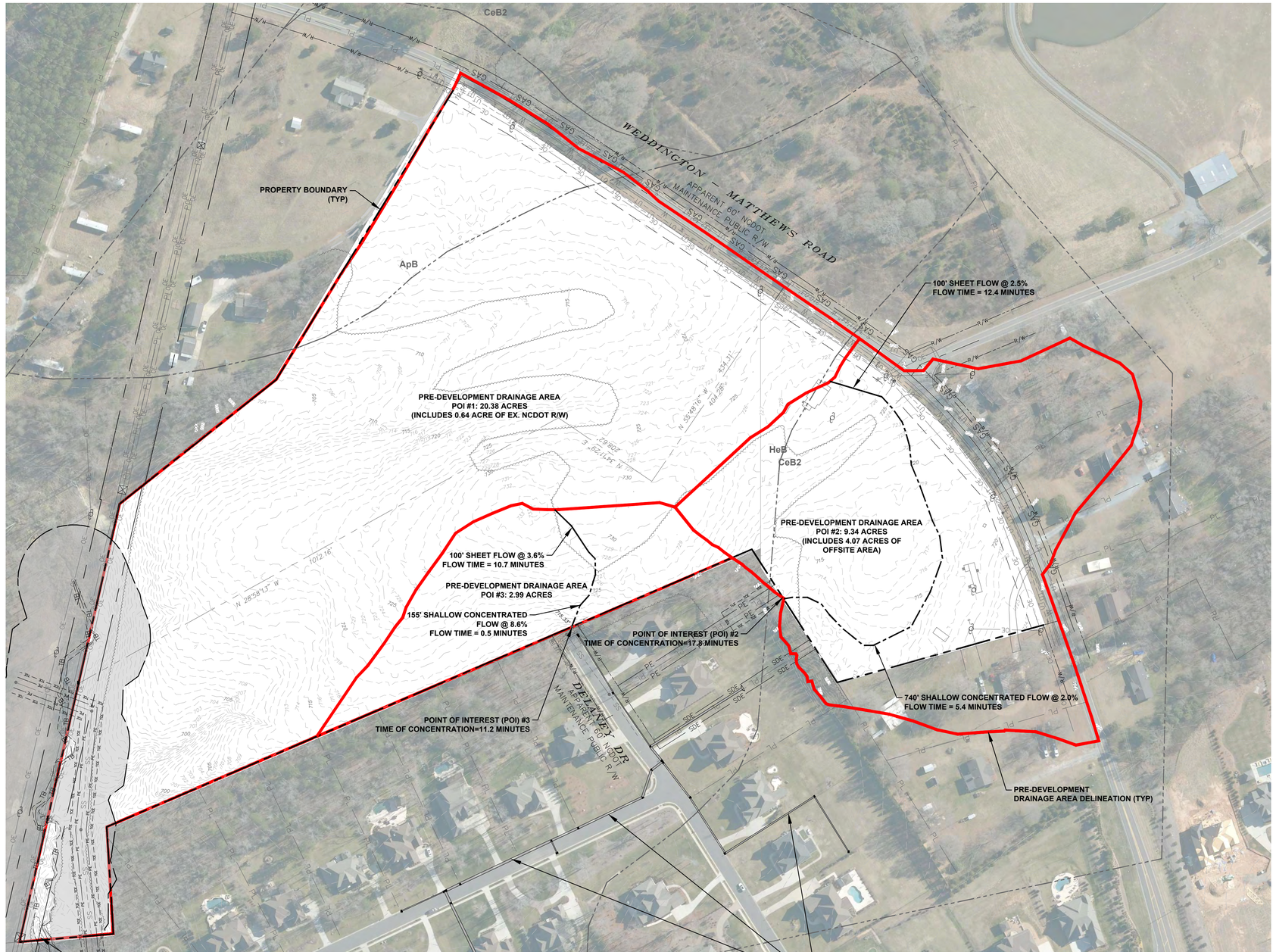
PRE-DEVELOPMENT FLOWS TO POINT OF INTEREST #3

STORM EVENT	PEAK FLOW (CFS)
2-YEAR	6.39
10-YEAR	12.13
25-YEAR	15.82
50-YEAR	18.80
100-YEAR	21.93

POST-DEVELOPMENT FLOWS TO POINT OF INTEREST #3

STORM EVENT	PEAK FLOW (CFS)
2-YEAR	0.46
10-YEAR	0.83
25-YEAR	1.06
50-YEAR	1.24
100-YEAR	1.43

APPENDIX A



811 Know what's below. Call before you dig.

100' 0 100' 200'

SCALE: 1"=100' (Horiz.)

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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AMERICA'S LUXURY HOME BUILDER®

LUNA SUBDIVISION
WEDDINGTON, UNION COUNTY
NORTH CAROLINA

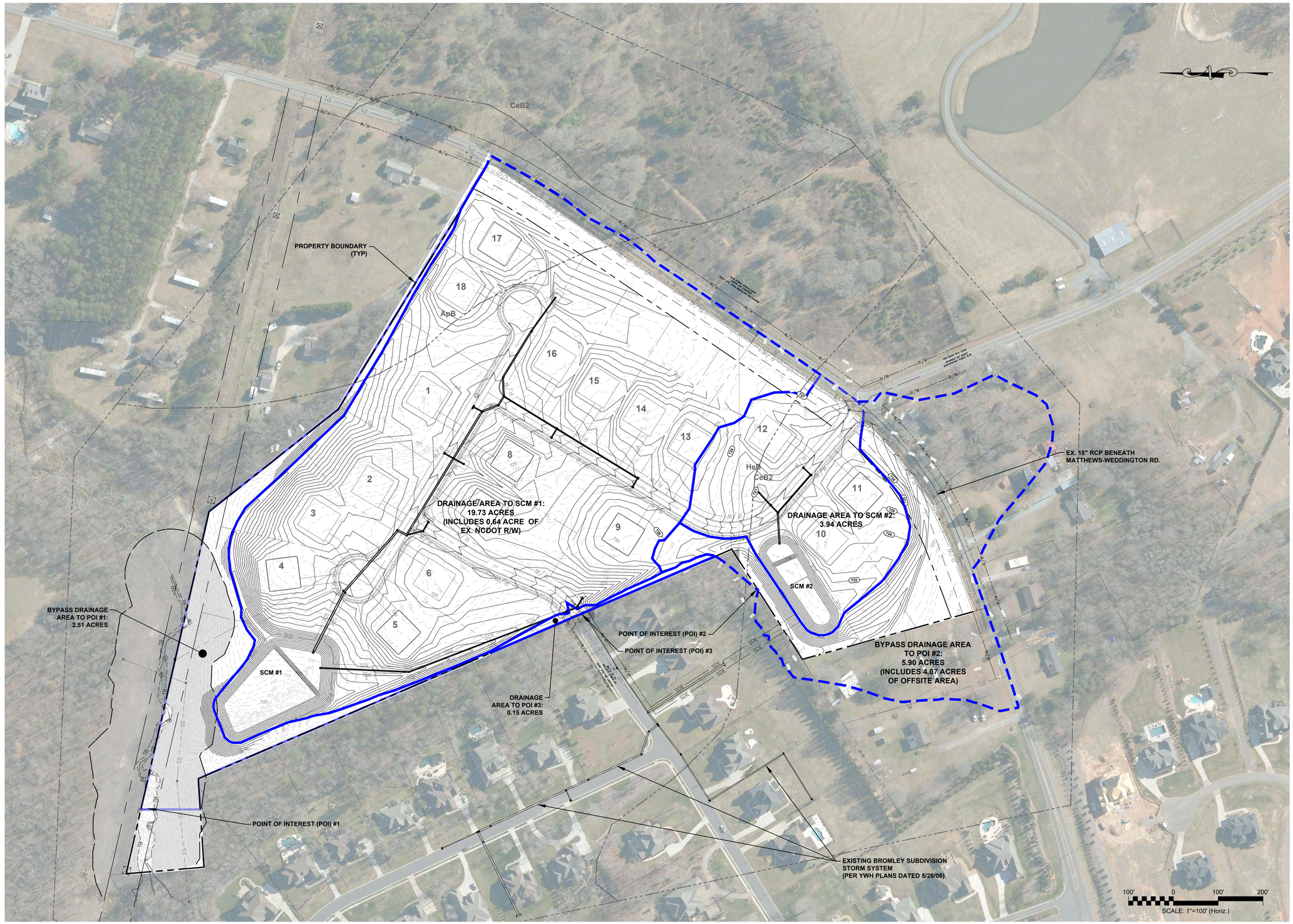
PRE-DEVELOPMENT DRAINAGE AREA MAP

DATE:	AUGUST 2023
MCE PROJ. #	02741-0010
DRAWN	ECB
DESIGNED	ECB
CHECKED	TMM
PROJ. MGR.	TMM

SCALE
HORIZONTAL: 1" = 100'
VERTICAL: N/A

DA-1
DRAWING NUMBER
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION



811 Know what's below. Call before you dig.

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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WEDDINGTON, UNION COUNTY
NORTH CAROLINA

POST-DEVELOPMENT DRAINAGE AREA MAP

DATE:	AUGUST 2023
MCE PROJ. #	02741-0010
DRAWN	ECB
DESIGNED	ECB
CHECKED	TMM
PROJ. MGR.	TMM

SCALE
HORIZONTAL: 1" = 100'
VERTICAL: N/A

DA-2
DRAWING NUMBER
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\02741\0010\ENG\80-DRAWINGS\81_PRODUCTION_SHEETS\5_EXHIBIT_PERMIT\2023.09.29 DA-MAPS_02741-0010.DWG ---- 10/02/2023 14:06:47

APPENDIX B

EXISTING CONDITIONS - 10-YEAR STORM

FlexTable: Conduit Table

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Unified) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Manning's n	Flow (ft^3/s)	Capacity (Full Flow) (ft^3/s)	Velocity (ft/s)	System Intensity (in/h)
DI 63	706.00	DI 64	702.20	119.83	0.032	15.0	706.78	702.69	0.013	3.67	11.50	8.33	7.540
HW 51	705.00	CB 52	696.00	199.93	0.045	36.0	706.35	697.40	0.013	17.78	141.51	13.68	7.570
DI 64	701.45	CB 65	698.53	195.10	0.015	24.0	702.65	699.41	0.013	11.14	27.67	8.33	7.467
OPEN PIPE	707.00	CB 62	701.80	120.71	0.043	15.0	707.74	702.23	0.013	3.35	13.41	9.08	7.540
CB 62	701.60	CB 52	697.75	120.64	0.032	15.0	702.54	698.35	0.013	5.33	11.54	9.22	7.473
CB 65	698.33	CB 66	696.89	121.41	0.012	24.0	699.65	697.94	0.013	13.38	24.64	8.00	7.348
CB 66	696.69	DCB 53	695.72	83.70	0.012	24.0	698.08	696.86	0.013	14.91	24.35	8.14	7.272
CB 52	695.80	DCB 53	694.72	35.62	0.030	36.0	697.40	696.60	0.013	24.70	116.14	13.05	7.406
CB 54	693.80	CB 55	693.23	52.34	0.011	36.0	695.91	694.99	0.013	41.82	69.60	10.29	7.209
DCB 53	694.52	CB 54	694.00	25.96	0.020	36.0	696.60	695.63	0.013	40.81	94.39	12.87	7.220
CB 55	693.00	CB 56	688.59	131.67	0.033	36.0	695.11	690.79	0.013	41.88	122.06	15.65	7.184
CB 56	688.49	CB 57	687.42	54.96	0.019	36.0	690.79	689.15	0.013	49.90	93.06	13.40	7.141
CB 68	690.00	DCB 59	689.00	88.92	0.011	15.0	690.54	689.44	0.013	1.84	6.85	4.73	7.540
CB 57	687.42	CB 58	686.39	186.20	0.006	42.0	689.70	688.70	0.013	52.92	74.82	8.43	7.120
CB 67	690.00	CB 57	689.74	25.92	0.010	15.0	690.45	690.12	0.013	1.28	6.47	4.10	7.540
CB 60	685.90	FES 61	685.00	179.96	0.005	42.0	688.32	687.40	0.013	58.53	71.15	8.26	6.974
DCB 59	686.13	CB 60	686.00	24.79	0.005	42.0	688.52	688.36	0.013	58.05	72.86	8.41	6.989
CB 58	686.39	DCB 59	686.23	30.78	0.005	42.0	688.70	688.49	0.013	54.22	72.53	8.27	7.008
DI 56A	694.48	CB 56	690.70	180.00	0.021	18.0	695.47	691.39	0.013	6.60	15.22	8.31	7.540

EXISTING CONDITIONS - 25-YEAR STORM

FlexTable: Conduit Table

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Unified) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Manning's n	Flow (ft^3/s)	Capacity (Full Flow) (ft^3/s)	Velocity (ft/s)	System Intensity (in/h)
DI 63	706.00	DI 64	702.20	119.83	0.032	15.0	706.82	702.71	0.013	4.06	11.50	8.56	8.330
HW 51	705.00	CB 52	696.00	199.93	0.045	36.0	706.64	697.67	0.013	25.64	141.51	15.20	8.364
DI 64	701.45	CB 65	698.53	195.10	0.015	24.0	702.71	699.47	0.013	12.31	27.67	8.55	8.251
OPEN PIPE	707.00	CB 62	701.80	120.71	0.043	15.0	707.78	702.58	0.013	3.70	13.41	9.34	8.330
CB 62	701.60	CB 52	697.75	120.64	0.032	15.0	702.58	698.38	0.013	5.88	11.54	9.45	8.257
CB 65	698.33	CB 66	696.89	121.41	0.012	24.0	699.72	698.01	0.013	14.79	24.64	8.20	8.123
CB 66	696.69	DCB 53	695.72	83.70	0.012	24.0	698.16	696.93	0.013	16.48	24.35	8.33	8.039
CB 52	695.80	DCB 53	694.72	35.62	0.030	36.0	697.67	696.85	0.013	33.29	116.14	14.18	8.185
CB 54	693.80	CB 55	693.23	52.34	0.011	36.0	696.15	695.26	0.013	52.22	69.60	10.81	7.972
DCB 53	694.52	CB 54	694.00	25.96	0.020	36.0	696.85	695.87	0.013	51.10	94.39	13.62	7.983
CB 55	693.00	CB 56	688.59	131.67	0.033	36.0	695.35	691.01	0.013	52.29	122.06	16.60	7.945
CB 56	688.49	CB 57	687.42	54.96	0.019	36.0	691.01	689.39	0.013	61.18	93.06	14.05	7.900
CB 68	690.00	DCB 59	689.00	88.92	0.011	15.0	690.57	689.47	0.013	2.03	6.85	4.86	8.330
CB 57	687.42	CB 58	686.39	186.20	0.006	42.0	689.94	689.02	0.013	64.52	74.82	8.75	7.878
CB 67	690.00	CB 57	689.74	25.92	0.010	15.0	690.47	690.14	0.013	1.41	6.47	4.22	8.330
CB 60	685.90	FES 61	685.00	179.96	0.005	42.0	688.75	687.64	0.013	70.75	71.15	8.43	7.721
DCB 59	686.13	CB 60	686.00	24.79	0.005	42.0	688.88	688.75	0.013	70.22	72.86	8.63	7.738
CB 58	686.39	DCB 59	686.23	30.78	0.005	42.0	689.02	688.88	0.013	65.98	72.53	8.54	7.758
DI 56A	694.48	CB 56	690.70	180.00	0.021	18.0	695.53	691.43	0.013	7.29	15.22	8.52	8.330

EXISTING CONDITIONS - 100-YEAR STORM

FlexTable: Conduit Table

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Unified) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Manning's n	Flow (ft^3/s)	Capacity (Full Flow) (ft^3/s)	Velocity (ft/s)	System Intensity (in/h)
DI 63	706.00	DI 64	702.20	119.83	0.032	15.0	706.87	702.75	0.013	4.56	11.50	8.83	9.370
HW 51	705.00	CB 52	696.00	199.93	0.045	36.0	707.05	698.06	0.013	39.50	141.51	17.16	9.408
DI 64	701.45	CB 65	698.53	195.10	0.015	24.0	702.79	699.53	0.013	13.85	27.67	8.81	9.283
OPEN PIPE	707.00	CB 62	701.80	120.71	0.043	15.0	707.83	702.64	0.013	4.17	13.41	9.64	9.370
CB 62	701.60	CB 52	697.75	120.64	0.032	15.0	702.64	698.43	0.013	6.62	11.54	9.73	9.290
CB 65	698.33	CB 66	696.89	121.41	0.012	24.0	699.80	698.10	0.013	16.64	24.64	8.42	9.141
CB 66	696.69	DCB 53	695.72	83.70	0.012	24.0	698.24	697.03	0.013	18.55	24.35	8.53	9.049
CB 52	695.80	DCB 53	694.72	35.62	0.030	36.0	698.06	697.15	0.013	48.11	116.14	15.66	9.210
CB 54	693.80	CB 55	693.23	52.34	0.011	36.0	696.45	695.72	0.013	69.42	69.60	11.22	8.975
DCB 53	694.52	CB 54	694.00	25.96	0.020	36.0	697.15	696.22	0.013	68.16	94.39	14.54	8.986
CB 55	693.00	CB 56	688.59	131.67	0.033	36.0	695.65	692.11	0.013	69.51	122.06	17.83	8.945
CB 56	688.49	CB 57	687.42	54.96	0.019	36.0	692.11	691.33	0.013	79.52	93.06	11.25	8.898
CB 68	690.00	DCB 59	689.00	88.92	0.011	15.0	690.60	689.84	0.013	2.28	6.85	5.02	9.370
CB 57	687.42	CB 58	686.39	186.20	0.006	42.0	691.33	690.06	0.013	83.26	74.82	8.65	8.866
CB 67	690.00	CB 57	689.74	25.92	0.010	15.0	691.35	691.33	0.013	1.59	6.47	1.29	9.370
CB 60	685.90	FES 61	685.00	179.96	0.005	42.0	689.64	687.95	0.013	90.27	71.15	9.38	8.689
DCB 59	686.13	CB 60	686.00	24.79	0.005	42.0	689.84	689.64	0.013	89.66	72.86	9.32	8.706
CB 58	686.39	DCB 59	686.23	30.78	0.005	42.0	690.06	689.84	0.013	84.89	72.53	8.82	8.729
DI 56A	694.48	CB 56	690.70	180.00	0.021	18.0	695.59	692.11	0.013	8.20	15.22	8.77	9.370

APPENDIX C

PROPOSED CONDITIONS - 10-YEAR STORM

FlexTable: Conduit Table

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Unified) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Manning's n	Flow (ft^3/s)	Capacity (Full Flow) (ft^3/s)	Velocity (ft/s)	System Intensity (in/h)
DI 63	706.00	DI 64	702.20	119.83	0.032	15.0	706.78	702.69	0.013	3.67	11.50	8.33	7.540
HW 51	705.00	CB 52	696.00	199.93	0.045	36.0	706.18	696.63	0.013	13.75	141.51	12.69	7.570
DI 64	701.45	CB 65	698.53	195.10	0.015	24.0	702.65	699.41	0.013	11.14	27.67	8.33	7.467
OPEN PIPE	707.00	CB 62	701.80	120.71	0.043	15.0	707.37	702.28	0.013	0.90	13.41	6.22	7.540
CB 62	701.60	CB 52	697.75	120.64	0.032	15.0	702.28	698.18	0.013	2.89	11.54	7.82	7.442
CB 65	698.33	CB 66	696.89	121.41	0.012	24.0	699.65	697.94	0.013	13.38	24.64	8.00	7.348
CB 66	696.69	DCB 53	695.72	83.70	0.012	24.0	698.08	696.86	0.013	14.91	24.35	8.14	7.272
CB 52	695.80	DCB 53	694.72	35.62	0.030	36.0	697.17	696.43	0.013	18.24	116.14	11.98	7.364
CB 54	693.80	CB 55	693.23	52.34	0.011	36.0	695.74	694.83	0.013	35.44	69.60	9.89	7.209
DCB 53	694.52	CB 54	694.00	25.96	0.020	36.0	696.43	695.48	0.013	34.43	94.39	12.30	7.220
CB 55	693.00	CB 56	688.59	131.67	0.033	36.0	694.94	690.56	0.013	35.52	122.06	14.97	7.182
CB 56	688.49	CB 57	687.42	54.96	0.019	36.0	690.56	688.94	0.013	40.19	93.06	12.68	7.137
CB 68	690.00	DCB 59	689.00	88.92	0.011	15.0	690.54	689.44	0.013	1.84	6.85	4.73	7.540
CB 57	687.42	CB 58	686.39	186.20	0.006	42.0	689.47	688.47	0.013	43.22	74.82	8.06	7.116
CB 67	690.00	CB 57	689.74	25.92	0.010	15.0	690.45	690.12	0.013	1.28	6.47	4.10	7.540
CB 60	685.90	FES 61	685.00	179.96	0.005	42.0	688.09	687.13	0.013	48.90	71.15	7.97	6.963
DCB 59	686.13	CB 60	686.00	24.79	0.005	42.0	688.30	688.10	0.013	48.42	72.86	8.10	6.979
CB 58	686.39	DCB 59	686.23	30.78	0.005	42.0	688.47	688.23	0.013	44.59	72.53	7.92	6.998
DI 56A	694.48	CB 56	690.70	180.00	0.021	18.0	695.15	691.16	0.013	3.06	15.22	6.73	7.540

PROPOSED CONDITIONS - 25-YEAR STORM

FlexTable: Conduit Table

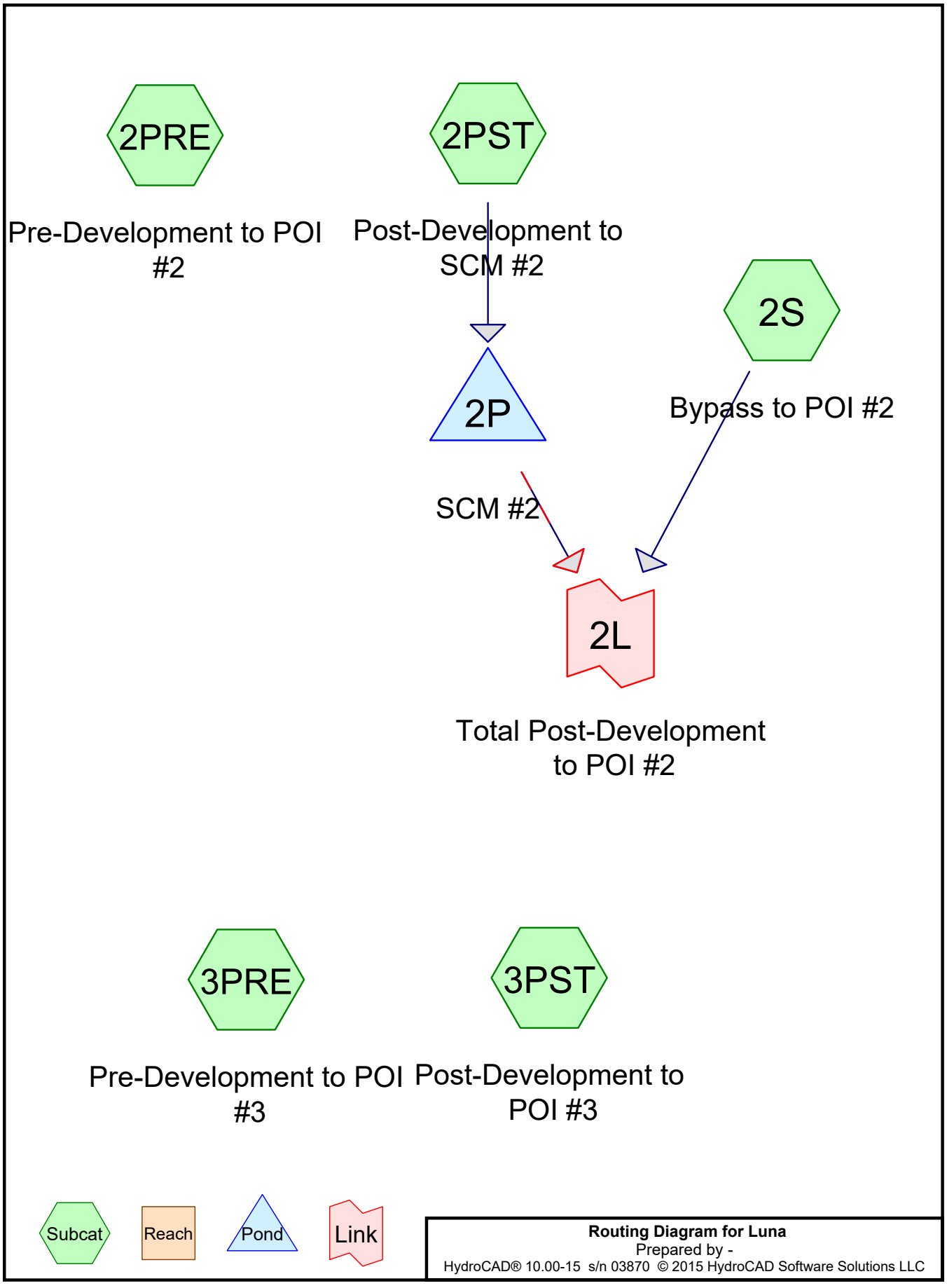
Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Unified) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Manning's n	Flow (ft^3/s)	Capacity (Full Flow) (ft^3/s)	Velocity (ft/s)	System Intensity (in/h)
DI 63	706.00	DI 64	702.20	119.83	0.032	15.0	706.82	702.71	0.013	4.06	11.50	8.56	8.330
HW 51	705.00	CB 52	696.00	199.93	0.045	36.0	706.42	696.76	0.013	19.66	141.51	14.08	8.364
DI 64	701.45	CB 65	698.53	195.10	0.015	24.0	702.71	699.47	0.013	12.31	27.67	8.55	8.251
OPEN PIPE	707.00	CB 62	701.80	120.71	0.043	15.0	707.39	702.32	0.013	1.00	13.41	6.41	8.330
CB 62	701.60	CB 52	697.75	120.64	0.032	15.0	702.32	698.20	0.013	3.19	11.54	8.04	8.224
CB 65	698.33	CB 66	696.89	121.41	0.012	24.0	699.72	698.01	0.013	14.79	24.64	8.20	8.123
CB 66	696.69	DCB 53	695.72	83.70	0.012	24.0	698.16	696.93	0.013	16.48	24.35	8.33	8.039
CB 52	695.80	DCB 53	694.72	35.62	0.030	36.0	697.40	696.65	0.013	24.63	116.14	13.04	8.139
CB 54	693.80	CB 55	693.23	52.34	0.011	36.0	695.95	695.04	0.013	43.65	69.60	10.40	7.971
DCB 53	694.52	CB 54	694.00	25.96	0.020	36.0	696.65	695.67	0.013	42.53	94.39	13.01	7.983
CB 55	693.00	CB 56	688.59	131.67	0.033	36.0	695.16	690.77	0.013	43.73	122.06	15.84	7.943
CB 56	688.49	CB 57	687.42	54.96	0.019	36.0	690.77	689.13	0.013	48.91	93.06	13.33	7.896
CB 68	690.00	DCB 59	689.00	88.92	0.011	15.0	690.57	689.47	0.013	2.03	6.85	4.86	8.330
CB 57	687.42	CB 58	686.39	186.20	0.006	42.0	689.68	688.69	0.013	52.27	74.82	8.41	7.873
CB 67	690.00	CB 57	689.74	25.92	0.010	15.0	690.47	690.14	0.013	1.41	6.47	4.22	8.330
CB 60	685.90	FES 61	685.00	179.96	0.005	42.0	688.32	687.40	0.013	58.59	71.15	8.26	7.711
DCB 59	686.13	CB 60	686.00	24.79	0.005	42.0	688.52	688.36	0.013	58.04	72.86	8.41	7.727
CB 58	686.39	DCB 59	686.23	30.78	0.005	42.0	688.69	688.48	0.013	53.80	72.53	8.26	7.748
DI 56A	694.48	CB 56	690.70	180.00	0.021	18.0	695.18	691.18	0.013	3.38	15.22	6.93	8.330

PROPOSED CONDITIONS - 100-YEAR STORM

FlexTable: Conduit Table

Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Unified) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Manning's n	Flow (ft^3/s)	Capacity (Full Flow) (ft^3/s)	Velocity (ft/s)	System Intensity (in/h)
DI 63	706.00	DI 64	702.20	119.83	0.032	15.0	706.87	702.75	0.013	4.56	11.50	8.83	9.370
HW 51	705.00	CB 52	696.00	199.93	0.045	36.0	706.77	696.93	0.013	29.68	141.51	15.84	9.408
DI 64	701.45	CB 65	698.53	195.10	0.015	24.0	702.79	699.53	0.013	13.85	27.67	8.81	9.283
OPEN PIPE	707.00	CB 62	701.80	120.71	0.043	15.0	707.42	702.37	0.013	1.12	13.41	6.63	9.370
CB 62	701.60	CB 52	697.75	120.64	0.032	15.0	702.37	698.23	0.013	3.59	11.54	8.30	9.254
CB 65	698.33	CB 66	696.89	121.41	0.012	24.0	699.80	698.10	0.013	16.64	24.64	8.42	9.141
CB 66	696.69	DCB 53	695.72	83.70	0.012	24.0	698.24	697.03	0.013	18.55	24.35	8.53	9.049
CB 52	695.80	DCB 53	694.72	35.62	0.030	36.0	697.73	696.94	0.013	35.27	116.14	14.41	9.160
CB 54	693.80	CB 55	693.23	52.34	0.011	36.0	696.24	695.37	0.013	56.69	69.60	10.97	8.974
DCB 53	694.52	CB 54	694.00	25.96	0.020	36.0	696.94	695.96	0.013	55.42	94.39	13.89	8.986
CB 55	693.00	CB 56	688.59	131.67	0.033	36.0	695.44	691.04	0.013	56.78	122.06	16.95	8.944
CB 56	688.49	CB 57	687.42	54.96	0.019	36.0	691.04	689.99	0.013	62.63	93.06	14.12	8.894
CB 68	690.00	DCB 59	689.00	88.92	0.011	15.0	690.60	689.50	0.013	2.28	6.85	5.02	9.370
CB 57	687.42	CB 58	686.39	186.20	0.006	42.0	689.99	689.12	0.013	66.42	74.82	8.79	8.869
CB 67	690.00	CB 57	689.74	25.92	0.010	15.0	690.50	690.16	0.013	1.59	6.47	4.36	9.370
CB 60	685.90	FES 61	685.00	179.96	0.005	42.0	688.86	687.69	0.013	73.56	71.15	8.41	8.692
DCB 59	686.13	CB 60	686.00	24.79	0.005	42.0	688.99	688.86	0.013	72.95	72.86	8.63	8.711
CB 58	686.39	DCB 59	686.23	30.78	0.005	42.0	689.12	688.99	0.013	68.16	72.53	8.57	8.734
DI 56A	694.48	CB 56	690.70	180.00	0.021	18.0	695.23	691.21	0.013	3.80	15.22	7.16	9.370

APPENDIX D


2PRE
Pre-Development to POI #2
2PST
Post-Development to SCM #2
2S
2P
Bypass to POI #2
SCM #2
2L
Total Post-Development to POI #2
3PRE
3PST
Pre-Development to POI #3
Post-Development to POI #3
Subcat
Reach
Pond
Link
Routing Diagram for Luna
Prepared by -
HydroCAD® 10.00-15 s/n 03870 © 2015 HydroCAD Software Solutions LLC

Summary for Subcatchment 2PRE: Pre-Development to POI #2

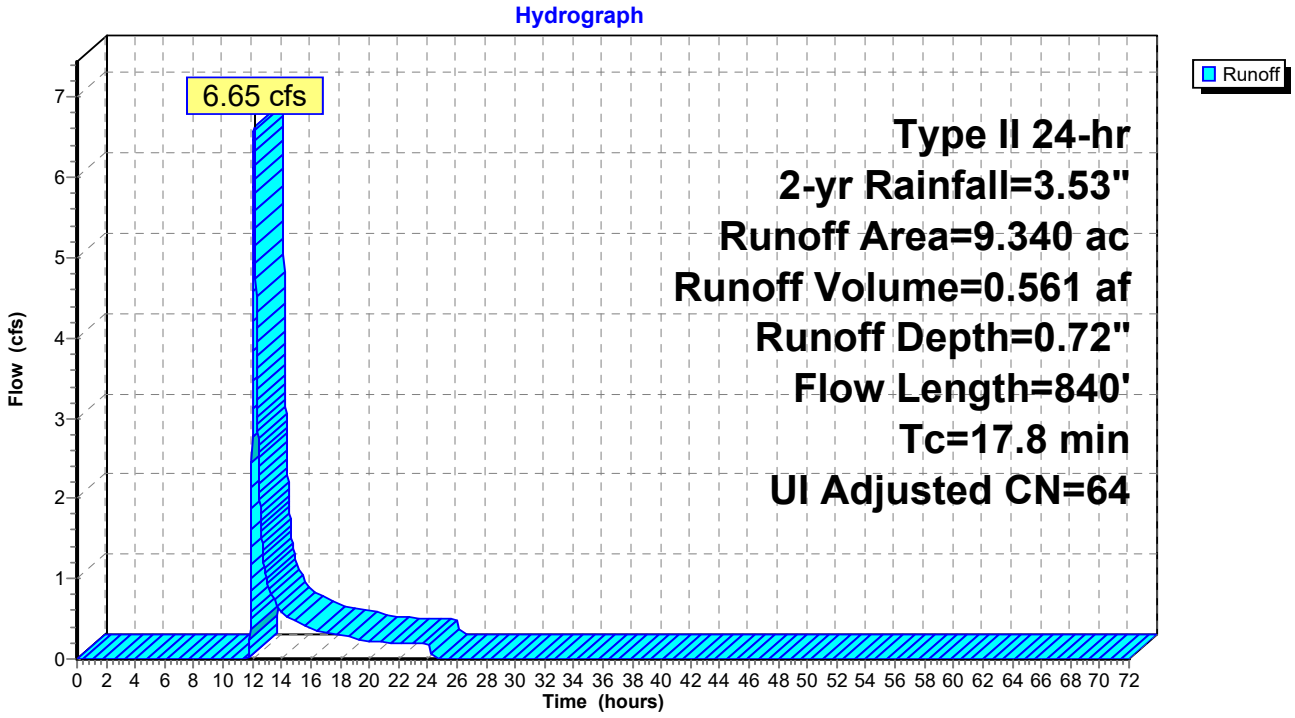
Runoff = 6.65 cfs @ 12.13 hrs, Volume= 0.561 af, Depth= 0.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-yr Rainfall=3.53"

Area (ac)	CN	Adj	Description
0.590	55		Woods, Good, HSG B
0.700	77		Woods, Good, HSG D
0.750	98		Unconnected roofs, HSG B
0.080	80		>75% Grass cover, Good, HSG D
7.220	61		>75% Grass cover, Good, HSG B
9.340	65	64	Weighted Average, UI Adjusted
8.590			91.97% Pervious Area
0.750			8.03% Impervious Area
0.750			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0250	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.53"
5.4	740	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.8	840	Total			

Subcatchment 2PRE: Pre-Development to POI #2



Hydrograph for Subcatchment 2PRE: Pre-Development to POI #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.00	0.00
3.00	0.12	0.00	0.00
4.00	0.17	0.00	0.00
5.00	0.22	0.00	0.00
6.00	0.28	0.00	0.00
7.00	0.35	0.00	0.00
8.00	0.42	0.00	0.00
9.00	0.52	0.00	0.00
10.00	0.64	0.00	0.00
11.00	0.83	0.00	0.00
12.00	2.34	0.22	**3.48**
13.00	2.73	0.35	**0.97**
14.00	2.89	0.42	0.59
15.00	3.01	0.47	0.46
16.00	3.11	0.52	0.37
17.00	3.18	0.55	0.32
18.00	3.25	0.58	0.29
19.00	3.31	0.61	0.26
20.00	3.36	0.64	0.22
21.00	3.41	0.66	0.21
22.00	3.45	0.68	0.20
23.00	3.49	0.70	0.19
24.00	**3.53**	**0.72**	0.19
25.00	3.53	0.72	0.00
26.00	3.53	0.72	0.00
27.00	3.53	0.72	0.00
28.00	3.53	0.72	0.00
29.00	3.53	0.72	0.00
30.00	3.53	0.72	0.00
31.00	3.53	0.72	0.00
32.00	3.53	0.72	0.00
33.00	3.53	0.72	0.00
34.00	3.53	0.72	0.00
35.00	3.53	0.72	0.00
36.00	3.53	0.72	0.00
37.00	3.53	0.72	0.00
38.00	3.53	0.72	0.00
39.00	3.53	0.72	0.00
40.00	3.53	0.72	0.00
41.00	3.53	0.72	0.00
42.00	3.53	0.72	0.00
43.00	3.53	0.72	0.00
44.00	3.53	0.72	0.00
45.00	3.53	0.72	0.00
46.00	3.53	0.72	0.00
47.00	3.53	0.72	0.00
48.00	3.53	0.72	0.00
49.00	3.53	0.72	0.00
50.00	3.53	0.72	0.00
51.00	3.53	0.72	0.00
52.00	3.53	0.72	0.00
53.00	3.53	0.72	0.00
54.00	3.53	0.72	0.00
55.00	3.53	0.72	0.00
56.00	3.53	0.72	0.00
57.00	3.53	0.72	0.00
58.00	3.53	0.72	0.00
59.00	3.53	0.72	0.00
60.00	3.53	0.72	0.00
61.00	3.53	0.72	0.00
62.00	3.53	0.72	0.00
63.00	3.53	0.72	0.00
64.00	3.53	0.72	0.00
65.00	3.53	0.72	0.00
66.00	3.53	0.72	0.00
67.00	3.53	0.72	0.00
68.00	3.53	0.72	0.00
69.00	3.53	0.72	0.00
70.00	3.53	0.72	0.00
71.00	3.53	0.72	0.00
72.00	3.53	0.72	0.00

Summary for Subcatchment 2PST: Post-Development to SCM #2

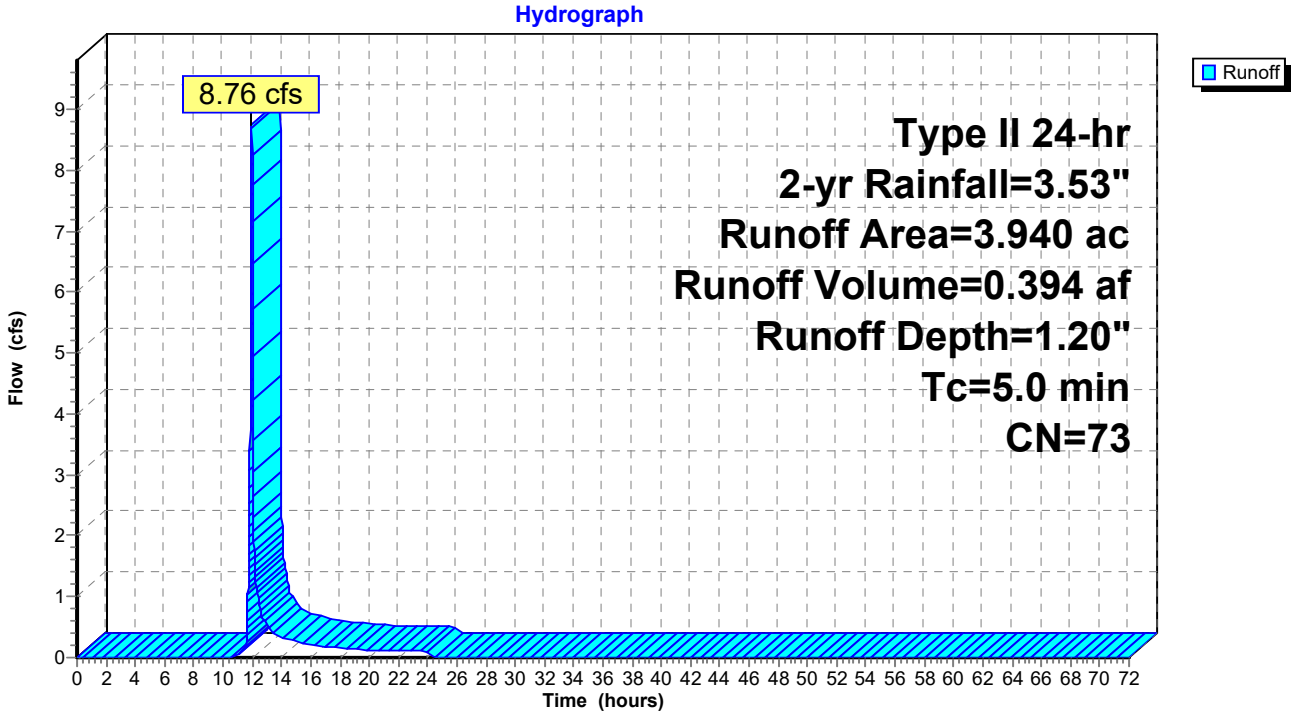
Runoff = 8.76 cfs @ 11.97 hrs, Volume= 0.394 af, Depth= 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-yr Rainfall=3.53"

	Area (ac)	CN	Description
*	0.880	98	Proposed Impervious
*	0.020	98	Existing Impervious
	2.290	61	>75% Grass cover, Good, HSG B
	0.750	80	>75% Grass cover, Good, HSG D
	3.940	73	Weighted Average
	3.040		77.16% Pervious Area
	0.900		22.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2PST: Post-Development to SCM #2



Hydrograph for Subcatchment 2PST: Post-Development to SCM #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.00	0.00
3.00	0.12	0.00	0.00
4.00	0.17	0.00	0.00
5.00	0.22	0.00	0.00
6.00	0.28	0.00	0.00
7.00	0.35	0.00	0.00
8.00	0.42	0.00	0.00
9.00	0.52	0.00	0.00
10.00	0.64	0.00	0.00
11.00	0.83	0.00	**0.04**
12.00	2.34	0.48	**7.78**
13.00	2.73	0.69	0.52
14.00	2.89	0.79	0.32
15.00	3.01	0.87	0.26
16.00	3.11	0.92	0.21
17.00	3.18	0.97	0.18
18.00	3.25	1.02	0.16
19.00	3.31	1.05	0.14
20.00	3.36	1.09	0.12
21.00	3.41	1.12	0.12
22.00	3.45	1.15	0.11
23.00	3.49	1.17	0.11
24.00	**3.53**	**1.20**	0.10
25.00	3.53	1.20	0.00
26.00	3.53	1.20	0.00
27.00	3.53	1.20	0.00
28.00	3.53	1.20	0.00
29.00	3.53	1.20	0.00
30.00	3.53	1.20	0.00
31.00	3.53	1.20	0.00
32.00	3.53	1.20	0.00
33.00	3.53	1.20	0.00
34.00	3.53	1.20	0.00
35.00	3.53	1.20	0.00
36.00	3.53	1.20	0.00
37.00	3.53	1.20	0.00
38.00	3.53	1.20	0.00
39.00	3.53	1.20	0.00
40.00	3.53	1.20	0.00
41.00	3.53	1.20	0.00
42.00	3.53	1.20	0.00
43.00	3.53	1.20	0.00
44.00	3.53	1.20	0.00
45.00	3.53	1.20	0.00
46.00	3.53	1.20	0.00
47.00	3.53	1.20	0.00
48.00	3.53	1.20	0.00
49.00	3.53	1.20	0.00
50.00	3.53	1.20	0.00
51.00	3.53	1.20	0.00
52.00	3.53	1.20	0.00
53.00	3.53	1.20	0.00
54.00	3.53	1.20	0.00
55.00	3.53	1.20	0.00
56.00	3.53	1.20	0.00
57.00	3.53	1.20	0.00
58.00	3.53	1.20	0.00
59.00	3.53	1.20	0.00
60.00	3.53	1.20	0.00
61.00	3.53	1.20	0.00
62.00	3.53	1.20	0.00
63.00	3.53	1.20	0.00
64.00	3.53	1.20	0.00
65.00	3.53	1.20	0.00
66.00	3.53	1.20	0.00
67.00	3.53	1.20	0.00
68.00	3.53	1.20	0.00
69.00	3.53	1.20	0.00
70.00	3.53	1.20	0.00
71.00	3.53	1.20	0.00
72.00	3.53	1.20	0.00

Summary for Subcatchment 2S: Bypass to POI #2

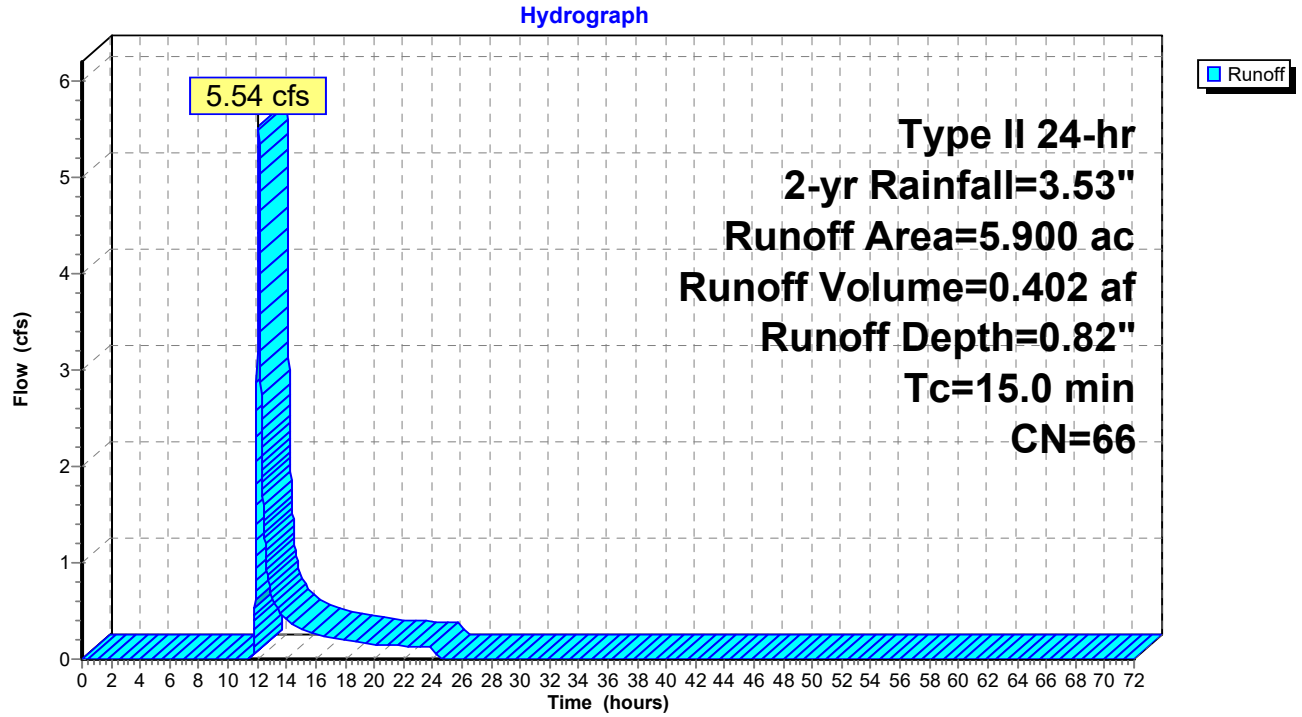
Runoff = 5.54 cfs @ 12.09 hrs, Volume= 0.402 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-yr Rainfall=3.53"

	Area (ac)	CN	Description
*	0.650	98	Existing Impervious
	4.740	61	>75% Grass cover, Good, HSG B
	0.280	80	>75% Grass cover, Good, HSG D
	0.180	55	Woods, Good, HSG B
	0.050	77	Woods, Good, HSG D
	5.900	66	Weighted Average
	5.250		88.98% Pervious Area
	0.650		11.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 2S: Bypass to POI #2



Hydrograph for Subcatchment 2S: Bypass to POI #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.00	0.00
3.00	0.12	0.00	0.00
4.00	0.17	0.00	0.00
5.00	0.22	0.00	0.00
6.00	0.28	0.00	0.00
7.00	0.35	0.00	0.00
8.00	0.42	0.00	0.00
9.00	0.52	0.00	0.00
10.00	0.64	0.00	0.00
11.00	0.83	0.00	0.00
12.00	2.34	0.27	**3.82**
13.00	2.73	0.42	**0.65**
14.00	2.89	0.50	0.40
15.00	3.01	0.55	0.32
16.00	3.11	0.60	0.25
17.00	3.18	0.63	0.22
18.00	3.25	0.67	0.20
19.00	3.31	0.70	0.17
20.00	3.36	0.73	0.15
21.00	3.41	0.75	0.14
22.00	3.45	0.77	0.14
23.00	3.49	0.80	0.13
24.00	**3.53**	**0.82**	0.13
25.00	3.53	0.82	0.00
26.00	3.53	0.82	0.00
27.00	3.53	0.82	0.00
28.00	3.53	0.82	0.00
29.00	3.53	0.82	0.00
30.00	3.53	0.82	0.00
31.00	3.53	0.82	0.00
32.00	3.53	0.82	0.00
33.00	3.53	0.82	0.00
34.00	3.53	0.82	0.00
35.00	3.53	0.82	0.00
36.00	3.53	0.82	0.00
37.00	3.53	0.82	0.00
38.00	3.53	0.82	0.00
39.00	3.53	0.82	0.00
40.00	3.53	0.82	0.00
41.00	3.53	0.82	0.00
42.00	3.53	0.82	0.00
43.00	3.53	0.82	0.00
44.00	3.53	0.82	0.00
45.00	3.53	0.82	0.00
46.00	3.53	0.82	0.00
47.00	3.53	0.82	0.00
48.00	3.53	0.82	0.00
49.00	3.53	0.82	0.00
50.00	3.53	0.82	0.00
51.00	3.53	0.82	0.00
52.00	3.53	0.82	0.00
53.00	3.53	0.82	0.00
54.00	3.53	0.82	0.00
55.00	3.53	0.82	0.00
56.00	3.53	0.82	0.00
57.00	3.53	0.82	0.00
58.00	3.53	0.82	0.00
59.00	3.53	0.82	0.00
60.00	3.53	0.82	0.00
61.00	3.53	0.82	0.00
62.00	3.53	0.82	0.00
63.00	3.53	0.82	0.00
64.00	3.53	0.82	0.00
65.00	3.53	0.82	0.00
66.00	3.53	0.82	0.00
67.00	3.53	0.82	0.00
68.00	3.53	0.82	0.00
69.00	3.53	0.82	0.00
70.00	3.53	0.82	0.00
71.00	3.53	0.82	0.00
72.00	3.53	0.82	0.00

Summary for Subcatchment 3PRE: Pre-Development to POI #3

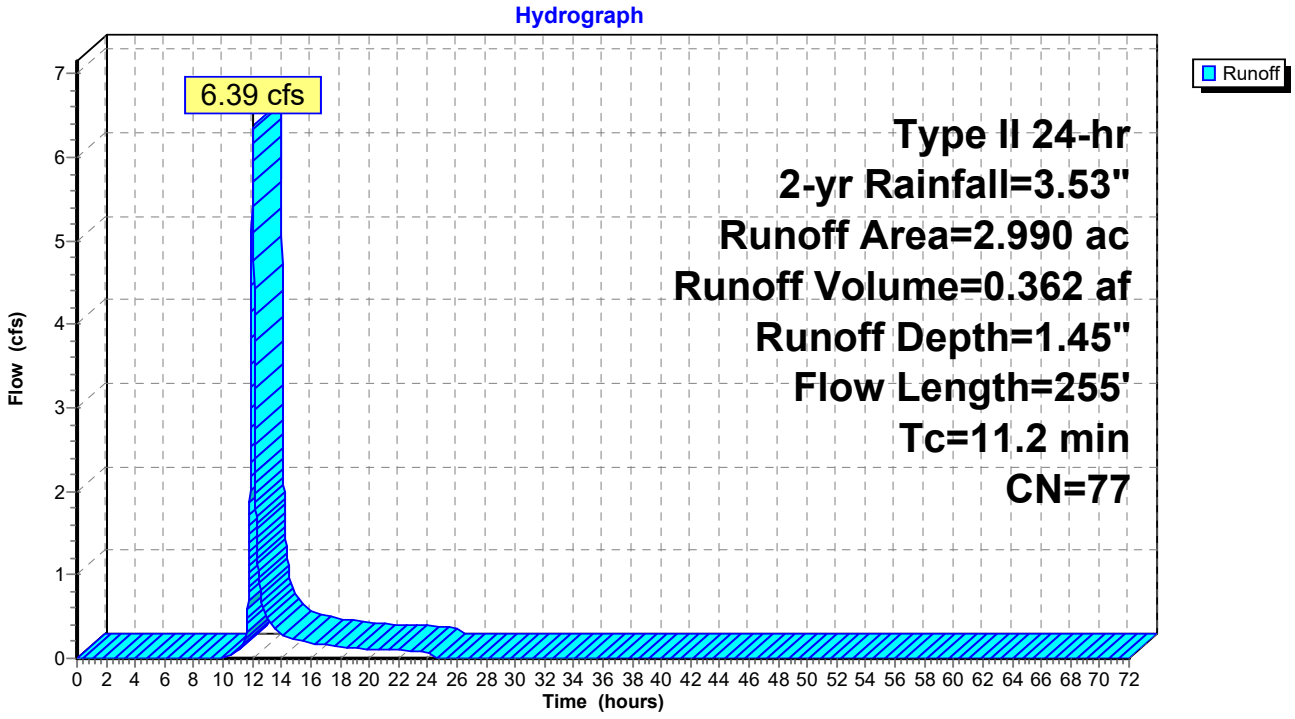
Runoff = 6.39 cfs @ 12.03 hrs, Volume= 0.362 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-yr Rainfall=3.53"

Area (ac)	CN	Description
2.610	77	Woods, Good, HSG D
0.380	80	>75% Grass cover, Good, HSG D
2.990	77	Weighted Average
2.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	100	0.0360	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.53"
0.5	155	0.0860	4.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	255	Total			

Subcatchment 3PRE: Pre-Development to POI #3



Hydrograph for Subcatchment 3PRE: Pre-Development to POI #3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.00	0.00
3.00	0.12	0.00	0.00
4.00	0.17	0.00	0.00
5.00	0.22	0.00	0.00
6.00	0.28	0.00	0.00
7.00	0.35	0.00	0.00
8.00	0.42	0.00	0.00
9.00	0.52	0.00	0.00
10.00	0.64	0.00	0.00
11.00	0.83	0.02	0.08
12.00	2.34	0.64	**5.98**
13.00	2.73	0.89	**0.49**
14.00	2.89	1.00	0.29
15.00	3.01	1.08	0.23
16.00	3.11	1.15	0.18
17.00	3.18	1.20	0.16
18.00	3.25	1.25	0.14
19.00	3.31	1.29	0.12
20.00	3.36	1.33	0.10
21.00	3.41	1.36	0.10
22.00	3.45	1.39	0.09
23.00	3.49	1.42	0.09
24.00	**3.53**	**1.45**	0.09
25.00	3.53	1.45	0.00
26.00	3.53	1.45	0.00
27.00	3.53	1.45	0.00
28.00	3.53	1.45	0.00
29.00	3.53	1.45	0.00
30.00	3.53	1.45	0.00
31.00	3.53	1.45	0.00
32.00	3.53	1.45	0.00
33.00	3.53	1.45	0.00
34.00	3.53	1.45	0.00
35.00	3.53	1.45	0.00
36.00	3.53	1.45	0.00
37.00	3.53	1.45	0.00
38.00	3.53	1.45	0.00
39.00	3.53	1.45	0.00
40.00	3.53	1.45	0.00
41.00	3.53	1.45	0.00
42.00	3.53	1.45	0.00
43.00	3.53	1.45	0.00
44.00	3.53	1.45	0.00
45.00	3.53	1.45	0.00
46.00	3.53	1.45	0.00
47.00	3.53	1.45	0.00
48.00	3.53	1.45	0.00
49.00	3.53	1.45	0.00
50.00	3.53	1.45	0.00
51.00	3.53	1.45	0.00
52.00	3.53	1.45	0.00
53.00	3.53	1.45	0.00
54.00	3.53	1.45	0.00
55.00	3.53	1.45	0.00
56.00	3.53	1.45	0.00
57.00	3.53	1.45	0.00
58.00	3.53	1.45	0.00
59.00	3.53	1.45	0.00
60.00	3.53	1.45	0.00
61.00	3.53	1.45	0.00
62.00	3.53	1.45	0.00
63.00	3.53	1.45	0.00
64.00	3.53	1.45	0.00
65.00	3.53	1.45	0.00
66.00	3.53	1.45	0.00
67.00	3.53	1.45	0.00
68.00	3.53	1.45	0.00
69.00	3.53	1.45	0.00
70.00	3.53	1.45	0.00
71.00	3.53	1.45	0.00
72.00	3.53	1.45	0.00

Summary for Subcatchment 3PST: Post-Development to POI #3

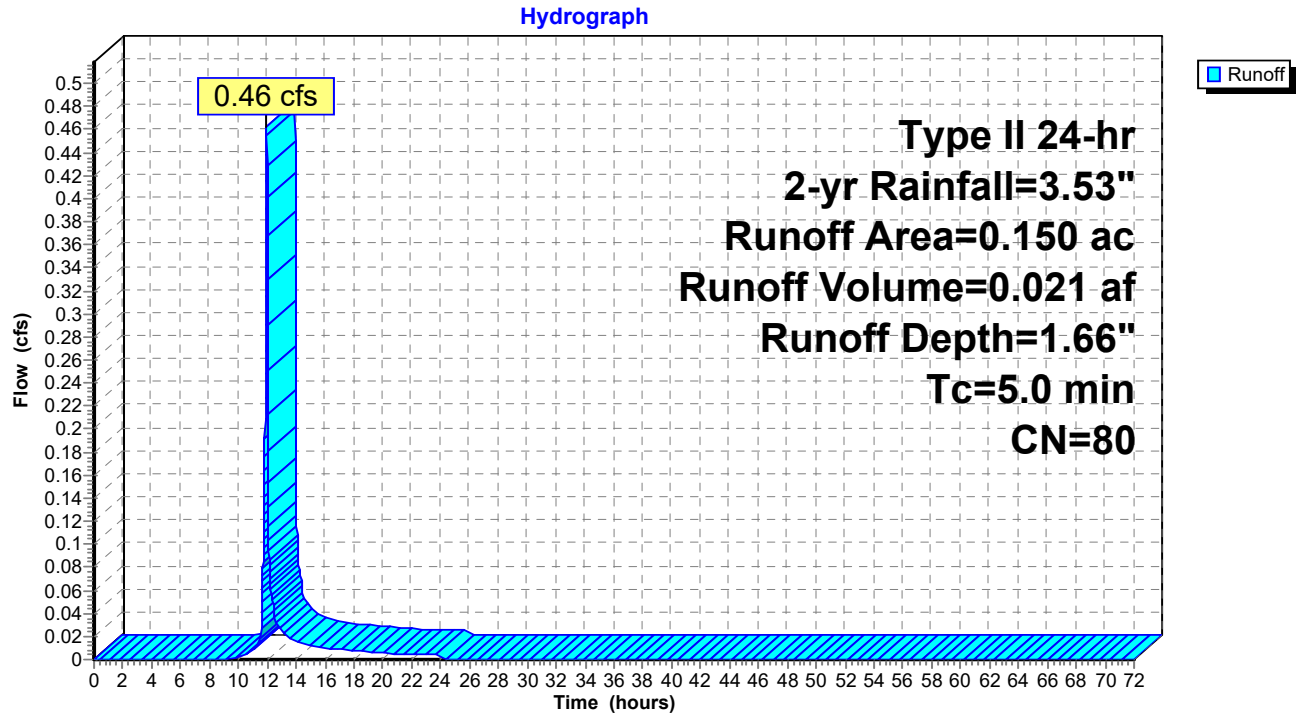
Runoff = 0.46 cfs @ 11.96 hrs, Volume= 0.021 af, Depth= 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-yr Rainfall=3.53"

Area (ac)	CN	Description
0.020	98	Paved roads w/curbs & sewers, HSG B
0.130	77	Woods, Good, HSG D
0.150	80	Weighted Average
0.130		86.67% Pervious Area
0.020		13.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3PST: Post-Development to POI #3



Hydrograph for Subcatchment 3PST: Post-Development to POI #3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.00	0.00
3.00	0.12	0.00	0.00
4.00	0.17	0.00	0.00
5.00	0.22	0.00	0.00
6.00	0.28	0.00	0.00
7.00	0.35	0.00	0.00
8.00	0.42	0.00	0.00
9.00	0.52	0.00	0.00
10.00	0.64	0.01	0.00
11.00	0.83	0.04	**0.01**
12.00	2.34	0.78	**0.40**
13.00	2.73	1.05	0.02
14.00	2.89	1.17	0.02
15.00	3.01	1.26	0.01
16.00	3.11	1.33	0.01
17.00	3.18	1.39	0.01
18.00	3.25	1.44	0.01
19.00	3.31	1.49	0.01
20.00	3.36	1.53	0.01
21.00	3.41	1.56	0.01
22.00	3.45	1.60	0.01
23.00	3.49	1.63	0.00
24.00	**3.53**	**1.66**	0.00
25.00	3.53	1.66	0.00
26.00	3.53	1.66	0.00
27.00	3.53	1.66	0.00
28.00	3.53	1.66	0.00
29.00	3.53	1.66	0.00
30.00	3.53	1.66	0.00
31.00	3.53	1.66	0.00
32.00	3.53	1.66	0.00
33.00	3.53	1.66	0.00
34.00	3.53	1.66	0.00
35.00	3.53	1.66	0.00
36.00	3.53	1.66	0.00
37.00	3.53	1.66	0.00
38.00	3.53	1.66	0.00
39.00	3.53	1.66	0.00
40.00	3.53	1.66	0.00
41.00	3.53	1.66	0.00
42.00	3.53	1.66	0.00
43.00	3.53	1.66	0.00
44.00	3.53	1.66	0.00
45.00	3.53	1.66	0.00
46.00	3.53	1.66	0.00
47.00	3.53	1.66	0.00
48.00	3.53	1.66	0.00
49.00	3.53	1.66	0.00
50.00	3.53	1.66	0.00
51.00	3.53	1.66	0.00
52.00	3.53	1.66	0.00
53.00	3.53	1.66	0.00
54.00	3.53	1.66	0.00
55.00	3.53	1.66	0.00
56.00	3.53	1.66	0.00
57.00	3.53	1.66	0.00
58.00	3.53	1.66	0.00
59.00	3.53	1.66	0.00
60.00	3.53	1.66	0.00
61.00	3.53	1.66	0.00
62.00	3.53	1.66	0.00
63.00	3.53	1.66	0.00
64.00	3.53	1.66	0.00
65.00	3.53	1.66	0.00
66.00	3.53	1.66	0.00
67.00	3.53	1.66	0.00
68.00	3.53	1.66	0.00
69.00	3.53	1.66	0.00
70.00	3.53	1.66	0.00
71.00	3.53	1.66	0.00
72.00	3.53	1.66	0.00

Summary for Pond 2P: SCM #2

Inflow Area = 3.940 ac, 22.84% Impervious, Inflow Depth = 1.20" for 2-yr event
Inflow = 8.76 cfs @ 11.97 hrs, Volume= 0.394 af
Outflow = 0.08 cfs @ 24.05 hrs, Volume= 0.320 af, Atten= 99%, Lag= 725.2 min
Primary = 0.08 cfs @ 24.05 hrs, Volume= 0.320 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 715.44' @ 24.05 hrs Surf.Area= 11,088 sf Storage= 13,974 cf

Plug-Flow detention time= 1,614.9 min calculated for 0.320 af (81% of inflow)
Center-of-Mass det. time= 1,531.2 min (2,386.1 - 854.9)

Volume	Invert	Avail.Storage	Storage Description
#1	713.50'	81,212 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

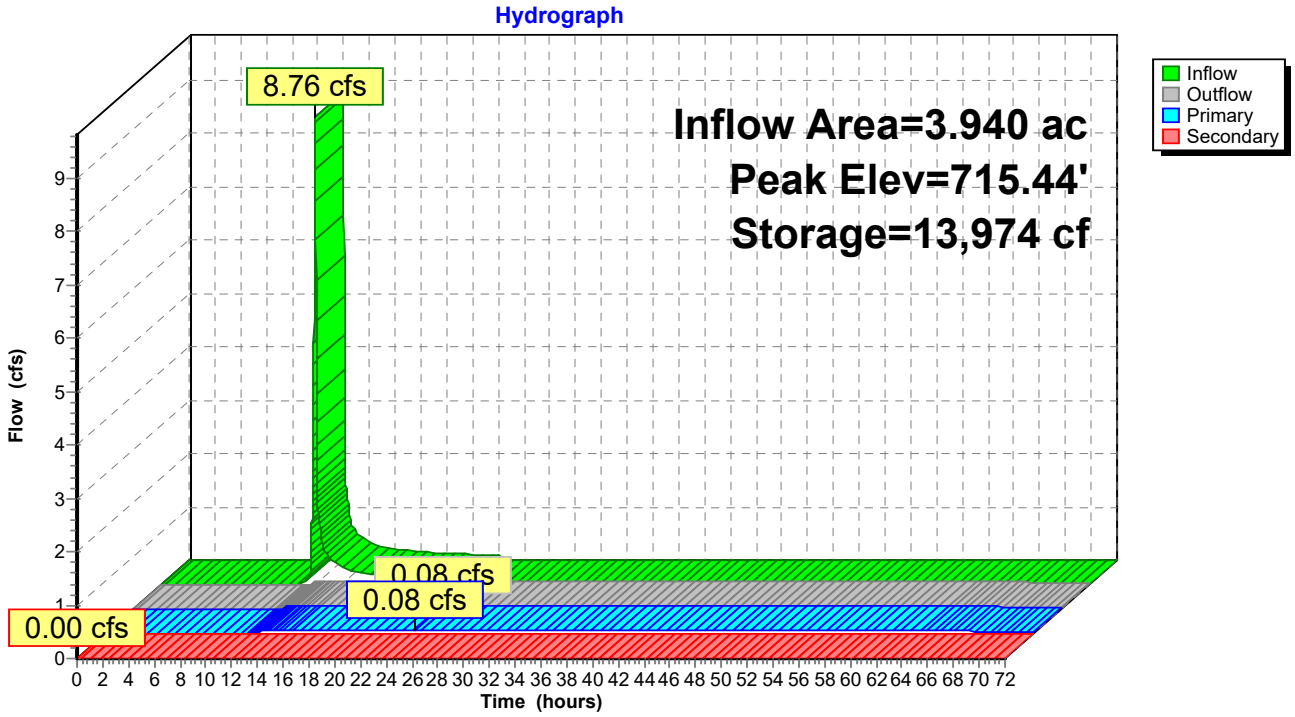
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
713.50	2,258	0	0
714.00	4,670	1,732	1,732
715.00	10,425	7,548	9,280
716.00	11,945	11,185	20,465
717.00	13,515	12,730	33,195
718.00	15,145	14,330	47,525
719.00	16,830	15,988	63,512
720.00	18,570	17,700	81,212

Device	Routing	Invert	Outlet Devices
#1	Primary	711.50'	**24.0" Round Outlet Pipe** L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 711.50' / 711.30' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf
#2	Device 1	713.50'	**Filter Bed** Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Disch. (cfs) 0.000 0.055 0.077 0.098 0.120 0.142
#3	Device 1	715.50'	**4.0" Vert. Orifice** C= 0.600
#4	Device 1	717.50'	**48.0" x 48.0" Horiz. Top of OCS** C= 0.600 Limited to weir flow at low heads
#5	Secondary	718.50'	**20.0' long x 10.0' breadth Emergency Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

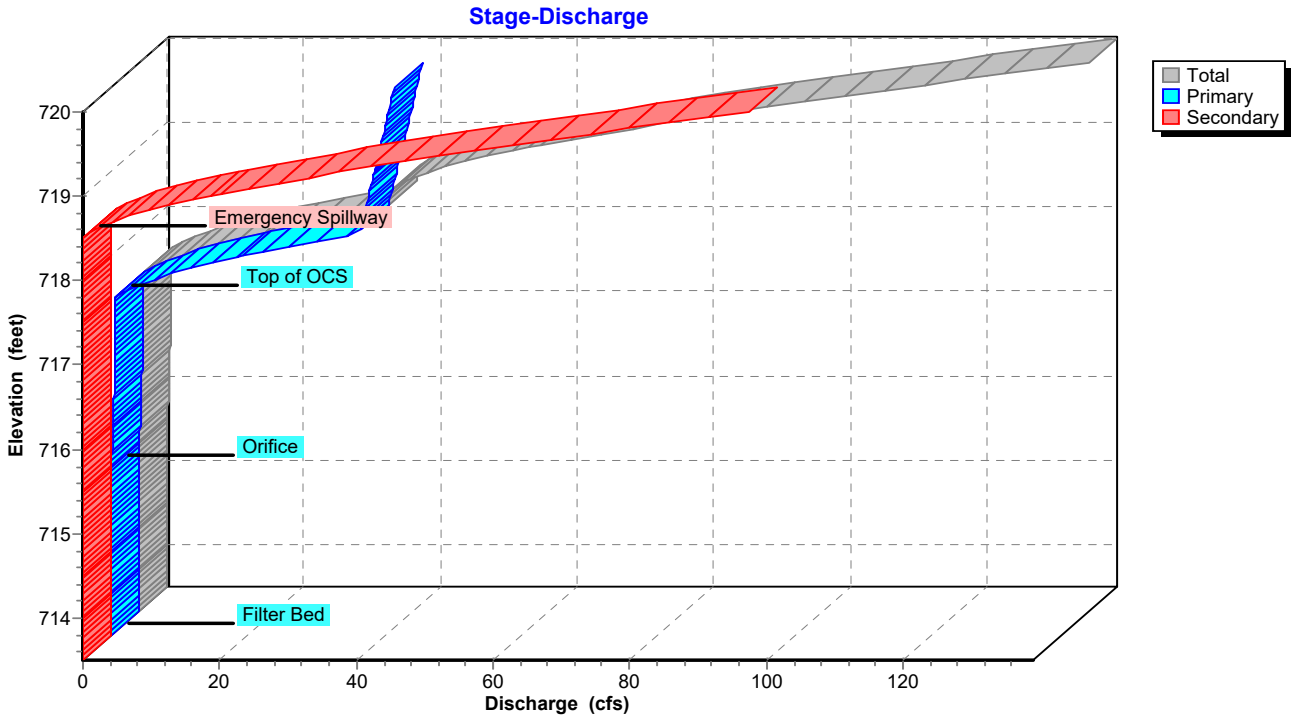
Primary OutFlow Max=0.08 cfs @ 24.05 hrs HW=715.44' (Free Discharge)
└─**1=Outlet Pipe** (Passes 0.08 cfs of 25.92 cfs potential flow)
  ├─**2=Filter Bed** (Custom Controls 0.08 cfs)
  ├─**3=Orifice** (Controls 0.00 cfs)
  └─**4=Top of OCS** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=713.50' (Free Discharge)
└─**5=Emergency Spillway** (Controls 0.00 cfs)

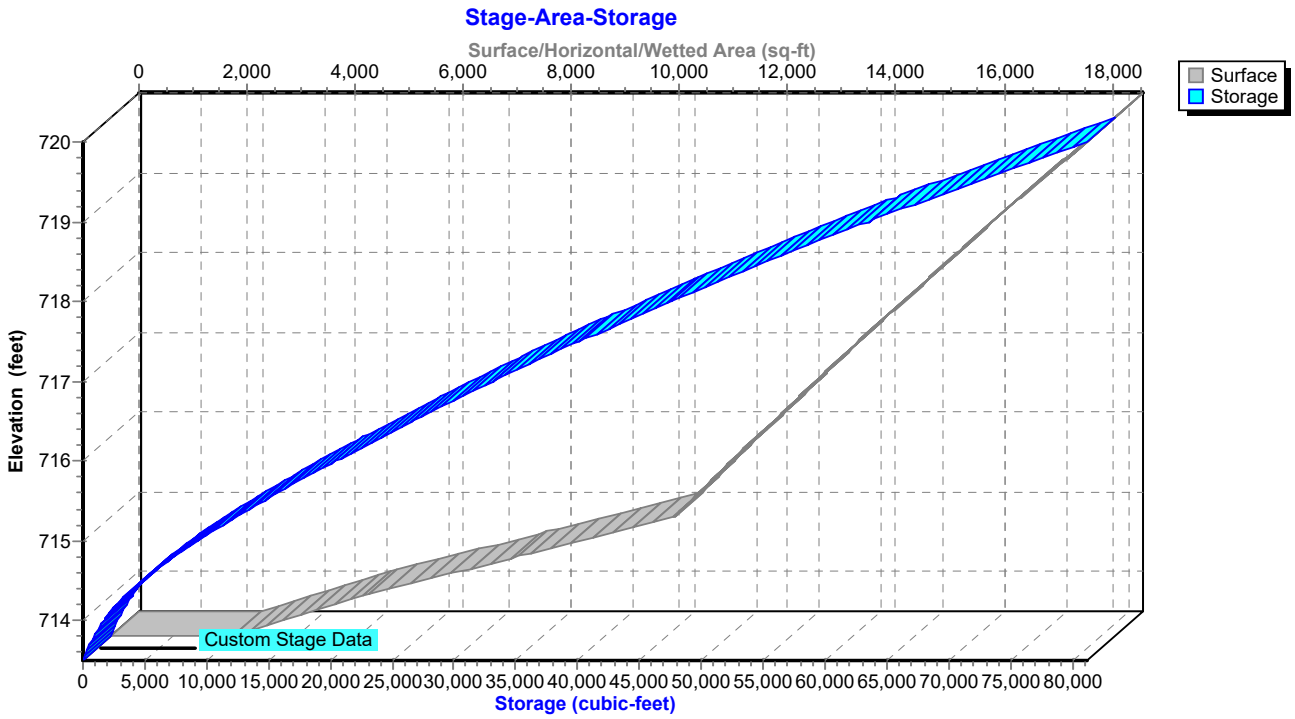
Pond 2P: SCM #2



Pond 2P: SCM #2



Pond 2P: SCM #2


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
2,000
4,000
6,000
8,000
10,000
12,000
14,000
16,000
18,000
Surface
Storage
720
719
718
717
716
715
714
Elevation (feet)
Custom Stage Data
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
Storage (cubic-feet)

Hydrograph for Pond 2P: SCM #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	713.50	0.00	0.00	**0.00**
2.00	0.00	0	713.50	0.00	0.00	0.00
4.00	0.00	0	713.50	0.00	0.00	0.00
6.00	0.00	0	713.50	0.00	0.00	0.00
8.00	0.00	0	713.50	0.00	0.00	0.00
10.00	**0.00**	0	713.50	0.00	0.00	0.00
12.00	**7.78**	5,291	714.56	0.06	0.06	0.00
14.00	0.32	10,743	715.14	0.07	0.07	0.00
16.00	0.21	12,129	715.27	0.07	0.07	0.00
18.00	0.16	12,934	715.34	0.07	0.07	0.00
20.00	0.12	13,433	715.39	0.07	0.07	0.00
22.00	0.11	13,732	715.41	0.08	0.08	0.00
24.00	0.10	**13,971**	**715.44**	**0.08**	**0.08**	0.00
26.00	0.00	**13,459**	**715.39**	**0.07**	**0.07**	0.00
28.00	0.00	12,926	715.34	0.07	0.07	0.00
30.00	0.00	12,400	715.29	0.07	0.07	0.00
32.00	0.00	11,883	715.25	0.07	0.07	0.00
34.00	0.00	11,372	715.20	0.07	0.07	0.00
36.00	0.00	10,869	715.15	0.07	0.07	0.00
38.00	0.00	10,374	715.10	0.07	0.07	0.00
40.00	0.00	9,886	715.06	0.07	0.07	0.00
42.00	0.00	9,405	715.01	0.07	0.07	0.00
44.00	0.00	8,932	714.97	0.07	0.07	0.00
46.00	0.00	8,466	714.92	0.06	0.06	0.00
48.00	0.00	8,007	714.87	0.06	0.06	0.00
50.00	0.00	7,555	714.83	0.06	0.06	0.00
52.00	0.00	7,112	714.78	0.06	0.06	0.00
54.00	0.00	6,675	714.73	0.06	0.06	0.00
56.00	0.00	6,247	714.68	0.06	0.06	0.00
58.00	0.00	5,826	714.63	0.06	0.06	0.00
60.00	0.00	5,413	714.58	0.06	0.06	0.00
62.00	0.00	5,009	714.53	0.06	0.06	0.00
64.00	0.00	4,613	714.48	0.05	0.05	0.00
66.00	0.00	4,237	714.42	0.05	0.05	0.00
68.00	0.00	3,881	714.37	0.05	0.05	0.00
70.00	0.00	3,545	714.32	0.05	0.05	0.00
72.00	0.00	3,229	714.27	0.04	0.04	0.00

Stage-Discharge for Pond 2P: SCM #2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
713.50	0.00	0.00	0.00
713.60	0.01	0.01	0.00
713.70	0.01	0.01	0.00
713.80	0.02	0.02	0.00
713.90	0.02	0.02	0.00
714.00	0.03	0.03	0.00
714.10	0.03	0.03	0.00
714.20	0.04	0.04	0.00
714.30	0.04	0.04	0.00
714.40	0.05	0.05	0.00
714.50	0.06	0.06	0.00
714.60	0.06	0.06	0.00
714.70	0.06	0.06	0.00
714.80	0.06	0.06	0.00
714.90	0.06	0.06	0.00
715.00	0.07	0.07	0.00
715.10	0.07	0.07	0.00
715.20	0.07	0.07	0.00
715.30	0.07	0.07	0.00
715.40	0.07	0.07	0.00
715.50	0.08	0.08	0.00
715.60	0.10	0.10	0.00
715.70	0.16	0.16	0.00
715.80	0.24	0.24	0.00
715.90	0.29	0.29	0.00
716.00	0.33	0.33	0.00
716.10	0.37	0.37	0.00
716.20	0.40	0.40	0.00
716.30	0.43	0.43	0.00
716.40	0.46	0.46	0.00
716.50	0.48	0.48	0.00
716.60	0.51	0.51	0.00
716.70	0.53	0.53	0.00
716.80	0.55	0.55	0.00
716.90	0.57	0.57	0.00
717.00	0.59	0.59	0.00
717.10	0.61	0.61	0.00
717.20	0.63	0.63	0.00
717.30	0.65	0.65	0.00
717.40	0.67	0.67	0.00
717.50	0.69	0.69	0.00
717.60	2.36	2.36	0.00
717.70	5.40	5.40	0.00
717.80	9.34	9.34	0.00
717.90	13.99	13.99	0.00
718.00	19.27	19.27	0.00
718.10	25.10	25.10	0.00
718.20	31.45	31.45	0.00
718.30	36.43	36.43	0.00
718.40	36.74	36.74	0.00
718.50	37.05	37.05	0.00
718.60	38.93	37.36	1.57
718.70	42.12	37.67	4.45
718.80	46.27	37.97	8.30
718.90	51.22	38.27	12.95
719.00	57.16	38.57	18.60
719.10	63.96	38.86	25.10
719.20	70.72	39.15	31.57
719.30	77.94	39.45	38.50
719.40	85.58	39.73	45.85
719.50	93.62	40.02	53.60
719.60	102.26	40.31	61.95
719.70	111.31	40.59	70.72
719.80	120.32	40.87	79.45
719.90	129.61	41.15	88.46
720.00	**138.98**	**41.43**	**97.55**

Stage-Area-Storage for Pond 2P: SCM #2

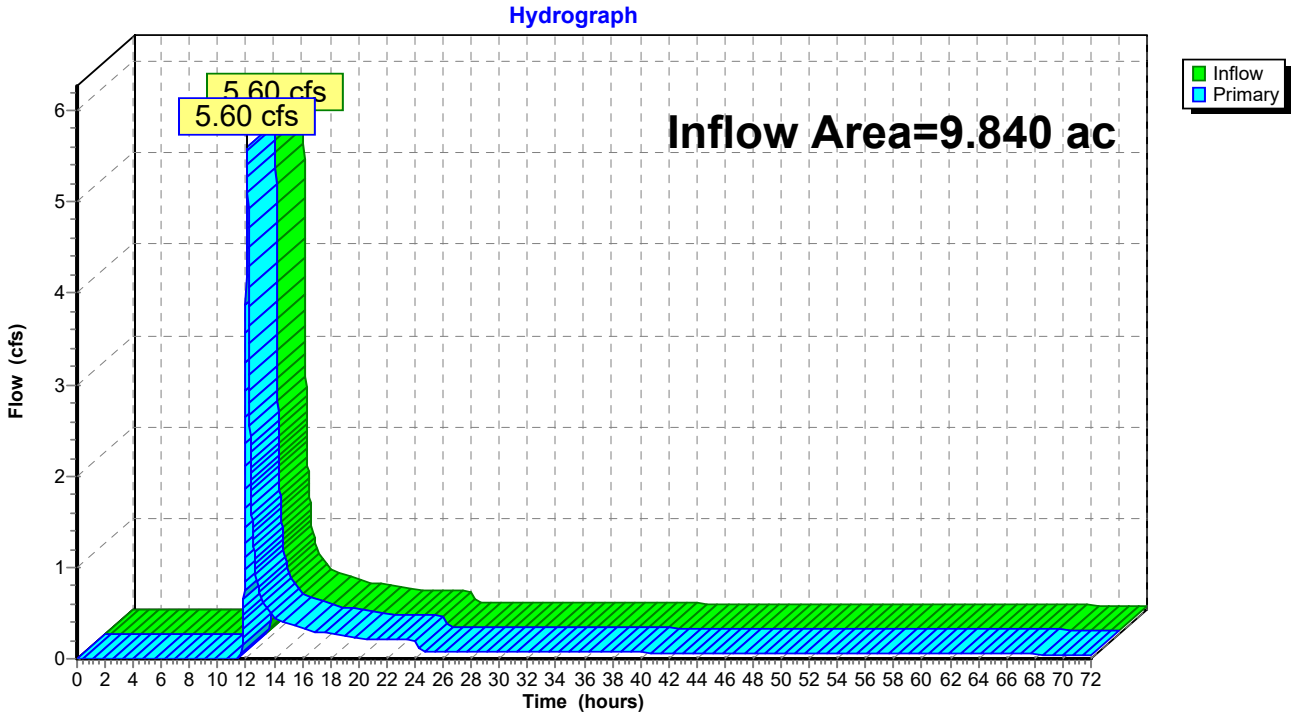
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
713.50	2,258	0
713.60	2,740	250
713.70	3,223	548
713.80	3,705	894
713.90	4,188	1,289
714.00	4,670	1,732
714.10	5,246	2,228
714.20	5,821	2,781
714.30	6,396	3,392
714.40	6,972	4,060
714.50	7,548	4,786
714.60	8,123	5,570
714.70	8,699	6,411
714.80	9,274	7,310
714.90	9,849	8,266
715.00	10,425	9,280
715.10	10,577	10,330
715.20	10,729	11,395
715.30	10,881	12,475
715.40	11,033	13,571
715.50	11,185	14,682
715.60	11,337	15,808
715.70	11,489	16,949
715.80	11,641	18,106
715.90	11,793	19,278
716.00	11,945	20,465
716.10	12,102	21,667
716.20	12,259	22,885
716.30	12,416	24,119
716.40	12,573	25,368
716.50	12,730	26,633
716.60	12,887	27,914
716.70	13,044	29,211
716.80	13,201	30,523
716.90	13,358	31,851
717.00	13,515	33,195
717.10	13,678	34,554
717.20	13,841	35,930
717.30	14,004	37,322
717.40	14,167	38,731
717.50	14,330	40,156
717.60	14,493	41,597
717.70	14,656	43,054
717.80	14,819	44,528
717.90	14,982	46,018
718.00	15,145	47,525
718.10	15,314	49,047
718.20	15,482	50,587
718.30	15,650	52,144
718.40	15,819	53,717
718.50	15,988	55,308
718.60	16,156	56,915
718.70	16,325	58,539
718.80	16,493	60,180
718.90	16,661	61,837
719.00	16,830	63,512
719.10	17,004	65,204
719.20	17,178	66,913
719.30	17,352	68,639
719.40	17,526	70,383
719.50	17,700	72,145
719.60	17,874	73,923
719.70	18,048	75,719
719.80	18,222	77,533
719.90	18,396	79,364
720.00	**18,570**	**81,212**

Summary for Link 2L: Total Post-Development to POI #2

Inflow Area = 9.840 ac, 15.75% Impervious, Inflow Depth > 0.88" for 2-yr event
Inflow = 5.60 cfs @ 12.09 hrs, Volume= 0.721 af
Primary = 5.60 cfs @ 12.09 hrs, Volume= 0.721 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: Total Post-Development to POI #2



Hydrograph for Link 2L: Total Post-Development to POI #2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00
1.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00
12.00	**3.88**	0.00	**3.88**
13.00	**0.72**	0.00	**0.72**
14.00	0.47	0.00	0.47
15.00	0.39	0.00	0.39
16.00	0.32	0.00	0.32
17.00	0.29	0.00	0.29
18.00	0.27	0.00	0.27
19.00	0.25	0.00	0.25
20.00	0.22	0.00	0.22
21.00	0.22	0.00	0.22
22.00	0.21	0.00	0.21
23.00	0.21	0.00	0.21
24.00	0.20	0.00	0.20
25.00	0.08	0.00	0.08
26.00	0.07	0.00	0.07
27.00	0.07	0.00	0.07
28.00	0.07	0.00	0.07
29.00	0.07	0.00	0.07
30.00	0.07	0.00	0.07
31.00	0.07	0.00	0.07
32.00	0.07	0.00	0.07
33.00	0.07	0.00	0.07
34.00	0.07	0.00	0.07
35.00	0.07	0.00	0.07
36.00	0.07	0.00	0.07
37.00	0.07	0.00	0.07
38.00	0.07	0.00	0.07
39.00	0.07	0.00	0.07
40.00	0.07	0.00	0.07
41.00	0.07	0.00	0.07
42.00	0.07	0.00	0.07
43.00	0.07	0.00	0.07
44.00	0.07	0.00	0.07
45.00	0.06	0.00	0.06
46.00	0.06	0.00	0.06
47.00	0.06	0.00	0.06
48.00	0.06	0.00	0.06
49.00	0.06	0.00	0.06
50.00	0.06	0.00	0.06
51.00	0.06	0.00	0.06
52.00	0.06	0.00	0.06
53.00	0.06	0.00	0.06
54.00	0.06	0.00	0.06
55.00	0.06	0.00	0.06
56.00	0.06	0.00	0.06
57.00	0.06	0.00	0.06
58.00	0.06	0.00	0.06
59.00	0.06	0.00	0.06
60.00	0.06	0.00	0.06
61.00	0.06	0.00	0.06
62.00	0.06	0.00	0.06
63.00	0.06	0.00	0.06
64.00	0.05	0.00	0.05
65.00	0.05	0.00	0.05
66.00	0.05	0.00	0.05
67.00	0.05	0.00	0.05
68.00	0.05	0.00	0.05
69.00	0.05	0.00	0.05
70.00	0.05	0.00	0.05
71.00	0.04	0.00	0.04
72.00	0.04	0.00	0.04

Summary for Subcatchment 2PRE: Pre-Development to POI #2

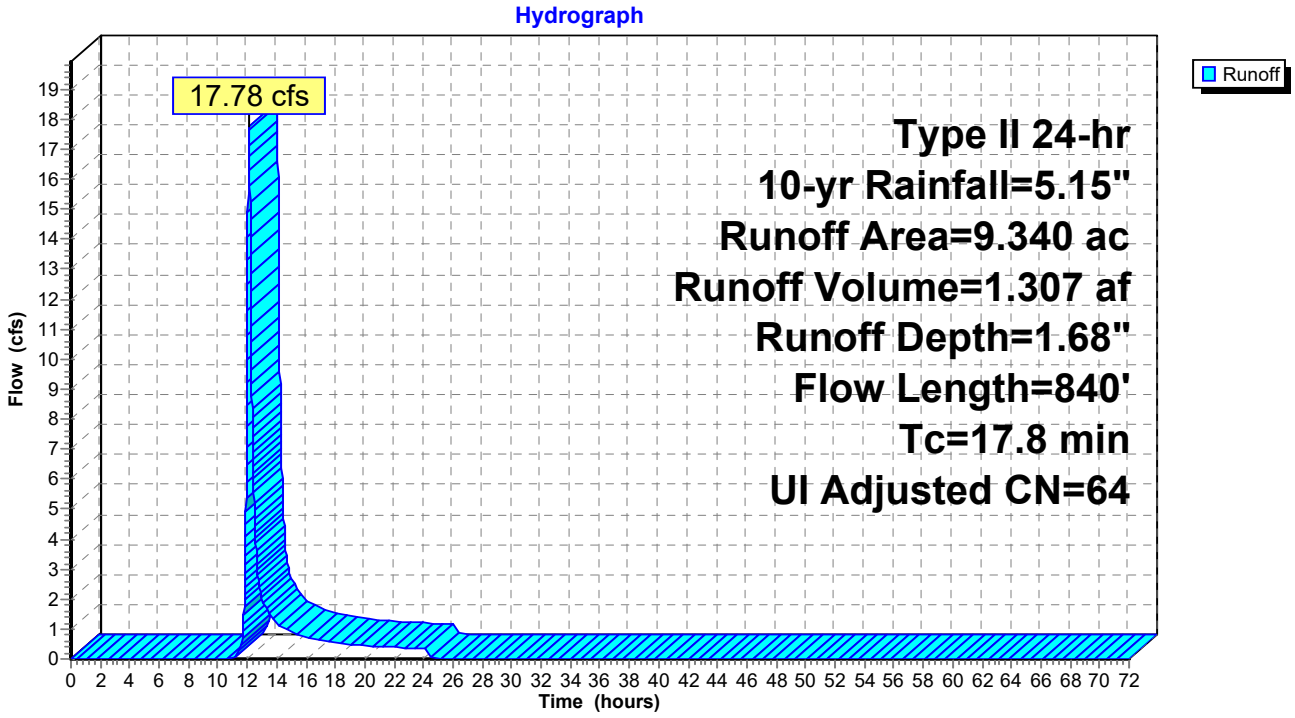
Runoff = 17.78 cfs @ 12.12 hrs, Volume= 1.307 af, Depth= 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=5.15"

Area (ac)	CN	Adj	Description
0.590	55		Woods, Good, HSG B
0.700	77		Woods, Good, HSG D
0.750	98		Unconnected roofs, HSG B
0.080	80		>75% Grass cover, Good, HSG D
7.220	61		>75% Grass cover, Good, HSG B
9.340	65	64	Weighted Average, UI Adjusted
8.590			91.97% Pervious Area
0.750			8.03% Impervious Area
0.750			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0250	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.53"
5.4	740	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.8	840	Total			

Subcatchment 2PRE: Pre-Development to POI #2



Hydrograph for Subcatchment 2PRE: Pre-Development to POI #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.11	0.00	0.00
3.00	0.18	0.00	0.00
4.00	0.25	0.00	0.00
5.00	0.32	0.00	0.00
6.00	0.41	0.00	0.00
7.00	0.51	0.00	0.00
8.00	0.62	0.00	0.00
9.00	0.76	0.00	0.00
10.00	0.93	0.00	0.00
11.00	1.21	0.00	0.01
12.00	3.41	0.66	**11.64**
13.00	3.98	0.96	**2.04**
14.00	4.22	1.10	1.19
15.00	4.40	1.20	0.92
16.00	4.53	1.29	0.74
17.00	4.64	1.35	0.64
18.00	4.74	1.42	0.57
19.00	4.83	1.47	0.50
20.00	4.90	1.52	0.43
21.00	4.97	1.56	0.40
22.00	5.03	1.60	0.38
23.00	5.09	1.64	0.37
24.00	**5.15**	**1.68**	0.36
25.00	5.15	1.68	0.00
26.00	5.15	1.68	0.00
27.00	5.15	1.68	0.00
28.00	5.15	1.68	0.00
29.00	5.15	1.68	0.00
30.00	5.15	1.68	0.00
31.00	5.15	1.68	0.00
32.00	5.15	1.68	0.00
33.00	5.15	1.68	0.00
34.00	5.15	1.68	0.00
35.00	5.15	1.68	0.00
36.00	5.15	1.68	0.00
37.00	5.15	1.68	0.00
38.00	5.15	1.68	0.00
39.00	5.15	1.68	0.00
40.00	5.15	1.68	0.00
41.00	5.15	1.68	0.00
42.00	5.15	1.68	0.00
43.00	5.15	1.68	0.00
44.00	5.15	1.68	0.00
45.00	5.15	1.68	0.00
46.00	5.15	1.68	0.00
47.00	5.15	1.68	0.00
48.00	5.15	1.68	0.00
49.00	5.15	1.68	0.00
50.00	5.15	1.68	0.00
51.00	5.15	1.68	0.00
52.00	5.15	1.68	0.00
53.00	5.15	1.68	0.00
54.00	5.15	1.68	0.00
55.00	5.15	1.68	0.00
56.00	5.15	1.68	0.00
57.00	5.15	1.68	0.00
58.00	5.15	1.68	0.00
59.00	5.15	1.68	0.00
60.00	5.15	1.68	0.00
61.00	5.15	1.68	0.00
62.00	5.15	1.68	0.00
63.00	5.15	1.68	0.00
64.00	5.15	1.68	0.00
65.00	5.15	1.68	0.00
66.00	5.15	1.68	0.00
67.00	5.15	1.68	0.00
68.00	5.15	1.68	0.00
69.00	5.15	1.68	0.00
70.00	5.15	1.68	0.00
71.00	5.15	1.68	0.00
72.00	5.15	1.68	0.00

Summary for Subcatchment 2PST: Post-Development to SCM #2

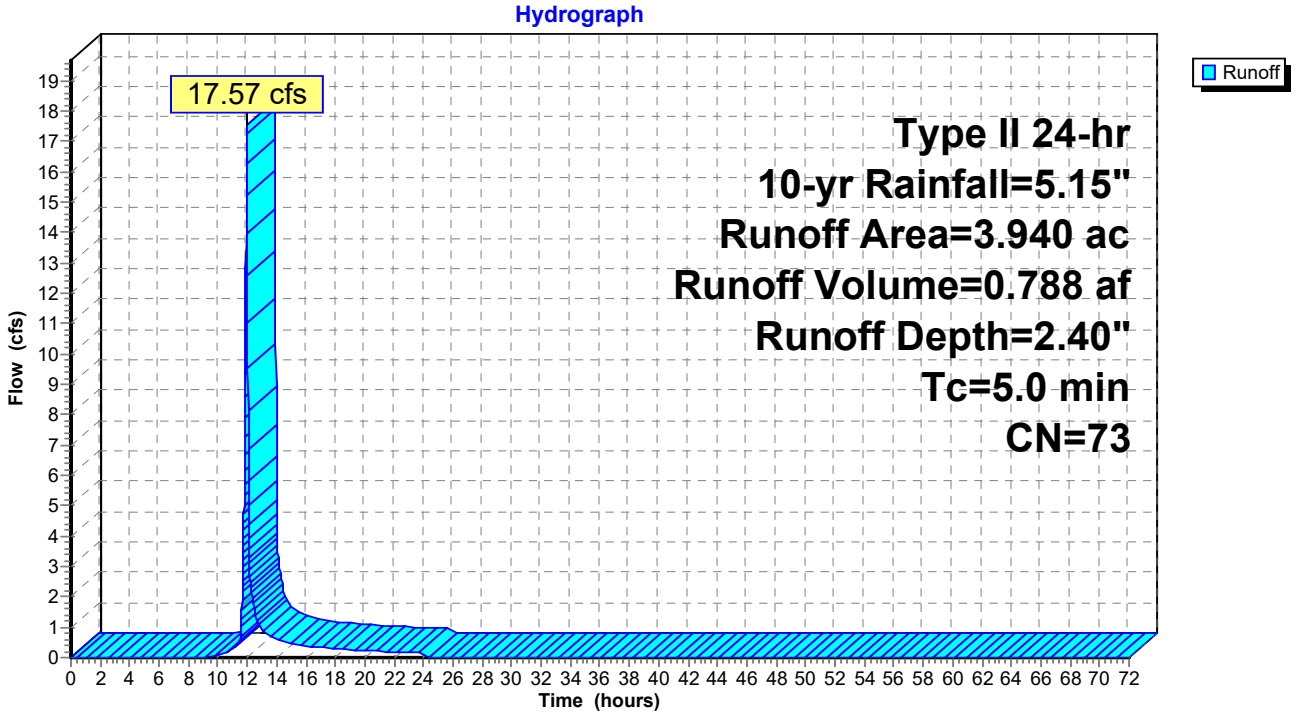
Runoff = 17.57 cfs @ 11.96 hrs, Volume= 0.788 af, Depth= 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=5.15"

	Area (ac)	CN	Description
*	0.880	98	Proposed Impervious
*	0.020	98	Existing Impervious
	2.290	61	>75% Grass cover, Good, HSG B
	0.750	80	>75% Grass cover, Good, HSG D
	3.940	73	Weighted Average
	3.040		77.16% Pervious Area
	0.900		22.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2PST: Post-Development to SCM #2



Hydrograph for Subcatchment 2PST: Post-Development to SCM #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.11	0.00	0.00
3.00	0.18	0.00	0.00
4.00	0.25	0.00	0.00
5.00	0.32	0.00	0.00
6.00	0.41	0.00	0.00
7.00	0.51	0.00	0.00
8.00	0.62	0.00	0.00
9.00	0.76	0.00	0.00
10.00	0.93	0.01	0.07
11.00	1.21	0.05	**0.29**
12.00	3.41	1.12	**15.25**
13.00	3.98	1.51	0.95
14.00	4.22	1.69	0.58
15.00	4.40	1.82	0.47
16.00	4.53	1.92	0.36
17.00	4.64	2.00	0.32
18.00	4.74	2.08	0.29
19.00	4.83	2.15	0.25
20.00	4.90	2.20	0.21
21.00	4.97	2.26	0.20
22.00	5.03	2.31	0.19
23.00	5.09	2.35	0.19
24.00	**5.15**	**2.40**	0.18
25.00	5.15	2.40	0.00
26.00	5.15	2.40	0.00
27.00	5.15	2.40	0.00
28.00	5.15	2.40	0.00
29.00	5.15	2.40	0.00
30.00	5.15	2.40	0.00
31.00	5.15	2.40	0.00
32.00	5.15	2.40	0.00
33.00	5.15	2.40	0.00
34.00	5.15	2.40	0.00
35.00	5.15	2.40	0.00
36.00	5.15	2.40	0.00
37.00	5.15	2.40	0.00
38.00	5.15	2.40	0.00
39.00	5.15	2.40	0.00
40.00	5.15	2.40	0.00
41.00	5.15	2.40	0.00
42.00	5.15	2.40	0.00
43.00	5.15	2.40	0.00
44.00	5.15	2.40	0.00
45.00	5.15	2.40	0.00
46.00	5.15	2.40	0.00
47.00	5.15	2.40	0.00
48.00	5.15	2.40	0.00
49.00	5.15	2.40	0.00
50.00	5.15	2.40	0.00
51.00	5.15	2.40	0.00
52.00	5.15	2.40	0.00
53.00	5.15	2.40	0.00
54.00	5.15	2.40	0.00
55.00	5.15	2.40	0.00
56.00	5.15	2.40	0.00
57.00	5.15	2.40	0.00
58.00	5.15	2.40	0.00
59.00	5.15	2.40	0.00
60.00	5.15	2.40	0.00
61.00	5.15	2.40	0.00
62.00	5.15	2.40	0.00
63.00	5.15	2.40	0.00
64.00	5.15	2.40	0.00
65.00	5.15	2.40	0.00
66.00	5.15	2.40	0.00
67.00	5.15	2.40	0.00
68.00	5.15	2.40	0.00
69.00	5.15	2.40	0.00
70.00	5.15	2.40	0.00
71.00	5.15	2.40	0.00
72.00	5.15	2.40	0.00

Summary for Subcatchment 2S: Bypass to POI #2

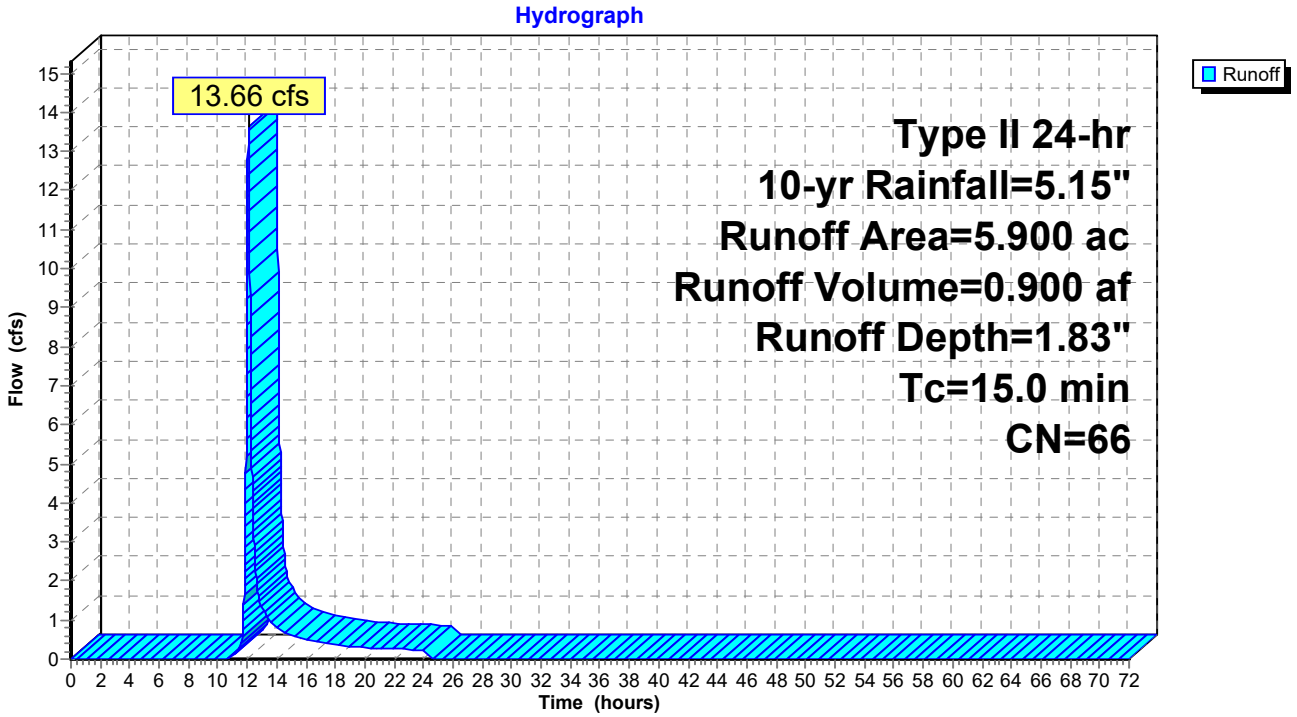
Runoff = 13.66 cfs @ 12.08 hrs, Volume= 0.900 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=5.15"

	Area (ac)	CN	Description
*	0.650	98	Existing Impervious
	4.740	61	>75% Grass cover, Good, HSG B
	0.280	80	>75% Grass cover, Good, HSG D
	0.180	55	Woods, Good, HSG B
	0.050	77	Woods, Good, HSG D
	5.900	66	Weighted Average
	5.250		88.98% Pervious Area
	0.650		11.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 2S: Bypass to POI #2



Hydrograph for Subcatchment 2S: Bypass to POI #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.11	0.00	0.00
3.00	0.18	0.00	0.00
4.00	0.25	0.00	0.00
5.00	0.32	0.00	0.00
6.00	0.41	0.00	0.00
7.00	0.51	0.00	0.00
8.00	0.62	0.00	0.00
9.00	0.76	0.00	0.00
10.00	0.93	0.00	0.00
11.00	1.21	0.01	0.07
12.00	3.41	0.75	**10.59**
13.00	3.98	1.07	**1.32**
14.00	4.22	1.22	0.78
15.00	4.40	1.33	0.61
16.00	4.53	1.42	0.48
17.00	4.64	1.49	0.42
18.00	4.74	1.56	0.38
19.00	4.83	1.61	0.33
20.00	4.90	1.66	0.28
21.00	4.97	1.71	0.26
22.00	5.03	1.75	0.25
23.00	5.09	1.79	0.24
24.00	**5.15**	**1.83**	0.23
25.00	5.15	1.83	0.00
26.00	5.15	1.83	0.00
27.00	5.15	1.83	0.00
28.00	5.15	1.83	0.00
29.00	5.15	1.83	0.00
30.00	5.15	1.83	0.00
31.00	5.15	1.83	0.00
32.00	5.15	1.83	0.00
33.00	5.15	1.83	0.00
34.00	5.15	1.83	0.00
35.00	5.15	1.83	0.00
36.00	5.15	1.83	0.00
37.00	5.15	1.83	0.00
38.00	5.15	1.83	0.00
39.00	5.15	1.83	0.00
40.00	5.15	1.83	0.00
41.00	5.15	1.83	0.00
42.00	5.15	1.83	0.00
43.00	5.15	1.83	0.00
44.00	5.15	1.83	0.00
45.00	5.15	1.83	0.00
46.00	5.15	1.83	0.00
47.00	5.15	1.83	0.00
48.00	5.15	1.83	0.00
49.00	5.15	1.83	0.00
50.00	5.15	1.83	0.00
51.00	5.15	1.83	0.00
52.00	5.15	1.83	0.00
53.00	5.15	1.83	0.00
54.00	5.15	1.83	0.00
55.00	5.15	1.83	0.00
56.00	5.15	1.83	0.00
57.00	5.15	1.83	0.00
58.00	5.15	1.83	0.00
59.00	5.15	1.83	0.00
60.00	5.15	1.83	0.00
61.00	5.15	1.83	0.00
62.00	5.15	1.83	0.00
63.00	5.15	1.83	0.00
64.00	5.15	1.83	0.00
65.00	5.15	1.83	0.00
66.00	5.15	1.83	0.00
67.00	5.15	1.83	0.00
68.00	5.15	1.83	0.00
69.00	5.15	1.83	0.00
70.00	5.15	1.83	0.00
71.00	5.15	1.83	0.00
72.00	5.15	1.83	0.00

Summary for Subcatchment 3PRE: Pre-Development to POI #3

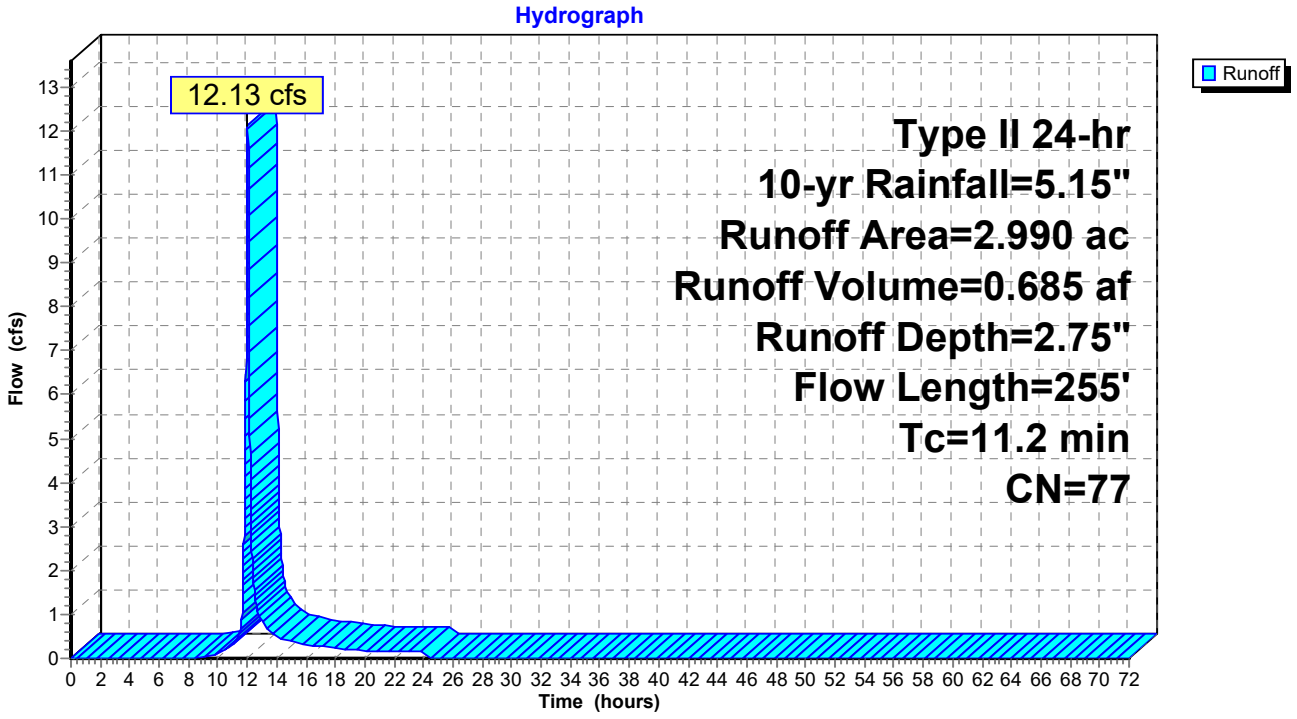
Runoff = 12.13 cfs @ 12.03 hrs, Volume= 0.685 af, Depth= 2.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=5.15"

Area (ac)	CN	Description
2.610	77	Woods, Good, HSG D
0.380	80	>75% Grass cover, Good, HSG D
2.990	77	Weighted Average
2.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	100	0.0360	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.53"
0.5	155	0.0860	4.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	255	Total			

Subcatchment 3PRE: Pre-Development to POI #3



Hydrograph for Subcatchment 3PRE: Pre-Development to POI #3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.11	0.00	0.00
3.00	0.18	0.00	0.00
4.00	0.25	0.00	0.00
5.00	0.32	0.00	0.00
6.00	0.41	0.00	0.00
7.00	0.51	0.00	0.00
8.00	0.62	0.00	0.00
9.00	0.76	0.01	0.04
10.00	0.93	0.03	0.10
11.00	1.21	0.10	0.29
12.00	3.41	1.37	**11.55**
13.00	3.98	1.79	**0.84**
14.00	4.22	1.99	0.50
15.00	4.40	2.13	0.39
16.00	4.53	2.24	0.31
17.00	4.64	2.33	0.27
18.00	4.74	2.41	0.24
19.00	4.83	2.48	0.20
20.00	4.90	2.54	0.17
21.00	4.97	2.60	0.16
22.00	5.03	2.65	0.16
23.00	5.09	2.70	0.15
24.00	**5.15**	**2.75**	0.15
25.00	5.15	2.75	0.00
26.00	5.15	2.75	0.00
27.00	5.15	2.75	0.00
28.00	5.15	2.75	0.00
29.00	5.15	2.75	0.00
30.00	5.15	2.75	0.00
31.00	5.15	2.75	0.00
32.00	5.15	2.75	0.00
33.00	5.15	2.75	0.00
34.00	5.15	2.75	0.00
35.00	5.15	2.75	0.00
36.00	5.15	2.75	0.00
37.00	5.15	2.75	0.00
38.00	5.15	2.75	0.00
39.00	5.15	2.75	0.00
40.00	5.15	2.75	0.00
41.00	5.15	2.75	0.00
42.00	5.15	2.75	0.00
43.00	5.15	2.75	0.00
44.00	5.15	2.75	0.00
45.00	5.15	2.75	0.00
46.00	5.15	2.75	0.00
47.00	5.15	2.75	0.00
48.00	5.15	2.75	0.00
49.00	5.15	2.75	0.00
50.00	5.15	2.75	0.00
51.00	5.15	2.75	0.00
52.00	5.15	2.75	0.00
53.00	5.15	2.75	0.00
54.00	5.15	2.75	0.00
55.00	5.15	2.75	0.00
56.00	5.15	2.75	0.00
57.00	5.15	2.75	0.00
58.00	5.15	2.75	0.00
59.00	5.15	2.75	0.00
60.00	5.15	2.75	0.00
61.00	5.15	2.75	0.00
62.00	5.15	2.75	0.00
63.00	5.15	2.75	0.00
64.00	5.15	2.75	0.00
65.00	5.15	2.75	0.00
66.00	5.15	2.75	0.00
67.00	5.15	2.75	0.00
68.00	5.15	2.75	0.00
69.00	5.15	2.75	0.00
70.00	5.15	2.75	0.00
71.00	5.15	2.75	0.00
72.00	5.15	2.75	0.00

Summary for Subcatchment 3PST: Post-Development to POI #3

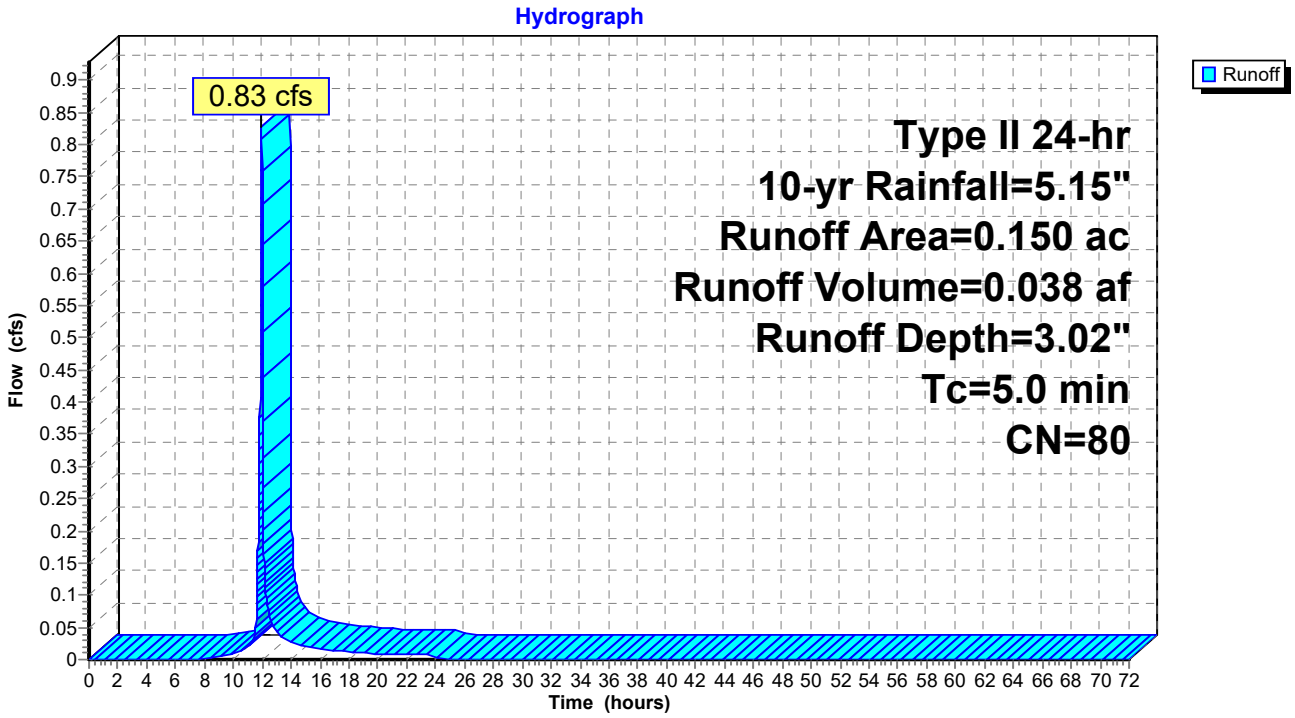
Runoff = 0.83 cfs @ 11.96 hrs, Volume= 0.038 af, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-yr Rainfall=5.15"

Area (ac)	CN	Description
0.020	98	Paved roads w/curbs & sewers, HSG B
0.130	77	Woods, Good, HSG D
0.150	80	Weighted Average
0.130		86.67% Pervious Area
0.020		13.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3PST: Post-Development to POI #3



Hydrograph for Subcatchment 3PST: Post-Development to POI #3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.11	0.00	0.00
3.00	0.18	0.00	0.00
4.00	0.25	0.00	0.00
5.00	0.32	0.00	0.00
6.00	0.41	0.00	0.00
7.00	0.51	0.00	0.00
8.00	0.62	0.01	0.00
9.00	0.76	0.02	0.00
10.00	0.93	0.06	0.01
11.00	1.21	0.16	**0.02**
12.00	3.41	1.57	**0.71**
13.00	3.98	2.02	0.04
14.00	4.22	2.23	0.03
15.00	4.40	2.37	0.02
16.00	4.53	2.49	0.02
17.00	4.64	2.58	0.01
18.00	4.74	2.67	0.01
19.00	4.83	2.74	0.01
20.00	4.90	2.81	0.01
21.00	4.97	2.87	0.01
22.00	5.03	2.92	0.01
23.00	5.09	2.97	0.01
24.00	**5.15**	**3.02**	0.01
25.00	5.15	3.02	0.00
26.00	5.15	3.02	0.00
27.00	5.15	3.02	0.00
28.00	5.15	3.02	0.00
29.00	5.15	3.02	0.00
30.00	5.15	3.02	0.00
31.00	5.15	3.02	0.00
32.00	5.15	3.02	0.00
33.00	5.15	3.02	0.00
34.00	5.15	3.02	0.00
35.00	5.15	3.02	0.00
36.00	5.15	3.02	0.00
37.00	5.15	3.02	0.00
38.00	5.15	3.02	0.00
39.00	5.15	3.02	0.00
40.00	5.15	3.02	0.00
41.00	5.15	3.02	0.00
42.00	5.15	3.02	0.00
43.00	5.15	3.02	0.00
44.00	5.15	3.02	0.00
45.00	5.15	3.02	0.00
46.00	5.15	3.02	0.00
47.00	5.15	3.02	0.00
48.00	5.15	3.02	0.00
49.00	5.15	3.02	0.00
50.00	5.15	3.02	0.00
51.00	5.15	3.02	0.00
52.00	5.15	3.02	0.00
53.00	5.15	3.02	0.00
54.00	5.15	3.02	0.00
55.00	5.15	3.02	0.00
56.00	5.15	3.02	0.00
57.00	5.15	3.02	0.00
58.00	5.15	3.02	0.00
59.00	5.15	3.02	0.00
60.00	5.15	3.02	0.00
61.00	5.15	3.02	0.00
62.00	5.15	3.02	0.00
63.00	5.15	3.02	0.00
64.00	5.15	3.02	0.00
65.00	5.15	3.02	0.00
66.00	5.15	3.02	0.00
67.00	5.15	3.02	0.00
68.00	5.15	3.02	0.00
69.00	5.15	3.02	0.00
70.00	5.15	3.02	0.00
71.00	5.15	3.02	0.00
72.00	5.15	3.02	0.00

Summary for Pond 2P: SCM #2

Inflow Area = 3.940 ac, 22.84% Impervious, Inflow Depth = 2.40" for 10-yr event
Inflow = 17.57 cfs @ 11.96 hrs, Volume= 0.788 af
Outflow = 0.38 cfs @ 15.80 hrs, Volume= 0.666 af, Atten= 98%, Lag= 230.1 min
Primary = 0.38 cfs @ 15.80 hrs, Volume= 0.666 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 716.16' @ 15.80 hrs Surf.Area= 12,192 sf Storage= 22,360 cf

Plug-Flow detention time= 1,054.4 min calculated for 0.666 af (85% of inflow)
Center-of-Mass det. time= 983.1 min (1,817.5 - 834.3)

Volume	Invert	Avail.Storage	Storage Description
#1	713.50'	81,212 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

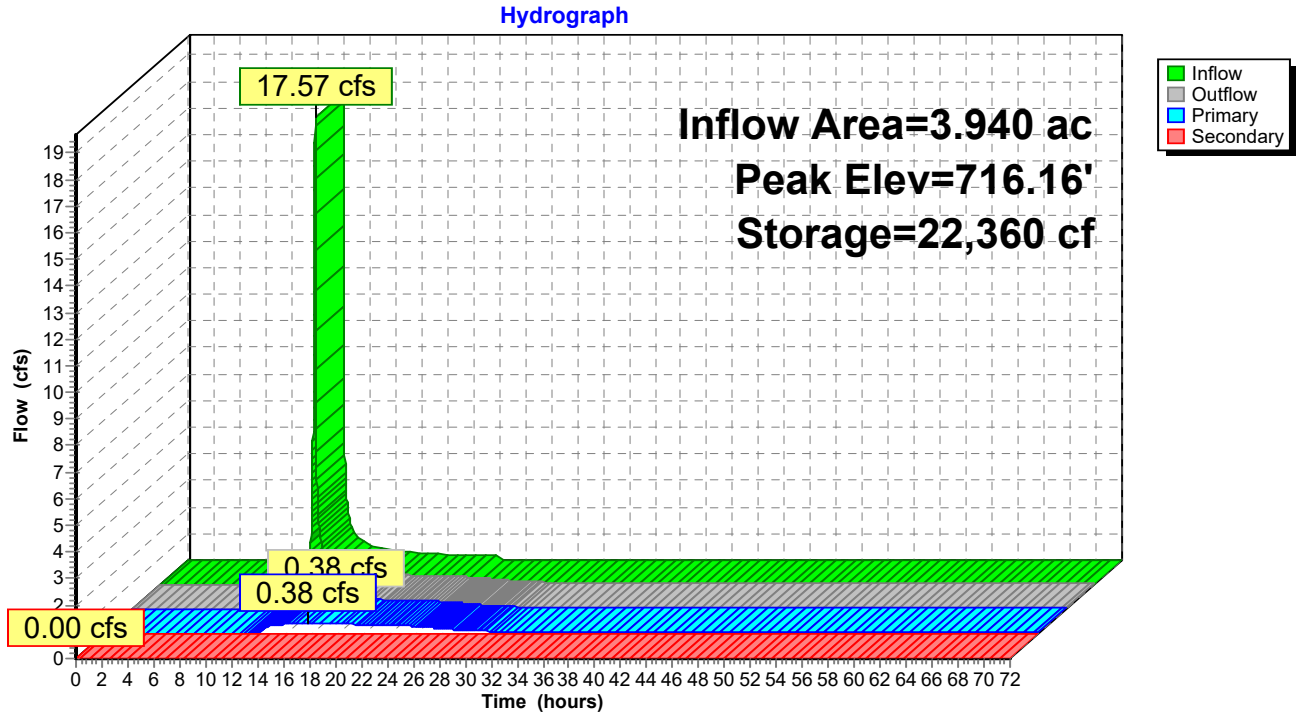
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
713.50	2,258	0	0
714.00	4,670	1,732	1,732
715.00	10,425	7,548	9,280
716.00	11,945	11,185	20,465
717.00	13,515	12,730	33,195
718.00	15,145	14,330	47,525
719.00	16,830	15,988	63,512
720.00	18,570	17,700	81,212

Device	Routing	Invert	Outlet Devices
#1	Primary	711.50'	**24.0" Round Outlet Pipe** L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 711.50' / 711.30' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf
#2	Device 1	713.50'	**Filter Bed** Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Disch. (cfs) 0.000 0.055 0.077 0.098 0.120 0.142
#3	Device 1	715.50'	**4.0" Vert. Orifice** C= 0.600
#4	Device 1	717.50'	**48.0" x 48.0" Horiz. Top of OCS** C= 0.600 Limited to weir flow at low heads
#5	Secondary	718.50'	**20.0' long x 10.0' breadth Emergency Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

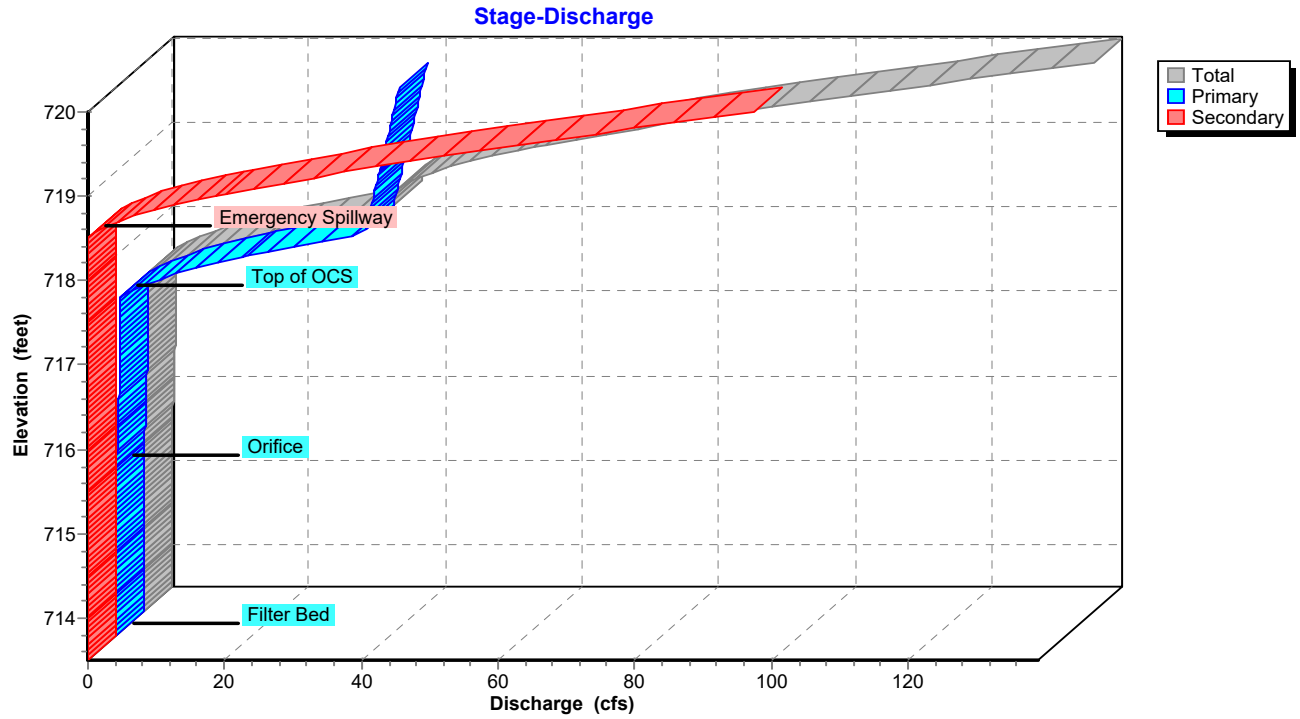
Primary OutFlow Max=0.39 cfs @ 15.80 hrs HW=716.16' (Free Discharge)
└**1=Outlet Pipe** (Passes 0.39 cfs of 28.93 cfs potential flow)
  ├**2=Filter Bed** (Custom Controls 0.09 cfs)
  ├**3=Orifice** (Orifice Controls 0.29 cfs @ 3.37 fps)
  └**4=Top of OCS** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=713.50' (Free Discharge)
└**5=Emergency Spillway** (Controls 0.00 cfs)

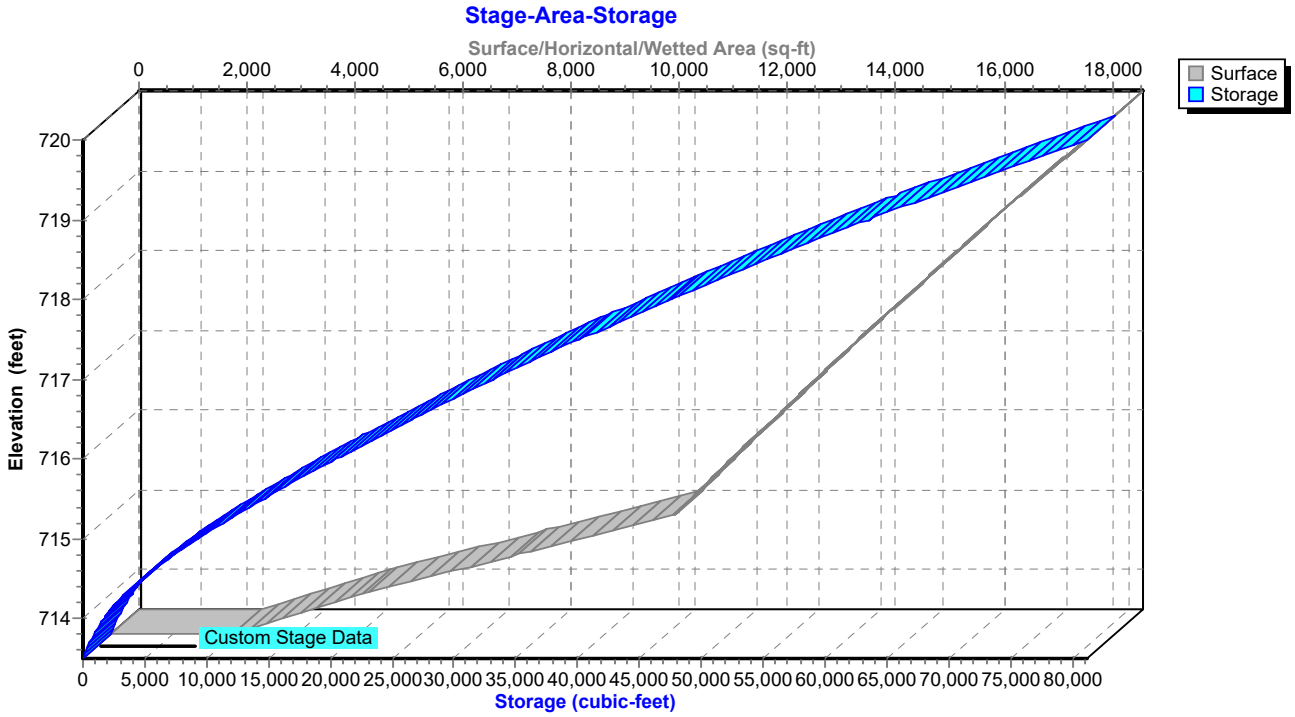
Pond 2P: SCM #2



Pond 2P: SCM #2



Pond 2P: SCM #2


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
2,000
4,000
6,000
8,000
10,000
12,000
14,000
16,000
18,000
Surface
Storage
720
719
718
717
716
715
714
Elevation (feet)
Custom Stage Data
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
Storage (cubic-feet)

Hydrograph for Pond 2P: SCM #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	713.50	0.00	0.00	**0.00**
2.00	0.00	0	713.50	0.00	0.00	0.00
4.00	0.00	0	713.50	0.00	0.00	0.00
6.00	0.00	0	713.50	0.00	0.00	0.00
8.00	0.00	0	713.50	0.00	0.00	0.00
10.00	**0.07**	112	713.55	0.00	0.00	0.00
12.00	**15.25**	12,849	715.33	0.07	0.07	0.00
14.00	0.58	**21,734**	**716.11**	**0.37**	**0.37**	0.00
16.00	0.36	**22,353**	**716.16**	**0.38**	**0.38**	0.00
18.00	0.29	21,940	716.12	0.37	0.37	0.00
20.00	0.21	21,116	716.05	0.35	0.35	0.00
22.00	0.19	20,149	715.97	0.32	0.32	0.00
24.00	0.18	19,299	715.90	0.29	0.29	0.00
26.00	0.00	17,560	715.75	0.20	0.20	0.00
28.00	0.00	16,379	715.65	0.13	0.13	0.00
30.00	0.00	15,579	715.58	0.09	0.09	0.00
32.00	0.00	14,953	715.52	0.08	0.08	0.00
34.00	0.00	14,396	715.47	0.08	0.08	0.00
36.00	0.00	13,850	715.43	0.08	0.08	0.00
38.00	0.00	13,311	715.38	0.07	0.07	0.00
40.00	0.00	12,780	715.33	0.07	0.07	0.00
42.00	0.00	12,257	715.28	0.07	0.07	0.00
44.00	0.00	11,741	715.23	0.07	0.07	0.00
46.00	0.00	11,233	715.18	0.07	0.07	0.00
48.00	0.00	10,732	715.14	0.07	0.07	0.00
50.00	0.00	10,239	715.09	0.07	0.07	0.00
52.00	0.00	9,753	715.05	0.07	0.07	0.00
54.00	0.00	9,274	715.00	0.07	0.07	0.00
56.00	0.00	8,803	714.95	0.06	0.06	0.00
58.00	0.00	8,338	714.91	0.06	0.06	0.00
60.00	0.00	7,882	714.86	0.06	0.06	0.00
62.00	0.00	7,432	714.81	0.06	0.06	0.00
64.00	0.00	6,990	714.76	0.06	0.06	0.00
66.00	0.00	6,556	714.72	0.06	0.06	0.00
68.00	0.00	6,130	714.67	0.06	0.06	0.00
70.00	0.00	5,711	714.62	0.06	0.06	0.00
72.00	0.00	5,301	714.57	0.06	0.06	0.00

Stage-Discharge for Pond 2P: SCM #2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
713.50	0.00	0.00	0.00
713.60	0.01	0.01	0.00
713.70	0.01	0.01	0.00
713.80	0.02	0.02	0.00
713.90	0.02	0.02	0.00
714.00	0.03	0.03	0.00
714.10	0.03	0.03	0.00
714.20	0.04	0.04	0.00
714.30	0.04	0.04	0.00
714.40	0.05	0.05	0.00
714.50	0.06	0.06	0.00
714.60	0.06	0.06	0.00
714.70	0.06	0.06	0.00
714.80	0.06	0.06	0.00
714.90	0.06	0.06	0.00
715.00	0.07	0.07	0.00
715.10	0.07	0.07	0.00
715.20	0.07	0.07	0.00
715.30	0.07	0.07	0.00
715.40	0.07	0.07	0.00
715.50	0.08	0.08	0.00
715.60	0.10	0.10	0.00
715.70	0.16	0.16	0.00
715.80	0.24	0.24	0.00
715.90	0.29	0.29	0.00
716.00	0.33	0.33	0.00
716.10	0.37	0.37	0.00
716.20	0.40	0.40	0.00
716.30	0.43	0.43	0.00
716.40	0.46	0.46	0.00
716.50	0.48	0.48	0.00
716.60	0.51	0.51	0.00
716.70	0.53	0.53	0.00
716.80	0.55	0.55	0.00
716.90	0.57	0.57	0.00
717.00	0.59	0.59	0.00
717.10	0.61	0.61	0.00
717.20	0.63	0.63	0.00
717.30	0.65	0.65	0.00
717.40	0.67	0.67	0.00
717.50	0.69	0.69	0.00
717.60	2.36	2.36	0.00
717.70	5.40	5.40	0.00
717.80	9.34	9.34	0.00
717.90	13.99	13.99	0.00
718.00	19.27	19.27	0.00
718.10	25.10	25.10	0.00
718.20	31.45	31.45	0.00
718.30	36.43	36.43	0.00
718.40	36.74	36.74	0.00
718.50	37.05	37.05	0.00
718.60	38.93	37.36	1.57
718.70	42.12	37.67	4.45
718.80	46.27	37.97	8.30
718.90	51.22	38.27	12.95
719.00	57.16	38.57	18.60
719.10	63.96	38.86	25.10
719.20	70.72	39.15	31.57
719.30	77.94	39.45	38.50
719.40	85.58	39.73	45.85
719.50	93.62	40.02	53.60
719.60	102.26	40.31	61.95
719.70	111.31	40.59	70.72
719.80	120.32	40.87	79.45
719.90	129.61	41.15	88.46
720.00	**138.98**	**41.43**	**97.55**

Stage-Area-Storage for Pond 2P: SCM #2

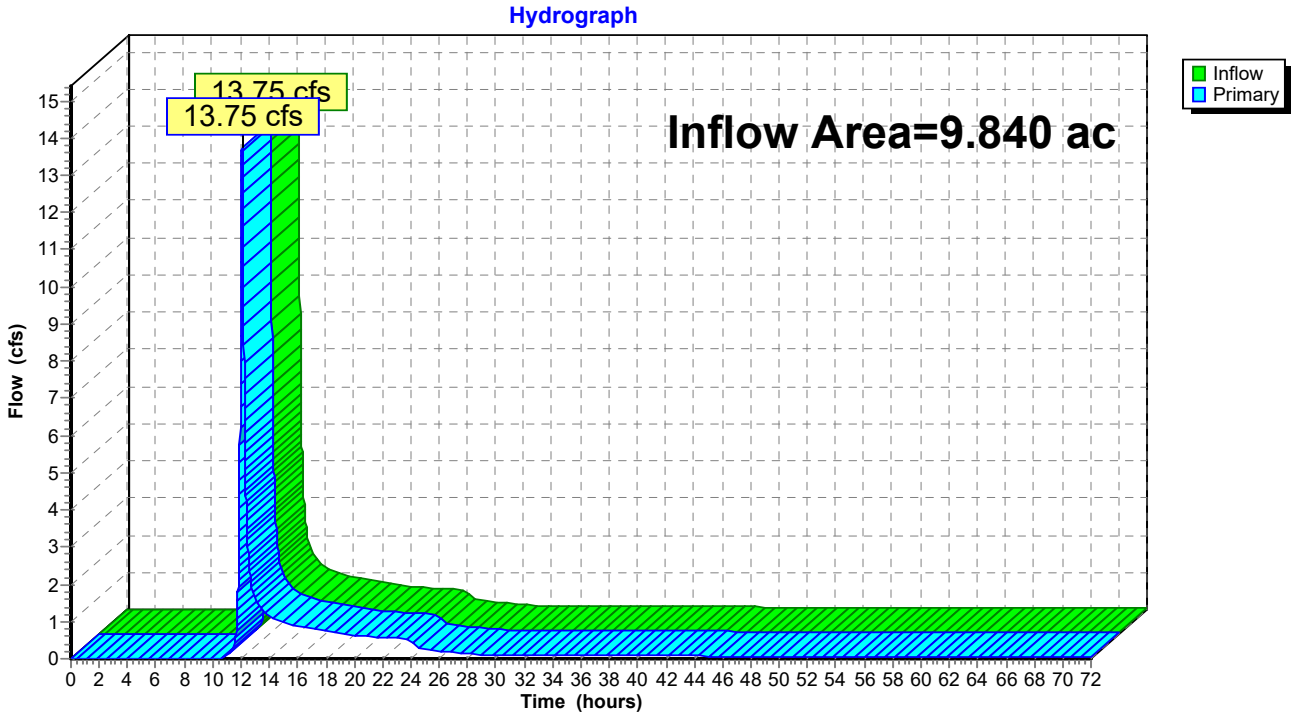
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
713.50	2,258	0
713.60	2,740	250
713.70	3,223	548
713.80	3,705	894
713.90	4,188	1,289
714.00	4,670	1,732
714.10	5,246	2,228
714.20	5,821	2,781
714.30	6,396	3,392
714.40	6,972	4,060
714.50	7,548	4,786
714.60	8,123	5,570
714.70	8,699	6,411
714.80	9,274	7,310
714.90	9,849	8,266
715.00	10,425	9,280
715.10	10,577	10,330
715.20	10,729	11,395
715.30	10,881	12,475
715.40	11,033	13,571
715.50	11,185	14,682
715.60	11,337	15,808
715.70	11,489	16,949
715.80	11,641	18,106
715.90	11,793	19,278
716.00	11,945	20,465
716.10	12,102	21,667
716.20	12,259	22,885
716.30	12,416	24,119
716.40	12,573	25,368
716.50	12,730	26,633
716.60	12,887	27,914
716.70	13,044	29,211
716.80	13,201	30,523
716.90	13,358	31,851
717.00	13,515	33,195
717.10	13,678	34,554
717.20	13,841	35,930
717.30	14,004	37,322
717.40	14,167	38,731
717.50	14,330	40,156
717.60	14,493	41,597
717.70	14,656	43,054
717.80	14,819	44,528
717.90	14,982	46,018
718.00	15,145	47,525
718.10	15,314	49,047
718.20	15,482	50,587
718.30	15,650	52,144
718.40	15,819	53,717
718.50	15,988	55,308
718.60	16,156	56,915
718.70	16,325	58,539
718.80	16,493	60,180
718.90	16,661	61,837
719.00	16,830	63,512
719.10	17,004	65,204
719.20	17,178	66,913
719.30	17,352	68,639
719.40	17,526	70,383
719.50	17,700	72,145
719.60	17,874	73,923
719.70	18,048	75,719
719.80	18,222	77,533
719.90	18,396	79,364
720.00	**18,570**	**81,212**

Summary for Link 2L: Total Post-Development to POI #2

Inflow Area = 9.840 ac, 15.75% Impervious, Inflow Depth > 1.91" for 10-yr event
Inflow = 13.75 cfs @ 12.08 hrs, Volume= 1.566 af
Primary = 13.75 cfs @ 12.08 hrs, Volume= 1.566 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: Total Post-Development to POI #2



Hydrograph for Link 2L: Total Post-Development to POI #2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00
1.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00
10.00	0.00	0.00	0.00
11.00	0.09	0.00	0.09
12.00	**10.66**	0.00	**10.66**
13.00	**1.65**	0.00	**1.65**
14.00	1.15	0.00	1.15
15.00	0.99	0.00	0.99
16.00	0.87	0.00	0.87
17.00	0.80	0.00	0.80
18.00	0.75	0.00	0.75
19.00	0.69	0.00	0.69
20.00	0.63	0.00	0.63
21.00	0.60	0.00	0.60
22.00	0.57	0.00	0.57
23.00	0.55	0.00	0.55
24.00	0.52	0.00	0.52
25.00	0.25	0.00	0.25
26.00	0.20	0.00	0.20
27.00	0.16	0.00	0.16
28.00	0.13	0.00	0.13
29.00	0.11	0.00	0.11
30.00	0.09	0.00	0.09
31.00	0.09	0.00	0.09
32.00	0.08	0.00	0.08
33.00	0.08	0.00	0.08
34.00	0.08	0.00	0.08
35.00	0.08	0.00	0.08
36.00	0.08	0.00	0.08
37.00	0.07	0.00	0.07
38.00	0.07	0.00	0.07
39.00	0.07	0.00	0.07
40.00	0.07	0.00	0.07
41.00	0.07	0.00	0.07
42.00	0.07	0.00	0.07
43.00	0.07	0.00	0.07
44.00	0.07	0.00	0.07
45.00	0.07	0.00	0.07
46.00	0.07	0.00	0.07
47.00	0.07	0.00	0.07
48.00	0.07	0.00	0.07
49.00	0.07	0.00	0.07
50.00	0.07	0.00	0.07
51.00	0.07	0.00	0.07
52.00	0.07	0.00	0.07
53.00	0.07	0.00	0.07
54.00	0.07	0.00	0.07
55.00	0.07	0.00	0.07
56.00	0.06	0.00	0.06
57.00	0.06	0.00	0.06
58.00	0.06	0.00	0.06
59.00	0.06	0.00	0.06
60.00	0.06	0.00	0.06
61.00	0.06	0.00	0.06
62.00	0.06	0.00	0.06
63.00	0.06	0.00	0.06
64.00	0.06	0.00	0.06
65.00	0.06	0.00	0.06
66.00	0.06	0.00	0.06
67.00	0.06	0.00	0.06
68.00	0.06	0.00	0.06
69.00	0.06	0.00	0.06
70.00	0.06	0.00	0.06
71.00	0.06	0.00	0.06
72.00	0.06	0.00	0.06

Summary for Subcatchment 2PRE: Pre-Development to POI #2

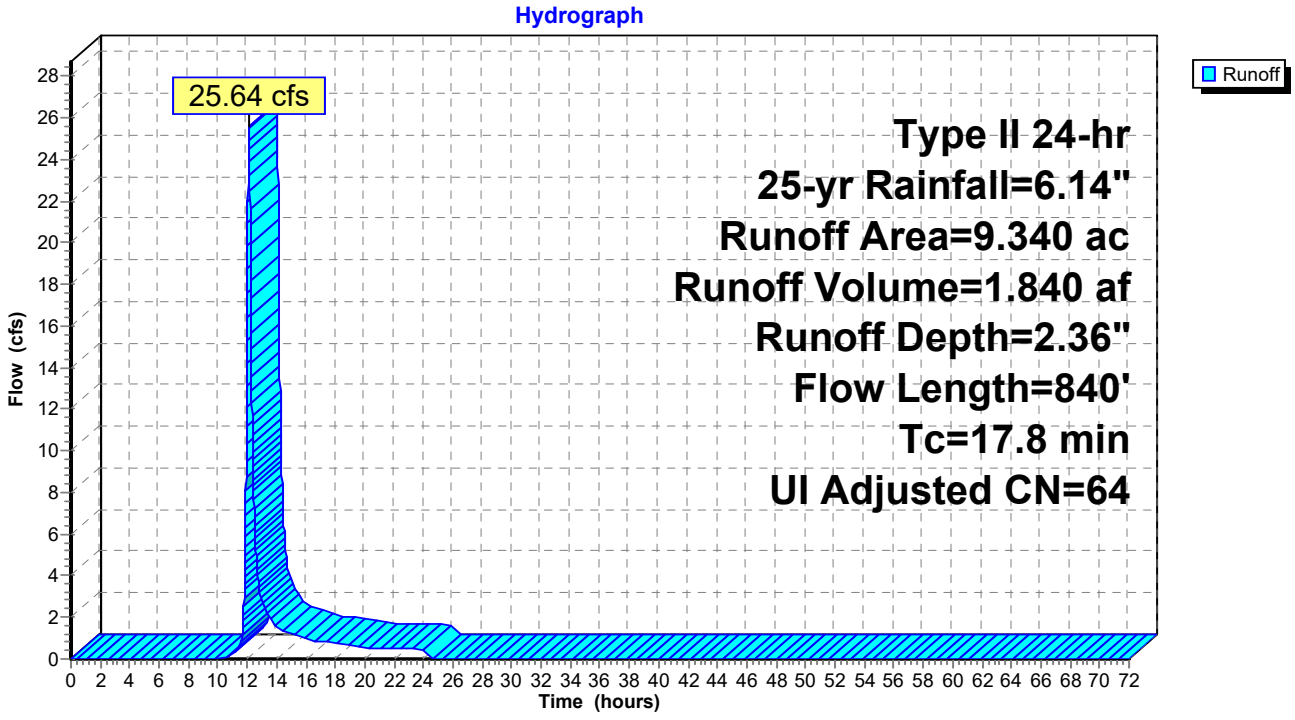
Runoff = 25.64 cfs @ 12.11 hrs, Volume= 1.840 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-yr Rainfall=6.14"

Area (ac)	CN	Adj	Description
0.590	55		Woods, Good, HSG B
0.700	77		Woods, Good, HSG D
0.750	98		Unconnected roofs, HSG B
0.080	80		>75% Grass cover, Good, HSG D
7.220	61		>75% Grass cover, Good, HSG B
9.340	65	64	Weighted Average, UI Adjusted
8.590			91.97% Pervious Area
0.750			8.03% Impervious Area
0.750			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0250	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.53"
5.4	740	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.8	840	Total			

Subcatchment 2PRE: Pre-Development to POI #2



Hydrograph for Subcatchment 2PRE: Pre-Development to POI #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.14	0.00	0.00
3.00	0.21	0.00	0.00
4.00	0.29	0.00	0.00
5.00	0.39	0.00	0.00
6.00	0.49	0.00	0.00
7.00	0.61	0.00	0.00
8.00	0.74	0.00	0.00
9.00	0.90	0.00	0.00
10.00	1.11	0.00	0.00
11.00	1.44	0.02	0.25
12.00	4.07	1.01	**17.60**
13.00	4.74	1.41	**2.74**
14.00	5.03	1.60	1.59
15.00	5.24	1.74	1.22
16.00	5.40	1.85	0.97
17.00	5.54	1.94	0.84
18.00	5.65	2.02	0.75
19.00	5.76	2.09	0.65
20.00	5.85	2.15	0.56
21.00	5.92	2.21	0.52
22.00	6.00	2.26	0.50
23.00	6.07	2.31	0.48
24.00	**6.14**	**2.36**	0.46
25.00	6.14	2.36	0.00
26.00	6.14	2.36	0.00
27.00	6.14	2.36	0.00
28.00	6.14	2.36	0.00
29.00	6.14	2.36	0.00
30.00	6.14	2.36	0.00
31.00	6.14	2.36	0.00
32.00	6.14	2.36	0.00
33.00	6.14	2.36	0.00
34.00	6.14	2.36	0.00
35.00	6.14	2.36	0.00
36.00	6.14	2.36	0.00
37.00	6.14	2.36	0.00
38.00	6.14	2.36	0.00
39.00	6.14	2.36	0.00
40.00	6.14	2.36	0.00
41.00	6.14	2.36	0.00
42.00	6.14	2.36	0.00
43.00	6.14	2.36	0.00
44.00	6.14	2.36	0.00
45.00	6.14	2.36	0.00
46.00	6.14	2.36	0.00
47.00	6.14	2.36	0.00
48.00	6.14	2.36	0.00
49.00	6.14	2.36	0.00
50.00	6.14	2.36	0.00
51.00	6.14	2.36	0.00
52.00	6.14	2.36	0.00
53.00	6.14	2.36	0.00
54.00	6.14	2.36	0.00
55.00	6.14	2.36	0.00
56.00	6.14	2.36	0.00
57.00	6.14	2.36	0.00
58.00	6.14	2.36	0.00
59.00	6.14	2.36	0.00
60.00	6.14	2.36	0.00
61.00	6.14	2.36	0.00
62.00	6.14	2.36	0.00
63.00	6.14	2.36	0.00
64.00	6.14	2.36	0.00
65.00	6.14	2.36	0.00
66.00	6.14	2.36	0.00
67.00	6.14	2.36	0.00
68.00	6.14	2.36	0.00
69.00	6.14	2.36	0.00
70.00	6.14	2.36	0.00
71.00	6.14	2.36	0.00
72.00	6.14	2.36	0.00

Summary for Subcatchment 2PST: Post-Development to SCM #2

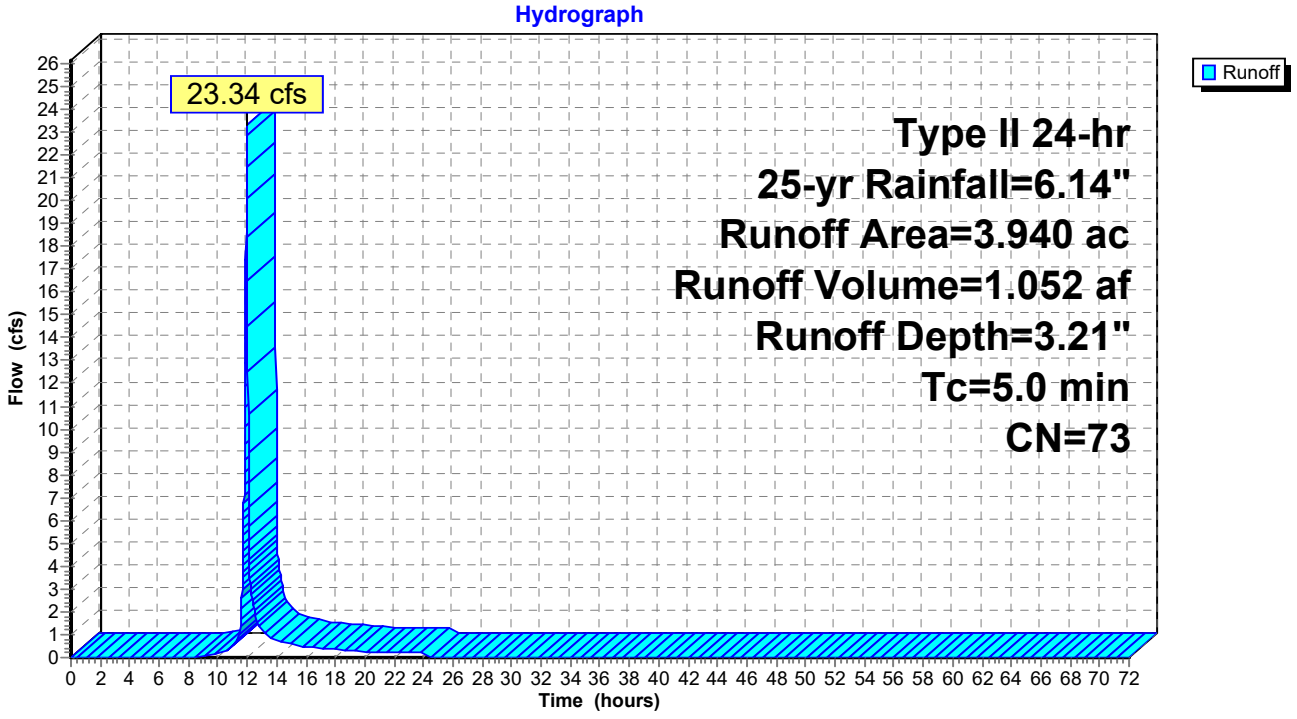
Runoff = 23.34 cfs @ 11.96 hrs, Volume= 1.052 af, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-yr Rainfall=6.14"

	Area (ac)	CN	Description
*	0.880	98	Proposed Impervious
*	0.020	98	Existing Impervious
	2.290	61	>75% Grass cover, Good, HSG B
	0.750	80	>75% Grass cover, Good, HSG D
	3.940	73	Weighted Average
	3.040		77.16% Pervious Area
	0.900		22.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2PST: Post-Development to SCM #2



Hydrograph for Subcatchment 2PST: Post-Development to SCM #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.14	0.00	0.00
3.00	0.21	0.00	0.00
4.00	0.29	0.00	0.00
5.00	0.39	0.00	0.00
6.00	0.49	0.00	0.00
7.00	0.61	0.00	0.00
8.00	0.74	0.00	0.00
9.00	0.90	0.01	0.06
10.00	1.11	0.03	0.16
11.00	1.44	0.11	**0.48**
12.00	4.07	1.58	**20.08**
13.00	4.74	2.08	1.22
14.00	5.03	2.31	0.74
15.00	5.24	2.47	0.59
16.00	5.40	2.60	0.46
17.00	5.54	2.71	0.41
18.00	5.65	2.80	0.36
19.00	5.76	2.89	0.31
20.00	5.85	2.96	0.26
21.00	5.92	3.03	0.25
22.00	6.00	3.09	0.24
23.00	6.07	3.15	0.23
24.00	**6.14**	**3.21**	0.22
25.00	6.14	3.21	0.00
26.00	6.14	3.21	0.00
27.00	6.14	3.21	0.00
28.00	6.14	3.21	0.00
29.00	6.14	3.21	0.00
30.00	6.14	3.21	0.00
31.00	6.14	3.21	0.00
32.00	6.14	3.21	0.00
33.00	6.14	3.21	0.00
34.00	6.14	3.21	0.00
35.00	6.14	3.21	0.00
36.00	6.14	3.21	0.00
37.00	6.14	3.21	0.00
38.00	6.14	3.21	0.00
39.00	6.14	3.21	0.00
40.00	6.14	3.21	0.00
41.00	6.14	3.21	0.00
42.00	6.14	3.21	0.00
43.00	6.14	3.21	0.00
44.00	6.14	3.21	0.00
45.00	6.14	3.21	0.00
46.00	6.14	3.21	0.00
47.00	6.14	3.21	0.00
48.00	6.14	3.21	0.00
49.00	6.14	3.21	0.00
50.00	6.14	3.21	0.00
51.00	6.14	3.21	0.00
52.00	6.14	3.21	0.00
53.00	6.14	3.21	0.00
54.00	6.14	3.21	0.00
55.00	6.14	3.21	0.00
56.00	6.14	3.21	0.00
57.00	6.14	3.21	0.00
58.00	6.14	3.21	0.00
59.00	6.14	3.21	0.00
60.00	6.14	3.21	0.00
61.00	6.14	3.21	0.00
62.00	6.14	3.21	0.00
63.00	6.14	3.21	0.00
64.00	6.14	3.21	0.00
65.00	6.14	3.21	0.00
66.00	6.14	3.21	0.00
67.00	6.14	3.21	0.00
68.00	6.14	3.21	0.00
69.00	6.14	3.21	0.00
70.00	6.14	3.21	0.00
71.00	6.14	3.21	0.00
72.00	6.14	3.21	0.00

Summary for Subcatchment 2S: Bypass to POI #2

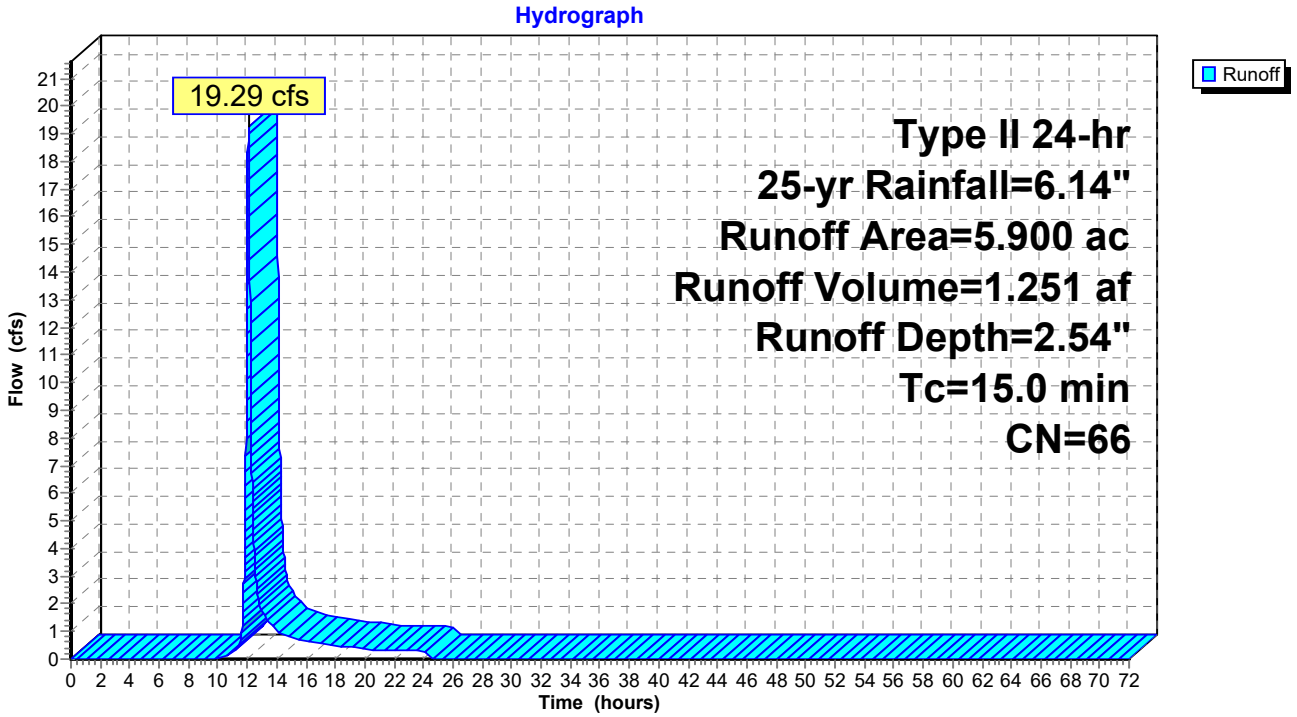
Runoff = 19.29 cfs @ 12.08 hrs, Volume= 1.251 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-yr Rainfall=6.14"

	Area (ac)	CN	Description
*	0.650	98	Existing Impervious
	4.740	61	>75% Grass cover, Good, HSG B
	0.280	80	>75% Grass cover, Good, HSG D
	0.180	55	Woods, Good, HSG B
	0.050	77	Woods, Good, HSG D
	5.900	66	Weighted Average
	5.250		88.98% Pervious Area
	0.650		11.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 2S: Bypass to POI #2



Hydrograph for Subcatchment 2S: Bypass to POI #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.14	0.00	0.00
3.00	0.21	0.00	0.00
4.00	0.29	0.00	0.00
5.00	0.39	0.00	0.00
6.00	0.49	0.00	0.00
7.00	0.61	0.00	0.00
8.00	0.74	0.00	0.00
9.00	0.90	0.00	0.00
10.00	1.11	0.00	0.02
11.00	1.44	0.03	0.26
12.00	4.07	1.13	**15.38**
13.00	4.74	1.55	**1.75**
14.00	5.03	1.75	1.03
15.00	5.24	1.89	0.80
16.00	5.40	2.01	0.63
17.00	5.54	2.10	0.55
18.00	5.65	2.19	0.49
19.00	5.76	2.26	0.43
20.00	5.85	2.33	0.36
21.00	5.92	2.38	0.34
22.00	6.00	2.44	0.33
23.00	6.07	2.49	0.32
24.00	**6.14**	**2.54**	0.30
25.00	6.14	2.54	0.00
26.00	6.14	2.54	0.00
27.00	6.14	2.54	0.00
28.00	6.14	2.54	0.00
29.00	6.14	2.54	0.00
30.00	6.14	2.54	0.00
31.00	6.14	2.54	0.00
32.00	6.14	2.54	0.00
33.00	6.14	2.54	0.00
34.00	6.14	2.54	0.00
35.00	6.14	2.54	0.00
36.00	6.14	2.54	0.00
37.00	6.14	2.54	0.00
38.00	6.14	2.54	0.00
39.00	6.14	2.54	0.00
40.00	6.14	2.54	0.00
41.00	6.14	2.54	0.00
42.00	6.14	2.54	0.00
43.00	6.14	2.54	0.00
44.00	6.14	2.54	0.00
45.00	6.14	2.54	0.00
46.00	6.14	2.54	0.00
47.00	6.14	2.54	0.00
48.00	6.14	2.54	0.00
49.00	6.14	2.54	0.00
50.00	6.14	2.54	0.00
51.00	6.14	2.54	0.00
52.00	6.14	2.54	0.00
53.00	6.14	2.54	0.00
54.00	6.14	2.54	0.00
55.00	6.14	2.54	0.00
56.00	6.14	2.54	0.00
57.00	6.14	2.54	0.00
58.00	6.14	2.54	0.00
59.00	6.14	2.54	0.00
60.00	6.14	2.54	0.00
61.00	6.14	2.54	0.00
62.00	6.14	2.54	0.00
63.00	6.14	2.54	0.00
64.00	6.14	2.54	0.00
65.00	6.14	2.54	0.00
66.00	6.14	2.54	0.00
67.00	6.14	2.54	0.00
68.00	6.14	2.54	0.00
69.00	6.14	2.54	0.00
70.00	6.14	2.54	0.00
71.00	6.14	2.54	0.00
72.00	6.14	2.54	0.00

Summary for Subcatchment 3PRE: Pre-Development to POI #3

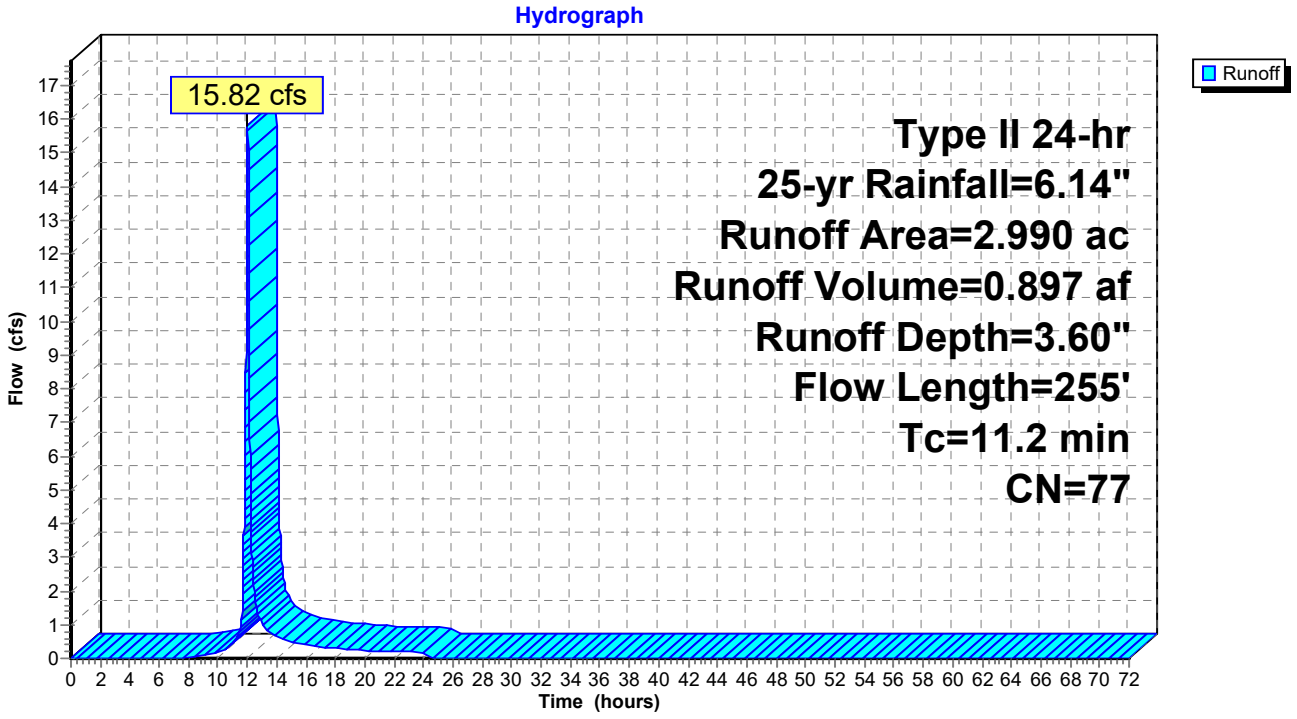
Runoff = 15.82 cfs @ 12.03 hrs, Volume= 0.897 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-yr Rainfall=6.14"

Area (ac)	CN	Description
2.610	77	Woods, Good, HSG D
0.380	80	>75% Grass cover, Good, HSG D
2.990	77	Weighted Average
2.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	100	0.0360	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.53"
0.5	155	0.0860	4.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	255	Total			

Subcatchment 3PRE: Pre-Development to POI #3



Hydrograph for Subcatchment 3PRE: Pre-Development to POI #3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.14	0.00	0.00
3.00	0.21	0.00	0.00
4.00	0.29	0.00	0.00
5.00	0.39	0.00	0.00
6.00	0.49	0.00	0.00
7.00	0.61	0.00	0.00
8.00	0.74	0.01	0.03
9.00	0.90	0.03	0.09
10.00	1.11	0.08	0.18
11.00	1.44	0.19	0.44
12.00	4.07	1.87	**15.14**
13.00	4.74	2.41	**1.06**
14.00	5.03	2.65	0.63
15.00	5.24	2.83	0.49
16.00	5.40	2.96	0.38
17.00	5.54	3.08	0.33
18.00	5.65	3.18	0.29
19.00	5.76	3.27	0.26
20.00	5.85	3.34	0.22
21.00	5.92	3.41	0.20
22.00	6.00	3.48	0.20
23.00	6.07	3.54	0.19
24.00	**6.14**	**3.60**	0.18
25.00	6.14	3.60	0.00
26.00	6.14	3.60	0.00
27.00	6.14	3.60	0.00
28.00	6.14	3.60	0.00
29.00	6.14	3.60	0.00
30.00	6.14	3.60	0.00
31.00	6.14	3.60	0.00
32.00	6.14	3.60	0.00
33.00	6.14	3.60	0.00
34.00	6.14	3.60	0.00
35.00	6.14	3.60	0.00
36.00	6.14	3.60	0.00
37.00	6.14	3.60	0.00
38.00	6.14	3.60	0.00
39.00	6.14	3.60	0.00
40.00	6.14	3.60	0.00
41.00	6.14	3.60	0.00
42.00	6.14	3.60	0.00
43.00	6.14	3.60	0.00
44.00	6.14	3.60	0.00
45.00	6.14	3.60	0.00
46.00	6.14	3.60	0.00
47.00	6.14	3.60	0.00
48.00	6.14	3.60	0.00
49.00	6.14	3.60	0.00
50.00	6.14	3.60	0.00
51.00	6.14	3.60	0.00
52.00	6.14	3.60	0.00
53.00	6.14	3.60	0.00
54.00	6.14	3.60	0.00
55.00	6.14	3.60	0.00
56.00	6.14	3.60	0.00
57.00	6.14	3.60	0.00
58.00	6.14	3.60	0.00
59.00	6.14	3.60	0.00
60.00	6.14	3.60	0.00
61.00	6.14	3.60	0.00
62.00	6.14	3.60	0.00
63.00	6.14	3.60	0.00
64.00	6.14	3.60	0.00
65.00	6.14	3.60	0.00
66.00	6.14	3.60	0.00
67.00	6.14	3.60	0.00
68.00	6.14	3.60	0.00
69.00	6.14	3.60	0.00
70.00	6.14	3.60	0.00
71.00	6.14	3.60	0.00
72.00	6.14	3.60	0.00

Summary for Subcatchment 3PST: Post-Development to POI #3

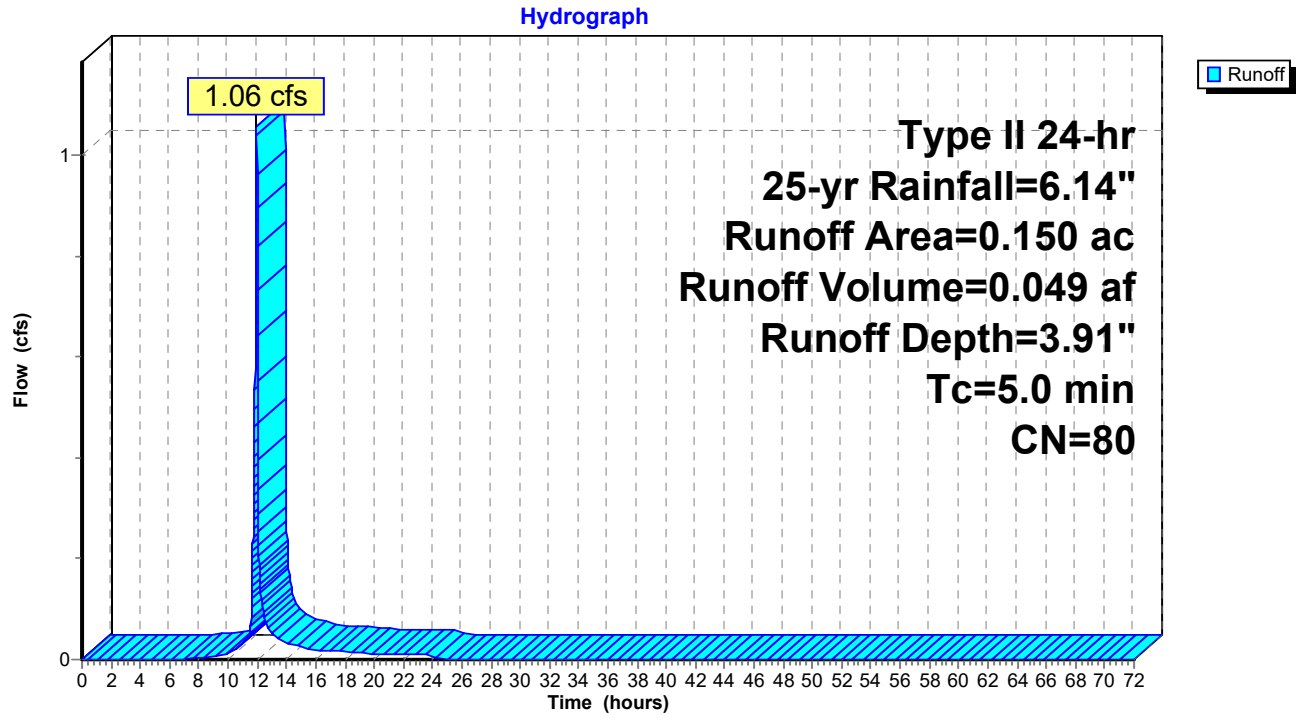
Runoff = 1.06 cfs @ 11.96 hrs, Volume= 0.049 af, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-yr Rainfall=6.14"

Area (ac)	CN	Description
0.020	98	Paved roads w/curbs & sewers, HSG B
0.130	77	Woods, Good, HSG D
0.150	80	Weighted Average
0.130		86.67% Pervious Area
0.020		13.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3PST: Post-Development to POI #3



Hydrograph for Subcatchment 3PST: Post-Development to POI #3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.14	0.00	0.00
3.00	0.21	0.00	0.00
4.00	0.29	0.00	0.00
5.00	0.39	0.00	0.00
6.00	0.49	0.00	0.00
7.00	0.61	0.00	0.00
8.00	0.74	0.02	0.00
9.00	0.90	0.06	0.01
10.00	1.11	0.12	0.01
11.00	1.44	0.26	**0.03**
12.00	4.07	2.10	**0.90**
13.00	4.74	2.67	0.05
14.00	5.03	2.92	0.03
15.00	5.24	3.10	0.02
16.00	5.40	3.25	0.02
17.00	5.54	3.37	0.02
18.00	5.65	3.47	0.02
19.00	5.76	3.56	0.01
20.00	5.85	3.64	0.01
21.00	5.92	3.71	0.01
22.00	6.00	3.78	0.01
23.00	6.07	3.85	0.01
24.00	**6.14**	**3.91**	0.01
25.00	6.14	3.91	0.00
26.00	6.14	3.91	0.00
27.00	6.14	3.91	0.00
28.00	6.14	3.91	0.00
29.00	6.14	3.91	0.00
30.00	6.14	3.91	0.00
31.00	6.14	3.91	0.00
32.00	6.14	3.91	0.00
33.00	6.14	3.91	0.00
34.00	6.14	3.91	0.00
35.00	6.14	3.91	0.00
36.00	6.14	3.91	0.00
37.00	6.14	3.91	0.00
38.00	6.14	3.91	0.00
39.00	6.14	3.91	0.00
40.00	6.14	3.91	0.00
41.00	6.14	3.91	0.00
42.00	6.14	3.91	0.00
43.00	6.14	3.91	0.00
44.00	6.14	3.91	0.00
45.00	6.14	3.91	0.00
46.00	6.14	3.91	0.00
47.00	6.14	3.91	0.00
48.00	6.14	3.91	0.00
49.00	6.14	3.91	0.00
50.00	6.14	3.91	0.00
51.00	6.14	3.91	0.00
52.00	6.14	3.91	0.00
53.00	6.14	3.91	0.00
54.00	6.14	3.91	0.00
55.00	6.14	3.91	0.00
56.00	6.14	3.91	0.00
57.00	6.14	3.91	0.00
58.00	6.14	3.91	0.00
59.00	6.14	3.91	0.00
60.00	6.14	3.91	0.00
61.00	6.14	3.91	0.00
62.00	6.14	3.91	0.00
63.00	6.14	3.91	0.00
64.00	6.14	3.91	0.00
65.00	6.14	3.91	0.00
66.00	6.14	3.91	0.00
67.00	6.14	3.91	0.00
68.00	6.14	3.91	0.00
69.00	6.14	3.91	0.00
70.00	6.14	3.91	0.00
71.00	6.14	3.91	0.00
72.00	6.14	3.91	0.00

Summary for Pond 2P: SCM #2

Inflow Area = 3.940 ac, 22.84% Impervious, Inflow Depth = 3.21" for 25-yr event
Inflow = 23.34 cfs @ 11.96 hrs, Volume= 1.052 af
Outflow = 0.54 cfs @ 15.44 hrs, Volume= 0.913 af, Atten= 98%, Lag= 208.5 min
Primary = 0.54 cfs @ 15.44 hrs, Volume= 0.913 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 716.73' @ 15.44 hrs Surf.Area= 13,089 sf Storage= 29,589 cf

Plug-Flow detention time= 921.5 min calculated for 0.913 af (87% of inflow)
Center-of-Mass det. time= 858.1 min (1,684.1 - 826.0)

Volume	Invert	Avail.Storage	Storage Description
#1	713.50'	81,212 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

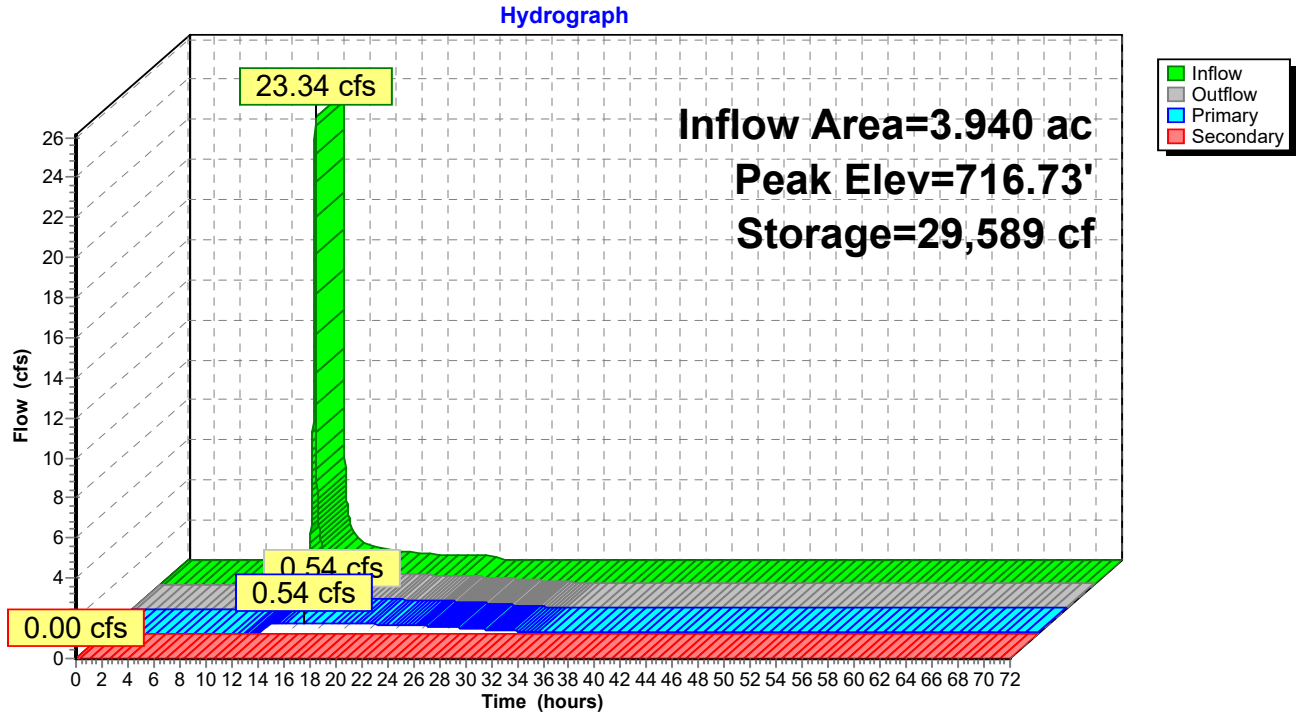
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
713.50	2,258	0	0
714.00	4,670	1,732	1,732
715.00	10,425	7,548	9,280
716.00	11,945	11,185	20,465
717.00	13,515	12,730	33,195
718.00	15,145	14,330	47,525
719.00	16,830	15,988	63,512
720.00	18,570	17,700	81,212

Device	Routing	Invert	Outlet Devices
#1	Primary	711.50'	**24.0" Round Outlet Pipe** L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 711.50' / 711.30' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf
#2	Device 1	713.50'	**Filter Bed** Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Disch. (cfs) 0.000 0.055 0.077 0.098 0.120 0.142
#3	Device 1	715.50'	**4.0" Vert. Orifice** C= 0.600
#4	Device 1	717.50'	**48.0" x 48.0" Horiz. Top of OCS** C= 0.600 Limited to weir flow at low heads
#5	Secondary	718.50'	**20.0' long x 10.0' breadth Emergency Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

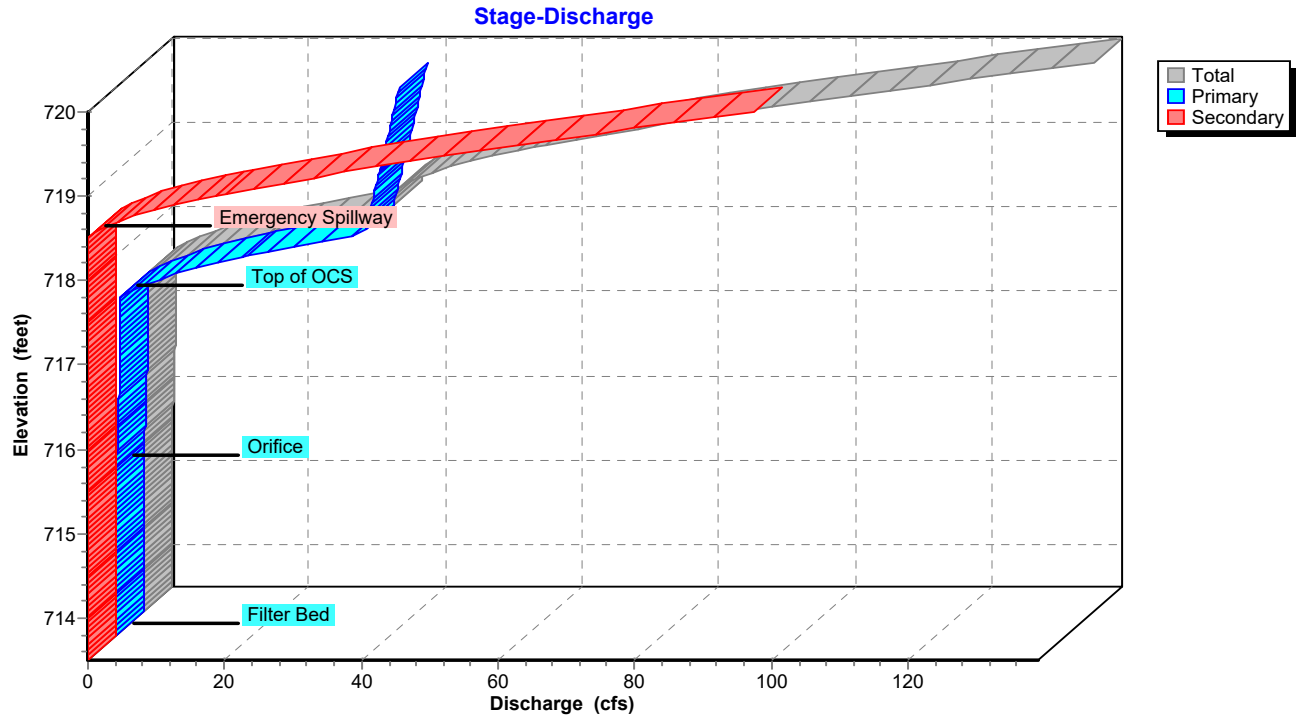
Primary OutFlow Max=0.54 cfs @ 15.44 hrs HW=716.73' (Free Discharge)
└**1=Outlet Pipe** (Passes 0.54 cfs of 31.11 cfs potential flow)
  ├**2=Filter Bed** (Custom Controls 0.10 cfs)
  ├**3=Orifice** (Orifice Controls 0.43 cfs @ 4.96 fps)
  └**4=Top of OCS** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=713.50' (Free Discharge)
└**5=Emergency Spillway** (Controls 0.00 cfs)

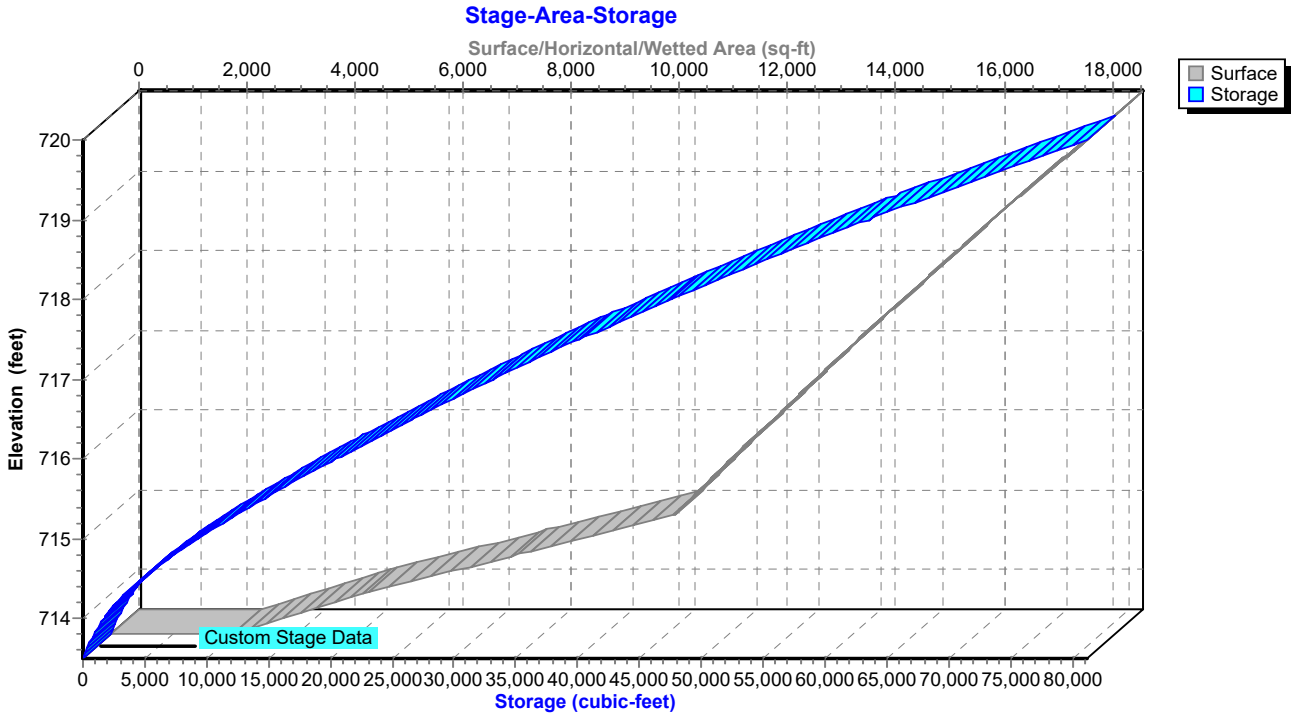
Pond 2P: SCM #2



Pond 2P: SCM #2



Pond 2P: SCM #2


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
2,000
4,000
6,000
8,000
10,000
12,000
14,000
16,000
18,000
Surface
Storage
720
719
718
717
716
715
714
Elevation (feet)
Custom Stage Data
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
Storage (cubic-feet)

Hydrograph for Pond 2P: SCM #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	713.50	0.00	0.00	**0.00**
2.00	0.00	0	713.50	0.00	0.00	0.00
4.00	0.00	0	713.50	0.00	0.00	0.00
6.00	0.00	0	713.50	0.00	0.00	0.00
8.00	0.00	0	713.50	0.00	0.00	0.00
10.00	**0.16**	421	713.66	0.01	0.01	0.00
12.00	**20.08**	18,314	715.82	0.25	0.25	0.00
14.00	0.74	**29,094**	**716.69**	**0.53**	**0.53**	0.00
16.00	0.46	**29,515**	**716.72**	**0.53**	**0.53**	0.00
18.00	0.36	28,656	716.66	0.52	0.52	0.00
20.00	0.26	27,260	716.55	0.49	0.49	0.00
22.00	0.24	25,641	716.42	0.46	0.46	0.00
24.00	0.22	24,124	716.30	0.43	0.43	0.00
26.00	0.00	21,352	716.07	0.36	0.36	0.00
28.00	0.00	19,057	715.88	0.28	0.28	0.00
30.00	0.00	17,357	715.74	0.19	0.19	0.00
32.00	0.00	16,249	715.64	0.12	0.12	0.00
34.00	0.00	15,484	715.57	0.09	0.09	0.00
36.00	0.00	14,872	715.52	0.08	0.08	0.00
38.00	0.00	14,318	715.47	0.08	0.08	0.00
40.00	0.00	13,773	715.42	0.08	0.08	0.00
42.00	0.00	13,235	715.37	0.07	0.07	0.00
44.00	0.00	12,705	715.32	0.07	0.07	0.00
46.00	0.00	12,183	715.27	0.07	0.07	0.00
48.00	0.00	11,668	715.23	0.07	0.07	0.00
50.00	0.00	11,161	715.18	0.07	0.07	0.00
52.00	0.00	10,661	715.13	0.07	0.07	0.00
54.00	0.00	10,169	715.08	0.07	0.07	0.00
56.00	0.00	9,684	715.04	0.07	0.07	0.00
58.00	0.00	9,206	714.99	0.07	0.07	0.00
60.00	0.00	8,736	714.95	0.06	0.06	0.00
62.00	0.00	8,273	714.90	0.06	0.06	0.00
64.00	0.00	7,817	714.85	0.06	0.06	0.00
66.00	0.00	7,369	714.81	0.06	0.06	0.00
68.00	0.00	6,928	714.76	0.06	0.06	0.00
70.00	0.00	6,495	714.71	0.06	0.06	0.00
72.00	0.00	6,070	714.66	0.06	0.06	0.00

Stage-Discharge for Pond 2P: SCM #2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
713.50	0.00	0.00	0.00
713.60	0.01	0.01	0.00
713.70	0.01	0.01	0.00
713.80	0.02	0.02	0.00
713.90	0.02	0.02	0.00
714.00	0.03	0.03	0.00
714.10	0.03	0.03	0.00
714.20	0.04	0.04	0.00
714.30	0.04	0.04	0.00
714.40	0.05	0.05	0.00
714.50	0.06	0.06	0.00
714.60	0.06	0.06	0.00
714.70	0.06	0.06	0.00
714.80	0.06	0.06	0.00
714.90	0.06	0.06	0.00
715.00	0.07	0.07	0.00
715.10	0.07	0.07	0.00
715.20	0.07	0.07	0.00
715.30	0.07	0.07	0.00
715.40	0.07	0.07	0.00
715.50	0.08	0.08	0.00
715.60	0.10	0.10	0.00
715.70	0.16	0.16	0.00
715.80	0.24	0.24	0.00
715.90	0.29	0.29	0.00
716.00	0.33	0.33	0.00
716.10	0.37	0.37	0.00
716.20	0.40	0.40	0.00
716.30	0.43	0.43	0.00
716.40	0.46	0.46	0.00
716.50	0.48	0.48	0.00
716.60	0.51	0.51	0.00
716.70	0.53	0.53	0.00
716.80	0.55	0.55	0.00
716.90	0.57	0.57	0.00
717.00	0.59	0.59	0.00
717.10	0.61	0.61	0.00
717.20	0.63	0.63	0.00
717.30	0.65	0.65	0.00
717.40	0.67	0.67	0.00
717.50	0.69	0.69	0.00
717.60	2.36	2.36	0.00
717.70	5.40	5.40	0.00
717.80	9.34	9.34	0.00
717.90	13.99	13.99	0.00
718.00	19.27	19.27	0.00
718.10	25.10	25.10	0.00
718.20	31.45	31.45	0.00
718.30	36.43	36.43	0.00
718.40	36.74	36.74	0.00
718.50	37.05	37.05	0.00
718.60	38.93	37.36	1.57
718.70	42.12	37.67	4.45
718.80	46.27	37.97	8.30
718.90	51.22	38.27	12.95
719.00	57.16	38.57	18.60
719.10	63.96	38.86	25.10
719.20	70.72	39.15	31.57
719.30	77.94	39.45	38.50
719.40	85.58	39.73	45.85
719.50	93.62	40.02	53.60
719.60	102.26	40.31	61.95
719.70	111.31	40.59	70.72
719.80	120.32	40.87	79.45
719.90	129.61	41.15	88.46
720.00	**138.98**	**41.43**	**97.55**

Stage-Area-Storage for Pond 2P: SCM #2

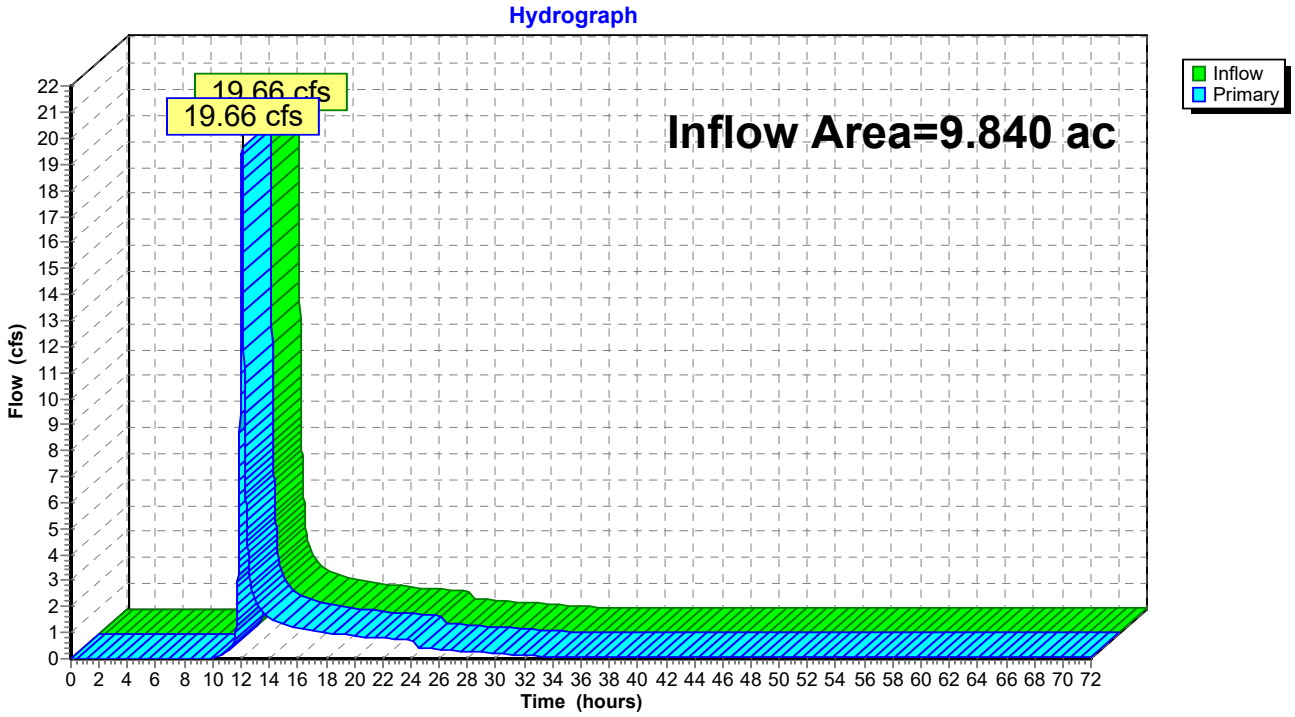
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
713.50	2,258	0
713.60	2,740	250
713.70	3,223	548
713.80	3,705	894
713.90	4,188	1,289
714.00	4,670	1,732
714.10	5,246	2,228
714.20	5,821	2,781
714.30	6,396	3,392
714.40	6,972	4,060
714.50	7,548	4,786
714.60	8,123	5,570
714.70	8,699	6,411
714.80	9,274	7,310
714.90	9,849	8,266
715.00	10,425	9,280
715.10	10,577	10,330
715.20	10,729	11,395
715.30	10,881	12,475
715.40	11,033	13,571
715.50	11,185	14,682
715.60	11,337	15,808
715.70	11,489	16,949
715.80	11,641	18,106
715.90	11,793	19,278
716.00	11,945	20,465
716.10	12,102	21,667
716.20	12,259	22,885
716.30	12,416	24,119
716.40	12,573	25,368
716.50	12,730	26,633
716.60	12,887	27,914
716.70	13,044	29,211
716.80	13,201	30,523
716.90	13,358	31,851
717.00	13,515	33,195
717.10	13,678	34,554
717.20	13,841	35,930
717.30	14,004	37,322
717.40	14,167	38,731
717.50	14,330	40,156
717.60	14,493	41,597
717.70	14,656	43,054
717.80	14,819	44,528
717.90	14,982	46,018
718.00	15,145	47,525
718.10	15,314	49,047
718.20	15,482	50,587
718.30	15,650	52,144
718.40	15,819	53,717
718.50	15,988	55,308
718.60	16,156	56,915
718.70	16,325	58,539
718.80	16,493	60,180
718.90	16,661	61,837
719.00	16,830	63,512
719.10	17,004	65,204
719.20	17,178	66,913
719.30	17,352	68,639
719.40	17,526	70,383
719.50	17,700	72,145
719.60	17,874	73,923
719.70	18,048	75,719
719.80	18,222	77,533
719.90	18,396	79,364
720.00	**18,570**	**81,212**

Summary for Link 2L: Total Post-Development to POI #2

Inflow Area = 9.840 ac, 15.75% Impervious, Inflow Depth > 2.64" for 25-yr event
Inflow = 19.66 cfs @ 12.08 hrs, Volume= 2.164 af
Primary = 19.66 cfs @ 12.08 hrs, Volume= 2.164 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: Total Post-Development to POI #2



Hydrograph for Link 2L: Total Post-Development to POI #2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00
1.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00
9.00	0.00	0.00	0.00
10.00	0.02	0.00	0.02
11.00	0.28	0.00	0.28
12.00	**15.62**	0.00	**15.62**
13.00	**2.25**	0.00	**2.25**
14.00	1.56	0.00	1.56
15.00	1.34	0.00	1.34
16.00	1.17	0.00	1.17
17.00	1.08	0.00	1.08
18.00	1.01	0.00	1.01
19.00	0.93	0.00	0.93
20.00	0.86	0.00	0.86
21.00	0.82	0.00	0.82
22.00	0.79	0.00	0.79
23.00	0.76	0.00	0.76
24.00	0.73	0.00	0.73
25.00	0.39	0.00	0.39
26.00	0.36	0.00	0.36
27.00	0.32	0.00	0.32
28.00	0.28	0.00	0.28
29.00	0.24	0.00	0.24
30.00	0.19	0.00	0.19
31.00	0.15	0.00	0.15
32.00	0.12	0.00	0.12
33.00	0.11	0.00	0.11
34.00	0.09	0.00	0.09
35.00	0.08	0.00	0.08
36.00	0.08	0.00	0.08
37.00	0.08	0.00	0.08
38.00	0.08	0.00	0.08
39.00	0.08	0.00	0.08
40.00	0.08	0.00	0.08
41.00	0.07	0.00	0.07
42.00	0.07	0.00	0.07
43.00	0.07	0.00	0.07
44.00	0.07	0.00	0.07
45.00	0.07	0.00	0.07
46.00	0.07	0.00	0.07
47.00	0.07	0.00	0.07
48.00	0.07	0.00	0.07
49.00	0.07	0.00	0.07
50.00	0.07	0.00	0.07
51.00	0.07	0.00	0.07
52.00	0.07	0.00	0.07
53.00	0.07	0.00	0.07
54.00	0.07	0.00	0.07
55.00	0.07	0.00	0.07
56.00	0.07	0.00	0.07
57.00	0.07	0.00	0.07
58.00	0.07	0.00	0.07
59.00	0.07	0.00	0.07
60.00	0.06	0.00	0.06
61.00	0.06	0.00	0.06
62.00	0.06	0.00	0.06
63.00	0.06	0.00	0.06
64.00	0.06	0.00	0.06
65.00	0.06	0.00	0.06
66.00	0.06	0.00	0.06
67.00	0.06	0.00	0.06
68.00	0.06	0.00	0.06
69.00	0.06	0.00	0.06
70.00	0.06	0.00	0.06
71.00	0.06	0.00	0.06
72.00	0.06	0.00	0.06

Summary for Subcatchment 2PRE: Pre-Development to POI #2

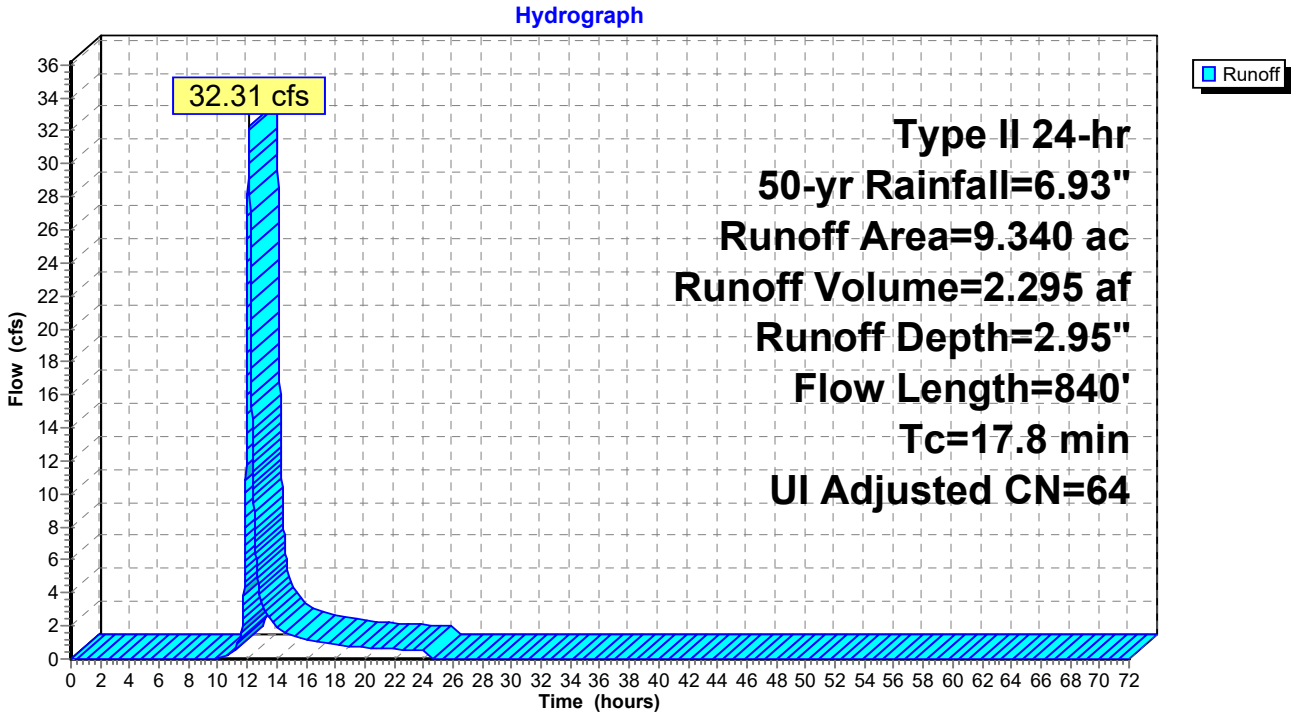
Runoff = 32.31 cfs @ 12.11 hrs, Volume= 2.295 af, Depth= 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-yr Rainfall=6.93"

Area (ac)	CN	Adj	Description
0.590	55		Woods, Good, HSG B
0.700	77		Woods, Good, HSG D
0.750	98		Unconnected roofs, HSG B
0.080	80		>75% Grass cover, Good, HSG D
7.220	61		>75% Grass cover, Good, HSG B
9.340	65	64	Weighted Average, UI Adjusted
8.590			91.97% Pervious Area
0.750			8.03% Impervious Area
0.750			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0250	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.53"
5.4	740	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.8	840	Total			

Subcatchment 2PRE: Pre-Development to POI #2



Hydrograph for Subcatchment 2PRE: Pre-Development to POI #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.07	0.00	0.00
2.00	0.15	0.00	0.00
3.00	0.24	0.00	0.00
4.00	0.33	0.00	0.00
5.00	0.44	0.00	0.00
6.00	0.55	0.00	0.00
7.00	0.69	0.00	0.00
8.00	0.83	0.00	0.00
9.00	1.02	0.00	0.00
10.00	1.25	0.00	0.05
11.00	1.63	0.04	0.49
12.00	4.59	1.32	**22.72**
13.00	5.35	1.81	**3.32**
14.00	5.68	2.04	1.92
15.00	5.91	2.20	1.47
16.00	6.10	2.33	1.17
17.00	6.25	2.44	1.00
18.00	6.38	2.54	0.89
19.00	6.50	2.63	0.78
20.00	6.60	2.70	0.66
21.00	6.69	2.76	0.62
22.00	6.77	2.83	0.59
23.00	6.85	2.89	0.57
24.00	**6.93**	**2.95**	0.55
25.00	6.93	2.95	0.00
26.00	6.93	2.95	0.00
27.00	6.93	2.95	0.00
28.00	6.93	2.95	0.00
29.00	6.93	2.95	0.00
30.00	6.93	2.95	0.00
31.00	6.93	2.95	0.00
32.00	6.93	2.95	0.00
33.00	6.93	2.95	0.00
34.00	6.93	2.95	0.00
35.00	6.93	2.95	0.00
36.00	6.93	2.95	0.00
37.00	6.93	2.95	0.00
38.00	6.93	2.95	0.00
39.00	6.93	2.95	0.00
40.00	6.93	2.95	0.00
41.00	6.93	2.95	0.00
42.00	6.93	2.95	0.00
43.00	6.93	2.95	0.00
44.00	6.93	2.95	0.00
45.00	6.93	2.95	0.00
46.00	6.93	2.95	0.00
47.00	6.93	2.95	0.00
48.00	6.93	2.95	0.00
49.00	6.93	2.95	0.00
50.00	6.93	2.95	0.00
51.00	6.93	2.95	0.00
52.00	6.93	2.95	0.00
53.00	6.93	2.95	0.00
54.00	6.93	2.95	0.00
55.00	6.93	2.95	0.00
56.00	6.93	2.95	0.00
57.00	6.93	2.95	0.00
58.00	6.93	2.95	0.00
59.00	6.93	2.95	0.00
60.00	6.93	2.95	0.00
61.00	6.93	2.95	0.00
62.00	6.93	2.95	0.00
63.00	6.93	2.95	0.00
64.00	6.93	2.95	0.00
65.00	6.93	2.95	0.00
66.00	6.93	2.95	0.00
67.00	6.93	2.95	0.00
68.00	6.93	2.95	0.00
69.00	6.93	2.95	0.00
70.00	6.93	2.95	0.00
71.00	6.93	2.95	0.00
72.00	6.93	2.95	0.00

Summary for Subcatchment 2PST: Post-Development to SCM #2

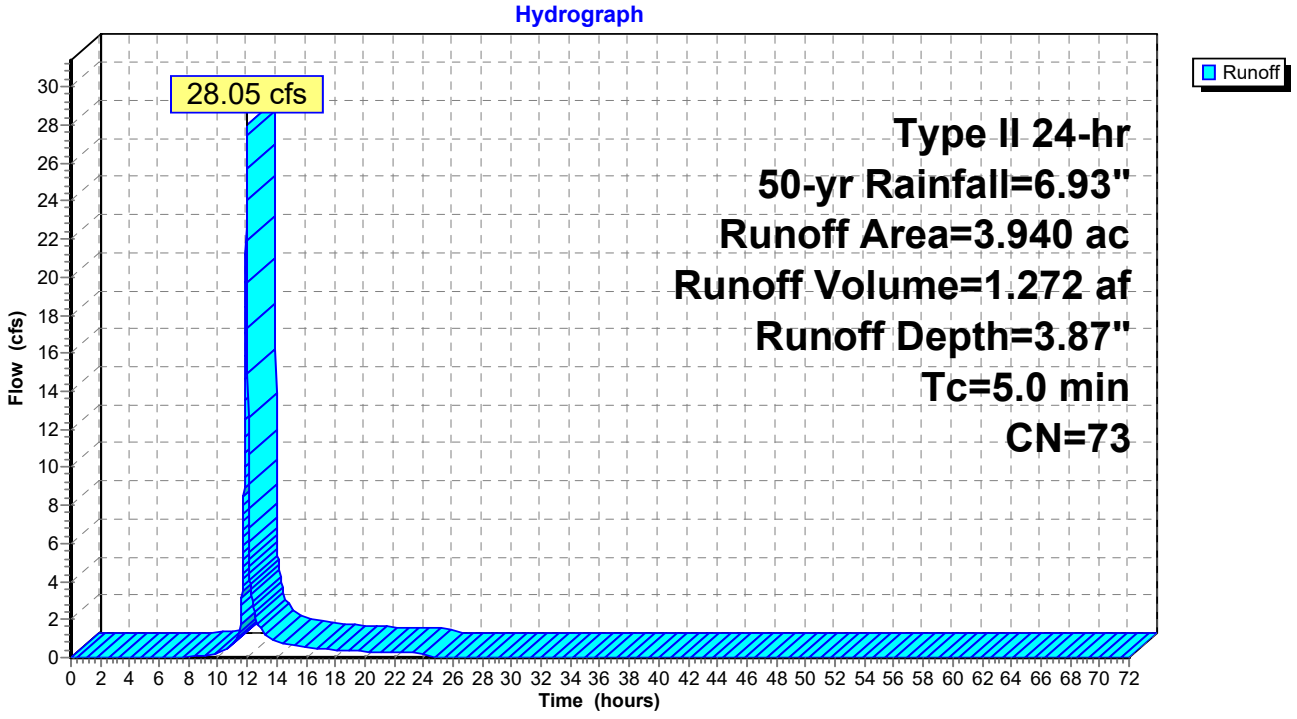
Runoff = 28.05 cfs @ 11.96 hrs, Volume= 1.272 af, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-yr Rainfall=6.93"

	Area (ac)	CN	Description
*	0.880	98	Proposed Impervious
*	0.020	98	Existing Impervious
	2.290	61	>75% Grass cover, Good, HSG B
	0.750	80	>75% Grass cover, Good, HSG D
	3.940	73	Weighted Average
	3.040		77.16% Pervious Area
	0.900		22.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2PST: Post-Development to SCM #2



Hydrograph for Subcatchment 2PST: Post-Development to SCM #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.07	0.00	0.00
2.00	0.15	0.00	0.00
3.00	0.24	0.00	0.00
4.00	0.33	0.00	0.00
5.00	0.44	0.00	0.00
6.00	0.55	0.00	0.00
7.00	0.69	0.00	0.00
8.00	0.83	0.00	0.03
9.00	1.02	0.02	0.11
10.00	1.25	0.06	0.24
11.00	1.63	0.17	**0.64**
12.00	4.59	1.97	**24.01**
13.00	5.35	2.56	1.43
14.00	5.68	2.83	0.87
15.00	5.91	3.02	0.69
16.00	6.10	3.17	0.54
17.00	6.25	3.30	0.48
18.00	6.38	3.41	0.42
19.00	6.50	3.51	0.37
20.00	6.60	3.59	0.31
21.00	6.69	3.67	0.29
22.00	6.77	3.74	0.28
23.00	6.85	3.81	0.27
24.00	**6.93**	**3.87**	0.26
25.00	6.93	3.87	0.00
26.00	6.93	3.87	0.00
27.00	6.93	3.87	0.00
28.00	6.93	3.87	0.00
29.00	6.93	3.87	0.00
30.00	6.93	3.87	0.00
31.00	6.93	3.87	0.00
32.00	6.93	3.87	0.00
33.00	6.93	3.87	0.00
34.00	6.93	3.87	0.00
35.00	6.93	3.87	0.00
36.00	6.93	3.87	0.00
37.00	6.93	3.87	0.00
38.00	6.93	3.87	0.00
39.00	6.93	3.87	0.00
40.00	6.93	3.87	0.00
41.00	6.93	3.87	0.00
42.00	6.93	3.87	0.00
43.00	6.93	3.87	0.00
44.00	6.93	3.87	0.00
45.00	6.93	3.87	0.00
46.00	6.93	3.87	0.00
47.00	6.93	3.87	0.00
48.00	6.93	3.87	0.00
49.00	6.93	3.87	0.00
50.00	6.93	3.87	0.00
51.00	6.93	3.87	0.00
52.00	6.93	3.87	0.00
53.00	6.93	3.87	0.00
54.00	6.93	3.87	0.00
55.00	6.93	3.87	0.00
56.00	6.93	3.87	0.00
57.00	6.93	3.87	0.00
58.00	6.93	3.87	0.00
59.00	6.93	3.87	0.00
60.00	6.93	3.87	0.00
61.00	6.93	3.87	0.00
62.00	6.93	3.87	0.00
63.00	6.93	3.87	0.00
64.00	6.93	3.87	0.00
65.00	6.93	3.87	0.00
66.00	6.93	3.87	0.00
67.00	6.93	3.87	0.00
68.00	6.93	3.87	0.00
69.00	6.93	3.87	0.00
70.00	6.93	3.87	0.00
71.00	6.93	3.87	0.00
72.00	6.93	3.87	0.00

Summary for Subcatchment 2S: Bypass to POI #2

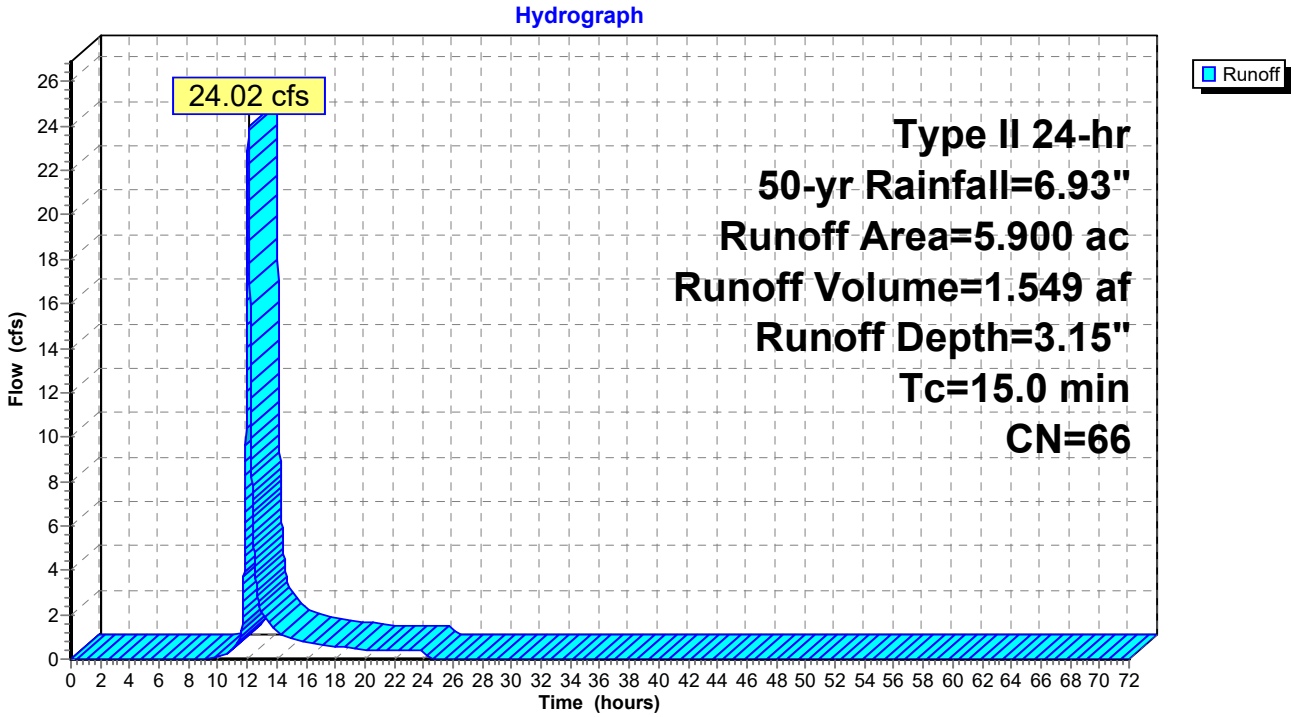
Runoff = 24.02 cfs @ 12.08 hrs, Volume= 1.549 af, Depth= 3.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-yr Rainfall=6.93"

	Area (ac)	CN	Description
*	0.650	98	Existing Impervious
	4.740	61	>75% Grass cover, Good, HSG B
	0.280	80	>75% Grass cover, Good, HSG D
	0.180	55	Woods, Good, HSG B
	0.050	77	Woods, Good, HSG D
	5.900	66	Weighted Average
	5.250		88.98% Pervious Area
	0.650		11.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 2S: Bypass to POI #2



Hydrograph for Subcatchment 2S: Bypass to POI #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.07	0.00	0.00
2.00	0.15	0.00	0.00
3.00	0.24	0.00	0.00
4.00	0.33	0.00	0.00
5.00	0.44	0.00	0.00
6.00	0.55	0.00	0.00
7.00	0.69	0.00	0.00
8.00	0.83	0.00	0.00
9.00	1.02	0.00	0.00
10.00	1.25	0.01	0.09
11.00	1.63	0.06	0.43
12.00	4.59	1.46	**19.43**
13.00	5.35	1.97	**2.11**
14.00	5.68	2.21	1.24
15.00	5.91	2.38	0.96
16.00	6.10	2.51	0.75
17.00	6.25	2.63	0.65
18.00	6.38	2.73	0.58
19.00	6.50	2.82	0.51
20.00	6.60	2.89	0.43
21.00	6.69	2.96	0.40
22.00	6.77	3.03	0.39
23.00	6.85	3.09	0.37
24.00	**6.93**	**3.15**	0.36
25.00	6.93	3.15	0.00
26.00	6.93	3.15	0.00
27.00	6.93	3.15	0.00
28.00	6.93	3.15	0.00
29.00	6.93	3.15	0.00
30.00	6.93	3.15	0.00
31.00	6.93	3.15	0.00
32.00	6.93	3.15	0.00
33.00	6.93	3.15	0.00
34.00	6.93	3.15	0.00
35.00	6.93	3.15	0.00
36.00	6.93	3.15	0.00
37.00	6.93	3.15	0.00
38.00	6.93	3.15	0.00
39.00	6.93	3.15	0.00
40.00	6.93	3.15	0.00
41.00	6.93	3.15	0.00
42.00	6.93	3.15	0.00
43.00	6.93	3.15	0.00
44.00	6.93	3.15	0.00
45.00	6.93	3.15	0.00
46.00	6.93	3.15	0.00
47.00	6.93	3.15	0.00
48.00	6.93	3.15	0.00
49.00	6.93	3.15	0.00
50.00	6.93	3.15	0.00
51.00	6.93	3.15	0.00
52.00	6.93	3.15	0.00
53.00	6.93	3.15	0.00
54.00	6.93	3.15	0.00
55.00	6.93	3.15	0.00
56.00	6.93	3.15	0.00
57.00	6.93	3.15	0.00
58.00	6.93	3.15	0.00
59.00	6.93	3.15	0.00
60.00	6.93	3.15	0.00
61.00	6.93	3.15	0.00
62.00	6.93	3.15	0.00
63.00	6.93	3.15	0.00
64.00	6.93	3.15	0.00
65.00	6.93	3.15	0.00
66.00	6.93	3.15	0.00
67.00	6.93	3.15	0.00
68.00	6.93	3.15	0.00
69.00	6.93	3.15	0.00
70.00	6.93	3.15	0.00
71.00	6.93	3.15	0.00
72.00	6.93	3.15	0.00

Summary for Subcatchment 3PRE: Pre-Development to POI #3

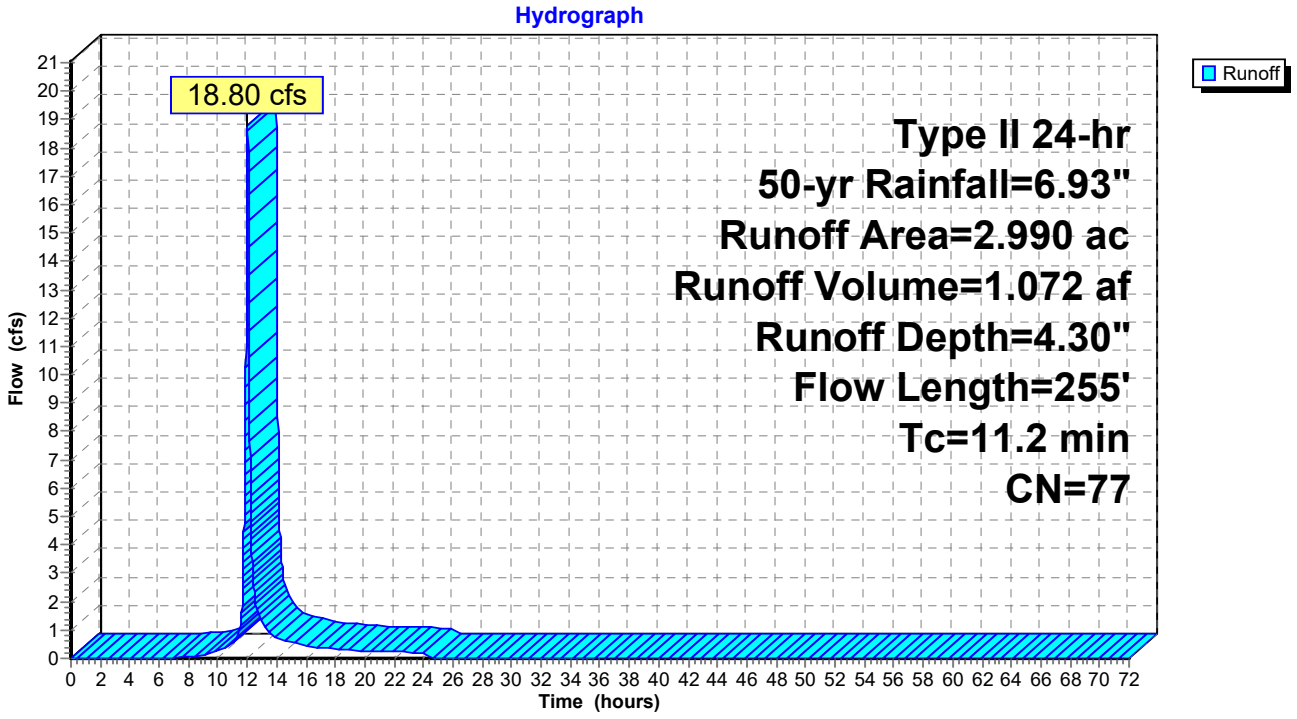
Runoff = 18.80 cfs @ 12.03 hrs, Volume= 1.072 af, Depth= 4.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-yr Rainfall=6.93"

Area (ac)	CN	Description
2.610	77	Woods, Good, HSG D
0.380	80	>75% Grass cover, Good, HSG D
2.990	77	Weighted Average
2.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	100	0.0360	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.53"
0.5	155	0.0860	4.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	255	Total			

Subcatchment 3PRE: Pre-Development to POI #3



Hydrograph for Subcatchment 3PRE: Pre-Development to POI #3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.07	0.00	0.00
2.00	0.15	0.00	0.00
3.00	0.24	0.00	0.00
4.00	0.33	0.00	0.00
5.00	0.44	0.00	0.00
6.00	0.55	0.00	0.00
7.00	0.69	0.00	0.02
8.00	0.83	0.02	0.06
9.00	1.02	0.05	0.14
10.00	1.25	0.12	0.24
11.00	1.63	0.26	0.58
12.00	4.59	2.29	**18.05**
13.00	5.35	2.92	**1.24**
14.00	5.68	3.20	0.73
15.00	5.91	3.40	0.57
16.00	6.10	3.57	0.44
17.00	6.25	3.70	0.38
18.00	6.38	3.82	0.34
19.00	6.50	3.92	0.30
20.00	6.60	4.01	0.25
21.00	6.69	4.08	0.23
22.00	6.77	4.16	0.23
23.00	6.85	4.23	0.22
24.00	**6.93**	**4.30**	0.21
25.00	6.93	4.30	0.00
26.00	6.93	4.30	0.00
27.00	6.93	4.30	0.00
28.00	6.93	4.30	0.00
29.00	6.93	4.30	0.00
30.00	6.93	4.30	0.00
31.00	6.93	4.30	0.00
32.00	6.93	4.30	0.00
33.00	6.93	4.30	0.00
34.00	6.93	4.30	0.00
35.00	6.93	4.30	0.00
36.00	6.93	4.30	0.00
37.00	6.93	4.30	0.00
38.00	6.93	4.30	0.00
39.00	6.93	4.30	0.00
40.00	6.93	4.30	0.00
41.00	6.93	4.30	0.00
42.00	6.93	4.30	0.00
43.00	6.93	4.30	0.00
44.00	6.93	4.30	0.00
45.00	6.93	4.30	0.00
46.00	6.93	4.30	0.00
47.00	6.93	4.30	0.00
48.00	6.93	4.30	0.00
49.00	6.93	4.30	0.00
50.00	6.93	4.30	0.00
51.00	6.93	4.30	0.00
52.00	6.93	4.30	0.00
53.00	6.93	4.30	0.00
54.00	6.93	4.30	0.00
55.00	6.93	4.30	0.00
56.00	6.93	4.30	0.00
57.00	6.93	4.30	0.00
58.00	6.93	4.30	0.00
59.00	6.93	4.30	0.00
60.00	6.93	4.30	0.00
61.00	6.93	4.30	0.00
62.00	6.93	4.30	0.00
63.00	6.93	4.30	0.00
64.00	6.93	4.30	0.00
65.00	6.93	4.30	0.00
66.00	6.93	4.30	0.00
67.00	6.93	4.30	0.00
68.00	6.93	4.30	0.00
69.00	6.93	4.30	0.00
70.00	6.93	4.30	0.00
71.00	6.93	4.30	0.00
72.00	6.93	4.30	0.00

Summary for Subcatchment 3PST: Post-Development to POI #3

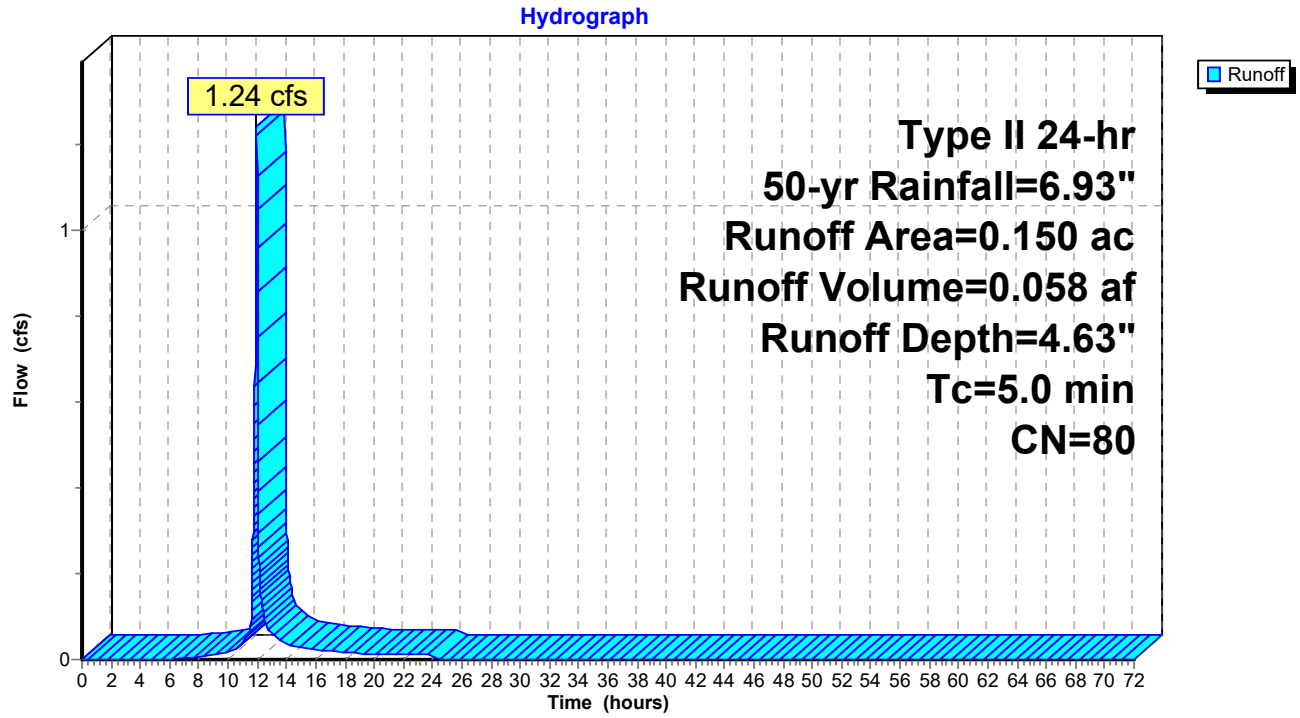
Runoff = 1.24 cfs @ 11.96 hrs, Volume= 0.058 af, Depth= 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 50-yr Rainfall=6.93"

Area (ac)	CN	Description
0.020	98	Paved roads w/curbs & sewers, HSG B
0.130	77	Woods, Good, HSG D
0.150	80	Weighted Average
0.130		86.67% Pervious Area
0.020		13.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3PST: Post-Development to POI #3



Hydrograph for Subcatchment 3PST: Post-Development to POI #3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.07	0.00	0.00
2.00	0.15	0.00	0.00
3.00	0.24	0.00	0.00
4.00	0.33	0.00	0.00
5.00	0.44	0.00	0.00
6.00	0.55	0.00	0.00
7.00	0.69	0.01	0.00
8.00	0.83	0.04	0.00
9.00	1.02	0.09	0.01
10.00	1.25	0.17	0.02
11.00	1.63	0.35	**0.04**
12.00	4.59	2.54	**1.05**
13.00	5.35	3.20	0.06
14.00	5.68	3.50	0.04
15.00	5.91	3.70	0.03
16.00	6.10	3.87	0.02
17.00	6.25	4.01	0.02
18.00	6.38	4.13	0.02
19.00	6.50	4.23	0.02
20.00	6.60	4.32	0.01
21.00	6.69	4.41	0.01
22.00	6.77	4.48	0.01
23.00	6.85	4.56	0.01
24.00	**6.93**	**4.63**	0.01
25.00	6.93	4.63	0.00
26.00	6.93	4.63	0.00
27.00	6.93	4.63	0.00
28.00	6.93	4.63	0.00
29.00	6.93	4.63	0.00
30.00	6.93	4.63	0.00
31.00	6.93	4.63	0.00
32.00	6.93	4.63	0.00
33.00	6.93	4.63	0.00
34.00	6.93	4.63	0.00
35.00	6.93	4.63	0.00
36.00	6.93	4.63	0.00
37.00	6.93	4.63	0.00
38.00	6.93	4.63	0.00
39.00	6.93	4.63	0.00
40.00	6.93	4.63	0.00
41.00	6.93	4.63	0.00
42.00	6.93	4.63	0.00
43.00	6.93	4.63	0.00
44.00	6.93	4.63	0.00
45.00	6.93	4.63	0.00
46.00	6.93	4.63	0.00
47.00	6.93	4.63	0.00
48.00	6.93	4.63	0.00
49.00	6.93	4.63	0.00
50.00	6.93	4.63	0.00
51.00	6.93	4.63	0.00
52.00	6.93	4.63	0.00
53.00	6.93	4.63	0.00
54.00	6.93	4.63	0.00
55.00	6.93	4.63	0.00
56.00	6.93	4.63	0.00
57.00	6.93	4.63	0.00
58.00	6.93	4.63	0.00
59.00	6.93	4.63	0.00
60.00	6.93	4.63	0.00
61.00	6.93	4.63	0.00
62.00	6.93	4.63	0.00
63.00	6.93	4.63	0.00
64.00	6.93	4.63	0.00
65.00	6.93	4.63	0.00
66.00	6.93	4.63	0.00
67.00	6.93	4.63	0.00
68.00	6.93	4.63	0.00
69.00	6.93	4.63	0.00
70.00	6.93	4.63	0.00
71.00	6.93	4.63	0.00
72.00	6.93	4.63	0.00

Summary for Pond 2P: SCM #2

Inflow Area = 3.940 ac, 22.84% Impervious, Inflow Depth = 3.87" for 50-yr event
Inflow = 28.05 cfs @ 11.96 hrs, Volume= 1.272 af
Outflow = 0.64 cfs @ 15.38 hrs, Volume= 1.119 af, Atten= 98%, Lag= 205.0 min
Primary = 0.64 cfs @ 15.38 hrs, Volume= 1.119 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 717.21' @ 15.38 hrs Surf.Area= 13,865 sf Storage= 36,130 cf

Plug-Flow detention time= 878.9 min calculated for 1.118 af (88% of inflow)
Center-of-Mass det. time= 820.1 min (1,640.7 - 820.6)

Volume	Invert	Avail.Storage	Storage Description
#1	713.50'	81,212 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

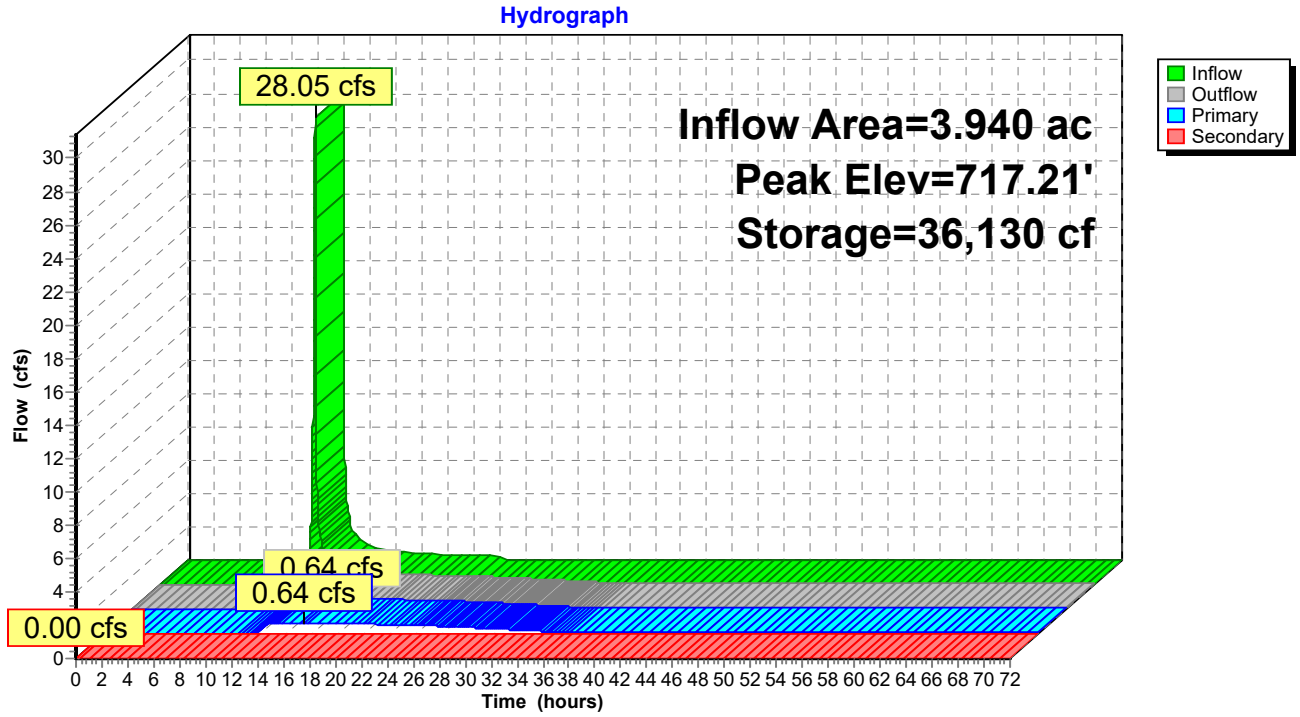
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
713.50	2,258	0	0
714.00	4,670	1,732	1,732
715.00	10,425	7,548	9,280
716.00	11,945	11,185	20,465
717.00	13,515	12,730	33,195
718.00	15,145	14,330	47,525
719.00	16,830	15,988	63,512
720.00	18,570	17,700	81,212

Device	Routing	Invert	Outlet Devices
#1	Primary	711.50'	**24.0" Round Outlet Pipe** L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 711.50' / 711.30' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf
#2	Device 1	713.50'	**Filter Bed** Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Disch. (cfs) 0.000 0.055 0.077 0.098 0.120 0.142
#3	Device 1	715.50'	**4.0" Vert. Orifice** C= 0.600
#4	Device 1	717.50'	**48.0" x 48.0" Horiz. Top of OCS** C= 0.600 Limited to weir flow at low heads
#5	Secondary	718.50'	**20.0' long x 10.0' breadth Emergency Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

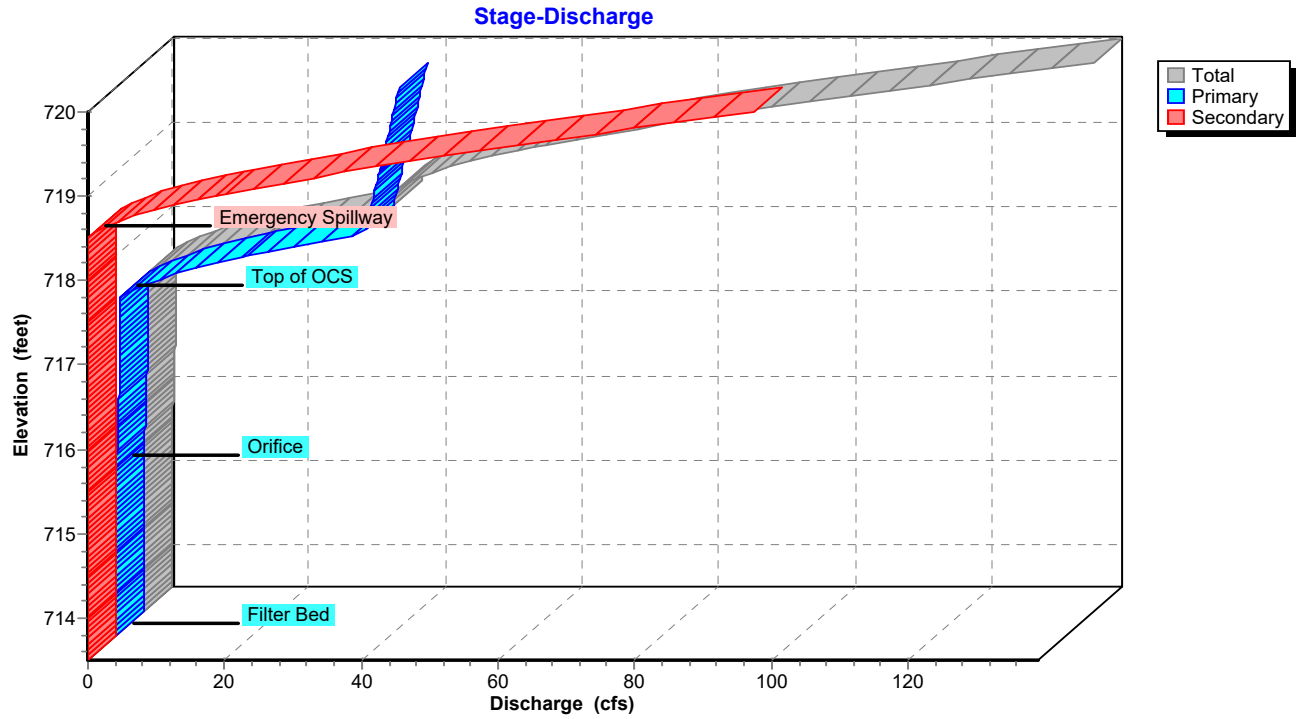
Primary OutFlow Max=0.64 cfs @ 15.38 hrs HW=717.21' (Free Discharge)
└─**1=Outlet Pipe** (Passes 0.64 cfs of 32.84 cfs potential flow)
  ├─**2=Filter Bed** (Custom Controls 0.11 cfs)
  ├─**3=Orifice** (Orifice Controls 0.52 cfs @ 5.99 fps)
  └─**4=Top of OCS** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=713.50' (Free Discharge)
└─**5=Emergency Spillway** (Controls 0.00 cfs)

Pond 2P: SCM #2



Pond 2P: SCM #2



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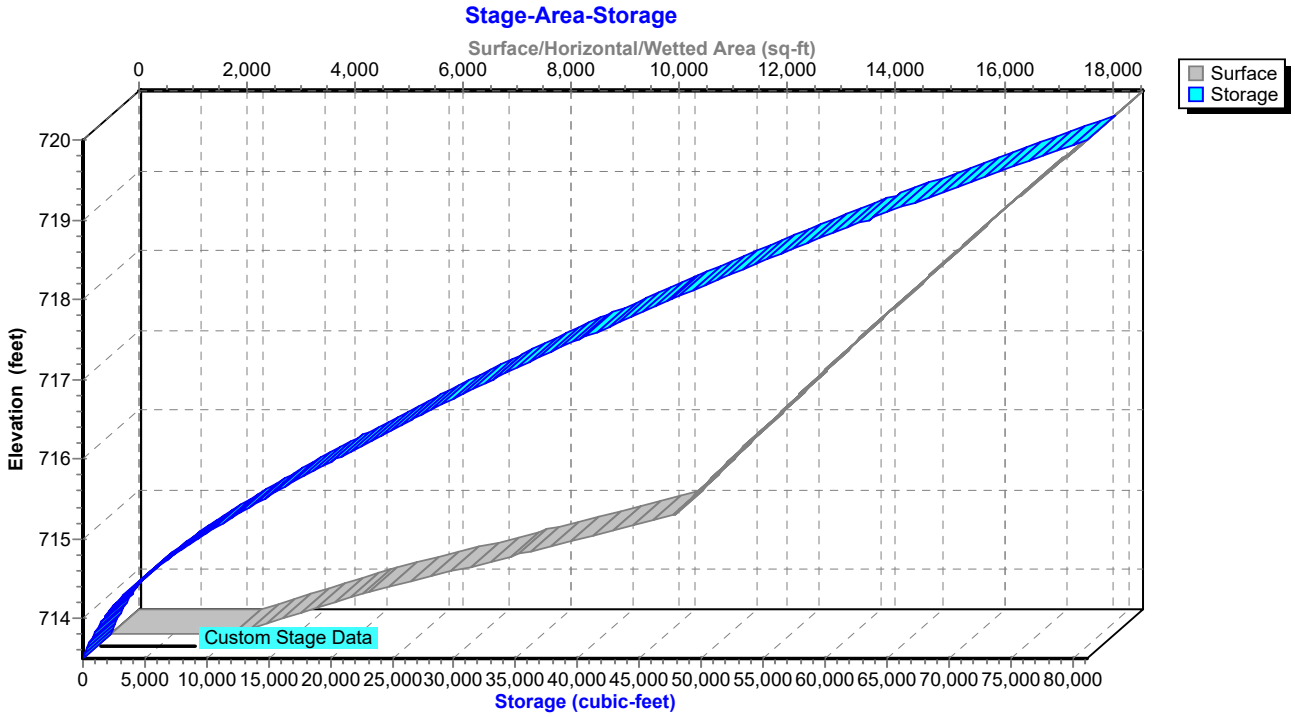

Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
2,000
4,000
6,000
8,000
10,000
12,000
14,000
16,000
18,000
Surface
Storage
720
719
718
717
716
715
714
Elevation (feet)
Custom Stage Data
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
Storage (cubic-feet)

Hydrograph for Pond 2P: SCM #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	713.50	0.00	0.00	**0.00**
2.00	0.00	0	713.50	0.00	0.00	0.00
4.00	0.00	0	713.50	0.00	0.00	0.00
6.00	0.00	0	713.50	0.00	0.00	0.00
8.00	0.03	24	713.51	0.00	0.00	0.00
10.00	**0.24**	787	713.77	0.01	0.01	0.00
12.00	**24.01**	22,977	716.21	0.40	0.40	0.00
14.00	0.87	**35,597**	**717.18**	**0.63**	**0.63**	0.00
16.00	0.54	**36,024**	**717.21**	**0.64**	**0.64**	0.00
18.00	0.42	34,939	717.13	0.62	0.62	0.00
20.00	0.31	33,196	717.00	0.59	0.59	0.00
22.00	0.28	31,152	716.85	0.56	0.56	0.00
24.00	0.26	29,185	716.70	0.53	0.53	0.00
26.00	0.00	25,683	716.42	0.46	0.46	0.00
28.00	0.00	22,608	716.18	0.39	0.39	0.00
30.00	0.00	20,056	715.97	0.32	0.32	0.00
32.00	0.00	18,070	715.80	0.23	0.23	0.00
34.00	0.00	16,706	715.68	0.15	0.15	0.00
36.00	0.00	15,810	715.60	0.10	0.10	0.00
38.00	0.00	15,145	715.54	0.08	0.08	0.00
40.00	0.00	14,575	715.49	0.08	0.08	0.00
42.00	0.00	14,026	715.44	0.08	0.08	0.00
44.00	0.00	13,484	715.39	0.07	0.07	0.00
46.00	0.00	12,951	715.34	0.07	0.07	0.00
48.00	0.00	12,425	715.30	0.07	0.07	0.00
50.00	0.00	11,907	715.25	0.07	0.07	0.00
52.00	0.00	11,396	715.20	0.07	0.07	0.00
54.00	0.00	10,893	715.15	0.07	0.07	0.00
56.00	0.00	10,397	715.11	0.07	0.07	0.00
58.00	0.00	9,909	715.06	0.07	0.07	0.00
60.00	0.00	9,428	715.01	0.07	0.07	0.00
62.00	0.00	8,954	714.97	0.07	0.07	0.00
64.00	0.00	8,488	714.92	0.06	0.06	0.00
66.00	0.00	8,029	714.88	0.06	0.06	0.00
68.00	0.00	7,577	714.83	0.06	0.06	0.00
70.00	0.00	7,133	714.78	0.06	0.06	0.00
72.00	0.00	6,696	714.73	0.06	0.06	0.00

Stage-Discharge for Pond 2P: SCM #2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
713.50	0.00	0.00	0.00
713.60	0.01	0.01	0.00
713.70	0.01	0.01	0.00
713.80	0.02	0.02	0.00
713.90	0.02	0.02	0.00
714.00	0.03	0.03	0.00
714.10	0.03	0.03	0.00
714.20	0.04	0.04	0.00
714.30	0.04	0.04	0.00
714.40	0.05	0.05	0.00
714.50	0.06	0.06	0.00
714.60	0.06	0.06	0.00
714.70	0.06	0.06	0.00
714.80	0.06	0.06	0.00
714.90	0.06	0.06	0.00
715.00	0.07	0.07	0.00
715.10	0.07	0.07	0.00
715.20	0.07	0.07	0.00
715.30	0.07	0.07	0.00
715.40	0.07	0.07	0.00
715.50	0.08	0.08	0.00
715.60	0.10	0.10	0.00
715.70	0.16	0.16	0.00
715.80	0.24	0.24	0.00
715.90	0.29	0.29	0.00
716.00	0.33	0.33	0.00
716.10	0.37	0.37	0.00
716.20	0.40	0.40	0.00
716.30	0.43	0.43	0.00
716.40	0.46	0.46	0.00
716.50	0.48	0.48	0.00
716.60	0.51	0.51	0.00
716.70	0.53	0.53	0.00
716.80	0.55	0.55	0.00
716.90	0.57	0.57	0.00
717.00	0.59	0.59	0.00
717.10	0.61	0.61	0.00
717.20	0.63	0.63	0.00
717.30	0.65	0.65	0.00
717.40	0.67	0.67	0.00
717.50	0.69	0.69	0.00
717.60	2.36	2.36	0.00
717.70	5.40	5.40	0.00
717.80	9.34	9.34	0.00
717.90	13.99	13.99	0.00
718.00	19.27	19.27	0.00
718.10	25.10	25.10	0.00
718.20	31.45	31.45	0.00
718.30	36.43	36.43	0.00
718.40	36.74	36.74	0.00
718.50	37.05	37.05	0.00
718.60	38.93	37.36	1.57
718.70	42.12	37.67	4.45
718.80	46.27	37.97	8.30
718.90	51.22	38.27	12.95
719.00	57.16	38.57	18.60
719.10	63.96	38.86	25.10
719.20	70.72	39.15	31.57
719.30	77.94	39.45	38.50
719.40	85.58	39.73	45.85
719.50	93.62	40.02	53.60
719.60	102.26	40.31	61.95
719.70	111.31	40.59	70.72
719.80	120.32	40.87	79.45
719.90	129.61	41.15	88.46
720.00	**138.98**	**41.43**	**97.55**

Stage-Area-Storage for Pond 2P: SCM #2

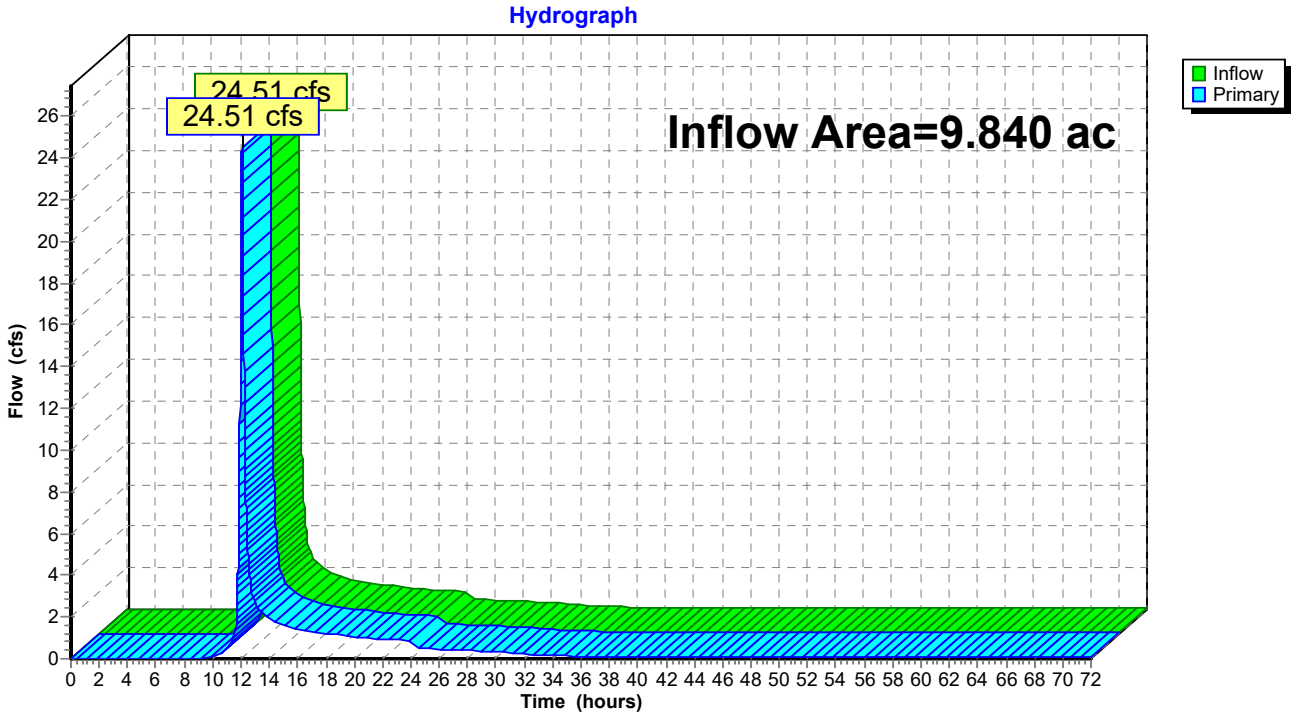
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
713.50	2,258	0
713.60	2,740	250
713.70	3,223	548
713.80	3,705	894
713.90	4,188	1,289
714.00	4,670	1,732
714.10	5,246	2,228
714.20	5,821	2,781
714.30	6,396	3,392
714.40	6,972	4,060
714.50	7,548	4,786
714.60	8,123	5,570
714.70	8,699	6,411
714.80	9,274	7,310
714.90	9,849	8,266
715.00	10,425	9,280
715.10	10,577	10,330
715.20	10,729	11,395
715.30	10,881	12,475
715.40	11,033	13,571
715.50	11,185	14,682
715.60	11,337	15,808
715.70	11,489	16,949
715.80	11,641	18,106
715.90	11,793	19,278
716.00	11,945	20,465
716.10	12,102	21,667
716.20	12,259	22,885
716.30	12,416	24,119
716.40	12,573	25,368
716.50	12,730	26,633
716.60	12,887	27,914
716.70	13,044	29,211
716.80	13,201	30,523
716.90	13,358	31,851
717.00	13,515	33,195
717.10	13,678	34,554
717.20	13,841	35,930
717.30	14,004	37,322
717.40	14,167	38,731
717.50	14,330	40,156
717.60	14,493	41,597
717.70	14,656	43,054
717.80	14,819	44,528
717.90	14,982	46,018
718.00	15,145	47,525
718.10	15,314	49,047
718.20	15,482	50,587
718.30	15,650	52,144
718.40	15,819	53,717
718.50	15,988	55,308
718.60	16,156	56,915
718.70	16,325	58,539
718.80	16,493	60,180
718.90	16,661	61,837
719.00	16,830	63,512
719.10	17,004	65,204
719.20	17,178	66,913
719.30	17,352	68,639
719.40	17,526	70,383
719.50	17,700	72,145
719.60	17,874	73,923
719.70	18,048	75,719
719.80	18,222	77,533
719.90	18,396	79,364
720.00	**18,570**	**81,212**

Summary for Link 2L: Total Post-Development to POI #2

Inflow Area = 9.840 ac, 15.75% Impervious, Inflow Depth > 3.25" for 50-yr event
Inflow = 24.51 cfs @ 12.08 hrs, Volume= 2.667 af
Primary = 24.51 cfs @ 12.08 hrs, Volume= 2.667 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: Total Post-Development to POI #2



Hydrograph for Link 2L: Total Post-Development to POI #2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00
1.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00
9.00	0.01	0.00	0.01
10.00	0.11	0.00	0.11
11.00	0.47	0.00	0.47
12.00	**19.83**	0.00	**19.83**
13.00	**2.71**	0.00	**2.71**
14.00	1.87	0.00	1.87
15.00	1.59	0.00	1.59
16.00	1.39	0.00	1.39
17.00	1.28	0.00	1.28
18.00	1.20	0.00	1.20
19.00	1.11	0.00	1.11
20.00	1.02	0.00	1.02
21.00	0.98	0.00	0.98
22.00	0.95	0.00	0.95
23.00	0.92	0.00	0.92
24.00	0.89	0.00	0.89
25.00	0.50	0.00	0.50
26.00	0.46	0.00	0.46
27.00	0.43	0.00	0.43
28.00	0.39	0.00	0.39
29.00	0.35	0.00	0.35
30.00	0.32	0.00	0.32
31.00	0.28	0.00	0.28
32.00	0.23	0.00	0.23
33.00	0.19	0.00	0.19
34.00	0.15	0.00	0.15
35.00	0.12	0.00	0.12
36.00	0.10	0.00	0.10
37.00	0.09	0.00	0.09
38.00	0.08	0.00	0.08
39.00	0.08	0.00	0.08
40.00	0.08	0.00	0.08
41.00	0.08	0.00	0.08
42.00	0.08	0.00	0.08
43.00	0.08	0.00	0.08
44.00	0.07	0.00	0.07
45.00	0.07	0.00	0.07
46.00	0.07	0.00	0.07
47.00	0.07	0.00	0.07
48.00	0.07	0.00	0.07
49.00	0.07	0.00	0.07
50.00	0.07	0.00	0.07
51.00	0.07	0.00	0.07
52.00	0.07	0.00	0.07
53.00	0.07	0.00	0.07
54.00	0.07	0.00	0.07
55.00	0.07	0.00	0.07
56.00	0.07	0.00	0.07
57.00	0.07	0.00	0.07
58.00	0.07	0.00	0.07
59.00	0.07	0.00	0.07
60.00	0.07	0.00	0.07
61.00	0.07	0.00	0.07
62.00	0.07	0.00	0.07
63.00	0.06	0.00	0.06
64.00	0.06	0.00	0.06
65.00	0.06	0.00	0.06
66.00	0.06	0.00	0.06
67.00	0.06	0.00	0.06
68.00	0.06	0.00	0.06
69.00	0.06	0.00	0.06
70.00	0.06	0.00	0.06
71.00	0.06	0.00	0.06
72.00	0.06	0.00	0.06

Summary for Subcatchment 2PRE: Pre-Development to POI #2

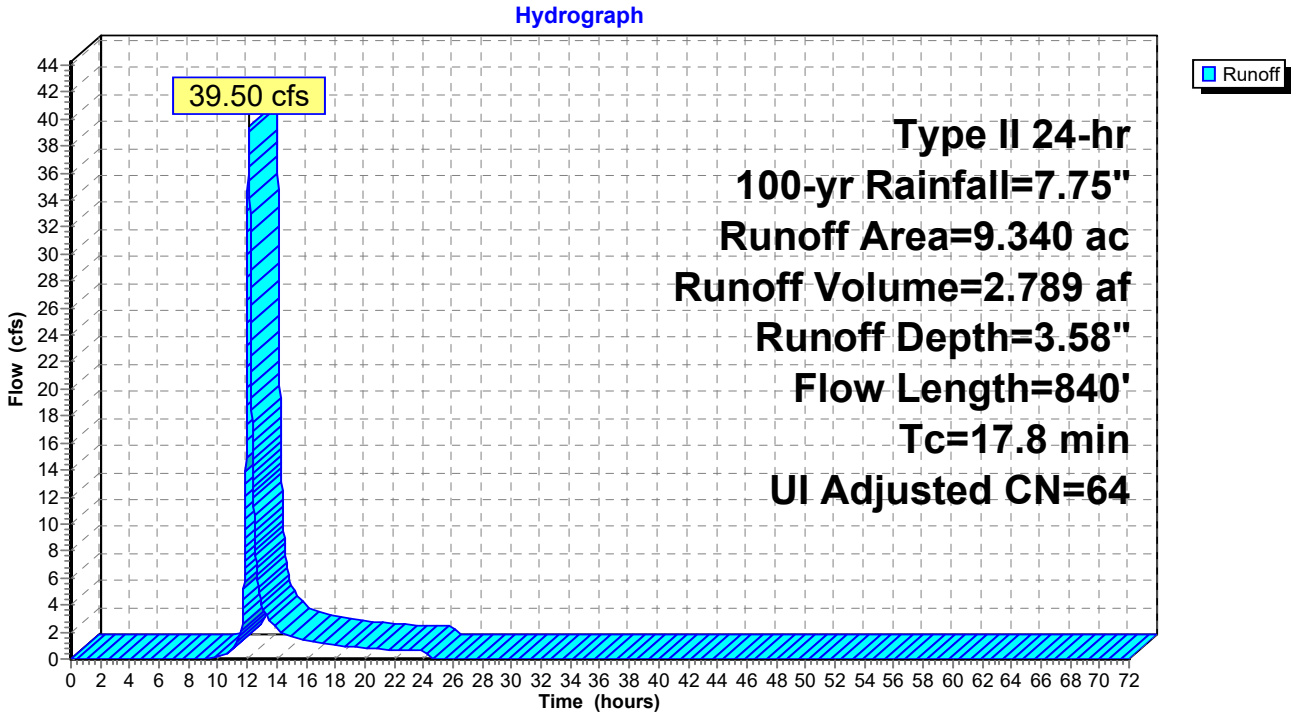
Runoff = 39.50 cfs @ 12.11 hrs, Volume= 2.789 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-yr Rainfall=7.75"

Area (ac)	CN	Adj	Description
0.590	55		Woods, Good, HSG B
0.700	77		Woods, Good, HSG D
0.750	98		Unconnected roofs, HSG B
0.080	80		>75% Grass cover, Good, HSG D
7.220	61		>75% Grass cover, Good, HSG B
9.340	65	64	Weighted Average, UI Adjusted
8.590			91.97% Pervious Area
0.750			8.03% Impervious Area
0.750			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0250	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.53"
5.4	740	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
17.8	840	Total			

Subcatchment 2PRE: Pre-Development to POI #2



Hydrograph for Subcatchment 2PRE: Pre-Development to POI #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.00	0.00
3.00	0.27	0.00	0.00
4.00	0.37	0.00	0.00
5.00	0.49	0.00	0.00
6.00	0.62	0.00	0.00
7.00	0.77	0.00	0.00
8.00	0.93	0.00	0.00
9.00	1.14	0.00	0.00
10.00	1.40	0.01	0.18
11.00	1.82	0.08	0.77
12.00	5.14	1.67	**28.29**
13.00	5.98	2.25	**3.93**
14.00	6.36	2.52	2.26
15.00	6.61	2.71	1.73
16.00	6.82	2.87	1.37
17.00	6.99	2.99	1.17
18.00	7.14	3.11	1.04
19.00	7.27	3.21	0.91
20.00	7.38	3.29	0.77
21.00	7.48	3.37	0.72
22.00	7.57	3.44	0.69
23.00	7.66	3.51	0.67
24.00	**7.75**	**3.58**	0.64
25.00	7.75	3.58	0.00
26.00	7.75	3.58	0.00
27.00	7.75	3.58	0.00
28.00	7.75	3.58	0.00
29.00	7.75	3.58	0.00
30.00	7.75	3.58	0.00
31.00	7.75	3.58	0.00
32.00	7.75	3.58	0.00
33.00	7.75	3.58	0.00
34.00	7.75	3.58	0.00
35.00	7.75	3.58	0.00
36.00	7.75	3.58	0.00
37.00	7.75	3.58	0.00
38.00	7.75	3.58	0.00
39.00	7.75	3.58	0.00
40.00	7.75	3.58	0.00
41.00	7.75	3.58	0.00
42.00	7.75	3.58	0.00
43.00	7.75	3.58	0.00
44.00	7.75	3.58	0.00
45.00	7.75	3.58	0.00
46.00	7.75	3.58	0.00
47.00	7.75	3.58	0.00
48.00	7.75	3.58	0.00
49.00	7.75	3.58	0.00
50.00	7.75	3.58	0.00
51.00	7.75	3.58	0.00
52.00	7.75	3.58	0.00
53.00	7.75	3.58	0.00
54.00	7.75	3.58	0.00
55.00	7.75	3.58	0.00
56.00	7.75	3.58	0.00
57.00	7.75	3.58	0.00
58.00	7.75	3.58	0.00
59.00	7.75	3.58	0.00
60.00	7.75	3.58	0.00
61.00	7.75	3.58	0.00
62.00	7.75	3.58	0.00
63.00	7.75	3.58	0.00
64.00	7.75	3.58	0.00
65.00	7.75	3.58	0.00
66.00	7.75	3.58	0.00
67.00	7.75	3.58	0.00
68.00	7.75	3.58	0.00
69.00	7.75	3.58	0.00
70.00	7.75	3.58	0.00
71.00	7.75	3.58	0.00
72.00	7.75	3.58	0.00

Summary for Subcatchment 2PST: Post-Development to SCM #2

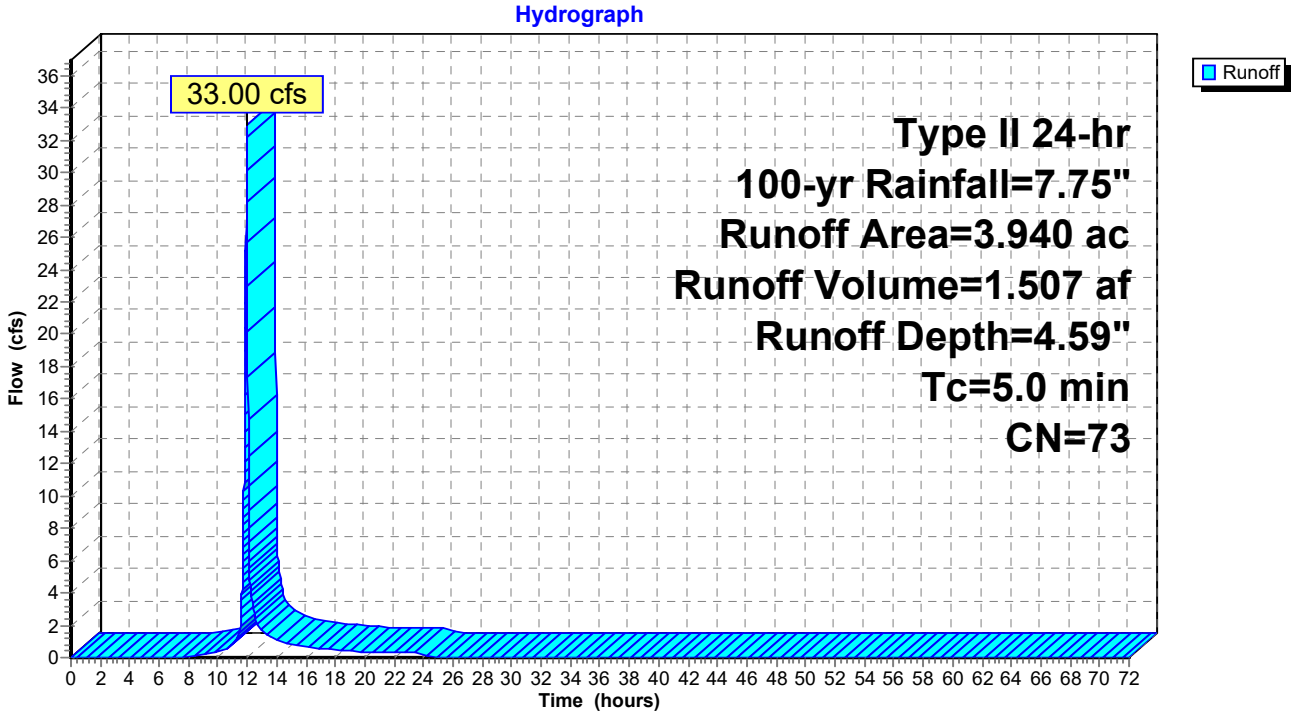
Runoff = 33.00 cfs @ 11.96 hrs, Volume= 1.507 af, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-yr Rainfall=7.75"

	Area (ac)	CN	Description
*	0.880	98	Proposed Impervious
*	0.020	98	Existing Impervious
	2.290	61	>75% Grass cover, Good, HSG B
	0.750	80	>75% Grass cover, Good, HSG D
	3.940	73	Weighted Average
	3.040		77.16% Pervious Area
	0.900		22.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2PST: Post-Development to SCM #2



Hydrograph for Subcatchment 2PST: Post-Development to SCM #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.00	0.00
3.00	0.27	0.00	0.00
4.00	0.37	0.00	0.00
5.00	0.49	0.00	0.00
6.00	0.62	0.00	0.00
7.00	0.77	0.00	0.01
8.00	0.93	0.01	0.06
9.00	1.14	0.04	0.17
10.00	1.40	0.10	0.33
11.00	1.82	0.24	**0.83**
12.00	5.14	2.39	**28.13**
13.00	5.98	3.07	1.66
14.00	6.36	3.39	1.00
15.00	6.61	3.61	0.80
16.00	6.82	3.78	0.62
17.00	6.99	3.93	0.55
18.00	7.14	4.05	0.48
19.00	7.27	4.17	0.42
20.00	7.38	4.26	0.35
21.00	7.48	4.35	0.34
22.00	7.57	4.43	0.32
23.00	7.66	4.51	0.31
24.00	**7.75**	**4.59**	0.30
25.00	7.75	4.59	0.00
26.00	7.75	4.59	0.00
27.00	7.75	4.59	0.00
28.00	7.75	4.59	0.00
29.00	7.75	4.59	0.00
30.00	7.75	4.59	0.00
31.00	7.75	4.59	0.00
32.00	7.75	4.59	0.00
33.00	7.75	4.59	0.00
34.00	7.75	4.59	0.00
35.00	7.75	4.59	0.00
36.00	7.75	4.59	0.00
37.00	7.75	4.59	0.00
38.00	7.75	4.59	0.00
39.00	7.75	4.59	0.00
40.00	7.75	4.59	0.00
41.00	7.75	4.59	0.00
42.00	7.75	4.59	0.00
43.00	7.75	4.59	0.00
44.00	7.75	4.59	0.00
45.00	7.75	4.59	0.00
46.00	7.75	4.59	0.00
47.00	7.75	4.59	0.00
48.00	7.75	4.59	0.00
49.00	7.75	4.59	0.00
50.00	7.75	4.59	0.00
51.00	7.75	4.59	0.00
52.00	7.75	4.59	0.00
53.00	7.75	4.59	0.00
54.00	7.75	4.59	0.00
55.00	7.75	4.59	0.00
56.00	7.75	4.59	0.00
57.00	7.75	4.59	0.00
58.00	7.75	4.59	0.00
59.00	7.75	4.59	0.00
60.00	7.75	4.59	0.00
61.00	7.75	4.59	0.00
62.00	7.75	4.59	0.00
63.00	7.75	4.59	0.00
64.00	7.75	4.59	0.00
65.00	7.75	4.59	0.00
66.00	7.75	4.59	0.00
67.00	7.75	4.59	0.00
68.00	7.75	4.59	0.00
69.00	7.75	4.59	0.00
70.00	7.75	4.59	0.00
71.00	7.75	4.59	0.00
72.00	7.75	4.59	0.00

Summary for Subcatchment 2S: Bypass to POI #2

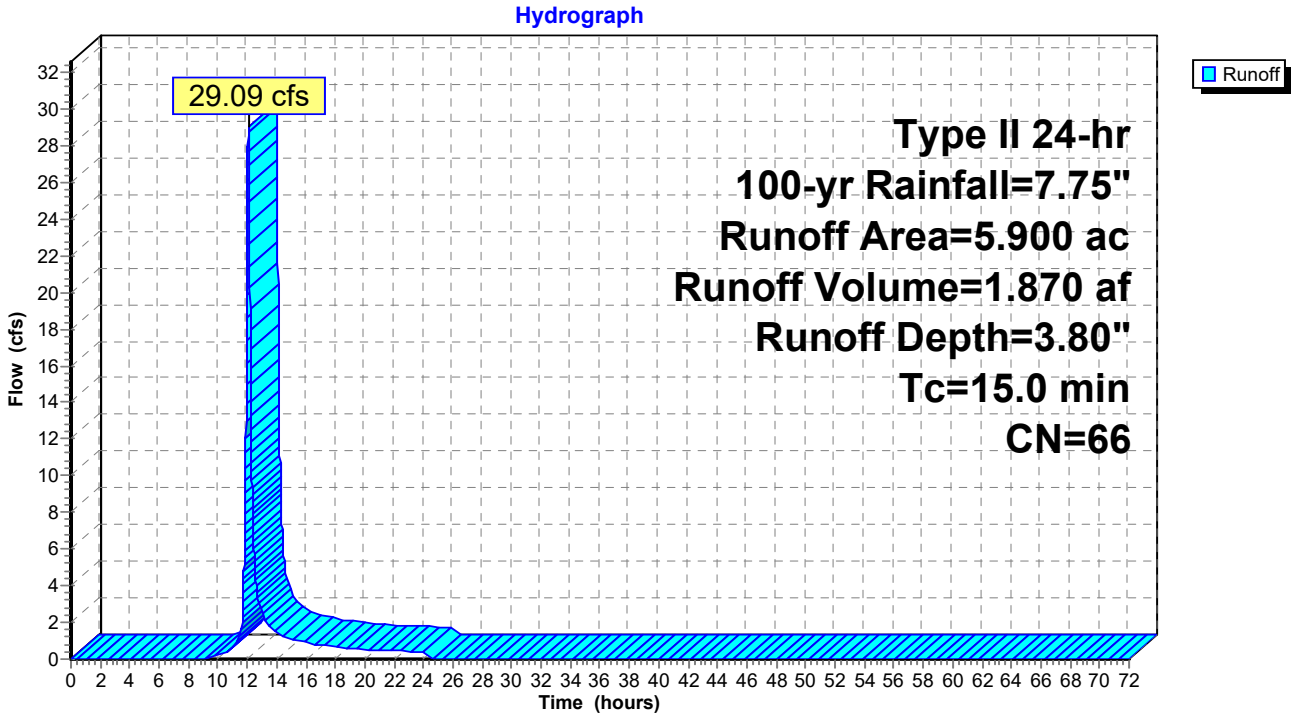
Runoff = 29.09 cfs @ 12.08 hrs, Volume= 1.870 af, Depth= 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-yr Rainfall=7.75"

	Area (ac)	CN	Description
*	0.650	98	Existing Impervious
	4.740	61	>75% Grass cover, Good, HSG B
	0.280	80	>75% Grass cover, Good, HSG D
	0.180	55	Woods, Good, HSG B
	0.050	77	Woods, Good, HSG D
	5.900	66	Weighted Average
	5.250		88.98% Pervious Area
	0.650		11.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

Subcatchment 2S: Bypass to POI #2



Hydrograph for Subcatchment 2S: Bypass to POI #2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.00	0.00
3.00	0.27	0.00	0.00
4.00	0.37	0.00	0.00
5.00	0.49	0.00	0.00
6.00	0.62	0.00	0.00
7.00	0.77	0.00	0.00
8.00	0.93	0.00	0.00
9.00	1.14	0.00	0.03
10.00	1.40	0.03	0.18
11.00	1.82	0.11	0.63
12.00	5.14	1.82	**23.80**
13.00	5.98	2.43	**2.48**
14.00	6.36	2.71	1.45
15.00	6.61	2.90	1.12
16.00	6.82	3.06	0.88
17.00	6.99	3.20	0.76
18.00	7.14	3.31	0.68
19.00	7.27	3.42	0.59
20.00	7.38	3.50	0.50
21.00	7.48	3.58	0.47
22.00	7.57	3.66	0.45
23.00	7.66	3.73	0.43
24.00	**7.75**	**3.80**	0.42
25.00	7.75	3.80	0.00
26.00	7.75	3.80	0.00
27.00	7.75	3.80	0.00
28.00	7.75	3.80	0.00
29.00	7.75	3.80	0.00
30.00	7.75	3.80	0.00
31.00	7.75	3.80	0.00
32.00	7.75	3.80	0.00
33.00	7.75	3.80	0.00
34.00	7.75	3.80	0.00
35.00	7.75	3.80	0.00
36.00	7.75	3.80	0.00
37.00	7.75	3.80	0.00
38.00	7.75	3.80	0.00
39.00	7.75	3.80	0.00
40.00	7.75	3.80	0.00
41.00	7.75	3.80	0.00
42.00	7.75	3.80	0.00
43.00	7.75	3.80	0.00
44.00	7.75	3.80	0.00
45.00	7.75	3.80	0.00
46.00	7.75	3.80	0.00
47.00	7.75	3.80	0.00
48.00	7.75	3.80	0.00
49.00	7.75	3.80	0.00
50.00	7.75	3.80	0.00
51.00	7.75	3.80	0.00
52.00	7.75	3.80	0.00
53.00	7.75	3.80	0.00
54.00	7.75	3.80	0.00
55.00	7.75	3.80	0.00
56.00	7.75	3.80	0.00
57.00	7.75	3.80	0.00
58.00	7.75	3.80	0.00
59.00	7.75	3.80	0.00
60.00	7.75	3.80	0.00
61.00	7.75	3.80	0.00
62.00	7.75	3.80	0.00
63.00	7.75	3.80	0.00
64.00	7.75	3.80	0.00
65.00	7.75	3.80	0.00
66.00	7.75	3.80	0.00
67.00	7.75	3.80	0.00
68.00	7.75	3.80	0.00
69.00	7.75	3.80	0.00
70.00	7.75	3.80	0.00
71.00	7.75	3.80	0.00
72.00	7.75	3.80	0.00

Summary for Subcatchment 3PRE: Pre-Development to POI #3

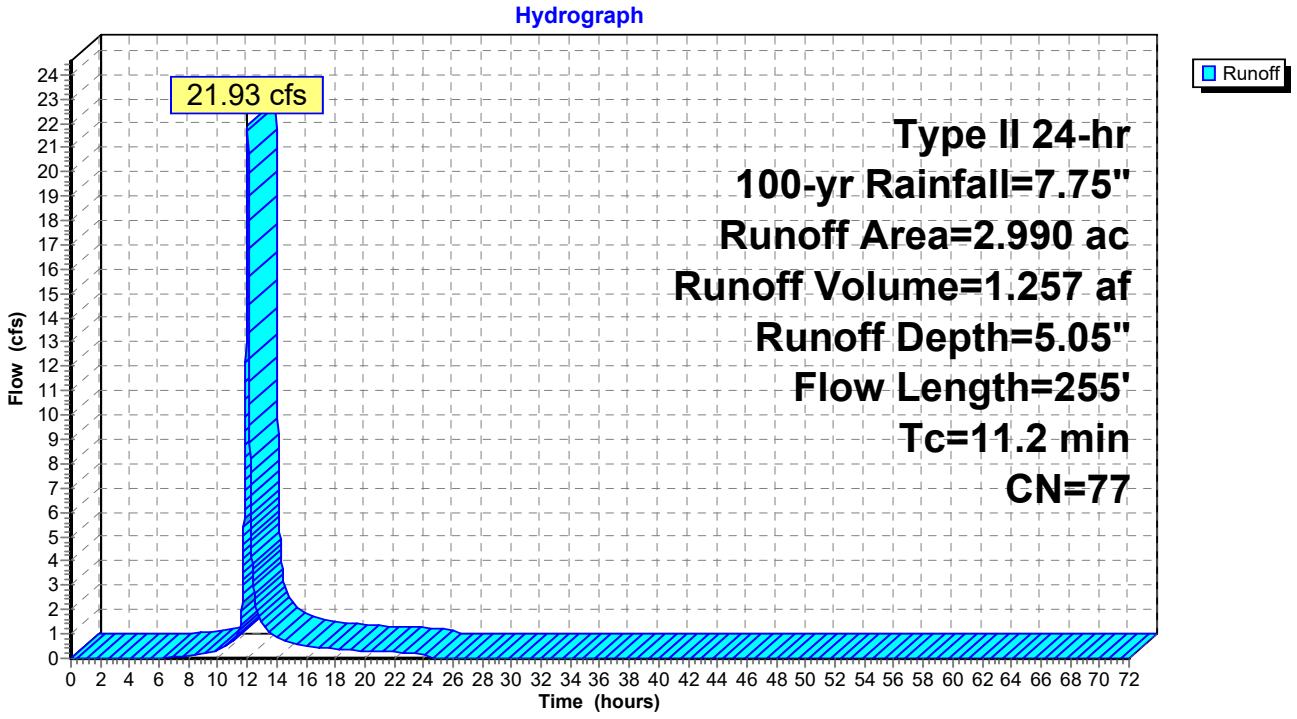
Runoff = 21.93 cfs @ 12.03 hrs, Volume= 1.257 af, Depth= 5.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-yr Rainfall=7.75"

Area (ac)	CN	Description
2.610	77	Woods, Good, HSG D
0.380	80	>75% Grass cover, Good, HSG D
2.990	77	Weighted Average
2.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	100	0.0360	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.53"
0.5	155	0.0860	4.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.2	255	Total			

Subcatchment 3PRE: Pre-Development to POI #3



Hydrograph for Subcatchment 3PRE: Pre-Development to POI #3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.00	0.00
3.00	0.27	0.00	0.00
4.00	0.37	0.00	0.00
5.00	0.49	0.00	0.00
6.00	0.62	0.00	0.00
7.00	0.77	0.01	0.04
8.00	0.93	0.03	0.09
9.00	1.14	0.08	0.19
10.00	1.40	0.17	0.32
11.00	1.82	0.36	0.72
12.00	5.14	2.74	**21.10**
13.00	5.98	3.46	**1.42**
14.00	6.36	3.79	0.83
15.00	6.61	4.02	0.65
16.00	6.82	4.20	0.51
17.00	6.99	4.36	0.44
18.00	7.14	4.49	0.39
19.00	7.27	4.61	0.34
20.00	7.38	4.71	0.28
21.00	7.48	4.80	0.27
22.00	7.57	4.88	0.26
23.00	7.66	4.97	0.25
24.00	**7.75**	**5.05**	0.24
25.00	7.75	5.05	0.00
26.00	7.75	5.05	0.00
27.00	7.75	5.05	0.00
28.00	7.75	5.05	0.00
29.00	7.75	5.05	0.00
30.00	7.75	5.05	0.00
31.00	7.75	5.05	0.00
32.00	7.75	5.05	0.00
33.00	7.75	5.05	0.00
34.00	7.75	5.05	0.00
35.00	7.75	5.05	0.00
36.00	7.75	5.05	0.00
37.00	7.75	5.05	0.00
38.00	7.75	5.05	0.00
39.00	7.75	5.05	0.00
40.00	7.75	5.05	0.00
41.00	7.75	5.05	0.00
42.00	7.75	5.05	0.00
43.00	7.75	5.05	0.00
44.00	7.75	5.05	0.00
45.00	7.75	5.05	0.00
46.00	7.75	5.05	0.00
47.00	7.75	5.05	0.00
48.00	7.75	5.05	0.00
49.00	7.75	5.05	0.00
50.00	7.75	5.05	0.00
51.00	7.75	5.05	0.00
52.00	7.75	5.05	0.00
53.00	7.75	5.05	0.00
54.00	7.75	5.05	0.00
55.00	7.75	5.05	0.00
56.00	7.75	5.05	0.00
57.00	7.75	5.05	0.00
58.00	7.75	5.05	0.00
59.00	7.75	5.05	0.00
60.00	7.75	5.05	0.00
61.00	7.75	5.05	0.00
62.00	7.75	5.05	0.00
63.00	7.75	5.05	0.00
64.00	7.75	5.05	0.00
65.00	7.75	5.05	0.00
66.00	7.75	5.05	0.00
67.00	7.75	5.05	0.00
68.00	7.75	5.05	0.00
69.00	7.75	5.05	0.00
70.00	7.75	5.05	0.00
71.00	7.75	5.05	0.00
72.00	7.75	5.05	0.00

Summary for Subcatchment 3PST: Post-Development to POI #3

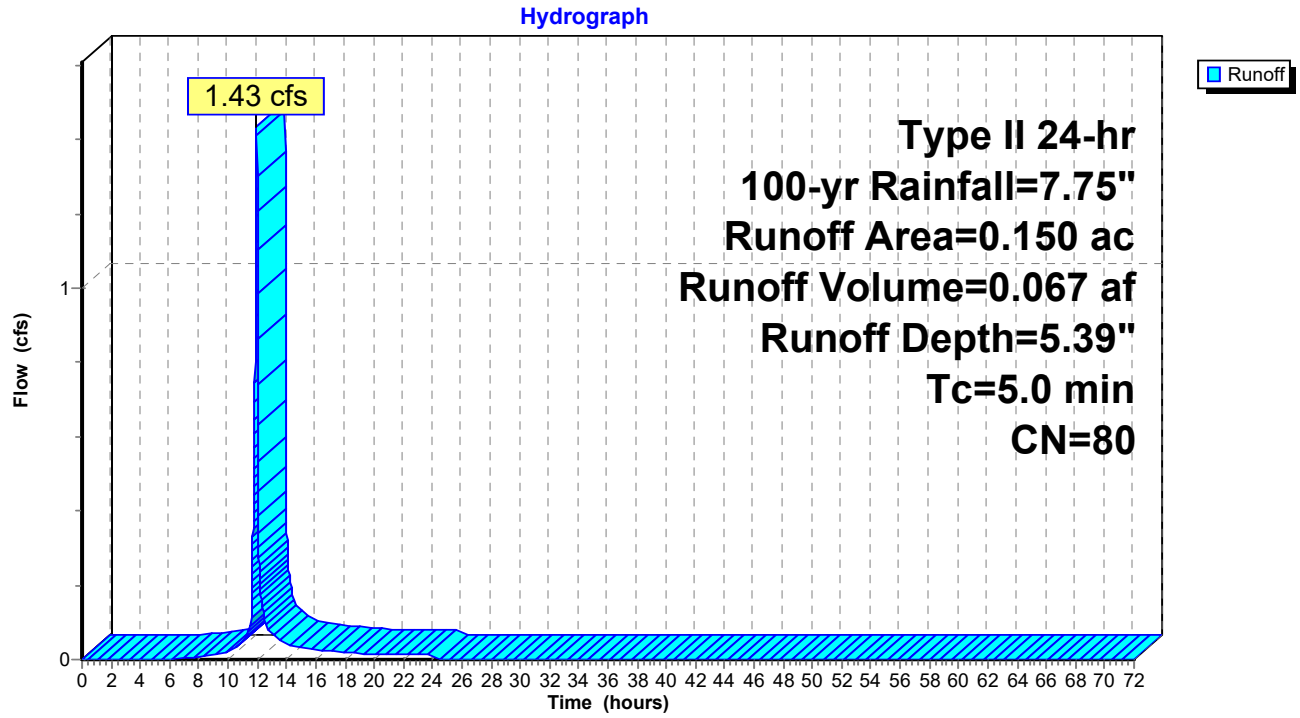
Runoff = 1.43 cfs @ 11.96 hrs, Volume= 0.067 af, Depth= 5.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-yr Rainfall=7.75"

Area (ac)	CN	Description
0.020	98	Paved roads w/curbs & sewers, HSG B
0.130	77	Woods, Good, HSG D
0.150	80	Weighted Average
0.130		86.67% Pervious Area
0.020		13.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3PST: Post-Development to POI #3



Hydrograph for Subcatchment 3PST: Post-Development to POI #3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.00	0.00
3.00	0.27	0.00	0.00
4.00	0.37	0.00	0.00
5.00	0.49	0.00	0.00
6.00	0.62	0.01	0.00
7.00	0.77	0.03	0.00
8.00	0.93	0.06	0.01
9.00	1.14	0.13	0.01
10.00	1.40	0.24	0.02
11.00	1.82	0.46	**0.05**
12.00	5.14	3.01	**1.21**
13.00	5.98	3.77	0.07
14.00	6.36	4.10	0.04
15.00	6.61	4.34	0.03
16.00	6.82	4.53	0.03
17.00	6.99	4.68	0.02
18.00	7.14	4.82	0.02
19.00	7.27	4.94	0.02
20.00	7.38	5.04	0.01
21.00	7.48	5.14	0.01
22.00	7.57	5.22	0.01
23.00	7.66	5.31	0.01
24.00	**7.75**	**5.39**	0.01
25.00	7.75	5.39	0.00
26.00	7.75	5.39	0.00
27.00	7.75	5.39	0.00
28.00	7.75	5.39	0.00
29.00	7.75	5.39	0.00
30.00	7.75	5.39	0.00
31.00	7.75	5.39	0.00
32.00	7.75	5.39	0.00
33.00	7.75	5.39	0.00
34.00	7.75	5.39	0.00
35.00	7.75	5.39	0.00
36.00	7.75	5.39	0.00
37.00	7.75	5.39	0.00
38.00	7.75	5.39	0.00
39.00	7.75	5.39	0.00
40.00	7.75	5.39	0.00
41.00	7.75	5.39	0.00
42.00	7.75	5.39	0.00
43.00	7.75	5.39	0.00
44.00	7.75	5.39	0.00
45.00	7.75	5.39	0.00
46.00	7.75	5.39	0.00
47.00	7.75	5.39	0.00
48.00	7.75	5.39	0.00
49.00	7.75	5.39	0.00
50.00	7.75	5.39	0.00
51.00	7.75	5.39	0.00
52.00	7.75	5.39	0.00
53.00	7.75	5.39	0.00
54.00	7.75	5.39	0.00
55.00	7.75	5.39	0.00
56.00	7.75	5.39	0.00
57.00	7.75	5.39	0.00
58.00	7.75	5.39	0.00
59.00	7.75	5.39	0.00
60.00	7.75	5.39	0.00
61.00	7.75	5.39	0.00
62.00	7.75	5.39	0.00
63.00	7.75	5.39	0.00
64.00	7.75	5.39	0.00
65.00	7.75	5.39	0.00
66.00	7.75	5.39	0.00
67.00	7.75	5.39	0.00
68.00	7.75	5.39	0.00
69.00	7.75	5.39	0.00
70.00	7.75	5.39	0.00
71.00	7.75	5.39	0.00
72.00	7.75	5.39	0.00

Summary for Pond 2P: SCM #2

Inflow Area = 3.940 ac, 22.84% Impervious, Inflow Depth = 4.59" for 100-yr event
Inflow = 33.00 cfs @ 11.96 hrs, Volume= 1.507 af
Outflow = 1.37 cfs @ 13.35 hrs, Volume= 1.343 af, Atten= 96%, Lag= 83.2 min
Primary = 1.37 cfs @ 13.35 hrs, Volume= 1.343 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 717.55' @ 13.35 hrs Surf.Area= 14,413 sf Storage= 40,885 cf

Plug-Flow detention time= 818.7 min calculated for 1.343 af (89% of inflow)
Center-of-Mass det. time= 764.3 min (1,580.1 - 815.8)

Volume	Invert	Avail.Storage	Storage Description
#1	713.50'	81,212 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

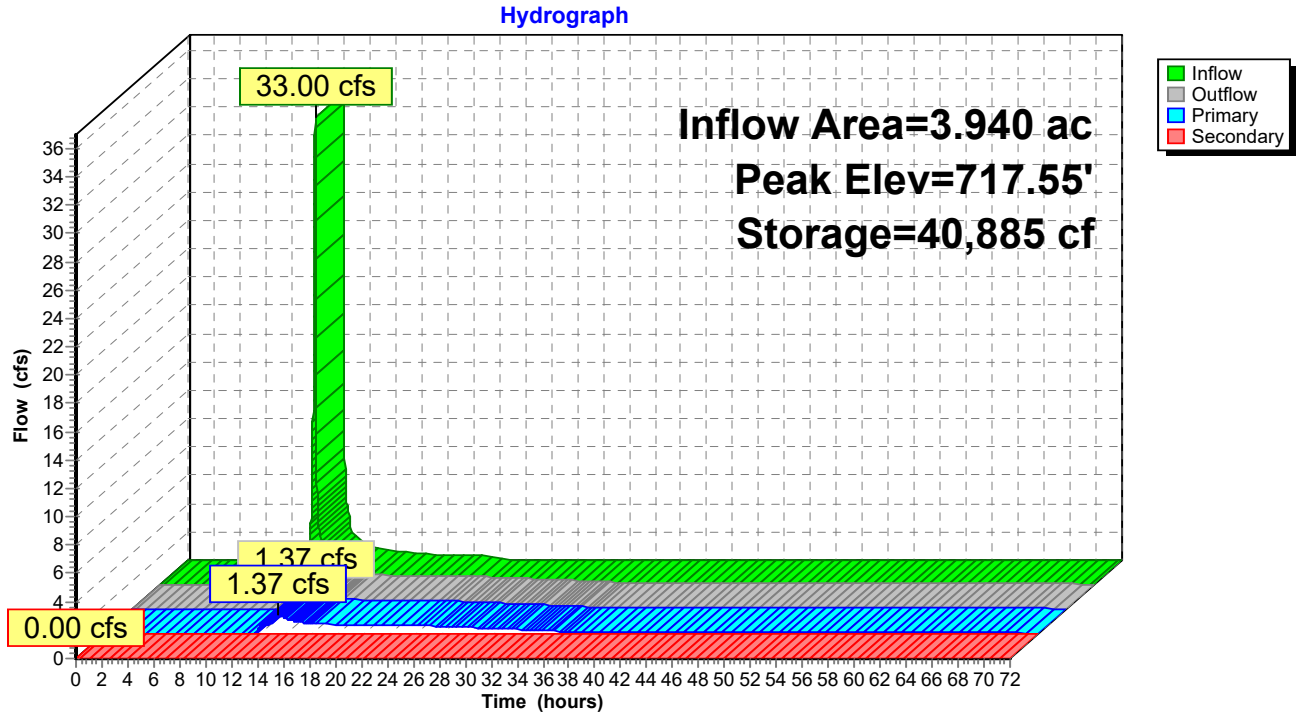
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
713.50	2,258	0	0
714.00	4,670	1,732	1,732
715.00	10,425	7,548	9,280
716.00	11,945	11,185	20,465
717.00	13,515	12,730	33,195
718.00	15,145	14,330	47,525
719.00	16,830	15,988	63,512
720.00	18,570	17,700	81,212

Device	Routing	Invert	Outlet Devices
#1	Primary	711.50'	**24.0" Round Outlet Pipe** L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 711.50' / 711.30' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf
#2	Device 1	713.50'	**Filter Bed** Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Disch. (cfs) 0.000 0.055 0.077 0.098 0.120 0.142
#3	Device 1	715.50'	**4.0" Vert. Orifice** C= 0.600
#4	Device 1	717.50'	**48.0" x 48.0" Horiz. Top of OCS** C= 0.600 Limited to weir flow at low heads
#5	Secondary	718.50'	**20.0' long x 10.0' breadth Emergency Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

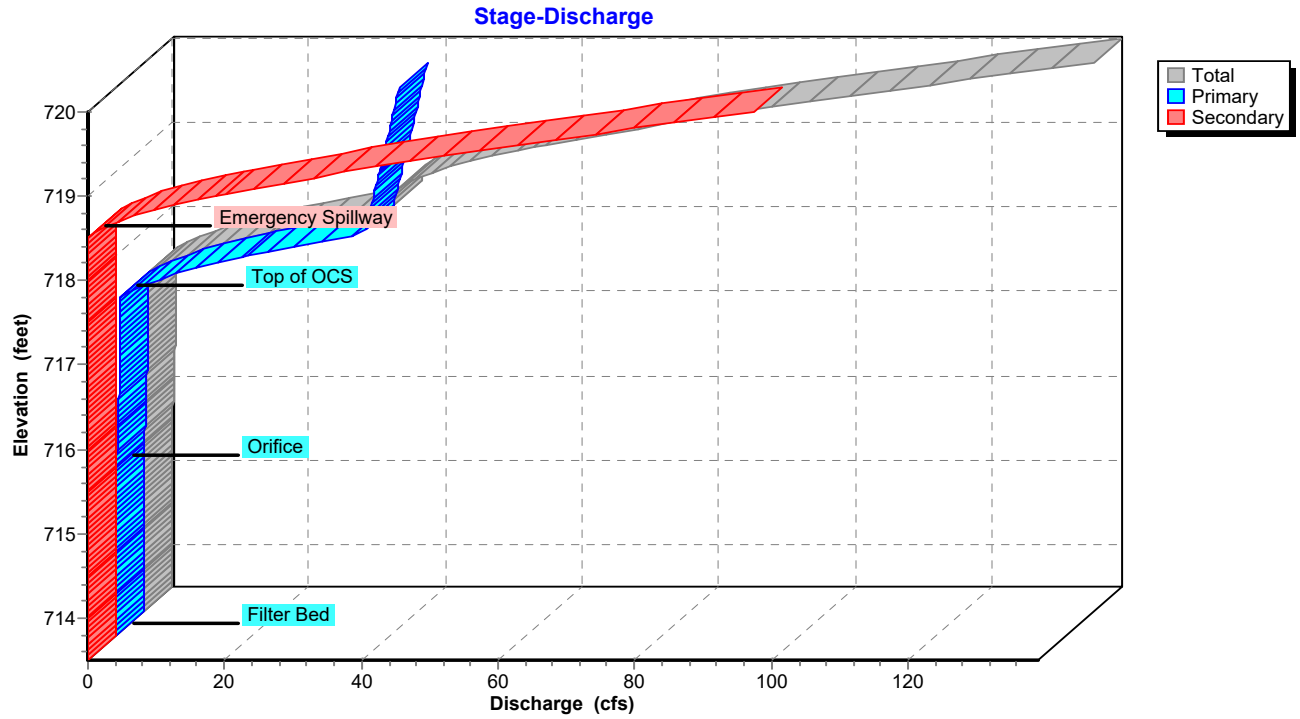
Primary OutFlow Max=1.30 cfs @ 13.35 hrs HW=717.55' (Free Discharge)
└**1=Outlet Pipe** (Passes 1.30 cfs of 34.00 cfs potential flow)
  ├**2=Filter Bed** (Custom Controls 0.12 cfs)
  ├**3=Orifice** (Orifice Controls 0.58 cfs @ 6.61 fps)
  └**4=Top of OCS** (Weir Controls 0.60 cfs @ 0.74 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=713.50' (Free Discharge)
└**5=Emergency Spillway** (Controls 0.00 cfs)

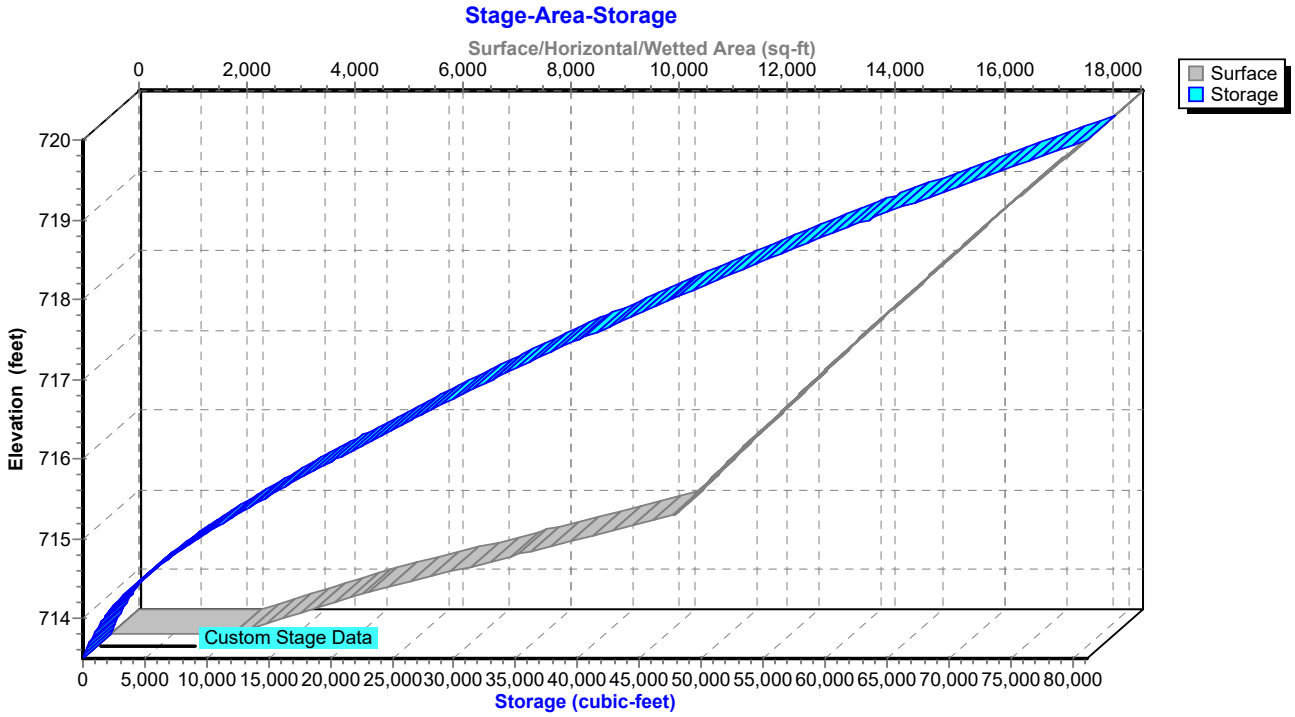
Pond 2P: SCM #2



Pond 2P: SCM #2



Pond 2P: SCM #2


Stage-Area-Storage
Surface/Horizontal/Wetted Area (sq-ft)
0
2,000
4,000
6,000
8,000
10,000
12,000
14,000
16,000
18,000
Surface
Storage
720
719
718
717
716
715
714
Elevation (feet)
Custom Stage Data
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
Storage (cubic-feet)

Hydrograph for Pond 2P: SCM #2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	713.50	0.00	0.00	**0.00**
2.00	0.00	0	713.50	0.00	0.00	0.00
4.00	0.00	0	713.50	0.00	0.00	0.00
6.00	0.00	0	713.50	0.00	0.00	0.00
8.00	0.06	113	713.55	0.00	0.00	0.00
10.00	**0.33**	1,269	713.89	0.02	0.02	0.00
12.00	**28.13**	**28,055**	**716.61**	**0.51**	**0.51**	0.00
14.00	1.00	**40,686**	**717.54**	**1.10**	**1.10**	0.00
16.00	0.62	40,169	717.50	0.70	0.70	0.00
18.00	0.48	39,196	717.43	0.68	0.68	0.00
20.00	0.35	37,421	717.31	0.65	0.65	0.00
22.00	0.32	35,249	717.15	0.62	0.62	0.00
24.00	0.30	33,114	716.99	0.59	0.59	0.00
26.00	0.00	29,154	716.70	0.53	0.53	0.00
28.00	0.00	25,593	716.42	0.46	0.46	0.00
30.00	0.00	22,532	716.17	0.39	0.39	0.00
32.00	0.00	19,995	715.96	0.31	0.31	0.00
34.00	0.00	18,024	715.79	0.23	0.23	0.00
36.00	0.00	16,677	715.68	0.15	0.15	0.00
38.00	0.00	15,790	715.60	0.10	0.10	0.00
40.00	0.00	15,128	715.54	0.08	0.08	0.00
42.00	0.00	14,560	715.49	0.08	0.08	0.00
44.00	0.00	14,011	715.44	0.08	0.08	0.00
46.00	0.00	13,470	715.39	0.07	0.07	0.00
48.00	0.00	12,937	715.34	0.07	0.07	0.00
50.00	0.00	12,411	715.29	0.07	0.07	0.00
52.00	0.00	11,893	715.25	0.07	0.07	0.00
54.00	0.00	11,383	715.20	0.07	0.07	0.00
56.00	0.00	10,880	715.15	0.07	0.07	0.00
58.00	0.00	10,384	715.11	0.07	0.07	0.00
60.00	0.00	9,896	715.06	0.07	0.07	0.00
62.00	0.00	9,415	715.01	0.07	0.07	0.00
64.00	0.00	8,942	714.97	0.07	0.07	0.00
66.00	0.00	8,475	714.92	0.06	0.06	0.00
68.00	0.00	8,016	714.87	0.06	0.06	0.00
70.00	0.00	7,565	714.83	0.06	0.06	0.00
72.00	0.00	7,121	714.78	0.06	0.06	0.00

Stage-Discharge for Pond 2P: SCM #2

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
713.50	0.00	0.00	0.00
713.60	0.01	0.01	0.00
713.70	0.01	0.01	0.00
713.80	0.02	0.02	0.00
713.90	0.02	0.02	0.00
714.00	0.03	0.03	0.00
714.10	0.03	0.03	0.00
714.20	0.04	0.04	0.00
714.30	0.04	0.04	0.00
714.40	0.05	0.05	0.00
714.50	0.06	0.06	0.00
714.60	0.06	0.06	0.00
714.70	0.06	0.06	0.00
714.80	0.06	0.06	0.00
714.90	0.06	0.06	0.00
715.00	0.07	0.07	0.00
715.10	0.07	0.07	0.00
715.20	0.07	0.07	0.00
715.30	0.07	0.07	0.00
715.40	0.07	0.07	0.00
715.50	0.08	0.08	0.00
715.60	0.10	0.10	0.00
715.70	0.16	0.16	0.00
715.80	0.24	0.24	0.00
715.90	0.29	0.29	0.00
716.00	0.33	0.33	0.00
716.10	0.37	0.37	0.00
716.20	0.40	0.40	0.00
716.30	0.43	0.43	0.00
716.40	0.46	0.46	0.00
716.50	0.48	0.48	0.00
716.60	0.51	0.51	0.00
716.70	0.53	0.53	0.00
716.80	0.55	0.55	0.00
716.90	0.57	0.57	0.00
717.00	0.59	0.59	0.00
717.10	0.61	0.61	0.00
717.20	0.63	0.63	0.00
717.30	0.65	0.65	0.00
717.40	0.67	0.67	0.00
717.50	0.69	0.69	0.00
717.60	2.36	2.36	0.00
717.70	5.40	5.40	0.00
717.80	9.34	9.34	0.00
717.90	13.99	13.99	0.00
718.00	19.27	19.27	0.00
718.10	25.10	25.10	0.00
718.20	31.45	31.45	0.00
718.30	36.43	36.43	0.00
718.40	36.74	36.74	0.00
718.50	37.05	37.05	0.00
718.60	38.93	37.36	1.57
718.70	42.12	37.67	4.45
718.80	46.27	37.97	8.30
718.90	51.22	38.27	12.95
719.00	57.16	38.57	18.60
719.10	63.96	38.86	25.10
719.20	70.72	39.15	31.57
719.30	77.94	39.45	38.50
719.40	85.58	39.73	45.85
719.50	93.62	40.02	53.60
719.60	102.26	40.31	61.95
719.70	111.31	40.59	70.72
719.80	120.32	40.87	79.45
719.90	129.61	41.15	88.46
720.00	**138.98**	**41.43**	**97.55**

Stage-Area-Storage for Pond 2P: SCM #2

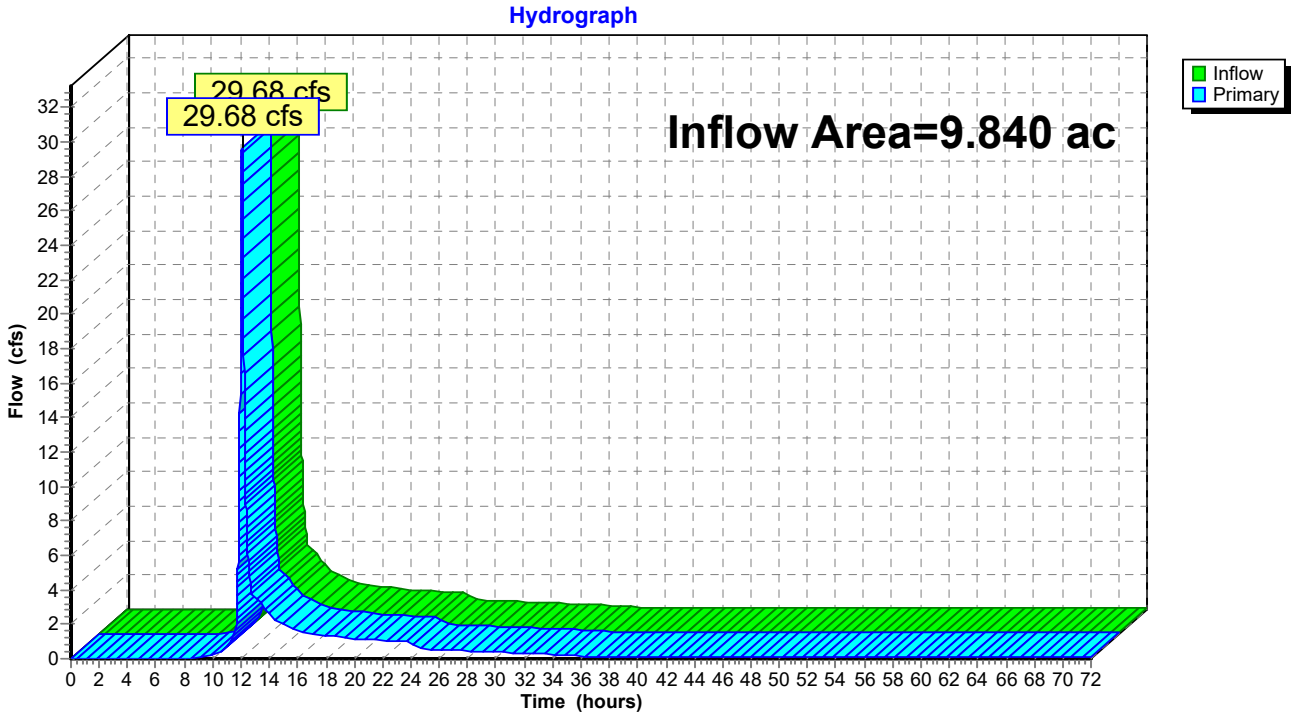
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
713.50	2,258	0
713.60	2,740	250
713.70	3,223	548
713.80	3,705	894
713.90	4,188	1,289
714.00	4,670	1,732
714.10	5,246	2,228
714.20	5,821	2,781
714.30	6,396	3,392
714.40	6,972	4,060
714.50	7,548	4,786
714.60	8,123	5,570
714.70	8,699	6,411
714.80	9,274	7,310
714.90	9,849	8,266
715.00	10,425	9,280
715.10	10,577	10,330
715.20	10,729	11,395
715.30	10,881	12,475
715.40	11,033	13,571
715.50	11,185	14,682
715.60	11,337	15,808
715.70	11,489	16,949
715.80	11,641	18,106
715.90	11,793	19,278
716.00	11,945	20,465
716.10	12,102	21,667
716.20	12,259	22,885
716.30	12,416	24,119
716.40	12,573	25,368
716.50	12,730	26,633
716.60	12,887	27,914
716.70	13,044	29,211
716.80	13,201	30,523
716.90	13,358	31,851
717.00	13,515	33,195
717.10	13,678	34,554
717.20	13,841	35,930
717.30	14,004	37,322
717.40	14,167	38,731
717.50	14,330	40,156
717.60	14,493	41,597
717.70	14,656	43,054
717.80	14,819	44,528
717.90	14,982	46,018
718.00	15,145	47,525
718.10	15,314	49,047
718.20	15,482	50,587
718.30	15,650	52,144
718.40	15,819	53,717
718.50	15,988	55,308
718.60	16,156	56,915
718.70	16,325	58,539
718.80	16,493	60,180
718.90	16,661	61,837
719.00	16,830	63,512
719.10	17,004	65,204
719.20	17,178	66,913
719.30	17,352	68,639
719.40	17,526	70,383
719.50	17,700	72,145
719.60	17,874	73,923
719.70	18,048	75,719
719.80	18,222	77,533
719.90	18,396	79,364
720.00	**18,570**	**81,212**

Summary for Link 2L: Total Post-Development to POI #2

Inflow Area = 9.840 ac, 15.75% Impervious, Inflow Depth > 3.92" for 100-yr event
Inflow = 29.68 cfs @ 12.08 hrs, Volume= 3.213 af
Primary = 29.68 cfs @ 12.08 hrs, Volume= 3.213 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: Total Post-Development to POI #2



Hydrograph for Link 2L: Total Post-Development to POI #2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00
1.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00
6.00	0.00	0.00	0.00
7.00	0.00	0.00	0.00
8.00	0.00	0.00	0.00
9.00	0.04	0.00	0.04
10.00	0.20	0.00	0.20
11.00	0.67	0.00	0.67
12.00	**24.31**	0.00	**24.31**
13.00	**3.46**	0.00	**3.46**
14.00	2.55	0.00	2.55
15.00	1.99	0.00	1.99
16.00	1.58	0.00	1.58
17.00	1.45	0.00	1.45
18.00	1.35	0.00	1.35
19.00	1.26	0.00	1.26
20.00	1.15	0.00	1.15
21.00	1.11	0.00	1.11
22.00	1.07	0.00	1.07
23.00	1.04	0.00	1.04
24.00	1.01	0.00	1.01
25.00	0.56	0.00	0.56
26.00	0.53	0.00	0.53
27.00	0.49	0.00	0.49
28.00	0.46	0.00	0.46
29.00	0.43	0.00	0.43
30.00	0.39	0.00	0.39
31.00	0.35	0.00	0.35
32.00	0.31	0.00	0.31
33.00	0.27	0.00	0.27
34.00	0.23	0.00	0.23
35.00	0.19	0.00	0.19
36.00	0.15	0.00	0.15
37.00	0.12	0.00	0.12
38.00	0.10	0.00	0.10
39.00	0.09	0.00	0.09
40.00	0.08	0.00	0.08
41.00	0.08	0.00	0.08
42.00	0.08	0.00	0.08
43.00	0.08	0.00	0.08
44.00	0.08	0.00	0.08
45.00	0.08	0.00	0.08
46.00	0.07	0.00	0.07
47.00	0.07	0.00	0.07
48.00	0.07	0.00	0.07
49.00	0.07	0.00	0.07
50.00	0.07	0.00	0.07
51.00	0.07	0.00	0.07
52.00	0.07	0.00	0.07
53.00	0.07	0.00	0.07
54.00	0.07	0.00	0.07
55.00	0.07	0.00	0.07
56.00	0.07	0.00	0.07
57.00	0.07	0.00	0.07
58.00	0.07	0.00	0.07
59.00	0.07	0.00	0.07
60.00	0.07	0.00	0.07
61.00	0.07	0.00	0.07
62.00	0.07	0.00	0.07
63.00	0.07	0.00	0.07
64.00	0.07	0.00	0.07
65.00	0.06	0.00	0.06
66.00	0.06	0.00	0.06
67.00	0.06	0.00	0.06
68.00	0.06	0.00	0.06
69.00	0.06	0.00	0.06
70.00	0.06	0.00	0.06
71.00	0.06	0.00	0.06
72.00	0.06	0.00	0.06

APPENDIX E

LEGEND

CB – CATCH BASIN
DCB – DOUBLE CATCH BASIN
DI – DROP INLET
DDI – DOUBLE DROP INLET
MH – MANHOLE
FES – FLARED END SECTION
INV – INVERT
TC– TOP OF CURB
L-HW – L SHAPED HEADWALL
SDE – STORM DRAINAGE EASEMENT
(XXX.X AC.) DRAINAGE BASIN TO EACH STRUCTURE
SPE – 100 YR. + 1 STORM WATER PROTECTION ELEVATION
S.W.E.L. – 100 YR STORM WATER ELEVATION LINE

NOTE:

HEADWALLS 6 AND 7 ARE TO BE DESIGNED BY A PROFESSIONAL ENGINEER. DESIGN IS TO BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION.

THIS PLAN IS A ***FINAL DESIGN–NOT RELEASED FOR CONSTRUCTION***
UNLESS INITIALLED/DATED AS APPROVED:
APPROVED: ______ / ______
INITIALS DATE

NO.	DATE	REVISION	BY
1	06/20/06	PER TOWN OF WEDDINGTON REDLINES	RAS

SHEET TITLE
DRAINAGE PLAN #1

PROJECT
BROMLEY
TOWN OF WEDDINGTON, UNION COUNTY, NC
FOR: PACE/DOWD PROPERTIES LTD.

YARBROUGH-WILLIAMS & HOULE, INC.
Planning ∘ Surveying ∘ Engineering
730 Windsor Oak Court (28273) P.O. Box 7007 (28241)
Charlotte, North Carolina
704.556.1990 704.556.0505(fax)

PROJECT NO.
SCALE 1"=100'
DATE 05/26/06
DRAWN BY RAS
CHECKED BY MAH
DRAWING NO. 184-56
SHT 5 OF 33 SHTS

MARC ANTHONY HOULE
6/21/06

P:\PACE\COXROAD-DELANEY-BARD-062105\CONSTRUCTION\DRAINAGE.dwg, 6/21/2006 12:14:23 PM, DavidC

NOW OR FORMERLY
JAMES SCOTT MUNDORF &
NANCY BUSH
TAX #06147015
DEED:375-766

NOW OR FORMERLY
RICKY LEE HELMS
TAX #06129038
DEED:1379-493

NOW OR FORMERLY
HERMAN LEO HEMBY HEIRS
% OLHE H. MANUS
TAX #06129003
DEED:186-562

NOW OR FORMERLY
LUDY PAYE H. HATFIELD
TAX #06123012
DEED:3631-529

NOW OR FORMERLY
FRANCES M. DOW
TAX #06142005
DEED:483-727

SEE DRAINAGE PLAN #1
SHEET 5 OF 33

SEE DRAINAGE PLAN #3
SHEET 7 OF 33

SEE DRAINAGE PLAN #3
SHEET 7 OF 33

APPROXIMATE LOCATION DUKE POWER CO R/W

FERNHURST TERRACE

BROMLEY DRIVE

PONDMEADE LANE

ROSCOMMON DRIVE

DELANEY DRIVE

REACH #1

POND

CB 34 2.38 AC.
TC. 668.10
INV IN 663.50
INV OUT 663.30

CB 33 1.80 AC.
TC. 672.99
INV IN 667.80
INV OUT 667.60

CB 32 0.99 AC.
TC. 679.10
INV 674.80

CB 27 0.82 AC.
TC. 678.30
INV 674.00

CB 35 2.93 AC.
TC. 665.4
INV IN 660.00
INV OUT 659.80

DCB 38 3.67 AC.
TC. 659.60
INV IN 653.79
INV OUT 653.59

HW 39
INV(78") 646.63
INV IN(15") 652.48
INV IN(18") 652.23
V=13.3
65'L=32.5'W APRON
23" DIA. RIP RAP
30" MIN. DEPTH
DISCHARGE
@ GRADE

CB 37 3.36 AC.
TC. 659.60
INV IN(15") 654.56
INV OUT(18") 654.31

L-HW 36 247.77 AC.
TOP OF HW = 659.00
INV 647.25
RIP RAP FOR
INLET PROTECTION

CB 43 2.61 AC.
TC. 663.60
INV IN 657.22
INV OUT 657.02

CB 42 2.29 AC.
TC. 662.50
INV IN 657.86
INV OUT 657.66

CB 41 1.44 AC.
TC. 663.20
INV IN 658.60
INV OUT 658.40

CB 40 0.86 AC.
TC. 672.70
INV 666.80

DCB 28 141.75 AC.
TC. 678.00
INV IN(15") 673.00
INV IN(78") 659.96
INV OUT 659.66

CB 29 142.08 AC.
TC. 678.00
INV IN 659.73
INV OUT 659.53

DI 30 143.47 AC.
UP 668.00
INV IN 658.82
INV OUT 658.72
GRATE TYPE
SEE SHEET 16 OF 33
FOR DETAIL

FES 31
INV 658.68
V= 13.3
65'L=32.5'W APRON
23" DIA. RIP RAP
30" MIN. DEPTH
DISCHARGE
@ GRADE

HW 17
INV 665.00
V= 12.6
65'L=28.5'W APRON
23" DIA. RIP RAP
30" MIN. DEPTH
DISCHARGE
@ GRADE

CB 15 49.58 AC.
TC. 678.00
INV IN 667.35
INV OUT 667.15

CB 16 49.87 AC.
TC. 681.00
INV IN 666.36
INV OUT 666.16

CB 25 139.95 AC.
TC. 676.90
INV IN 661.16
INV OUT 661.06

CB 26 139.31 AC.
TC. 675.60
INV IN(15") 667.16
INV IN(78") 661.91
INV OUT 661.81

CB 11 137.50 AC.
TC. 674.60
INV IN(24") 666.55
INV IN(78") 662.70
INV OUT(24") 662.50

HW 10 131.64 AC.
TOP OF HW = 672.6
INV(78") 663.60
RIP RAP FOR
INLET PROTECTION

ARMOR ROAD
FILL WITH
RIP RAP

CB 24 0.34 AC.
TC. 674.90
INV 670.60

CB 12 5.02 AC.
TC. 674.60
INV IN 666.81
INV OUT 666.61

CB 13A 1.22 AC.
TC. 673.30
INV IN 668.74
INV OUT 668.54

CB 13 0.50 AC.
TC. 673.30
INV 669.00

CB 14 49.40 AC.
TC. 678.00
INV IN 668.07
INV OUT 667.87

HW 18 48.65 AC.
TOP OF HW = 676.50
INV 668.00
RIP RAP FOR
INLET PROTECTION

DCB 21 4.48 AC.
TC. 674.60
INV IN(15") 669.88
INV IN(18") 669.63
INV OUT(24") 669.13

DI 19 1.55 AC.
UP 684.00
INV 680.00
GRATE TYPE
SEE SHEET
16 OF 33
FOR DETAIL

CB 20 2.94 AC.
TC. 681.40
INV IN(15") 675.40
INV OUT(18") 675.15

CB 22 0.65 AC.
TC. 691.50
INV 686.80

CB 23 1.05 AC.
TC. 691.50
INV IN 686.28
INV OUT 686.08

SPE 663.90
SPE 661.60
SPE 662.3
SPE 664.3
SPE 665.0
SPE 676.60
SPE 680.00
SPE 683.20

50' S.D.E.
30' S.D.E.
15' S.D.E.
C. DITCH

LEGEND

CB – CATCH BASIN
DCB – DOUBLE CATCH BASIN
DI – DROP INLET
DDI – DOUBLE DROP INLET
MH – MANHOLE
FES – FLARED END SECTION
INV – INVERT
TC– TOP OF CURB
L–HW – L SHAPED HEADWALL
SDE – STORM DRAINAGE EASEMENT
(XXX.X AC.) DRAINAGE BASIN TO EACH STRUCTURE
SPE – 100 YR. + 1 STORM WATER PROTECTION ELEVATION
S.W.E.L. – 100 YR STORM WATER ELEVATION LINE

NOTE:

HEADWALLS 36 AND 39 ARE TO BE DESIGNED BY A PROFESSIONAL ENGINEER. DESIGN IS TO BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION.

THIS PLAN IS A FINAL DESIGN–NOT RELEASED FOR CONSTRUCTION
UNLESS INITIALLED/DATED AS APPROVED:
APPROVED: _____ / _____
INITIALS DATE

NO.	DATE	REVISION	BY
1	08/30/06	PER TOWN OF WEDDINGTON REDLINES	RAS

SHEET TITLE
DRAINAGE PLAN #2

PROJECT
BROMLEY
TOWN OF WEDDINGTON, UNION COUNTY, NC
FOR: PACE/DOWD PROPERTIES LTD.

PROJECT NO.
SCALE 1"=100'
DATE 05/26/06
DRAWN BY RAS
CHECKED BY MAH
DRAWING NO. 184–55
SHT 6 OF 33 SHTS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17306 ANTHONY HALE
6/21/06

YARBROUGH-WILLIAMS & HOULE, INC.
Planning ○ Surveying ○ Engineering
730 Windsor Oak Court (28273) P.O. Box 7007 (28241)
Charlotte, North Carolina
704.556.1990 704.556.0505(fax)

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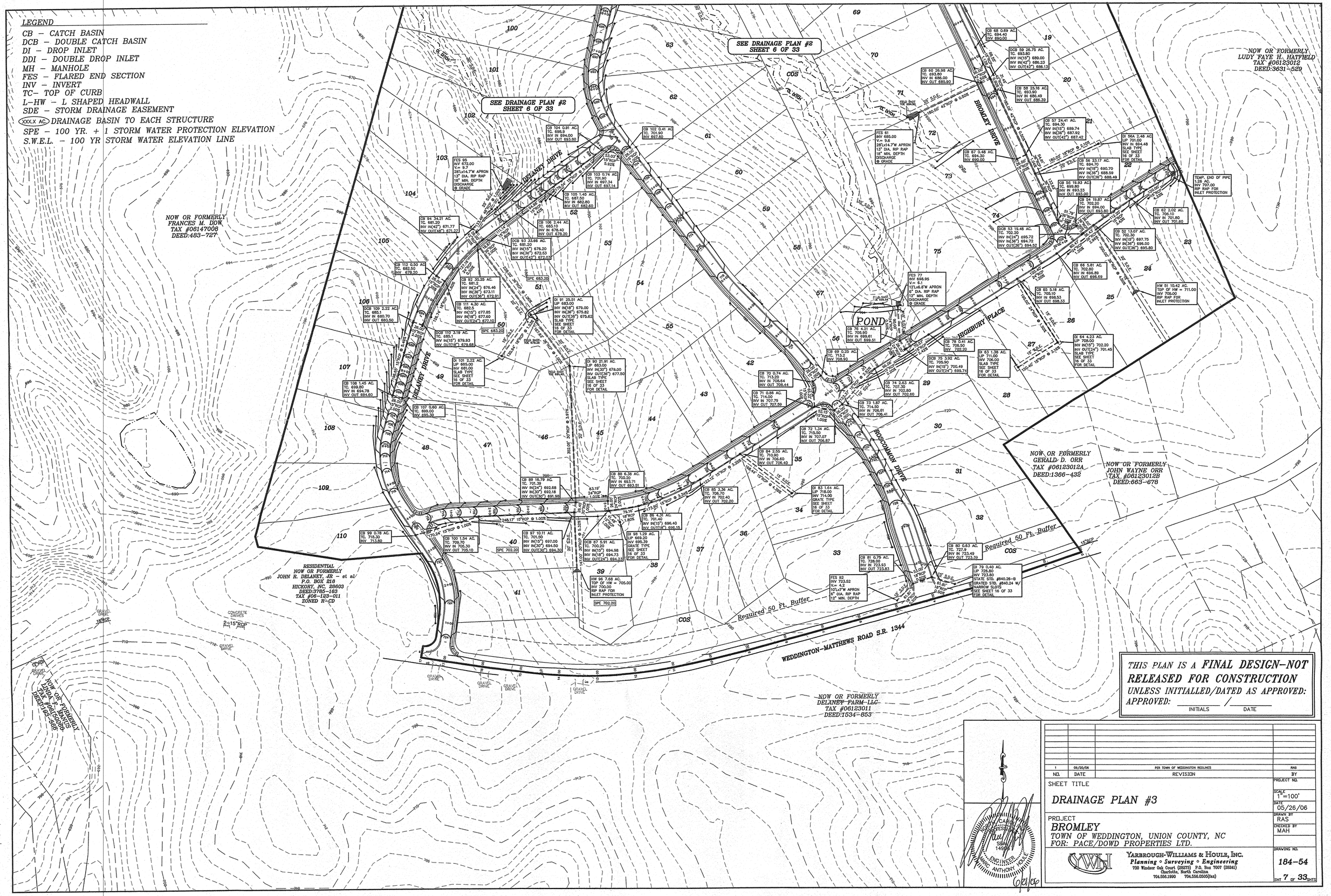
LEGEND

CB – CATCH BASIN
DCB – DOUBLE CATCH BASIN
DI – DROP INLET
DDI – DOUBLE DROP INLET
MH – MANHOLE
FES – FLARED END SECTION
INV – INVERT
TC– TOP OF CURB
L–HW – L SHAPED HEADWALL
SDE – STORM DRAINAGE EASEMENT
(XXX.X AC.) DRAINAGE BASIN TO EACH STRUCTURE
SPE – 100 YR. + 1 STORM WATER PROTECTION ELEVATION
S.W.E.L. – 100 YR STORM WATER ELEVATION LINE



*THIS PLAN IS A **FINAL DESIGN–NOT RELEASED FOR CONSTRUCTION** UNLESS INITIALLED/DATED AS APPROVED:*
APPROVED: _____ / _____
INITIALS DATE

NO.	DATE	REVISION	BY
1	06/20/06	PER TOWN OF WEDDINGTON REDLINES	RAS

SHEET TITLE
DRAINAGE PLAN #3

PROJECT
BROMLEY
TOWN OF WEDDINGTON, UNION COUNTY, NC
FOR: PACE/DOWD PROPERTIES LTD.

PROJECT NO.
SCALE 1"=100'
DATE 05/26/06
DRAWN BY RAS
CHECKED BY MAH
DRAWING NO. 184–54
SHT 7 OF 33 SHTS

YARBROUGH–WILLIAMS & HOULE, INC.
Planning ○ Surveying ○ Engineering
730 Windsor Oak Court (28270) P.O. Box 7007 (28241)
Charlotte, North Carolina
704.556.1990 704.556.0505(fax)

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LEGEND

CB – CATCH BASIN
DCB – DOUBLE CATCH BASIN
DI – DROP INLET
DDI – DOUBLE DROP INLET
MH – MANHOLE
FES – FLARED END SECTION
INV – INVERT
TC– TOP OF CURB
L–HW – L SHAPED HEADWALL
SDE – STORM DRAINAGE EASEMENT
(XXX.X AC) DRAINAGE BASIN TO EACH STRUCTURE

NOW OR FORMERLY
MARY LEE BARD
FAMILY LIMITED PARTNERSHIP
TAX #06147004A
DEED:NONE SHOWN

NOW OR FORMERLY
MARY LEE BARD
FAMILY LIMITED PARTNERSHIP
TAX #06147004B
DEED:653–251
"CHURCH PROPERTY"

NOW OR FORMERLY
CHARLES ARCHIE WALTON &
LAURIE M. WALTON
TAX #06147014
DEED:381–606

NOW OR FORMERLY
JAMES SCOTT MUNDORF &
NANCY BUSH
TAX #06147015
DEED:375–766

NOW OR FORMERLY
WEDDINGTON ON
PROVIDENCE DEVELOPERS, LLC
TAX #06147001
DEED:1429–596

PROPOSED PROVIDENCE FOREST ESTATES
PARKER–ORLEANS HOMEBUILDERS

PINEWOOD COURT
WOODVILLE LANE
VEMBY ROAD S.R.#1346
BROMLEY DRIVE
PERIWINKLE TERRACE
15' PRIVATE COMMON DRIVE
PROPOSED NCDOT RIGHT–OF–WAY
APPROXIMATE LOCATION DUKE POWER CO. R/W
Required 50 ft. Buffer
EXISTING LAKE
COS
Common Open Space - 1.45 Ac.
SEE DRAINAGE AREA PLAN #2 SHEET 9 OF 33

NOW OR FORMERLY
DELANEY FARM LLC
TAX #06147010
DEED:1534–853

NOW OR FORMERLY
DONALD M. PATTERSON
TAX #06147009
DEED:665–660

NOW OR FORMERLY
FRANCES M. DOW
TAX #06147008
DEED:483–727

THIS PLAN IS A **FINAL DESIGN–NOT RELEASED FOR CONSTRUCTION**
UNLESS INITIALLED/DATED AS APPROVED:
APPROVED: _____ / _____
INITIALS DATE

NO.	DATE	REVISION	BY
1	06/20/06	PER TOWN OF WEDDINGTON REDLINES	RAS

SHEET TITLE
DRAINAGE AREA PLAN #1

PROJECT
BROMLEY
TOWN OF WEDDINGTON, UNION COUNTY, NC
FOR: PACE/DOWD PROPERTIES LTD.

PROJECT NO.
SCALE 1"=100'
DATE 05/26/06
DRAWN BY RAS
CHECKED BY MAH
DRAWING NO. 184–53
SHT 8 OF 33 SHTS

YARBROUGH-WILLIAMS & HOULE, INC.
Planning ○ Surveying ○ Engineering
700 Windsor Oak Court Charlotte NC 28270
704.556.1990 704.556.0505(fax)

SEAL 019706 ENGINEER MARC ANTHONY DOYLE NORTH CAROLINA
6/21/06

P:\PACE\COXROAD-DELANEY-BARD-062105\CONSTRUCTION\DRAINAGEAREA.dwg, 6/20/2006 16:17:46, TonyS

NOW OR FORMERLY
JAMES SCOTT MUNDORF &
NANCY BUSH
TAX #06147015
DEED:375-766

NOW OR FORMERLY
RICKY LEE HELMS
TAX #06120038
DEED:1379-493

NOW OR FORMERLY
HERMAN-LEO HEMBY HEIRS
% OLLIE H. MANUS
TAX #06120003
DEED:186-562

NOW OR FORMERLY
FRANCES M. DOW
TAX #06147008
DEED:483-727

NOW OR FORMERLY
LUDY FAYE H. HATFIELD
TAX #06123012
DEED:3631-529

APPROXIMATE LOCATION DUKE POWER CO R/W

COS

SEE DRAINAGE AREA PLAN #1
SHEET 8 OF 33

SEE DRAINAGE AREA PLAN #3
SHEET 10 OF 33

SEE DRAINAGE AREA PLAN #3
SHEET 10 OF 33

FERNHURST TERRACE

BROMLEY DRIVE

DELANEY DRIVE

ROSCOMMON DRIVE

BROMLEY DRIVE

HIGHLAND PEACE

POND

LEGEND

CB – CATCH BASIN
DCB – DOUBLE CATCH BASIN
DI – DROP INLET
DDI – DOUBLE DROP INLET
MH – MANHOLE
FES – FLARED END SECTION
INV – INVERT
TC– TOP OF CURB
L–HW – L SHAPED HEADWALL
SDE – STORM DRAINAGE EASEMENT
(XXX.X AC.) DRAINAGE BASIN TO EACH STRUCTURE
FPE – FLOOD PROTECTION ELEVATION

THIS PLAN IS A **FINAL DESIGN–NOT RELEASED FOR CONSTRUCTION**
UNLESS INITIALLED/DATED AS APPROVED:
APPROVED: _____ / _____
INITIALS DATE

NO.	DATE	REVISION	BY
1	06/20/06	PER TOWN OF WEDDINGTON REDLINES	RAS

SHEET TITLE
DRAINAGE AREA PLAN #2

PROJECT
BROMLEY
TOWN OF WEDDINGTON, UNION COUNTY, NC
FOR: PACE/DOWD PROPERTIES LTD.

PROJECT NO.
SCALE 1"=100'
DATE 05/26/06
DRAWN BY RAS
CHECKED BY MAH
DRAWING NO. 184–52
SHT 9 OF 33 SHTS

YARBROUGH-WILLIAMS & HOULE, INC.
Planning ◦ Surveying ◦ Engineering
730 Windsor Oak Court Charlotte NC 28273
704.556.1990 704.556.0505(fax)

NORTH CAROLINA
SEAL
17906
ENGINEER
MARK ANTHONY HOULE
6/21/06

P:\PACE\COXROAD-DELANEY-BARD-062105\CONSTRUCTION\DRAINAGEAREA.dwg, 6/20/2006 16:17:40, TonyS

THIS PLAN IS A **FINAL DESIGN-NOT RELEASED FOR CONSTRUCTION**
UNLESS INITIALLED/DATED AS APPROVED:
APPROVED: ______ / ______
INITIALS DATE

LEGEND

CB - CATCH BASIN
DCB - DOUBLE CATCH BASIN
DI - DROP INLET
DDI - DOUBLE DROP INLET
MH - MANHOLE
FES - FLARED END SECTION
INV - INVERT
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SDE - STORM DRAINAGE EASEMENT
(XXX.X AC.) DRAINAGE BASIN TO EACH STRUCTURE
FPE - FLOOD PROTECTION ELEVATION

NO.	DATE	REVISION	BY
1	06/20/06	PER TOWN OF WEDDINGTON REDLINES	RAS

SHEET TITLE
DRAINAGE AREA PLAN #3

PROJECT
BROMLEY
TOWN OF WEDDINGTON, UNION COUNTY, NC
FOR: PACE/DOWD PROPERTIES LTD.

YARBROUGH-WILLIAMS & HOULE, INC.
Planning ◦ Surveying ◦ Engineering
730 Windsor Oak Court Charlotte NC 28273
704.556.1990 704.556.0505(fax)

PROJECT NO.
SCALE 1"=100'
DATE 05/26/06
DRAWN BY RAS
CHECKED BY MAH
DRAWING NO. 184-51
SHT 10 OF 33 SHTS

P:\PACE\COXROAD-DELANEY-BARD-062105\CONSTRUCTION\DRAINAGEAREA.dwg, 6/20/2006 16:17:28, TonyS

P:\PACE\COXROAD-DELANEY-BARD-062105\CONSTRUCTION\OFFSITEDRAIN.dwg, 5/26/2006 11:41:04 AM, AlanC

THIS PLAN IS A ***FINAL DESIGN–NOT RELEASED FOR CONSTRUCTION***
UNLESS INITIALED/DATED AS APPROVED:
APPROVED: ________ / ________
INITIALS DATE

NO.	DATE	REVISION	BY

SHEET TITLE

OFF–SITE DRAINAGE PLAN

PROJECT

BROMLEY
TOWN OF WEDDINGTON, UNION COUNTY, NC
FOR: PACE/DOWD PROPERTIES LTD.

YARBROUGH-WILLIAMS & HOULE, INC.
Planning ○ Surveying ○ Engineering
730 Windsor Oak Court Charlotte NC 28273
704.556.1990 704.556.0505(fax)

PROJECT NO.
SCALE 1"=300'
DATE 05/26/06
DRAWN BY RAS
CHECKED BY MAH
DRAWING NO. 184–50
SHT 11 OF 33 SHTS

SEAL 14906
MARC ANTHONY HOULE
5/26/06

MATCHLINE
SEE SHEET C10.2 FOR CONTINUATION

KEY MAP
N.T.S

PLANT SCHEDULE BUFFER

	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CALIPER	HEIGHT	
	14	CRYPTOMERIA JAPONICA 'YOSHINO'	YOSHINO JAPANESE CEDAR	B & B		6' HT. MIN.	
	25	MAGNOLIA GRANDIFLORA 'D.D. BLANCHARD'	D.D BLANCHARD SOUTHERN MAGNOLIA	B & B		8' HT. MIN.	
CANOPY TREE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CALIPER	HEIGHT	
	17	ACER SACCHARUM 'LEGACY'	LEGACY SUGAR MAPLE	B & B	3.5" CAL.	8' HT. MIN.	
UNDERSTORY TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CALIPER	HEIGHT	
	21	ILEX X 'NELLIE R. STEVENS'	NELLIE R. STEVENS HOLLY	B & B		6' HT. MIN.	
	22	LAGERSTROEMIA INDICA 'CAROLINA BEAUTY'	CAROLINA BEAUTY CRAPE MYRTLE	B & B	3" CAL.	8' HT. MIN.	
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPREAD	SPACING
	38	FORSYTHIA X INTERMEDIA 'LYNWOOD GOLD'	LYNWOOD GOLD FORSYTHIA	5 GAL.	24" HT. MIN.		AS SHOWN
	60	LIGUSTRUM SINENSE 'SUNSHINE'	SUNSHINE CHINESE PRIVET	5 GAL.	24" HT. MIN.		AS SHOWN
	32	LOROPETALUM CHINENSE RUBRUM 'DARK FIRE'	DARK FIRE FRINGE FLOWER	5 GAL.	24" HT. MIN.		AS SHOWN
ORNAMENTAL GRASSES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPREAD	SPACING
	28	MUHLENBERGIA CAPILLARIS 'WHITE CLOUD'	WHITE CLOUD MUHLY GRASS	1 GAL.	24" HT. MIN.		AS SHOWN

Cryptomeria japonica 'Yoshino'

Magnolia grandiflora 'D.D. Blanchard'

Acer saccharum 'Legacy'

Ilex x 'Nellie R. Stevens'

Lagerstroemia indica 'Carolina Beauty'

Forsythia x intermedia 'Lynwood Gold'

Ligustrum sinense 'Sunshine'

Loropetalum chinense rubrum 'Dark Fire'

Muhlenbergia capillaris 'White Cloud'

40' 20' 0 40' 80'
1"=40'

Know what's **below.** **Call** before you dig.

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

Toll Brothers
AMERICA'S LUXURY HOME BUILDER®

LUNA SUBDIVISION
WEDDINGTON, UNION COUNTY
NORTH CAROLINA

LANDSCAPE PLAN - ENLARGED

DATE:	AUGUST 2023
MCE PROJ. #	02741-0010
DRAWN	BBJ
DESIGNED	BBJ
CHECKED	TMM
PROJ. MGR.	TMM

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C10.1
DRAWING NUMBER

REVISION

STATUS: **PRELIMINARY DRAWING NOT FOR CONSTRUCTION**

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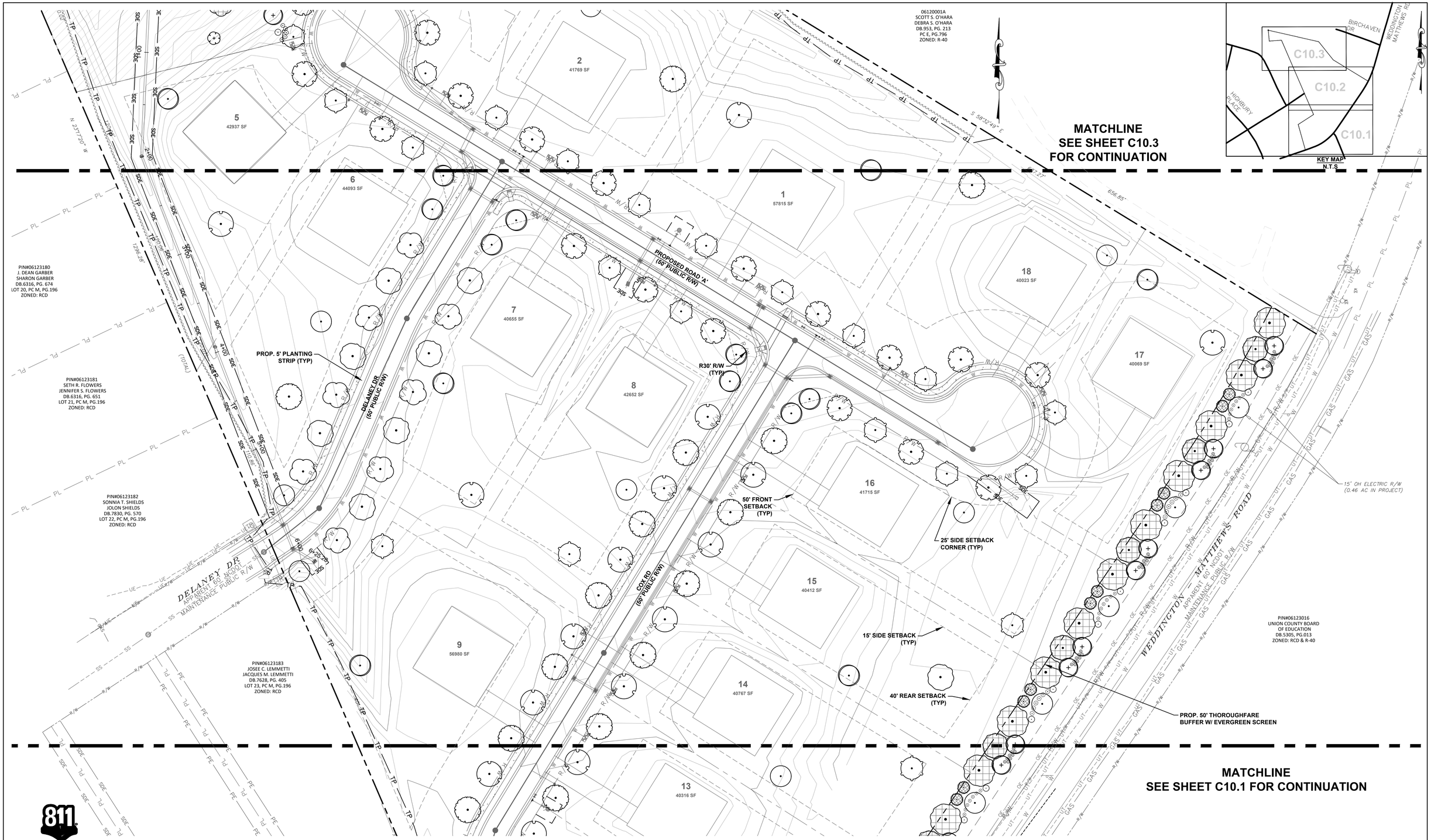

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

McKIM&CREED

8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567

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Toll Brothers
AMERICA'S LUXURY HOME BUILDER®

LUNA SUBDIVISION
WEDDINGTON, UNION COUNTY
NORTH CAROLINA

LANDSCAPE PLAN - ENLARGED

DATE:	AUGUST 2023
MCE PROJ. #	02741-0010
DRAWN	–
DESIGNED	DESIGNER
CHECKED	TMM
PROJ. MGR.	TMM

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C10.2
DRAWING NUMBER

REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

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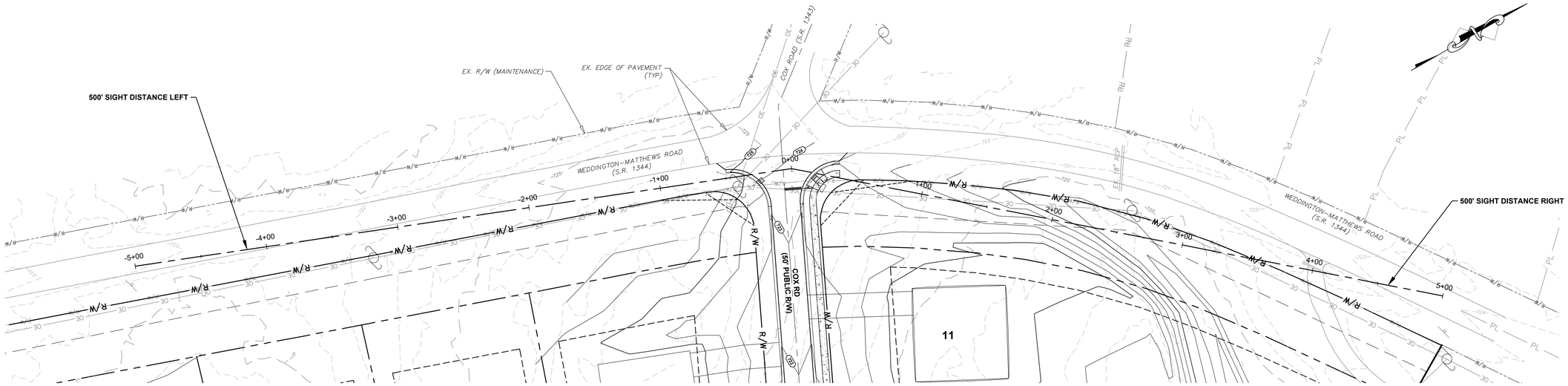

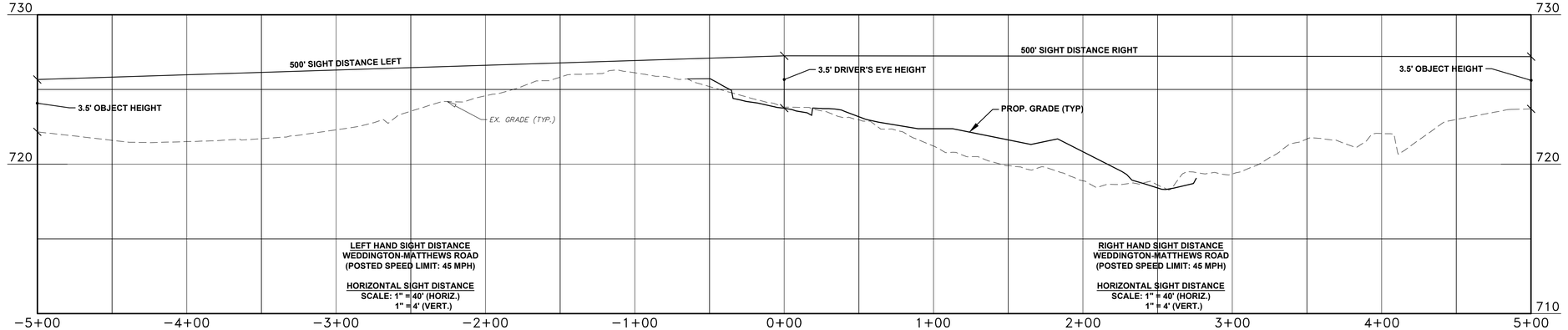

1"=40' (HORIZ.)
40' 0 40' 80'
4' 0 4' 8'
1"=4' (VERT.)

REV.NO.	DESCRIPTIONS	DATE

REVISIONS

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LUNA SUBDIVISION
WEDDINGTON, UNION COUNTY
NORTH CAROLINA

SIGHT DISTANCE PLAN AND PROFILE

DATE:	AUGUST 2023
MCE PROJ. #	02741-0010
DRAWN	JLM
DESIGNED	JLM
CHECKED	TMM
PROJ. MGR.	TMM

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'

C9.3
DRAWING NUMBER

REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

I:\02741\0010\ENG\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C9.3_SIGHT DISTANCE.DWG ---- 10/02/2023 16:42:22

TOWN OF WEDDINGTON STORMWATER DESIGN REQUIREMENTS

UDO SECTION 58-543(B)(1):

"...ALL MAJOR RESIDENTIAL DEVELOPMENT CREATING MORE THAN 20,000 SQUARE FEET OF NEW IMPERVIOUS AREA SHALL PROVIDE STORMWATER DETENTION TO CONTROL THE PEAK STORMWATER RUNOFF FROM THE 2, 10, 25, 50 AND 100 YEAR, 24-HOUR STORM EVENTS TO PRE-DEVELOPMENT RATES. STORMWATER VOLUME CONTROL SHALL ALSO BE PROVIDED FOR THE 1-YEAR, 24-HOUR STORM. DESIGN OF FACILITIES SHALL BE CONSISTENT WITH THE STORMWATER MANUAL EXCEPT AS STATED HEREIN.

DEFINITION OF STORM EVENTS

STORM CHANCE OF OCCURRENCE IN A GIVEN YEAR:

2-YR STORM:	1-IN-2 CHANCE, OR 50%
10-YR STORM:	1-IN-10 CHANCE, OR 10%
25-YR STORM:	1-IN-25 CHANCE, OR 4%
50-YR STORM:	1-IN-50 CHANCE, OR 2%
100-YR STORM:	1-IN-100 CHANCE, OR 1%

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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www.mckimcreed.com

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LUNA SUBDIVISION
MUNFORD LAKE
DRAINAGE BASIN ANALYSIS

DATE:	DECEMBER 2023
MCE PROJ. #	DKD
DRAWN	
DESIGNED	
CHECKED	DKD
PROJ. MGR.	

SCALE
HORIZONTAL: 1"=300'
VERTICAL:

DRAWING NUMBER
REVISION

STATUS: PRELIMINARY DRAWING NOT FOR CONSTRUCTION

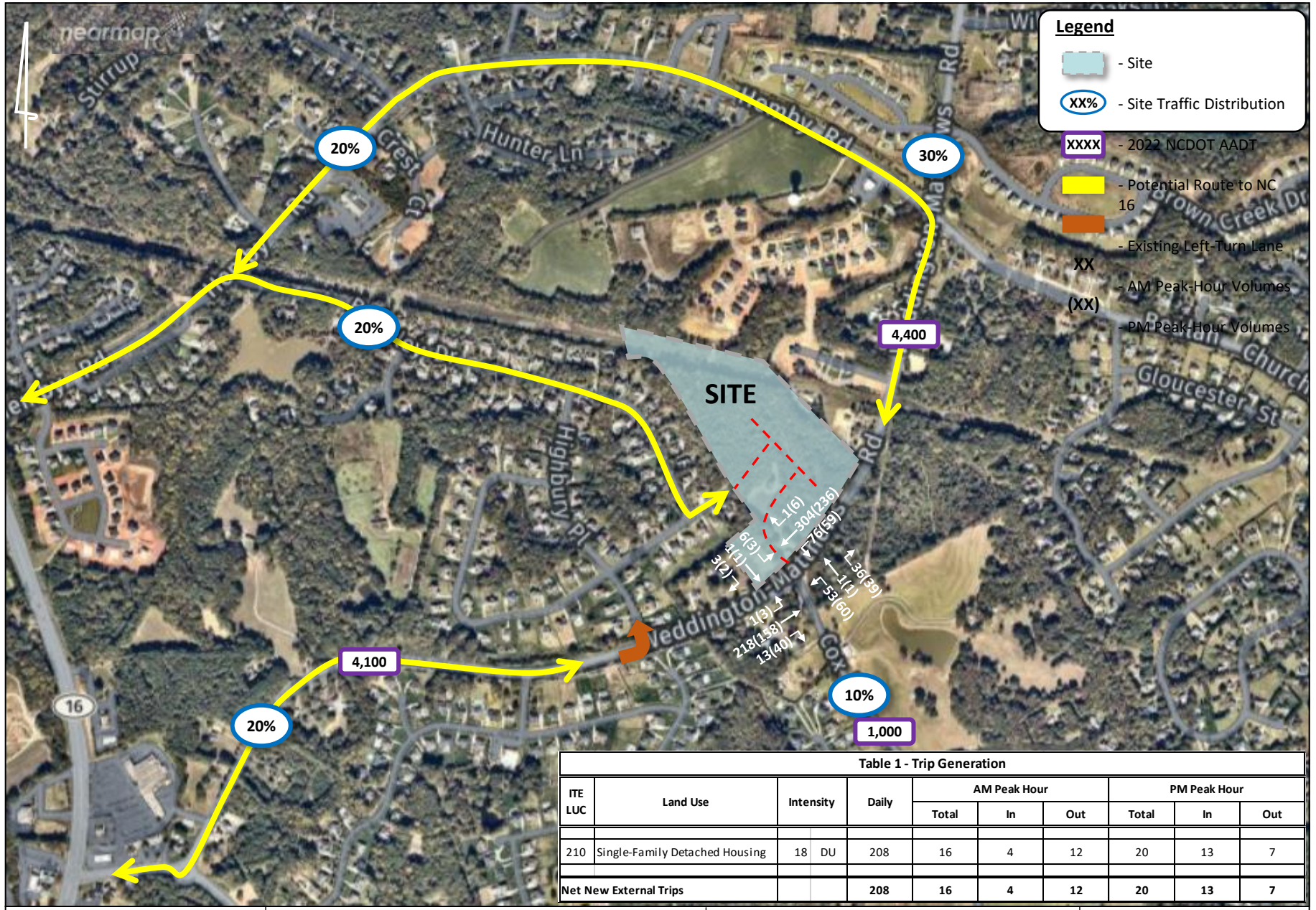

Table 1 - Trip Generation

ITE LUC	Land Use	Intensity		Daily	AM Peak Hour			PM Peak Hour		
					Total	In	Out	Total	In	Out
210	Single-Family Detached Housing	18	DU	208	16	4	12	20	13	7
Net New External Trips				**208**	**16**	**4**	**12**	**20**	**13**	**7**

Kimley»Horn	**Luna Subdivision**	**Preliminary Traffic Evaluation**	**Figure 1**

Table 1 - Trip Generation										
ITE LUC	Land Use	Intensity		Daily	AM Peak Hour			PM Peak Hour		
					Total	In	Out	Total	In	Out
210	Single-Family Detached Housing	18	DU	208	16	4	12	20	13	7
Net New External Trips				**208**	**16**	**4**	**12**	**20**	**13**	**7**