

AGENDA
PLAN COMMISSION MEETING
Thursday, May 23, 2019 at 7:00 p.m.
Jackson Village Hall
N168 W20733 Main Street
Jackson, WI 53037

1. Call to Order and Roll Call
2. Public Hearing regarding the proposed project plan, boundaries and creation of Tax Incremental District No. 7
3. Consideration of Resolution Designating Proposed Boundaries and Approving a Project Plan for Tax Incremental District No. 7, Village of Jackson, Wisconsin
4. Approval of Minutes for the Plan Commission Meeting of April 25, 2019
5. Planned Unit Development – Culver’s / Springfield Sign – Sign
6. Concept Plan – Morning Meadows – Single Family Subdivision
7. Planned Unit Development - Preliminary Plat – Dittmar Realty – Maplewood Farms – Single Family Subdivision
8. Planned Unit Development – Premier Rosewood Jackson LLC – Rosewood Lane Multi-Family Development
9. Certified Survey Map – Premier Rosewood Jackson LLC – Rosewood Lane Multi-Family Development
10. Citizens to Address the Plan Commission
11. Adjourn

Persons with disabilities requiring special accommodations for attendance at the meeting should contact the Village Hall at least one (1) business day prior to the meeting.

It is possible that members of the Village Board may attend the above meeting. No action will be taken by any governmental body at this meeting other than the governmental body specifically referred to in this meeting notice. This notice is given so that members of the Village Board may attend the meeting without violating the open meeting law.

DRAFT MINUTES
PLAN COMMISSION MEETING
Thursday, April 25, 2019 at 7:00 p.m.
Jackson Village Hall
N168W20733 Main Street
Jackson, WI 53037

1. Call to Order and Roll Call

Pres. Schwab called the meeting to order at 7:00 p.m.

Members present: Keith Berben, Tr. Emmrich, Dan Herro, Tr. Kruepke and Jon Weil.
Staff present: Brian Kober and Jilline Dobratz.

Pres. Schwab announced the next Plan Commission meeting will not be on the last Thursday of May, it will be on May 23, 2019 to allow the necessary time for a Public Hearing on the proposed creation of Tax Incremental District No. 7.

2. Approval of the Plan Commission minutes of March 28, 2019

Motion by Tr. Emmrich second by Keith Berben to approve the Plan Commission minutes of March 28, 2019.

Vote: 6 ayes, 0 nays. Motion carried.

3. Concept Plan – Maplewood Farms – Single Family Subdivision

Kevin Dittmar from Dittmar Realty, Inc. was present and spoke on the project. The previously approved plan for this project had to be abandoned due to significant infrastructure costs. The new subdivision design retains the same density, 125 lots, as the previous plan while offering a more efficient layout for roadway, grading and utility installation. Chris Hitch, Senior Project Manager with raSmith, gave an overview of the project with the new street pattern. It's a traditional neighborhood, with 90-degree intersections and straighter stretches of streets. This plan has almost 1,800 lineal feet less of roadway. The street and utility patten are designed to blend in with the existing topography to avoid deep sewer lines and minimize grading. There are three difference lot sizes, larger lots are at the perimeter. Three different sizes of lots give a broader range in the home lot packages that can be offered. The street concept is two different types of street sections, urban and rural roads. A trail system will provide linkages to the sidewalks in the public right away.

Tr. Kruepke asked who would maintain the trail system. Kevin Dittmar stated the home-owners association would maintain it. John Weil inquired if they are fully paved cul-de-sacs. Chris Hitch stated fully paved with center snow storage, no islands. Discussion on gravel shoulders ensued. Kevin Dittmar commented they would like to get in the ground late June and start selling lots this Fall. There will be four phases of the lots, West to East and North to South. It is a mix of lot sizes in each phase. Brian Kober commented the subdivision will have Village Street lights, 30-foot pole street lights. Dan Herro commented on the power lines. Kevin Dittmar stated here is one tower that will be well marked.

Motion by Pres. Schwab, second by Tr. Emmrich to recommend the Village Board approve the Concept Plan for Maplewood Farms – Single Family Subdivision per staff comments and per discussion.

Vote: 6 ayes, 0 nays. Motion carried.

Kevin Dittmar addressed the concern in the staff comments on lot dimensions to be two to one and the whole interior of the subdivision achieves that. There are some lots that are deeper and have green space, they are more like two and a half to one.

4. Conditional Use Permit – Event Horizon Tattoos / Richard Malnory

Richard Malnory was present and had received staff comments.

Motion by Pres. Schwab, second by Tr. Kruepke to recommend the Village Board approve the Concept Use Permit – Event Horizon Tattoos/Richard Malnory per staff comments.

Richard Malnory explained the tattoo industry. He would like to open a tattoo studio with illustration graphics and all forms of art. The industry is fine tuning itself. Jon Weil asked where they are at in the State Licensing application process. Richard Malnory stated they are currently working on it and submitting it this week. Scott Roth, shop manager, commented the Health Inspector will not approve them until they are close to completing the shop.

Vote: 6 ayes, 0 nays. Motion carried.

5. Citizens to Address the Plan Commission

None.

6. Adjourn

Motion by Pres. Schwab, second by Jon Weil to adjourn.

Vote: 6 ayes, 0 nays. Meeting adjourned at 7:34 p.m.

Respectfully submitted,

Jilline Dobratz, *CMC/WCMC*
Village Clerk

VILLAGE OF JACKSON DEVELOPMENT APPLICATION FORM
(Due 1st Friday of the month for that month's Planning Commission Meeting)

Name of Applicant Springfield Sign
 Contact Lora Martinson Address/ZIP 4825 E Kearney St. Springfield, MO 65803 Phone # 417.862.2454
 E-mail Address loram@springfieldsign.com Fax # where Agenda/Staff comments are to be faxed 417.862.1887 (please put to my attention)
 Name of Owner BEK & Associates, LLC Address/ZIP 3350 South River Rd. West Bend, WI 53095 Phone# 262.338.1440
 Owner Representative/Developer Culver's
 Proposed Use of Site Installation of a freestanding sign. Present Zoning PUD

<u>ACTION REQUESTED</u>	<u>FEE</u>	<u>SUBMITTAL REQUIREMENTS</u>	<u>TYPE OF INFORMATION DESCRIBED</u> <u>(See page 5)</u>	<u>PAPER COPIES</u>	<u>CD</u>
CONCEPT PLAN	\$50	1,2,6,13	1) Complete Application (all pages) 2) Describe what you intend to do (paragraph)		XXX XXX
CONDITIONAL USE	\$150	1,2,3,4,5,6,7,14,15,16,18,19,20	3) Address Labels of adjacent owners to be notified (500' / 200') * 4) Owner acknowledgement of the request	Labels* 1	
PLANNED UNIT DEVELOPMENT	\$150	1,2,3,4,5,6,7,8,9,10,14,15,16,17,18,20	5) Impact Statement 6) Location Map		XXX XXX
REZONING	\$200	1,2,(3),4,6,9 or 10 (500' for rezoning 200' for Cond. Use or PUD Site Plan)	7) Development Plan / Site Plan 8) Preliminary Plat		XXX XXX
CERTIFIED SURVEY MAP (CSM)	\$150	1,2,6,10,20	9) Final Plat 10) Certified survey Map		XXX XXX
MINOR SUBDIVISION	\$150	1,2,3,5,6,10,15,16,17,18,20	11) Annexation Petition 12) Annexation Map	1	XXX XXX
Extra-territorial Plat or CSM	\$150	1,2,6,9 / 10	13) Sketch Plan 14) Landscape Plan	4 (24x36)	XXX XXX
Extra-territorial Plat outside Sanitary Service Area	\$50	1,2,6,9 / 10	<u>Engineering Review - Infrastructure</u>		
PRELIMINARY PLAT	\$300	1,2,3,5,6,9,15,16,17,18	15) Grading/Drainage Plan 16) Water / Sewer / Storm Sewer Plans	4 (24x36) 4 (24x36)	XXX XXX
FINAL PLAT / Final Plat Reappl..	\$100	1,2,3,5,6,9,15,16,17,18,20	17) Street / Right of Way cross sections 18) Erosion Control Plan	4 (24x36) 4 (24x36)	XXX XXX
ANNEXATION / ATTACHMENT	\$200	1,2,3,4,5,6,11,12,21	19) Proposed colors / materials 20) Developers Agreement		XXX XXX
STREET EASEMENT/ VACATION	\$150	1,2,3,4,6,9	21) Annexation Agreement (includes pre-annex agreements) 22) other -		XXX XXX
VARIANCE	\$150	1,2,3,4,6,7			
* Labels	\$25		If not included with submittal & prepared by the Village.		

I certify the information and exhibits submitted are true and correct to the best of my knowledge, and that in filing this application I am acting with knowledge and consent of those persons listed above and owner(s) without whose consent the requested action cannot be lawfully acted upon.

Name Lora Martinson Signature Lora Martinson Date 4/4/2019

Office Use: Date Received _____ Date Paid _____ Receipt # _____ Amount Paid \$ _____

VILLAGE OF JACKSON

Special Use Conditional Use Planned Unit Development Permit # _____

The Village of Jackson, hereby grants a **Special Use** **Conditional Use** **Planned Unit Development**

Permit to:

Name of Business/Applicant: Culver's / Springfield Sign - Lora Martinson

For a property located at (address): N168W22770 PRAIRIE VIEW LN JACKSON, WI 53037

Phone number of Business/Applicant: 417.862.2454

For (land use, activity, sign, site plan, other): Installation of a freestanding sign

Impact Mitigation (noise, smoke, dust, odors, etc. affecting adjacent properties): None

Hours of Operation: N/A

Comprehensive/Master Plan Compatibility: N/A

Building Materials (type, color): Structural Aluminum, MIG Weld, Makrolon WHite Polycarbonate, Flange Embossed, Culver's 3M 3630-97 Bristol Blue Watchfire 16mm EMC

Setbacks from rights-of-way and property lines: _____

Screening/Buffering: N/A

Landscape Plan (sizes, species, location): N/A

Signing (dimensions, colors, lighting, location): White, Blue, LED Illuminated Freestanding Sign. Oval 6'6" x 10'10" = 55.3 sq. ft. (mathmatical) Full Color Electronic Message Center "EMC" 16mm 3'5" x 7'3" = 24.7 sq. ft. total = 80 sq. ft.

Lighting (wattage, style, pole location and height, coverage): LED Illuminated, Wide Angle LED 6500-7000 / Overall height of sign 20'

Traffic flow, pedestrian circulation (curb to street width), (parking one/both/neither side(s), (sidewalk/pedestrian way width and material): See attached site plan

Storm-water Management: N/A

Erosion Control: N/A

Fire Hydrant Location(s): N/A

Knox Box, Posting Site (No Trespass signing), Emergency Telephone #'s: N/A

Hazardous Material Storage: N/A

Alarm Systems: N/A

Site Features/Constraints: N/A

Parking (no. of spaces, handicapped parking, and dimensions): N/A

Tree and shrub preservation: N/A

Setbacks/height limitations: 20' height freestanding sign. 80' separation from existing freestanding sign

Wastewater Usage Projected: N/A gal/year Water Usage Projected: N/A gal/year

Duration and Review of Conditional Use (expiration, when reviewed: upon complaint, specified period):
N/A

TERMS OF THIS PERMIT

1. This permit shall become effective upon the execution and recording by the owners of the premises of an acceptance hereof in such form as to constitute an effective covenant running with the land.
2. The permit shall be void unless: (a) pursuant to the Building and Zoning Codes of the Village, the approved use is commenced or (b) the building permit is obtained within 12 months of the date of Village Board approval.
3. The permit is subject to amendment and termination in accordance with the provisions of the Zoning Code of the Village of Jackson.
4. Construction and operation of the use permit shall be in strict conformity to the approval site, building, and operation plans which were filed in connection with the application for this permit (as attached and /or referenced).
5. Any of the conditions of this permit which would normally be the responsibility of the tenants of the premises, shall be made a part of their lease by the owner.

Granted by: Village Board _____ Date _____ Over the Counter _____ Date _____

John Walther, Administrator

_____, Owner
Please print name

Applications shall be submitted by 4:00 PM on the Friday of the month to be considered by the Planning Commission that month. In some cases, more than the number of copies on the face of this form will be required. Only complete applications shall be presented to the Planning Commission and the Village Board for action. Applications submitted without a pre-submittal conference risk delay by being incomplete.

The Planning Commission meets on the last Thursday of each month unless there is a conflict with a holiday. The Village Board meets on the second Tuesday of each month, and will conduct a public hearing. A decision on the request could be made at that meeting.

EXPLANATION OF TYPES OF INFORMATION (From face of application form):

1. **Application Form: Must be submitted on CD.**
2. Letter of Intent: What you are requesting in your own words. (Be brief)
3. Mailing Labels: It is your responsibility to provide the Village with current owner addresses. If mailed notification is required for your application, an incorrect address may cause you a delay. If the Village prepares the labels for you, there will be an additional charge of \$25.00
4. Proof of Property Ownership: A copy of a deed, tax notice, title insurance policy (first page), recorded plat, etc.
5. Impact Statement: In general, the following points represent most of the topics to be addressed in the impact statement. Specific points will be designated at the pre-submittal conference by staff.
 - A. Annual water consumption estimate (100% occupancy and build-out)
 - B. Annual sewage generation estimate (100% occupancy and build-out)
 - C. Vehicle trip generation (trips per day per unit x number of units)
 - D. Estimated numbers of vehicles and recreational vehicles to be stored and/or parked on site.
 - E. Proposed sign(s) (advertising business, industry, dwelling unit)
 - F. General hours of operation
 - G. Anticipated user profiles (for residential developments)
 - H. Proposed dates of construction and completion
 - I. Unusual conditions which warrant special attention (hazardous materials storage, fire hazards, odors, noise generation, etc.
6. Location Map: Show where the site is relative to a Village map.
7. Development Plan: Shows entire proposal on the site. Includes edge of pavement and/or back of the curb line, sidewalks (existing and proposed), footprints of the structure, drives, parking spaces and fencing, locations of accessory uses, dimensions, etc. Landscape plans and water/sewer/storm plans may be shown combined on the plan if the composition is easily read and understood.
- 8/9. Plat Map: Prints of the preliminary and final (recordable plat), with proper signature blocks.
10. Certified Survey Map: A recordable instrument showing the legal and mapped description of the land division.
11. Annexation Petition/Attachment Request: Shows owner is supporting the annexation.
12. Annexation Map: A recordable map having the legal and mapped description of the parcel to be annexed.
13. Sketch Plan: An informal drawing depicting the proposal for discussion purposes.
14. Landscape Plan: Shows location, size, type, botanical name & common name of proposed trees & shrubs. Also calls out surface treatments. Shows walls, fences & details.
15. Grading/Drainage Plan: Shows original & proposed grades& runoff calculations based on a 10-year storm. It is usually combined with a Storm Sewer Plan. (storm sewer system, ditches, culverts, etc.)
16. Water/Sewer/Storm Sewer Plans: Shows size and location of proposed water mains & fire hydrants; size and location of the proposed sanitary sewer collection system with gradient profiles and invert elevations; shows the proposed storm drainage system as in 15.
17. Street Crossing Sections: Section shows curb, gutter, paving, and sidewalk relative to the right-of-way width.
18. Erosion Control Plan: A map of existing site conditions on a scale of at least 1 inch equals 100 feet showing the site, boundaries and immediately adjacent areas which accurately identify site locations.
19. Proposed Colors and Materials: Submit samples of exterior colors and materials.
20. Improvement Agreement: An agreement between the developer and the Village determining park dedications and the responsibilities for street, water, sewer, and the storm sewer improvements and extensions.
21. Annexation Agreement.

MEETINGS AT WHICH THE REQUEST IS BEING HEARD SHOULD BE ATTENDED BY THE APPLICANT OR A REPRESENTATIVE IN ORDER TO RESPOND TO QUESTIONS AND AVOID DELAYS IN THE APPROVAL PROCESS.

BEK & Associates, LLC

3350 South River Road
West Bend, WI 53095
Ph# (262) 338-1440 FX# (262) 334-4990

March 13, 2019

To Whom It May Concern:

We, the BEK and Associates LLC partners, are open to selling a piece of land or easement rights for a sign to be built. Please allow the sign company representing Culvers to research options for a possible sign located on our parcel by highway 60 in Jackson, WI. If you have any questions, please let us know.

Sincerely,

Kraig Sadownikow

Handwritten signature in blue ink, consisting of two stylized 'K's followed by a stylized 'A'.

BEK & Associates, LLC



SPRINGFIELD SIGN

design | build | install | service

ADDRESS

4825 E Kearney St
Springfield, MO 65803

CONTACT US

800.845.9927
springfieldsign.com

Village of Jackson, WI
N168 W 20733 Main St.
Jackson, WI 53037

Planning Commission,

Culver's located at W227 N 16880 Tillie Lake Ct would like to request approval to install a Freestanding sign at N168W22770 Prairie View Lane. Culver's has received land owner approval from BEK & Associates. Culver's freestanding sign will have an overall height of 20' with 80 sq. ft. of sign area as well as an electronic message center "EMC" and obtain an 80' separation from the existing freestanding tenant sign.

Kind Regards,

Lora Martinson
Springfield Sign
4825 E Kearney St.
Springfield, MO 65803
417.862.2454
loram@springfieldsign.com



SIGN PACKAGE PROPOSAL
RE-IMAGE - PYLON

PRESENTED TO:
Culver's - Jackson, WI

DATE PREPARED:
1/23/19



© 2019 Springfield Sign & Graphics Inc., Springfield Sign

PE-70 CUSTOM PYLON WITH EMC

JACKSON, WI

PE-70-L-54X126-16-RGB-C

CUSTOM

PE-70-C

Culver's sign cabinet of aluminum construction and internally illuminated with LED's

Pole skirt enclosure provides cradle rest for iconic Culver's logo. All aluminum construction

Thermoformed polycarbonate faces, embossed Culver's, 3M[®] HP vinyl decoration

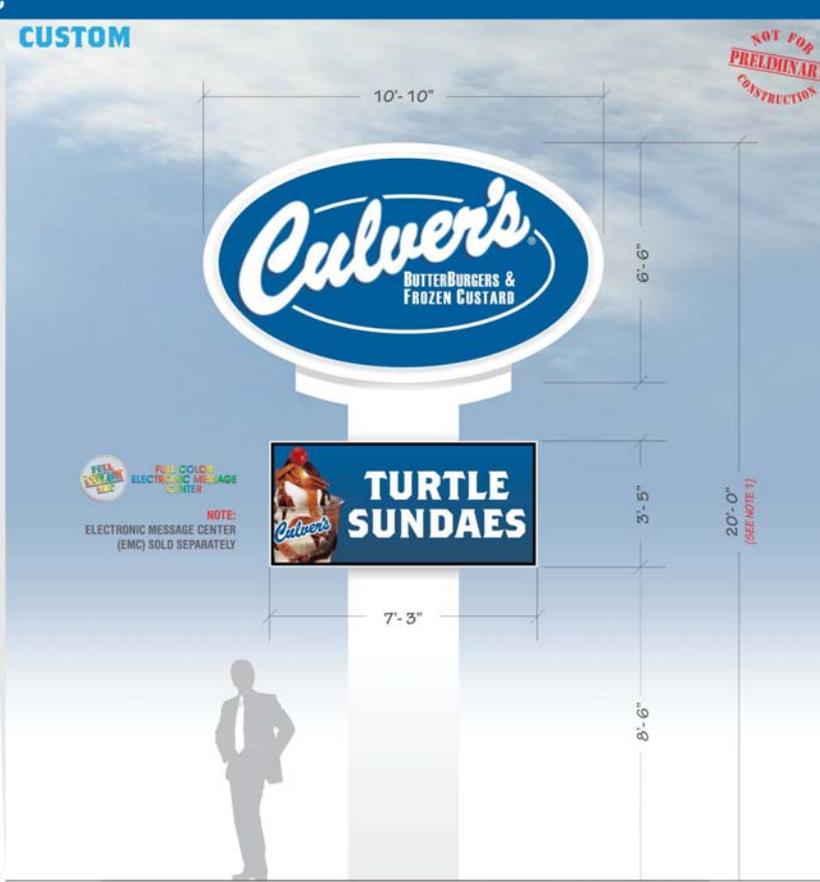
Watchfire² RGB full color Electronic Message Center (EMC) with RF wireless communication

Amber EMC option available

Broadband communication option available

UL marked product

1-3M is a registered trademark of Minnesota Mining & Manufacturing
2 - Watchfire signs by Time-2-Matic Inc.



SCALE: 3/16" = 1'

*SCALE AND COLORS NOT REPRESENTATIVE FROM EMAIL ATTACHMENTS
*ALL MEASUREMENTS ARE APPROXIMATE

EMC CHART - KNOWN RESTRICTIONS

COLOR: Y N STATIC: Y N VIDEO: Y N
ANIMATION: Y N MOVEMENT: Y N

HOLD TIME (IF STATIC): _____
TRANSITION TYPE: _____
DAYTIME BRIGHTNESS: _____
NIGHTTIME BRIGHTNESS: _____

ADDITIONAL RESTRICTIONS:

SIGN CODES

Section 48-298 Village Code. "Ground signs shall not exceed 20 feet in height above the mean centerline street grade, shall not exceed 80 square feet, on one side nor 160 square feet on all sides for any one premises. No ground sign shall be placed closer than 80 feet to another ground sign or projecting, awning, canopy, or marquee sign unless permitted by conditional use

NOTES

SQUARE FOOTAGE CALCULATIONS:
OVAL: 6'-6" X 10'-10" = 55.3 SF (MATHEMATICAL)
EMC: 3'-5" X 7'-3" = 24.7 SF
TOTAL: 80.0 SF

NOTE 1: CANNOT EXCEED (20) FEET IN HEIGHT ABOVE THE MEAN CENTERLINE STREET GRADE

SALES PERSON:	DESIGNED BY:	AO:
MARK WESSELL	J WILSON	12499

DATE CREATED / REVISION HISTORY	
1/23/19 - NEW	

FILE PATH:
T:\Cypress\Doc\Order\12000\12499 - Culver_s of Jackson, WI_095 (1805)\Art\Working Files

© 2019 Springfield Sign & Graphics Inc., Springfield Sign

This drawing is Copyrighted material, it remains the property of Springfield Sign unless otherwise agreed upon in writing. It is unlawful to use this drawing for bidding purposes, nor can it be reproduced, copied or used in the production of a sign without written permission from Springfield Sign & Graphics.

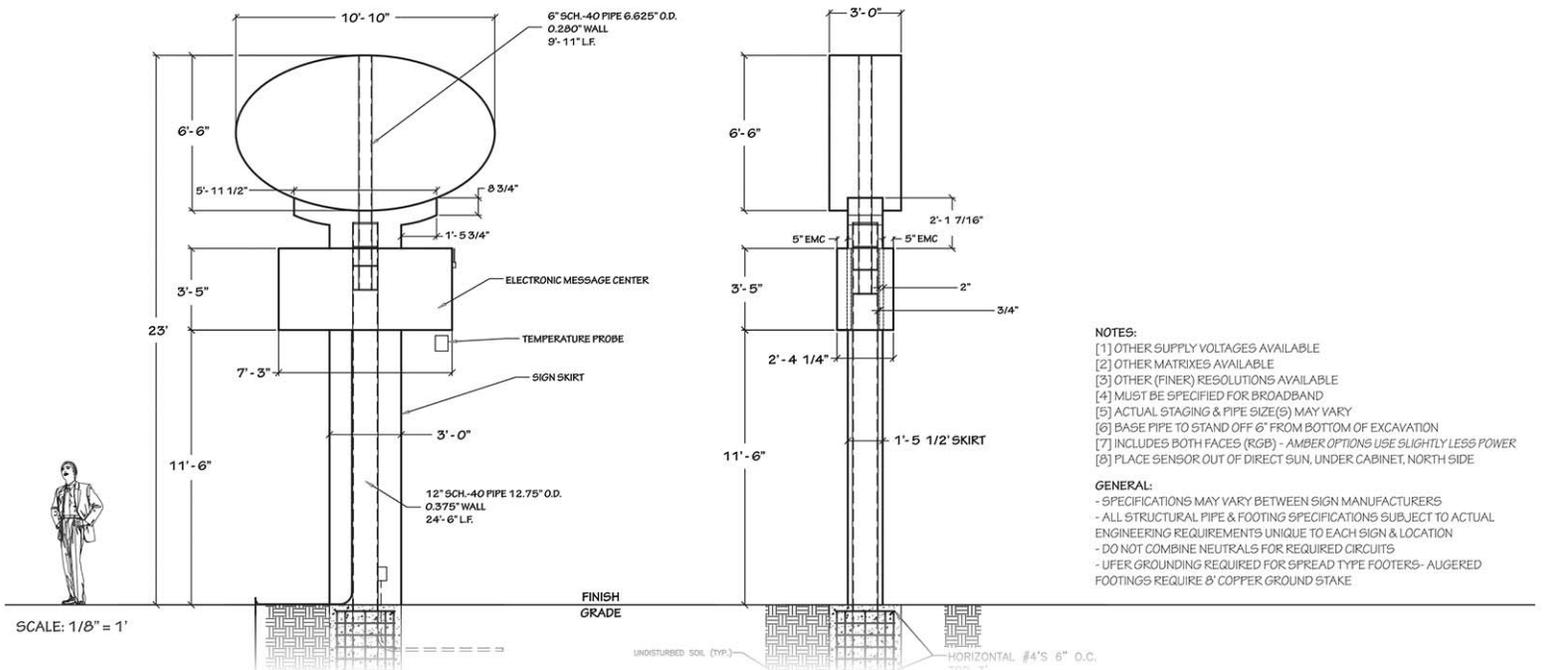
This is an artistic rendition and final colors / sizes may vary from that depicted herein.



PYLON SERIES

PE-70 Technical Specifications

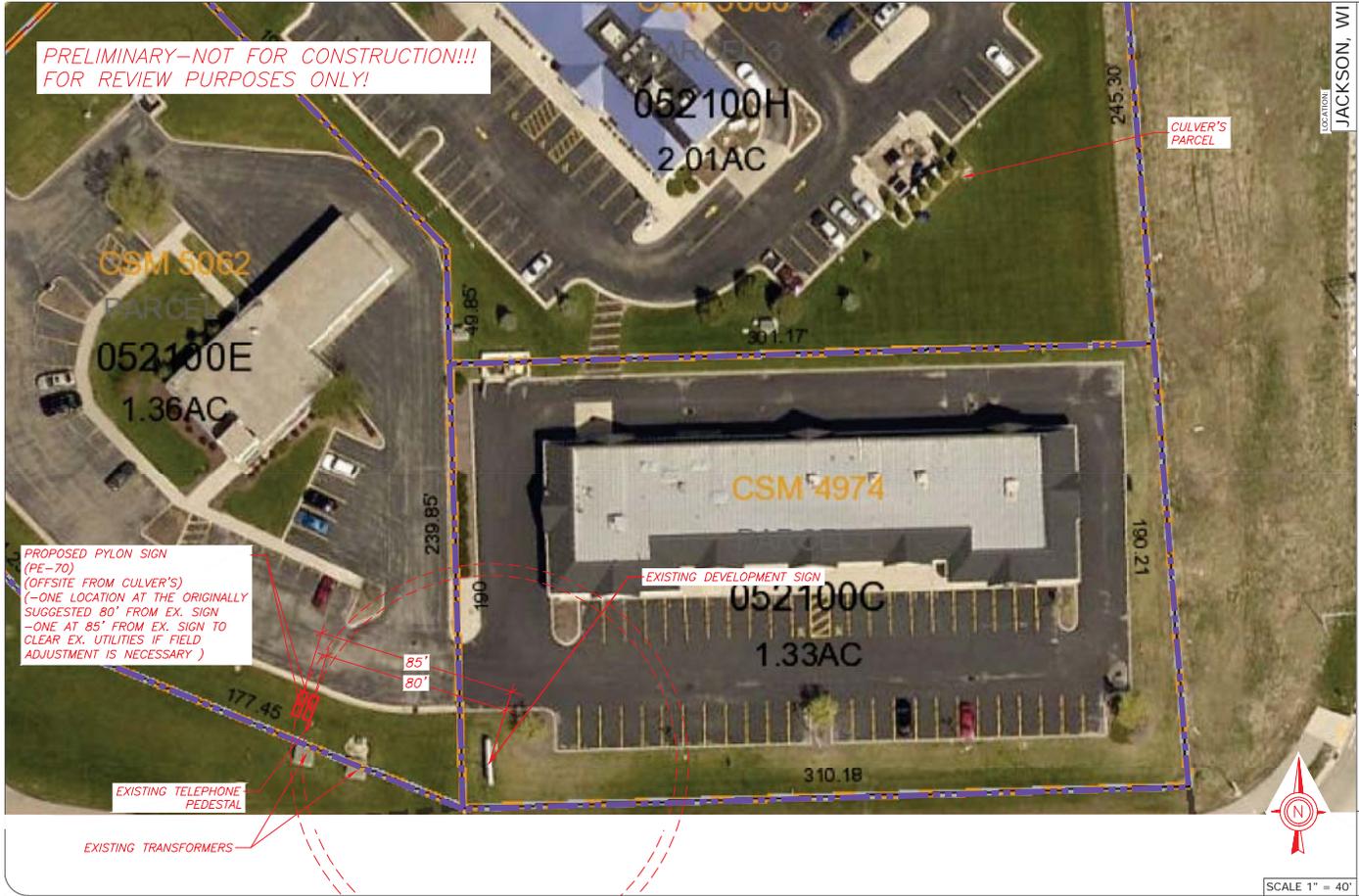
CULVER'S SIGN	FRAMING - MATERIALS: STRUCTURAL ALUMINUM - CONSTRUCTION: MIG WELDED	POWER - PRIMARY SUPPLY VOLTAGE: 120 VAC [1] - MAX AMPERAGE: 6.0 AMPS - NUMBER OF 120V/20A CIRCUITS: 1
	LIGHTING - TYPE: WIDE ANGLE LED - COLOR TEMP (WHITE): 6500-7000 °K	CABINET - MATERIALS: 0.063" THICK ALUMINUM SHEET - CONSTRUCTION: SS POP RIVET - FINISH: SATIN WHITE, LOW VOC - SKIRT: 0.063" ALUMINUM SHEET, STRUCTURAL ALUMINUM ANGLE
EMC	SIGN FACES - MATERIAL: MAKROLON ² WHITE POLYCARBONATE - CONSTRUCTION: FLANGE, EMBOSSED CULVER'S - DECORATION: 3M ¹ 3630-97 BRISTOL BLUE	
	SPECIFICATIONS - BRAND: WATCHFIRE ³ - SOFTWARE: IGNITE OP ⁴ - MATRIX: 48X112 [2] - RESOLUTION: 19MM PIXELS [3] - COLOR OPTIONS: FULL RGB COLOR OR AMBER - COMMUNICATION OPTIONS: RF WIRELESS OR BROADBAND [4] - CHARACTER SIZE: 6 LINES, 5" COPY - CABINET SIZE: 3'-5" X 7'-3"	SPECIFICATIONS CONT. - TEMPERATURE SENSOR: INCLUDED [8]
SIGN STRUCTURE	SPECIFICATIONS - TYPE: DIRECT BURY, EXCAVATED OR AUGER - PYLON: STRUCTURAL SCH. 40 PIPE OR HEAVIER - STAGES/PIPE: 1/2 [5] - BASE PIPE: 12.75" O.D., 0.375" WALL [6] - UPPER PIPE: 6.625" O.D., 0.280 WALL	ESTIMATED FOOTING - OPENING: 4' X 6' - DEPTH: 6.5' - APPX. CU. YDS. CONCRETE: 5.75 - CONCRETE: 3000 PSI - TOP OF FOOTING: BELOW GRADE - PRIMARY CONDUIT: 1.5" SWEEPING 90S
	TOTALS TOTAL POWER REQUIREMENTS NUMBER OF CIRCUITS: CULVER'S + EMC @ 120VAC, 20 AMP 1 + 1 = 2	TOTAL SIGN AREA CALCULATIONS MATHEMATICAL METHOD: OVAL (55.31 SF) + EMC (24.77 SF) = 80.08 SF RECTANGULAR METHOD: OVAL (70.42 SF) + EMC (24.77 SF) = 95.19 SF



- NOTES:**
- [1] OTHER SUPPLY VOLTAGES AVAILABLE
 - [2] OTHER MATRIXES AVAILABLE
 - [3] OTHER (FINER) RESOLUTIONS AVAILABLE
 - [4] MUST BE SPECIFIED FOR BROADBAND
 - [5] ACTUAL STAGING & PIPE SIZE(S) MAY VARY
 - [6] BASE PIPE TO STAND OFF 6" FROM BOTTOM OF EXCAVATION
 - [7] INCLUDES BOTH FACES (RGB) - AMBER OPTIONS USE SLIGHTLY LESS POWER
 - [8] PLACE SENSOR OUT OF DIRECT SUN, UNDER CABINET, NORTH SIDE

- GENERAL:**
- SPECIFICATIONS MAY VARY BETWEEN SIGN MANUFACTURERS
 - ALL STRUCTURAL PIPE & FOOTING SPECIFICATIONS SUBJECT TO ACTUAL ENGINEERING REQUIREMENTS UNIQUE TO EACH SIGN & LOCATION
 - DO NOT COMBINE NEUTRALS FOR REQUIRED CIRCUITS
 - UFER GROUNDING REQUIRED FOR SPREAD TYPE FOOTERS- AUGERED FOOTINGS REQUIRE 8' COPPER GROUND STAKE

PRELIMINARY—NOT FOR CONSTRUCTION!!!
FOR REVIEW PURPOSES ONLY!



PROPOSED PYLON SIGN
(PE-70)
(OFFSITE FROM CULVER'S)
(—ONE LOCATION AT THE ORIGINALLY
SUGGESTED 80' FROM EX. SIGN
—ONE AT 85' FROM EX. SIGN TO
CLEAR EX. UTILITIES IF FIELD
ADJUSTMENT IS NECESSARY)

EXISTING TELEPHONE
PEDESTAL

EXISTING TRANSFORMERS

EXISTING DEVELOPMENT SIGN

CULVER'S
PARCEL



SCALE 1" = 40'

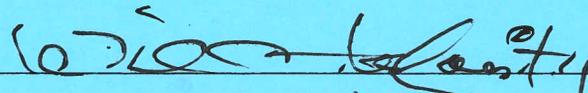
LOCATION: JACKSON, WI	
PROJECT: SPRINGFIELD SIGN	
Client: Culver Franchising System, Inc. 4825 E. Kearney St. Springfield, MO 65803 (417) 862-2454	
PROJECT: CULVER'S PROPOSED NEW SIGNAGE-OFFSITE	
Client: Culver Franchising System, Inc. 540 Water Street, 53718 P. (608) 643-7880	
PROJECT: N168W22710-N168W22734 PRAIRIE VIEW LANE	
Client: CULVER FRANCHISING SYSTEM, INC. JACKSON, WI 53037	
PROJECT: PRELIMINARY SIGN PLACEMENT PLAN	
Project No.: 10117	Scale: 1" = 40'
Reviewed By: MW	Sheet: 1 OF 1
Date: 2/17/16	

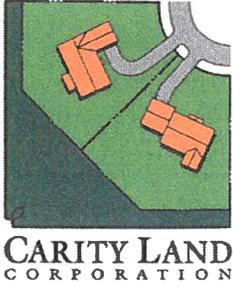
VILLAGE OF JACKSON DEVELOPMENT APPLICATION FORM
(Due 1st Friday of the month for that month's Planning Commission Meeting)

Name of Applicant WILLIAM W CARLITY
 Contact BILL CARLITY Address/ZIP 12720 W. NORTH AVE BROOKFIELD WI 53005 Phone# 414-841-96
 E-mail Address carityland@abcglobal.com where Agenda/Staff comments are to be faxed 262-785-1949
 Name of Owner SAME - Address/ZIP _____ Phone# _____
 Owner Representative/Developer SAME -
 Proposed Use of Site SINGLE FAMILY RESIDENTIAL SUBDIVISION Present Zoning AG

ACTION REQUESTED	FEE	SUBMITTAL REQUIREMENTS	TYPE OF INFORMATION DESCRIBED (See page 5)	PAPER COPIES	CD
→ CONCEPT PLAN	\$50	1,2,6,13	1) Complete Application (all pages) 2) Describe what you intend to do (paragraph)		XXX XXX
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STREET EASEMENT/ VACATION	\$150	1,2,3,4,6,9	21) Annexation Agreement (includes pre-annex agreements)		XXX
VARIANCE	\$150	1,2,3,4,6,7	22) other -		XXX
* Labels	\$25		If not included with submittal		

I certify the information and exhibits submitted are true and correct to the best of my knowledge, and that in filing this application I am acting with knowledge and consent of those persons listed above and owner(s) without whose consent the requested action cannot be lawfully acted upon.

Name William W. Carlity Signature  Date 5-1-19
 Office Use: Date Received 5-3-19 Date Paid 5-3-19 Receipt # 217226 Amount Paid \$ 50.00



MORNING MEADOWS

Jackson, WI

Location

This proposed development is conveniently located just minutes east of STH 45, currently in the Town of Jackson, Washington County, WI. The 65 acre parcel that is proposed to be developed is located on the northeast corner of CTH P and Sherman Road and will have to be annexed to the Village of Jackson to enable sewer and water connections to utilities located in Sherman Rd.

Description

The development parcel is relatively flat with sparkling clear, Cedar Creek running through the northeast corner. Associated with Cedar Creek are wooded wetlands that were delineated in 2018 and a 100-year flood plain as depicted on the concept drawing.

Sewer and water was built in Sherman Road in 2005. Both have been planned for the development. An agricultural drainage ditch that contains an intermittent stream bisects the parcel from east to west. The ditch also has limited 100-year flood plain and wetlands associated with the channel. The 100-year flood plain, wetlands, wooded areas and stream are all preserved according the plan.

Concept Plan

The primary intent of the Morning Meadows plan is to cluster single family lots in the agricultural fields that are currently under till while preserving all of the significant environmental features that occur on the parcel. The plan is consistent with Conservation Subdivision design principles - having over 50% green space. Almost all of the 84 lots shown, back up to park land that would be landscaped by the developer and owned and maintained by a homeowners association comprised of all of the lot owners. The homeowners association will also maintain all storm water management ponds that are found in the park areas together with an extensive trail system. The trail system is over one mile long and meanders along the picturesque wooded banks of Cedar Creek, together with the meadowlands that envelope the proposed development providing leisurely nature walking opportunities for the future families that will call Morning Meadows home.

The lots that are proposed are approximately 70' wide by 150' deep (10,000 sq. ft. minimum) with the exception of the homestead lot (51) which is two acres in size. The developer intends to remodel the existing home. The developer would also like to retain the surrounding rural flavor of the subdivision by utilizing open storm water conveyance ditches as opposed to curb and gutter with associated storm sewer. The developer also requests that the Village consider the extensive trail system that will be found in the park areas as pedestrian opportunities for future residents vs. an urban roadside sidewalk. Bill Carity (owner/developer) looks forward to discussing the attached Concept Plan with the Village of Jackson Planning Commission and Village Board.

VILLAGE OF JACKSON

Special Use Conditional Use Planned Unit Development Permit # _____

The Village of Jackson, hereby grants a Special Use Conditional Use Planned Unit Development

Permit to:

Name of Business/Applicant: BILL CARLEY

For a property located at (address): CTHP E SHERMAN RD.

Phone number of Business/Applicant: 414-861-1967

For (land use, activity, sign, site plan, other): PROPOSED SIGNAGE

Impact Mitigation (noise, smoke, dust, odors, etc. affecting adjacent properties): _____

Hours of Operation: _____

Comprehensive/Master Plan Compatibility: _____

Building Materials (type, color): _____

Setbacks from rights-of-way and property lines: _____

Screening/Buffering: _____

Landscape Plan (sizes, species, location): _____

Signage (dimensions, colors, lighting, location): _____

Lighting (wattage, style, pole location and height, coverage): _____

Traffic flow, pedestrian circulation (curb to street width), (parking one/both/neither side(s), sidewalk/pedestrian way width and material): _____

Storm-water Management: _____

Erosion Control: _____

Fire Hydrant Location(s): _____

Knox Box, Posting Site (No Trespass signing), Emergency Telephone #'s: _____

Hazardous Material Storage: _____

Alarm Systems: _____

Site Features/Constraints: _____

Parking (no. of spaces, handicapped parking, and dimensions): _____

Tree and shrub preservation: _____

Setbacks/height limitations: _____

Wastewater Usage Projected: _____ gal/year Water Usage Projected: _____ gal/year

Duration and Review of Conditional Use (expiration, when reviewed: upon complaint, specified period): _____

TERMS OF THIS PERMIT

1. This permit shall become effective upon the execution and recording by the owners of the premises of an acceptance hereof in such form as to constitute an effective covenant running with the land.
2. The permit shall be void unless: (a) pursuant to the Building and Zoning Codes of the Village, the approved use is commenced or (b) the building permit is obtained within 12 months of the date of Village Board approval.
3. The permit is subject to amendment and termination in accordance with the provisions of the Zoning Code of the Village of Jackson.
4. Construction and operation of the use permit shall be in strict conformity to the approval site, building, and operation plans which were filed in connection with the application for this permit (as attached and /or referenced).
5. Any of the conditions of this permit which would normally be the responsibility of the tenants of the premises, shall be made a part of their lease by the owner.

Granted by: Village Board _____ Date _____ Over the Counter _____ Date _____

John Walther, Administrator

_____, Owner
Please print name

Applications shall be submitted by 4:00 PM on the Friday of the month to be considered by the Planning Commission that month. In some cases, more than the number of copies on the face of this form will be required. Only complete applications shall be presented to the Planning Commission and the Village Board for action. Applications submitted without a pre-submittal conference risk delay by being incomplete.

The Planning Commission meets on the last Thursday of each month unless there is a conflict with a holiday. The Village Board meets on the second Tuesday of each month and will conduct a public hearing. A decision on the request could be made at that meeting.

EXPLANATION OF TYPES OF INFORMATION (From face of application form):

1. **Application Form: Must be submitted on a Zip Drive (USB).**
2. Letter of Intent: What you are requesting in your own words. (Be brief)
3. Mailing Labels: It is your responsibility to provide the Village with current owner addresses. If mailed notification is required for your application, an incorrect address may cause you a delay.
4. Proof of Property Ownership: A copy of a deed, tax notice, title insurance policy (first page), recorded plat, etc.
5. Impact Statement: In general, the following points represent most of the topics to be addressed in the impact statement. Specific points will be designated at the pre-submittal conference by staff.
 - A. Annual water consumption estimate (100% occupancy and build-out)
 - B. Annual sewage generation estimate (100% occupancy and build-out)
 - C. Vehicle trip generation (trips per day per unit x number of units)
 - D. Estimated numbers of vehicles and recreational vehicles to be stored and/or parked on site.
 - E. Proposed sign(s) (advertising business, industry, dwelling unit)
 - F. General hours of operation
 - G. Anticipated user profiles (for residential developments)
 - H. Proposed dates of construction and completion
 - I. Unusual conditions which warrant special attention (hazardous materials storage, fire hazards, odors, noise generation, etc.)
6. Location Map: Show where the site is relative to a Village map.
7. Development Plan: Shows entire proposal on the site. Includes edge of pavement and/or back of the curb line, sidewalks (existing and proposed), footprints of the structure, drives, parking spaces and fencing, locations of accessory uses, dimensions, etc. Landscape plans and water/sewer/storm plans may be shown combined on the plan if the composition is easily read and understood.
- 8/9. Plat Map: Prints of the preliminary and final (recordable plat), with proper signature blocks.
10. Certified Survey Map: A recordable instrument showing the legal and mapped description of the land division.
11. Annexation Petition/Attachment Request: Shows owner is supporting the annexation.
12. Annexation Map: A recordable map having the legal and mapped description of the parcel to be annexed.
13. Sketch Plan: An informal drawing depicting the proposal for discussion purposes.
14. Landscape Plan: Shows location, size, type, botanical name & common name of proposed trees & shrubs. Also calls out surface treatments. Shows walls, fences & details.
15. Grading/Drainage Plan: Shows original & proposed grades & runoff calculations based on a 10-year storm. It is usually combined with a Storm Sewer Plan. (storm sewer system, ditches, culverts, etc.)
16. Water/Sewer/Storm Sewer Plans: Shows size and location of proposed water mains & fire hydrants; size and location of the proposed sanitary sewer collection system with gradient profiles and invert elevations; shows the proposed storm drainage system as in 15.
17. Street Crossing Sections: Section shows curb, gutter, paving, and sidewalk relative to the right-of-way width.
18. Erosion Control Plan: A map of existing site conditions on a scale of at least 1-inch equals 100 feet showing the site, boundaries and immediately adjacent areas which accurately identify site locations.
19. Proposed Colors and Materials: Submit samples of exterior colors and materials.
20. Improvement Agreement: An agreement between the developer and the Village determining park dedications and the responsibilities for street, water, sewer, and the storm sewer improvements and extensions.
21. Annexation Agreement.

MEETINGS AT WHICH THE REQUEST IS BEING HEARD SHOULD BE ATTENDED BY THE APPLICANT OR A REPRESENTATIVE IN ORDER TO RESPOND TO QUESTIONS AND AVOID DELAYS IN THE APPROVAL PROCESS.



Dittmar
REALTY, INC.

May 3, 2019

Village of Jackson
Attn: John Walther, Administrator
N168 W20733 Main Street
Jackson, WI 53037

Re: Maplewood Farms: 125 single family lots located on 76 acres of land located between Maple Road and Twin Creek Subdivision.

Dear Mr. Walther,

This correspondence shall serve as our "letter of intent" to accompany the request for concept approval for our plan to develop the Property referenced above. The previously approved plan for this project had to be abandoned due to significant infrastructure costs. Our intent is to bring forward a new subdivision design which retains the same density (125 lots) as the previous plan while offering a much more efficient layout for roadway, grading and utility installation.

The new plan eliminates the curvilinear roadway design in favor of a series of longer east/west and north/south streets and cul de sacs. The significant benefits include a reduction is 1,800 lineal feet of roadway and fewer manholes, hydrants, valves and other utility fixtures. This reduces the cost of infrastructure installation AND the cost of infrastructure maintenance by the Village. The street and utility pattern are also designed to blend in with the existing topography to avoid deep sewer lines and minimize grading and earthwork costs. In addition, each phase of the project can be "self-contained" meaning that large portions of the property can remain undisturbed as the project is being developed.

As part of this project, and in an effort to balance out Village design preferences with necessary cost considerations, we are proposing two road profiles. The main collector street running the entire length of the project is being proposed as a full "urban section" with 34-foot wide streets (measured from back of curb to back of curb), curb, gutter, storm sewer and sidewalks on each side of the road. The cul de sacs, which each feed into the main collector street are being proposed as "rural section" with gravel shoulders, roadside swales and access to a common pedestrian trail system.

We estimate home and lot packages in the \$300,000 - \$400,000 range and that this Project will provide a tax base of approximately \$40 - \$45 Million after full build-out.

Finally, we have always had a strong relationship with the Village and look forward to continuing our consistent history of providing quality development to the Village of Jackson.

Thank you for your attention,

Dittmar Realty, Inc.

A handwritten signature in black ink, appearing to read "Kevin S. Dittmar". The signature is written in a cursive style with a large initial "K".

Kevin S. Dittmar
President



Dittmar
REALTY, INC.

Preliminary Plat Application – Maplewood Farms

Contents Enclosed

1. Complete Application
2. Description of Project
3. Impact Statement
4. Location Map
5. Preliminary Plat
6. Preliminary Landscape Plan
7. Grading/Drainage Plan - 4 copies
8. Water/Sewer/Storm Sewer Plans – 4 copies
9. Street/Right of Way Cross Sections – 4 copies
10. Erosion Control Plan – 4 copies

VILLAGE OF JACKSON DEVELOPMENT APPLICATION FORM
 (Due 1st Friday of the month for that month's Planning Commission Meeting)

Name of Applicant Maplewood Farms Address/ZIP N81 W15111 Appleton Ave., Menomonee Falls, WI 53051 Phone #262-251-5800
 Contact Kevin S. Dittmar Fax # where Agenda/Staff comments are to be faxed 262-251-4401
 E-mail Address cdunn@drilots.com Address/ZIP N81 W15111 Appleton Ave., Menomonee Falls, WI 53051 Phone#262-251-5800
 Name of Owner Palorama Farms
 Owner Representative/Developer Dittmar Realty, Inc. Present Zoning Residential
 Proposed Use of Site 125 single family lots

ACTION REQUESTED	FEE	SUBMITTAL REQUIREMENTS	TYPE OF INFORMATION DESCRIBED (See page 5)	PAPER COPIES	CD
CONCEPT PLAN	\$50	1,2,6,13	1) Complete Application (all pages) 2) Describe what you intend to do (paragraph)		XXX
CONDITIONAL USE	\$150	1,2,3,4,5,6,7,14,15,16,18,19,20	3) Address Labels of adjacent owners to be notified (500'/200') * 4) Owner acknowledgement of the request	Labels* 1	XXX
PLANNED UNIT DEVELOPMENT	\$150	1,2,3,4,5,6,7,8,9,10,14,15,16,17,18,20	5) Impact Statement 6) Location Map		XXX
REZONING	\$200	1,2,(3),4,6,9 or 10 (500' for rezoning 200' for Cond. Use or PUD Site Plan)	7) Development Plan / Site Plan 8) Preliminary Plat		XXX
CERTIFIED SURVEY MAP (CSM)	\$150	1,2,6,10,20	9) Final Plat 10) Certified survey Map		XXX
MINOR SUBDIVISION	\$150	1,2,3,5,6,10,15,16,17,18,20	11) Annexation Petition 12) Annexation Map	1	XXX
Extra-territorial Plat or CSM	\$150	1,2,6,9 / 10	13) Sketch Plan 14) Landscape Plan	4 (24x36)	XXX
Extra-territorial Plat outside Sanitary Service Area	\$50	1,2,6,9 / 10	Engineering Review - Infrastructure		
PRELIMINARY PLAT	\$300	1,2,3,5,6,9,15,16,17,18	15) Grading/Drainage Plan 16) Water / Sewer / Storm Sewer Plans	4 (24x36) 4 (24x36)	XXX XXX
FINAL PLAT / Final Plat Reappl..	\$100	1,2,3,5,6,9,15,16,17,18,20	17) Street / Right of Way cross sections 18) Erosion Control Plan	4 (24x36) 4 (24x36)	XXX XXX
ANNEXATION / ATTACHMENT	\$200	1,2,3,4,5,6,11,12,21	19) Proposed colors / materials 20) Developers Agreement		XXX XXX
STREET EASEMENT/ VACATION	\$150	1,2,3,4,6,9	21) Annexation Agreement (includes pre-annex agreements)		XXX
VARIANCE	\$150	1,2,3,4,6,7	22) other -		XXX
* Labels	\$25		If not included with submittal & prepared by the Village.		

I certify the information and exhibits submitted are true and correct to the best of my knowledge, and that in filing this application I am acting with knowledge and consent of those persons listed above and owner(s) without whose consent the requested action cannot be lawfully acted upon.

Name Dittmar Realty, Inc Signature [Signature] Date 5/21/19
 Office Use: Date Received _____ Date Paid _____ Amount Paid \$ _____
 Receipt # _____

VILLAGE OF JACKSON

Special Use Conditional Use Planned Unit Development Permit

The Village of Jackson, hereby grants a **Special Use** **Conditional Use** **Planned Unit Development**

Permit to:

Name of Business/Applicant: Maplewood Farms

For a property located at (address): Maple Dr, Jackson, WI

Phone number of Business/Applicant: 262-251-5800

For (land use, activity, sign, site plan, other): 125 lot single family subdivision.

Impact Mitigation (noise, smoke, dust, odors, etc. affecting adjacent properties): None _____

Hours of Operation: 24/7 _____

Comprehensive/Master Plan Compatibility: yes. _____

Building Materials (type, color):
Developer Architectural Guidelines _____

Setbacks from rights-of-way and property lines: On Engineers Drawings _____

Screening/Buffering: N/A _____

Landscape Plan (sizes, species, location): See attached sketch. Professionally drawn plan to follow. _____

Signing (dimensions, colors, lighting, location): Small entrance sign on East Gate Dr by pond. See landscape plan for location.

Lighting (wattage, style, pole location and height, coverage): Street Lights _____

Traffic flow, pedestrian circulation (curb to street width), (parking one/both/neither side(s), (sidewalk/pedestrian way width and material): On Engineer Drawings

Storm-water Management: Enclosed on Engineers Drawings _____

Erosion Control: Enclosed on Engineers Drawings _____

Fire Hydrant Location(s): Enclosed on Engineer Drawings _____

Knox Box, Posting Site (No Trespass signing), Emergency Telephone #'s: N/A _____

Hazardous Material Storage: N/A _____

Alarm Systems: N/A _____

Site Features/Constraints: None _____

Parking (no. of spaces, handicapped parking, and dimensions): N/A _____

Tree and shrub preservation: N/A _____

Wastewater Usage Projected: On	gal/year	Water Usage Projected: On	gal/year
Impact Statement Enclosed		Impact Statement Enclosed	

Duration and Review of Conditional Use (expiration, when reviewed: upon complaint, specified period): _____

TERMS OF THIS PERMIT

1. This permit shall become effective upon the execution and recording by the owners of the premises of an acceptance hereof in such form as to constitute an effective covenant running with the land.
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5. Any of the conditions of this permit which would normally be the responsibility of the tenants of the premises, shall be made a part of their lease by the owner.

Granted by: Village Board _____ Date _____ Over the Counter _____ Date _____

John Walther, Administrator

_____, Owner

Please print name

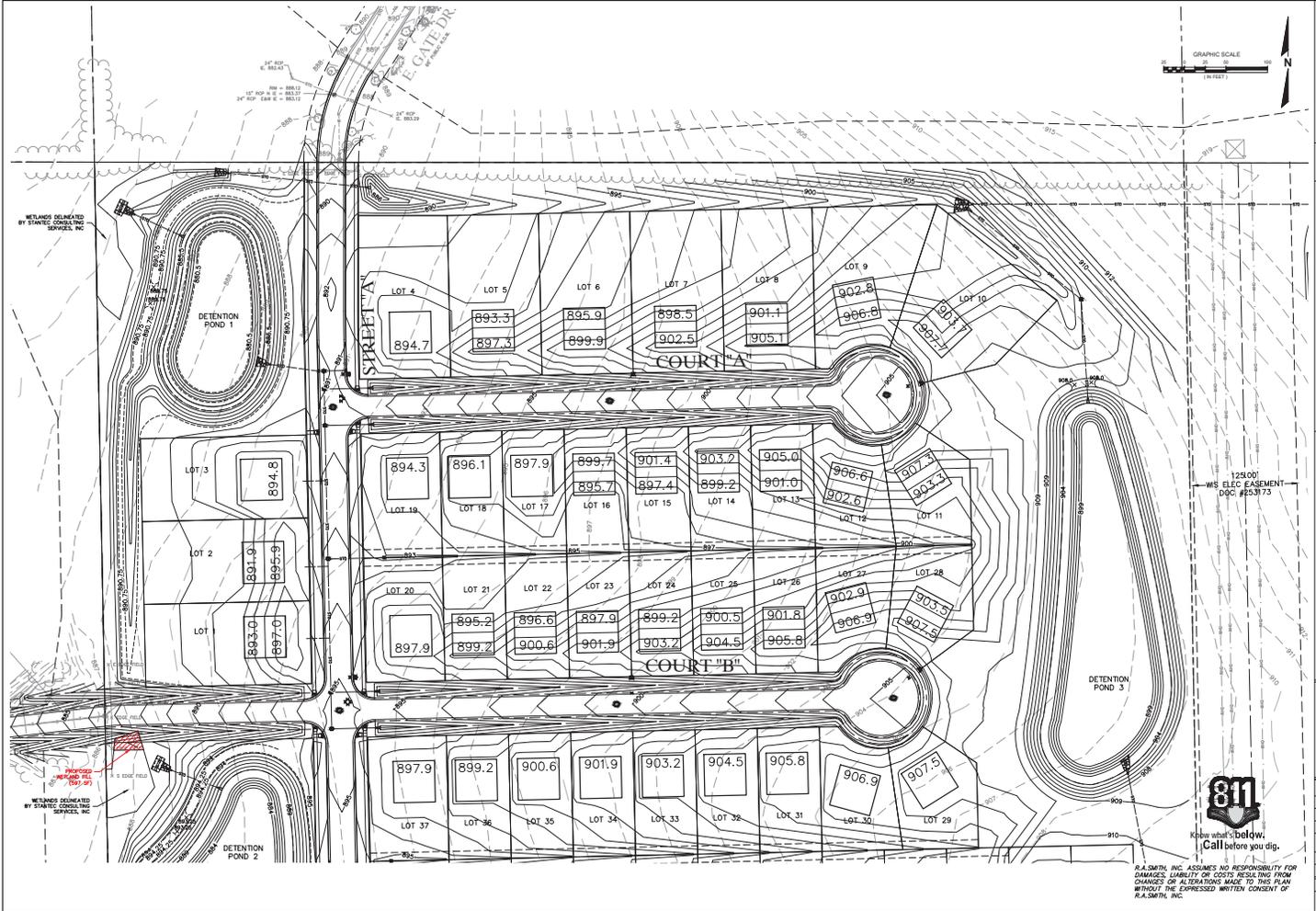
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EXPLANATION OF TYPES OF INFORMATION (From face of application form):

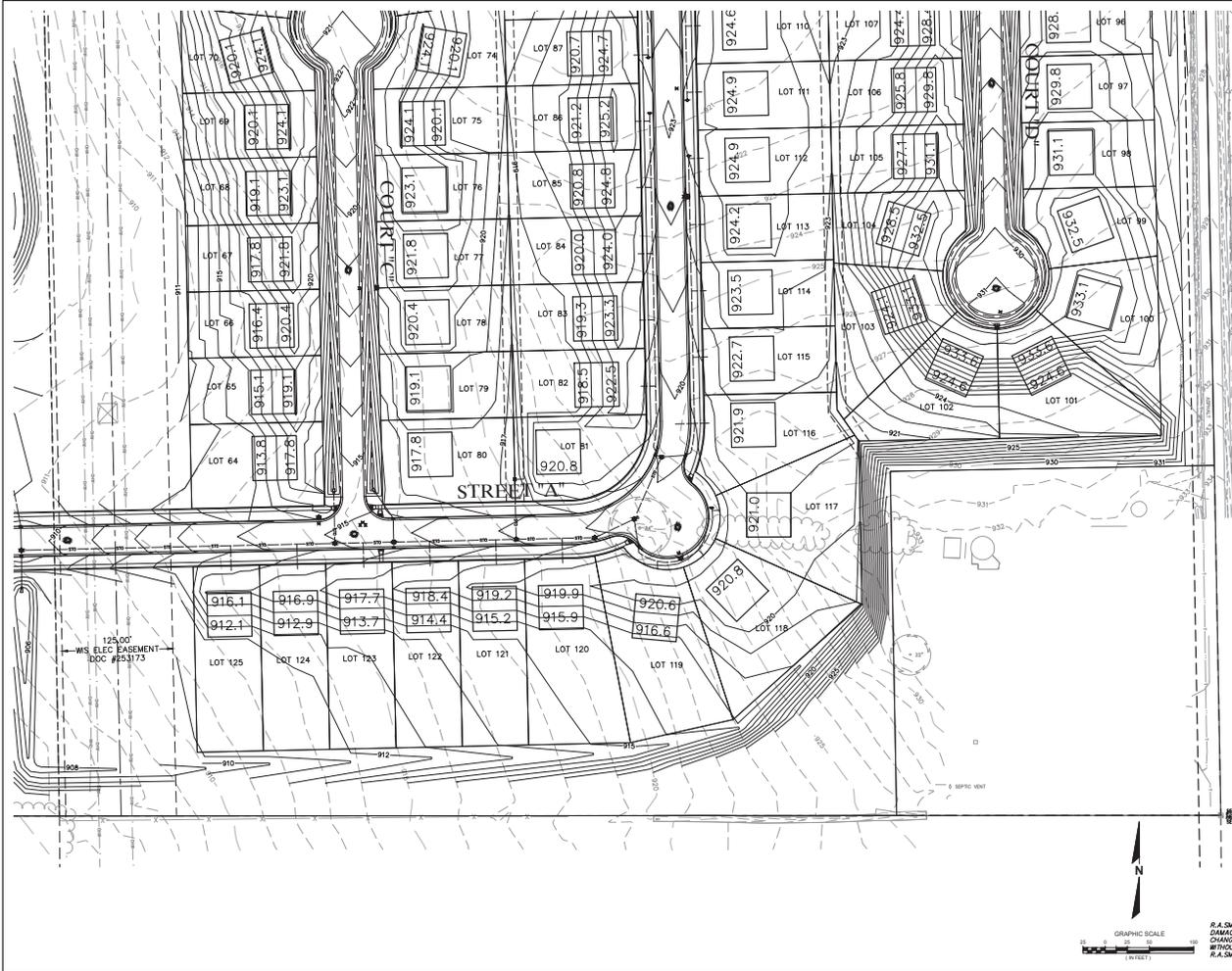
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4. Proof of Property Ownership: A copy of a deed, tax notice, title insurance policy (first page), recorded plat, etc.
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21. Annexation Agreement.

MEETINGS AT WHICH THE REQUEST IS BEING HEARD SHOULD BE ATTENDED BY THE APPLICANT OR A REPRESENTATIVE IN ORDER TO RESPOND TO QUESTIONS AND AVOID DELAYS IN THE APPROVAL PROCESS.



DESCRIPTION	
DATE	
 18245 W. Milwaukee Blvd. Brookfield, WI 53005-5238 (262) 781-1900 www.rosmith.com <small>RoSmith, Inc. is an Equal Opportunity Employer. Wisconsin, WI. Copyright © 2019. All rights reserved. Wisconsin, WI. Milwaukee, WI. Brookfield, WI. Wauwatosa, WI. Waukegan, WI. Waukesha, WI.</small>	
MAPLEWOOD FARMS SUBDIVISION VILLAGE OF JACKSON, WISCONSIN	
DETAIL GRADING PLAN NORTHWEST	
PRELIMINARY NOT FOR CONSTRUCTION	
© COPYRIGHT 2019 R.A. SMITH, INC. DATE: 05/02/2019 SCALE: 1" = 50'	
JOB NO. 3180088 PROJECT MANAGER: CHRIS D. HECK, P.E. DESIGNED BY: DJM	
CHECKED BY: CDH	
SHEET NUMBER	C101

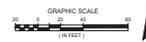
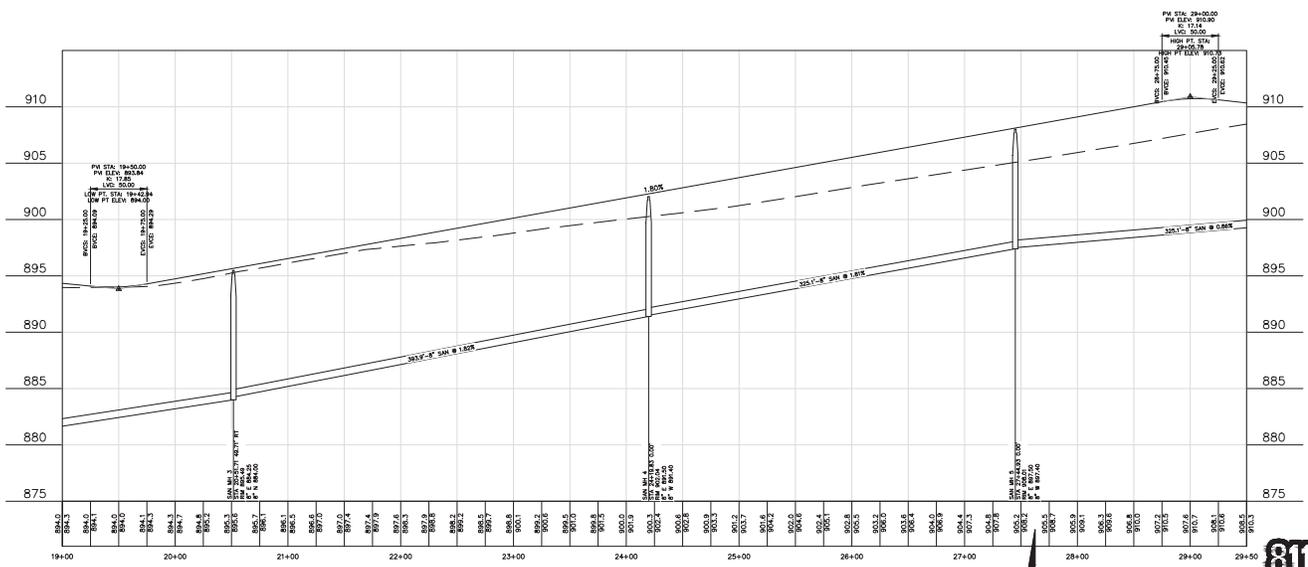
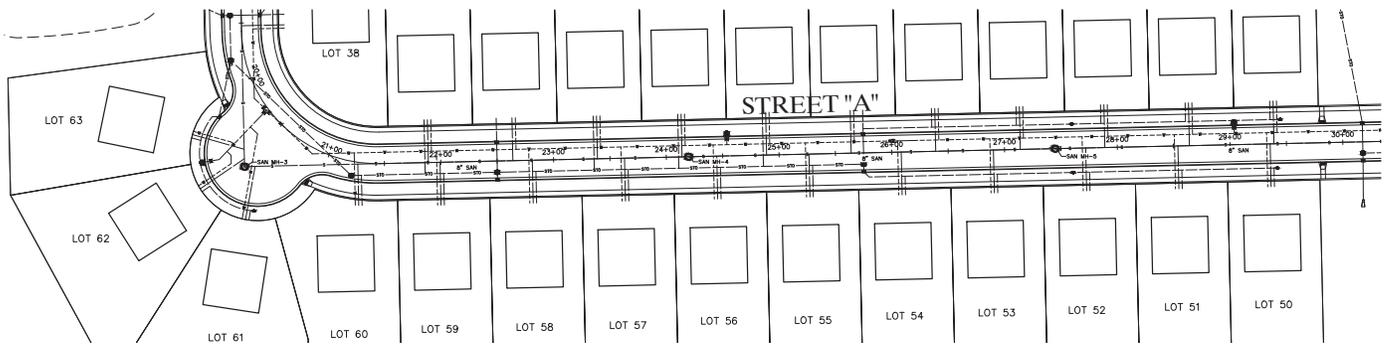

 Know what's below.
 Call before you dig.
R.A. SMITH, INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES, LIABILITY OR COSTS RESULTING FROM CHANGES OR ALTERATIONS MADE TO THIS PLAN WITHOUT THE EXPRESSED WRITTEN CONSENT OF R.A. SMITH, INC.



DESCRIPTION	
DATE	
 18245 W. Manswood Blvd Brookfield, WI 53005-5258 (262) 781-1900 www.rosmith.com	
MAPLEWOOD FARMS SUBDIVISION VILLAGE OF JACKSON, WISCONSIN DETAIL GRADING PLAN SOUTHEAST	
PRELIMINARY NOT FOR CONSTRUCTION	
© COPYRIGHT 2019 R.A. SMITH, INC. DATE: 05/02/2019 SCALE: 1" = 50' JOB NO. 3180088 PROJECT MANAGER: CHRIS D. HITCH, P.E. DESIGNED BY: DJM CHECKED BY: DJM SHEET NUMBER C104	


 Know what's below.
 Call before you dig.

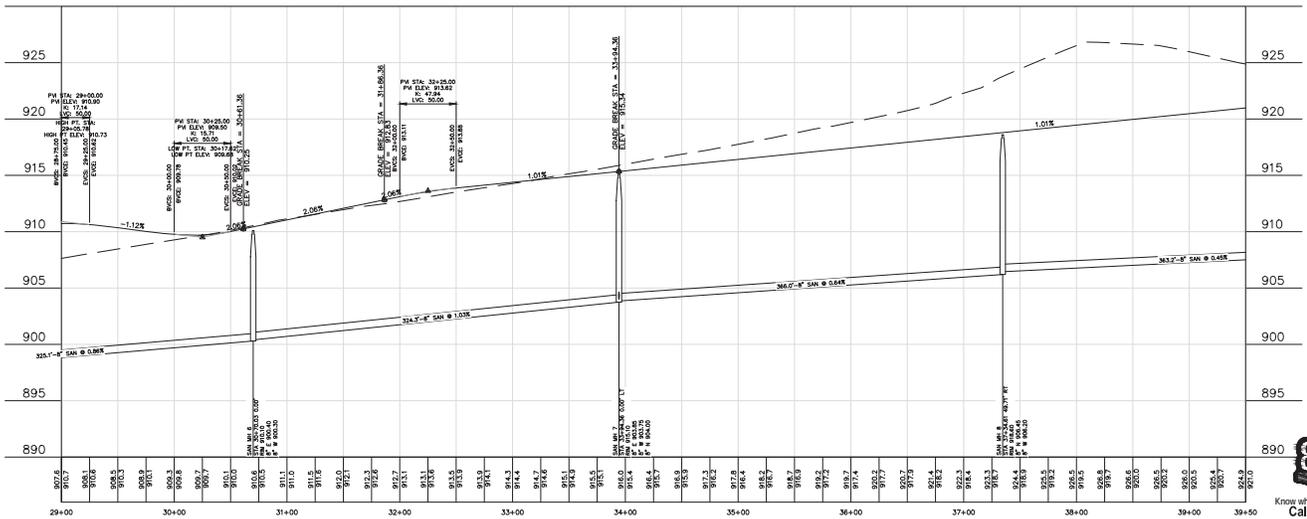
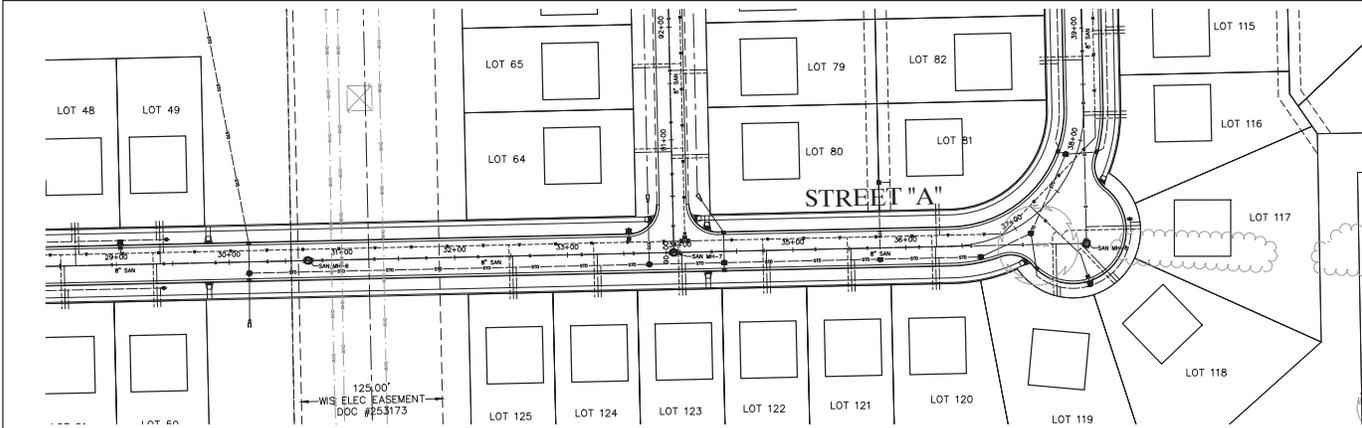
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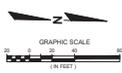
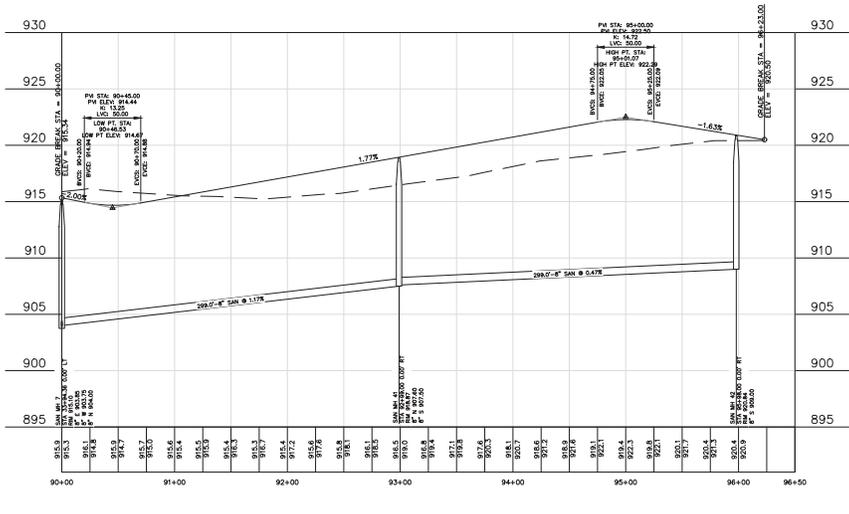
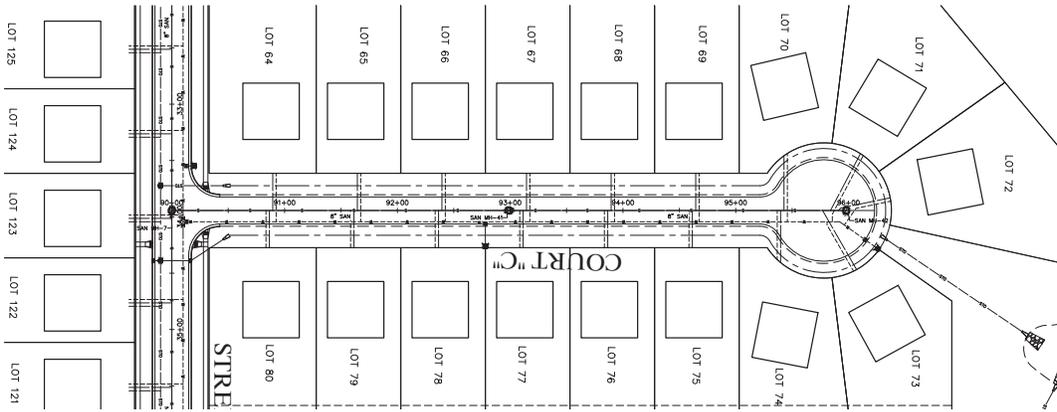
DESCRIPTION	DATE
<p>18245 W. Milwaukee Road Brookfield, WI 53005-5258 (262) 781-1000 www.ra-smith.com</p> <p>Brookfield, WI 53005-5258 18245 W. Milwaukee Road Brookfield, WI 53005-5258</p>	
MAPLEWOOD FARMS SUBDIVISION VILLAGE OF JACKSON, WISCONSIN PAVING & SANITARY SEWER PLAN & PROFILE	
PRELIMINARY NOT FOR CONSTRUCTION	
© COPYRIGHT 2019 R.A. SMITH, INC. DATE: 05/02/2019 SCALE: 1" = 40' JOB NO. 3180088 PROJECT MANAGER: CHRIS D. HECK, P.E. DESIGNED BY: D.M. CHECKED BY: CDM SHEET NUMBER C301	



DESCRIPTION	DATE
18245 W. Milwaukee Road Brookfield, WI 53005-5238 (262) 781-1000 www.rosmith.com	
R. A. SMITH, INC. ENGINEERS, P.C. 10000 W. Wisconsin Ave., Suite 100 Milwaukee, WI 53227-1000	
MAPLEWOOD FARMS SUBDIVISION VILLAGE OF JACKSON, WISCONSIN PAVING & SANITARY SEWER PLAN & PROFILE	
PRELIMINARY NOT FOR CONSTRUCTION	
© COPYRIGHT 2019 R.A. SMITH, INC. DATE: 05/02/2019 SCALE: 1" = 40' JOB NO. 3180088 PROJECT MANAGER: CHRIS D. HECK, P.E. DESIGNED BY: DJM CHECKED BY: DJM SHEET NUMBER C302	



Know what's below.
 Call before you dig.
 R.A. SMITH, INC. ASSUMES NO RESPONSIBILITY FOR
 DAMAGES, LIABILITY OR COSTS RESULTING FROM
 CHANGES OR ALTERATIONS MADE TO THIS PLAN
 WITHOUT THE EXPRESSED WRITTEN CONSENT OF
 R.A. SMITH, INC.

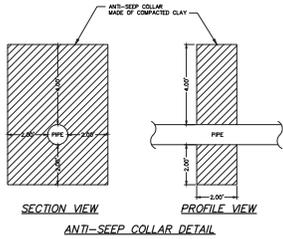


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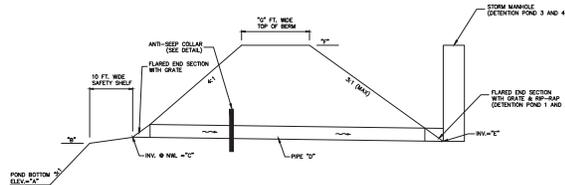
DESCRIPTION	DATE
MAPLEWOOD FARMS SUBDIVISION VILLAGE OF JACKSON, WISCONSIN PAVING & SANITARY SEWER PLAN & PROFILE	
PRELIMINARY NOT FOR CONSTRUCTION	
COPYRIGHT 2019 R.A. SMITH, INC. DATE: 05/02/2019 SCALE: 1" = 40' JOB NO. 3180088 PROJECT MANAGER: CHRIS D. HECK, P.E. DESIGNED BY: DJM CHECKED BY: CDH	
SHEET NUMBER C307	

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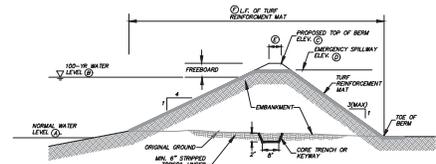


ANTI-SEEP COLLAR DETAIL



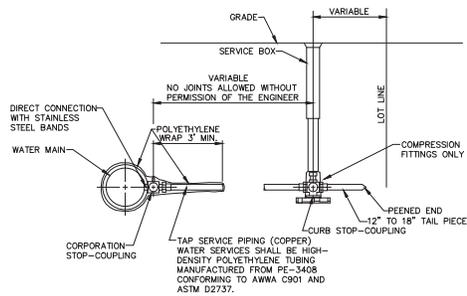
	A	B	C	D	E	F	G
DEFENTION POND 1	885.00	884.00	885.00	885.00 - 12" @ 0.42%	885.25	10"	
DEFENTION POND 2	886.00	886.00	888.00	885.00 - 12" @ 0.42%	886.25	10"	
DEFENTION POND 3	889.00	883.00	884.00	725.00 - 12" @ 0.42%	883.50	10"	
DEFENTION POND 4	890.00	893.00	894.00	725.00 - 12" @ 0.42%	893.00	10"	

WET DETENTION POND CROSS SECTION
N.T.S.

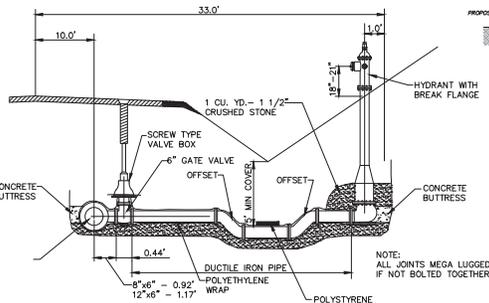


PROPOSED EMERGENCY SPILLWAY DIMENSIONS

	A	B	C	D	E	F	G
DEFENTION POND 1	885.00	886.00	886.75	887.75	10"	48"	20"
DEFENTION POND 2	886.00	886.25	886.50	887.25	10"	48"	20"
DEFENTION POND 3	886.00	887.25	888.00	888.50	10"	48"	20"
DEFENTION POND 4	886.00	887.25	888.00	888.50	10"	48"	20"



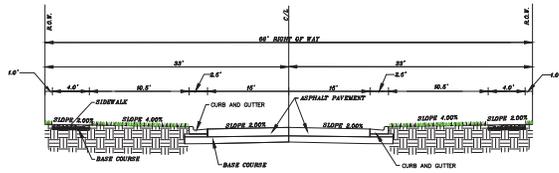
TAP SERVICE PIPING (COPPER)
N.T.S.



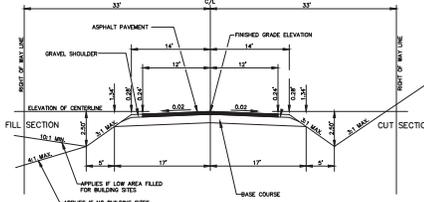
TYPICAL HYDRANT SETTING
N.T.S.



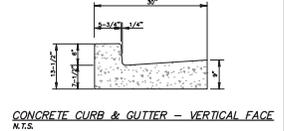
PROPOSED EMERGENCY SPILLWAY
N.T.S.



PROPOSED URBAN STREET SECTION
N.T.S.



PROPOSED RURAL STREET SECTION
N.T.S.



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DESCRIPTION	
DATE	
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roSmith CONCRETE & EARTHWORK ENGINEERS	
Brookfield, WI 53005-5258 Wauwatosa, WI 53097-1400 Milwaukee, WI 53212-1400	
MAPLEWOOD FARMS SUBDIVISION VILLAGE OF JACKSON, WISCONSIN	SITE DETAILS
PRELIMINARY NOT FOR CONSTRUCTION	
© COPYRIGHT 2019 R.S. SMITH, INC. DATE: 05/02/2019 SCALE: #000000 JOB NO. 3180088 PROJECT MANAGER: CHRIS D. HECK, P.E. DESIGNED BY: D.J.M.	CHECKED BY: CDM SHEET NUMBER
C400	



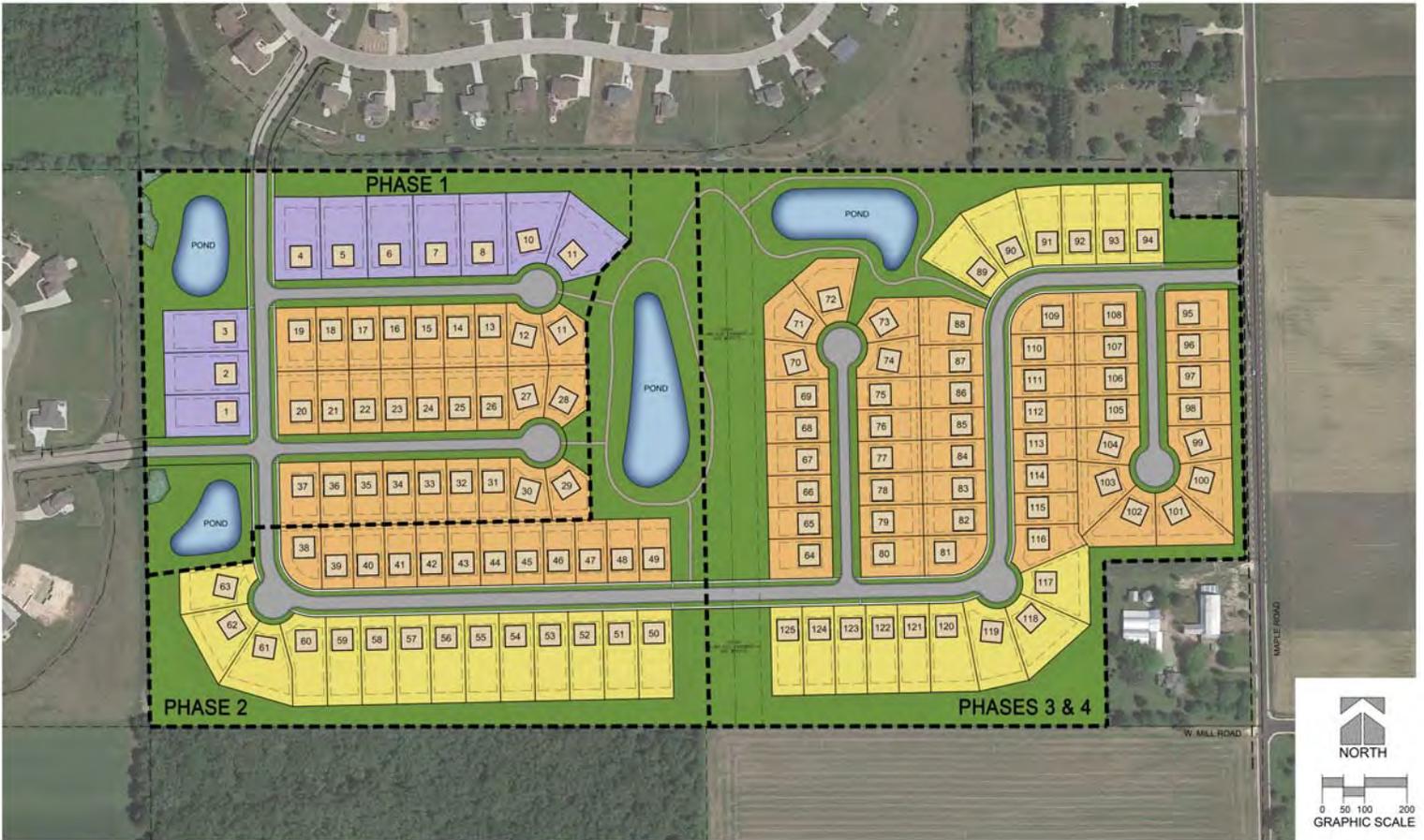
Street tree
every 60' of road
frontage at ponds

Lots 1, 4, 19, 20 and 37 (3) trees
 Lots 3, 3, 5- 9, 12-18 (2) trees
 21-27, 30-36
 Lots 10, 11, 28, and 29 (1) tree

monument sign/plantings
 white PVC fence
 2-foot
 rock "leg" base (2) 10-foot sections



MAPLEWOOD FARMS SUBDIVISION
 SITE PLAN RENDERING - APRIL 23, 2019



MAPLEWOOD FARMS SUBDIVISION

SITE PLAN RENDERING - MAY 2, 2019

May 2, 2019

Village of Jackson
N168 W20733 Main Street
Jackson, WI 53037

Re: Maplewood Farms Subdivision – Impact Statement

Dear Plan Commission:

This submittal proposes modifications to a previously approved residential subdivision, which consists of 125 single family lots and 4 outlots. The following is a summary of the impact the proposed subdivision will have.

- A. Annual water consumption estimate (100% occupancy and build-out)
109,500 gallons/year = 1 residential unit
109,500 gallons/year x 125 lots = **13,687,500 gallons/year**
- B. Annual sewage generation estimate (100% occupancy and build-out)
109,500 gallons/year = 1 residential unit
109,500 gallons/year x 125 lots = **13,687,500 gallons/year**
- C. Vehicle trip generation (trips per day per unit x number of units)
10 trips/day x 125 lots = **1,250 trips/day**
- D. Estimated number of vehicles and recreational vehicles to be stored and/or parked on site
None
- E. Proposed sign(s)
Permanent subdivision entry signs and temporary marketing signs
- F. General hours of operation
24 hours/day, 7 days/week
- G. Anticipated user profiles
Home owners
- H. Proposed dates of construction and completion
Construction Start: **Summer 2019**
Construction Completion: **Fall 2019**
- I. Unusual conditions which warrant special attention (hazardous materials storage, fire hazards, odors, noise generation, etc.)
None



Village of Jackson Plan Commission
Page 2 / April 30, 2019

If any additional information is required, or if there are any questions about the proposed development, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'C. Hitch'.

Christopher D. Hitch
Senior Project Manager



CREATIVITY BEYOND ENGINEERING

Stormwater Management Plan for MAPLEWOOD FARMS SUBDIVISION Village of Jackson, Wisconsin

Project No. 3190088

April 30, 2019

Stormwater Management Plan for
Maplewood Farms Subdivision
Village of Jackson, Wisconsin

Prepared by

raSmith
16745 W. Bluemound Road
Brookfield, WI 53005

Prepared for

Dittmar Realty, Inc.
N81 W15111 Appleton Avenue
Menomonee Falls, Wisconsin 53052

April 30, 2019

INTRODUCTION

This analysis was completed for Maplewood Farms, a proposed single-family residential subdivision, located west of Maple Road, south of Sherman Parc subdivision and east of Twin Creeks subdivision. It is further described as being a part of the southeast and the southwest quarter of the northeast quarter of Section 29, Township 10 North, Range 20 East in the Town of Jackson, Washington County, Wisconsin.

Stormwater management facilities for the proposed residential development site were designed according to the Village of Jackson Municipal Code – Chapter 35, the Wisconsin Administrative Code – Chapter NR 151 and latest Wisconsin Department of Natural Resources Technical Standards. The following is a summary of key performance standards:

- Reduce the post-development peak runoff rate to the pre-development peak runoff rate for the 1-year, 24-hour storm event.
- Reduce the post-development peak runoff rate for the 5-year, 24-hour storm event to the pre-development peak runoff rate for the 2-year, 24-hour storm event.
- Reduce the post-development peak runoff rate for the 100-year, 24-hour storm event to the pre-development peak runoff rate for the 5-year, 24-hour storm event.
- Reduce the post-development average annual suspended solids load by a minimum of 80% when compared to the same developed condition with no runoff management controls.
- Reduce the post-development average annual phosphorus load by a minimum of 60% when compared to the same developed condition with no runoff management controls.

METHOD OF ANALYSIS

Water quantity analysis included in this report was performed using HydroCAD Stormwater Modeling. Modeling parameters include drainage area, SCS runoff curve number, time of concentration, NOAA Atlas 14 precipitation and NRCS MSE3 distribution.

Table 1 – Design Storm Events

Frequency (years)	Duration (hours)	Rainfall Depth (inches)
1	24	2.35
2	24	2.66
5	24	3.26
100	24	6.41

Water quality analysis included in this report was performed using the Source Loading and Management Model (SLAMM).

WATER QUANTITY DESIGN

The study area is 76.00 acres and the pre-development cover is cropland. The site is approximately 65% B soils, 20% C soils and 15% D soils. A copy of the NRCS soil survey is included with this report.

Table 2 summarizes the peak discharge rates generated by the 1-year, 2-year, 5-year and 100-year storm events. See appendix for further design information.

Table 2 – Pre-Development Peak Discharge Rates

Watershed	Peak Discharge (cfs)			
	1-year	2-year	5-year	100-year
E1	9.58	13.57	22.38	80.09
E2	9.57	12.83	19.76	62.17
E3	6.33	9.84	17.81	73.42
E4	3.02	4.55	8.07	32.05
COMBINED	24.77	34.69	56.48	199.20

The post-development site will be a 125-lot, single-family subdivision which will increase peak runoff discharge rates due to the increased impervious area. For the purposes of assigning TR-55 curve numbers to the watershed, the lots were considered 1/4 acre.

The stormwater runoff for the post-development conditions was analyzed as six watersheds. P1 is tributary to wet detention Pond 1. P2 is tributary to wet detention Pond 2. P3 is tributary to wet detention Pond 3. P4 is tributary to wet detention Pond 4. UD1 is undetained and generally drains to the northwest. UD2 is undetained and generally drains to the northeast.

Table 3 summarizes the peak discharge rates generated by the 1-year, 2-year, 5-year and 100-year storm events after detention. See appendix for further design information.

Table 3 – Post-Development Peak Discharge Rate

Watershed	Peak Discharge (cfs)			
	1-year	2-year	5-year	100-year
P1 (Pond 1)	1.21	1.81	2.88	6.93
P2 (Pond 2)	1.07	1.66	2.82	6.97
P3 (Pond 3)	1.09	1.63	2.72	5.54
P4 (Pond 4)	0.75	1.10	1.88	5.21
UD1	0.90	1.35	2.36	9.48
UD2	2.30	3.06	4.63	14.08
COMBINED	4.46	6.73	11.32	34.87

Table 4 summarizes the maximum water surface elevations for the 1-year, 2-year, 10-year and 100-year storm events for the wet detention ponds. See appendix for further design information.

Table 4 – Pond Maximum Water Surface Elevations

	Maximum Water Surface Elevation			
	1-year	2-year	5-year	100-year
Pond 1	886.17	886.36	886.79	889.69
Pond 2	889.62	889.81	890.23	893.23
Pond 3	904.61	904.78	905.16	907.75
Pond 4	914.51	914.63	914.88	916.40

WATER QUALITY DESIGN

Stormwater quality was evaluated using SLAMM. The results are shown in Table 5 and Table 6, with the applicable computer generated information located in the appendix.

Table 5 – Post-Development Particulate Solids Load

Area (ac)	Before (lbs)	After (lbs)	Removal (%)
76.00	9135	1641	82.04

Table 6 – Post-Development Particulate Phosphorous Load

Area (ac)	Before (lbs)	After (lbs)	Removal (%)
76.00	31.20	5.99	80.82

INFILTRATION DESIGN

Subsurface conditions were evaluated by Terracon and are summarized in the *Geotechnical Exploration & Infiltration Evaluation* dated May 2, 2006. USDA mapping classifies site soils as loam and silt loam. Based on the geotechnical exploration, soil mapping and WDNR *Technical Standard 1002* guidelines, the proposed residential development site is considered to be exempt from infiltration requirements. Copies of the geotechnical exploration and soil mapping are provided in the appendix.

SUMMARY

Stormwater management facilities for the proposed residential development site were designed according to the Village of Jackson Municipal Code – Chapter 35, the Wisconsin Administrative Code – Chapter NR 151 and latest Wisconsin Department of Natural Resources Technical Standards.

Peak discharge rates for the post-development site will not exceed maximum allowable. Total suspended solids load from the post-development site will not exceed maximum allowable. Total phosphorous load from the post-development site will not exceed maximum allowable.

TABLE OF CONTENTS – APPENDICES

Appendix A: Subsurface Information

Geotechnical Exploration
NRCS Soils Map

Appendix B: Water Quantity Calculations

HydroCAD Modeling Data
Pre-Development Exhibit
Post-Development Exhibit

Appendix C: Water Quality Calculations

SLAMM Modeling Data

Appendix A

(Subsurface Information)

**PRELIMINARY GEOTECHNICAL EXPLORATION
& INFILTRATION EVALUATION REPORT
PROPOSED PALOROMA FARMS RESIDENTIAL DEVELOPMENT
SW CORNER OF MAPLE AND SHERMAN ROADS
TOWN OF JACKSON, WISCONSIN**

TERRACON PROJECT NO. 58065025

May 2, 2006

Prepared for:

Dittmar Realty Inc.
Menomonee Falls, Wisconsin

Prepared by:

Terracon
Milwaukee, Wisconsin

**PRELIMINARY GEOTECHNICAL EXPLORATION
& INFILTRATION EVALUATION REPORT
PROPOSED PALOROMA FARMS RESIDENTIAL DEVELOPMENT
SW CORNER OF MAPLE AND SHERMAN ROADS
TOWN OF JACKSON, WISCONSIN**

**TERRACON PROJECT NO. 58065025
May 2, 2006**

INTRODUCTION

Subsurface exploration has been completed for the proposed Palorama Farms Residential Development to be located southwest of the intersection of Maple and Sherman Roads in Jackson, Wisconsin. Twelve (12) borings within the building and roadway areas were drilled to depths ranging from approximately 13.6 to 15 feet, and two (2) borings in the proposed detention pond areas were drilled to depths of about 8 and 22.5 feet, respectively, below existing grade. Individual boring logs and a Soil Boring Location Diagram are included with this report. The purposes of this report are to describe the subsurface conditions encountered in the borings, present the test data, and provide recommendations regarding site preparation, earthwork and the design and construction of foundations, floor slabs and pavement subgrades as well as the preliminary evaluation of infiltration characteristics for the project.

PROJECT DESCRIPTION

Terracon understands the site will be developed as a single family residential community. The site area is about 76 acres. Seventy-six (76) lots for single family construction are shown on the Soil Boring Location Map prepared by National Survey and Engineering (NS&E), dated February 22, 2006. We anticipate the residences will be 2-story wood frame structures with full-depth basements under a portion of the building footprint. We estimate wall loads will be less than 3 kips per lineal foot and column loads will be less than 25 kips. Two (2) stormwater detention ponds will be located near the southern boundary of the parcel, and open areas are planned in the central portion of the site. New roadways will also be constructed as part of the development.

The grading plan indicates the bottom of pond elevation might be about 15 feet below current grade. We anticipate cuts and fills of less than 5 feet would be needed in other areas for the residential and roadway construction.

Wisconsin regulations include a requirement that stormwater management systems for new developments be designed to optimize stormwater infiltration. The proposed

development therefore requires initial screening to identify potential locations on the site for infiltration basins.

SUBSURFACE EXPLORATION PROCEDURES

Field Exploration

The borings were performed at approximately the staked locations. The boring locations shown on the attached Soil Boring Location Diagram were staked and the elevations for the borings were obtained by NS&E personnel. (Boring 1 was offset approximately 39 feet west due to soft ground conditions and the surface elevation at Boring 1 was estimated from the topographic plan prepared by NS&E.) The elevations are shown on the boring logs and Boring Location Diagram in Appendix A. The locations and elevations of the borings should be considered accurate only to the degree implied by the means and methods used to define them.

The borings were drilled with both truck and track-mounted drill rigs using continuous-flight hollow-stem augers to advance the boreholes. Soil samples were obtained using split-barrel sampling procedures. In the split-barrel sampling procedure, a standard 2-inch O.D. split-barrel sampling spoon is driven into the ground with a 140-pound hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. These values, also referred to as N-values, are indicated on the boring logs at the depths of occurrence. Disturbed samples were also obtained at selected depths directly from the auger flights. The samples were sealed and sent to the laboratory for testing and classification.

The drill crew prepared a field log of each boring. These logs included visual classifications of the materials encountered during drilling, as well as, the driller's interpretation of the subsurface conditions between samples. The boring logs attached in Appendix A represent an interpretation of the field logs and include modifications based on laboratory observation and test results of the samples.

Laboratory Testing

Soil samples were tested in the laboratory to measure their natural water contents. A hand penetrometer was used to estimate the unconfined compressive strength of the native cohesive soil samples. The test results are presented on the boring logs attached in Appendix A. Six (6) sieve and/or hydrometer grain size analysis tests were also performed to aid in estimating infiltration rates.

As part of the testing program, the samples were examined in the laboratory and classified in accordance with the attached General Notes and the Unified Soil Classification System (Appendix B) based on the material's texture and plasticity. Selected samples were classified in reference to the Field Book for Describing and Sampling Soils, USDA, NRCS, 2002. The estimated group symbols are shown on the boring logs, and a brief description of the Unified System is included with this report in Appendix B.

Rock sample classifications and descriptions are in accordance with the enclosed General Notes - Sedimentary Rock Classification in Appendix B, and are based on visual observations of disturbed samples. Core samples and petrographic analyses of the specimens may reveal other rock types.

SITE AND SUBSURFACE CONDITIONS

Site Conditions

The site is predominately agricultural fields. Some existing structures, farm roads and trees are present on the site. The highest area of the site is a ridge which runs across the site from near the southeast corner towards the northwest corner, and the low area is a ravine on the west side. Approximately 45 feet of relief exists on the site, with the majority of the site having a surface elevation between 880 feet and 920 feet (USGS). A maximum elevation difference of approximately 35 feet was measured between boring locations.

Soil and Rock Conditions

Conditions encountered at each boring location are indicated on the individual boring logs. Stratification boundaries on the boring logs represent the approximate location of changes in soil types; in-situ, the transition between native soil and rock types may be gradual. Subsurface conditions found at the borings can be generalized as follows.

Topsoil thicknesses ranging from approximately 5 to 12 inches were encountered at the surface of the borings. Native cohesive and cohesionless soils were encountered beneath the topsoil and extended to the bottom of all of the borings, except at Boring 11 where bedrock was encountered below a depth of approximately 13 feet. The native cohesive soils consisted of light brown to dark brown, lean clay and silty clay. The consistency of the cohesive soils typically ranged from medium stiff to stiff; however, a layer of soft silty clay was encountered between depths of about 2 and 4 feet at Boring 12.

Proposed Palorama Farms Residential Development
Town of Jackson, Wisconsin
Terracon Project No. 58065025
May 2, 2006

The cohesionless soils were comprised of silty sand, gravelly silty sand, clayey sand, gravelly sand, fine to medium sand, and sandy silt. The sand and silt soils were tan, light brown, brown and light gray. Relative densities were typically loose to medium dense within approximately 6 feet of the surface, and medium dense to very dense below depths of about 6 feet. Occasional cobbles were generally encountered within the silty sand soils below depths ranging from about 6 to 12 feet. These cobbles may be larger fragments of limestone in a decomposed rock and soil matrix.

Apparent limestone or dolomite bedrock was encountered at a depth of about 13 feet at Boring 11, and about 8 feet at Boring 14. Effective auger refusal occurred at a depth of about 22.5 at Boring 11 within the weathered bedrock. The samples recovered between the depths of approximately 13 and 22.5 feet at Boring 11 were visually classified as tan, highly weathered limestone. Effective auger refusal also occurred at Boring 14 on apparent bedrock at a depth of about 8 feet. Boring 14 was offset approximately 10 feet to the west, and blind drilled to effective auger refusal at a depth of about 8 feet. Samples of the refusal materials at Boring 14 were not recovered.

Bedrock may also be present at and below the termination depths of Borings 2 to 7, 9, 12 and 13, where SPT blow counts of greater than 50 for 6 inches of penetration were encountered. However, fragments of apparent bedrock were not observed in the split-barrel samples obtained at termination depth in these borings. Please note that rock coring was beyond the scope of this exploration; therefore, the character and continuity of the materials beyond auger and split-barrel sampler refusal depth could not be determined.

Please refer to the attached boring logs for the laboratory data and a detailed description of the subsurface conditions encountered at the individual boring locations.

Groundwater Conditions

The borings were observed for the presence of groundwater during and upon completion of the drilling. At these times, water was observed between depths of approximately 2 and 8.5 feet at Borings 2 to 5 and 7 to 14. No water was observed in the Borings 1 and 6 at these times. These water level observations provide an approximate indication of the groundwater conditions existing within the higher permeability cohesionless soils at the time the borings were drilled. However, a longer time may be required to develop representative water level in the boreholes where lower permeability clay soils were encountered. Longer-term observations using cased holes or piezometers, sealed from

Proposed Palorama Farms Residential Development
Town of Jackson, Wisconsin
Terracon Project No. 58065025
May 2, 2006

the influence of surface water, would be required for a better evaluation of the groundwater conditions on this site.

Fluctuations of the groundwater levels will likely occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. Therefore, groundwater levels during construction or at other times in the life of the structure may be different than the levels indicated on the boring logs. Also, trapped or "perched" water could be present within the sand or silt seams and layers within native clay soils and/or above lower permeability soil and rock layers. The possibility of groundwater level fluctuations and perched water should be considered when developing the design and construction plans for the project.

ENGINEERING ANALYSIS AND RECOMMENDATIONS

Geotechnical Considerations

The soil boring and laboratory test results were evaluated to develop general recommendations for the site preparation, foundation design and construction, and development of subgrades to support floor slabs and pavements for the proposed development. Based on the results of the soil borings and our understanding of the project, support of the proposed residential buildings on footing foundations is considered feasible. Final recommendations for individual building sites would depend on actual building locations, loading information, and the amount and quality of earthwork/grading performed on the sites.

The borings were very widely spaced with distances over a few hundred feet between them, and the borings were not performed necessarily where the final building locations will be. As such, we have developed boring specific recommendations in regards to depths to suitable bearing and corresponding allowable bearing pressures. Additional borings may be needed in specific areas as design proceeds, and are recommended.

Footing foundations should bear on native, stiff cohesive soils, medium dense to very dense granular soils, bedrock, or on new engineered fill materials placed above suitable native soils. However, footings could also bear on medium stiff clay soils and loose sands if they are designed for a relatively low bearing pressure. Provided the subgrade observation and preparation are completed as described herein, it is our opinion that stable portions of the non-organic native soils and new compacted fill will also be suitable for support of floor slabs and pavements.

Proposed Palorama Farms Residential Development
Town of Jackson, Wisconsin
Terracon Project No. 58065025
May 2, 2006

Lean clay, clayey sand and silty sand soils exhibiting relatively low strengths and high moisture contents were encountered near the surface at several of the borings. Depending on the proposed site grades, these soils may be exposed during grading for the floor slab and pavement areas and could be subject to some strength loss and instability when exposed and subject to precipitation, runoff and standing water. Some stabilization of these subgrade soils should be anticipated during earthwork operations and/or prior to constructing pavements and floor slabs.

Soft to medium stiff lean clay and silty clay soils and loose sands were encountered in several of the borings near expected footing bearing elevation. Overexcavation of unsuitable soils should be expected during foundation construction. Based on the materials encountered at the borings, overexcavation depths up to 7 feet below existing grade could be required at some locations to remove soils unsuitable for the recommended bearing pressure. Recommendations for fill placement during site grading and for overexcavation and backfilling during foundation construction are presented below.

Based on the elevation of bedrock and effective auger refusal observed at Borings 11 and 14, depending on final site grading, rock excavation may be required in some areas for basement and deeper utility excavations. It is possible that highly weathered or decomposed bedrock could be present at depths on the order of 6 to 13 feet at several of the other borings where only limited penetration into very dense materials was obtained. Typically, rock formations that can be easily penetrated with flight augers can sometimes be excavated using heavy duty construction equipment, such as large backhoes equipped with rock teeth. However, quality of the bedrock will vary across the site, and jackhammers, pneumatic breakers, or other rock removal techniques, will likely be required to excavate to the desired depths. **Based on our observations, removal of rock will likely require specialized equipment to facilitate excavation.** Over-breakage of bedrock in foundation and utility excavations should be anticipated. Disturbed or blasted material below design grades must be compacted as recommended elsewhere in this report, or removed and replaced with compacted fill. Test excavations could be performed prior to construction to better evaluate the rock characteristics.

Higher permeability cohesionless soils and bedrock were encountered at or near the expected bottom elevation of the proposed detention basins. We expect that a low permeability clay liner or impervious membrane will need to be constructed for the basin to maintain a design normal water level. We expect the lean clay soils encountered in the borings would be suitable for construction of a clay liner. Laboratory moisture-density relationship (Proctor) and remolded permeability tests could be performed on samples of

the different clay soils from the on-site cut sections to better evaluate their suitability for use as a liner material. We are available to perform these tests upon request.

Our general recommendations regarding design and construction of foundations and floor slabs for the proposed structures as well as earthwork for the development are contained in the following subsections.

Site Preparation and Earthwork

The surface of the proposed construction areas should be stripped of topsoil, vegetation and any loose, soft or otherwise unsuitable material. If present, pavement materials, granular base materials, slabs or other improvements that will be abandoned should also be removed to allow evaluation of the underlying soils. Root systems of trees should be sufficiently grubbed. Topsoil depths were about 5 to 12 inches at the boring locations. Greater thicknesses of topsoil and/or softened soils could be encountered. Actual stripping depths will likely vary, as the plow zone depth can vary and low lying areas can contain thicker deposits of organic soils. Hand auger probes, test pit excavations and organic content tests could be performed if requested to better define necessary stripping depths across the site. We recommend that Terracon be retained to assist in evaluating that unsuitable materials are removed at the time of construction.

The site has been in use as agricultural land. Field tile subdrains may be present in areas of the site not explored with subsurface borings. Any field tile subdrains encountered during construction should be properly abandoned or rerouted to a suitable outlet, such as a storm sewer.

We recommend a representative of Terracon observe and test the subgrade conditions after stripping and excavating to rough grade in the building areas. We recommend proofrolling the exposed subgrades prior to placing site fill in areas below design grade and after rough grading is completed in other areas. Proofrolling aids in providing a firm base for compaction of fill and delineating soft or disturbed areas that may exist at or near the exposed subgrade level and should be performed in the presence of Terracon personnel. Unstable areas observed at this time should be improved by scarification and recompaction or by undercutting and replacement with suitable compacted fill. Proofrolling may be accomplished with a fully loaded, tandem axle dump truck or other equipment providing an equivalent subgrade loading. A minimum gross weight of 25 tons is recommended for the proofrolling equipment.

Based on the outcome of the proofrolling operations, some undercutting or subgrade stabilization should be expected, especially during wet periods of the year. Methods of stabilization, outlined below, could include scarification and recompaction, removal of unstable materials and replacement with granular fill (with or without geotextiles) and chemical stabilization. The most suitable method of stabilization, if required, will be dependant upon factors such as schedule, weather, the size of area to be stabilized and the nature of the instability. More detailed recommendations can be provided during construction, as the need for subgrade stabilization occurs. Delaying site grading operations to the warmer and drier seasons would aid in reducing potential need for subgrade stabilization

- **Scarification and Recompaction** - It may be feasible to scarify, dry, and recompact the exposed soils. The success of this procedure would depend primarily upon favorable weather and sufficient time to dry the soils. Even with adequate time and weather, stable subgrades may not be achievable if the thickness of the soft soil is greater than about 1 to 1½ feet.
- **Crushed Stone** - The use of crushed stone or gravel could be considered to improve subgrade stability. Typical undercut depths would range from about ½ foot to 2 feet. The use of high modulus geotextiles (i.e., engineering fabric or geogrid) could also be considered after underground work such as utility construction is completed or in deep fill areas. Equipment should not be operated above the fabric or geogrid until one full lift of crushed stone fill is placed above it. The maximum particle size of granular material placed over geotextile fabric or geogrid should not exceed 2 inches. Geotextiles can also be considered for severe subgrade conditions during winter months. It should be expected that a minimum of 12 to 18 inches of granular fill will be required with any geotextile application. The geotextile product manufacturer should recommend granular fill gradation requirements.
- Improvement of subgrades with Portland cement, lime kiln dust, or Class C fly ash could be considered for unstable soils. Chemical modification should be performed by a pre-qualified contractor having experience with successfully stabilizing subgrades in the project area on similar sized projects with similar soil conditions. Results of chemical analysis of the additive materials should be provided to the geotechnical engineer prior to use. The hazards of chemicals blowing across the site or onto adjacent property should also be considered. Additional testing would be needed for us to develop specific recommendations to improve subgrade stability by blending chemicals with the site soils. Additional testing could include, but not be

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limited to, determining the most suitable stabilizing agent, the optimum amounts required, the potential for sulfate induced heave, and freeze-thaw durability of the subgrade.

Upon completion of filling and grading, care should be taken to maintain the subgrade moisture content prior to construction of floor slabs and pavements, and to reduce construction traffic over the prepared subgrade. If the subgrade should become frozen, desiccated, saturated, or disturbed, the affected material should be removed or these materials should be scarified, moisture conditioned, and recompacted prior to floor slab or pavement construction.

Site grades should be maintained so surface water will flow away from construction areas. During earthwork operations, all exposed subgrades should be properly sloped to provide rapid drainage so that softening of the subgrades can be reduced. Surface water that accumulates in building and pavement areas should be removed as soon as possible to avoid wetting or disturbance of the subgrade soils.

Relatively shallow groundwater was observed in several of the borings. Dewatering when performing foundation and utility excavations will likely be required. We expect the volume of groundwater seepage into excavations in clay soils could be controlled with an appropriate number of sump pits and pumps. Diversion ditches or cut-off trenches might be needed in deeper cut areas if seepage is encountered during construction. More extensive dewatering measures, such as well points may be required for excavations extending into water bearing sand soils. Groundwater should be maintained at least 2 feet below subgrade elevation during construction.

Fill Types and Compaction

Fill placed in building and pavement areas should be low volume change cohesive soil or granular soil. Fill should consist of approved materials that are free of organic matter and debris. If earthwork is performed during cold weather, we recommend the fill not contain frozen material and that it not be placed on a frozen subgrade. Low volume change cohesive soil would have a liquid limit less than 45 and a plasticity index less than 20, but greater than 11 percent. The lean clay and silty clay inorganic cohesive soils and silty sand and clayey sand cohesionless soils encountered in the borings appear suitable for use as site mass grading fill. The silty sand soils are highly frost susceptible and difficult to place and compact. These materials should generally not be used as fill or left in place within 2 feet below pavement or slab subgrade levels. Moisture conditioning (e.g. drying) of the existing soils should be anticipated for their use as engineered fill. Appropriate

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laboratory tests, including Atterberg Limits (for cohesive soils) and standard Proctor (ASTM D698) moisture-density relationship tests should be performed on proposed fill materials prior to their use as engineered fill. Further evaluation of any on-site soils or off-site fill materials should be performed by Terracon prior to their use in compacted fill sections.

Fill placed in confined excavations, utility trenches crossing roadways and structure overexcavations should consist of relatively clean and well-graded granular material. This should provide for greater ease of placement and compaction in confined areas where larger compaction equipment cannot be operated. The use of granular fill in these isolated and potentially deeper excavations would reduce the potential for differential settlement for building components.

Care should also be taken to avoid inter-layering of granular soils and clay soils during fill placement. This could result in perched water conditions and lead to development of frost lenses and loss of subgrade strength both during and after construction. If granular soils are placed above clay soils, we suggest the subgrades have significant slope to drain/subdrain locations or that trench subdrains be installed.

Low plasticity cohesive fill should be placed at a moisture content of 2% below to 3% above the material's optimum moisture content determined by the standard Proctor test. Granular fill should be placed at about 3% above or below the material's optimum moisture content. Fill placed as detention basin liners should be compacted at 0% to 4% above optimum moisture content.

We recommend that fill be placed and compacted on stable subgrades in loose lifts of 9 inches thick or less. Fill placed below foundation bearing level for structures and within 1 foot of finished subgrade elevation in pavement areas should be compacted to at least 98% of the material's standard Proctor maximum dry density. Fill placed above footing bearing elevations for floor slab support in building areas and at least 1 foot below finished subgrade elevation in pavement areas, should be compacted to at least 95% of the above specified density. All new fill placement and compaction should be observed and tested by Terracon personnel.

Footing Foundations

Based upon the subsurface conditions encountered in the borings, and the proposed construction, the proposed residences can be supported on conventional footing foundations.

Based on the soils encountered in the borings, a conventional spread footing foundation system is considered feasible for the anticipated one to two story residential buildings. Given the variable terrain and variations in subsurface conditions found in the borings, we have provided boring specific preliminary recommendations. The recommended bearing depth and appropriate allowable bearing pressures are presented in the following **Bearing Soil Recommendations Table**. Generalized recommendations for foundation design and construction are included in the following paragraphs.

Bearing Soil Recommendations Table

Boring	Typical Depth to Suitable Bearing Soil (ft)	Approx. Elevation of Suitable Soil at Borings	Bearing Soil Type	Limitation	Net Allow. Bearing Pressure (psf) ¹
1	1 3	919 917	Native, medium stiff to stiff clay and medium dense sand	Medium stiff clay and loose sand	2,000 3,000
2	1 7	917 911	Native, medium stiff clay and medium dense sand	Medium stiff clay and shallow groundwater	2,000 4,000
3	1 4	904 901	Native, medium stiff clay and medium dense sand	Medium stiff clay, loose sand and shallow groundwater	2,000 4,000
4	1 4	897 894	Native, medium stiff clay and medium dense sand	Medium stiff clay, loose sand and shallow groundwater	2,000 4,000
5	1 4	890 887	Native, loose to medium dense sand	Loose sand and shallow groundwater	2,000 4,000
6	2	892	Native, medium dense sand	Loose sand	4,000
7	2	900	Native, medium dense sand	Shallow groundwater	4,000
8	1	917	Native, medium dense sand	Shallow groundwater	4,000

Boring	Typical Depth to Suitable Bearing Soil (ft)	Approx. Elevation of Suitable Soil at Borings	Bearing Soil Type	Limitation	Net Allow. Bearing Pressure (psf) ¹
9	1 4	923 920	Native, loose to medium dense sand	Loose sand and shallow groundwater	2,000 4,000
10	3	923	Native, medium dense to very dense sand	Loose sand and shallow groundwater	4,000
11	1 4	912 909	Native, stiff clay, medium dense to dense sand, and bedrock	Stiff clay and shallow groundwater	3,000 4,000
12	4	900	Native, dense to very dense sand	Soft clay and shallow groundwater	4,000
13	2	896	Native, medium dense to very dense sand	Loose sand and shallow groundwater	4,000
14	2	892	Native, medium dense sand	Loose sand and shallow groundwater	4,000
¹ Higher bearing value listed is for the greater of the two depths to suitable bearing soil.					

For use of the higher bearing pressures of 3,000 to 4,000 psf, the foundations should bear on undisturbed native soils consisting of stiff clay, medium dense to very dense sand, or new-engineered fill extending down to these suitable native soils. Footing foundations for the building supported on these soils can be designed using the maximum net allowable soil bearing pressure listed in the above **Bearing Soil Recommendations Table**. The net allowable soil bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at footing base elevation.

Higher soil bearing values could be considered where footings bear on the dense to very dense sands soils or highly weathered bedrock, but this would need to be evaluated for a specific building location once final grading plans, building layouts and finished floor levels are determined.

Regardless of contact pressure, isolated footings should have a minimum width of 30 inches, and continuous wall footings should have a minimum width of 18 inches. Perimeter footings and footings in unheated areas should extend at least 4 feet below the

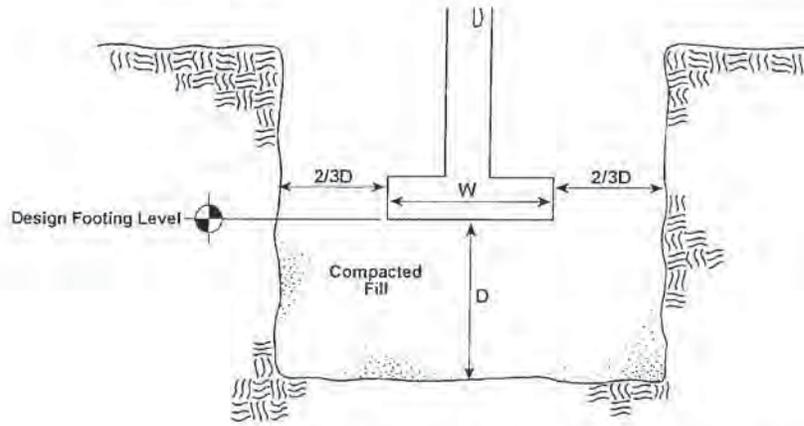
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lowest adjacent finished grade for frost protection. Interior footings in heated areas at least 5-feet from outside wall lines could bear at shallower depths provided that suitable soils are present at the higher elevation.

Due to the presence of lower strength native soils and the potential for subsurface variations across the site, it is recommended that Terracon personnel observe and evaluate the soil conditions at and below footing grade at the time the footing excavations are performed. Hand auger probes and sampling of the soils at and below footing level should be performed at close intervals within the foundation excavations to evaluate that the bearing soil properties are consistent with the recommended design parameters. Density testing of new fill materials below footing level, if any, should also be performed.

If soft, loose, or otherwise unsuitable soils are encountered below the design bottom of footing elevations, the footings can be proportioned using the lower bearing pressures offered or the footing excavations should be extended deeper to reach adequate bearing soils. We anticipate the loose sand soils could be improved by compaction with a large vibratory plate if groundwater is not present near the bottom of the excavation. Vibratory compaction on soils within about 2 feet of the groundwater level should be avoided. Where deepened excavations are needed, the footings could bear directly on the suitable soils at the lower level, or lean concrete could be placed from the suitable soils back to the design bearing level. If lean concrete (minimum $f_c = 1500$ psi) is used, the excavation should be widened at least 6 inches from all edges of the design footing width. The lean concrete may be advantageous since it should reduce the amount of excavation and time required to replace the unsuitable soils. Additionally, the lean concrete serves as a "mud mat" to protect the underlying foundation bearing materials.

Where corrections of the bearing soils are needed, the footings could also bear on properly compacted granular backfill placed in widened excavations extending down to suitable soil. For the granular fill alternative, we recommend the excavation extend laterally at least 8 inches beyond all footing edges for each 12 inches of additional excavation depth required below the bottom of foundation design elevation. The overexcavation should then be backfilled to the design elevation with new engineered granular fill that is approved by the geotechnical engineer. Granular fill below footing base elevation should be placed in loose lifts not exceeding 6 inches in thickness and compacted to at least 98% of the material's standard Proctor maximum dry density (ASTM D698). Footings bearing on new engineered granular fill could be designed for the recommended net allowable soil bearing pressures used in the design. A diagram illustrating the overexcavation and backfill procedure is presented below.



Note: Excavation sides are shown vertical for reference only; slopes should conform to OSHA requirements.

The base of the foundation excavations should be free of water and loose soil prior to placing reinforcing steel and concrete. Concrete should be placed as soon as possible after excavation to reduce bearing soil disturbance. Soils at bearing level that become frozen, disturbed or saturated should be removed prior to placing reinforcing steel and concrete.

Based on the subsurface conditions and assumed structural loads described herein, we estimate that post-construction settlements of the foundations designed and constructed in accordance with the recommendations in this report should be less than about 1 inch. Differential settlements across the building area are typically on the order of 1/2 to 2/3 the total settlement.

Seismic Site Classification

According to the 2003 Wisconsin Enrolled Commercial Building Code Section 1615.1.1, the soil site classification is based on the soil profile in the top 100 feet. Although site specific information to this depth is not available, based on the subsurface conditions observed during our geotechnical exploration, it is our opinion that the site should be considered as Site Class "D" for a "Stiff Soil" profile. Additional borings to greater depths and/or seismic testing would be required to better define the site classification for this project.

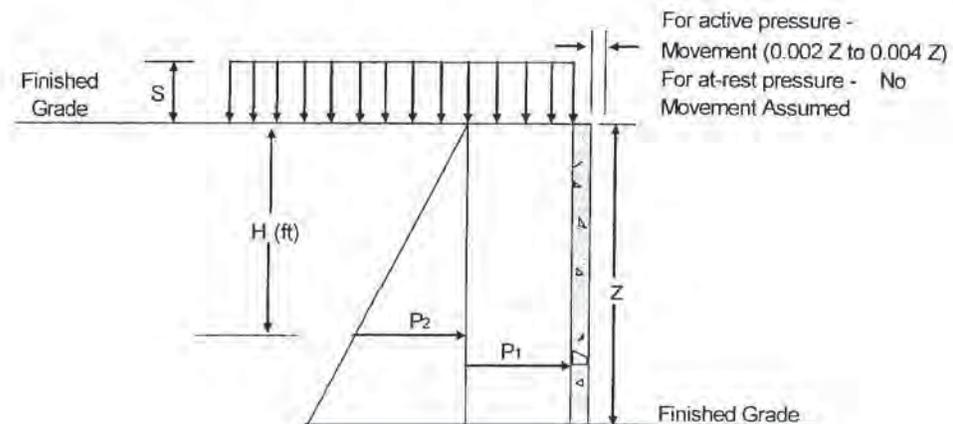
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Lateral Earth Pressures

Walls with unbalanced backfill levels on opposite sides should be designed for earth pressures at least equal to those indicated in the following table. Earth pressures will be influenced by structural design of the walls, conditions of wall restraint, methods of construction and/or compaction and the strength of the materials being restrained. Two wall restraint conditions are shown. Active earth pressure is commonly used for design of free-standing cantilever retaining walls and assumes wall movement. The "at-rest" condition assumes no wall rotation and is normally used for basement walls. The recommended design lateral earth pressures are for cast-in-place concrete walls only and do not include a factor of safety or any provision for possible hydrostatic pressure on the walls.

These recommendations are not applicable to the design of modular block - geogrid reinforced backfill walls. Recommendations covering these types of wall systems are beyond the scope of services for this assignment. However, we would be pleased to develop recommendations for the design of such wall systems upon request.

EARTH PRESSURE COEFFICIENTS



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EARTH PRESSURE CONDITIONS	COEFFICIENT FOR BACKFILL TYPE	EQUIVALENT FLUID PRESSURE (pcf)	SURCHARGE PRESSURE, P ₁ (psf)	EARTH PRESSURE, P ₂ (psf)
Active (K _a)	Granular - 0.33	40	(0.33)S	(40)H
	Lean Clay - 0.42	50	(0.42)S	(50)H
At-Rest (K _o)	Granular - 0.46	55	(0.46)S	(55)H
	Lean Clay - 0.58	70	(0.58)S	(70)H
Passive (K _p)	Granular - 3.0	360	---	---
	Lean Clay - 2.4	290	---	---

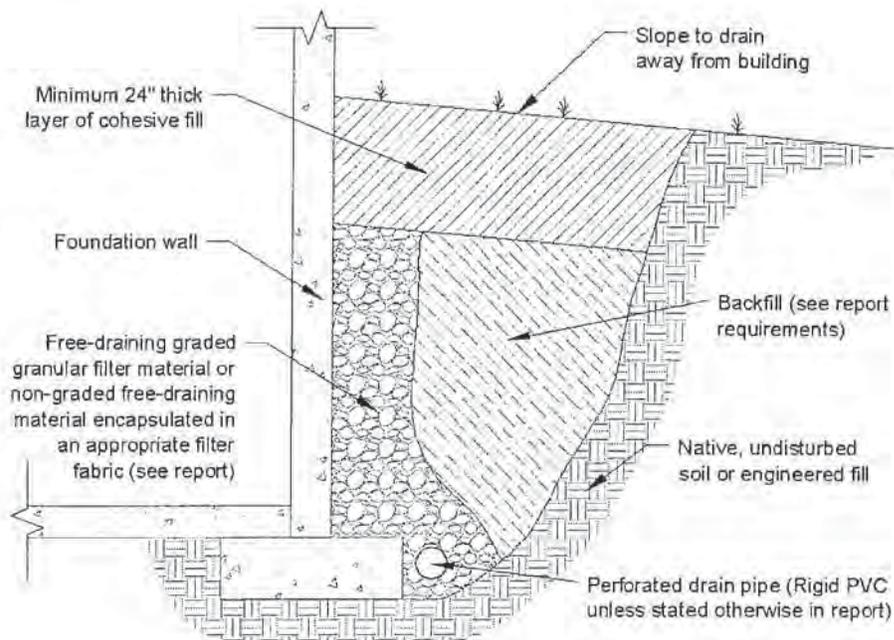
Conditions applicable to the above values include:

- For active earth pressure, wall must rotate about base, with top lateral movements 0.002 Z to 0.004 Z, where Z is wall height
- For passive earth pressure, wall must move horizontally to mobilize resistance.
- Uniform surcharge, where S is surcharge pressure
- In-situ soil backfill weight a maximum of 120 pcf
- Horizontal backfill, compacted to at least 95% of the ASTM D698 maximum dry density
- Loading from heavy compaction equipment not included
- No groundwater acting on wall
- No safety factor included
- Ignore passive pressure in frost zone

Backfill placed against structures should consist of granular soils or low plasticity cohesive soils. For the granular values to be valid, the granular backfill must extend out from the base of the wall at an angle of at least 45, and 60 degrees from vertical for the active and passive cases, respectively. To calculate the resistance to sliding, a value of 0.3 could be used as the allowable coefficient of friction between the footing and the underlying soil.

Heavy construction equipment should not operate within a distance closer than the exposed height of retaining walls to prevent lateral pressures greater than those provided. Backfill placed in non-structural areas adjacent to the walls should be placed in thin lifts and compacted using hand-operated equipment to at least 93%, but no more than 98%, of the material's maximum standard Proctor dry density (ASTM D698). Exterior grading should be performed to provide surface water flow away from the structures.

To reduce hydrostatic loading on the walls, perforated, rigid plastic or metal drain lines installed outside the base of walls extending below grade should be installed. The invert of a drain line should be at least at footing base level. The drain line should be sloped to provide positive gravity drainage and should be surrounded by free-draining (less than 5% passing the No. 200 sieve) granular material graded to prevent the intrusion of fines, or an alternative non-graded free-draining granular material encapsulated with suitable filter fabric. At least a 2-foot wide section of free-draining granular fill should be used for backfill above the drain line and adjacent to the wall. The drainage section should extend to within 2 feet of final grade. The drainage section should be capped with low-permeability compacted cohesive fill to minimize infiltration of surface water into the drain system. A drawing of the recommended drainage system is provided below.



Since water was observed in several of the borings at depths above the likely basement level, we recommend that subfloor drain systems be constructed beneath basement floors. The subfloor drain system should consist of a network of perforated, rigid plastic or metal drain lines spaced no more than 30 feet apart. The perimeter drain discussed above could be included in this spacing. The invert of these drain lines should be at least 12 inches below the floor slab subgrade elevation. These drain lines should be

surrounded by at least a 6-inch annulus of granular material graded to facilitate drainage and prevent the intrusion of fines. At least 6 inches of free-draining granular material should be placed beneath the floor slab area and should be hydraulically connected to the granular material surrounding the drainage pipes. To separate the granular layer where the subdrains are installed from the underlying clay soils, a geotextile fabric can be placed below the granular drainage layer.

Floor Slab Support

The recommendations presented in the **Geotechnical Considerations, Site Preparation and Fill Types and Compaction** subsections of this report are intended to develop a subgrade suitable for support of floor slabs. In these sections, the preparation of exposed soils and anticipated subgrade types were discussed.

We recommend a minimum 6-inch thickness of compacted, well-graded crushed stone, such as Wisconsin Department of Transportation (WDOT) 304.2.6 Gradation No. 2, should be placed on stable subgrade soils immediately below the floor slab area on grade to facilitate fine grading and to serve as a capillary moisture break. Clean and free-draining granular material should be used below floor slabs in basement areas.

For a slab supported on the minimum 6-inch thick granular base recommended above, the floor slab thickness and reinforcement could be designed using a modulus of subgrade reaction of 150 pounds per cubic inch. The floor slab should also incorporate control joints in accordance with ACI recommendations. Floor slabs should be isolated from the foundation walls and columns and should also have adequate reinforcement and proper jointing to reduce possible distress due to slight differential movements.

Pavement Subgrades

Pavement subgrade materials are expected to include the native, inorganic soils and/or new engineered fill that are tested, evaluated and prepared in accordance with the recommendations provided in this report. Criteria for new fill materials suitable for pavement support are described in the **Site Preparation and Earthwork and Fill Types and Compaction** subsections.

The near surface soils that exhibit high moisture contents and low strengths are expected to make final subgrade preparation difficult. Recommendations for correcting unstable subgrades are presented above in the **Site Preparation and Earthwork** subsection.

On most project sites, the site grading is accomplished relatively early in the construction process. Fills are placed and compacted, and the initial surface is prepared in a relatively uniform manner. However, as construction proceeds, excavations are made into these areas, rainfall and surface water saturates some areas, heavy traffic from construction equipment disturbs the subgrade, and surface irregularities are often filled with loose materials to temporarily improve the surface for construction traffic.

As a result, the pavement subgrades prepared early in the project should be carefully re-evaluated as the time for pavement construction approaches. Within a few days of the scheduled paving, we recommend the pavement areas be rough graded and then proofrolled with a fully loaded tandem axle dump truck (minimum gross weight of 25 tons). A sequence of scarifying soils to a depth of 8 to 12 inches, adjusting moisture contents to the recommended range and recompacting, should reduce the need for other stabilization correction measures such as undercuts and crushed stone placement. Particular attention should be given to high traffic areas that were probably disturbed, and to areas where backfilled trenches are located. Areas of unsuitable soils should be undercut and replaced with properly compacted fill.

Assuming the pavement subgrade will consist of tested and approved cohesive engineered fill or existing cohesive soils, an estimated CBR value of 3 could be used in proportioning a flexible pavement section. Similarly, a modulus of subgrade reaction value equal to 100 pounds per cubic inch (pci) could be used for design of rigid concrete pavement sections.

The subgrade parameters provided above assume that the subgrade soils do not experience significant increases in moisture content. Paved areas should be sloped to provide rapid drainage of surface water and to drain water away from the pavement edges. Water that is allowed to pond on or adjacent to the pavement can saturate and soften the subgrade soils and subsequently accelerate pavement deterioration. Granular base or sub base materials directly below pavement sections can also collect infiltrated surface water and soften the subgrade as well as increase the effects of frost action, both of which can be detrimental to pavements. A drainable subbase connected to longitudinal subdrains could help reduce these risks.

If development plans include only placement of asphalt binder course during construction, to be followed by asphalt surface course upon completion of the development, we suggest that consideration be given to constructing a thicker binder course to better handle construction traffic and reduce the need for future repairs.

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Construction Considerations

Impervious surfaces or finished grading slopes of at least 2% should be maintained for a distance of 5 feet or more outside the building perimeters to direct surface water away from the structures. Roof drains should extend so as not to discharge in lawn areas within 10 feet of the buildings.

All excavations should comply with the requirements of OSHA 29CFR, Part 1926, Subpart P, "Excavations" and its appendices, as well as other applicable codes. This document states that the excavation safety is the responsibility of the contractor. Reference to this OSHA requirement should be included in the job specifications. Slope heights, slope inclinations and/or excavation depths should in no case exceed those specified in local, state or federal safety regulations, including current OSHA excavation and trench safety standards. If any excavations extend to a depth greater than 20 feet, according to OSHA regulations, side slopes must be designed by a professional engineer.

Estimated Infiltration Rates

One of the purposes of our exploration was to perform a pre-construction evaluation of the soils on site and to provide preliminary design parameters for stormwater infiltration calculations in accordance with WDNR statute 1002, "Site Evaluation for Stormwater Infiltration" and Chapter NR 151 of the Wisconsin Administrative Code.

The results of the hydrometer and grain size analyses are provided in the following table.

Boring Number	Depth (ft)	% Sand (2 - 0.05 mm)	% Silt (0.05 - 0.002 mm)	% Clay (< 0.002 mm)	USDA Soil Texture Classification
1	3.5 - 5	40*	38**	--	Gravelly Loam / Gravelly Sandy Loam
3	1 - 2	22	53	25	Silt Loam
3	2 - 3.5	46	44	10	Loam
5	2 - 3.5	53*	32**	--	Sandy Loam
8	2 - 3.5	47*	30**	--	Sandy Loam
13	2 - 3.5	36*	40**	--	Gravelly Sandy Loam

* Additional material coarser than 2 mm not included

** Combined silt and clay fraction

Using the criteria outlined in **Table 2: Design Infiltration Rates for Soil Textures Receiving Stormwater** of the Site Evaluation for Stormwater Infiltration (1002) of the

Wisconsin Department of Natural Resources Conservation Practice Standards, the preliminary design infiltration rates (without measurements from double ring infiltrometer tests) ranges from 0.13 to 0.50 inches per hour for the, silt loam, loam and sandy loam soil types, as classified by the laboratory tests. The gradations of some of the samples tested were near the transition of the USDA descriptions. The soil type and estimated infiltration rate for the transitional soil type are also shown in parentheses. The following table summarizes the preliminary design values for the different soil types encountered.

Boring Number	Depth (ft)	Soil Texture	Design Infiltration Rate Without Measurement (inches/hour)
1	3.5 - 5	Gravelly Loam / Gravelly Sandy Loam	0.24 (0.50)
3	1 - 2	Silt Loam	0.13
3	2 - 3.5	Loam	0.24
5	2 - 3.5	Sandy Loam	0.50
8	2 - 3.5	Sandy Loam	0.50
13	2 - 3.5	Gravelly Sandy Loam	0.50

Step A Initial Screening

1. Site Topography: See Above. Slopes Greater Than 20%: None listed in NRCS County Soil Survey.
2. Site Soil Infiltration Capacity Characteristics As Defined in NRCS County Soil Survey:
 - Hochheim loam (approx. 55% to 60% of area), Parent Material Permeability = 0.63-2.0 in/hr.
 - Theresa silt loam (approx. 20% to 25% of area), Parent Material Permeability = 0.63-2.0 in/hr.
 - Neeno silt loam (approx. 20% of area), Parent Material Permeability = 0.63-2.0 in/hr.
 - Brookston silt loam (less than 5% of area), Parent Material Permeability = 0.63-2.0 in/hr.
 - Mayville silt loam (less than 5% of area), Parent Material Permeability = 0.63-2.0 in/hr.
 - Radford silt loam (less than 5% of area), Parent Material Permeability = 0.63-2.0 in/hr.

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3. Soil Parent Material: Hochheim soils formed from calcareous loamy till. Theresa and Brookston soils formed in loess overlying calcareous loamy till. Nenno and Mayville soils formed from silt deposits over gravelly calcareous loamy till and calcareous loamy till, respectively. Radford soils formed from silty colluvium over mineral soils.
4. Local Depth to Groundwater: Five (5) feet or less in Borings 2, 3, 4, 5, 9, 10 and 12, greater than 5 feet in Borings 7, 8, 11, 13 and 14, and none in Borings 1 and 6. Seasonal High Groundwater is greater than 5 feet for Hochheim and Theresa soils, 3 to 5 feet for Mayville soils, 1 to 3 feet for Nenno and Radford soils, and less than 1 foot for Brookston soils based upon Soil Survey of Washington County.

Regional Depth to Bedrock: 0 to 50 feet based on "Depth to Bedrock in Wisconsin Map" compiled by Trotta and Cotter, 1973. Limestone bedrock was encountered at a depth of 13 feet at Boring 11 and 8 feet at Boring 14, and possible bedrock was encountered at depths as shallow as 6 feet in the other borings.

5. Distance to Sites Listed on the GIS Registry of Closed Remediation Sites within 500 feet from the perimeter of the development site: Not Reviewed
6. Distance to sites listed on the Bureau of Remediation and Redevelopment Tracking System within 500 feet from the perimeter of the development site: Not Reviewed
7. Presence of Endangered Species Habitat: Not Reviewed.
8. Presence of flood plains and flood fringe: Not Reviewed.
9. Location of hydric soils as defined in USDA County Soil Survey: The Brookston silt loam and the wetter inclusions of the Nenno silt loam and Radford silt loam soils are on the Hydric Soil List for Washington County, Wisconsin

Wetlands from The Wisconsin Wetland Inventory Map: Not reviewed – conducted by others.

10. Sites where the installation of stormwater infiltration devices is excluded, due to the potential for groundwater contamination, by Chapter NR151.12(5)(c)5 of the Wisconsin Administrative Code:

Exclusions a, b, c, and d do not appear to apply.

Exclusion e appears to apply at Borings 3, 4, 5, 9, 10, 11, 12, 13 and 14. Based upon preliminary groundwater observation information from the borings and seasonal high water levels from the Soil Survey of Washington County, Wisconsin, the exclusion appears to apply because there would be less than 3 feet of separation between the measured water table and bottom of an infiltration basin set more than 1 foot below current grade.

Exclusion f appears to apply at Borings 3, 4, 5, 9, 10, 11, 12, 13 and 14 for reason there will be less than 5 feet of separation between the measured water table and bottom of infiltration basin receiving runoff from a residential arterial.

We have not assessed the site for contaminants of concern and therefore are not able to determine if Exclusion h applies to the site.

Exclusion i appears to not apply at Borings 1, 2, 6, 7, 8, and 11 since the soils between the seasonal high water table and the bottom of potential infiltration systems has either more than a 3-foot thick layer with at least 20% fines, or more than a 5-foot thick layer with at least 10% fines.

11. Sites exempted by Chapter NR151.12(5)(c)6 of the Wisconsin Administrative Code from the requirement to install infiltration devices:

Based on Table 2 of the WDNR Site Evaluation for Stormwater Infiltration guidance document, and the grain size analyses, the soil types at the infiltration sites represented by Borings 1, 3, 5, 8 and 13 have design infiltration rates of 0.13 to 0.50 inches per hour. This suggests that Exemption a applies to the areas of Borings 1, 3, 5, 8 and 13 because infiltration rates are less than 0.6 inches per hour. Based on the soils encountered in the remaining borings, we expect that Exemption a would also apply at the sites represented by these borings. However, further testing would be required to confirm that Exemption a applies at the remaining borings.

Exemptions b, c, d and f do not appear to apply.

Exemption e would apply when the soil on the site is frozen.

12. Potential impact to adjacent property. Not Reviewed.

Based upon the information generated by the initial screening of the site, the following general comments apply to the site:

- The site areas represented by Borings 1, 3, 5, 8 and 13 are exempted from the infiltration requirement due to the presence of soil types with estimated design infiltration rates less than 0.6 inches per hour based upon hydrometer grain size analyses and the inferred values in Table 2 of WDNR guidance document 1002, or depth to groundwater precludes the use of infiltration systems.

Field measurements of infiltration rates would be required for more accurate estimates of infiltration capacity. The field tests would consist of double ring infiltrometer tests, which could be performed during construction. We can provide a proposal for these services, if requested.

ADDITIONAL EXPLORATIONS

The boring locations and depths were planned to provide preliminary information on the subsurface conditions at the site. The borings were widely spaced and, in some cases, may not be deep enough or in appropriate locations to evaluate bearing conditions. Borings planned for complete coverage of the subsurface conditions for the development are recommended to confirm or modify the preliminary design recommendations submitted herein once actual site layout and grading plans are developed.

GENERAL COMMENTS

Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to provide observation and testing services during grading, excavation, foundation construction and other earth-related construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information

**Proposed Palorama Farms Residential Development
Town of Jackson, Wisconsin
Terracon Project No. 58065025
May 2, 2006**

Terracon

discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

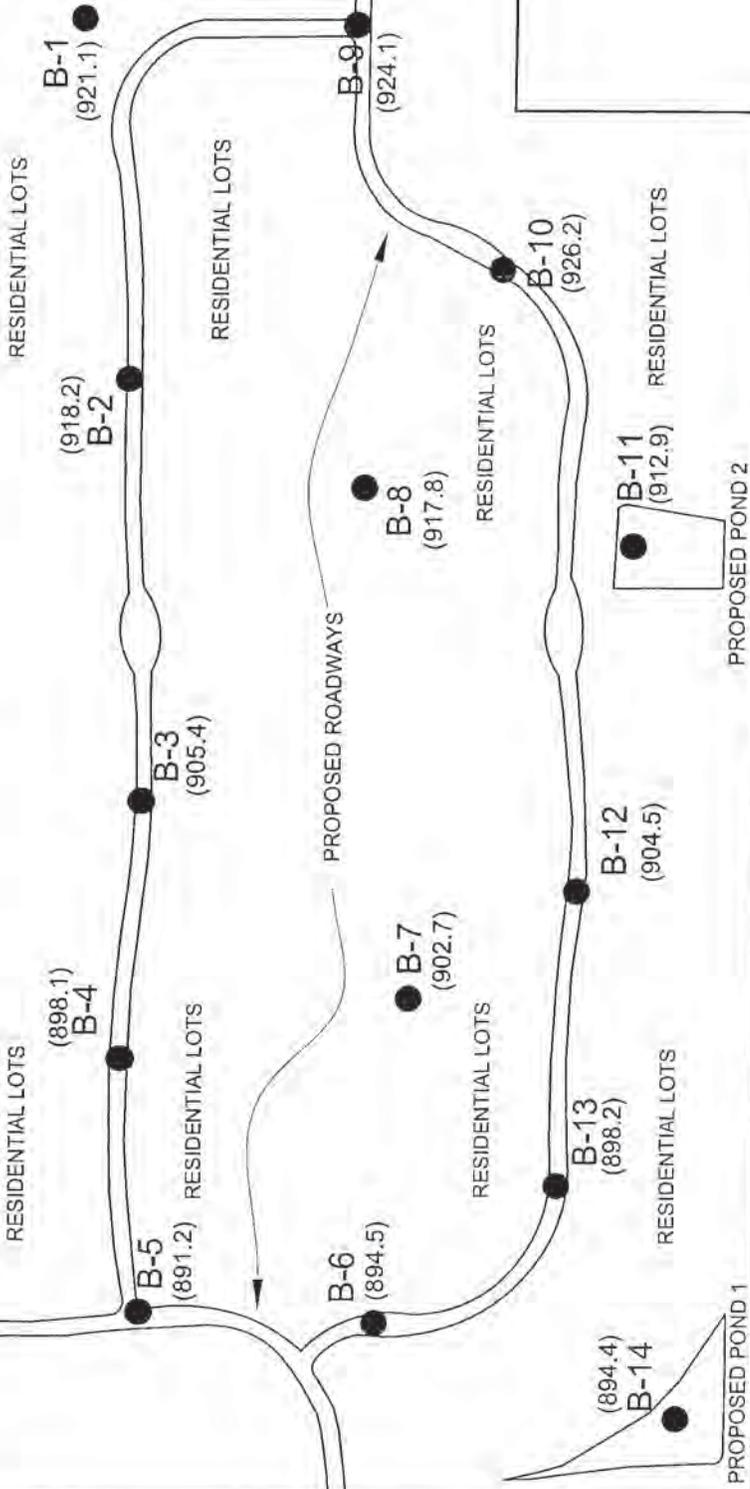
This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

Appendix A

Soil Boring Location Diagram
Soil Boring Logs

SHERMAN ROAD

MAPLE ROAD



LEGEND

- B-11 ● BORING LOCATION
- (912.9) BORING ELEVATION



SOIL BORING LOCATION DIAGRAM
PALOROMA FARMS RESIDENTIAL DEVELOPMENT
 SWC OF MAPLE & SHERMAN ROADS
 TOWN OF JACKSON, WISCONSIN

Terracon
 6353 West Douglas Avenue
 Milwaukee, WI 53218

Project Mgr:	SWT	Project No.	58065025
Designed By:	AJP	Scale:	1"=300'
Checked By:	SWT	Date:	3/23/06
Approved By:	SWT	Drawn By:	AJP (38)
File Name:	58065025sm.dwg	Layout:	1

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

LOG OF BORING NO. 1

CLIENT <p style="text-align: center;">Dittmar Realty, Inc.</p>	ENGINEER <p style="text-align: center;">National Survey & Engineering</p>
SITE <p style="text-align: center;">SWC of Maple & Sherman Roads Town of Jackson, Wisconsin</p>	PROJECT <p style="text-align: center;">Palorama Farms Residential Development</p>

GRAPHIC LOG	Approx. Boring Location: Offset 39' west	DESCRIPTION	DEPTH, ft.	SAMPLES				TESTS		
				USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N** BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	0.7	Approx. 8" Topsoil	919.5	OL	1	AS		24		
		LEAN CLAY , with sand, trace gravel, brown, medium stiff		CL	2	SS	12	7	21	1500*
	3	SILTY SAND , trace gravel, tan, loose (Gravelly Sandy Loam / Gravelly Loam)	917			HS				
		Medium dense below about 6 feet.		SM	3	SS	14	7	12	
			5			HS				
				SM	4	SS AS	NR	13	12	
	8	SILTY CLAY , trace sand, light brown, stiff	912			HS				
				CL-ML	5	SS	18	18	20	3000*
			10			HS				
				CL-ML	6	SS	10	12	11	3000*
	15	BOTTOM OF BORING	905							

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. **CME 140H SPT automatic hammer
*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft			
WL	None	WD	None
WL	None	ACR	None
WL	Cave-in @ 9' ACR		



BORING STARTED	3-27-06
BORING COMPLETED	3-27-06
RIG CME-45C	FOREMAN TC
APPROVED TWS	JOB # 58065025

BORE1_58065025.GPJ TERRACON.GDT 4/27/06

LOG OF BORING NO. 2

CLIENT Dittmar Realty, Inc.		ENGINEER National Survey & Engineering							
SITE SWC of Maple & Sherman Roads Town of Jackson, Wisconsin		PROJECT Palorama Farms Residential Development							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES			TESTS			
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 918.2 ft								
1	Approx. 12" Topsoil LEAN CLAY , trace sand and organics, dark brown and brown, medium stiff	917	OL	1	SS	12	12		
			CL				22		
			CL	2	SS	5	5	27	2000*
4		914			HS				
	SILTY CLAY , trace sand, light brown, medium stiff		CL-ML	3	SS	1	5		
					HS				
7.5		910.5	CL-ML	4	SS	18	26	9	
	SILTY SAND , trace gravel and cobbles, tan, medium dense		SM						
					HS				
			SM	5	SS	18	14	12	
					HS				
13.6		904.5		6	SS	1	50/1"		
	BOTTOM OF BORING Practical split-barrel sampler refusal at about 13.6 feet on possible boulder or bedrock.								

The stratification lines represent the approximate boundary lines between soil and rock types; in-situ, the transition may be gradual. *Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft WL ∇ 5 WD ∇ 5 ACR WL ∇ ∇ WL Cave-in @ 8' ACR	<h1 style="font-size: 2em; margin: 0;">Terracon</h1>	BORING STARTED 4-10-06 BORING COMPLETED 4-10-06 RIG Simco 2400 FOREMAN Dan APPROVED TWS JOB # 58065025
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BORE1 58065025.GPJ TERRACON.GDT 4/27/06

LOG OF BORING NO. 3

CLIENT Dittmar Realty, Inc.		ENGINEER National Survey & Engineering							
SITE SWC of Maple & Sherman Roads Town of Jackson, Wisconsin		PROJECT Paloroma Farms Residential Development							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES			TESTS			
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 905.4 ft								
0.8	Approx. 10" Topsoil	904.5	OL	1	SS	19	6		
2	LEAN CLAY , trace sand and organics, dark brown, medium stiff (Silt Loam) SILTY SAND , light brown, loose to medium dense (Loam) Trace gravel, occasional cobbles below about 6 feet. Dense to very dense below about 9 feet (possible decomposed bedrock).	903.5	CL						1500*
			SM	2	SS	13	6	28	
					HS				
5			SM	3	SS	18	18	9	
					HS				
			SM	4	SS	16	10	11	
					HS				
10			SM	5	SS	16	36	11	
					HS				
13.8	BOTTOM OF BORING Practical split-barrel sampler refusal at about 13.8 feet on possible boulder or bedrock.	891.5	SM	6	SS	3	50/4"	9	

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft			
WL	6.5	WD	3.5
WL			ACR
WL			
Cave-in @ 8' ACR			



BORING STARTED		4-6-06	
BORING COMPLETED		4-6-06	
RIG	Simco 2400	FOREMAN	Dan
APPROVED	TWS	JOB #	58065025

BORE1_58065025.GPJ TERRACON.GDT 4/27/06

LOG OF BORING NO. 4

CLIENT <p style="text-align: center;">Dittmar Realty, Inc.</p>	ENGINEER <p style="text-align: center;">National Survey & Engineering</p>
SITE <p style="text-align: center;">SWC of Maple & Sherman Roads Town of Jackson, Wisconsin</p>	PROJECT <p style="text-align: center;">Palorama Farms Residential Development</p>

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES				TESTS		
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 898.1 ft								
0.7	Approx. 8" Topsoil	897.5	OL	1	SS	16	6		
2	LEAN CLAY , trace sand and organics, dark brown and brown, medium stiff	896	CL					25	1500*
	SILTY SAND , with gravel, light brown, loose to medium dense		SM	2	SS	18	7	12	
					HS				
5			SM	3	SS	18	17	9	
					HS				
			SM	4	SS	3	21	13	
					HS				
10	Occasional cobbles, tan, very dense below about 9 feet (possible decomposed bedrock).		SM	5	SS	11	50/5"	7	
					HS				
13.8	BOTTOM OF BORING Practical split-barrel sampler refusal at about 13.8 feet on possible boulder or bedrock.	884.5	SM	6	SS	3	50/3"	5	

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. *Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft WL ∇ 6.5 WD ∇ 3 ACR WL ∇ ∇ WL Cave-in @ 8' ACR	<h2 style="font-size: 2em; margin: 0;">Terracon</h2>	BORING STARTED 4-6-06 BORING COMPLETED 4-6-06 RIG Simco 2400 FOREMAN Dan APPROVED TWS JOB # 58065025
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BORE1-58065025.GPJ TERRACON.GDT 4/27/06

LOG OF BORING NO. 5

CLIENT Dittmar Realty, Inc.		ENGINEER National Survey & Engineering							
SITE SWC of Maple & Sherman Roads Town of Jackson, Wisconsin		PROJECT Palorama Farms Residential Development							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES			TESTS			
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 891.2 ft								
0.4	Approx. 5" Topsoil SILTY SAND , fine, trace gravel, trace clay seams, brown, loose (Sandy Clay Loam / Sandy Loam) ▼	891	OL	1	SS	20	4		
			SM				20		
4		887	SM	2	SS	15	4	18	
					HS				
	GRAVELLY SILTY SAND , tan, medium dense ▼		SM	3	SS	18	15	9	
					HS				
			SM	4	SS	18	14	16	
					HS				
			SM	5	SS	17	22	10	
					HS				
	Occasional cobbles, grayish-brown, very dense below about 12 feet (possible decomposed bedrock). ▼		SM	6	SS	10	50/4"	7	
14.3	BOTTOM OF BORING Practical split-barrel sampler refusal at about 14.3 feet on possible boulder or bedrock.	877							

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. *Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft		
WL	▼ 6	WD ▼ 3
		ACR
WL	▼	▼
WL	Cave-in @ 4.5' ACR	



BORING STARTED		4-6-06
BORING COMPLETED		4-6-06
RIG	Simco 2400	FOREMAN Dan
APPROVED	TWS	JOB # 58065025

BORE1_58065025.GPJ TERRACON.GDT 4/27/06

LOG OF BORING NO. 6

CLIENT <p style="text-align: center;">Dittmar Realty, Inc.</p>	ENGINEER <p style="text-align: center;">National Survey & Engineering</p>
SITE <p style="text-align: center;">SWC of Maple & Sherman Roads Town of Jackson, Wisconsin</p>	PROJECT <p style="text-align: center;">Palorama Farms Residential Development</p>

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 894.5 ft								
0.6	Approx. 7" Topsoil	894	OL	1	SS	15	5		
2	SILTY SAND , trace gravel, brown and light gray mottled, loose	892.5	SM					15	
	SILTY SAND , with gravel, tan, medium dense		SM	2	SS	18	18	9	
					HS				
5			SM	3	SS	11	18	9	
					HS				
	Gravelly, trace cobbles, very dense below about 7 feet (possible decomposed bedrock).		SM	4	SS	10	50/4"	10	
					HS				
10			SM	5	SS HS	5	50/5"	8	
14.3	BOTTOM OF BORING Practical split-barrel sampler refusal at about 14.3 feet on possible boulder or bedrock.	880	SM	6	SS	9	50/3"	5	

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. *Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft			
WL	None	WD	None
			ACR
WL			
WL	Cave-in @ 8' ACR		



BORING STARTED	4-6-06
BORING COMPLETED	4-6-06
RIG Simco 2400	FOREMAN Dan
APPROVED TWS	JOB # 58065025

BORE1_58065025.GPJ TERRACON.GDT 4/27/06

LOG OF BORING NO. 7

CLIENT Dittmar Realty, Inc.		ENGINEER National Survey & Engineering							
SITE SWC of Maple & Sherman Roads Town of Jackson, Wisconsin		PROJECT Paloroma Farms Residential Development							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES				TESTS		
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 902.7 ft								
0.7	Approx. 8" Topsoil	902	OL	1	SS	24	13		
1.5	LEAN CLAY , trace sand, dark brown, stiff	901	CL					28	3000*
2.5	SILTY SAND , trace gravel, brown, medium dense	900	SM	2	SS	14	15	8	
	GRAVELLY SILTY SAND , tan, medium dense				HS				
5			SM	3	SS	18	14	9	
					HS				
	Occasional cobbles, dense to very dense below about 6 feet (possible decomposed bedrock).		SM	4	SS	14	37	11	
					HS				
10			SM	5	SS HS	2	50/2"	6	
14.3		888.5	SM	6	SS	9	50/3"	9	
	BOTTOM OF BORING								
	Practical split-barrel sampler refusal at about 14.3 feet on possible boulder or bedrock.								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft		
WL ∇ 6	WD ∇ 8.5	ACR
WL ∇		
Cave-in @ 8.5' ACR		

Terracon

BORING STARTED		4-10-06
BORING COMPLETED		4-10-06
RIG	Simco 2400	FOREMAN Dan
APPROVED	TWS	JOB # 58065025

BORE1 58065025.GPJ TERRACON.GDT 4/27/06

LOG OF BORING NO. 8

CLIENT Dittmar Realty, Inc.		ENGINEER National Survey & Engineering							
SITE SWC of Maple & Sherman Roads Town of Jackson, Wisconsin		PROJECT Palorama Farms Residential Development							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES			TESTS			
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N ** BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 917.8 ft								
0.7	Approx. 8" Topsoil SILTY SAND , trace gravel, trace fine to medium sand seams, light brown, medium dense (Sandy Clay Loam / Sandy Loam)	917	OL	1	AS			22	
			SM	2	SS	12	15	10	
					HS				
			SM	3	SS AS	NR	19	13	
5.5		912.5			HS				
	SAND , fine to medium, with silt, trace gravel, brown, medium dense		SP-SM	4	SS	10	23	9	
8		910			HS				
	GRAVELLY SILTY SAND , trace cobbles, light brown and tan, very dense		SM	5	SS	6	50/4"	8	
					HS				
14		904	SM/ML	6	SS	18	80	7	
15	SANDY SILT , with gravel, light gray, very dense BOTTOM OF BORING	903						7	

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. **CME 140H SPT automatic hammer
*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft			
WL	▽ 5.5	WD	▽ 13.5
		BCR	
WL	▽ 9.5	ACR	▽
WL	Cave-in @ 10' ACR		



BORING STARTED	3-27-06
BORING COMPLETED	3-27-06
RIG	CME-45C
FOREMAN	TC
APPROVED TWS	JOB # 58065025

BORE1_58065025.GPJ TERRACON GDT 4/27/06

LOG OF BORING NO. 9

CLIENT <p style="text-align: center;">Dittmar Realty, Inc.</p>	ENGINEER <p style="text-align: center;">National Survey & Engineering</p>
SITE <p style="text-align: center;">SWC of Maple & Sherman Roads Town of Jackson, Wisconsin</p>	PROJECT <p style="text-align: center;">Palorama Farms Residential Development</p>

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 924.1 ft								
0.8	Approx. 10" Topsoil SILTY SAND , trace gravel, gray and brown, medium dense to loose	923.5	OL	1	SS	12	11	27	
			SM						
			SM	2	SS	4	7	16	
4	GRAVELLY SILTY SAND , trace fine to medium sand seams, tan, medium dense to dense Occasional cobbles below about 7 feet.	920			HS				
			SM	3	SS	1	38		
					HS				
			SM	4	SS	18	16	9	
					HS				
			SM	5	SS	18	20	10	
					HS				
14.3	BOTTOM OF BORING Practical split-barrel sampler refusal at about 14.3 feet on possible boulder or bedrock.	910	SM	6	SS	2	50/3"		

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft			
WL	▽ 3.5	WD	▽ 3.5 ACR
WL	▽		▽
WL	Cave-in @ 8' ACR		



BORING STARTED	4-10-06
BORING COMPLETED	4-10-06
RIG Simco 2400	FOREMAN Dan
APPROVED TWS	JOB # 58065025

BORE1_58065025.GPJ TERRACON GGT 4/27/06

LOG OF BORING NO. 10

CLIENT		ENGINEER						
Dittmar Realty, Inc.		National Survey & Engineering						
SITE		PROJECT						
SWC of Maple & Sherman Roads Town of Jackson, Wisconsin		Paloroma Farms Residential Development						
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES			TESTS		
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N ** BLOWS / ft.	WATER CONTENT, %
	Approx. Surface Elev.: 926.2 ft							
0.7	Approx. 8½" Topsoil CLAYEY SAND , trace gravel, brown, loose	925.5	OL	1	AS			
3		923	SC	2	SS	4	7	11
5.5	SILTY SAND , trace gravel, trace fine to medium sand seams, brown, medium dense	920.5			HS			
8	CLAYEY SAND , trace gravel, light brown, medium dense	918	SM	3	SS	10	24	9
12.5	SANDY SILT , trace gravel, trace fine sand seams, brown, medium dense	913.5	SC	4	SS AS	NR	24	14
15	SILTY SAND , with gravel, tan and gray, very dense	911			HS			
	BOTTOM OF BORING		ML	5	SS	14	17	19
					HS			
			SM	6	SS	16	61	7

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

**CME 140H SPT automatic hammer
*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft			
WL	▽ 5.5	WD	▽ 11
		BCR	
WL	▽ 4	ACR	▽
WL	Cave-in @ 9' ACR		



BORING STARTED		3-27-06	
BORING COMPLETED		3-27-06	
RIG	CME-45C	FOREMAN	TC
APPROVED	TWS	JOB #	58065025

BORE1-58065025.GPJ TERRACON.GDT 4/27/06

LOG OF BORING NO. 11

CLIENT		ENGINEER							
Dittmar Realty, Inc.		National Survey & Engineering							
SITE		PROJECT							
SWC of Maple & Sherman Roads Town of Jackson, Wisconsin		Palorama Farms Residential Development							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES			TESTS			
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N ** BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 912.9 ft								
1	Approx. 12" Topsoil <u>LEAN CLAY</u> , trace sand, brown, stiff	912	OL	1	AS				
3.5		909.5	CL	2	SS	15	8	20	3500*
4.5	<u>SILTY SAND</u> , with gravel, light brown and tan, medium dense <u>GRAVELLY SAND</u> , trace cobbles and silt, brown and tan, medium dense	908.5			HS				
			SM	3	SS	10	20	10	
					HS				
			SP	4	SS	5	25	5	
					HS				
			SP	5	SS	7	34	8	
					HS				
13	***LIMESTONE , highly weathered, tan	900							
				6	SS HS	4	50/2"	16	
				7	SS	NR	50/1"	13	
22.5	Practical auger refusal at approximately 22.5 feet.	890.5							
	BOTTOM OF BORING								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

**CME 140H SPT automatic hammer
*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft			
WL	▽ 6	WD	▽ 17
		BCR	
WL	▽ 7	ACR	▽
WL	Cave-in @ 8' ACR		



BORING STARTED	3-27-06
BORING COMPLETED	3-27-06
RIG	CME-45C
FOREMAN	TC
APPROVED	TWS
JOB #	58065025

BORE1_58065025.GPJ TERRACON.GDT 4/27/06

LOG OF BORING NO. 12

CLIENT Dittmar Realty, Inc.		ENGINEER National Survey & Engineering							
SITE SWC of Maple & Sherman Roads Town of Jackson, Wisconsin		PROJECT Palorama Farms Residential Development							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES			TESTS			
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 904.5 ft								
1	0.8 Approx. 10" Topsoil 903.5	—	OL	1	SS	19	7		
2	LEAN CLAY , trace sand, brown, stiff 902.5	—	CL					24	2000*
3	SILTY CLAY , with organics, dark brown, soft	—	CL-ML	2	SS	11	18	27	1000*
4	GRAVELLY SILTY SAND , tan, dense 900.5	—			HS				
5	Very dense with occasional cobbles below about 7 feet (possible decomposed bedrock).	—	SM	3	SS	10	40	24	
6		—			HS				
7		—	SM	4	SS	9	50/3"	10	
8		—			HS				
10		—	SM	5	SS HS	1	50/1"		
13.6	BOTTOM OF BORING 891	—	SM	6	SS	1	50/1"	11	
	Practical split-barrel sampler refusal at about 13.6 feet on possible boulder or bedrock.								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. *Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft			
WL	7	WD	2
			ACR
WL			
WL	Cave-in @ 6' ACR		



BORING STARTED	4-10-06
BORING COMPLETED	4-10-06
RIG Simco 2400	FOREMAN Dan
APPROVED TWS	JOB # 58065025

BORE1_58065025.GPJ TERRACON.GDT 4/27/06

LOG OF BORING NO. 13

CLIENT <p style="text-align: center;">Dittmar Realty, Inc.</p>	ENGINEER <p style="text-align: center;">National Survey & Engineering</p>
SITE <p style="text-align: center;">SWC of Maple & Sherman Roads Town of Jackson, Wisconsin</p>	PROJECT <p style="text-align: center;">Palorama Farms Residential Development</p>

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	SAMPLES					TESTS	
			USCS SYMBOL	NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 898.2 ft								
0.7	<p>Approx. 8" Topsoil</p> <p>SILTY SAND, with gravel, brown and tan, medium dense to dense</p> <p>(Gravelly Silt Loam / Gravelly Loam)</p>	897.5	OL	1	SS	8	7	29	
			SM	2	SS	18	29	9	
			HS						
5	<p>Clay seam at about 5 feet. ▼</p>		SM	3	SS	6	46	25	
			CL						
			HS						
	<p>Gravelly, occasional cobbles, tan, very dense below about 7 feet (possible decomposed bedrock).</p>		SM	4	SS HS	4	50/5"	16	
10			SM	5	SS HS	3	50/3"	7	
13.9	<p>BOTTOM OF BORING</p> <p>Practical split-barrel sampler refusal at about 13.9 feet on possible boulder or bedrock.</p>	884.5	SM	6	SS	5	50/5"	8	

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. *Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft		
WL	None	WD 5.5 ACR
WL		
WL	Cave-in @ 8.5' ACR	



BORING STARTED	4-10-06
BORING COMPLETED	4-10-06
RIG Simco 2400	FOREMAN Dan
APPROVED TWS	JOB # 58065025

BORE1 58065025.GPJ TERRACON.GDT 4/27/06

LOG OF BORING NO. 14

CLIENT <p style="text-align: center;">Dittmar Realty, Inc.</p>	ENGINEER <p style="text-align: center;">National Survey & Engineering</p>
SITE <p style="text-align: center;">SWC of Maple & Sherman Roads Town of Jackson, Wisconsin</p>	PROJECT <p style="text-align: center;">Palorama Farms Residential Development</p>

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS	
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 894.4 ft								
0.5	<p>Approx. 6" Topsoil GRAVELLY SILTY SAND, trace cobbles, brown and tan, loose to medium dense</p>	894	OL	1	SS	12	5	26	
			SM						
			SM	2	SS	8	27	8	
			HS						
5			SM	3	SS	12	18	9	
			HS						
8	<p>BOTTOM OF BORING</p> <p>Practical auger refusal at about 8 feet on possible boulder or bedrock.</p> <p>Boring offset 10 feet west and blind drilled to practical auger refusal at approximately 8.5 feet.</p>	886.5	SM	4	SS	8	50/2"	8	
			HS						

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual. *Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft			
WL	▽ 7	WD	▽ 7 ACR
WL	▽	▽	
Cave-in @ 8' ACR			



BORING STARTED	4-10-06
BORING COMPLETED	4-10-06
RIG Simco 2400	FOREMAN Dan
APPROVED TWS	JOB # 58065025

BORE1_58065025.GPJ TERRACON.GDT 4/27/06

Appendix B

General Notes

General Notes – Sedimentary Rock Classification

Unified Soil Classification System

USDA Textural Classification Triangle

GENERAL NOTES

DRILLING & SAMPLING SYMBOLS:

SS:	Split Spoon - 1-3/8" I.D., 2" O.D., unless otherwise noted	HS:	Hollow Stem Auger
ST:	Thin-Walled Tube - 2" O.D., unless otherwise noted	PA:	Power Auger
RS:	Ring Sampler - 2.42" I.D., 3" O.D., unless otherwise noted	HA:	Hand Auger
DB:	Diamond Bit Coring - 4", N, B	RB:	Rock Bit
BS:	Bulk Sample or Auger Sample	WB:	Wash Boring or Mud Rotary

The number of blows required to advance a standard 2-inch O.D. split-spoon sampler (SS) the last 12 inches of the total 18-inch penetration with a 140-pound hammer falling 30 inches is considered the "Standard Penetration" or "N-value". For 3" O.D. ring samplers (RS) the penetration value is reported as the number of blows required to advance the sampler 12 inches using a 140-pound hammer falling 30 inches, reported as "blows per foot," and is not considered equivalent to the "Standard Penetration" or "N-value".

WATER LEVEL MEASUREMENT SYMBOLS:

WL:	Water Level	WS:	While Sampling	N/E:	Not Encountered
WC:	Wet Cave in	WD:	While Drilling		
DCI:	Dry Cave in	BCR:	Before Casing Removal		
AB:	After Boring	ACR:	After Casing Removal		

Water levels indicated on the boring logs are the levels measured in the borings at the times indicated. Groundwater levels at other times and other locations across the site could vary. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels may not be possible with only short-term observations.

DESCRIPTIVE SOIL CLASSIFICATION: Soil classification is based on the Unified Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

CONSISTENCY OF FINE-GRAINED SOILS

<u>Unconfined Compressive Strength, Qu, psf</u>	<u>Standard Penetration or N-value (SS) Blows/Ft.</u>	<u>Consistency</u>
< 500	<2	Very Soft
500 - 1,000	2-3	Soft
1,001 - 2,000	4-6	Medium Stiff
2,001 - 4,000	7-12	Stiff
4,001 - 8,000	13-26	Very Stiff
8,000+	26+	Hard

RELATIVE DENSITY OF COARSE-GRAINED SOILS

<u>Standard Penetration or N-value (SS) Blows/Ft.</u>	<u>Ring Sampler (RS) Blows/Ft.</u>	<u>Relative Density</u>
0 - 3	0-6	Very Loose
4 - 9	7-18	Loose
10 - 29	19-58	Medium Dense
30 - 49	59-98	Dense
50+	99+	Very Dense

RELATIVE PROPORTIONS OF SAND AND GRAVEL

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

<u>Major Component of Sample</u>	<u>Particle Size</u>
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75 mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm)
Silt or Clay	Passing #200 Sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 5
With	5 - 12
Modifiers	> 12

PLASTICITY DESCRIPTION

<u>Term</u>	<u>Plasticity Index</u>
Non-plastic	0
Low	1-10
Medium	11-30
High	30+

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UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests^A

				Soil Classification	
				Group Symbol	Group Name ^B
Coarse Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines ^C	$Cu \geq 4$ and $1 \leq Cc \leq 3^E$	GW	Well-graded gravel ^F
		Gravels with Fines More than 12% fines ^C	$Cu < 4$ and/or $1 > Cc > 3^E$	GP	Poorly graded gravel ^F
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines ^D	Fines classify as ML or MH	GM	Silty gravel ^{F,G,H}
		Sands with Fines More than 12% fines ^D	Fines classify as CL or CH	GC	Clayey gravel ^{F,G,H}
		Clean Sands Less than 5% fines ^D	$Cu \geq 6$ and $1 \leq Cc \leq 3^E$	SW	Well-graded sand ^I
		Sands with Fines More than 12% fines ^D	$Cu < 6$ and/or $1 > Cc > 3^E$	SP	Poorly graded sand ^I
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silt and Clays Liquid limit less than 50	inorganic	$PI > 7$ and plots on or above "A" line ^J	CL	Lean clay ^{K,L,M}
		organic	$PI < 4$ or plots below "A" line ^J	ML	Silt ^{K,L,M}
		Liquid limit - oven dried	< 0.75	OL	Organic clay ^{K,L,M,N}
		Liquid limit - not dried	< 0.75	OH	Organic silt ^{K,L,M,O}
	Silt and Clays Liquid limit 50 or more	inorganic	PI plots on or above "A" line	CH	Fat clay ^{K,L,M}
		organic	PI plots below "A" line	MH	Elastic Silt ^{K,L,M}
		Liquid limit - oven dried	< 0.75	OH	Organic clay ^{K,L,M,P}
		Liquid limit - not dried	< 0.75	OH	Organic silt ^{K,L,M,Q}
Highly organic soils	Primarily organic matter, dark in color, and organic odor			PT	Peat

^ABased on the material passing the 3-in. (75-mm) sieve

^BIf field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^CGravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^DSands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

$$^E C_u = D_{60}/D_{10} \quad C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^FIf soil contains $\geq 15\%$ sand, add "with sand" to group name.

^GIf fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^HIf fines are organic, add "with organic fines" to group name.

^IIf soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^JIf Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^KIf soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^LIf soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

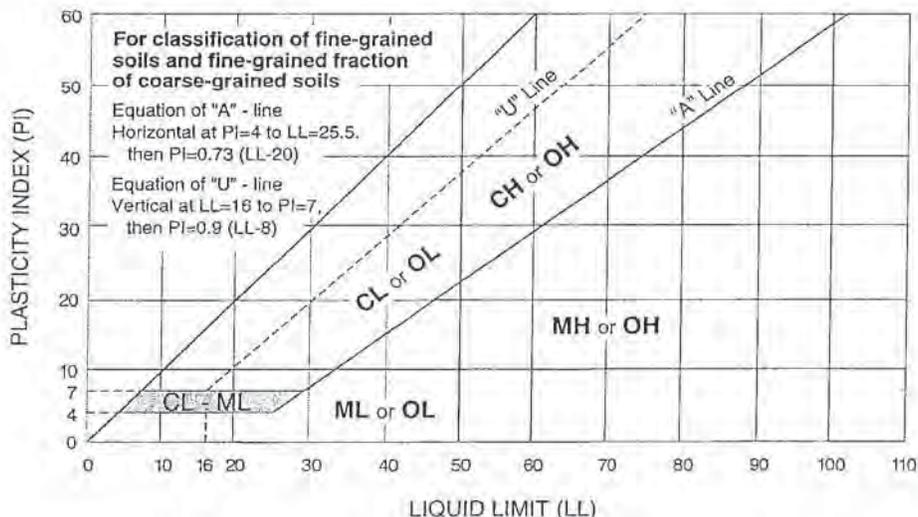
^MIf soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

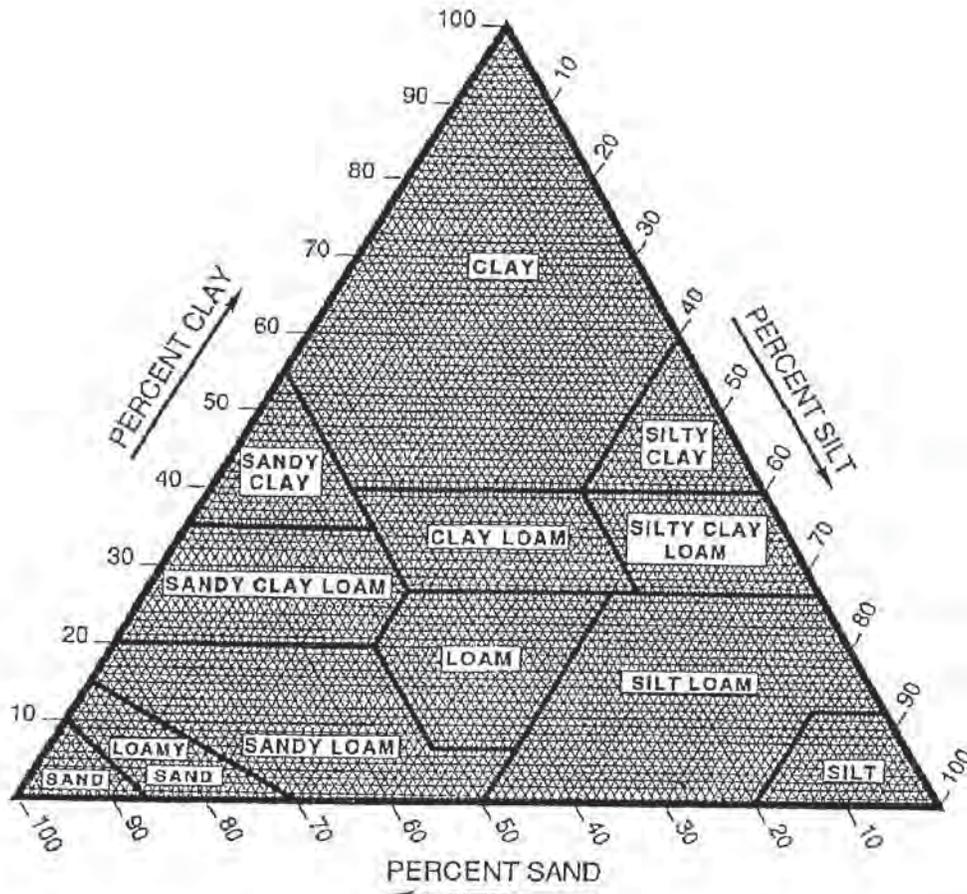
^O $PI < 4$ or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.



USDA TEXTURAL CLASSIFICATION TRIANGLE



Percentages of clay (less than 0.002 mm), silt (0.002 to 0.05 mm), and sand (0.05 to 2.0 mm) in the basic soil textural classes. Percentages and total exclude larger particles (greater than 2.0 mm).

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Soil Map—Washington County, Wisconsin
(Maplewood Farms Subdivision)



Soil Map—Washington County, Wisconsin
(Maplewood Farms Subdivision)

MAP LEGEND

- | | | |
|--|--|---|
| Area of Interest (AOI) |  Area of Interest (AOI) |  Spoil Area |
| Soils |  Soil Map Unit Polygons |  Stony Spot |
| |  Soil Map Unit Lines |  Very Stony Spot |
| |  Soil Map Unit Points |  Wet Spot |
| Special Point Features | |  Other |
|  Blowout | |  Special Line Features |
|  Borrow Pit | Water Features |  Streams and Canals |
|  Clay Spot | Transportation |  Rails |
|  Closed Depression |  Interstate Highways |  US Routes |
|  Gravel Pit |  Major Roads |  Local Roads |
|  Gravelly Spot | Background |  Aerial Photography |
|  Landfill | | |
|  Lava Flow | | |
|  Marsh or swamp | | |
|  Mine or Quarry | | |
|  Miscellaneous Water | | |
|  Perennial Water | | |
|  Rock Outcrop | | |
|  Saline Spot | | |
|  Sandy Spot | | |
|  Severely Eroded Spot | | |
|  Sinkhole | | |
|  Slide or Slip | | |
|  Sodic Spot | | |

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washington County, Wisconsin
Survey Area Data: Version 18, Sep 12, 2018

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

Date(s) aerial images were photographed: Apr 29, 2011—Sep 6, 2011

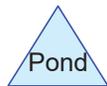
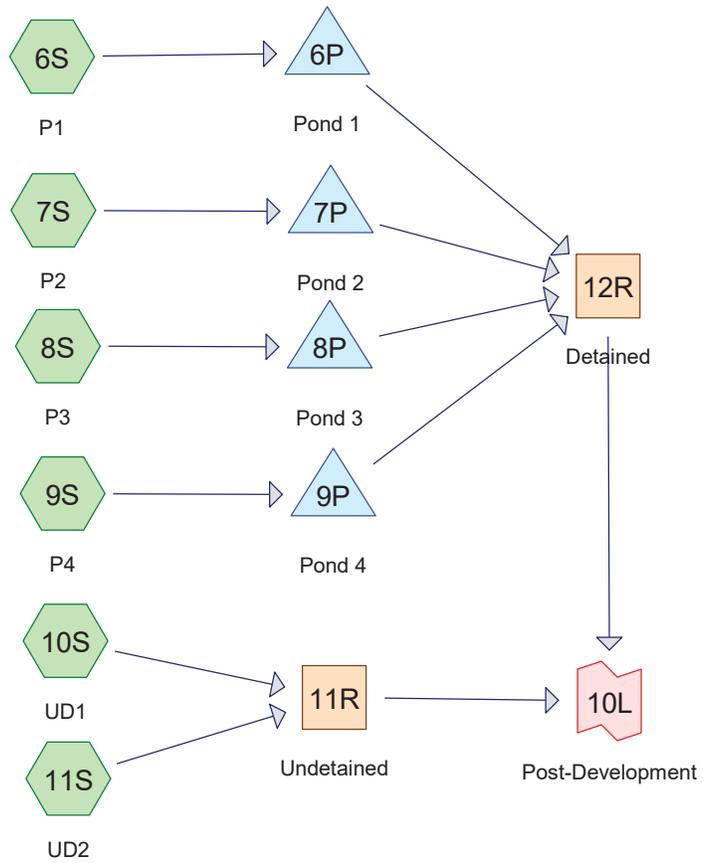
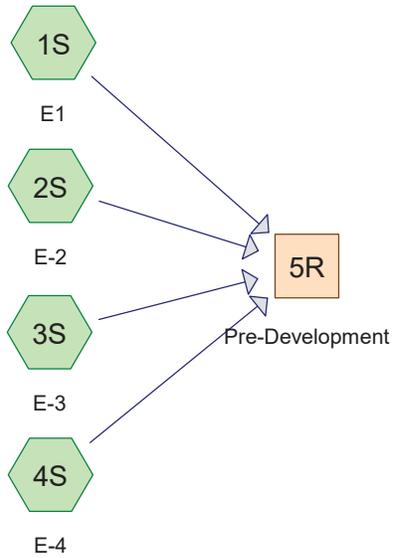
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HmB	Hochheim loam, 2 to 6 percent slopes	0.5	0.7%
HmB2	Hochheim loam, 2 to 6 percent slopes, eroded	10.5	14.0%
HnA	Hochheim silt loam, 0 to 2 percent slopes	31.0	41.2%
LmA	Lamartine silt loam, 0 to 3 percent slopes	2.8	3.7%
NnA	Nenno silt loam, 1 to 3 percent slopes	16.5	22.0%
ThA	Theresa silt loam, 0 to 2 percent slopes	13.8	18.4%
Totals for Area of Interest		75.2	100.0%

Appendix B

(Water Quantity Calculations)



Summary for Subcatchment 1S: E1

Runoff = 9.58 cfs @ 12.58 hrs, Volume= 1.078 af, Depth> 0.45"

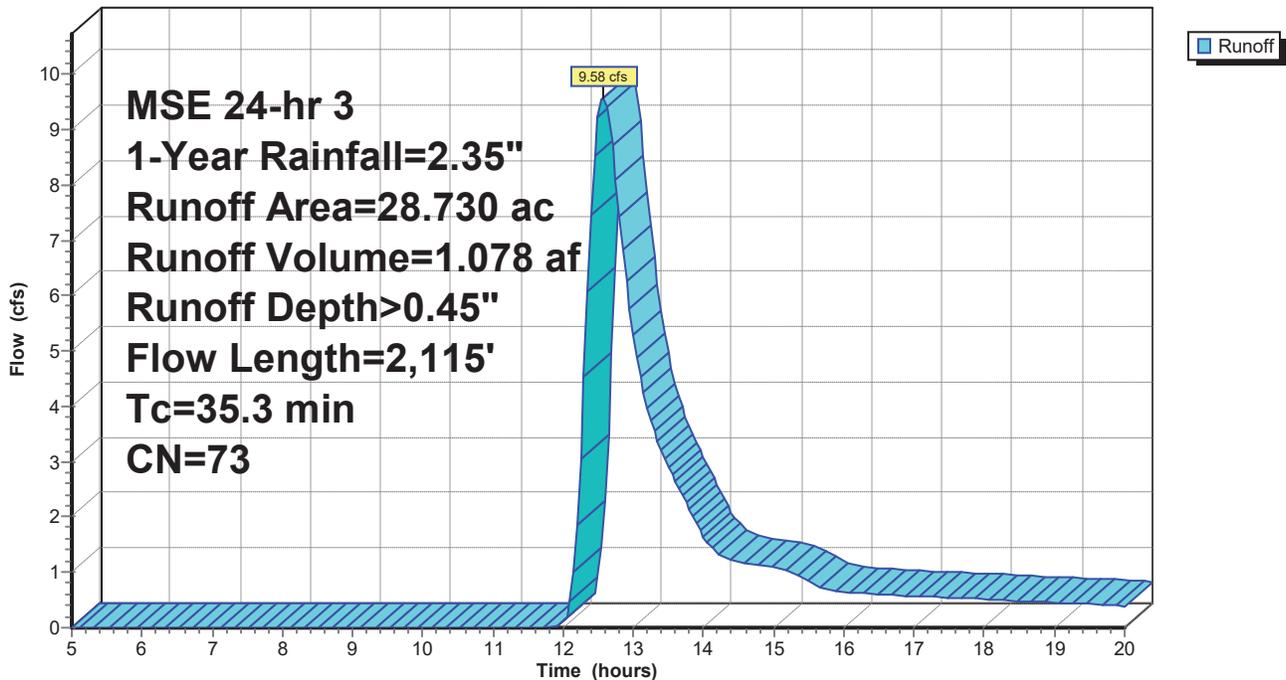
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
* 21.020	69	B, Cropland
* 7.710	83	D, Cropland
28.730	73	Weighted Average
28.730		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	275	0.0360	0.50		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
26.1	1,840	0.0170	1.17		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
35.3	2,115	Total			

Subcatchment 1S: E1

Hydrograph



Summary for Subcatchment 2S: E-2

Runoff = 9.57 cfs @ 12.55 hrs, Volume= 1.002 af, Depth> 0.60"

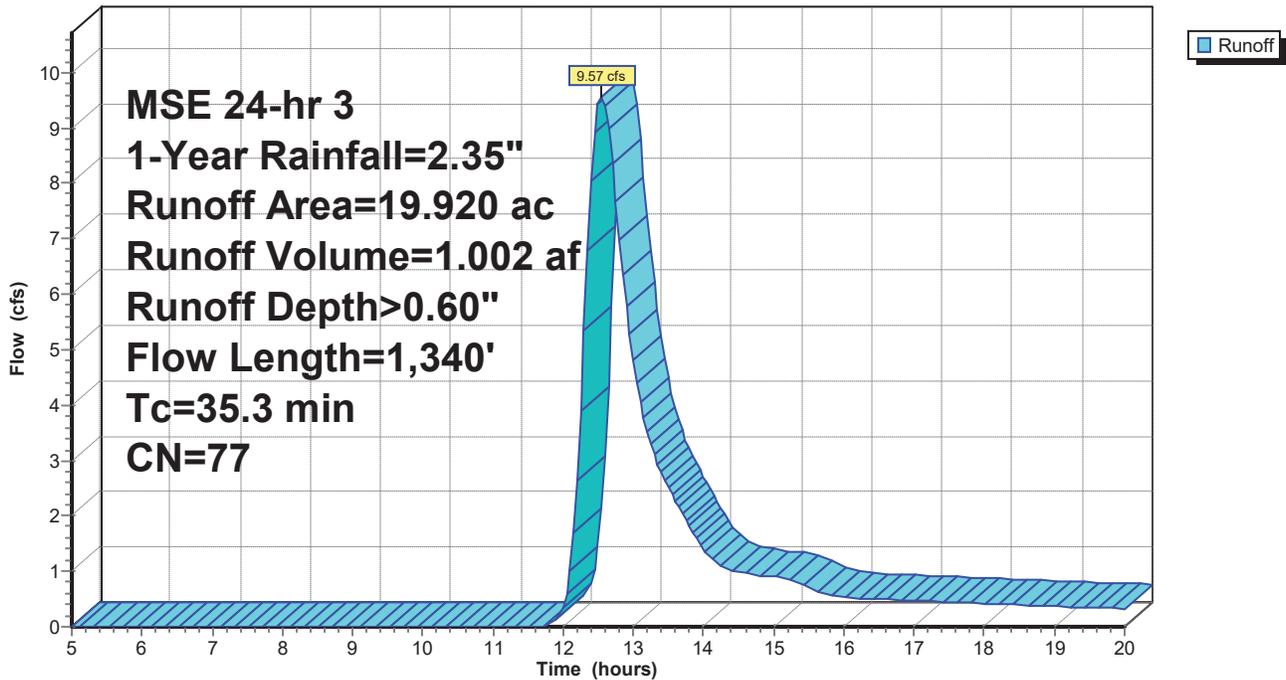
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
* 2.580	69	B, Cropland
* 15.780	78	C, Cropland
* 1.560	83	D, Cropland
19.920	77	Weighted Average
19.920		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	275	0.0220	0.41		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
6.8	405	0.0120	0.99		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
17.3	660	0.0050	0.64		Shallow Concentrated Flow, C-D Cultivated Straight Rows Kv= 9.0 fps
35.3	1,340	Total			

Subcatchment 2S: E-2

Hydrograph



Summary for Subcatchment 3S: E-3

Runoff = 6.33 cfs @ 12.25 hrs, Volume= 0.477 af, Depth> 0.33"

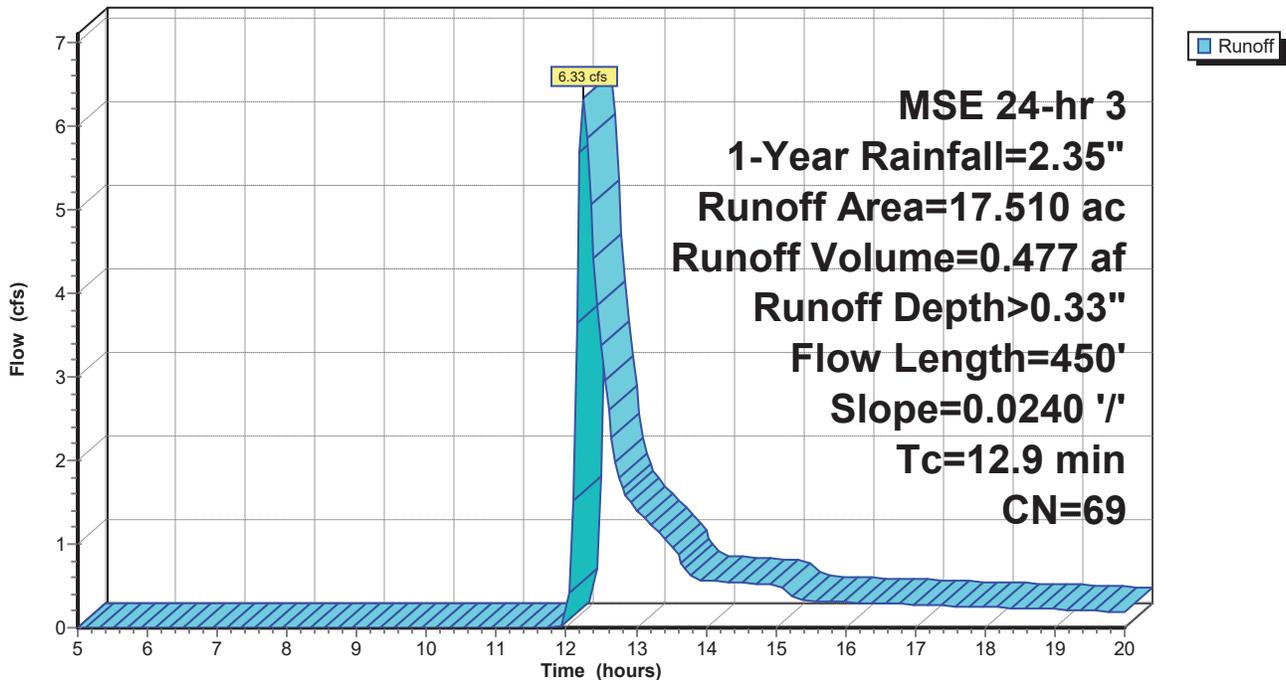
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
* 16.950	69	B, Cropland
* 0.560	83	D, Cropland
17.510	69	Weighted Average
17.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	275	0.0240	0.43		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
2.1	175	0.0240	1.39		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
12.9	450	Total			

Subcatchment 3S: E-3

Hydrograph



Summary for Subcatchment 4S: E-4

Runoff = 3.02 cfs @ 12.40 hrs, Volume= 0.291 af, Depth> 0.35"

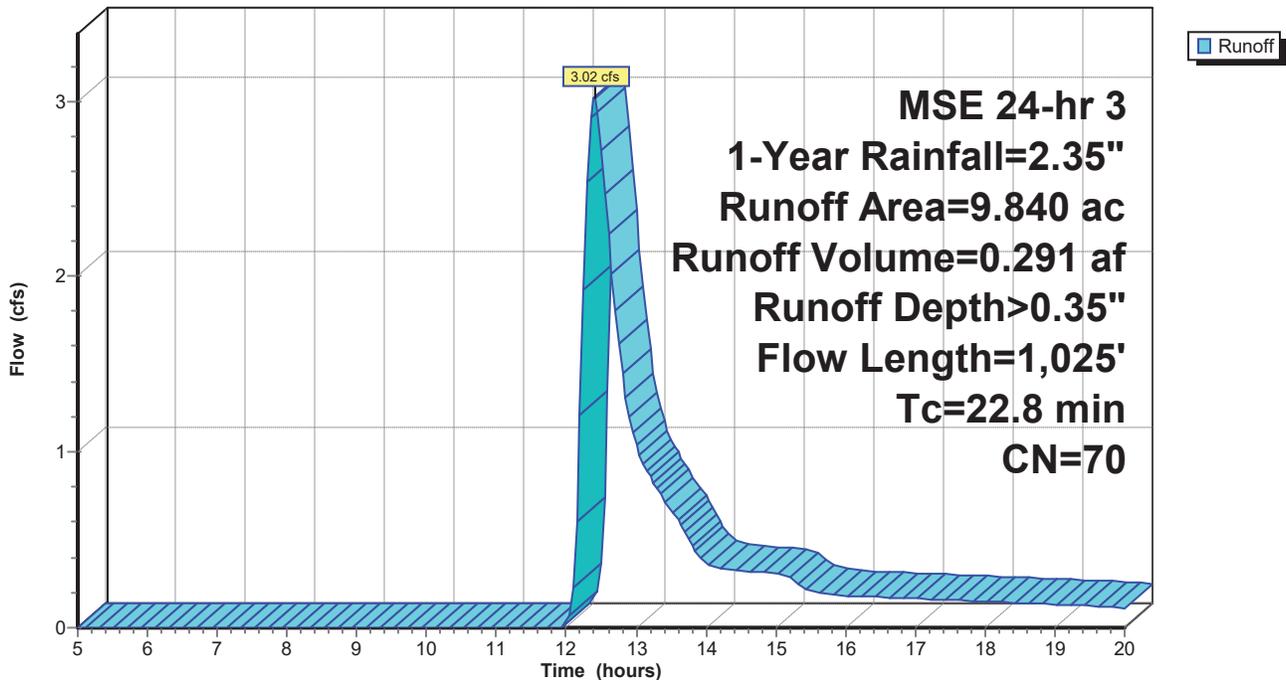
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
* 9.130	69	B, Cropland
* 0.710	83	D, Cropland
9.840	70	Weighted Average
9.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	275	0.0160	0.36		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
10.1	750	0.0190	1.24		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
22.8	1,025	Total			

Subcatchment 4S: E-4

Hydrograph



Summary for Subcatchment 6S: P1

Runoff = 7.13 cfs @ 12.51 hrs, Volume= 0.728 af, Depth> 0.52"

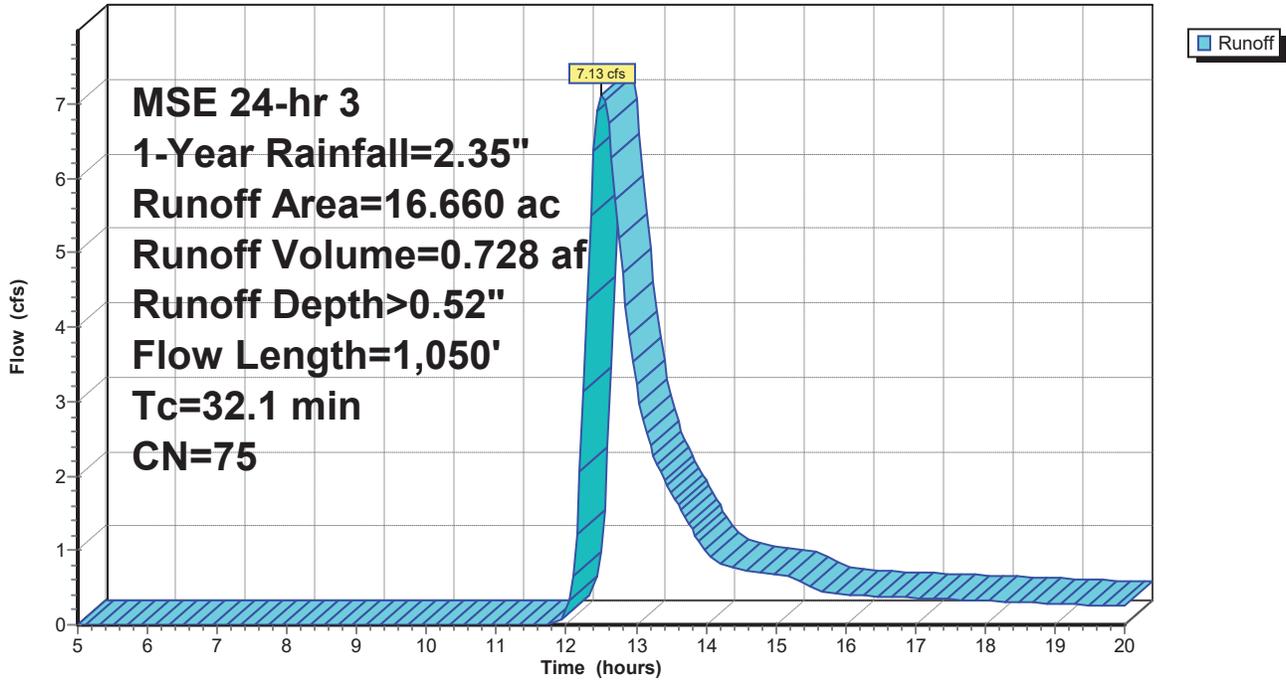
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
* 13.420	75	B, 1/4 Ac Lots
* 0.480	87	D, 1/4 Ac Lots
* 1.950	61	B, Open Space
* 0.240	80	D, Open Space
* 0.570	98	Pond
16.660	75	Weighted Average
16.090		96.58% Pervious Area
0.570		3.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	100	0.0400	0.14		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
19.9	800	0.0180	0.67	6.04	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.3	150	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
32.1	1,050	Total			

Subcatchment 6S: P1

Hydrograph



Summary for Subcatchment 7S: P2

Runoff = 4.75 cfs @ 12.66 hrs, Volume= 0.584 af, Depth> 0.45"

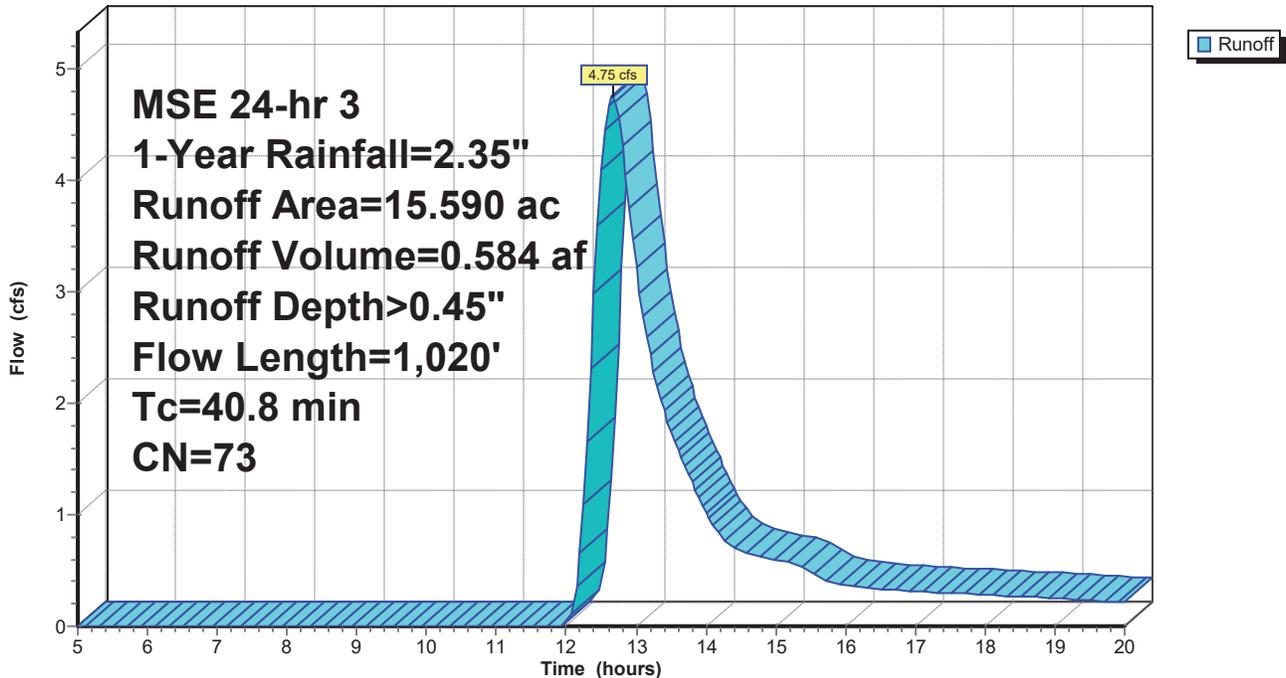
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
* 12.320	75	B, 1/4-Ac Lots
* 2.660	61	B, Open Space
* 0.150	80	D, Open Space
* 0.460	98	Pond
15.590	73	Weighted Average
15.130		97.05% Pervious Area
0.460		2.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	170	0.0300	0.20		Sheet Flow, A-B Grass: Short n= 0.150 P2= 2.66"
3.5	150	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
23.3	700	0.0100	0.50	4.50	Channel Flow, C-D Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
40.8	1,020	Total			

Subcatchment 7S: P2

Hydrograph



Summary for Subcatchment 8S: P3

Runoff = 8.27 cfs @ 12.79 hrs, Volume= 1.127 af, Depth> 0.56"

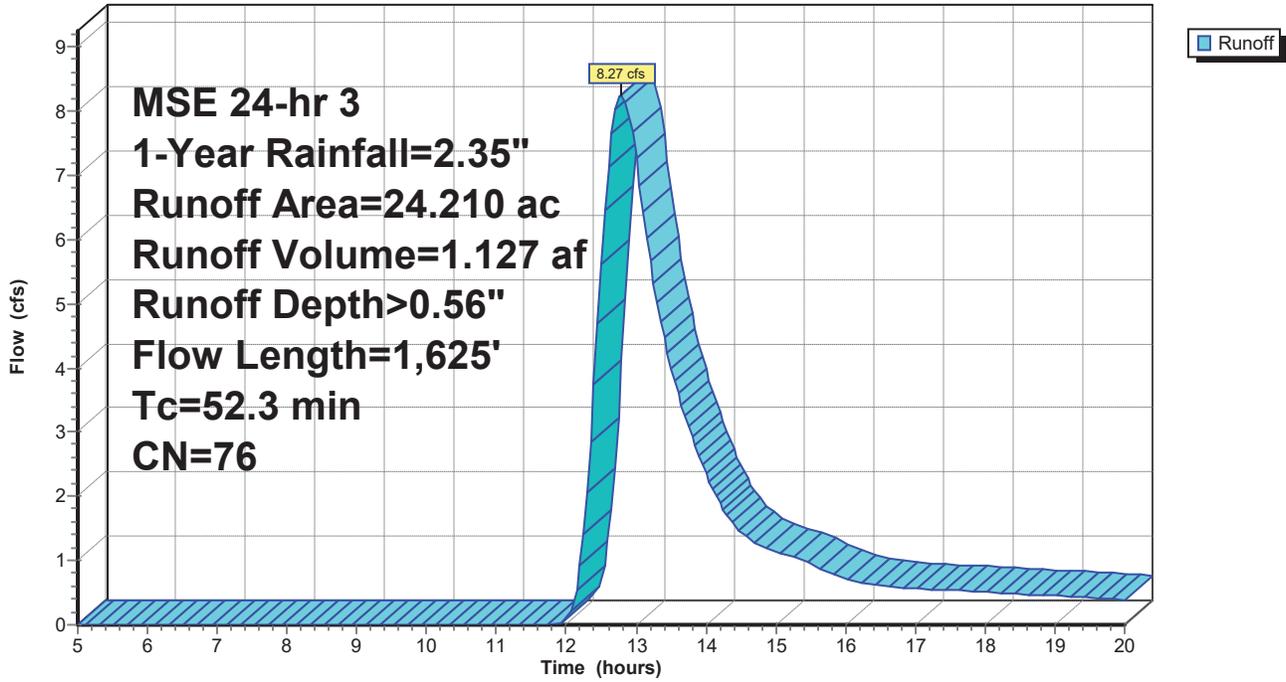
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
* 7.540	75	B, 1/4-Ac Lots
* 2.510	83	C, 1/4-Ac Lots
* 4.240	87	D, 1/4-Ac Lots
* 6.090	61	B, Open Space
* 0.190	74	C, Open Space
* 2.490	80	D, Open Space
* 1.150	98	Pond
24.210	76	Weighted Average
23.060		95.25% Pervious Area
1.150		4.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0150	0.09		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
11.2	475	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
23.1	850	0.0150	0.61	5.51	Channel Flow, C-D Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.4	200	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
52.3	1,625	Total			

Subcatchment 8S: P3

Hydrograph



Summary for Subcatchment 9S: P4

Runoff = 8.02 cfs @ 12.51 hrs, Volume= 0.783 af, Depth> 0.79"

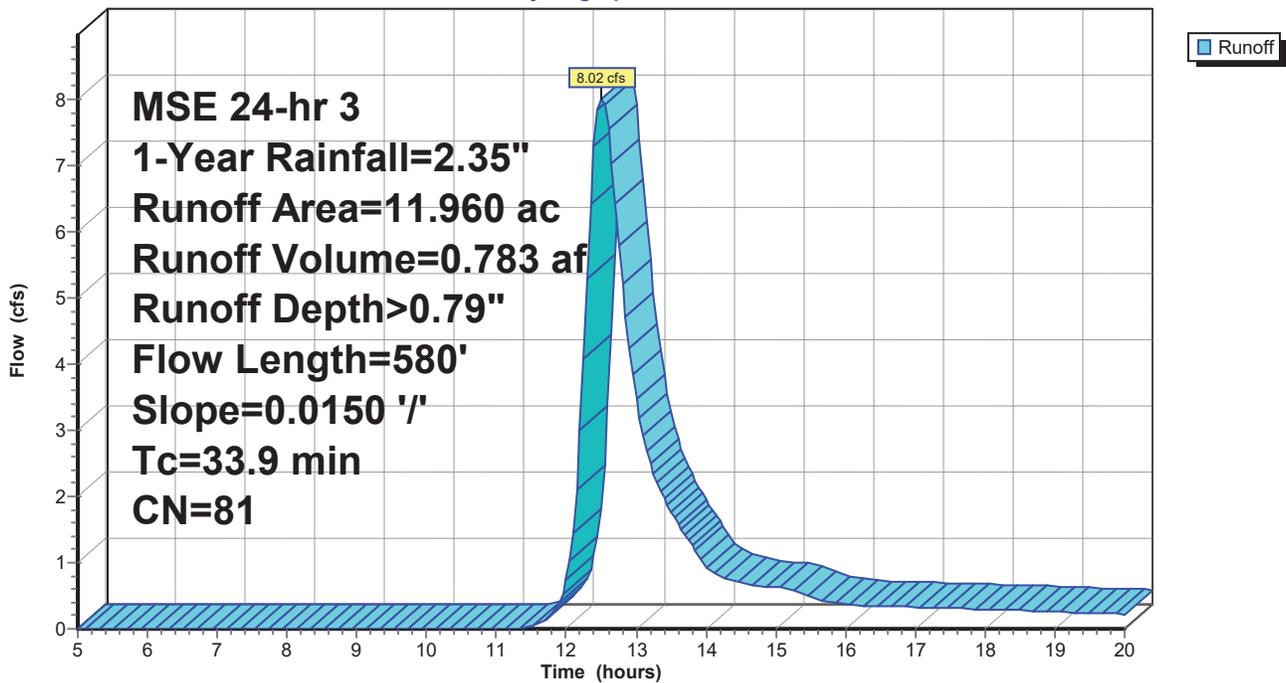
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
* 2.030	75	B, 1/4-Ac Lots
* 5.440	83	C, 1/4-Ac Lots
* 0.760	87	D, 1/4-Ac Lots
* 2.730	74	C, Open Space
* 1.000	98	Pond
11.960	81	Weighted Average
10.960		91.64% Pervious Area
1.000		8.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.7	130	0.0150	0.10		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
12.2	450	0.0150	0.61	5.51	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
33.9	580	Total			

Subcatchment 9S: P4

Hydrograph



Summary for Subcatchment 10S: UD1

Runoff = 0.90 cfs @ 12.67 hrs, Volume= 0.118 af, Depth> 0.35"

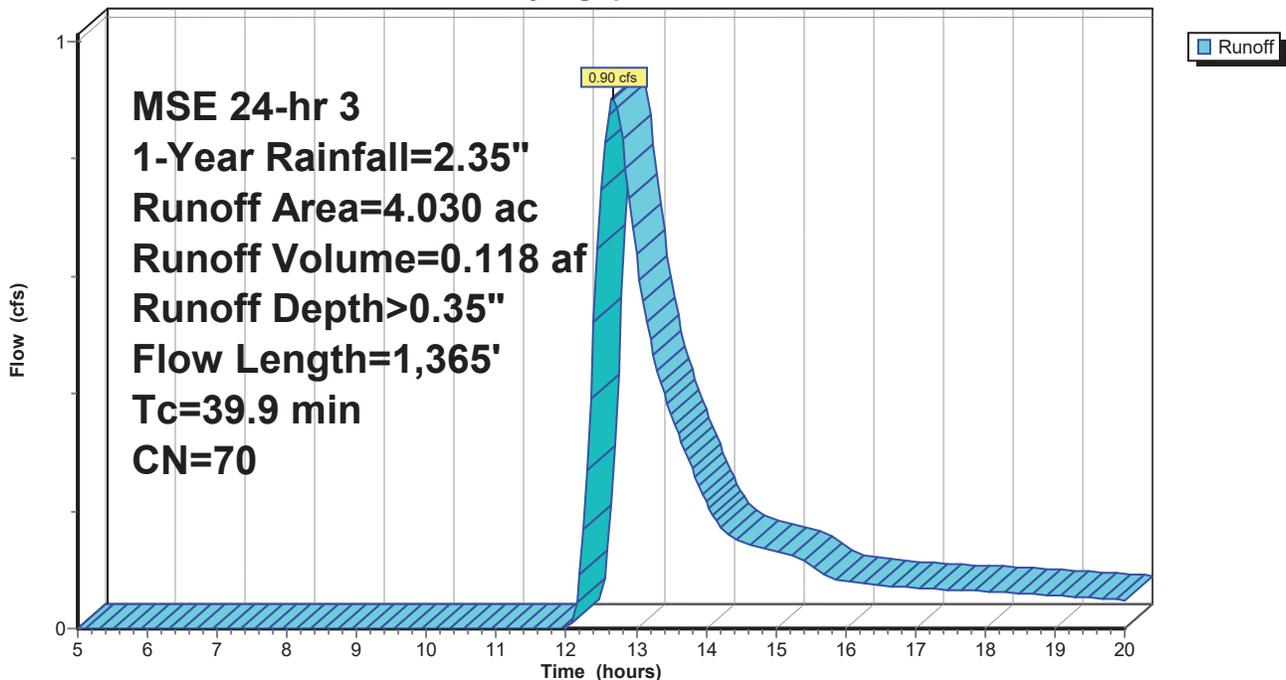
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
* 0.380	75	B, 1/4-Ac Lots
* 1.940	61	B, Open Space
* 1.710	80	D, Open Space
4.030	70	Weighted Average
4.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	175	0.0750	0.20		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
19.8	840	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.3	150	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
5.4	200	0.0150	0.61	5.51	Channel Flow, D-E Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
39.9	1,365	Total			

Subcatchment 10S: UD1

Hydrograph



Summary for Subcatchment 11S: UD2

Runoff = 2.30 cfs @ 12.38 hrs, Volume= 0.192 af, Depth> 0.65"

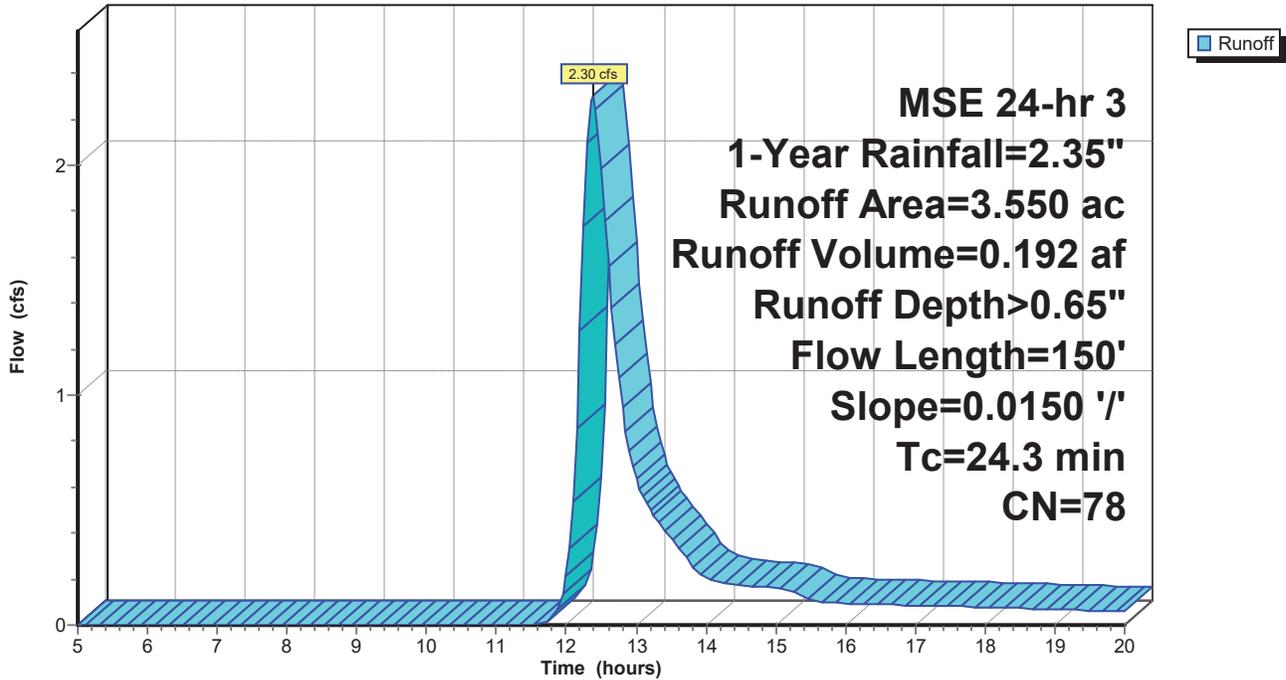
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
* 2.050	83	C, 1/4-Ac Lots
* 0.200	61	B, Open Space
* 1.300	74	C, Open Space
3.550	78	Weighted Average
3.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.3	150	0.0150	0.10		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"

Subcatchment 11S: UD2

Hydrograph



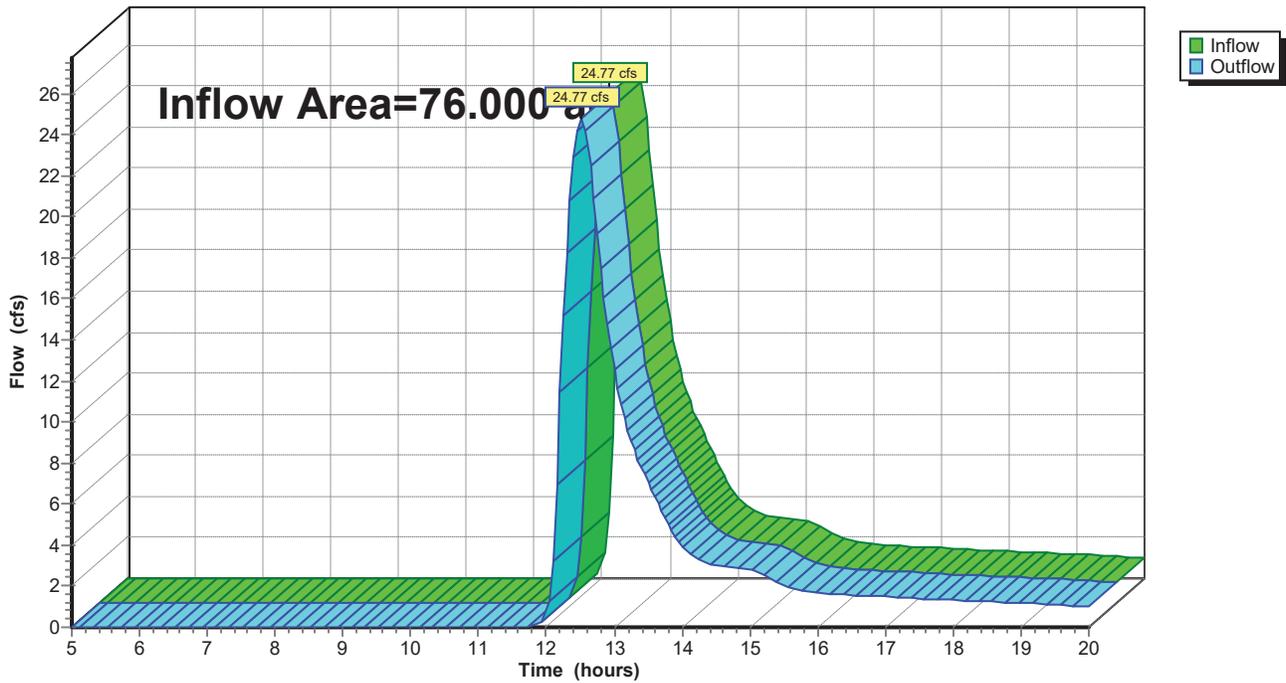
Summary for Reach 5R: Pre-Development

Inflow Area = 76.000 ac, 0.00% Impervious, Inflow Depth > 0.45" for 1-Year event
Inflow = 24.77 cfs @ 12.51 hrs, Volume= 2.848 af
Outflow = 24.77 cfs @ 12.51 hrs, Volume= 2.848 af, Atten= 0%, Lag= 0.0 min

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

Reach 5R: Pre-Development

Hydrograph



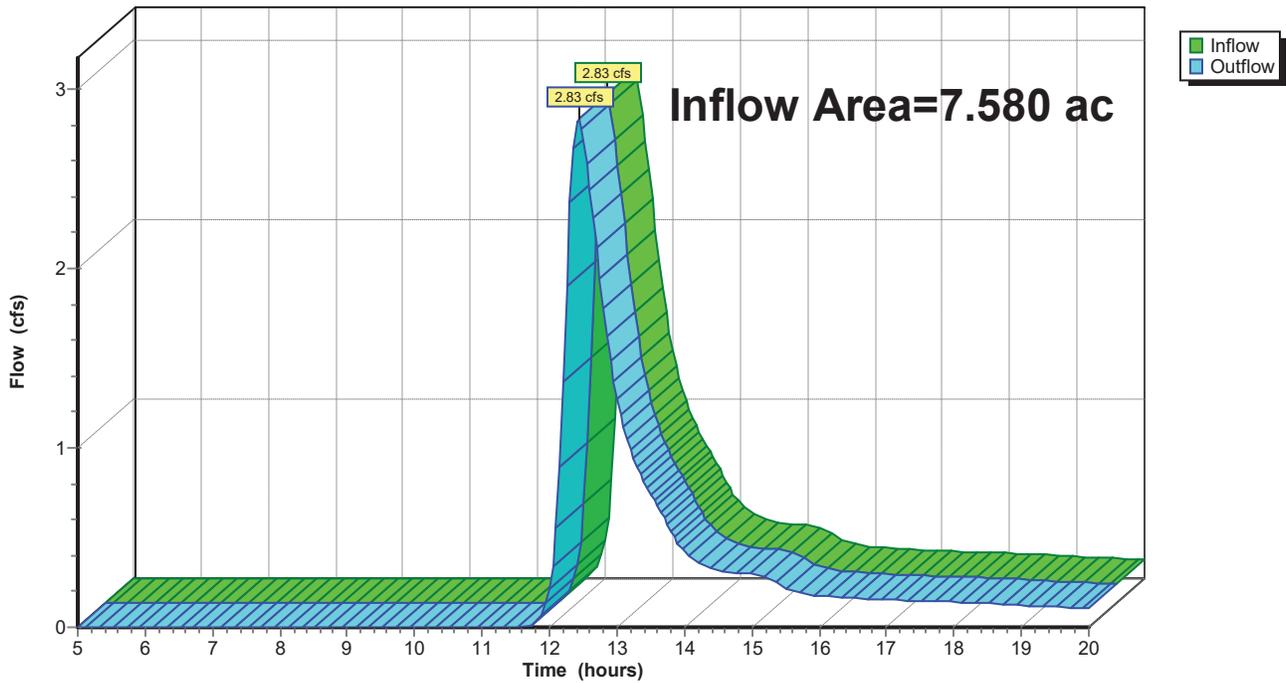
Summary for Reach 11R: Undetained

Inflow Area = 7.580 ac, 0.00% Impervious, Inflow Depth > 0.49" for 1-Year event
Inflow = 2.83 cfs @ 12.43 hrs, Volume= 0.310 af
Outflow = 2.83 cfs @ 12.43 hrs, Volume= 0.310 af, Atten= 0%, Lag= 0.0 min

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

Reach 11R: Undetained

Hydrograph



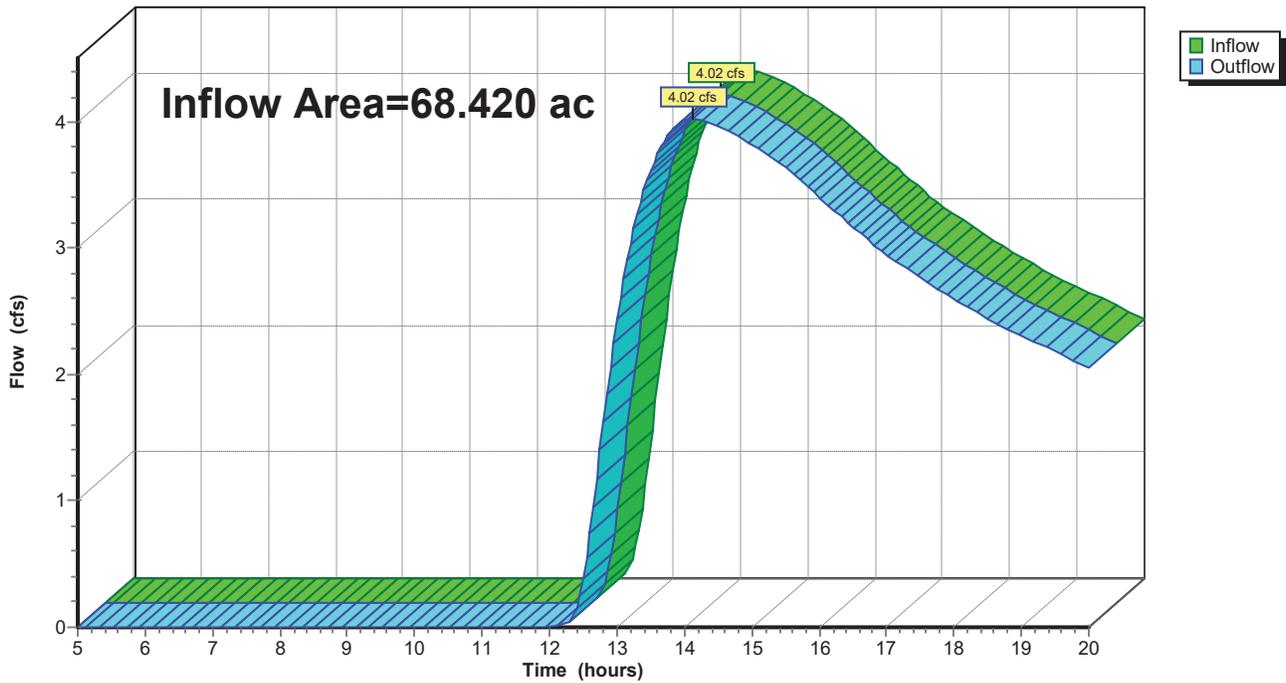
Summary for Reach 12R: Detained

Inflow Area = 68.420 ac, 4.65% Impervious, Inflow Depth > 0.32" for 1-Year event
Inflow = 4.02 cfs @ 14.14 hrs, Volume= 1.853 af
Outflow = 4.02 cfs @ 14.14 hrs, Volume= 1.853 af, Atten= 0%, Lag= 0.0 min

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

Reach 12R: Detained

Hydrograph



Summary for Pond 6P: Pond 1

Inflow Area = 16.660 ac, 3.42% Impervious, Inflow Depth > 0.52" for 1-Year event
 Inflow = 7.13 cfs @ 12.51 hrs, Volume= 0.728 af
 Outflow = 1.21 cfs @ 13.84 hrs, Volume= 0.502 af, Atten= 83%, Lag= 80.0 min
 Primary = 1.21 cfs @ 13.84 hrs, Volume= 0.502 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 886.17' @ 13.84 hrs Surf.Area= 0.613 ac Storage= 0.396 af

Plug-Flow detention time= 177.2 min calculated for 0.500 af (69% of inflow)
 Center-of-Mass det. time= 113.7 min (945.7 - 832.0)

Volume	Invert	Avail.Storage	Storage Description
#1	885.50'	4.078 af	Custom Stage Data (Prismatic) Listed below (Recalc)

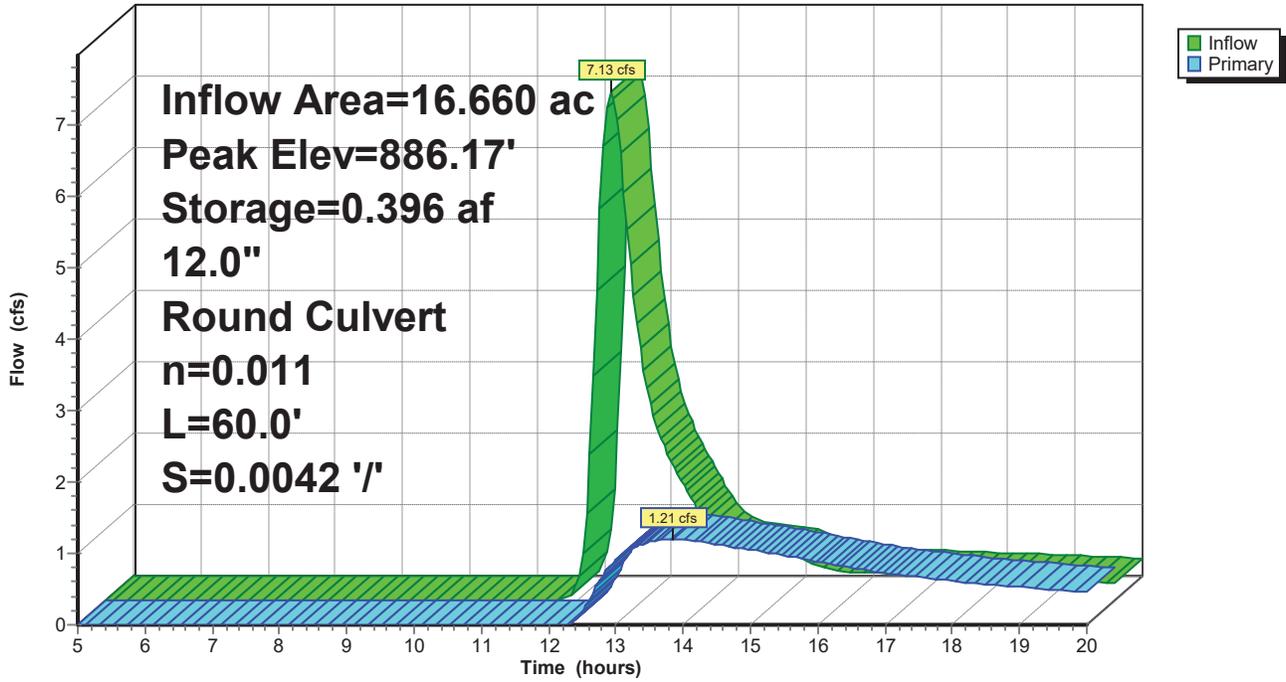
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
885.50	0.575	0.000	0.000
886.00	0.603	0.294	0.294
887.00	0.662	0.632	0.927
888.00	0.723	0.693	1.620
889.00	0.786	0.755	2.374
890.00	0.851	0.818	3.193
891.00	0.919	0.885	4.078

Device	Routing	Invert	Outlet Devices
#1	Primary	885.50'	12.0" Round RCP_Round 12" L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 885.50' / 885.25' S= 0.0042 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.21 cfs @ 13.84 hrs HW=886.17' (Free Discharge)
 ↑1=RCP_Round 12" (Barrel Controls 1.21 cfs @ 3.07 fps)

Pond 6P: Pond 1

Hydrograph



Summary for Pond 7P: Pond 2

Inflow Area = 15.590 ac, 2.95% Impervious, Inflow Depth > 0.45" for 1-Year event
 Inflow = 4.75 cfs @ 12.66 hrs, Volume= 0.584 af
 Outflow = 1.07 cfs @ 13.96 hrs, Volume= 0.422 af, Atten= 77%, Lag= 78.0 min
 Primary = 1.07 cfs @ 13.96 hrs, Volume= 0.422 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 889.62' @ 13.96 hrs Surf.Area= 0.494 ac Storage= 0.297 af

Plug-Flow detention time= 163.8 min calculated for 0.420 af (72% of inflow)
 Center-of-Mass det. time= 103.2 min (946.7 - 843.6)

Volume	Invert	Avail.Storage	Storage Description
#1	889.00'	3.376 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
889.00	0.461	0.000	0.000
890.00	0.514	0.487	0.487
891.00	0.568	0.541	1.028
892.00	0.625	0.596	1.625
893.00	0.684	0.654	2.280
894.00	0.746	0.715	2.995
894.50	0.778	0.381	3.376

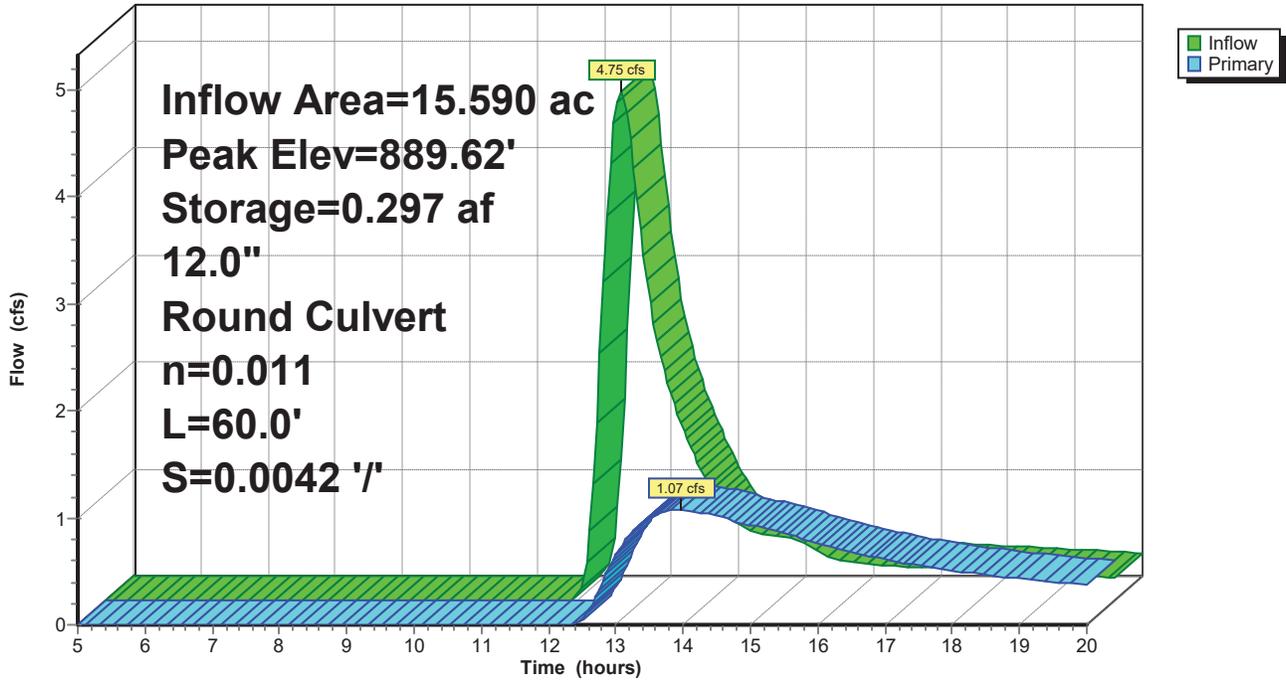
Device	Routing	Invert	Outlet Devices
#1	Primary	889.00'	12.0" Round CMP_Round 12" L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 889.00' / 888.75' S= 0.0042 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.07 cfs @ 13.96 hrs HW=889.62' (Free Discharge)

↑1=CMP_Round 12" (Barrel Controls 1.07 cfs @ 2.99 fps)

Pond 7P: Pond 2

Hydrograph



Summary for Pond 8P: Pond 3

Inflow Area = 24.210 ac, 4.75% Impervious, Inflow Depth > 0.56" for 1-Year event
 Inflow = 8.27 cfs @ 12.79 hrs, Volume= 1.127 af
 Outflow = 1.09 cfs @ 15.18 hrs, Volume= 0.544 af, Atten= 87%, Lag= 143.1 min
 Primary = 1.09 cfs @ 15.18 hrs, Volume= 0.544 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 904.61' @ 15.18 hrs Surf.Area= 1.209 ac Storage= 0.723 af

Plug-Flow detention time= 215.9 min calculated for 0.542 af (48% of inflow)
 Center-of-Mass det. time= 139.8 min (984.8 - 845.0)

Volume	Invert	Avail.Storage	Storage Description
#1	904.00'	7.001 af	Custom Stage Data (Prismatic) Listed below (Recalc)

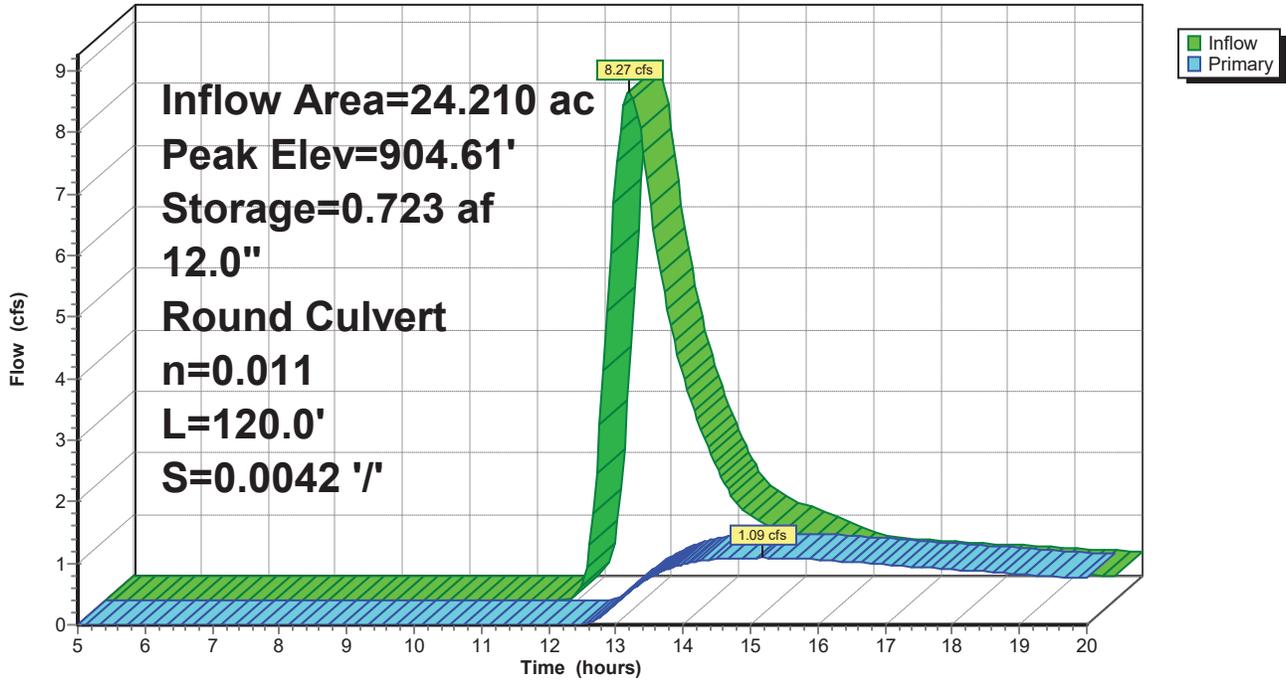
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
904.00	1.150	0.000	0.000
905.00	1.247	1.199	1.199
906.00	1.347	1.297	2.496
907.00	1.449	1.398	3.894
908.00	1.553	1.501	5.395
909.00	1.660	1.606	7.001

Device	Routing	Invert	Outlet Devices
#1	Primary	904.00'	12.0" Round RCP_Round 12" L= 120.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 904.00' / 903.50' S= 0.0042 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.09 cfs @ 15.18 hrs HW=904.61' (Free Discharge)
 ↑1=RCP_Round 12" (Barrel Controls 1.09 cfs @ 3.09 fps)

Pond 8P: Pond 3

Hydrograph



Summary for Pond 9P: Pond 4

Inflow Area = 11.960 ac, 8.36% Impervious, Inflow Depth > 0.79" for 1-Year event
 Inflow = 8.02 cfs @ 12.51 hrs, Volume= 0.783 af
 Outflow = 0.75 cfs @ 14.28 hrs, Volume= 0.385 af, Atten= 91%, Lag= 106.5 min
 Primary = 0.75 cfs @ 14.28 hrs, Volume= 0.385 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 914.51' @ 14.28 hrs Surf.Area= 1.042 ac Storage= 0.517 af

Plug-Flow detention time= 218.5 min calculated for 0.384 af (49% of inflow)
 Center-of-Mass det. time= 148.7 min (968.9 - 820.2)

Volume	Invert	Avail.Storage	Storage Description
#1	914.00'	6.076 af	Custom Stage Data (Prismatic) Listed below (Recalc)

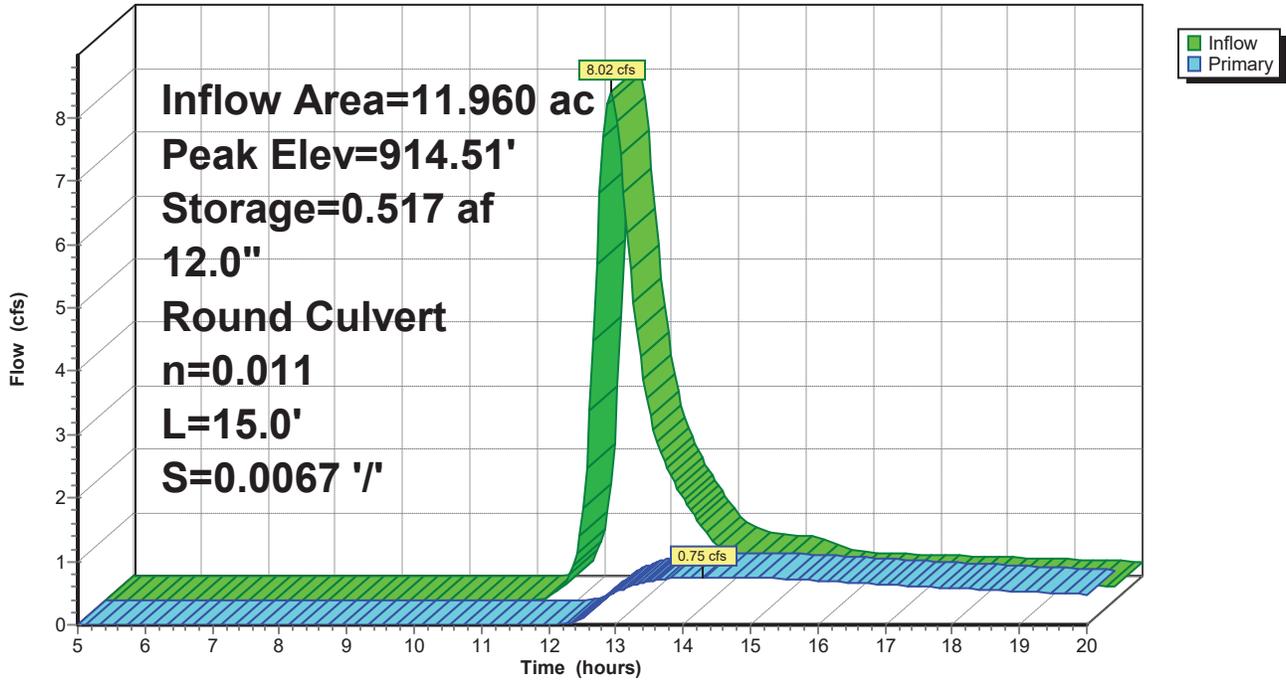
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
914.00	0.998	0.000	0.000
915.00	1.084	1.041	1.041
916.00	1.172	1.128	2.169
917.00	1.263	1.218	3.386
918.00	1.356	1.309	4.696
919.00	1.403	1.380	6.076

Device	Routing	Invert	Outlet Devices
#1	Primary	914.00'	12.0" Round RCP_Round 12" L= 15.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 914.00' / 913.90' S= 0.0067 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.75 cfs @ 14.28 hrs HW=914.51' (Free Discharge)
 ↑1=RCP_Round 12" (Barrel Controls 0.75 cfs @ 2.75 fps)

Pond 9P: Pond 4

Hydrograph



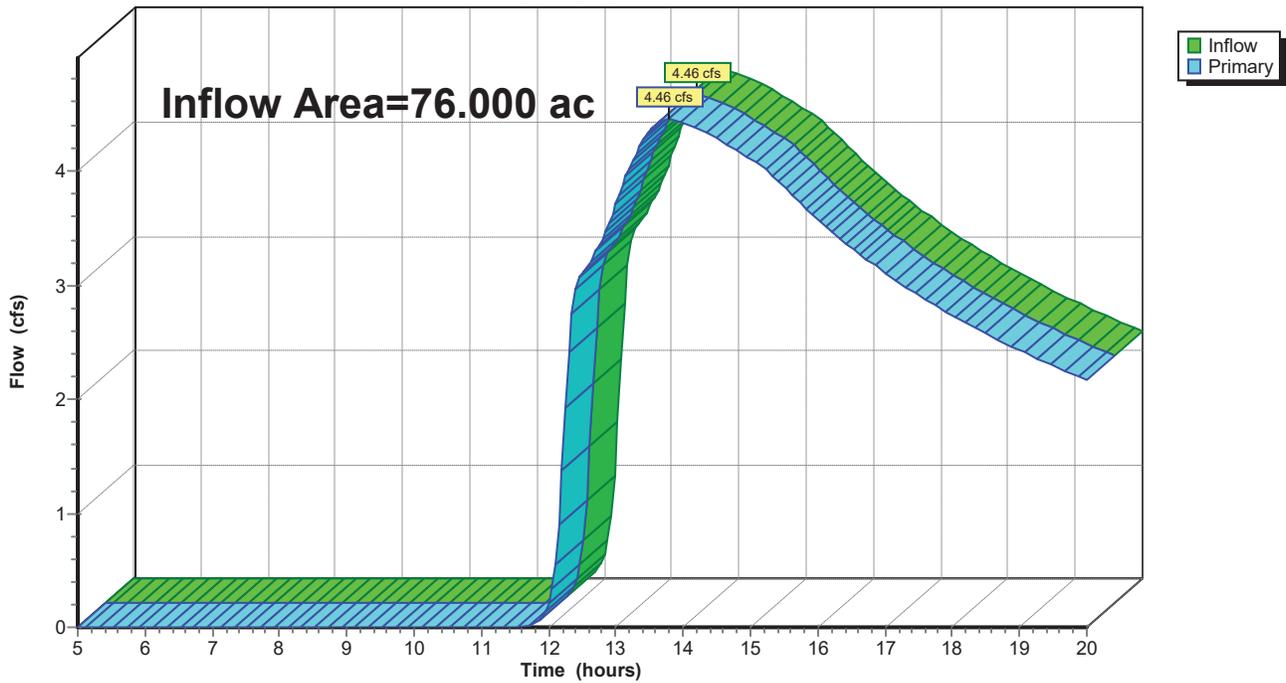
Summary for Link 10L: Post-Development

Inflow Area = 76.000 ac, 4.18% Impervious, Inflow Depth > 0.34" for 1-Year event
Inflow = 4.46 cfs @ 13.77 hrs, Volume= 2.163 af
Primary = 4.46 cfs @ 13.77 hrs, Volume= 2.163 af, Atten= 0%, Lag= 0.0 min

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

Link 10L: Post-Development

Hydrograph



Summary for Subcatchment 1S: E1

Runoff = 13.57 cfs @ 12.56 hrs, Volume= 1.458 af, Depth> 0.61"

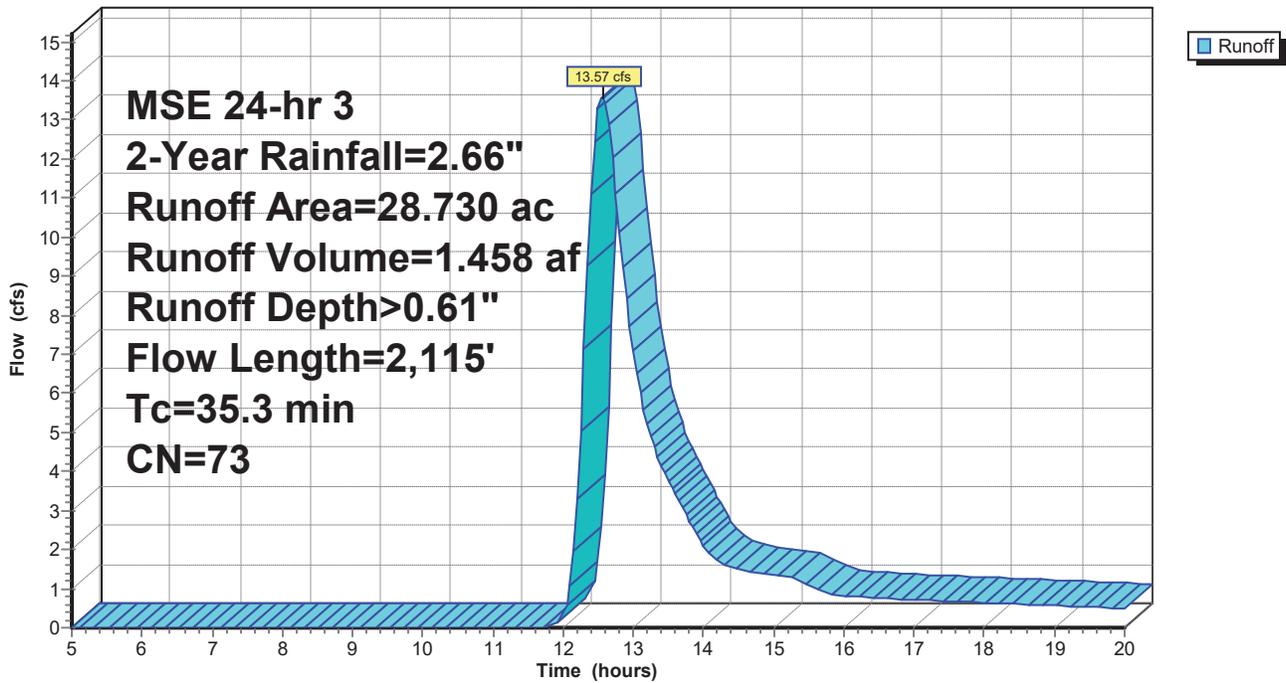
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-Year Rainfall=2.66"

Area (ac)	CN	Description
* 21.020	69	B, Cropland
* 7.710	83	D, Cropland
28.730	73	Weighted Average
28.730		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	275	0.0360	0.50		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
26.1	1,840	0.0170	1.17		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
35.3	2,115	Total			

Subcatchment 1S: E1

Hydrograph



Summary for Subcatchment 2S: E-2

Runoff = 12.83 cfs @ 12.53 hrs, Volume= 1.308 af, Depth> 0.79"

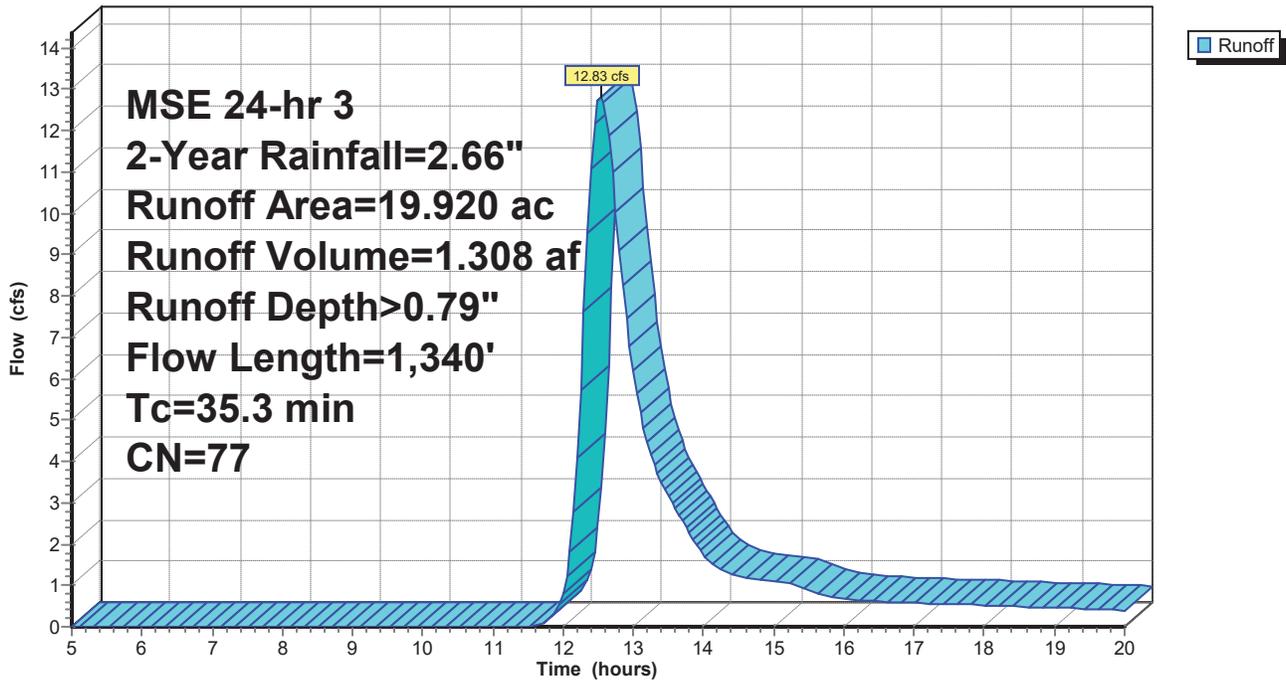
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-Year Rainfall=2.66"

Area (ac)	CN	Description
* 2.580	69	B, Cropland
* 15.780	78	C, Cropland
* 1.560	83	D, Cropland
19.920	77	Weighted Average
19.920		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	275	0.0220	0.41		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
6.8	405	0.0120	0.99		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
17.3	660	0.0050	0.64		Shallow Concentrated Flow, C-D Cultivated Straight Rows Kv= 9.0 fps
35.3	1,340	Total			

Subcatchment 2S: E-2

Hydrograph



Summary for Subcatchment 3S: E-3

Runoff = 9.84 cfs @ 12.24 hrs, Volume= 0.672 af, Depth> 0.46"

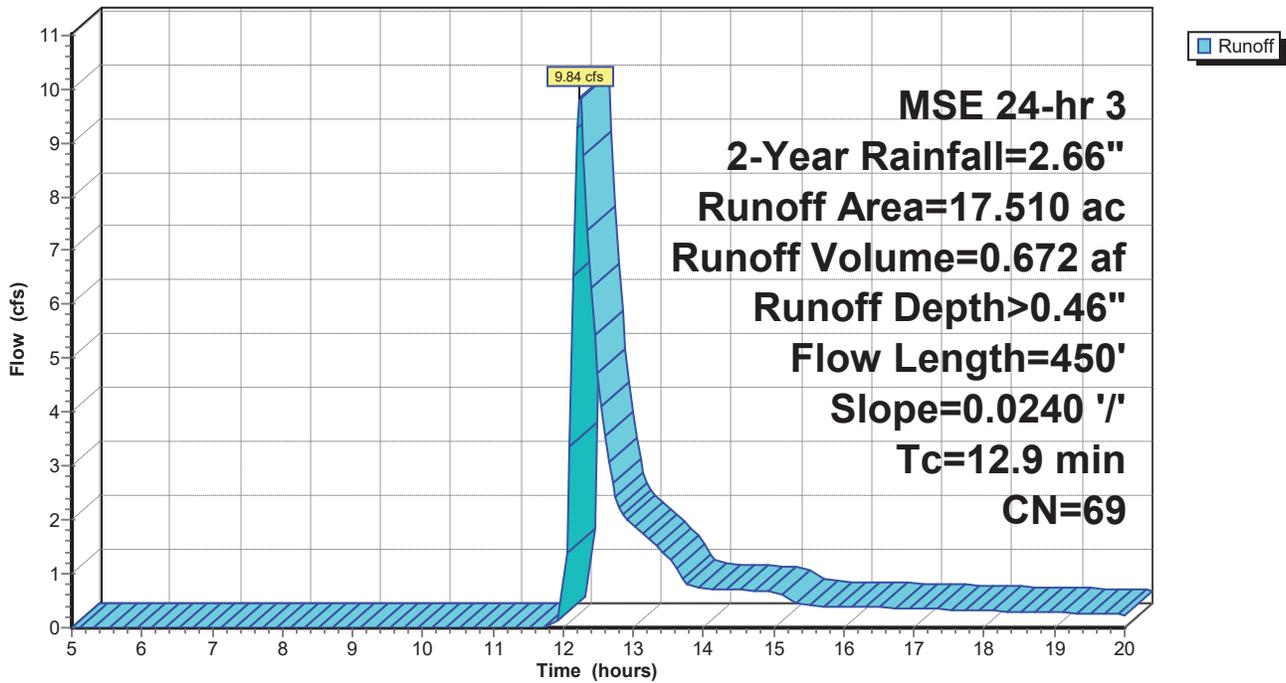
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-Year Rainfall=2.66"

Area (ac)	CN	Description
* 16.950	69	B, Cropland
* 0.560	83	D, Cropland
17.510	69	Weighted Average
17.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	275	0.0240	0.43		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
2.1	175	0.0240	1.39		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
12.9	450	Total			

Subcatchment 3S: E-3

Hydrograph



Summary for Subcatchment 4S: E-4

Runoff = 4.55 cfs @ 12.39 hrs, Volume= 0.406 af, Depth> 0.49"

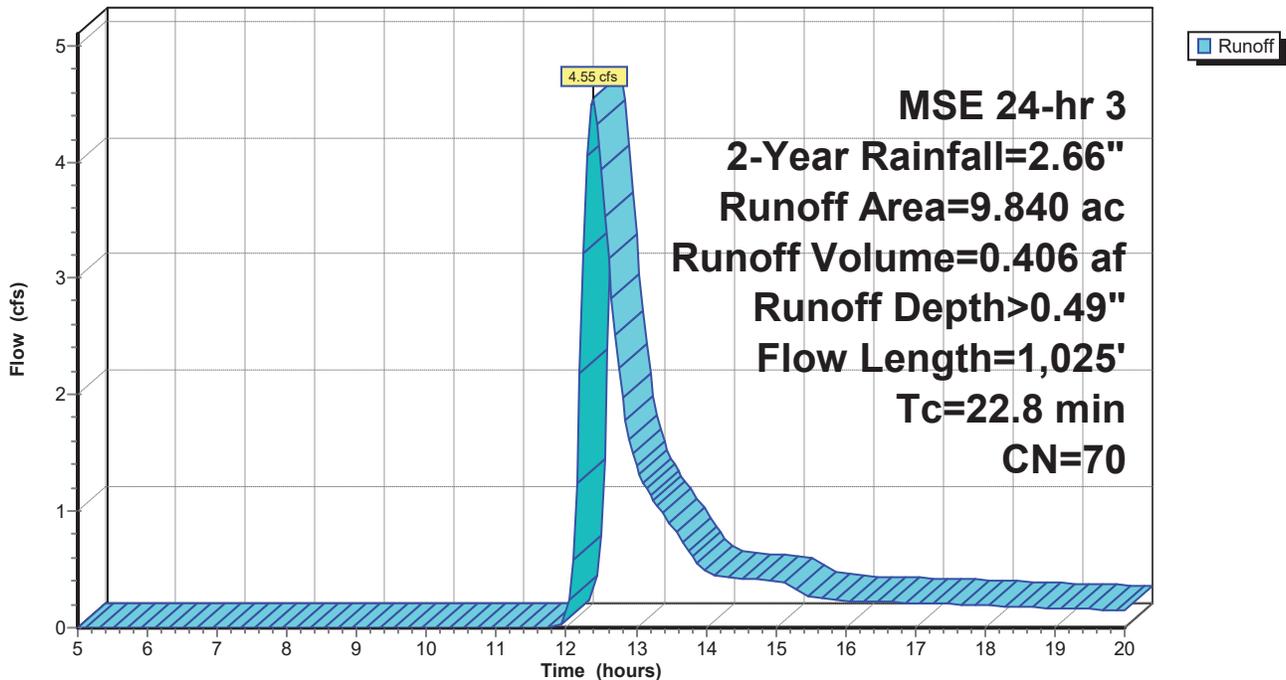
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-Year Rainfall=2.66"

Area (ac)	CN	Description
* 9.130	69	B, Cropland
* 0.710	83	D, Cropland
9.840	70	Weighted Average
9.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	275	0.0160	0.36		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
10.1	750	0.0190	1.24		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
22.8	1,025	Total			

Subcatchment 4S: E-4

Hydrograph



Summary for Subcatchment 6S: P1

Runoff = 9.81 cfs @ 12.50 hrs, Volume= 0.966 af, Depth> 0.70"

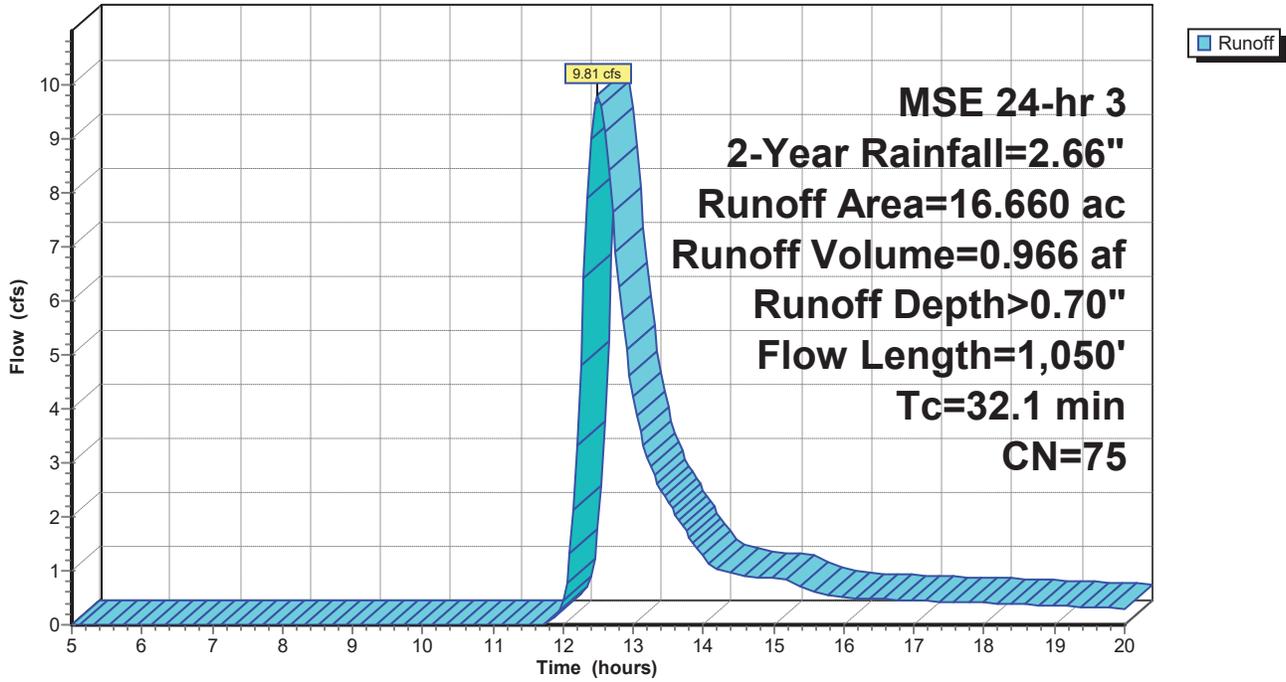
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-Year Rainfall=2.66"

Area (ac)	CN	Description
* 13.420	75	B, 1/4 Ac Lots
* 0.480	87	D, 1/4 Ac Lots
* 1.950	61	B, Open Space
* 0.240	80	D, Open Space
* 0.570	98	Pond
16.660	75	Weighted Average
16.090		96.58% Pervious Area
0.570		3.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	100	0.0400	0.14		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
19.9	800	0.0180	0.67	6.04	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.3	150	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
32.1	1,050	Total			

Subcatchment 6S: P1

Hydrograph



Summary for Subcatchment 7S: P2

Runoff = 6.73 cfs @ 12.64 hrs, Volume= 0.789 af, Depth> 0.61"

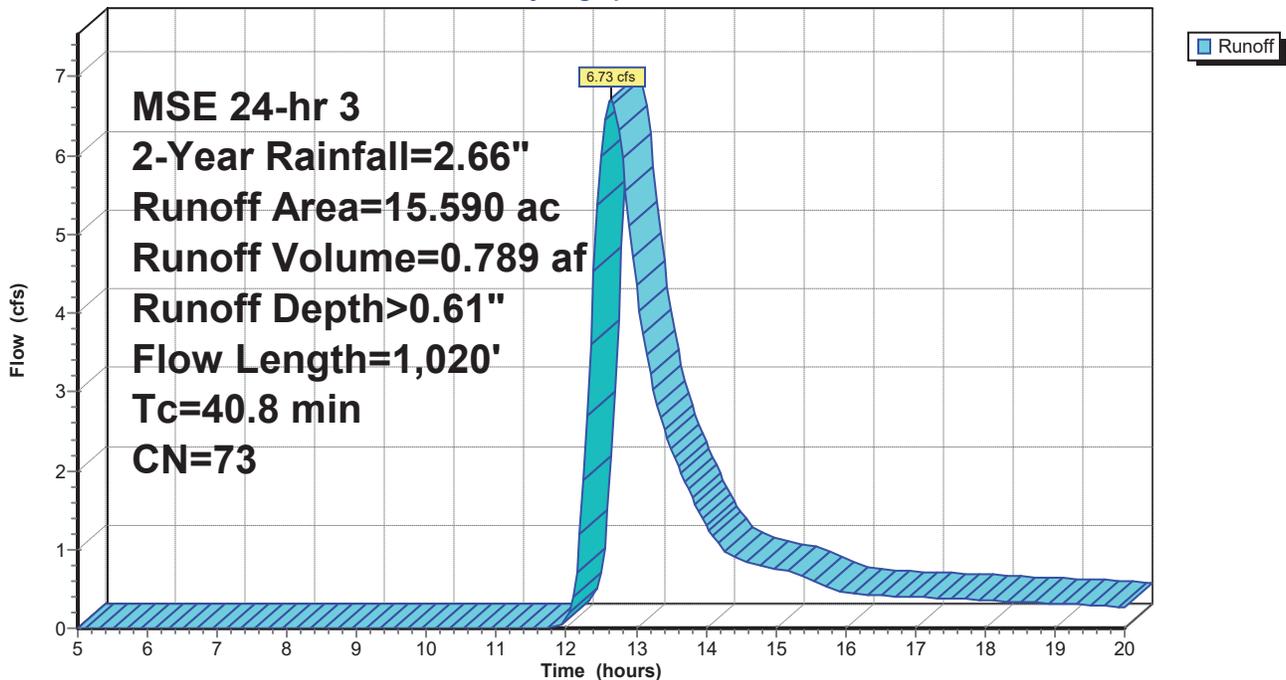
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-Year Rainfall=2.66"

Area (ac)	CN	Description
* 12.320	75	B, 1/4-Ac Lots
* 2.660	61	B, Open Space
* 0.150	80	D, Open Space
* 0.460	98	Pond
15.590	73	Weighted Average
15.130		97.05% Pervious Area
0.460		2.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	170	0.0300	0.20		Sheet Flow, A-B Grass: Short n= 0.150 P2= 2.66"
3.5	150	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
23.3	700	0.0100	0.50	4.50	Channel Flow, C-D Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
40.8	1,020	Total			

Subcatchment 7S: P2

Hydrograph



Summary for Subcatchment 8S: P3

Runoff = 11.24 cfs @ 12.77 hrs, Volume= 1.484 af, Depth> 0.74"

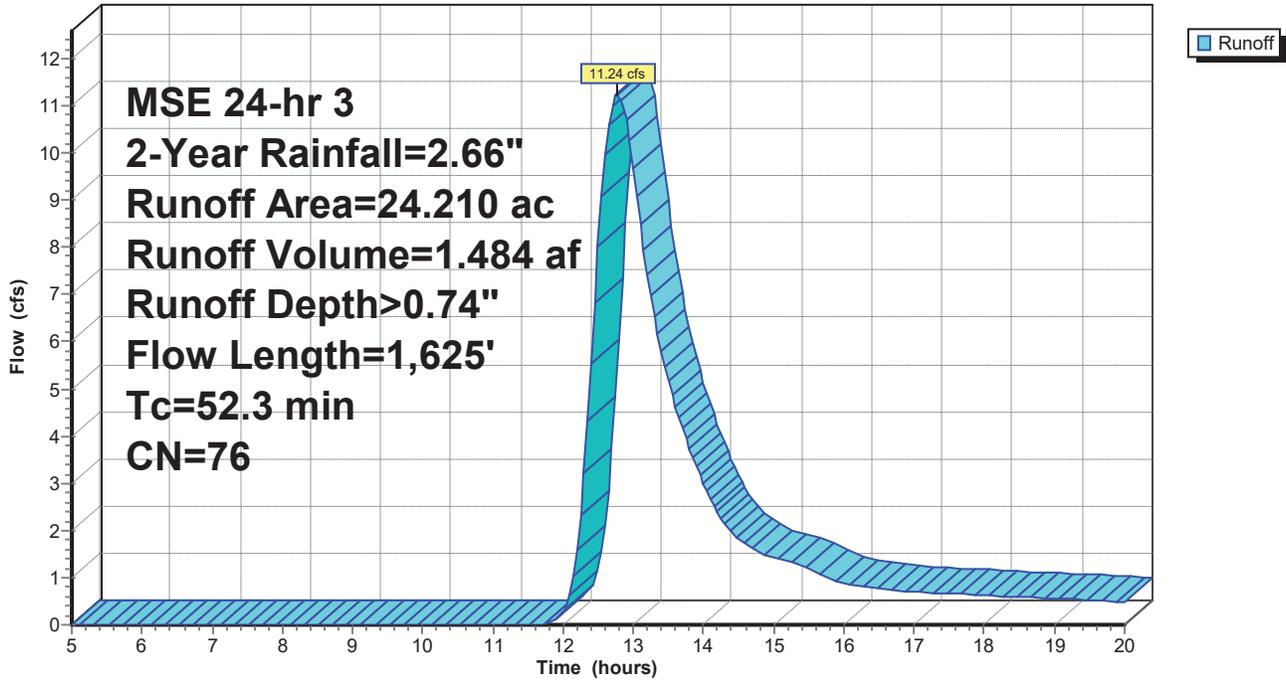
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-Year Rainfall=2.66"

Area (ac)	CN	Description
* 7.540	75	B, 1/4-Ac Lots
* 2.510	83	C, 1/4-Ac Lots
* 4.240	87	D, 1/4-Ac Lots
* 6.090	61	B, Open Space
* 0.190	74	C, Open Space
* 2.490	80	D, Open Space
* 1.150	98	Pond
24.210	76	Weighted Average
23.060		95.25% Pervious Area
1.150		4.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0150	0.09		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
11.2	475	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
23.1	850	0.0150	0.61	5.51	Channel Flow, C-D Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.4	200	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
52.3	1,625	Total			

Subcatchment 8S: P3

Hydrograph



Summary for Subcatchment 9S: P4

Runoff = 10.29 cfs @ 12.50 hrs, Volume= 0.994 af, Depth> 1.00"

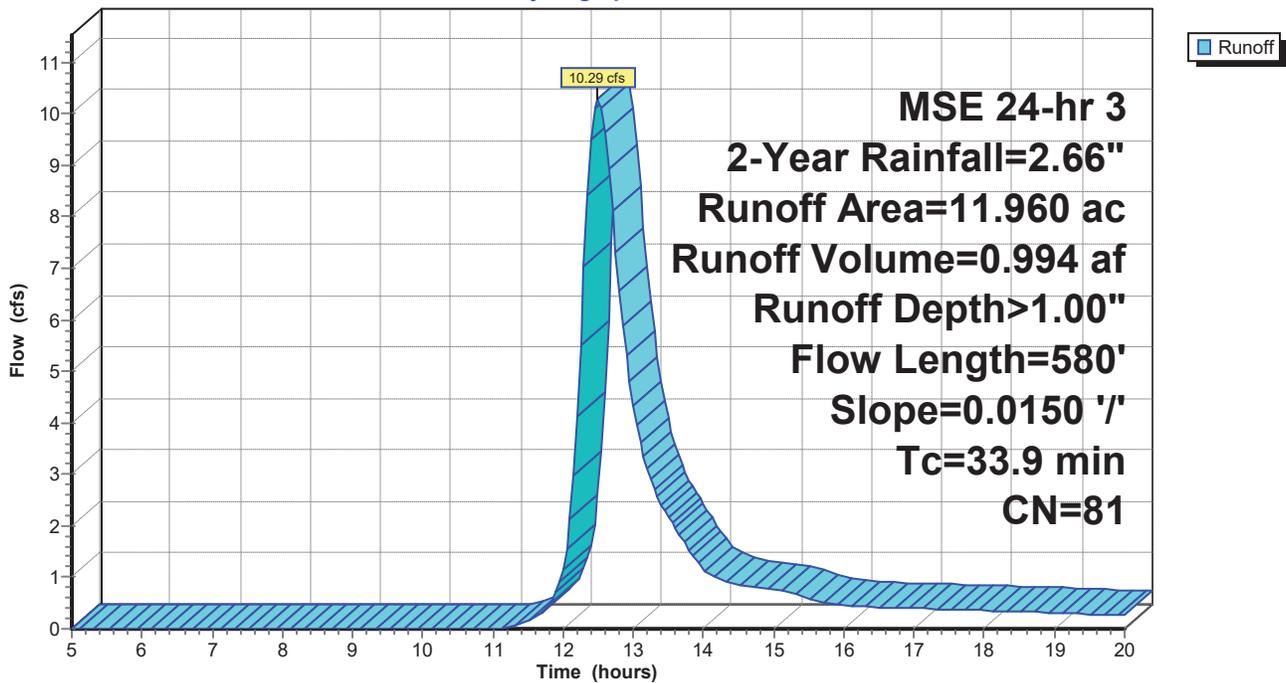
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-Year Rainfall=2.66"

Area (ac)	CN	Description
* 2.030	75	B, 1/4-Ac Lots
* 5.440	83	C, 1/4-Ac Lots
* 0.760	87	D, 1/4-Ac Lots
* 2.730	74	C, Open Space
* 1.000	98	Pond
11.960	81	Weighted Average
10.960		91.64% Pervious Area
1.000		8.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.7	130	0.0150	0.10		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
12.2	450	0.0150	0.61	5.51	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
33.9	580	Total			

Subcatchment 9S: P4

Hydrograph



Summary for Subcatchment 10S: UD1

Runoff = 1.35 cfs @ 12.65 hrs, Volume= 0.165 af, Depth> 0.49"

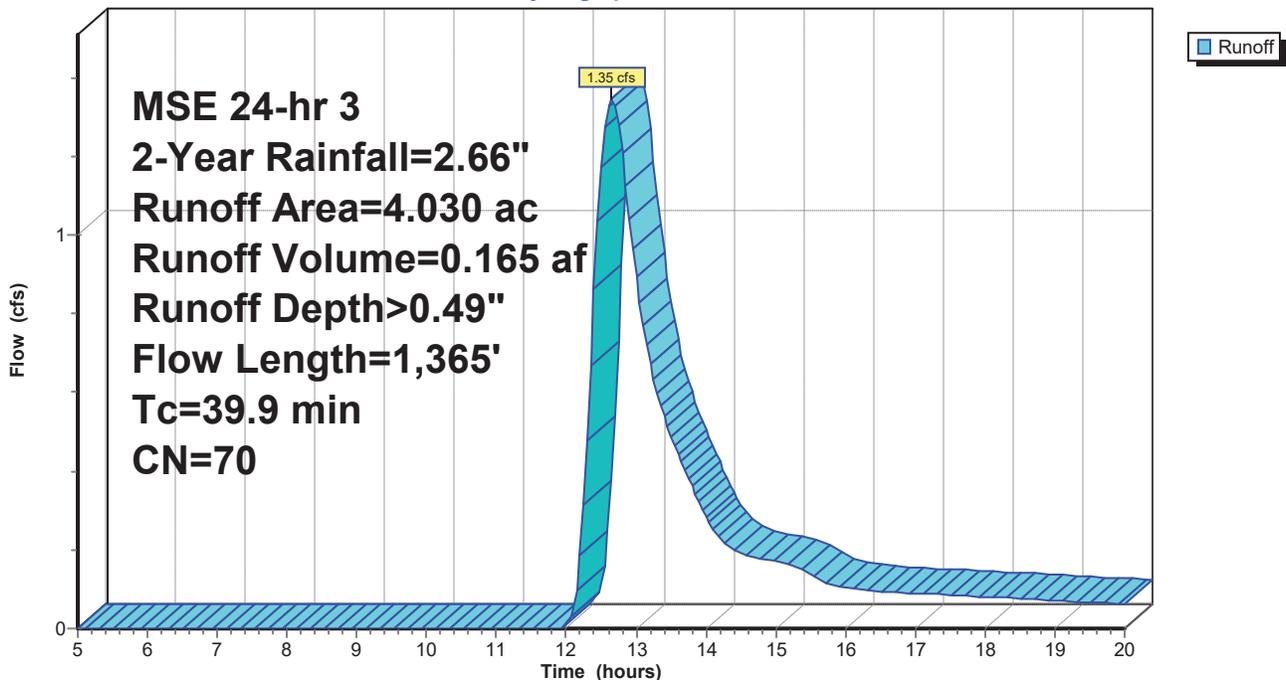
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-Year Rainfall=2.66"

Area (ac)	CN	Description
* 0.380	75	B, 1/4-Ac Lots
* 1.940	61	B, Open Space
* 1.710	80	D, Open Space
4.030	70	Weighted Average
4.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	175	0.0750	0.20		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
19.8	840	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.3	150	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
5.4	200	0.0150	0.61	5.51	Channel Flow, D-E Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
39.9	1,365	Total			

Subcatchment 10S: UD1

Hydrograph



Summary for Subcatchment 11S: UD2

Runoff = 3.06 cfs @ 12.37 hrs, Volume= 0.249 af, Depth> 0.84"

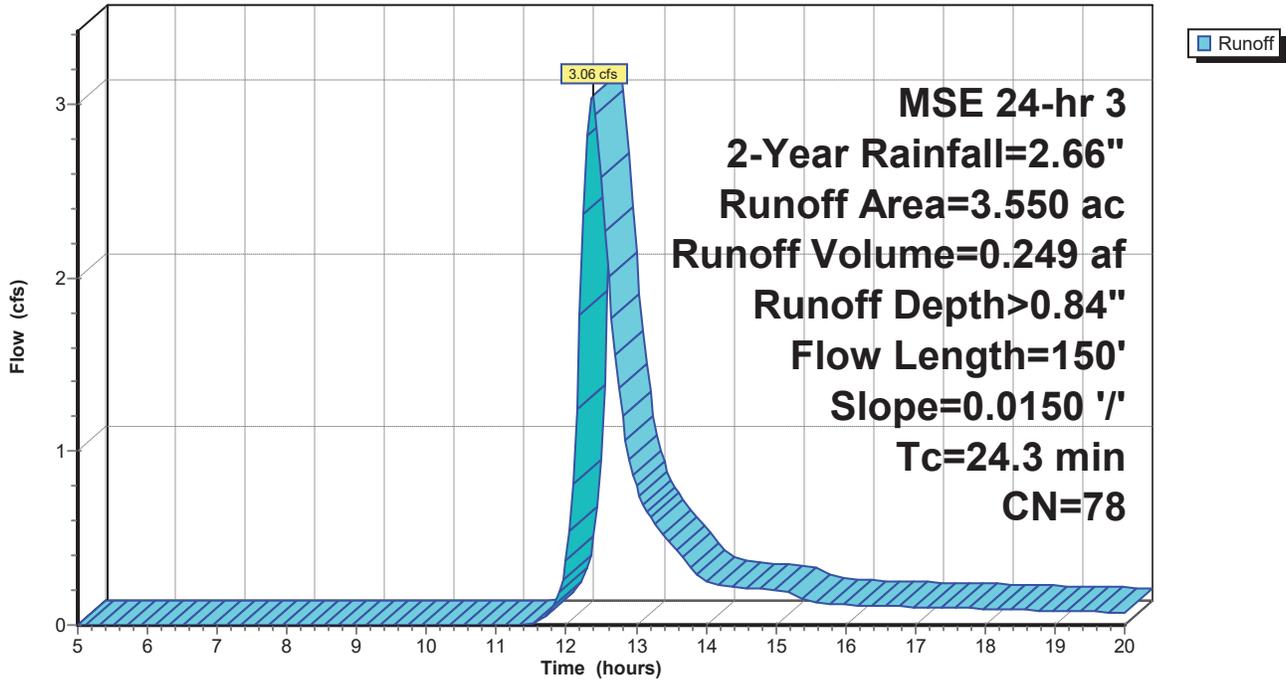
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-Year Rainfall=2.66"

Area (ac)	CN	Description
* 2.050	83	C, 1/4-Ac Lots
* 0.200	61	B, Open Space
* 1.300	74	C, Open Space
3.550	78	Weighted Average
3.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.3	150	0.0150	0.10		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"

Subcatchment 11S: UD2

Hydrograph



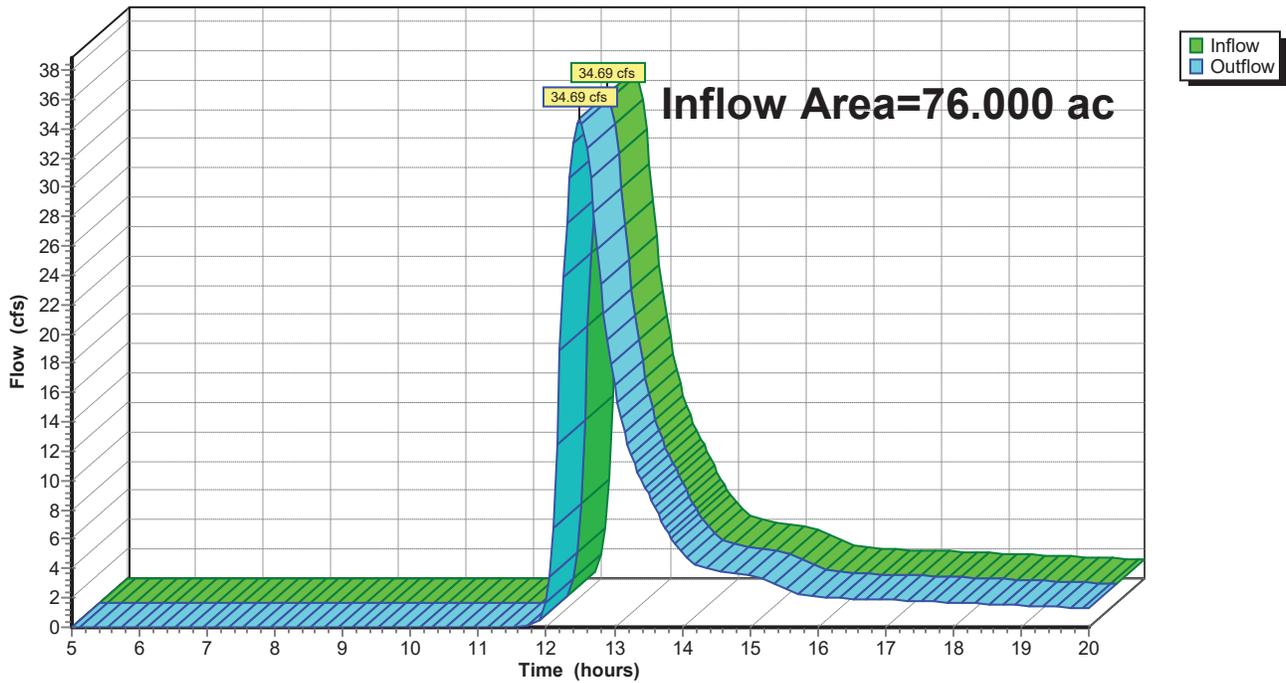
Summary for Reach 5R: Pre-Development

Inflow Area = 76.000 ac, 0.00% Impervious, Inflow Depth > 0.61" for 2-Year event
Inflow = 34.69 cfs @ 12.49 hrs, Volume= 3.843 af
Outflow = 34.69 cfs @ 12.49 hrs, Volume= 3.843 af, Atten= 0%, Lag= 0.0 min

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

Reach 5R: Pre-Development

Hydrograph



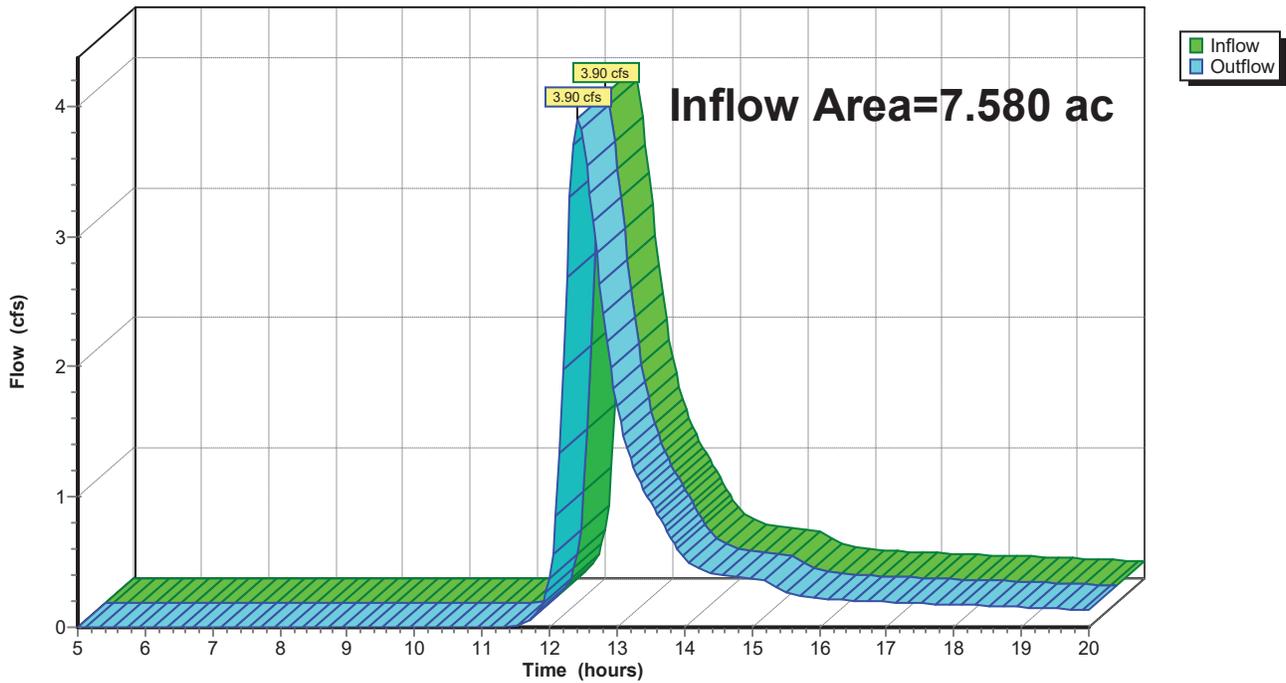
Summary for Reach 11R: Undetained

Inflow Area = 7.580 ac, 0.00% Impervious, Inflow Depth > 0.65" for 2-Year event
Inflow = 3.90 cfs @ 12.43 hrs, Volume= 0.413 af
Outflow = 3.90 cfs @ 12.43 hrs, Volume= 0.413 af, Atten= 0%, Lag= 0.0 min

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

Reach 11R: Undetained

Hydrograph



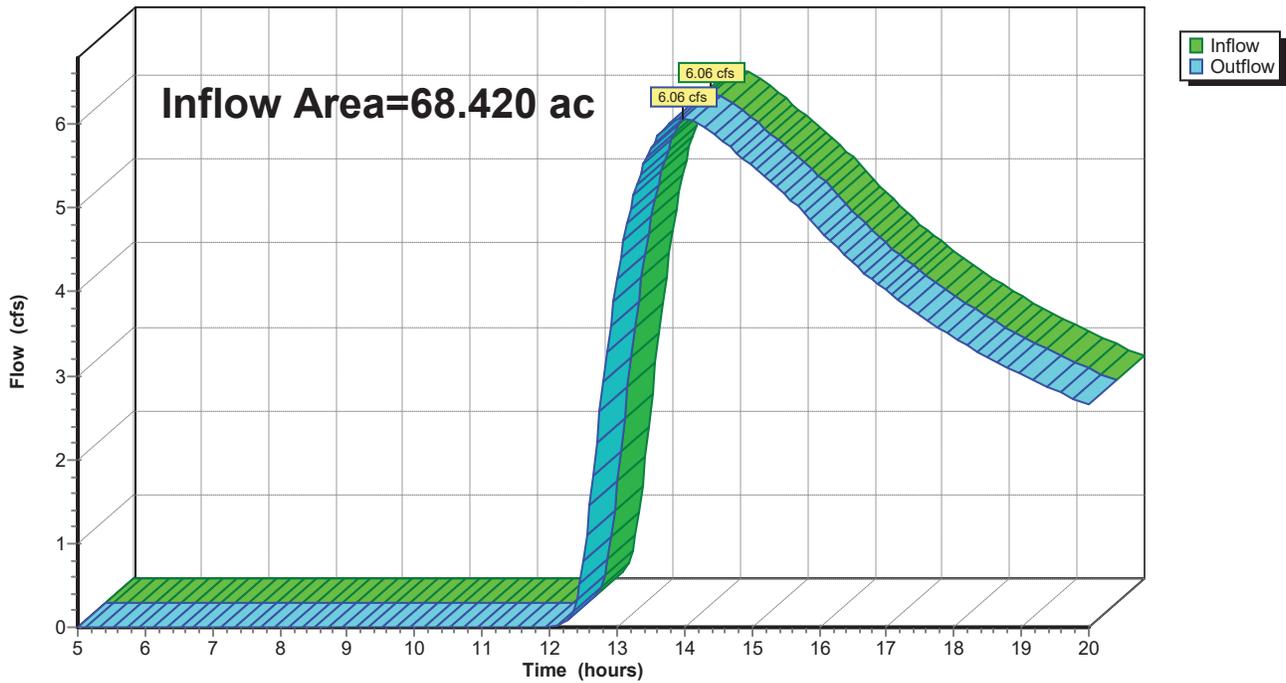
Summary for Reach 12R: Detained

Inflow Area = 68.420 ac, 4.65% Impervious, Inflow Depth > 0.46" for 2-Year event
Inflow = 6.06 cfs @ 13.97 hrs, Volume= 2.647 af
Outflow = 6.06 cfs @ 13.97 hrs, Volume= 2.647 af, Atten= 0%, Lag= 0.0 min

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

Reach 12R: Detained

Hydrograph



Summary for Pond 6P: Pond 1

Inflow Area = 16.660 ac, 3.42% Impervious, Inflow Depth > 0.70" for 2-Year event
 Inflow = 9.81 cfs @ 12.50 hrs, Volume= 0.966 af
 Outflow = 1.81 cfs @ 13.71 hrs, Volume= 0.711 af, Atten= 82%, Lag= 72.8 min
 Primary = 1.81 cfs @ 13.71 hrs, Volume= 0.711 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 886.36' @ 13.71 hrs Surf.Area= 0.624 ac Storage= 0.515 af

Plug-Flow detention time= 166.1 min calculated for 0.708 af (73% of inflow)
 Center-of-Mass det. time= 108.9 min (935.8 - 826.9)

Volume	Invert	Avail.Storage	Storage Description
#1	885.50'	4.078 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
885.50	0.575	0.000	0.000
886.00	0.603	0.294	0.294
887.00	0.662	0.632	0.927
888.00	0.723	0.693	1.620
889.00	0.786	0.755	2.374
890.00	0.851	0.818	3.193
891.00	0.919	0.885	4.078

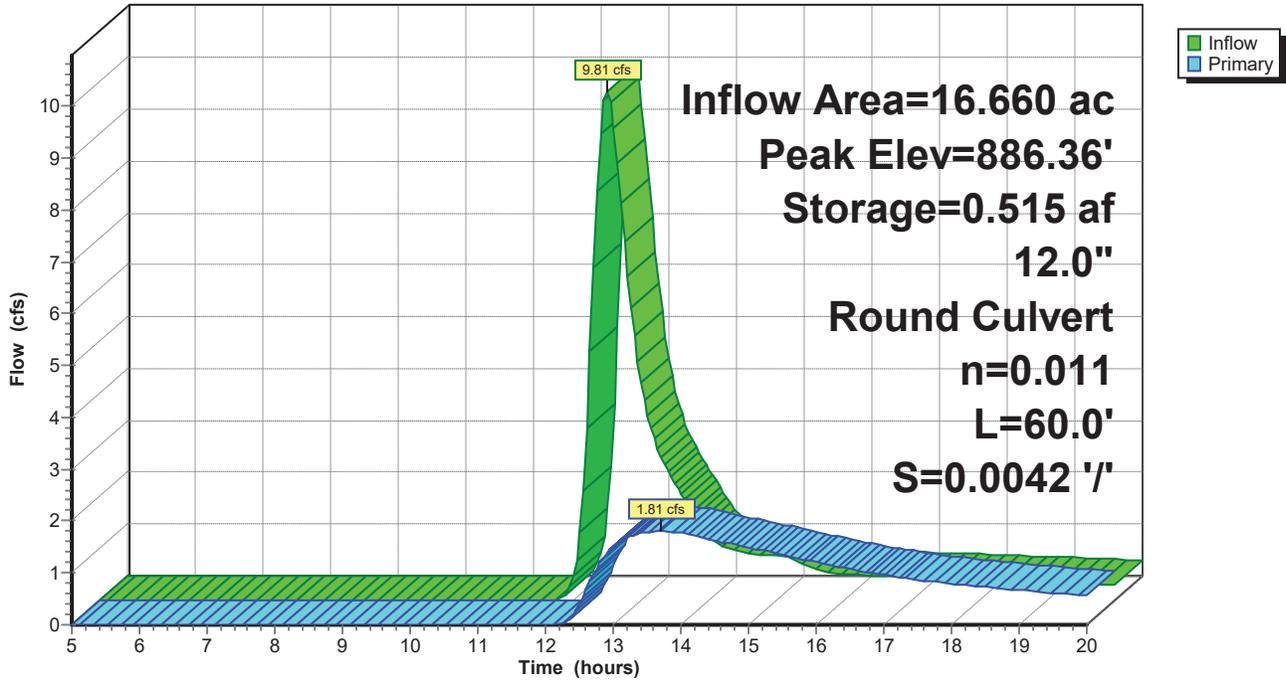
Device	Routing	Invert	Outlet Devices
#1	Primary	885.50'	12.0" Round RCP_Round 12" L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 885.50' / 885.25' S= 0.0042 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.81 cfs @ 13.71 hrs HW=886.36' (Free Discharge)

↑1=RCP_Round 12" (Barrel Controls 1.81 cfs @ 3.38 fps)

Pond 6P: Pond 1

Hydrograph



Summary for Pond 7P: Pond 2

Inflow Area = 15.590 ac, 2.95% Impervious, Inflow Depth > 0.61" for 2-Year event
 Inflow = 6.73 cfs @ 12.64 hrs, Volume= 0.789 af
 Outflow = 1.66 cfs @ 13.80 hrs, Volume= 0.606 af, Atten= 75%, Lag= 69.8 min
 Primary = 1.66 cfs @ 13.80 hrs, Volume= 0.606 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 889.81' @ 13.80 hrs Surf.Area= 0.504 ac Storage= 0.392 af

Plug-Flow detention time= 151.6 min calculated for 0.606 af (77% of inflow)
 Center-of-Mass det. time= 97.5 min (935.3 - 837.8)

Volume	Invert	Avail.Storage	Storage Description
#1	889.00'	3.376 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
889.00	0.461	0.000	0.000
890.00	0.514	0.487	0.487
891.00	0.568	0.541	1.028
892.00	0.625	0.596	1.625
893.00	0.684	0.654	2.280
894.00	0.746	0.715	2.995
894.50	0.778	0.381	3.376

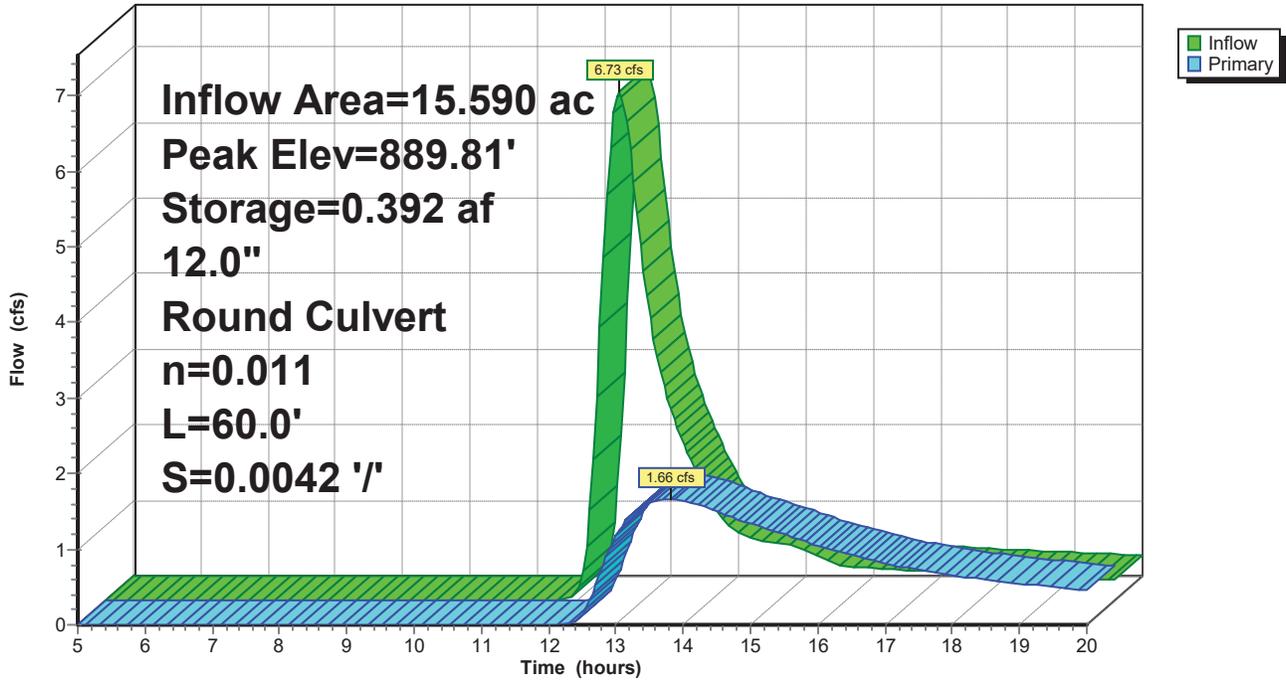
Device	Routing	Invert	Outlet Devices
#1	Primary	889.00'	12.0" Round CMP_Round 12" L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 889.00' / 888.75' S= 0.0042 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.66 cfs @ 13.80 hrs HW=889.81' (Free Discharge)

↑1=CMP_Round 12" (Barrel Controls 1.66 cfs @ 3.31 fps)

Pond 7P: Pond 2

Hydrograph



Summary for Pond 8P: Pond 3

Inflow Area = 24.210 ac, 4.75% Impervious, Inflow Depth > 0.74" for 2-Year event
 Inflow = 11.24 cfs @ 12.77 hrs, Volume= 1.484 af
 Outflow = 1.63 cfs @ 14.67 hrs, Volume= 0.795 af, Atten= 85%, Lag= 114.2 min
 Primary = 1.63 cfs @ 14.67 hrs, Volume= 0.795 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 904.78' @ 14.67 hrs Surf.Area= 1.226 ac Storage= 0.932 af

Plug-Flow detention time= 208.0 min calculated for 0.795 af (54% of inflow)
 Center-of-Mass det. time= 136.9 min (977.2 - 840.3)

Volume	Invert	Avail.Storage	Storage Description
#1	904.00'	7.001 af	Custom Stage Data (Prismatic) Listed below (Recalc)

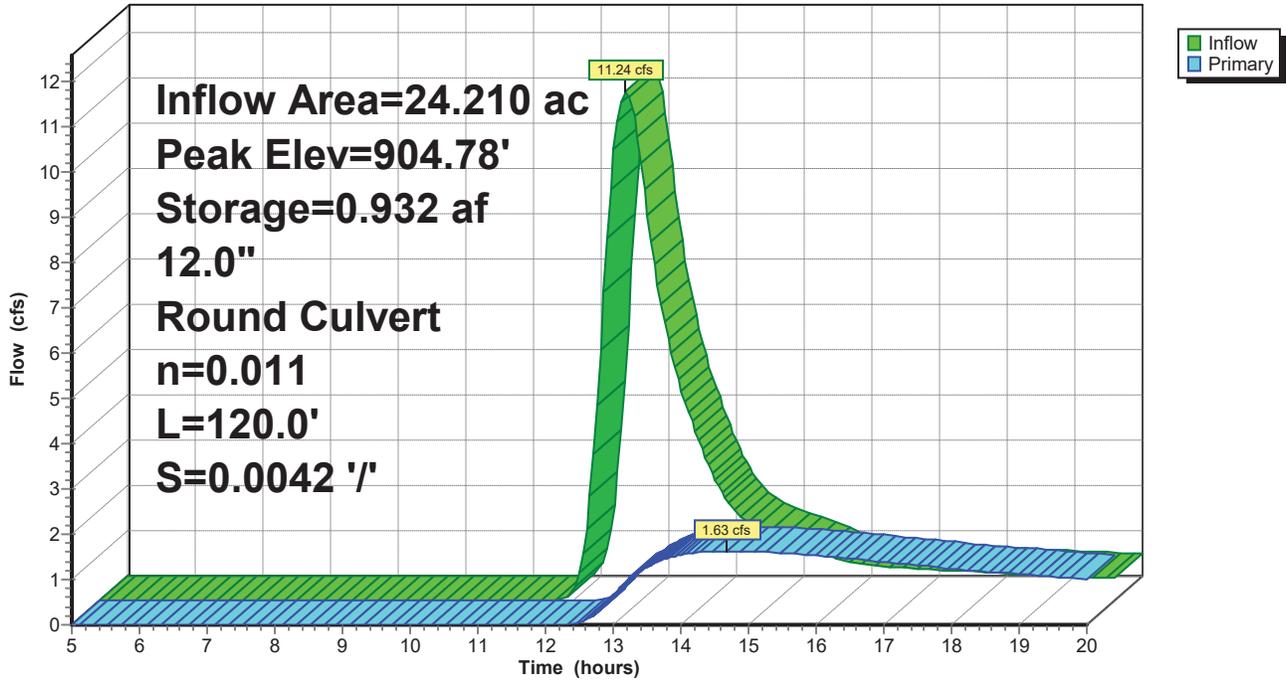
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
904.00	1.150	0.000	0.000
905.00	1.247	1.199	1.199
906.00	1.347	1.297	2.496
907.00	1.449	1.398	3.894
908.00	1.553	1.501	5.395
909.00	1.660	1.606	7.001

Device	Routing	Invert	Outlet Devices
#1	Primary	904.00'	12.0" Round RCP_Round 12" L= 120.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 904.00' / 903.50' S= 0.0042 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.63 cfs @ 14.67 hrs HW=904.78' (Free Discharge)
 ↑1=RCP_Round 12" (Barrel Controls 1.63 cfs @ 3.40 fps)

Pond 8P: Pond 3

Hydrograph



Summary for Pond 9P: Pond 4

Inflow Area = 11.960 ac, 8.36% Impervious, Inflow Depth > 1.00" for 2-Year event
 Inflow = 10.29 cfs @ 12.50 hrs, Volume= 0.994 af
 Outflow = 1.10 cfs @ 14.05 hrs, Volume= 0.536 af, Atten= 89%, Lag= 93.2 min
 Primary = 1.10 cfs @ 14.05 hrs, Volume= 0.536 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 914.63' @ 14.05 hrs Surf.Area= 1.052 ac Storage= 0.647 af

Plug-Flow detention time= 211.8 min calculated for 0.536 af (54% of inflow)
 Center-of-Mass det. time= 145.3 min (961.7 - 816.4)

Volume	Invert	Avail.Storage	Storage Description
#1	914.00'	6.076 af	Custom Stage Data (Prismatic) Listed below (Recalc)

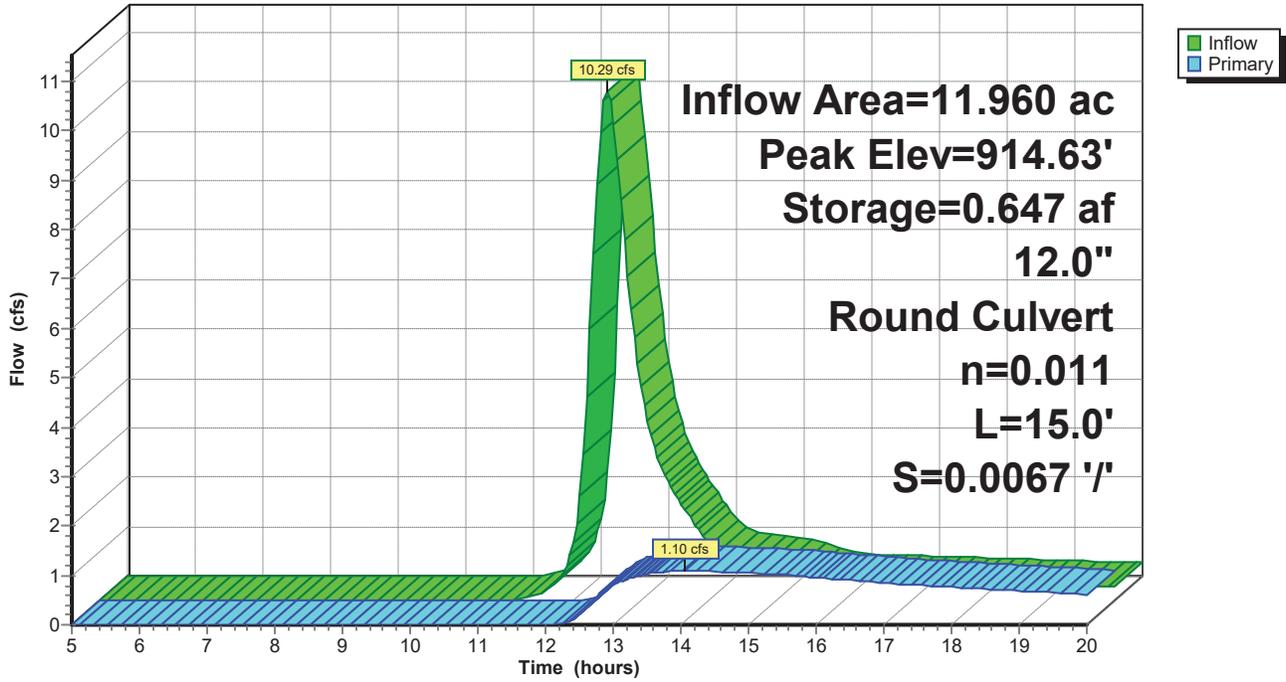
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
914.00	0.998	0.000	0.000
915.00	1.084	1.041	1.041
916.00	1.172	1.128	2.169
917.00	1.263	1.218	3.386
918.00	1.356	1.309	4.696
919.00	1.403	1.380	6.076

Device	Routing	Invert	Outlet Devices
#1	Primary	914.00'	12.0" Round RCP_Round 12" L= 15.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 914.00' / 913.90' S= 0.0067 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.09 cfs @ 14.05 hrs HW=914.63' (Free Discharge)
 ↑1=RCP_Round 12" (Barrel Controls 1.09 cfs @ 2.99 fps)

Pond 9P: Pond 4

Hydrograph



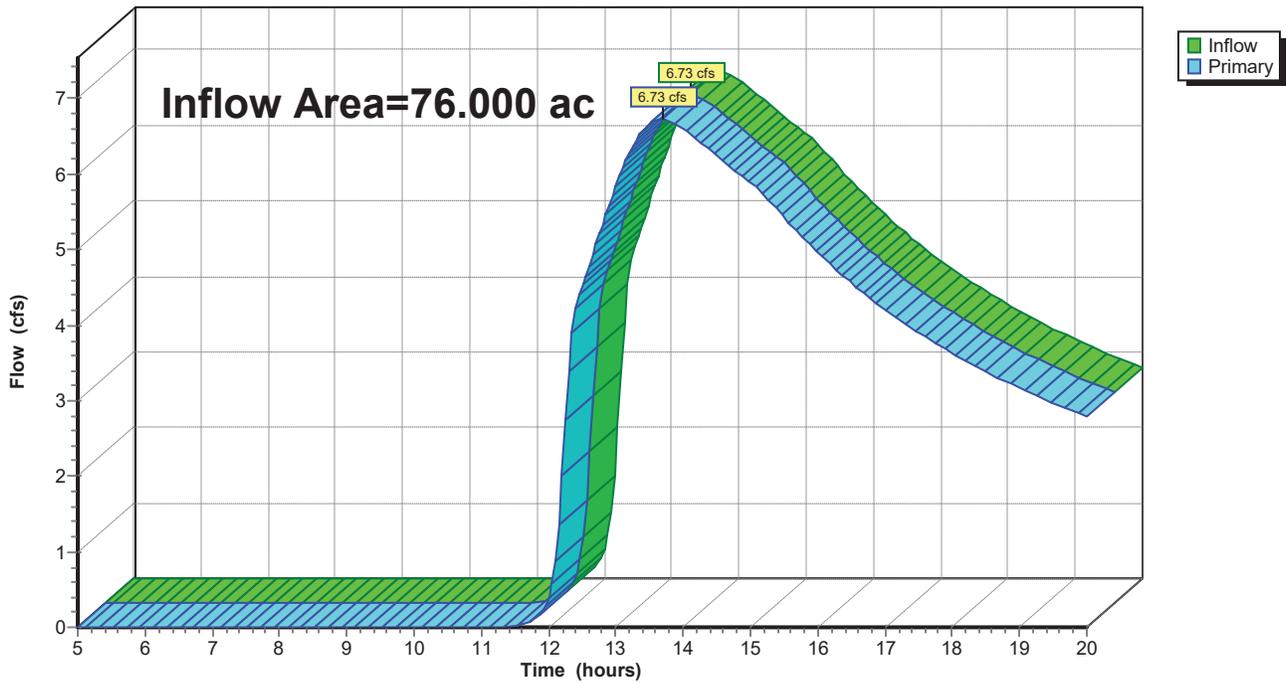
Summary for Link 10L: Post-Development

Inflow Area = 76.000 ac, 4.18% Impervious, Inflow Depth > 0.48" for 2-Year event
Inflow = 6.73 cfs @ 13.68 hrs, Volume= 3.061 af
Primary = 6.73 cfs @ 13.68 hrs, Volume= 3.061 af, Atten= 0%, Lag= 0.0 min

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

Link 10L: Post-Development

Hydrograph



Summary for Subcatchment 1S: E1

Runoff = 22.38 cfs @ 12.54 hrs, Volume= 2.286 af, Depth> 0.95"

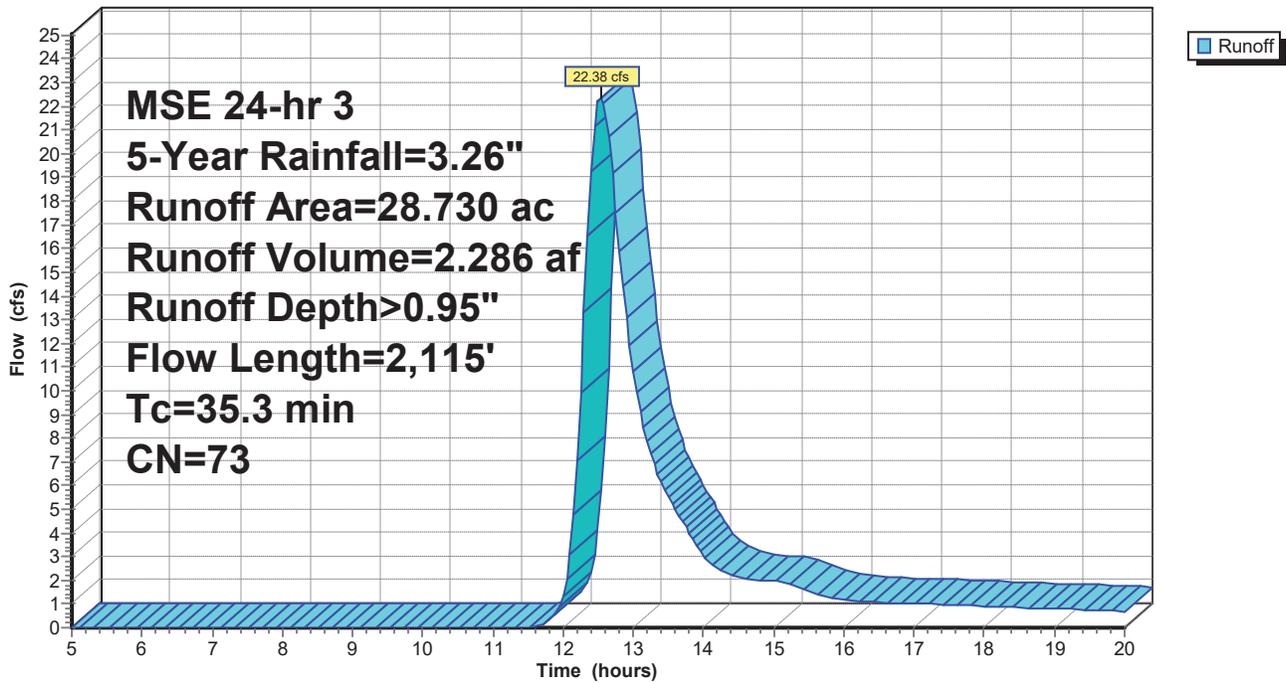
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 5-Year Rainfall=3.26"

Area (ac)	CN	Description
* 21.020	69	B, Cropland
* 7.710	83	D, Cropland
28.730	73	Weighted Average
28.730		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	275	0.0360	0.50		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
26.1	1,840	0.0170	1.17		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
35.3	2,115	Total			

Subcatchment 1S: E1

Hydrograph



Summary for Subcatchment 2S: E-2

Runoff = 19.76 cfs @ 12.52 hrs, Volume= 1.960 af, Depth> 1.18"

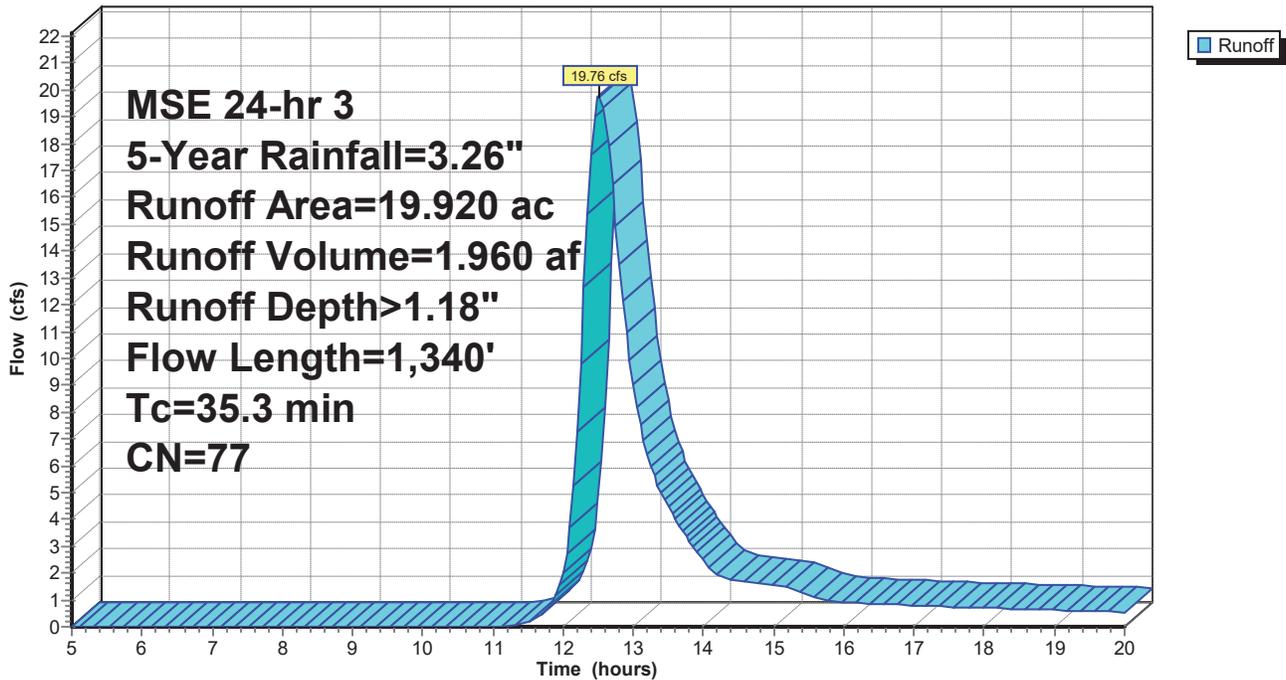
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 5-Year Rainfall=3.26"

Area (ac)	CN	Description
* 2.580	69	B, Cropland
* 15.780	78	C, Cropland
* 1.560	83	D, Cropland
19.920	77	Weighted Average
19.920		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	275	0.0220	0.41		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
6.8	405	0.0120	0.99		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
17.3	660	0.0050	0.64		Shallow Concentrated Flow, C-D Cultivated Straight Rows Kv= 9.0 fps
35.3	1,340	Total			

Subcatchment 2S: E-2

Hydrograph



Summary for Subcatchment 3S: E-3

Runoff = 17.81 cfs @ 12.23 hrs, Volume= 1.112 af, Depth> 0.76"

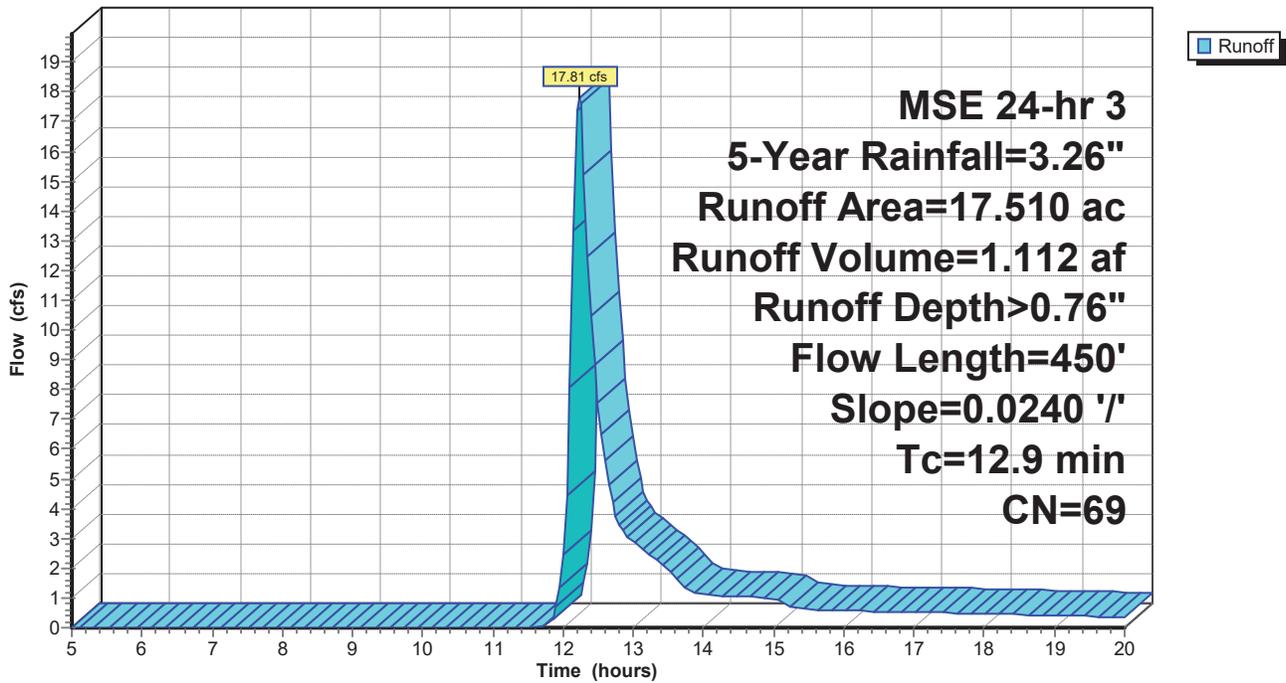
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 5-Year Rainfall=3.26"

Area (ac)	CN	Description
* 16.950	69	B, Cropland
* 0.560	83	D, Cropland
17.510	69	Weighted Average
17.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	275	0.0240	0.43		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
2.1	175	0.0240	1.39		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
12.9	450	Total			

Subcatchment 3S: E-3

Hydrograph



Summary for Subcatchment 4S: E-4

Runoff = 8.07 cfs @ 12.37 hrs, Volume= 0.662 af, Depth> 0.81"

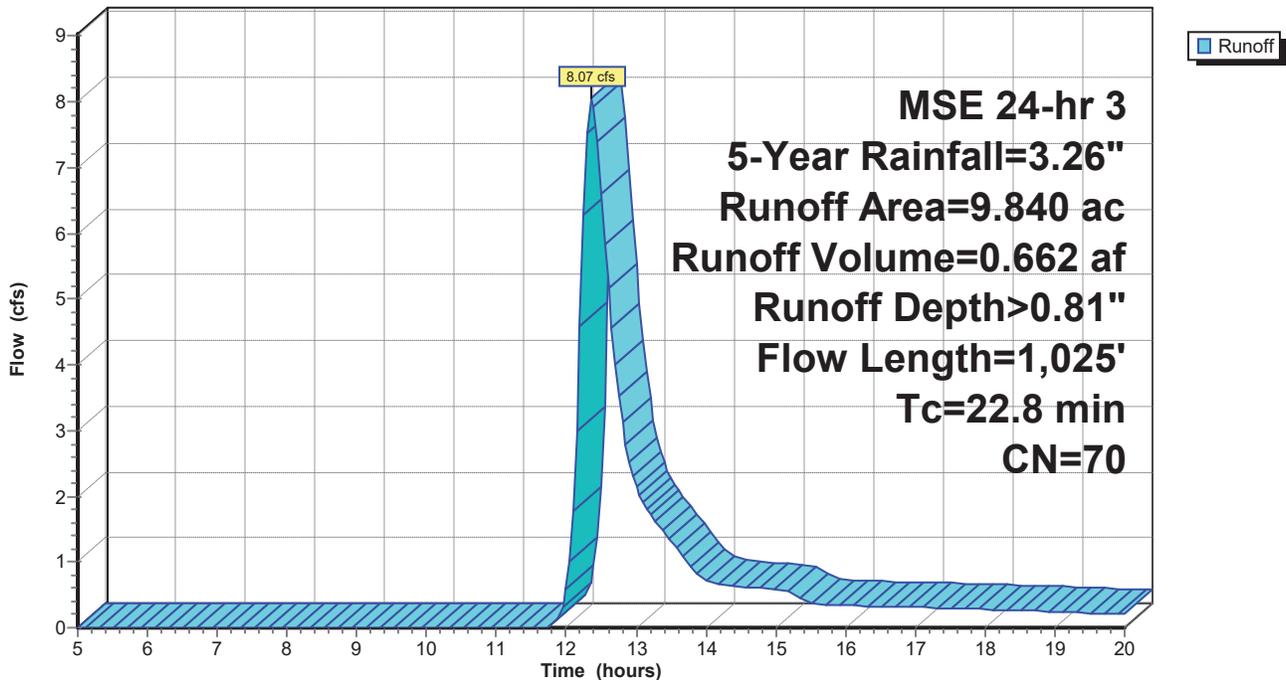
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 5-Year Rainfall=3.26"

Area (ac)	CN	Description
* 9.130	69	B, Cropland
* 0.710	83	D, Cropland
9.840	70	Weighted Average
9.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	275	0.0160	0.36		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
10.1	750	0.0190	1.24		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
22.8	1,025	Total			

Subcatchment 4S: E-4

Hydrograph



Summary for Subcatchment 6S: P1

Runoff = 15.59 cfs @ 12.48 hrs, Volume= 1.479 af, Depth> 1.07"

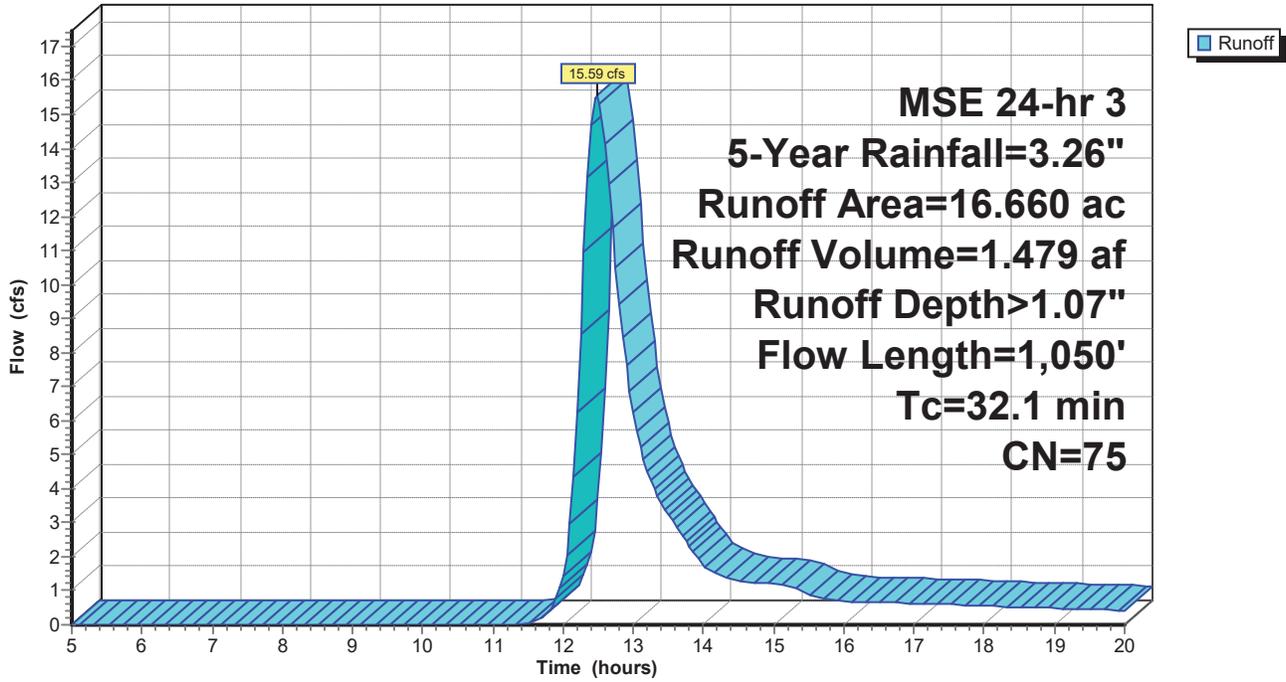
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 5-Year Rainfall=3.26"

Area (ac)	CN	Description
* 13.420	75	B, 1/4 Ac Lots
* 0.480	87	D, 1/4 Ac Lots
* 1.950	61	B, Open Space
* 0.240	80	D, Open Space
* 0.570	98	Pond
16.660	75	Weighted Average
16.090		96.58% Pervious Area
0.570		3.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	100	0.0400	0.14		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
19.9	800	0.0180	0.67	6.04	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.3	150	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
32.1	1,050	Total			

Subcatchment 6S: P1

Hydrograph



Summary for Subcatchment 7S: P2

Runoff = 11.08 cfs @ 12.62 hrs, Volume= 1.238 af, Depth> 0.95"

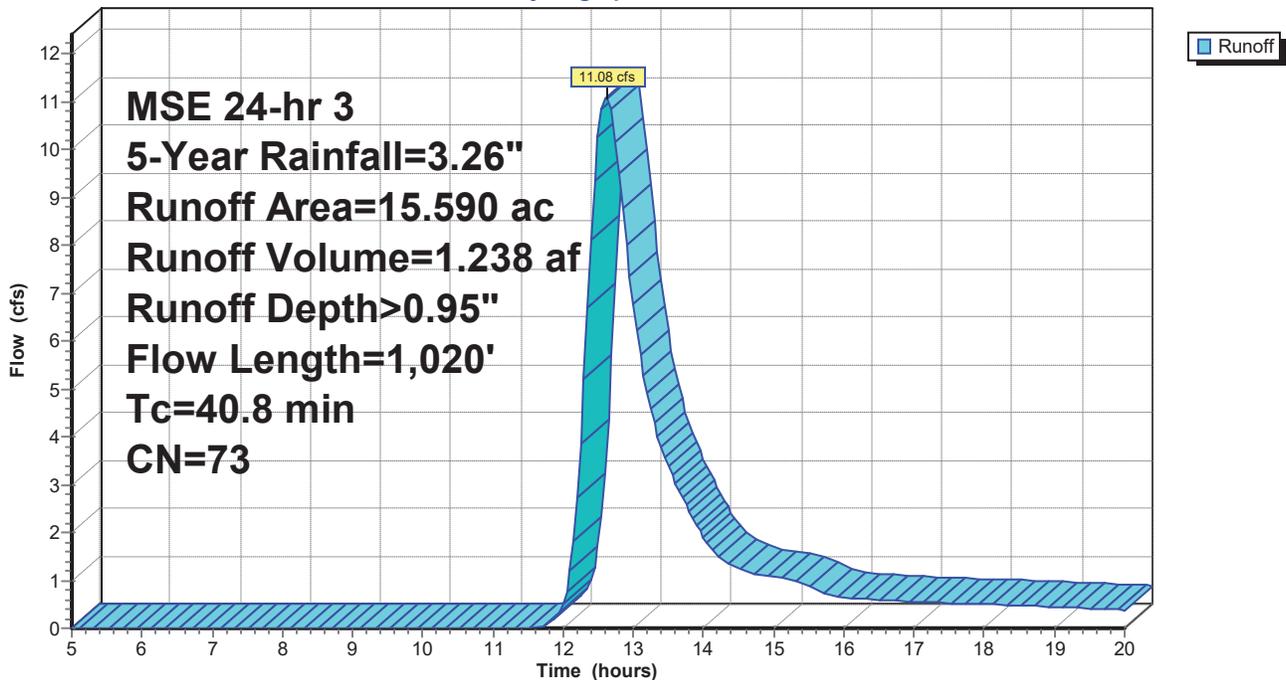
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 5-Year Rainfall=3.26"

Area (ac)	CN	Description
* 12.320	75	B, 1/4-Ac Lots
* 2.660	61	B, Open Space
* 0.150	80	D, Open Space
* 0.460	98	Pond
15.590	73	Weighted Average
15.130		97.05% Pervious Area
0.460		2.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	170	0.0300	0.20		Sheet Flow, A-B Grass: Short n= 0.150 P2= 2.66"
3.5	150	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
23.3	700	0.0100	0.50	4.50	Channel Flow, C-D Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
40.8	1,020	Total			

Subcatchment 7S: P2

Hydrograph



Summary for Subcatchment 8S: P3

Runoff = 17.61 cfs @ 12.75 hrs, Volume= 2.248 af, Depth> 1.11"

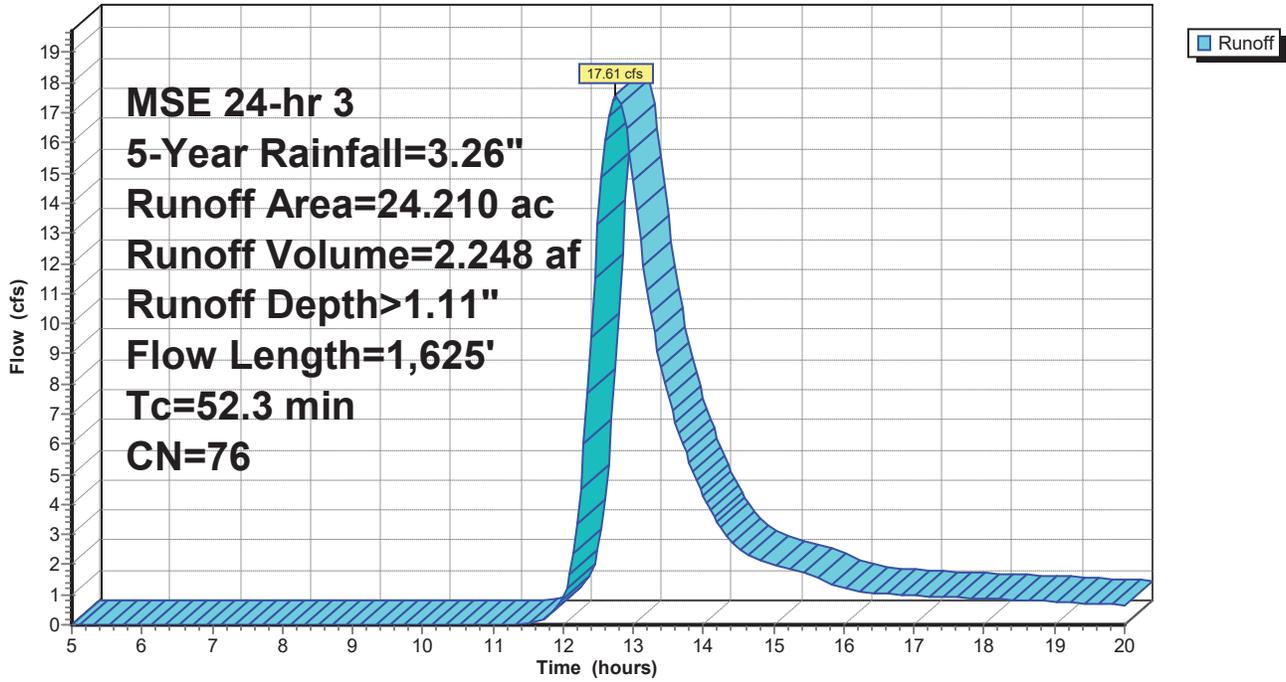
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 5-Year Rainfall=3.26"

Area (ac)	CN	Description
* 7.540	75	B, 1/4-Ac Lots
* 2.510	83	C, 1/4-Ac Lots
* 4.240	87	D, 1/4-Ac Lots
* 6.090	61	B, Open Space
* 0.190	74	C, Open Space
* 2.490	80	D, Open Space
* 1.150	98	Pond
24.210	76	Weighted Average
23.060		95.25% Pervious Area
1.150		4.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0150	0.09		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
11.2	475	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
23.1	850	0.0150	0.61	5.51	Channel Flow, C-D Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.4	200	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
52.3	1,625	Total			

Subcatchment 8S: P3

Hydrograph



Summary for Subcatchment 9S: P4

Runoff = 14.98 cfs @ 12.49 hrs, Volume= 1.430 af, Depth> 1.44"

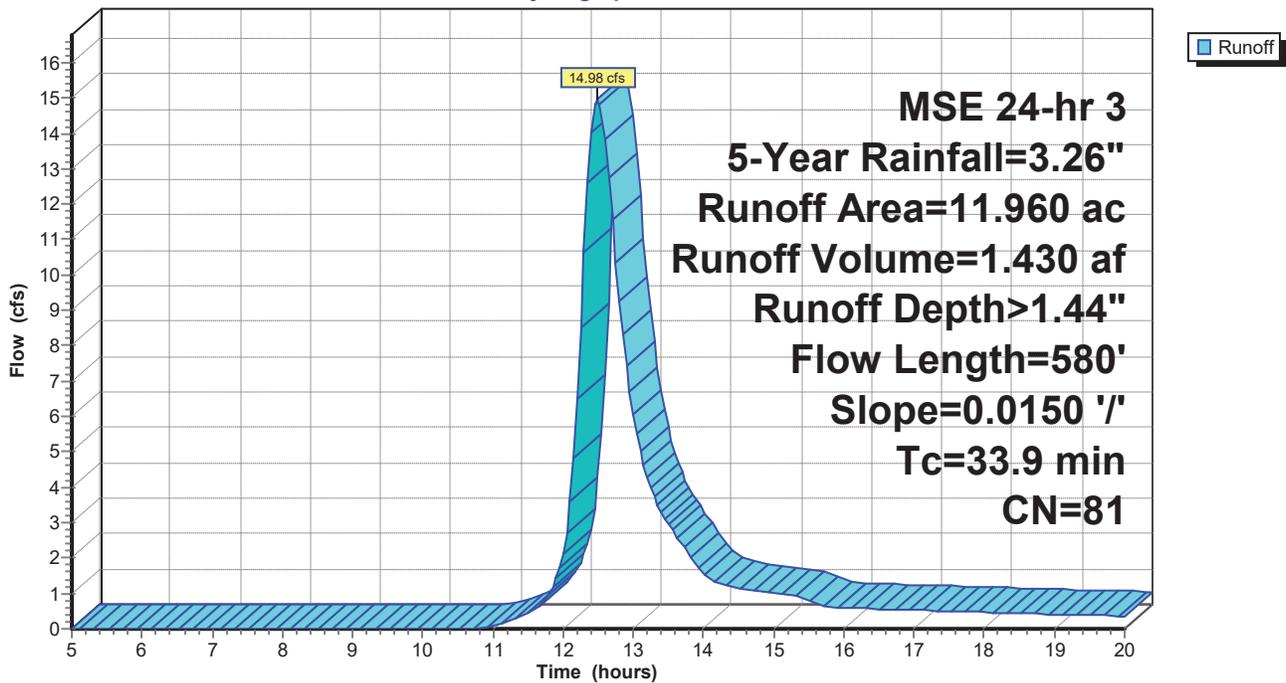
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 5-Year Rainfall=3.26"

Area (ac)	CN	Description
* 2.030	75	B, 1/4-Ac Lots
* 5.440	83	C, 1/4-Ac Lots
* 0.760	87	D, 1/4-Ac Lots
* 2.730	74	C, Open Space
* 1.000	98	Pond
11.960	81	Weighted Average
10.960		91.64% Pervious Area
1.000		8.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.7	130	0.0150	0.10		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
12.2	450	0.0150	0.61	5.51	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
33.9	580	Total			

Subcatchment 9S: P4

Hydrograph



Summary for Subcatchment 10S: UD1

Runoff = 2.36 cfs @ 12.62 hrs, Volume= 0.269 af, Depth> 0.80"

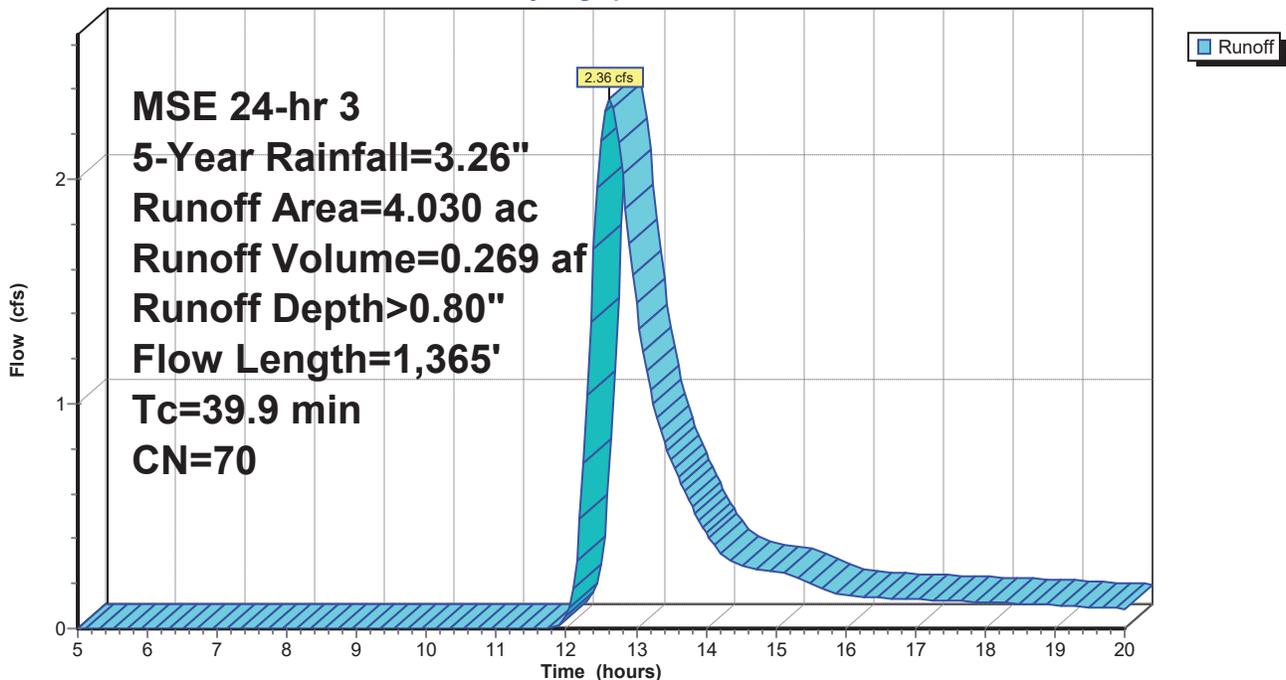
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 5-Year Rainfall=3.26"

Area (ac)	CN	Description
* 0.380	75	B, 1/4-Ac Lots
* 1.940	61	B, Open Space
* 1.710	80	D, Open Space
4.030	70	Weighted Average
4.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	175	0.0750	0.20		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
19.8	840	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.3	150	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
5.4	200	0.0150	0.61	5.51	Channel Flow, D-E Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
39.9	1,365	Total			

Subcatchment 10S: UD1

Hydrograph



Summary for Subcatchment 11S: UD2

Runoff = 4.63 cfs @ 12.37 hrs, Volume= 0.369 af, Depth> 1.25"

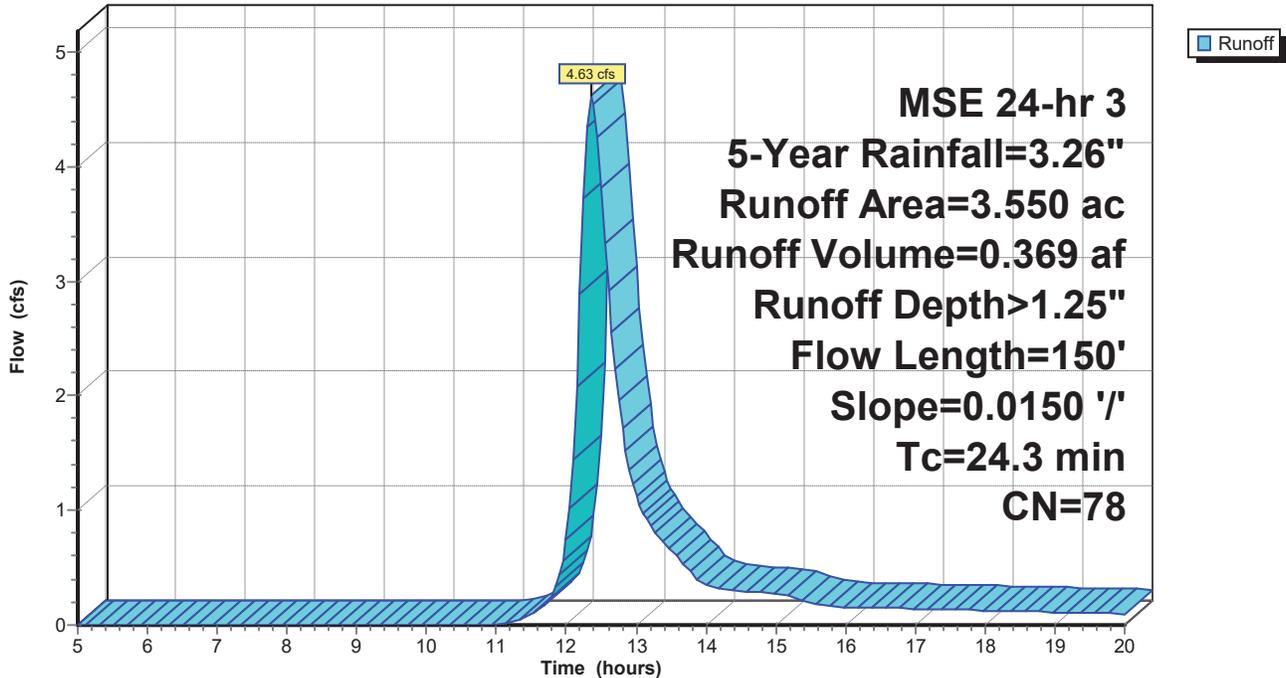
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 5-Year Rainfall=3.26"

Area (ac)	CN	Description
* 2.050	83	C, 1/4-Ac Lots
* 0.200	61	B, Open Space
* 1.300	74	C, Open Space
3.550	78	Weighted Average
3.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.3	150	0.0150	0.10		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"

Subcatchment 11S: UD2

Hydrograph



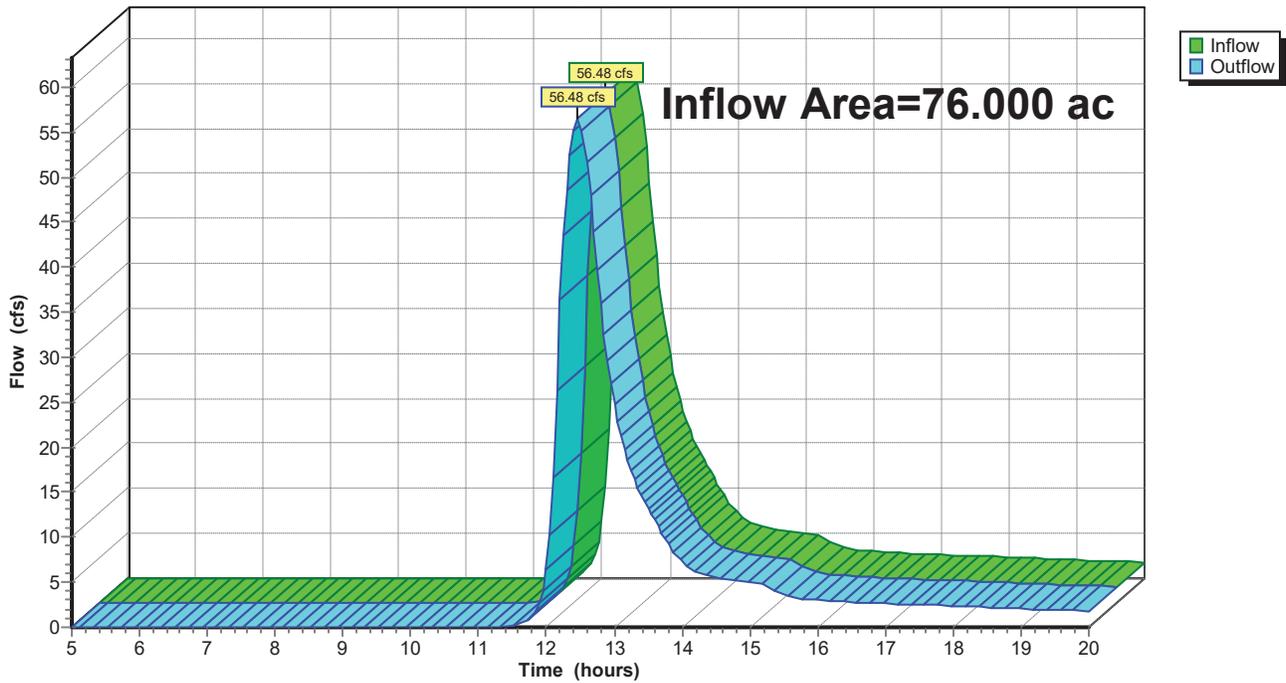
Summary for Reach 5R: Pre-Development

Inflow Area = 76.000 ac, 0.00% Impervious, Inflow Depth > 0.95" for 5-Year event
Inflow = 56.48 cfs @ 12.46 hrs, Volume= 6.020 af
Outflow = 56.48 cfs @ 12.46 hrs, Volume= 6.020 af, Atten= 0%, Lag= 0.0 min

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

Reach 5R: Pre-Development

Hydrograph



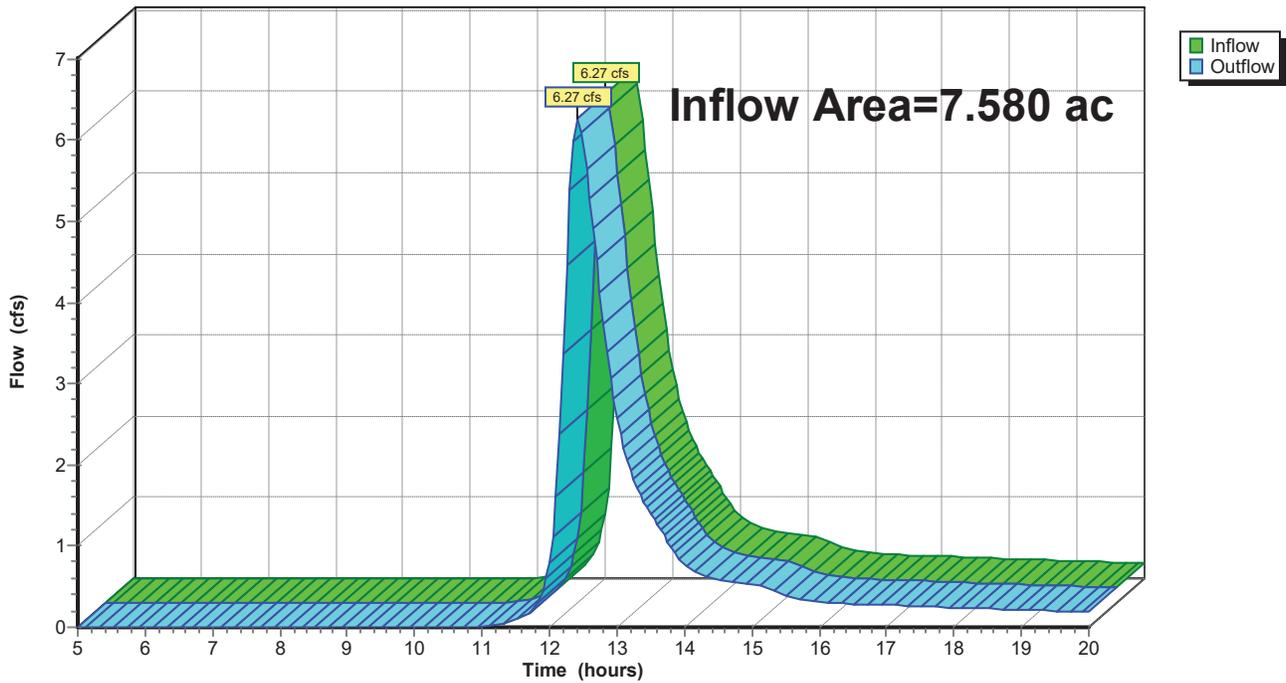
Summary for Reach 11R: Undetained

Inflow Area = 7.580 ac, 0.00% Impervious, Inflow Depth > 1.01" for 5-Year event
Inflow = 6.27 cfs @ 12.42 hrs, Volume= 0.638 af
Outflow = 6.27 cfs @ 12.42 hrs, Volume= 0.638 af, Atten= 0%, Lag= 0.0 min

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

Reach 11R: Undetained

Hydrograph



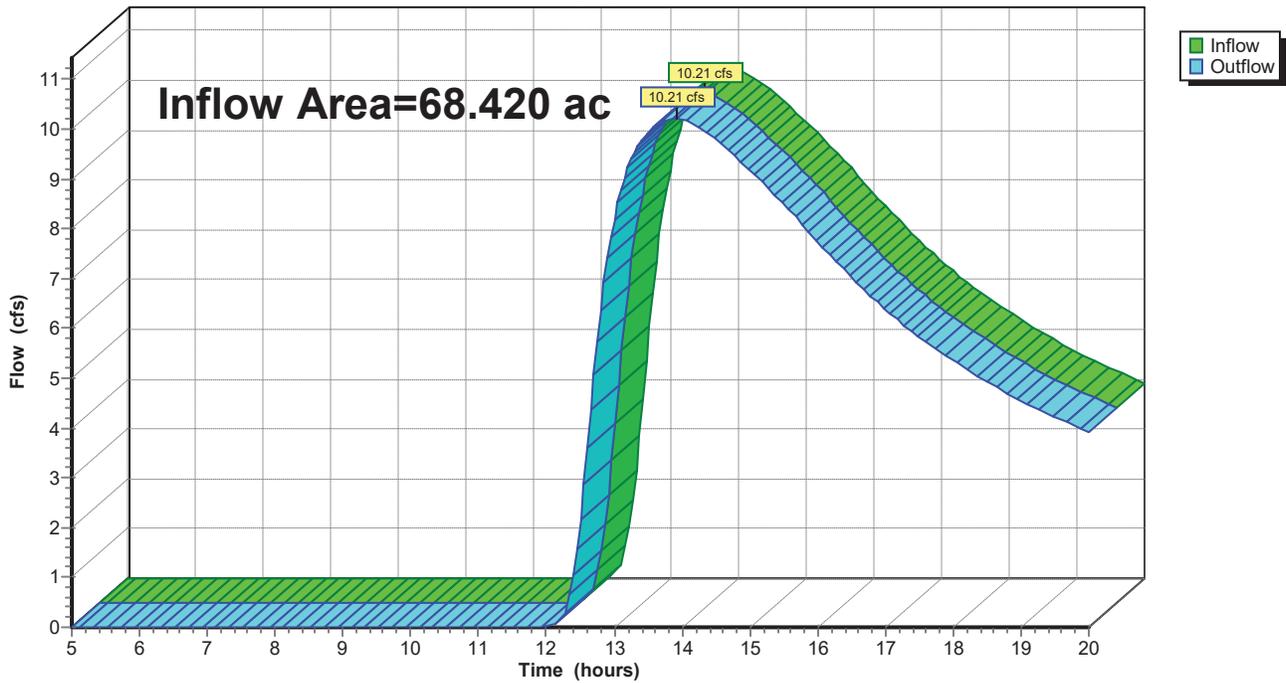
Summary for Reach 12R: Detained

Inflow Area = 68.420 ac, 4.65% Impervious, Inflow Depth > 0.77" for 5-Year event
Inflow = 10.21 cfs @ 13.93 hrs, Volume= 4.389 af
Outflow = 10.21 cfs @ 13.93 hrs, Volume= 4.389 af, Atten= 0%, Lag= 0.0 min

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

Reach 12R: Detained

Hydrograph



Summary for Pond 6P: Pond 1

Inflow Area = 16.660 ac, 3.42% Impervious, Inflow Depth > 1.07" for 5-Year event
 Inflow = 15.59 cfs @ 12.48 hrs, Volume= 1.479 af
 Outflow = 2.88 cfs @ 13.61 hrs, Volume= 1.167 af, Atten= 82%, Lag= 67.8 min
 Primary = 2.88 cfs @ 13.61 hrs, Volume= 1.167 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 886.79' @ 13.61 hrs Surf.Area= 0.650 ac Storage= 0.789 af

Plug-Flow detention time= 158.1 min calculated for 1.167 af (79% of inflow)
 Center-of-Mass det. time= 108.4 min (928.0 - 819.6)

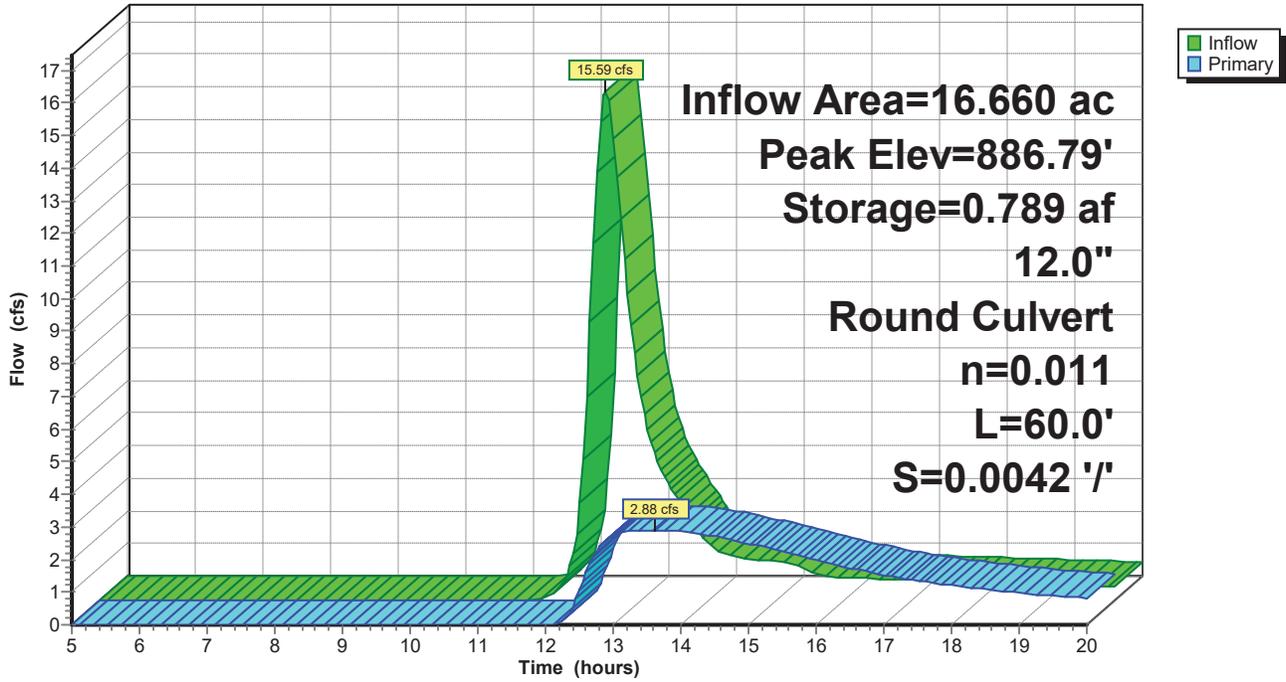
Volume	Invert	Avail.Storage	Storage Description
#1	885.50'	4.078 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
885.50	0.575	0.000	0.000
886.00	0.603	0.294	0.294
887.00	0.662	0.632	0.927
888.00	0.723	0.693	1.620
889.00	0.786	0.755	2.374
890.00	0.851	0.818	3.193
891.00	0.919	0.885	4.078

Device	Routing	Invert	Outlet Devices
#1	Primary	885.50'	12.0" Round RCP_Round 12" L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 885.50' / 885.25' S= 0.0042 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=2.89 cfs @ 13.61 hrs HW=886.79' (Free Discharge)
 ↑1=RCP_Round 12" (Barrel Controls 2.89 cfs @ 3.72 fps)

Pond 6P: Pond 1

Hydrograph



Summary for Pond 7P: Pond 2

Inflow Area = 15.590 ac, 2.95% Impervious, Inflow Depth > 0.95" for 5-Year event
 Inflow = 11.08 cfs @ 12.62 hrs, Volume= 1.238 af
 Outflow = 2.82 cfs @ 13.67 hrs, Volume= 1.017 af, Atten= 75%, Lag= 63.2 min
 Primary = 2.82 cfs @ 13.67 hrs, Volume= 1.017 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 890.23' @ 13.67 hrs Surf.Area= 0.526 ac Storage= 0.608 af

Plug-Flow detention time= 138.6 min calculated for 1.013 af (82% of inflow)
 Center-of-Mass det. time= 94.2 min (924.1 - 829.9)

Volume	Invert	Avail.Storage	Storage Description
#1	889.00'	3.376 af	Custom Stage Data (Prismatic) Listed below (Recalc)

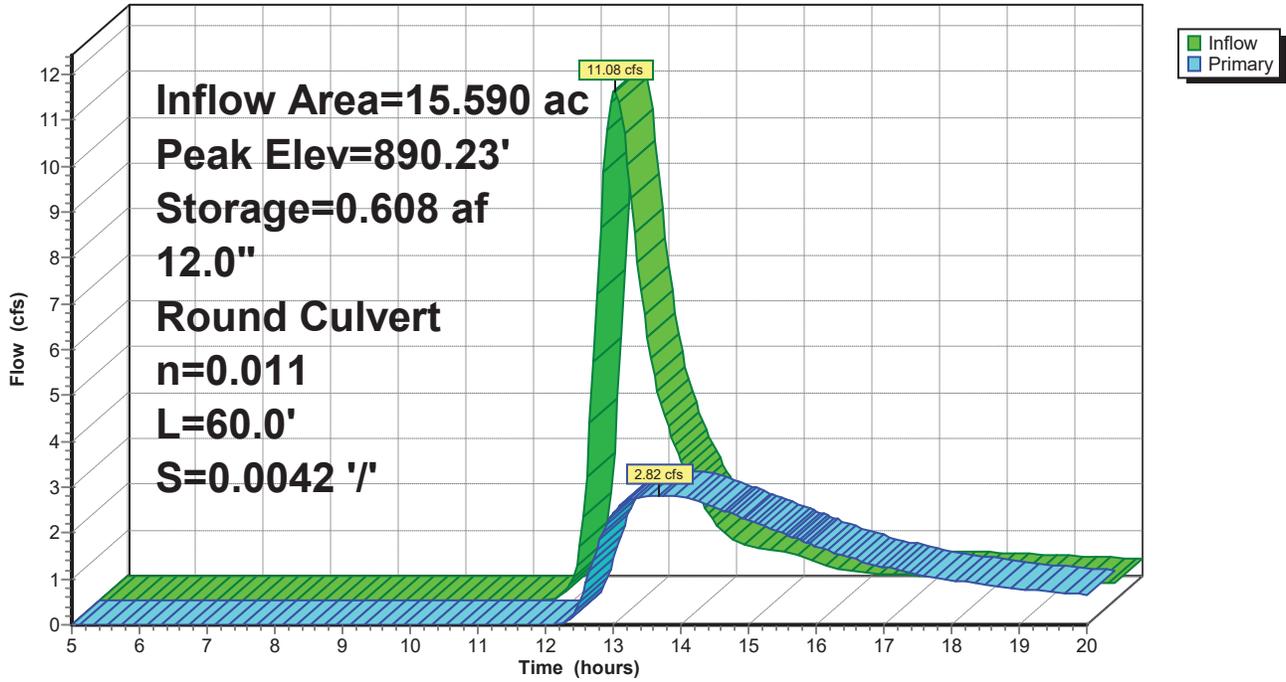
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
889.00	0.461	0.000	0.000
890.00	0.514	0.487	0.487
891.00	0.568	0.541	1.028
892.00	0.625	0.596	1.625
893.00	0.684	0.654	2.280
894.00	0.746	0.715	2.995
894.50	0.778	0.381	3.376

Device	Routing	Invert	Outlet Devices
#1	Primary	889.00'	12.0" Round CMP_Round 12" L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 889.00' / 888.75' S= 0.0042 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=2.82 cfs @ 13.67 hrs HW=890.23' (Free Discharge)
 ↑1=CMP_Round 12" (Barrel Controls 2.82 cfs @ 3.73 fps)

Pond 7P: Pond 2

Hydrograph



Summary for Pond 8P: Pond 3

Inflow Area = 24.210 ac, 4.75% Impervious, Inflow Depth > 1.11" for 5-Year event
 Inflow = 17.61 cfs @ 12.75 hrs, Volume= 2.248 af
 Outflow = 2.72 cfs @ 14.42 hrs, Volume= 1.339 af, Atten= 85%, Lag= 100.3 min
 Primary = 2.72 cfs @ 14.42 hrs, Volume= 1.339 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 905.16' @ 14.42 hrs Surf.Area= 1.263 ac Storage= 1.396 af

Plug-Flow detention time= 201.3 min calculated for 1.339 af (60% of inflow)
 Center-of-Mass det. time= 137.1 min (970.6 - 833.6)

Volume	Invert	Avail.Storage	Storage Description
#1	904.00'	7.001 af	Custom Stage Data (Prismatic) Listed below (Recalc)

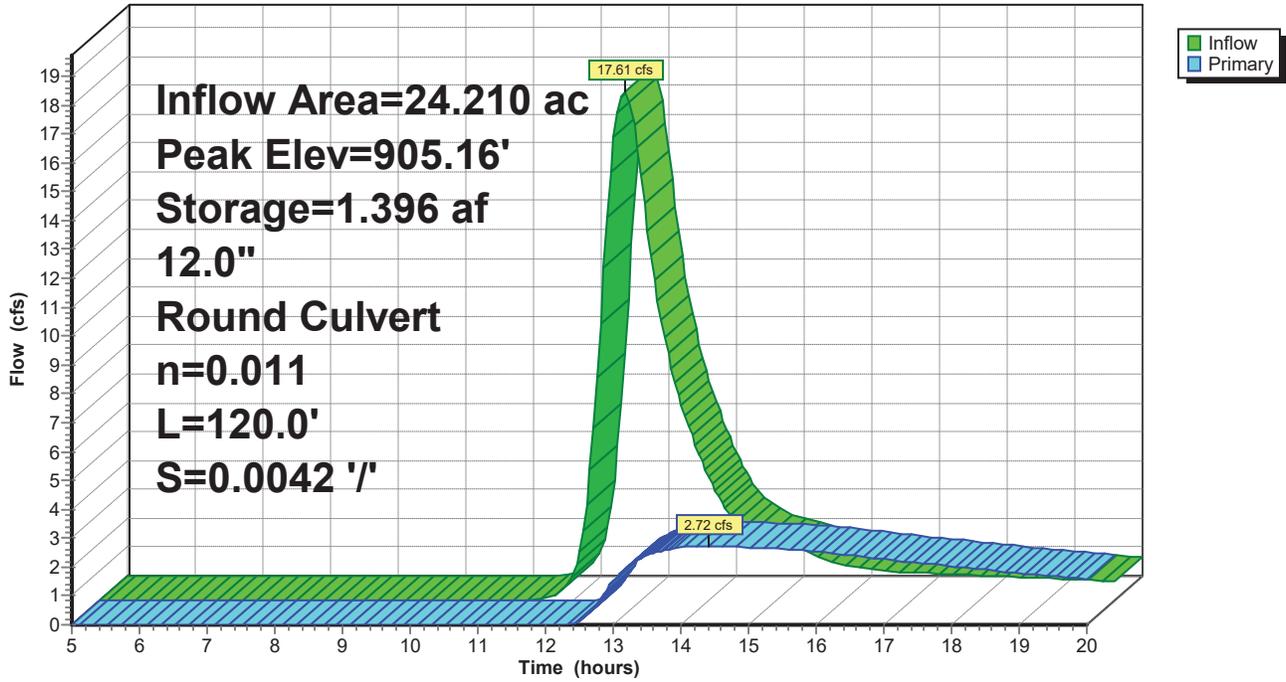
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
904.00	1.150	0.000	0.000
905.00	1.247	1.199	1.199
906.00	1.347	1.297	2.496
907.00	1.449	1.398	3.894
908.00	1.553	1.501	5.395
909.00	1.660	1.606	7.001

Device	Routing	Invert	Outlet Devices
#1	Primary	904.00'	12.0" Round RCP_Round 12" L= 120.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 904.00' / 903.50' S= 0.0042 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=2.72 cfs @ 14.42 hrs HW=905.16' (Free Discharge)
 ↑1=RCP_Round 12" (Barrel Controls 2.72 cfs @ 3.76 fps)

Pond 8P: Pond 3

Hydrograph



Summary for Pond 9P: Pond 4

Inflow Area = 11.960 ac, 8.36% Impervious, Inflow Depth > 1.44" for 5-Year event
 Inflow = 14.98 cfs @ 12.49 hrs, Volume= 1.430 af
 Outflow = 1.88 cfs @ 13.87 hrs, Volume= 0.866 af, Atten= 87%, Lag= 82.8 min
 Primary = 1.88 cfs @ 13.87 hrs, Volume= 0.866 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 914.88' @ 13.87 hrs Surf.Area= 1.074 ac Storage= 0.914 af

Plug-Flow detention time= 201.6 min calculated for 0.866 af (61% of inflow)
 Center-of-Mass det. time= 140.9 min (951.5 - 810.6)

Volume	Invert	Avail.Storage	Storage Description
#1	914.00'	6.076 af	Custom Stage Data (Prismatic) Listed below (Recalc)

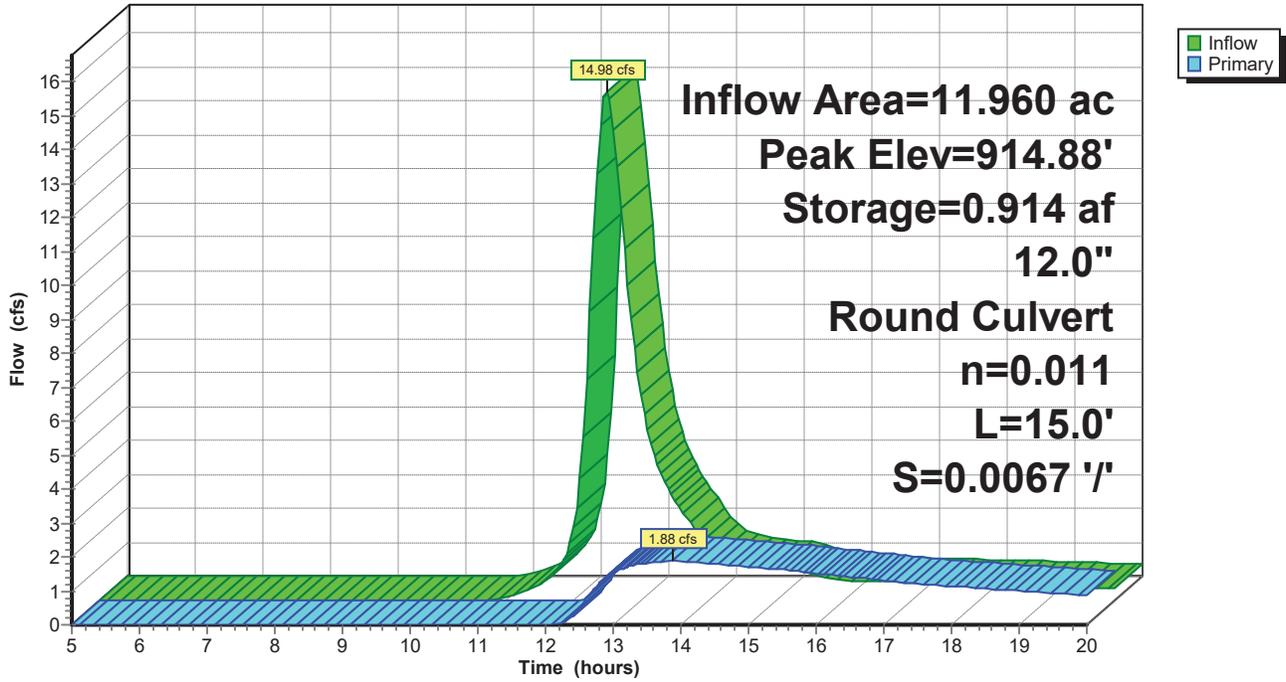
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
914.00	0.998	0.000	0.000
915.00	1.084	1.041	1.041
916.00	1.172	1.128	2.169
917.00	1.263	1.218	3.386
918.00	1.356	1.309	4.696
919.00	1.403	1.380	6.076

Device	Routing	Invert	Outlet Devices
#1	Primary	914.00'	12.0" Round RCP_Round 12" L= 15.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 914.00' / 913.90' S= 0.0067 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.88 cfs @ 13.87 hrs HW=914.88' (Free Discharge)
 ↑1=RCP_Round 12" (Barrel Controls 1.88 cfs @ 3.41 fps)

Pond 9P: Pond 4

Hydrograph



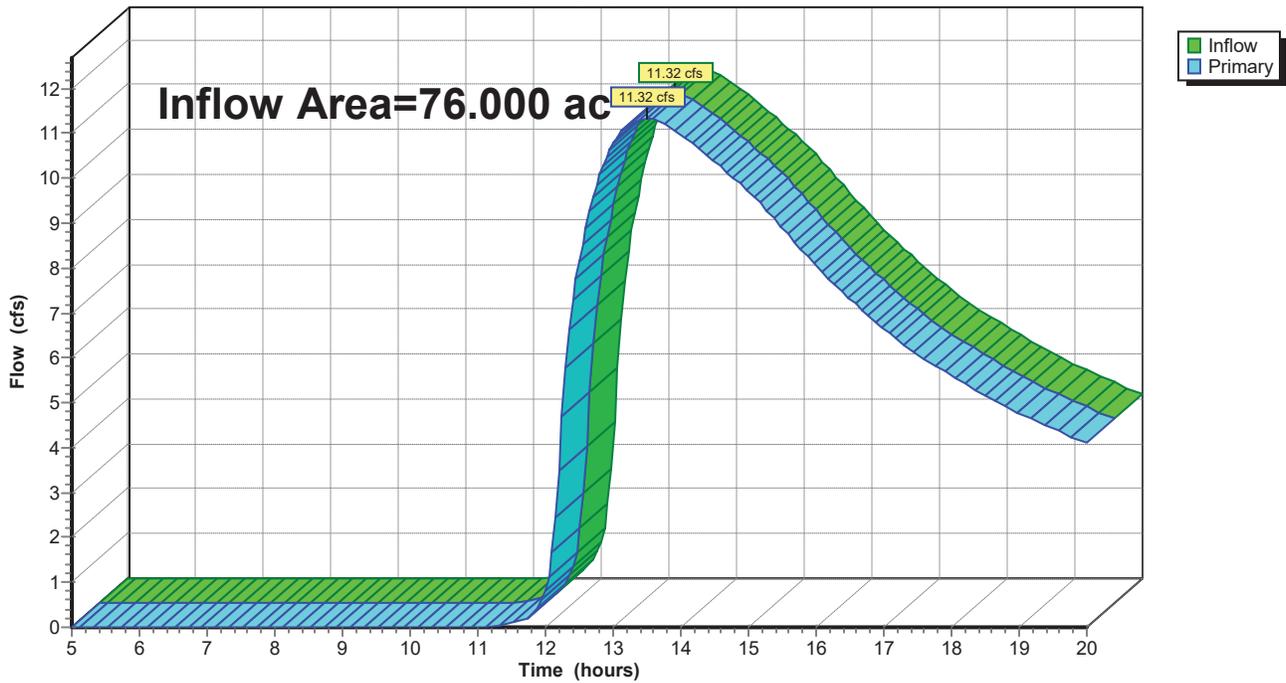
Summary for Link 10L: Post-Development

Inflow Area = 76.000 ac, 4.18% Impervious, Inflow Depth > 0.79" for 5-Year event
Inflow = 11.32 cfs @ 13.51 hrs, Volume= 5.026 af
Primary = 11.32 cfs @ 13.51 hrs, Volume= 5.026 af, Atten= 0%, Lag= 0.0 min

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

Link 10L: Post-Development

Hydrograph



Summary for Subcatchment 1S: E1

Runoff = 80.09 cfs @ 12.50 hrs, Volume= 7.805 af, Depth> 3.26"

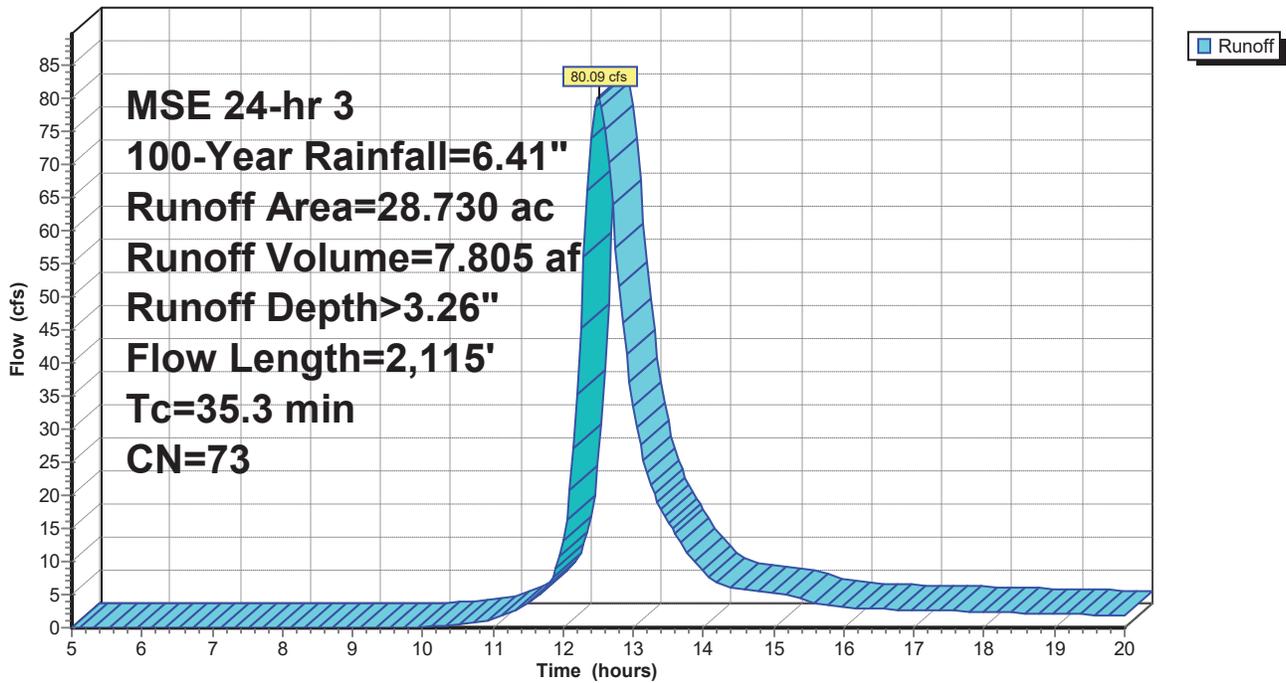
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 21.020	69	B, Cropland
* 7.710	83	D, Cropland
28.730	73	Weighted Average
28.730		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	275	0.0360	0.50		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
26.1	1,840	0.0170	1.17		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
35.3	2,115	Total			

Subcatchment 1S: E1

Hydrograph



Summary for Subcatchment 2S: E-2

Runoff = 62.17 cfs @ 12.50 hrs, Volume= 6.075 af, Depth> 3.66"

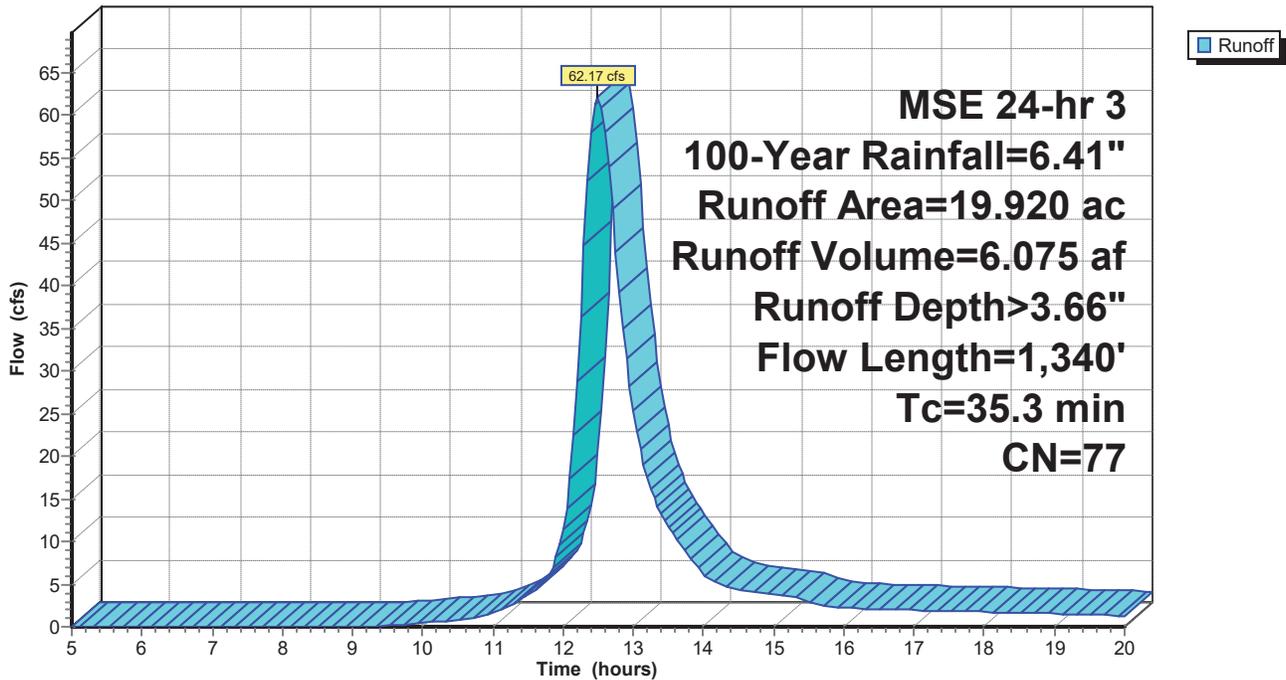
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 2.580	69	B, Cropland
* 15.780	78	C, Cropland
* 1.560	83	D, Cropland
19.920	77	Weighted Average
19.920		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	275	0.0220	0.41		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
6.8	405	0.0120	0.99		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
17.3	660	0.0050	0.64		Shallow Concentrated Flow, C-D Cultivated Straight Rows Kv= 9.0 fps
35.3	1,340	Total			

Subcatchment 2S: E-2

Hydrograph



Summary for Subcatchment 3S: E-3

Runoff = 73.42 cfs @ 12.21 hrs, Volume= 4.223 af, Depth> 2.89"

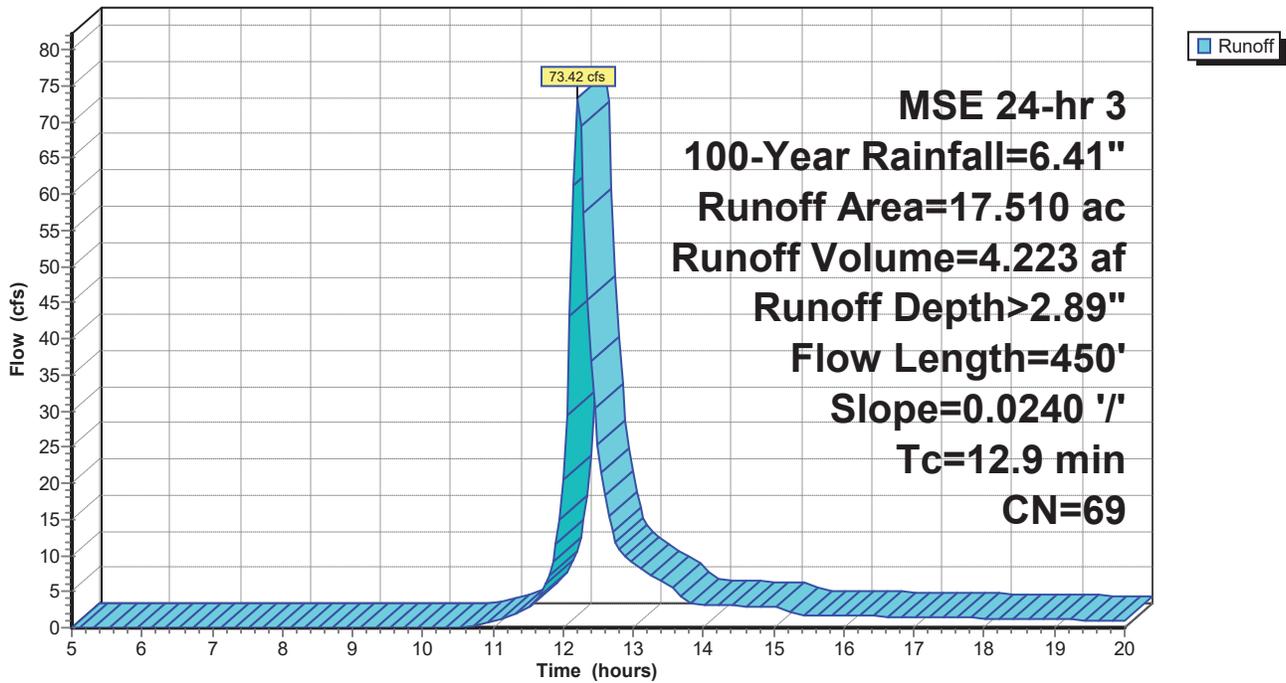
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 16.950	69	B, Cropland
* 0.560	83	D, Cropland
17.510	69	Weighted Average
17.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	275	0.0240	0.43		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
2.1	175	0.0240	1.39		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
12.9	450	Total			

Subcatchment 3S: E-3

Hydrograph



Summary for Subcatchment 4S: E-4

Runoff = 32.05 cfs @ 12.34 hrs, Volume= 2.444 af, Depth> 2.98"

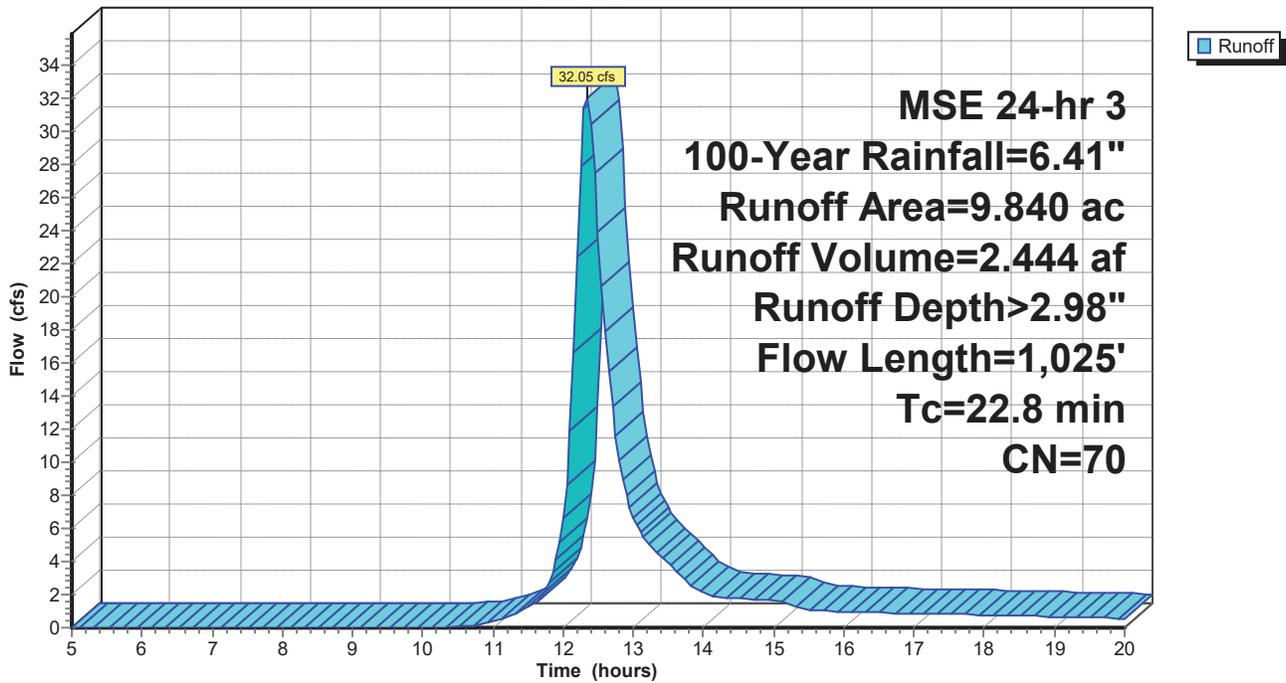
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 9.130	69	B, Cropland
* 0.710	83	D, Cropland
9.840	70	Weighted Average
9.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	275	0.0160	0.36		Sheet Flow, A-B Cultivated: Residue<=20% n= 0.060 P2= 2.66"
10.1	750	0.0190	1.24		Shallow Concentrated Flow, B-C Cultivated Straight Rows Kv= 9.0 fps
22.8	1,025	Total			

Subcatchment 4S: E-4

Hydrograph



Summary for Subcatchment 6S: P1

Runoff = 52.14 cfs @ 12.46 hrs, Volume= 4.805 af, Depth> 3.46"

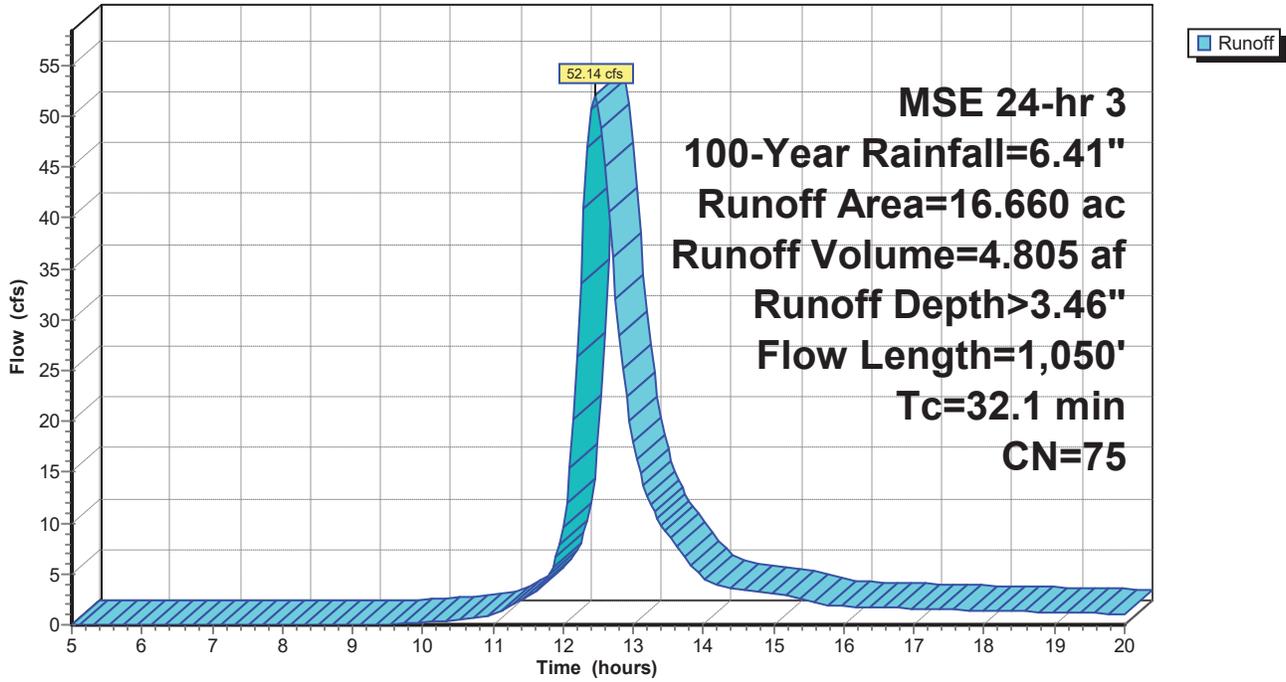
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 13.420	75	B, 1/4 Ac Lots
* 0.480	87	D, 1/4 Ac Lots
* 1.950	61	B, Open Space
* 0.240	80	D, Open Space
* 0.570	98	Pond
16.660	75	Weighted Average
16.090		96.58% Pervious Area
0.570		3.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	100	0.0400	0.14		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
19.9	800	0.0180	0.67	6.04	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.3	150	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
32.1	1,050	Total			

Subcatchment 6S: P1

Hydrograph



Summary for Subcatchment 7S: P2

Runoff = 39.75 cfs @ 12.57 hrs, Volume= 4.228 af, Depth> 3.25"

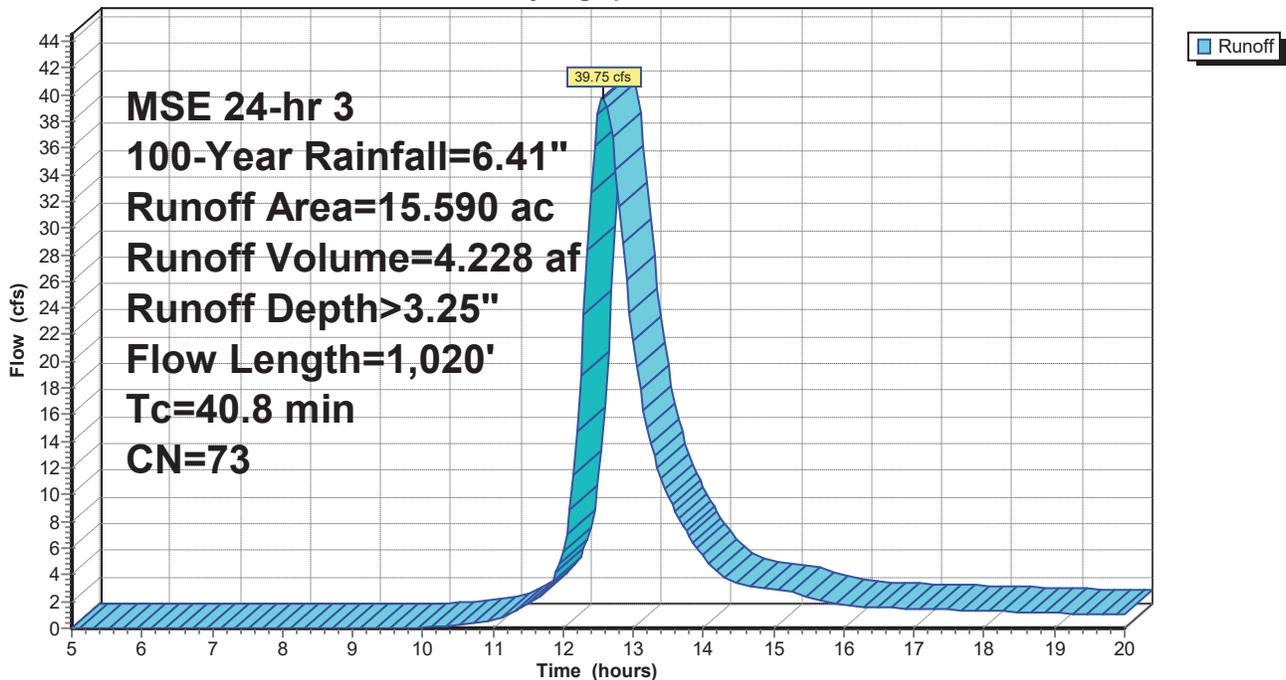
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 12.320	75	B, 1/4-Ac Lots
* 2.660	61	B, Open Space
* 0.150	80	D, Open Space
* 0.460	98	Pond
15.590	73	Weighted Average
15.130		97.05% Pervious Area
0.460		2.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	170	0.0300	0.20		Sheet Flow, A-B Grass: Short n= 0.150 P2= 2.66"
3.5	150	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
23.3	700	0.0100	0.50	4.50	Channel Flow, C-D Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
40.8	1,020	Total			

Subcatchment 7S: P2

Hydrograph



Summary for Subcatchment 8S: P3

Runoff = 57.51 cfs @ 12.71 hrs, Volume= 7.143 af, Depth> 3.54"

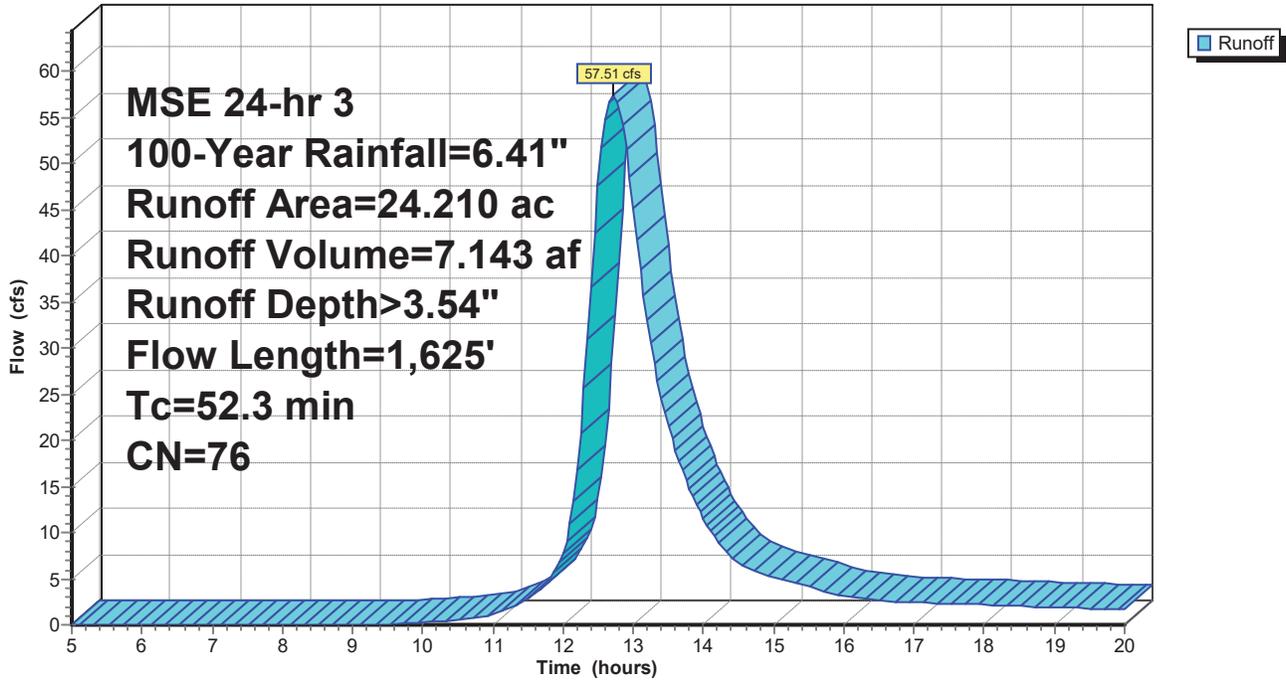
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 7.540	75	B, 1/4-Ac Lots
* 2.510	83	C, 1/4-Ac Lots
* 4.240	87	D, 1/4-Ac Lots
* 6.090	61	B, Open Space
* 0.190	74	C, Open Space
* 2.490	80	D, Open Space
* 1.150	98	Pond
24.210	76	Weighted Average
23.060		95.25% Pervious Area
1.150		4.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0150	0.09		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
11.2	475	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
23.1	850	0.0150	0.61	5.51	Channel Flow, C-D Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.4	200	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
52.3	1,625	Total			

Subcatchment 8S: P3

Hydrograph



Summary for Subcatchment 9S: P4

Runoff = 42.29 cfs @ 12.47 hrs, Volume= 4.060 af, Depth> 4.07"

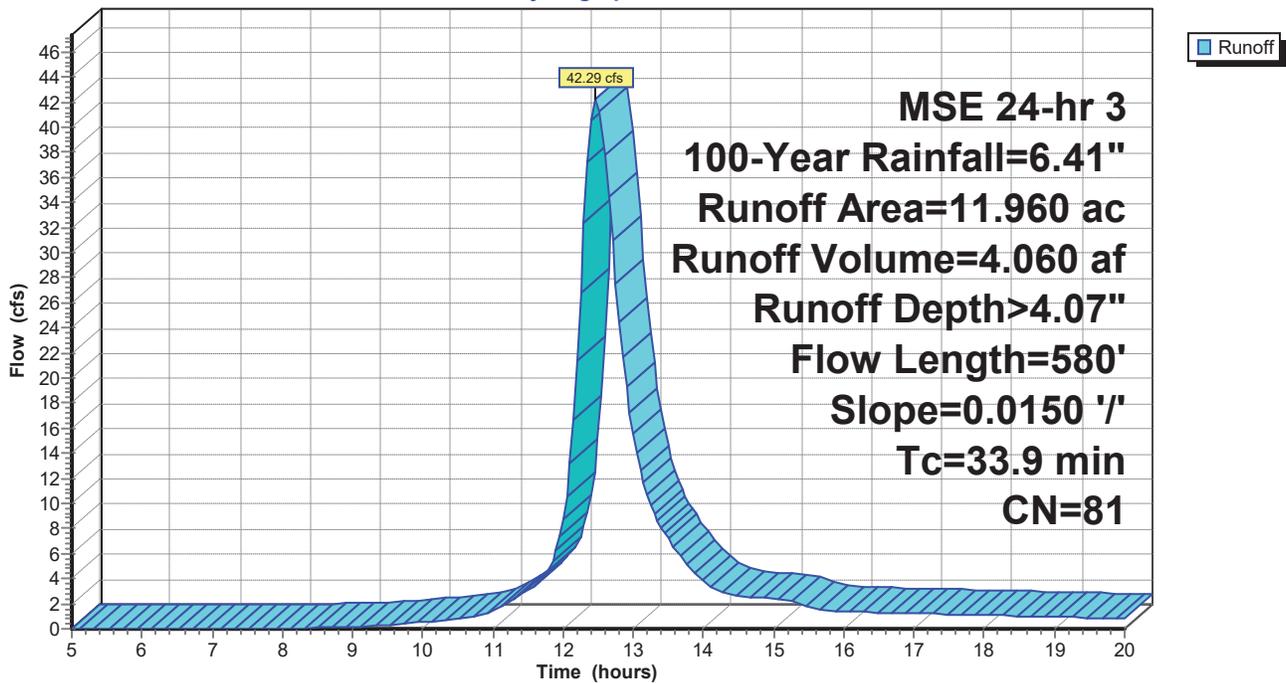
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 2.030	75	B, 1/4-Ac Lots
* 5.440	83	C, 1/4-Ac Lots
* 0.760	87	D, 1/4-Ac Lots
* 2.730	74	C, Open Space
* 1.000	98	Pond
11.960	81	Weighted Average
10.960		91.64% Pervious Area
1.000		8.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.7	130	0.0150	0.10		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
12.2	450	0.0150	0.61	5.51	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
33.9	580	Total			

Subcatchment 9S: P4

Hydrograph



Summary for Subcatchment 10S: UD1

Runoff = 9.48 cfs @ 12.57 hrs, Volume= 0.996 af, Depth> 2.97"

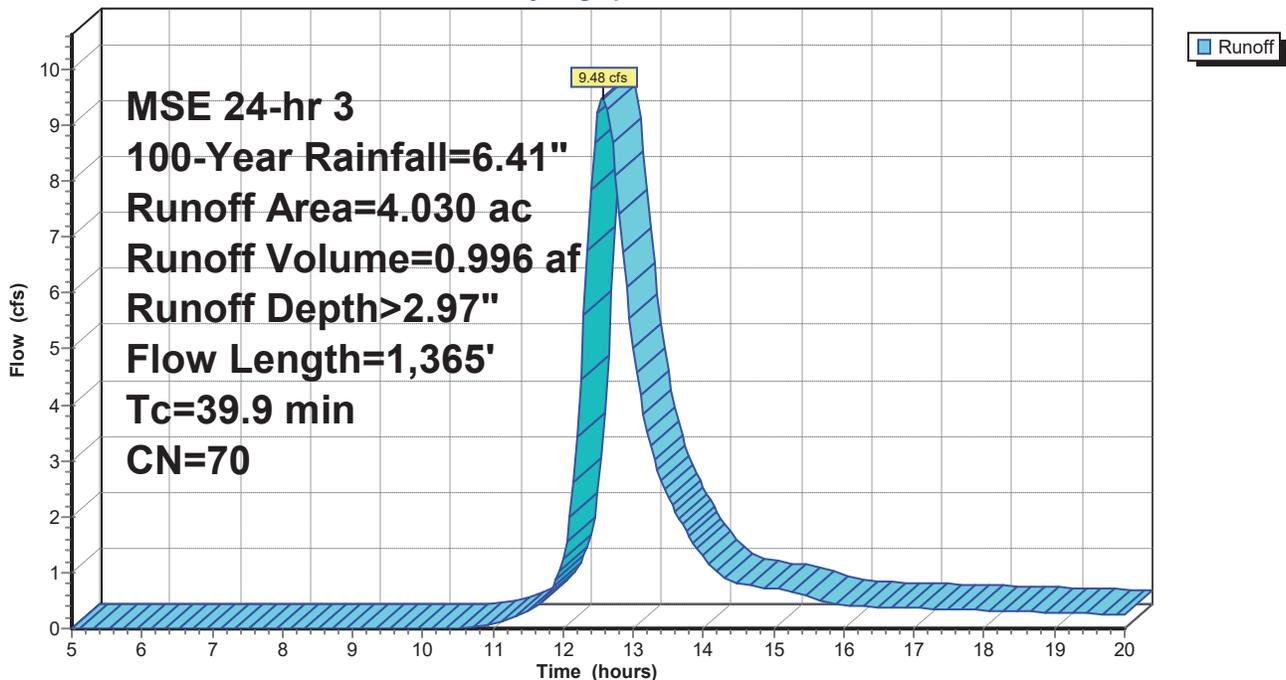
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 0.380	75	B, 1/4-Ac Lots
* 1.940	61	B, Open Space
* 1.710	80	D, Open Space
4.030	70	Weighted Average
4.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	175	0.0750	0.20		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"
19.8	840	0.0200	0.71	6.36	Channel Flow, B-C Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
0.3	150	0.0100	8.51	26.74	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.011 Concrete pipe, straight & clean
5.4	200	0.0150	0.61	5.51	Channel Flow, D-E Area= 9.0 sf Perim= 12.4' r= 0.73' n= 0.240
39.9	1,365	Total			

Subcatchment 10S: UD1

Hydrograph



Summary for Subcatchment 11S: UD2

Runoff = 14.08 cfs @ 12.35 hrs, Volume= 1.116 af, Depth> 3.77"

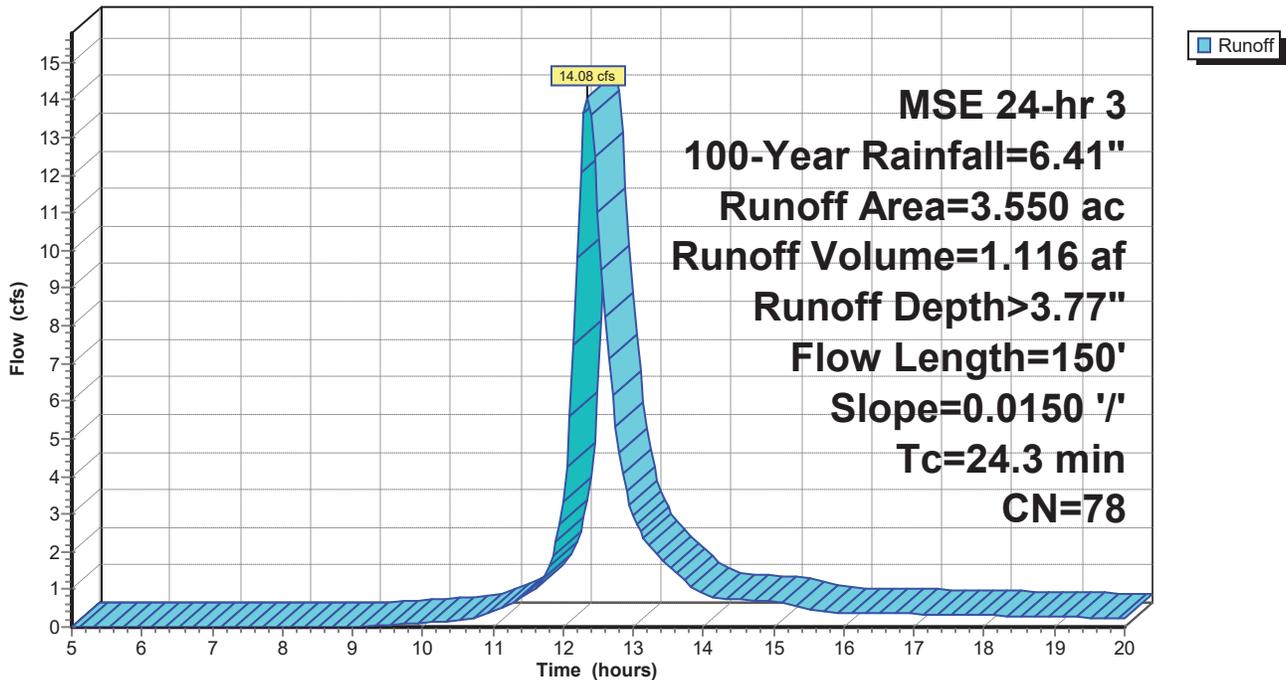
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
* 2.050	83	C, 1/4-Ac Lots
* 0.200	61	B, Open Space
* 1.300	74	C, Open Space
3.550	78	Weighted Average
3.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.3	150	0.0150	0.10		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.66"

Subcatchment 11S: UD2

Hydrograph



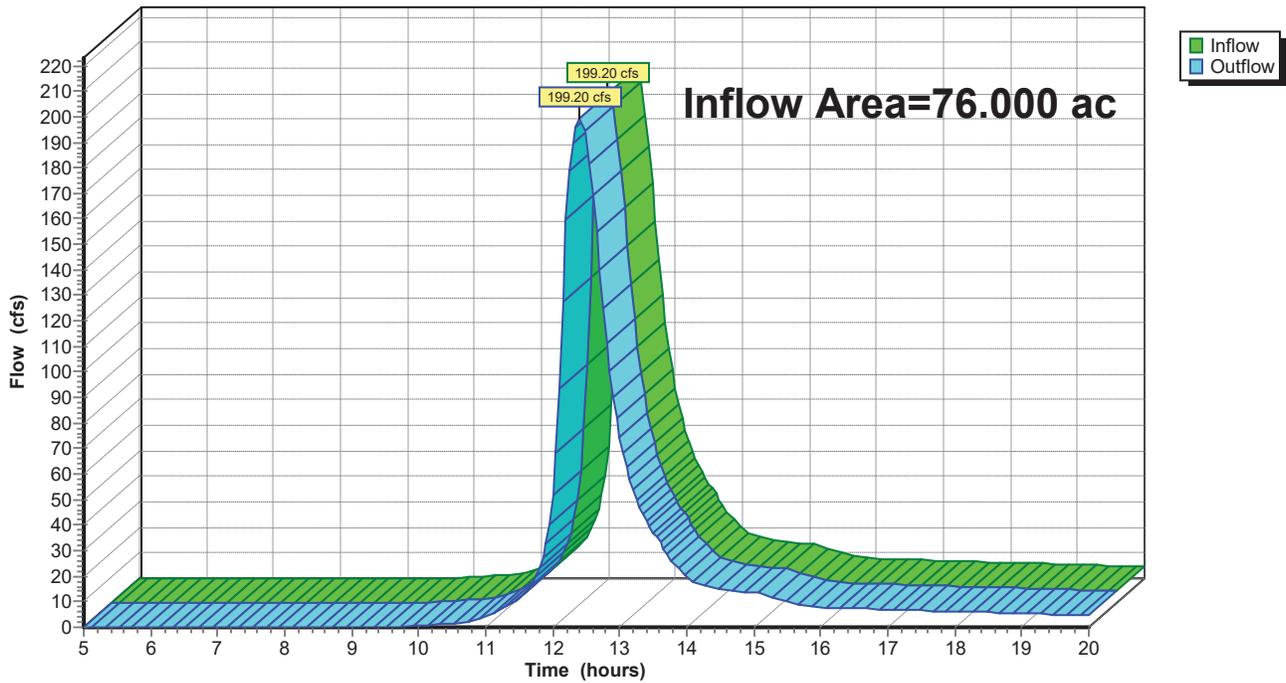
Summary for Reach 5R: Pre-Development

Inflow Area = 76.000 ac, 0.00% Impervious, Inflow Depth > 3.24" for 100-Year event
Inflow = 199.20 cfs @ 12.41 hrs, Volume= 20.547 af
Outflow = 199.20 cfs @ 12.41 hrs, Volume= 20.547 af, Atten= 0%, Lag= 0.0 min

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

Reach 5R: Pre-Development

Hydrograph



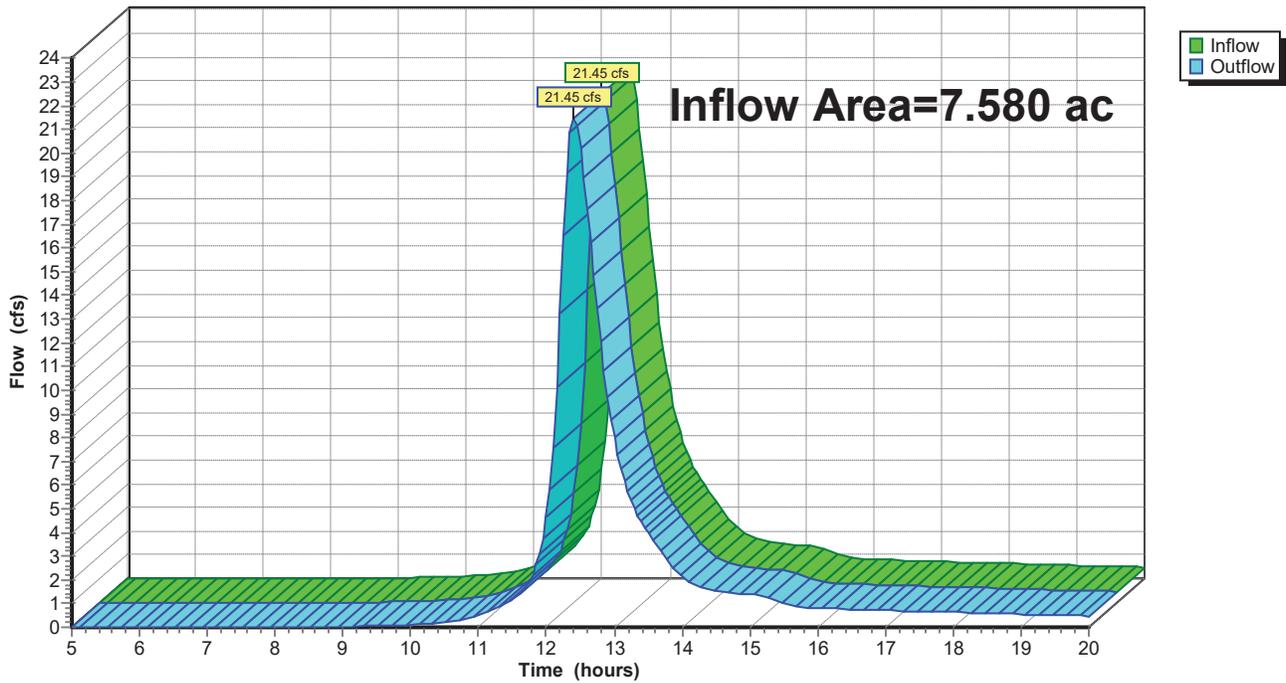
Summary for Reach 11R: Undetained

Inflow Area = 7.580 ac, 0.00% Impervious, Inflow Depth > 3.34" for 100-Year event
Inflow = 21.45 cfs @ 12.41 hrs, Volume= 2.112 af
Outflow = 21.45 cfs @ 12.41 hrs, Volume= 2.112 af, Atten= 0%, Lag= 0.0 min

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

Reach 11R: Undetained

Hydrograph



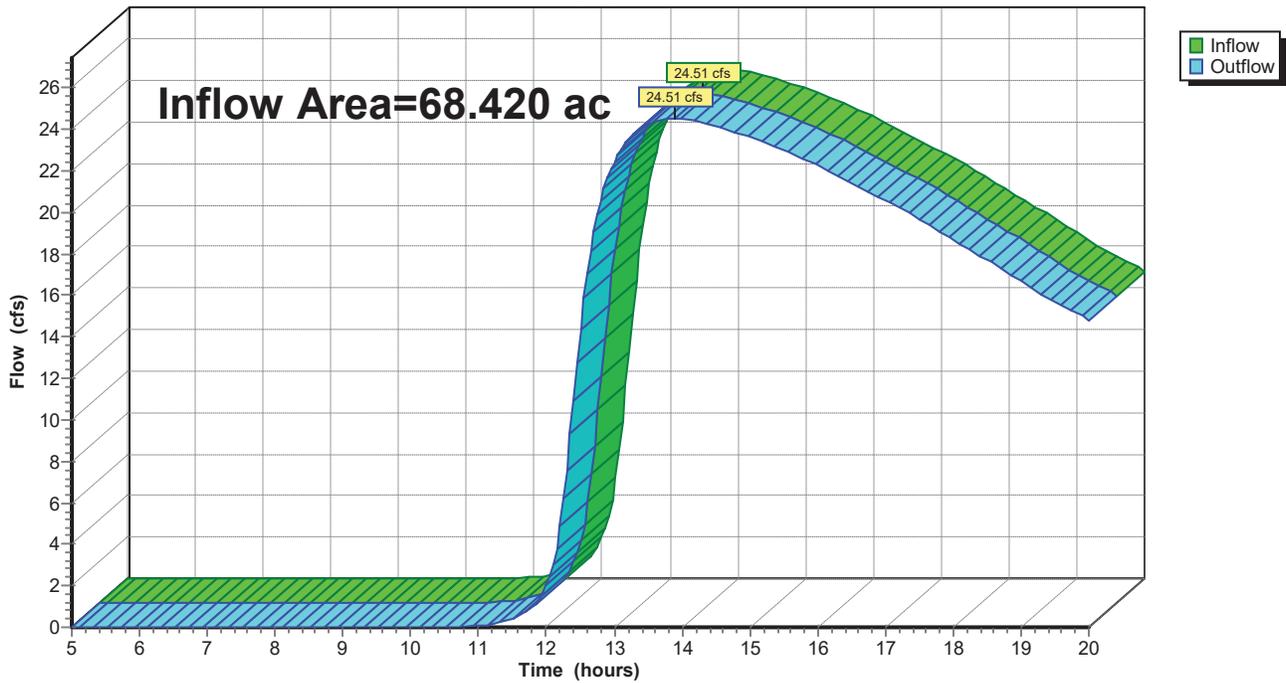
Summary for Reach 12R: Detained

Inflow Area = 68.420 ac, 4.65% Impervious, Inflow Depth > 2.31" for 100-Year event
Inflow = 24.51 cfs @ 13.90 hrs, Volume= 13.194 af
Outflow = 24.51 cfs @ 13.90 hrs, Volume= 13.194 af, Atten= 0%, Lag= 0.0 min

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

Reach 12R: Detained

Hydrograph



Summary for Pond 6P: Pond 1

Inflow Area = 16.660 ac, 3.42% Impervious, Inflow Depth > 3.46" for 100-Year event
 Inflow = 52.14 cfs @ 12.46 hrs, Volume= 4.805 af
 Outflow = 6.93 cfs @ 13.70 hrs, Volume= 3.682 af, Atten= 87%, Lag= 74.9 min
 Primary = 6.93 cfs @ 13.70 hrs, Volume= 3.682 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 889.69' @ 13.70 hrs Surf.Area= 0.831 ac Storage= 2.935 af

Plug-Flow detention time= 194.7 min calculated for 3.669 af (76% of inflow)
 Center-of-Mass det. time= 147.6 min (948.4 - 800.8)

Volume	Invert	Avail.Storage	Storage Description
#1	885.50'	4.078 af	Custom Stage Data (Prismatic) Listed below (Recalc)

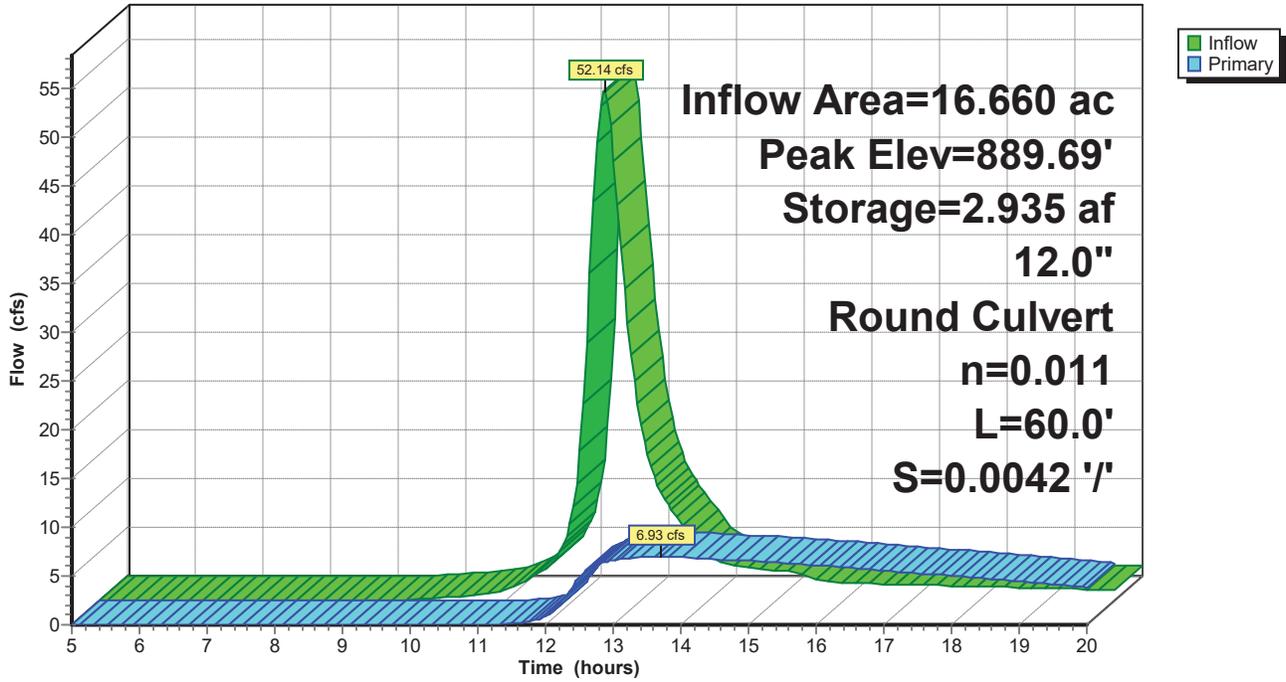
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
885.50	0.575	0.000	0.000
886.00	0.603	0.294	0.294
887.00	0.662	0.632	0.927
888.00	0.723	0.693	1.620
889.00	0.786	0.755	2.374
890.00	0.851	0.818	3.193
891.00	0.919	0.885	4.078

Device	Routing	Invert	Outlet Devices
#1	Primary	885.50'	12.0" Round RCP_Round 12" L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 885.50' / 885.25' S= 0.0042 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=6.93 cfs @ 13.70 hrs HW=889.69' (Free Discharge)
 ↑1=RCP_Round 12" (Barrel Controls 6.93 cfs @ 8.82 fps)

Pond 6P: Pond 1

Hydrograph



Summary for Pond 7P: Pond 2

Inflow Area = 15.590 ac, 2.95% Impervious, Inflow Depth > 3.25" for 100-Year event
 Inflow = 39.75 cfs @ 12.57 hrs, Volume= 4.228 af
 Outflow = 6.97 cfs @ 13.79 hrs, Volume= 3.493 af, Atten= 82%, Lag= 73.1 min
 Primary = 6.97 cfs @ 13.79 hrs, Volume= 3.493 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 893.23' @ 13.79 hrs Surf.Area= 0.698 ac Storage= 2.438 af

Plug-Flow detention time= 177.0 min calculated for 3.493 af (83% of inflow)
 Center-of-Mass det. time= 135.8 min (946.3 - 810.4)

Volume	Invert	Avail.Storage	Storage Description
#1	889.00'	3.376 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
889.00	0.461	0.000	0.000
890.00	0.514	0.487	0.487
891.00	0.568	0.541	1.028
892.00	0.625	0.596	1.625
893.00	0.684	0.654	2.280
894.00	0.746	0.715	2.995
894.50	0.778	0.381	3.376

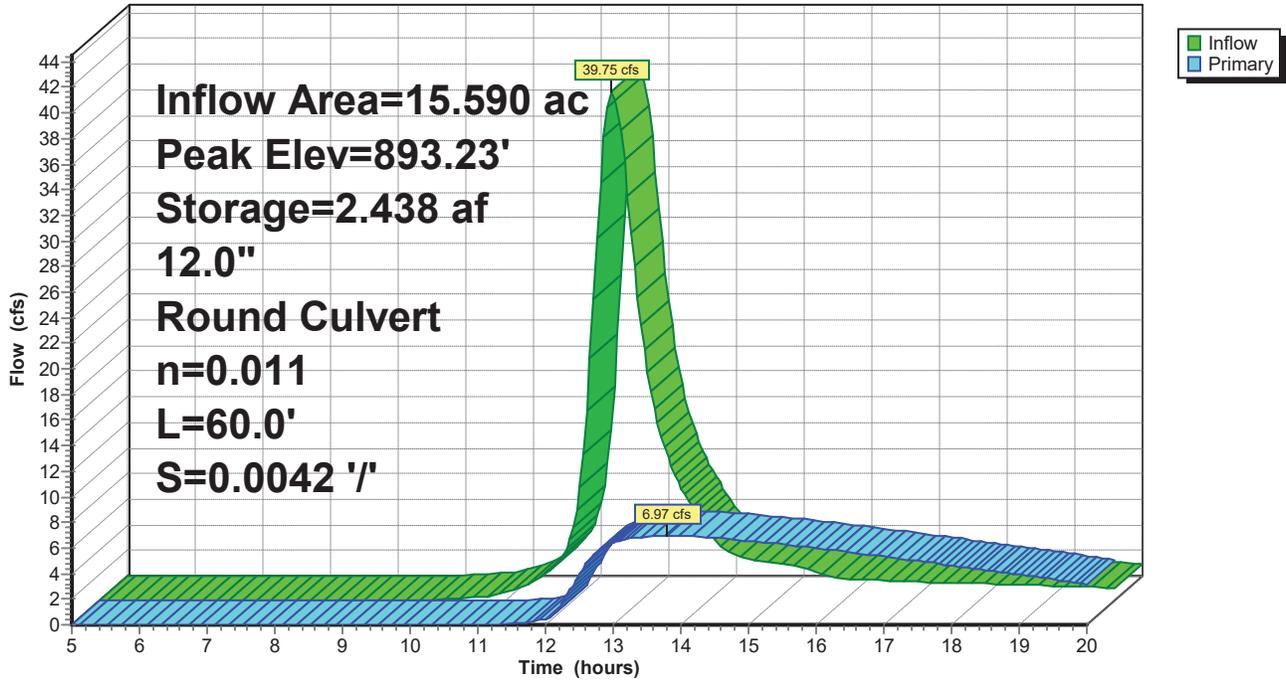
Device	Routing	Invert	Outlet Devices
#1	Primary	889.00'	12.0" Round CMP_Round 12" L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 889.00' / 888.75' S= 0.0042 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=6.96 cfs @ 13.79 hrs HW=893.23' (Free Discharge)

↑1=CMP_Round 12" (Barrel Controls 6.96 cfs @ 8.87 fps)

Pond 7P: Pond 2

Hydrograph



Summary for Pond 8P: Pond 3

Inflow Area = 24.210 ac, 4.75% Impervious, Inflow Depth > 3.54" for 100-Year event
 Inflow = 57.51 cfs @ 12.71 hrs, Volume= 7.143 af
 Outflow = 5.54 cfs @ 14.81 hrs, Volume= 3.254 af, Atten= 90%, Lag= 125.4 min
 Primary = 5.54 cfs @ 14.81 hrs, Volume= 3.254 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 907.75' @ 14.81 hrs Surf.Area= 1.527 ac Storage= 5.003 af

Plug-Flow detention time= 226.1 min calculated for 3.254 af (46% of inflow)
 Center-of-Mass det. time= 158.9 min (974.6 - 815.7)

Volume	Invert	Avail.Storage	Storage Description
#1	904.00'	7.001 af	Custom Stage Data (Prismatic) Listed below (Recalc)

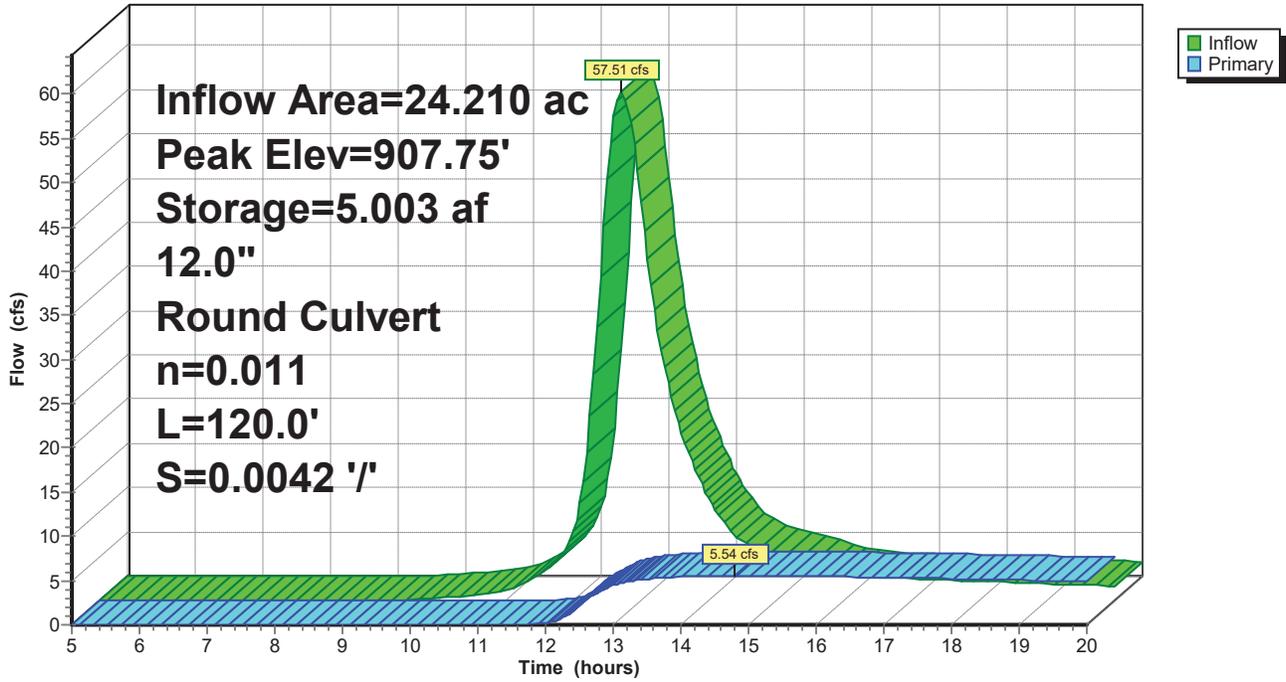
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
904.00	1.150	0.000	0.000
905.00	1.247	1.199	1.199
906.00	1.347	1.297	2.496
907.00	1.449	1.398	3.894
908.00	1.553	1.501	5.395
909.00	1.660	1.606	7.001

Device	Routing	Invert	Outlet Devices
#1	Primary	904.00'	12.0" Round RCP_Round 12" L= 120.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 904.00' / 903.50' S= 0.0042 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=5.54 cfs @ 14.81 hrs HW=907.75' (Free Discharge)
 ↑1=RCP_Round 12" (Barrel Controls 5.54 cfs @ 7.06 fps)

Pond 8P: Pond 3

Hydrograph



Summary for Pond 9P: Pond 4

Inflow Area = 11.960 ac, 8.36% Impervious, Inflow Depth > 4.07" for 100-Year event
 Inflow = 42.29 cfs @ 12.47 hrs, Volume= 4.060 af
 Outflow = 5.21 cfs @ 13.77 hrs, Volume= 2.766 af, Atten= 88%, Lag= 77.8 min
 Primary = 5.21 cfs @ 13.77 hrs, Volume= 2.766 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 916.40' @ 13.77 hrs Surf.Area= 1.208 ac Storage= 2.646 af

Plug-Flow detention time= 208.9 min calculated for 2.766 af (68% of inflow)
 Center-of-Mass det. time= 156.7 min (950.6 - 793.9)

Volume	Invert	Avail.Storage	Storage Description
#1	914.00'	6.076 af	Custom Stage Data (Prismatic) Listed below (Recalc)

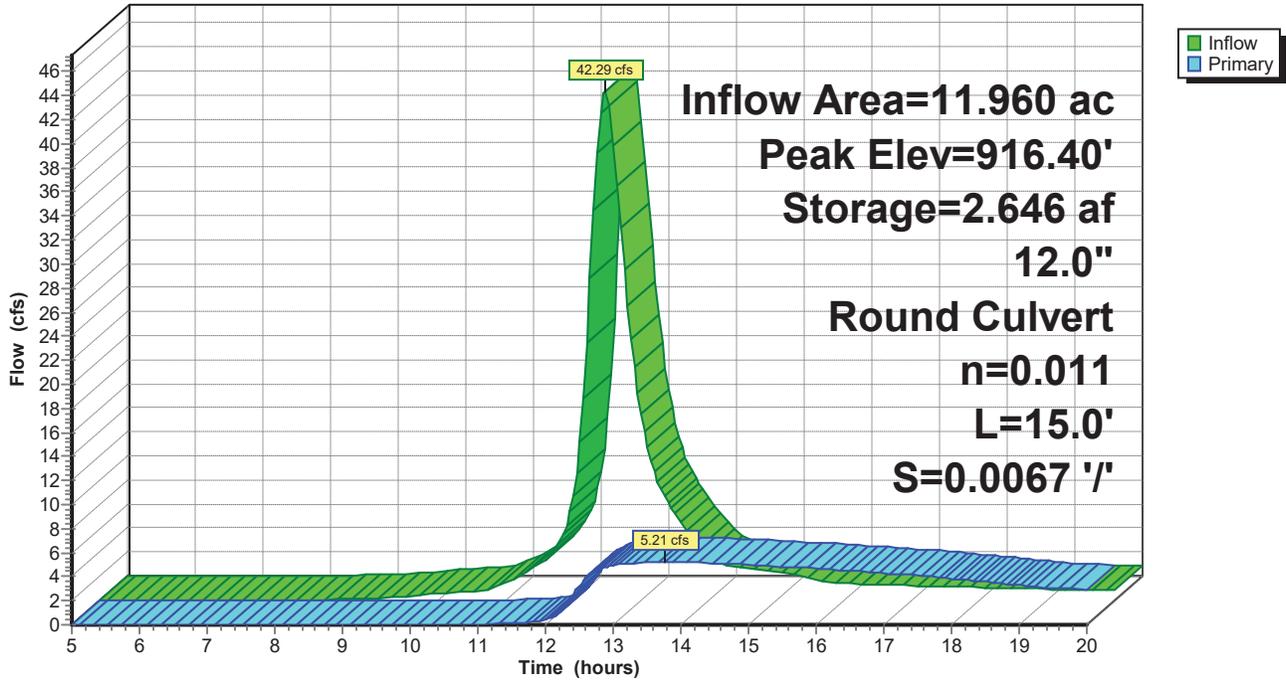
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
914.00	0.998	0.000	0.000
915.00	1.084	1.041	1.041
916.00	1.172	1.128	2.169
917.00	1.263	1.218	3.386
918.00	1.356	1.309	4.696
919.00	1.403	1.380	6.076

Device	Routing	Invert	Outlet Devices
#1	Primary	914.00'	12.0" Round RCP_Round 12" L= 15.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 914.00' / 913.90' S= 0.0067 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=5.21 cfs @ 13.77 hrs HW=916.40' (Free Discharge)
 ↑1=RCP_Round 12" (Inlet Controls 5.21 cfs @ 6.64 fps)

Pond 9P: Pond 4

Hydrograph



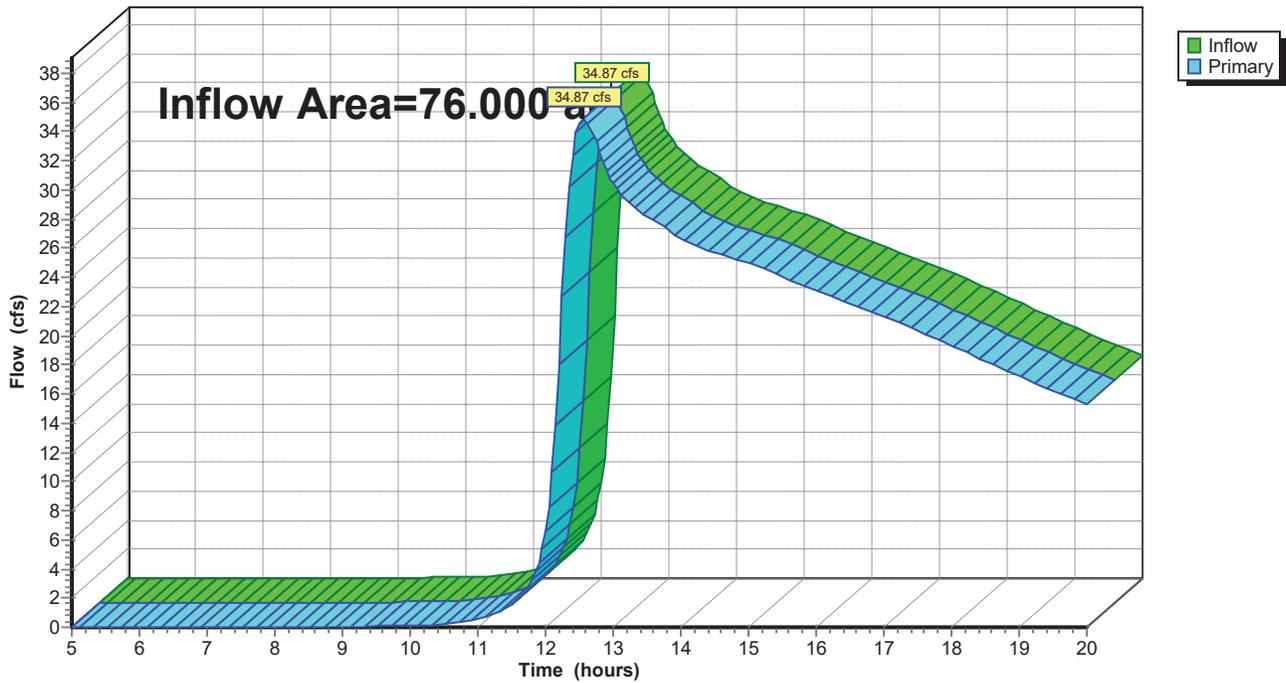
Summary for Link 10L: Post-Development

Inflow Area = 76.000 ac, 4.18% Impervious, Inflow Depth > 2.42" for 100-Year event
Inflow = 34.87 cfs @ 12.56 hrs, Volume= 15.306 af
Primary = 34.87 cfs @ 12.56 hrs, Volume= 15.306 af, Atten= 0%, Lag= 0.0 min

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

Link 10L: Post-Development

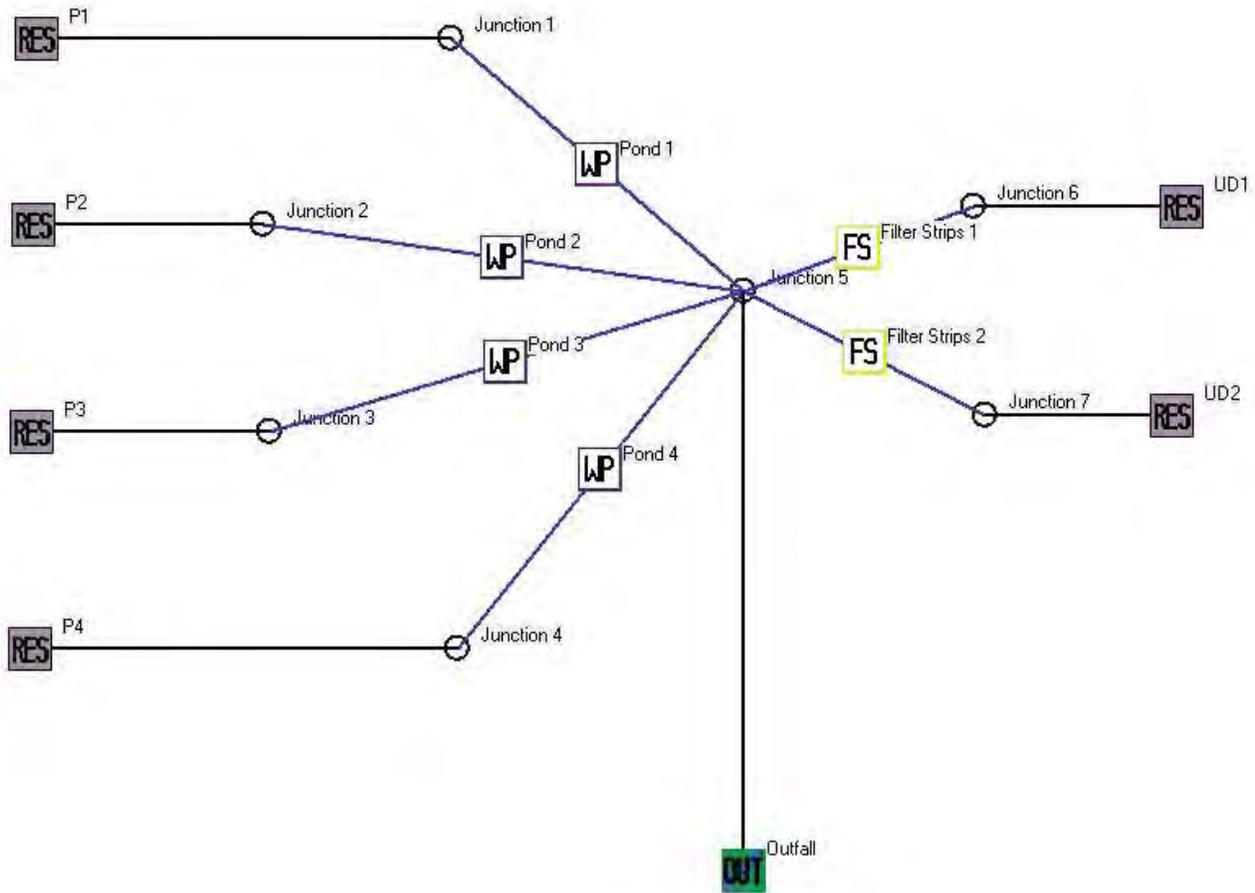
Hydrograph



Appendix C

(Water Quality Calculations)

System Map



Input Data

Data file name: P:\3190088\Eng Data\Hydrology\Maplewood Farms 2019-04-30.mdb
WinSLAMM Version 10.4.1
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 04-25-2019 Time: 10:03:40
Site information:
Maplewood Farms Subdivision
Village of Jackson, WI

LU# 1 - Residential: P1 Total area (ac): 16.660
1 - Roofs 1: 1.268 ac. Pitched Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.849 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.224 ac. Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 1.443 ac. Intermediate Street Length = 0.386 curb-mi Street Width (assuming two curb-mi per street mile) = 61.6826 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 12.301 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.575 ac. Source Area PSD File:

LU# 2 - Residential: P2 Total area (ac): 15.590
1 - Roofs 1: 1.161 ac. Pitched Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.597 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.205 ac. Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 1.111 ac. Intermediate Street Length = 0.244 curb-mi Street Width (assuming two curb-mi per street mile) = 75.1291 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 12.055 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.461 ac. Source Area PSD File:

LU# 3 - Residential: P3 Total area (ac): 24.210
1 - Roofs 1: 1.395 ac. Pitched Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.735 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.246 ac. Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 1.338 ac. Intermediate Street Length = 0.327 curb-mi Street Width (assuming two curb-mi per street mile) = 67.5137 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 19.346 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 1.150 ac. Source Area PSD File:

LU# 4 - Residential: P4 Total area (ac): 11.960
1 - Roofs 1: 0.937 ac. Pitched Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.689 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.165 ac. Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 1.075 ac. Intermediate Street Length = 0.254 curb-mi Street Width (assuming two curb-mi per street mile) = 69.8326 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 8.095 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.999 ac. Source Area PSD File:

LU# 5 - Residential: UD1 Total area (ac): 4.030
37 - Streets 1: 0.186 ac. Intermediate Street Length = 0.059 curb-mi Street Width (assuming two curb-mi per street mile) = 52.0169 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 3.844 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 6 - Residential: UD2 Total area (ac): 3.550
1 - Roofs 1: 0.117 ac. Pitched Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.021 ac. Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.104 ac. Intermediate Street Length = 0.025 curb-mi Street Width (assuming two curb-mi per street mile) = 68.64 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 3.308 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Wet Detention Pond CP# 1 (DS) - Pond 1
Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 5
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered
Outlet Characteristics:
Outlet type: Orifice 1
1. Orifice diameter (ft): 1
2. Number of orifices: 1
3. Invert elevation above datum (ft): 5
Outlet type: Broad Crested Weir
1. Weir crest length (ft): 30
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 9
Pond stage and surface area
Entry Stage Pond Area Natural Seepage Other Outflow

Number	(ft)	(acres)	(in/hr)	(cfs)
0	0.00	0.0000	0.00	0.00
1	0.10	0.3012	0.00	0.00
2	0.50	0.3177	0.00	0.00
3	1.50	0.3516	0.00	0.00
4	2.50	0.3867	0.00	0.00
5	3.50	0.4232	0.00	0.00
6	4.00	0.4419	0.00	0.00
7	4.50	0.5061	0.00	0.00
8	5.00	0.5750	0.00	0.00
9	5.50	0.6033	0.00	0.00
10	6.50	0.6617	0.00	0.00
11	7.50	0.7225	0.00	0.00
12	8.50	0.7855	0.00	0.00
13	9.50	0.8508	0.00	0.00
14	10.50	0.9185	0.00	0.00

Control Practice 2: Wet Detention Pond CP# 2 (DS) - Pond 2

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 5

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 1
2. Number of orifices: 1
3. Invert elevation above datum (ft): 5

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 30
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 9

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.10	0.2139	0.00	0.00
2	1.00	0.2435	0.00	0.00
3	2.00	0.2744	0.00	0.00
4	3.00	0.3065	0.00	0.00
5	4.00	0.3400	0.00	0.00
6	5.00	0.4609	0.00	0.00
7	6.00	0.5138	0.00	0.00
8	7.00	0.5681	0.00	0.00
9	8.00	0.6251	0.00	0.00
10	9.00	0.6844	0.00	0.00
11	10.00	0.7461	0.00	0.00
12	10.50	0.7778	0.00	0.00

Control Practice 3: Wet Detention Pond CP# 3 (DS) - Pond 3

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 5

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 1
2. Number of orifices: 1
3. Invert elevation above datum (ft): 5

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 30
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 9

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.10	0.6550	0.00	0.00
2	1.00	0.7183	0.00	0.00

3	2.00	0.7830	0.00	0.00
4	3.00	0.8490	0.00	0.00
5	4.00	0.9162	0.00	0.00
6	5.00	1.1498	0.00	0.00
7	6.00	1.2472	0.00	0.00
8	7.00	1.3470	0.00	0.00
9	8.00	1.4491	0.00	0.00
10	9.00	1.5534	0.00	0.00
11	10.00	1.6601	0.00	0.00

Control Practice 4: Wet Detention Pond CP# 4 (DS) - Pond 4
 Particle Size Distribution file name: Not needed - calculated by program
 Initial stage elevation (ft): 5
 Peak to Average Flow Ratio: 3.8
 Maximum flow allowed into pond (cfs): No maximum value entered
 Outlet Characteristics:

- Outlet type: Orifice 1
 1. Orifice diameter (ft): 1
 2. Number of orifices: 1
 3. Invert elevation above datum (ft): 5
- Outlet type: Broad Crested Weir
 1. Weir crest length (ft): 30
 2. Weir crest width (ft): 10
 3. Height from datum to bottom of weir opening: 9

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.10	0.5657	0.00	0.00
2	1.00	0.6204	0.00	0.00
3	2.00	0.6766	0.00	0.00
4	3.00	0.7340	0.00	0.00
5	4.00	0.7927	0.00	0.00
6	5.00	0.9979	0.00	0.00
7	6.00	1.0840	0.00	0.00
8	7.00	1.1723	0.00	0.00
9	8.00	1.2631	0.00	0.00
10	9.00	1.3561	0.00	0.00
11	10.00	1.4034	0.00	0.00

Control Practice 5: Filter Strip CP# 1 (DS) - Filter Strips 1
 Total drainage area (acres)= 4.030
 Fraction of drainage area served by filter strips (ac) = 1.00
 Total filter strip width (ft) = 1200.0
 Effective flow length (ft) = 10
 Infiltration rate (in/hr)= 0.250
 Typical longitudinal slope (ft.H/ft.V) = 0.010
 Typical grass height (in) = 4.0
 Swale retardance factor = C
 Use stochastic analysis to determine infiltration rate: False
 Infiltration rate coefficient of variation (COV) = 0.00
 Particle size distribution file name: Not needed - calculated by program
 Surface Clogging Load (lbs/sf) = 3.50

Control Practice 6: Filter Strip CP# 2 (DS) - Filter Strips 2
 Total drainage area (acres)= 3.550
 Fraction of drainage area served by filter strips (ac) = 1.00
 Total filter strip width (ft) = 1900.0
 Effective flow length (ft) = 10
 Infiltration rate (in/hr)= 0.250
 Typical longitudinal slope (ft.H/ft.V) = 0.010
 Typical grass height (in) = 4.0
 Swale retardance factor = C
 Use stochastic analysis to determine infiltration rate: False
 Infiltration rate coefficient of variation (COV) = 0.00
 Particle size distribution file name: Not needed - calculated by program
 Surface Clogging Load (lbs/sf) = 3.50

Output Data

SLAMM for Windows Version 10.4.1

(c) Copyright Robert Pitt and John Voorhees 2019, All Rights Reserved

Data file name: P:\3190088\Eng Data\Hydrology\Maplewood Farms 2019-04-30.mdb

Data file description: Maplewood Farms Subdivision

Village of Jackson, WI

Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

Seed for random number generator: -42

Start of Winter Season: 12/02 End of Winter Season: 03/12

Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69

Date of run: 04-25-2019 Time of run: 10:01:18

Total Area Modeled (acres): 76.000

Years in Model Run: 0.99

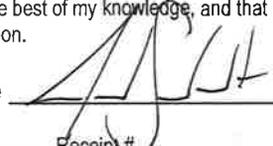
Pollutant	Conc. - No Controls	Conc. - With Controls	Conc. Units	Poll. Yield No Controls	Poll. Yield With Controls	Poll. Yield Units	Percent Reduction
Particulate Solids	105.0	19.33	mg/L	9135	1641	lbs	82.04 %
Particulate Phosphorus	0.3587	0.07047	mg/L	31.20	5.985	lbs	80.82 %

VILLAGE OF JACKSON DEVELOPMENT APPLICATION FORM
(Due 1st Friday of the month for that month's Planning Commission Meeting)

Name of Applicant Robert F Lee + Associates, Inc.
 Contact Jared Schmidt Address/ZIP 1250 Centennial Centre Blvd, Hobart WI 54155 Phone # (920) 662-9641
 E-mail Address jschmidt@releeinc.com E-mail Address where Agenda/Staff comments are to be faxed _____
 Name of Owner Premier Rosewood Jackson, LLC Address/ZIP 3120 Gateway Road, Brookfield, WI 53045 Phone# (262) 790-4560
 Owner Representative/Developer Calvin Axin
 Proposed Use of Site Multi-Family Present Zoning PUD - Planned Unit Development

ACTION REQUESTED	FEE	SUBMITTAL REQUIREMENTS	TYPE OF INFORMATION DESCRIBED (See page 5)	PAPER COPIES	CD
CONCEPT PLAN	\$50	1,2,6,13	1) Complete Application (all pages) 2) Describe what you intend to do (paragraph)		XXX XXX
CONDITIONAL USE	\$150	1,2,3,4,5,6,7,14,15,16,18,19,20	3) Address Labels of adjacent owners to be notified (500' / 200') 4) Owner acknowledgement of the request	labels 1	
PLANNED UNIT DEVELOPMENT	\$150	1,2,3,4,5,6,7,8,9,10,14,15,16,17,18,20	5) Impact Statement 6) Location Map		XXX XXX
REZONING	\$200	1,2,(3),4,6,9 or 10 (500' for rezoning 200' for Cond. Use or PUD Site Plan)	7) Development Plan / Site Plan 8) Preliminary Plat		XXX XXX
CERTIFIED SURVEY MAP (CSM)	\$150	1,2,3,6,10,20	9) Final Plat 10) Certified survey Map		XXX XXX
MINOR SUBDIVISION	\$150	1,2,3,5,6,10,15,16,17,18,20	11) Annexation Petition 12) Annexation Map	1	XXX XXX
Extra-territorial Plat or CSM	\$150	1,2,6,9 / 10	13) Sketch Plan 14) Landscape Plan	4 (24x36)	XXX XXX
Extra-territorial Plat outside Sanitary Service Area	\$50	1,2,6,9 / 10	Engineering Review - Infrastructure		
PRELIMINARY PLAT	\$300	1,2,3,5,6,9,15,16,17,18	15) Grading/Drainage Plan 16) Water / Sewer / Storm Sewer Plans	4 (24x36) 4 (24x36)	XXX XXX
FINAL PLAT / Final Plat Reappl..	\$100	1,2,3,5,6,9,15,16,17,18,20	17) Street / Right of Way cross sections 18) Erosion Control Plan	4 (24x36) 4 (24x36)	XXX XXX
ANNEXATION / ATTACHMENT	\$200	1,2,3,4,5,6,11,12,21	19) Proposed colors / materials 20) Developers Agreement		XXX XXX
STREET EASEMENT/ VACATION	\$150	1,2,3,4,6,9	21) Annexation Agreement (includes pre-annex agreements) 22) other -		XXX XXX
VARIANCE	\$150	1,2,3,4,6,7			

I certify the information and exhibits submitted are true and correct to the best of my knowledge, and that in filing this application I am acting with knowledge and consent of those persons listed above and owner(s) without whose consent the requested action cannot be lawfully acted upon.

Name Jared Schmidt Signature  Date 5/3/19

Office Use: Date Received _____ Date Paid _____ Receipt # _____ Amount Paid \$ _____

VILLAGE OF JACKSON

Special Use Conditional Use Planned Unit Development Permit # _____

The Village of Jackson, hereby grants a Special Use Conditional Use Planned Unit Development
Permit to:

Name of Business/Applicant: Premier Rosewood Jackson, LLC

For a property located at (address): _____

Phone number of Business/Applicant: (262) 790-4560

For (land use, activity, sign, site plan, other): Site plan

Impact Mitigation (noise, smoke, dust, odors, etc. affecting adjacent properties): N/A

Hours of Operation: N/A

Comprehensive/Master Plan Compatibility: Proposed 2035 landuse - Industrial

Building Materials (type, color): Norandex siding - color: olive, Foundry Shake - color: 202 oceanside
Architectural Shingles - pinnacle - color: pristine pewster, Brick - Kestwood - color: 9404 Acadian
Trim / Railings - composite white

Setbacks from rights-of-way and property lines: 30' Front, 25' Rear, 20' Side

Screening/Buffering: N/A

Landscape Plan (sizes, species, location): See landscape plan

Signing (dimensions, colors, lighting, location): Attachment provided

Lighting (wattage, style, pole location and height, coverage): Wall packs on building

Traffic flow, pedestrian circulation (curb to street width), (parking one/both/neither side(s),
sidewalk/pedestrian way width and material): N/A

Storm-water Management: Treated by Regional Pond

Erosion Control: See Erosion Control Plan

Fire Hydrant Location(s): See Utility plan

Knox Box, Posting Site (No Trespass signing), Emergency Telephone #'s: Located at office Building

Hazardous Material Storage: N/A

Alarm Systems: None

Site Features/Constraints: N/A

Parking (no. of spaces, handicapped parking, and dimensions): 76 Surface Stalls, 72 covered Stalls
6 handicapped stalls 140 Total stalls

Tree and shrub preservation: N/A

Setbacks/height limitations: 30' height

Wastewater Usage Projected: _____ gal/year Water Usage Projected: _____ gal/year

Duration and Review of Conditional Use (expiration, when reviewed: upon complaint, specified period):

TERMS OF THIS PERMIT

1. This permit shall become effective upon the execution and recording by the owners of the premises of an acceptance hereof in such form as to constitute an effective covenant running with the land.
2. The permit shall be void unless: (a) pursuant to the Building and Zoning Codes of the Village, the approved use is commenced or (b) the building permit is obtained within 12 months of the date of Village Board approval.
3. The permit is subject to amendment and termination in accordance with the provisions of the Zoning Code of the Village of Jackson.
4. Construction and operation of the use permit shall be in strict conformity to the approval site, building, and operation plans which were filed in connection with the application for this permit (as attached and /or referenced).
5. Any of the conditions of this permit which would normally be the responsibility of the tenants of the premises, shall be made a part of their lease by the owner.

Granted by: Village Board _____ Date _____ Over the Counter _____ Date _____

John Walther, Administrator

_____, Owner
Please print name



Robert E. Lee & Associates, Inc.

Engineering, Surveying, Environmental Services.

Green Bay Office
1250 Centennial Centre Blvd.
Hobart, WI 54155
920-662-9641
FAX 920-662-9141

May 1, 2019

Mr. John M. Walther, Village Administrator
VILLAGE OF JACKSON
N168 W20733 Main Street
Jackson, WI 53037

RE: Rosewood Lane Multi-Family Development
Premier Rosewood Jackson, LLC

Dear Mr. Walther:

On behalf of Premier Rosewood Jackson, LLC, Robert E. Lee & Associates, Inc., is submitting the attached Development Application for Planned Unit Development review of a proposed 72-unit development located at the northeast corner of Rosewood Lane and CTH P in the Village of Jackson. Included in this submittal is the following:

- Village of Jackson Development Application Form
- Letter of Intent (see below for project narrative)
- Proof of Property Ownership
- Impact Statement
- Location Map
- Development Plan Set
- Certified Survey Map
- \$150 Review Fee

Overall, the project includes the construction of six, 12-unit apartment buildings and the associated paved driveways and parking areas. Each building will provide a covered parking stall for each unit and an additional exterior parking stall will be provided for each unit as well. The development will provide roughly 55.4% green space. An exterior trash enclosure and mail room will be constructed on site to serve the development's residents. The attached plan set includes the site layout, with detailed utility, grading, erosion control, and landscaping plans. The attached Certified Survey Map is currently in the recording process through the county.

Premier Rosewood Jackson, LLC (as Assignee of Premier Real Estate Management, LLC) has the right to acquire the vacant land in Jackson, under the terms of a Vacant Land Offer to Purchase dated January 24, 2019. Under Wisconsin law, the buyer under a real estate purchase agreement, holds "equitable title" to the property. Premier Rosewood Jackson, LLC won't take title to the property until all conditions precedent under the Vacant Land Offer to Purchase have been satisfied. Attached is a copy of the Commitment for Title Insurance showing Premier Rosewood Jackson, LLC as the proposed insured.

If you have any questions or need any additional information, please do not hesitate to call.

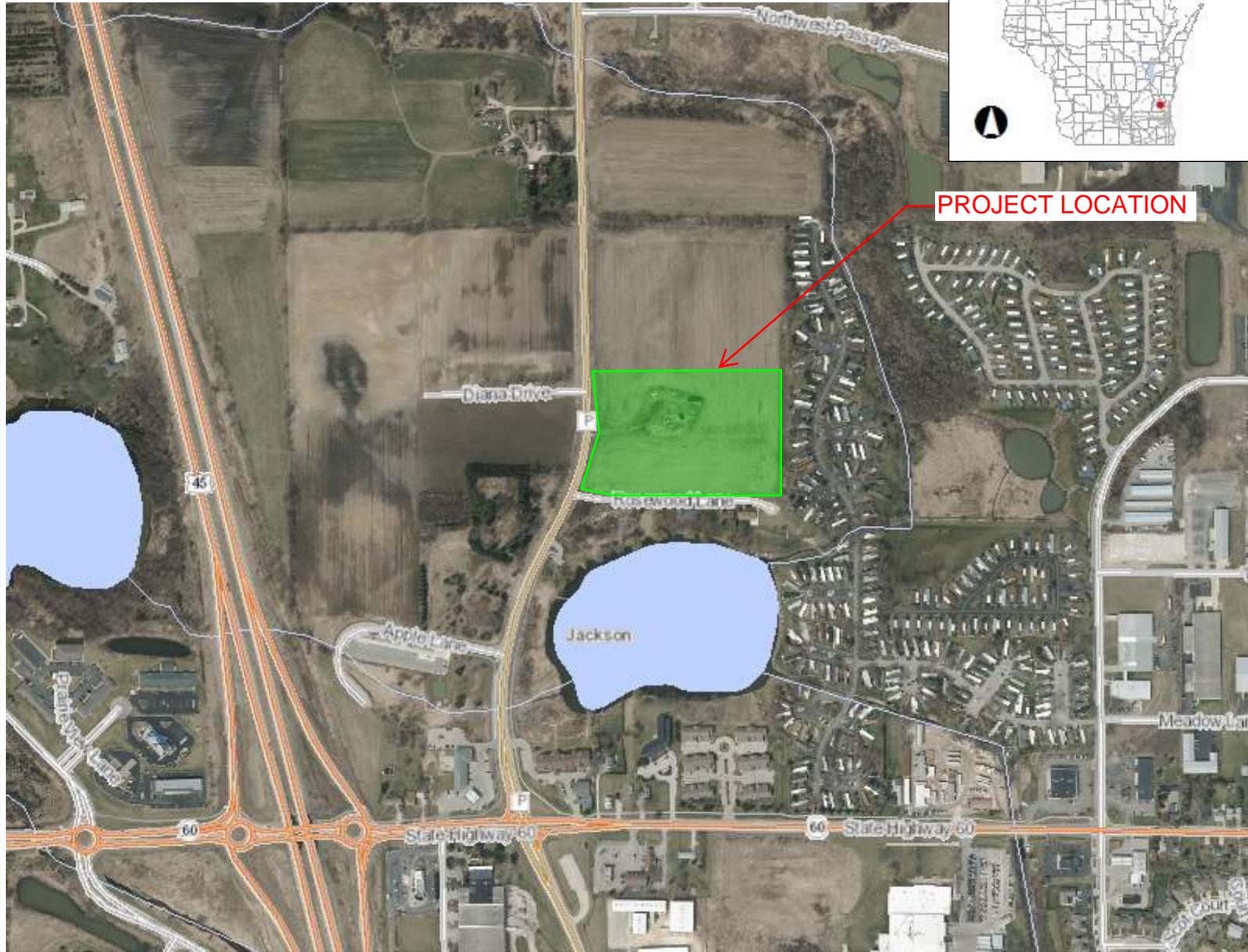
Sincerely,

ROBERT E. LEE & ASSOCIATES, INC.

Jared Schmidt, P.E.



PROJECT LOCATION MAP



- Legend**
- Municipality
 - State Boundaries
 - County Boundaries
 - Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
 - County and Local Roads**
 - County HWY
 - Local Road
 - Railroads
 - Tribal Lands
 - Rivers and Streams
 - Intermittent Streams
 - Lakes and Open water
 - Index to EN_Image_Basemap_Leaf_Off

PROJECT LOCATION



NAD_1983_HARN_Wisconsin_TM

1: 7,920

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>

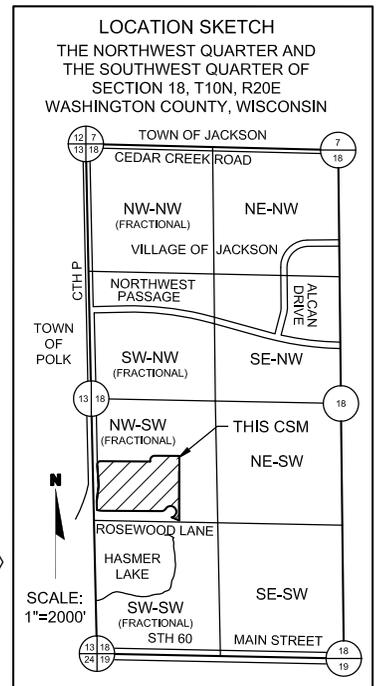
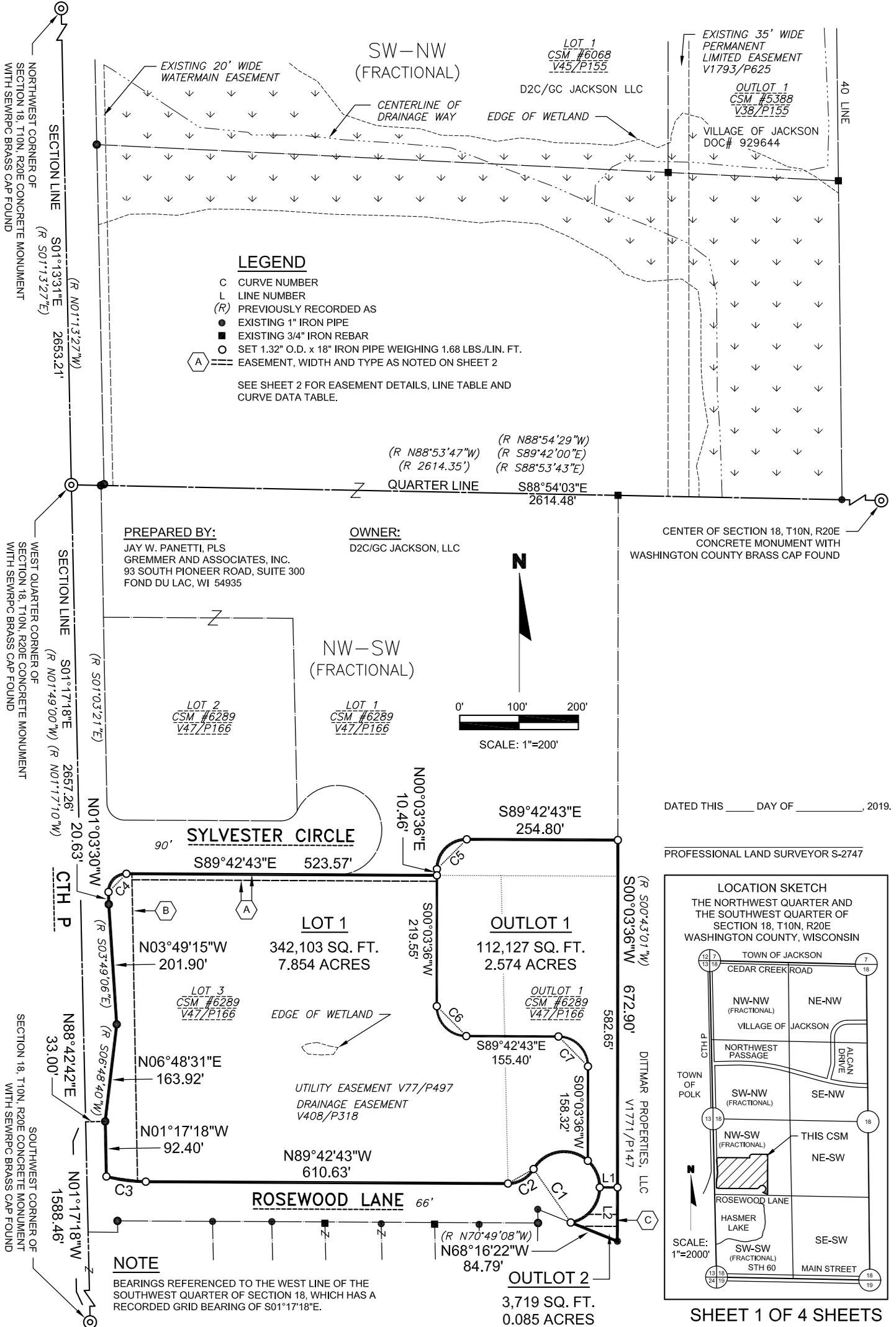
Notes

Impact Statement – Premier Rosewood Jackson Multi-Family Development

Premier Rosewood Jackson is proposing to construct a 72-unit multifamily development on parcel 008700G in the Village of Jackson. The development will contain market rate apartments with an office building that will generally be operated between the hours of 8:00 a.m. to 5:00 p.m Monday through Friday. A 7' 7-1/4" monument sign will be constructed near the office with the name of the development and a contact number. The development will have three access driveways off Rosewood Lane with an exterior trash enclosure and mailroom constructed on site to serve the development's residents. The development will be serviced by a sanitary sewer and watermain placed in utility easements that will discharge to the Village's sewer and watermain on Rosewood Lane. The storm water from the development will be treated for peak discharge and water quality by a regional wet detention pond before discharging to the Village's storm sewer on Rosewood Lane. There will also be 76 surface parking stalls within the development and 72 covered parking stalls for a total of 148 stalls. There will be no recreational vehicles parked on site and the calculated vehicle trip generations is 6.63 trips per day per unit which equates to 477.36 trips per day for the entire development at 100% occupancy. As built Rosewood Lane is capable of handling the vehicular traffic associated with this development and those properties along Rosewood Lane. In addition, Rosewood Lane directly connects to a County Trunk Highway, which was just reconstructed with turn lanes. The construction of the development is projected to begin in July of 2019 with first building occupancy in July of 2020, 7th building occupancy in January of 2021 and final restoration in July of 2021.

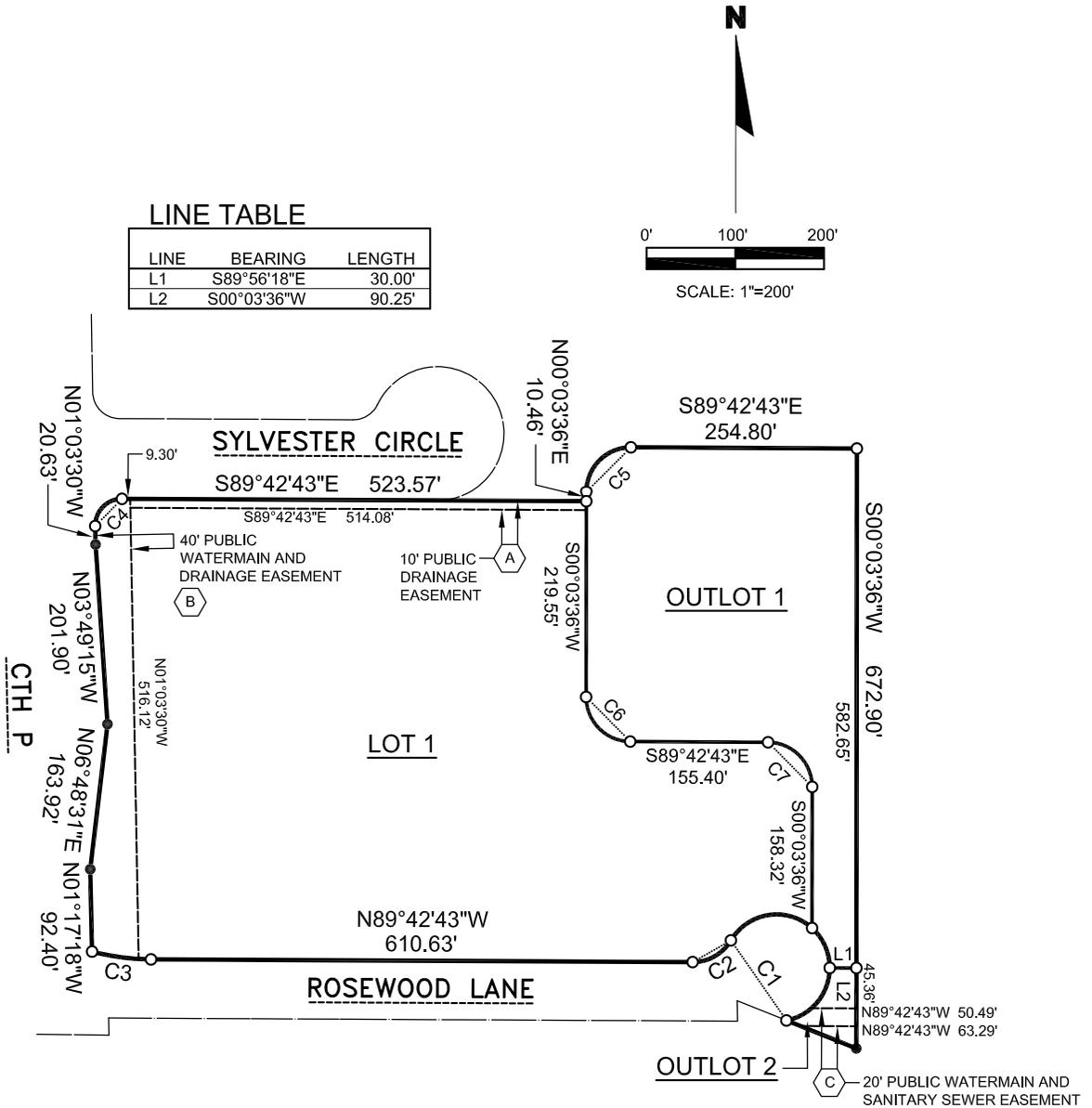
CERTIFIED SURVEY MAP NO. _____

A REDIVISION OF LOT 3, OUTLOT 1, AND PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 6289, VOLUME 47, PAGE 166, BEING PART OF THE FRACTIONAL NW1/4-SW1/4 OF SECTION 18, T10N, R20E, VILLAGE OF JACKSON, COUNTY OF WASHINGTON, STATE OF WISCONSIN



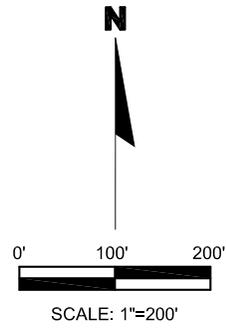
CERTIFIED SURVEY MAP NO. _____

A REDIVISION OF LOT 3, OUTLOT 1, AND PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 6289, VOLUME 47, PAGE 166, BEING PART OF THE FRACTIONAL NW1/4-SW1/4 OF SECTION 18, T10N, R20E, VILLAGE OF JACKSON, COUNTY OF WASHINGTON, STATE OF WISCONSIN



LINE TABLE

LINE	BEARING	LENGTH
L1	S89°56'18"E	30.00'
L2	S00°03'36"W	90.25'



CURVE DATA TABLE

CURVE	LOT	RADIUS	CENTRAL ANGLE	ARC LENGTH	CHORD LENGTH	CHORD BEARING	BK TANGENT BEARING	AH TANGENT BEARING
C1	LOT 1	60.00'	228°24'33"	239.19'	109.45'	N34°54'15"W	N79°18'01"E	S30°53'29"W
	OUTLOT 1	60.00'	100°58'45"	105.74'	92.58'	S81°22'51"W		
	OUTLOT 2	60.00'	48°11'28"	50.47'	48.99'	N24°02'02"W		
		60.00'	79°14'20"	82.98'	76.52'	N39°40'52"E		
C2		50.00'	59°23'48"	51.83'	49.54'	S60°35'23"W	S30°53'29"W	N89°42'43"W
C3		267.00'	14°24'43"	67.16'	66.99'	N82°30'22"W	N89°42'43"W	N75°18'01"W
C4		30.00'	91°20'47"	47.83'	42.92'	N44°36'53"E	N01°03'30"W	S89°42'43"E
C5		50.00'	90°13'41"	78.74'	70.85'	N45°10'26"E	N89°42'43"W	S00°03'36"W
C6		50.00'	89°46'19"	78.34'	70.57'	N44°49'34"W	S00°03'36"W	S89°42'43"E
C7		50.00'	89°46'19"	78.34'	70.57'	S44°49'34"E	S89°42'43"E	S00°03'36"W

CERTIFIED SURVEY MAP NO. _____

A REDIVISION OF LOT 3, OUTLOT 1, AND PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 6289, VOLUME 47, PAGE 166, BEING PART OF THE FRACTIONAL NW1/4-SW1/4 OF SECTION 18, T10N, R20E, VILLAGE OF JACKSON, COUNTY OF WASHINGTON, STATE OF WISCONSIN

SURVEYOR'S CERTIFICATE

I, Jay W. Panetti, Professional Land Surveyor, hereby certify:

That at the direction of James G. Blise, agent for D2C/GC Jackson, LLC, I have surveyed, divided, and mapped the following described parcel of land:

All of Lot 3, all of Outlot 1, and part of Lot 1 of Certified Survey Map No. 6289, as recorded in Volume 47 on Page 166 of Certified Survey Maps for Washington County as Document No. 1216871, being a part of the Fractional Northwest Quarter of the Southwest Quarter of Section 18, Township 10 North, Range 20 East, Village of Jackson, County of Washington, State of Wisconsin, bounded and described as follows:

Commencing at the southwest corner of Section 18, T10N, R20E;
thence N01°17'18"W, along the west line of the Southwest Quarter of said Section 18, 1588.46 feet;
thence N88°42'42"E, 33.00 feet to the existing easterly right-of-way line of CTH P and the point of beginning;
thence N06°48'31"E, along the existing easterly right-of-way line of CTH P, 163.92 feet;
thence N03°49'15"W, along the existing easterly right-of-way line of CTH P, 201.90 feet;
thence N01°03'30"W, along the existing easterly right-of-way line of CTH P, 20.63 feet;
thence northeasterly along the existing southerly right-of-way line of Sylvester Circle, along the arc of a curve to the right, having a radius of 30.00 feet, whose long chord bears N44°36'53"E 42.92 feet;
thence S89°42'43"E, along the existing southerly right-of-way line of Sylvester Circle and the northerly line of Lot 3 of Certified Survey Map No. 6289, 523.57 feet;
thence N00°03'36"E, 10.46 feet;
thence northeasterly along the arc of a curve to the right, having a radius of 50.00 feet, whose long chord bears N45°10'26"E 70.85 feet;
thence S89°42'43"E, 254.80 feet to the easterly line of Lot 1 of Certified Survey Map No. 6289;
thence S00°03'36"W, 672.90 feet to the southeast corner of Outlot 1 of said Certified Survey Map No. 6289;
thence N68°16'22"W, along the southerly line of said Outlot 1, 84.79 feet to the existing easterly right-of-way line of Rosewood Lane;
thence northerly along the existing easterly right-of-way line of Rosewood Lane, along the arc of a curve to the left, having a radius of 60.00 feet, whose long chord bears N34°54'15"W 109.45 feet;
thence southwesterly along the existing northerly right-of-way line of Rosewood Lane, along the arc of a curve to the right, having a radius of 50.00 feet, whose long chord bears S60°35'23"W 49.54 feet;
thence N89°42'43"W, along the existing northerly right-of-way line of Rosewood Lane, 610.63 feet;
thence westerly along the existing northerly right-of-way line of Rosewood Lane, along the arc of a curve to the right, having a radius of 267.00 feet, whose long chord bears N82°30'22"W 66.99 feet, to the existing easterly right-of-way line of CTH P;
thence N01°17'18"W, along the existing easterly right-of-way line of CTH P, 92.40 feet to the point of beginning.

Said parcel contains 10.513 acres, more or less. Parcel subject to easements, restrictions and reservations in use or of record.

That this Certified Survey Map is a correct representation of the exterior boundaries of the land surveyed and the division thereof made.

That I have fully complied with the provisions of Chapter 236.34 of the Wisconsin Statutes and the Land Division and Subdivision Ordinance of the Village of Jackson, in surveying, dividing, and mapping the same.

Dated this _____ day of _____, 2019.

Jay W. Panetti
Professional Land Surveyor S-2747

This instrument prepared by:
Jay W. Panetti, PLS
Gremmer & Associates, Inc.
93 South Pioneer Road, Suite 300
Fond du Lac, WI 54935
(920) 924-5720

VILLAGE OF JACKSON PLANNING COMMISSION APPROVAL

Approved by the Planning Commission of the Village of Jackson on this _____ day of _____, 2019.

Chairperson - Michael E. Schwab

VILLAGE OF JACKSON VILLAGE BOARD APPROVAL

Approved by the Village Board of the Village of Jackson on this _____ day of _____, 2019.

Village President - Michael E. Schwab

Village Administrator - John M. Walther

CERTIFIED SURVEY MAP NO. _____

A REDIVISION OF LOT 3, OUTLOT 1, AND PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 6289, VOLUME 47, PAGE 166, BEING PART OF THE FRACTIONAL NW1/4-SW1/4 OF SECTION 18, T10N, R20E, VILLAGE OF JACKSON, COUNTY OF WASHINGTON, STATE OF WISCONSIN

CORPORATE OWNER'S CERTIFICATE

D2C/GC Jackson, LLC, a corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, does hereby certify that said corporation caused the land shown and described on this Certified Survey Map to be surveyed, divided, and mapped and easements dedicated as represented on this Certified Survey Map.

D2C/GC Jackson, LLC, does further certify that this Certified Survey Map is required by s.235.10 or s.236.12 to be submitted to the following for approval or objection:

Village of Jackson Planning Commission
Village of Jackson Village Board

IN WITNESS WHEREOF, the said D2C/GC Jackson, LLC, has caused these presents to be signed by GenCap Jackson Industrial, LLC and JB/MB Jackson, LLC, its members, at Jackson, Wisconsin, and its corporate seal to be hereunto affixed on this _____ day of _____, 2019.

In presence of:

D2C/GC Jackson, LLC
Corporate Name

GenCap Jackson Industrial, LLC
Member

JB/MB Jackson, LLC
Member

James G. Blise

State of Wisconsin)
Washington County) SS

Personally came before me this _____ day of _____, 2019, _____, of the above named corporation, to me known to be the person who executed the foregoing instrument, and to be known to be such member of said corporation, and acknowledged that they executed the foregoing instrument as such officer as the deed of said corporation, by its authority.

Notary Public, State of Wisconsin

My commission expires

CONSENT OF CORPORATE MORTGAGEE

Landmark Credit Union, a corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, mortgagee of the above described land, does hereby consent to the surveying, dividing, and mapping of the land and dedication of the easements described on this Certified Survey Map, and does hereby consent to the above certificate of D2C/GC Jackson, LLC, owner.

In witness whereof, the said Landmark Credit Union has caused these presents to be signed by Adam Newman, its Senior Vice-President of Business Lending, and countersigned by _____, its _____, at _____, Wisconsin, and its corporate seal to be hereunto affixed this _____ day of _____, 2019.

In the presence of:

Landmark Credit Union

Adam Newman
Senior Vice-President
of Business Lending

(countersign)

Date

State of Wisconsin)
_____ County) SS

Personally came before me this _____ day of _____, 2019, _____, President, and _____, Cashier of the above named corporation, to me known to be the persons who executed the foregoing instrument, and to me known to be such President and Cashier of said corporation, and acknowledged that they executed the foregoing instrument as such officers as the deed of said corporation, by its authority.

Notary Public, State of Wisconsin

My commission expires

200' Buffer Addresses

Dittmar Properties, LLC.

PO Box 301
Jackson, WI 53037

Roland G Krug, Lynn Krug

17979 SE 115th Circle
Summerfield, FL 34491

Debra S Schneider

3745 Cty Hwy NN
West Bend, WI 53095

Sharon E Schumacher, Betty J

N170W21785 Rosewood Lane
Jackson, WI 53037

Andrew J Tinlin, Rebecca R Tinlin

N170W21801 Rosewood Lane
Jackson, WI 53037

Barbara A Carbine

N170W21805 Rosewood Lane
Jackson, WI 53037

D2C/GC Jackson, LLC.

6938 North Santa Monica Blvd
Fox Point, WI 53217

Sheryl A Heppe, Jay A Heppe

3963 Mayfield Road
Jackson, WI 53037

Aurora Medical Group

3000 West Montana Avenue
Milwaukee, WI 53215





COMMITMENT FOR TITLE INSURANCE

Issued By

FIRST AMERICAN TITLE INSURANCE COMPANY

NOTICE

IMPORTANT-READ CAREFULLY: THIS COMMITMENT IS AN OFFER TO ISSUE ONE OR MORE TITLE INSURANCE POLICIES. ALL CLAIMS OR REMEDIES SOUGHT AGAINST THE COMPANY INVOLVING THE CONTENT OF THIS COMMITMENT OR THE POLICY MUST BE BASED SOLELY IN CONTRACT.

THIS COMMITMENT IS NOT AN ABSTRACT OF TITLE, REPORT OF THE CONDITION OF TITLE, LEGAL OPINION, OPINION OF TITLE, OR OTHER REPRESENTATION OF THE STATUS OF TITLE. THE PROCEDURES USED BY THE COMPANY TO DETERMINE INSURABILITY OF THE TITLE, INCLUDING ANY SEARCH AND EXAMINATION, ARE PROPRIETARY TO THE COMPANY, WERE PERFORMED SOLELY FOR THE BENEFIT OF THE COMPANY, AND CREATE NO EXTRACTIONAL LIABILITY TO ANY PERSON, INCLUDING A PROPOSED INSURED.

THE COMPANY'S OBLIGATION UNDER THIS COMMITMENT IS TO ISSUE A POLICY TO A PROPOSED INSURED IDENTIFIED IN SCHEDULE A IN ACCORDANCE WITH THE TERMS AND PROVISIONS OF THIS COMMITMENT. THE COMPANY HAS NO LIABILITY OR OBLIGATION INVOLVING THE CONTENT OF THIS COMMITMENT TO ANY OTHER PERSON.

COMMITMENT TO ISSUE POLICY

Subject to the Notice; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions; and the Commitment Conditions, **First American Title Insurance Company**, a Nebraska Corporation (the "Company"), commits to issue the Policy according to the terms and provisions of this Commitment. This Commitment is effective as of the Commitment Date shown in Schedule A for each Policy described in Schedule A, only when the Company has entered in Schedule A both the specified dollar amount as the Proposed Policy Amount and the name of the Proposed Insured.

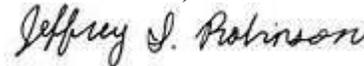
If all of the Schedule B, Part I-Requirements have not been met within six months after the Commitment Date, this Commitment terminates and the Company's liability and obligation end.

First American Title Insurance Company

Countersigned
Dominion Title & Exchange Services, LLC



Dennis J. Gilmore, President



Jeffrey S. Robinson, Secretary

This page is only a part of a 2016 ALTA® Commitment for Title Insurance. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; and Schedule B, Part II-Exceptions.

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COMMITMENT FOR TITLE INSURANCE

Issued by

First American Title Insurance Company

By its Agent:

Dominion Title & Exchange Services, LLC
3000 Riverside Drive, Suite 130, Green Bay, Wisconsin 54301
920-593-7922

Transaction Identification Data for reference only.

Title Officer:	Jill Calvert	Title No.:	DM0002778
Escrow Officer:	Carolyn Toigo	Revision No.:	1
Property Address:	Vacant Land CTH P & Rosewood Lane,	Loan No.:	

SCHEDULE A

1. Commitment Date: **April 26, 2019, 7:00 am**
2. Policy to be issued:
 - (a) 2006 ALTA® Owner's Policy

Proposed Insured: **Premier Rosewood Jackson, LLC, a Wisconsin limited liability company**

Proposed Policy Amount: **\$700,000.00**
 - (b) 2006 ALTA® Loan Policy

Proposed Insured: **Lender with contractual obligation under a loan agreement with the Proposed Insured for the Owner's Policy**
Proposed Policy Amount: **\$700,000.00 - not to exceed**
3. The estate or interest in the land described or referred to in this Commitment is **Fee Simple**.
4. The Title is, at the Commitment Date, vested in:
D2C/GC Jackson, LLC, a Wisconsin limited liability company
5. The Land is described as follows:

See Exhibit "A" attached hereto and by this reference made a part hereof

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EXHIBIT "A"

The land referred to herein is described as follows:

Lot _____ of Certified Survey Map No. _____, recorded in the Washington County Registry on _____, 2019, in Volume _____ of Certified Survey Maps, Page _____, as Doc. No. _____, said map being a redivision of Lots 1, 2, 3, Outlot 1 and vacated Sylvester Circle of Certified Survey Map No. 6289, Vol. 47, Pg. 166, being part of the Fractional SW1/4 of the NW1/4 and part of the Fractional NW1/4 of the SW1/4 of Section 18, Township 10 North, Range 20 East, in the Village of Jackson, Washington County, Wisconsin.

Tax Parcel No. V3 008700G (Lot 3 of CSM 6289) and V3 008700H (Outlot 1 of CSM 6289)

Property Address: CTY HWY P/Rosewood Lane, Jackson, WI 53037 (for informational purposes only)

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COMMITMENT FOR TITLE INSURANCE

Issued by

First American Title Insurance Company
By its Agent:
Dominion Title & Exchange Services, LLC
3000 Riverside Drive, Suite 130, Green Bay, Wisconsin 54301
920-593-7922

SCHEDULE B Requirements

All of the following Requirements must be met:

1. The Proposed Insured must notify the Company in writing of the name of any party not referred to in this Commitment who will obtain an interest in the Land or who will make a loan on the Land. The Company may then make additional Requirements or Exceptions.
2. Pay the agreed amount for the estate or interest to be insured.
3. Pay the premiums, fees, and charges for the Policy to the Company.
4. Documents satisfactory to the Company that convey the Title or create the Mortgage to be insured, or both, must be properly authorized, executed, delivered, and recorded in the Public Records.
5. **Properly record that certain proposed Certified Survey Map in the Washington County Register of Deeds office, which redivides Lots 1, 2, 3, Outlot 1 and vacated Sylvester Circle of Certified Survey Map No. 6289, Vol. 47, Pg. 166, Doc. No. 1216871.**
6. **Special Warranty Deed from D2C/GC Jackson, LLC, a Wisconsin limited liability company, to Premier Rosewood Jackson, LLC, a Wisconsin limited liability company.**
7. **Mortgage from Premier Rosewood Jackson, LLC, a Wisconsin limited liability company, to Lender with contractual obligation under a loan agreement with the Proposed Insured for the Owner's Policy, in an amount not to exceed \$700,000.00.**

NOTE: If the above mortgage is for new construction, said mortgage must include the following language on its face:

"This is a Construction Mortgage as defined under Sections 409.334 and 706.11 (1m) of the Wisconsin Statutes."

8. **This company must be provided with a fully executed Owner's Affidavit as to Liens and Possessions.**

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Schedule B Requirements (continued)

- 9. This company must be provided a copy of the operating agreement for D2C/GC Jackson, LLC and Premier Rosewood Jackson, LLC, which sets forth the parties designated to execute documents on behalf of D2C/GC Jackson, LLC and Premier Rosewood Jackson, LLC.**

- 10. This company must be provided with a letter of no special assessments and paid tax receipt(s) for the year 2018.**

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COMMITMENT FOR TITLE INSURANCE

Issued by

First American Title Insurance Company

By its Agent:

Dominion Title & Exchange Services, LLC

3000 Riverside Drive, Suite 130, Green Bay, Wisconsin 54301

920-593-7922

SCHEDULE B, PART II

Exceptions

THIS COMMITMENT DOES NOT REPUBLISH ANY COVENANT, CONDITION, RESTRICTION, OR LIMITATION CONTAINED IN ANY DOCUMENT REFERRED TO IN THIS COMMITMENT TO THE EXTENT THAT THE SPECIFIC COVENANT, CONDITION, RESTRICTION, OR LIMITATION VIOLATES STATE OR FEDERAL LAW BASED ON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, GENDER IDENTITY, HANDICAP, FAMILIAL STATUS, OR NATIONAL ORIGIN.

The Policy will not insure against loss or damage resulting from the terms and provisions of any lease or easement identified in Schedule A, and will include the following Exceptions unless cleared to the satisfaction of the Company:

1. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or by making inquiry of persons in possession of the land.
2. Easements, claims of easements or encumbrances that are not shown by the Public Records.
3. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the title including discrepancies, conflict in boundary lines, shortages in area, or any other facts that would be disclosed by an accurate and complete land survey of the Land, and that are not shown in the Public Records.
4. Any lien, or right to a lien, for services, labor or material theretofore or hereafter furnished, imposed by law and not shown in the Public Records.
5. Defects, liens, encumbrances, adverse claims, or other matters, if any, created, first appearing in the Public Records or attaching subsequent to the effective date hereof but prior to the date of the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.
6. The lien of the General Real Estate Taxes for the year 2019, and thereafter.

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Schedule B Part II Exceptions (continued)

7. The lien of any special assessments, taxes or charges.
8. **Real Estate taxes, general and special, for the year 2019 and subsequent years not yet due and payable. NOTE: The 2018 taxes are paid as follows:
Parcel No. V3 008700G - \$1,049.93, which consists of \$1,105.73 in general tax, less \$55.80 for first dollar credit.
Parcel No. V3 008700H - \$0.00**
9. **Restrictions, notes, easements, building setback lines and other matters as may be shown on the recorded plat/certified survey map of the subject property.**
10. **Public or private rights in such portion of the subject premises as may be presently used, laid out or dedicated in any manner whatsoever, for street, highway and/or alley purposes.**
11. **Future charges or penalties which may be assessed by virtue of conversion of land use.**
12. **Rights of entrance to, maintenance, construction or repair of any utility structures, improvements or services which may be under the surface of the portion of the Insured Land lying within vacated Sylvester Circle.**
13. **Tax Incremental District #4 Development Agreement recorded as Doc. No. 1079782; and Amended and Restated Tax Incremental District #4 Development Agreement recorded as Doc. No. 1206081.**
14. **Terms and provisions of Easement to Wisconsin Gas and Electric Company recorded as Doc. No. 113438.**
15. **Terms and provisions of Drainage Easement recorded as Doc. No. 282571.**
16. **Terms and provisions Easement to Wisconsin Telephone Company recorded as Doc. No. 110472.**
17. **Terms and provisions Easement reserved in Warranty Deed recorded as Doc. No. 262128.**
18. **Terms and provisions Easement as set forth in Warranty Deed recorded as Doc. No. 312106.**
19. **Mortgage executed by D2C/GC Jackson, LLC to Landmark Credit Union, in the amount of \$3,907,500.00, dated 03/30/2018 and recorded 03/30/2018 as Doc. No. 1449142. (includes other property)**

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Schedule B Part II Exceptions (continued)

- 20. Assignment of Leases and Rents executed by D2C/GC Jackson, LLC to Landmark Credit Union, dated 03/30/2018 and recorded 03/30/2018 as Doc. No. 1449143. (includes other property)**
- 21. UCC Financing Statement naming D2C/GC Jackson, LLC as Debtor, and Landmark Credit Union as Secured Party, recorded 03/30/2018 as Doc. No. 1449144. (includes other property)**
- 22. Lis Pendens for Notice of Intent to Vacate Sylvester Circle recorded 04/24/2019, as Doc. No. 1470395.**

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COMMITMENT CONDITIONS

1. DEFINITIONS

- (a) "Knowledge" or "Known": Actual or imputed knowledge, but not constructive notice imparted by the Public Records.
- (b) "Land": The land described in Schedule A and affixed improvements that by law constitute real property. The term "Land" does not include any property beyond the lines of the area described in Schedule A, nor any right, title, interest, estate, or easement in abutting streets, roads, avenues, alleys, lanes, ways, or waterways, but this does not modify or limit the extent that a right of access to and from the Land is to be insured by the Policy.
- (c) "Mortgage": A mortgage, deed of trust, or other security instrument, including one evidenced by electronic means authorized by law.
- (d) "Policy": Each contract of title insurance, in a form adopted by the American Land Title Association, issued or to be issued by the Company pursuant to this Commitment.
- (e) "Proposed Insured": Each person identified in Schedule A as the Proposed Insured of each Policy to be issued pursuant to this Commitment.
- (f) "Proposed Policy Amount": Each dollar amount specified in Schedule A as the Proposed Policy Amount of each Policy to be issued pursuant to this Commitment.
- (g) "Public Records": Records established under state statutes at the Commitment Date for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without Knowledge.
- (h) "Title": The estate or interest described in Schedule A.

2. If all of the Schedule B, Part I-Requirements have not been met within the time period specified in the Commitment to Issue Policy, this Commitment terminates and the Company's liability and obligation end.

3. The Company's liability and obligation is limited by and this Commitment is not valid without:

- (a) the Notice;
- (b) the Commitment to Issue Policy;
- (c) the Commitment Conditions;
- (d) Schedule A;
- (e) Schedule B, Part I-Requirements; and
- (f) Schedule B, Part II-Exceptions; and
- (g) a counter-signature by the Company or its issuing agent that may be in electronic form.

4. COMPANY'S RIGHT TO AMEND

The Company may amend this Commitment at any time. If the Company amends this Commitment to add a defect, lien, encumbrance, adverse claim, or other matter recorded in the Public Records prior to the Commitment Date, any liability of the Company is limited by Commitment Condition 5. The Company shall not be liable for any other amendment to this Commitment.

5. LIMITATIONS OF LIABILITY

- (a) The Company's liability under Commitment Condition 4 is limited to the Proposed Insured's actual expense incurred in the interval between the Company's delivery to the Proposed Insured of the Commitment and the delivery of the amended Commitment, resulting from the Proposed Insured's good faith reliance to:
 - (i) comply with the Schedule B, Part I-Requirements;
 - (ii) eliminate, with the Company's written consent, any Schedule B, Part II-Exceptions; or
 - (iii) acquire the Title or create the Mortgage covered by this Commitment.
- (b) The Company shall not be liable under Commitment Condition 5(a) if the Proposed Insured requested the amendment or had Knowledge of the matter and did not notify the Company about it in writing.
- (c) The Company will only have liability under Commitment Condition 4 if the Proposed Insured would not have incurred the expense had the Commitment included the added matter when the Commitment was first delivered to the Proposed Insured.
- (d) The Company's liability shall not exceed the lesser of the Proposed Insured's actual expense incurred in good faith and described in Commitment Conditions 5(a)(i) through 5(a)(iii) or the Proposed Policy Amount.
- (e) The Company shall not be liable for the content of the Transaction Identification Data, if any.
- (f) In no event shall the Company be obligated to issue the Policy referred to in this Commitment unless all of the Schedule B, Part I-Requirements have been met to the satisfaction of the Company.
- (g) In any event, the Company's liability is limited by the terms and provisions of the Policy.

6. LIABILITY OF THE COMPANY MUST BE BASED ON THIS COMMITMENT

- (a) Only a Proposed Insured identified in Schedule A, and no other person, may make a claim under this Commitment.

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- (b) Any claim must be based in contract and must be restricted solely to the terms and provisions of this Commitment.
- (c) Until the Policy is issued, this Commitment, as last revised, is the exclusive and entire agreement between the parties with respect to the subject matter of this Commitment and supersedes all prior commitment negotiations, representations, and proposals of any kind, whether written or oral, express or implied, relating to the subject matter of this Commitment.
- (d) The deletion or modification of any Schedule B, Part II-Exception does not constitute an agreement or obligation to provide coverage beyond the terms and provisions of this Commitment or the Policy.
- (e) Any amendment or endorsement to this Commitment must be in writing and authenticated by a person authorized by the Company.
- (f) When the Policy is issued, all liability and obligation under this Commitment will end and the Company's only liability will be under the Policy.

7. IF THIS COMMITMENT HAS BEEN ISSUED BY AN ISSUING AGENT

The issuing agent is the Company's agent only for the limited purpose of issuing title insurance commitments and policies. The issuing agent is not the Company's agent for the purpose of providing closing or settlement services.

8. PRO-FORMA POLICY

The Company may provide, at the request of a Proposed Insured, a pro-forma policy illustrating the coverage that the Company may provide. A pro-forma policy neither reflects the status of Title at the time that the pro-forma policy is delivered to a Proposed Insured, nor is it a commitment to insure.

9. ARBITRATION

The Policy contains an arbitration clause. All arbitrable matters when the Proposed Policy Amount is \$2,000,000 or less shall be arbitrated at the option of either the Company or the Proposed Insured as the exclusive remedy of the parties. A Proposed Insured may review a copy of the arbitration rules at <http://www.alta.org/arbitration>.

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ENDORSEMENT

Attached to Policy No.: **DM0002778**

Issued by

FIRST AMERICAN TITLE INSURANCE COMPANY

Policies issued within 30 days from the commitment date hereof shall not contain as exceptions matters arising subsequent to the effective date of this commitment unless:

1. The Company discloses such matters prior to the closing to the person who applied for this commitment; or
2. The conveyance to the insured is by a grantor who does not warrant title; or
3. The proposed insured or his counsel fails to notify the Company of closing at least 72 hours prior to the closing; or
4. The grantor fails to provide to the Company a written affidavit certifying that he has not filed bankruptcy, received notice of any pending cause of action, permitted any lien or encumbrance to attach to the land, or made any other conveyance of the land since the effective date of the Company's commitment; or
5. The conveyance documents are not recorded in the county where the land is located, or made available to the Company in recordable form, within 72 hours of closing.

This endorsement is made a part of the Commitment and is subject to all of the terms and provisions thereof and of any prior endorsements thereto. Except to the extent expressly stated, it neither modifies any of the terms and provisions of the Commitment and any prior endorsements, nor does it extend the effective date of the Commitment and any prior endorsements, nor does it increase the face amount thereof.

**FIRST AMERICAN TITLE INSURANCE COMPANY, DOMINION
TITLE & EXCHANGE SERVICES, LLC, A DIVISION OF TITLE
MIDWEST, INC.**

BY:



Jill M. Calvert, Authorized Signatory

FACE BRICK OVER CONCRETE
BLOCK MASONRY PIER

DIMENSION STRING FOR LOCATION
OF REBARS IN CONCRETE BASE

25 1/4"x25 1/4"x2 1/4" SMOOTH
FLAT TOP CUT STONE CAP
W/ HAMMERED EDGES

3 PIECES AT +-33" BY
13" WIDE x 2 1/4" TH. SMOOTH
FLAT TOP CUT STONE CAP
W/ HAMMERED EDGES

FACE BRICK OVER CONCRETE
BLOCK MASONRY PIER

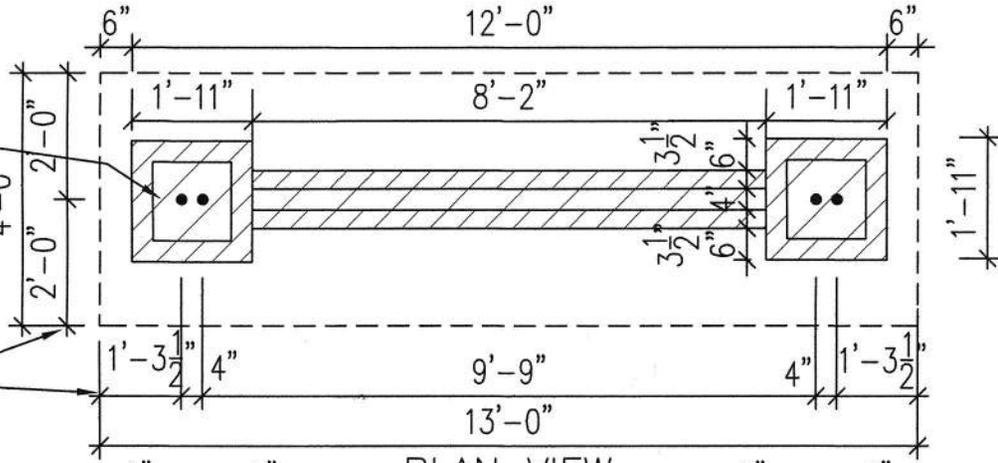
+-72" LG. x 48" WIDE OVAL
PAINTED SIGN PROVIDED BY
PREMIER REAL ESTATE MANAGEMENT
INSTALLED BY NICOLET LUMBER

FACE BRICK TO WRAP AROUND SIGN
W/ 1 1/4" REVEAL

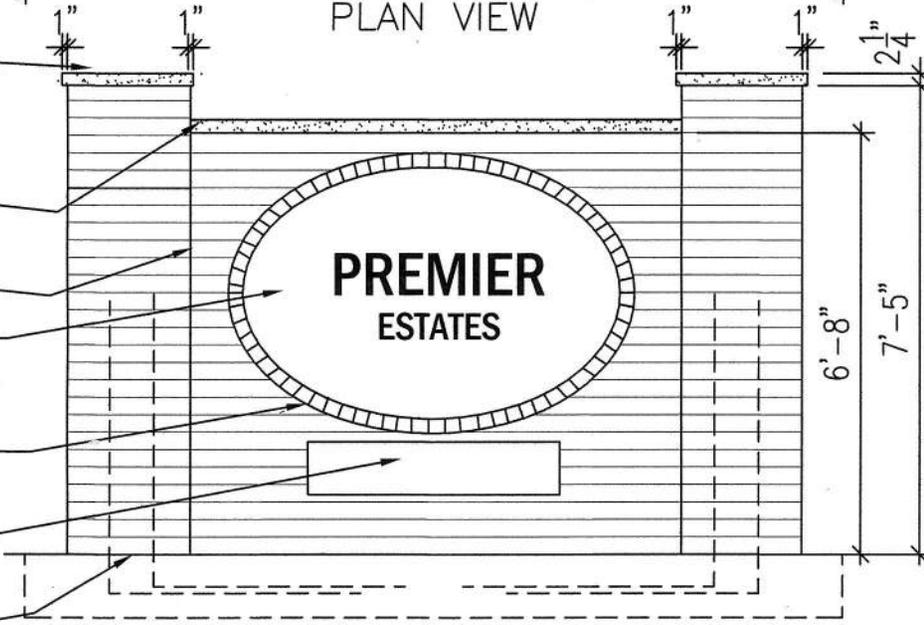
SURFACE APPLIED PHONE NUMBER PANEL
PAINTED SIGN PROVIDED BY
PREMIER REAL ESTATE MANAGEMENT
INSTALLED BY NICOLET LUMBER

GRADE LINE

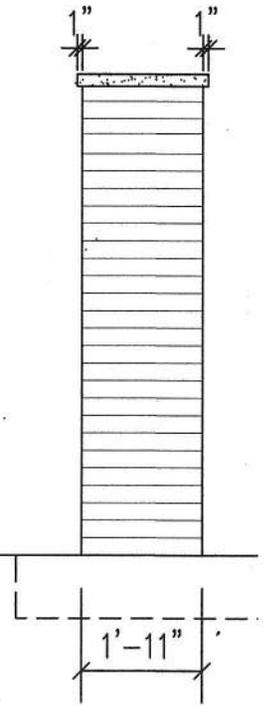
13'-0"x4'-0"x12" TH. CONC. SLAB W/ #4 BARS
12" O.C. EACH WAY - PROVIDE DOWELS
2- #4 DOWELS 48" ABOVE SLAB AT EACH PIER
4" APART CENTERED ON PIER



PLAN VIEW



FRONT ELEVATION



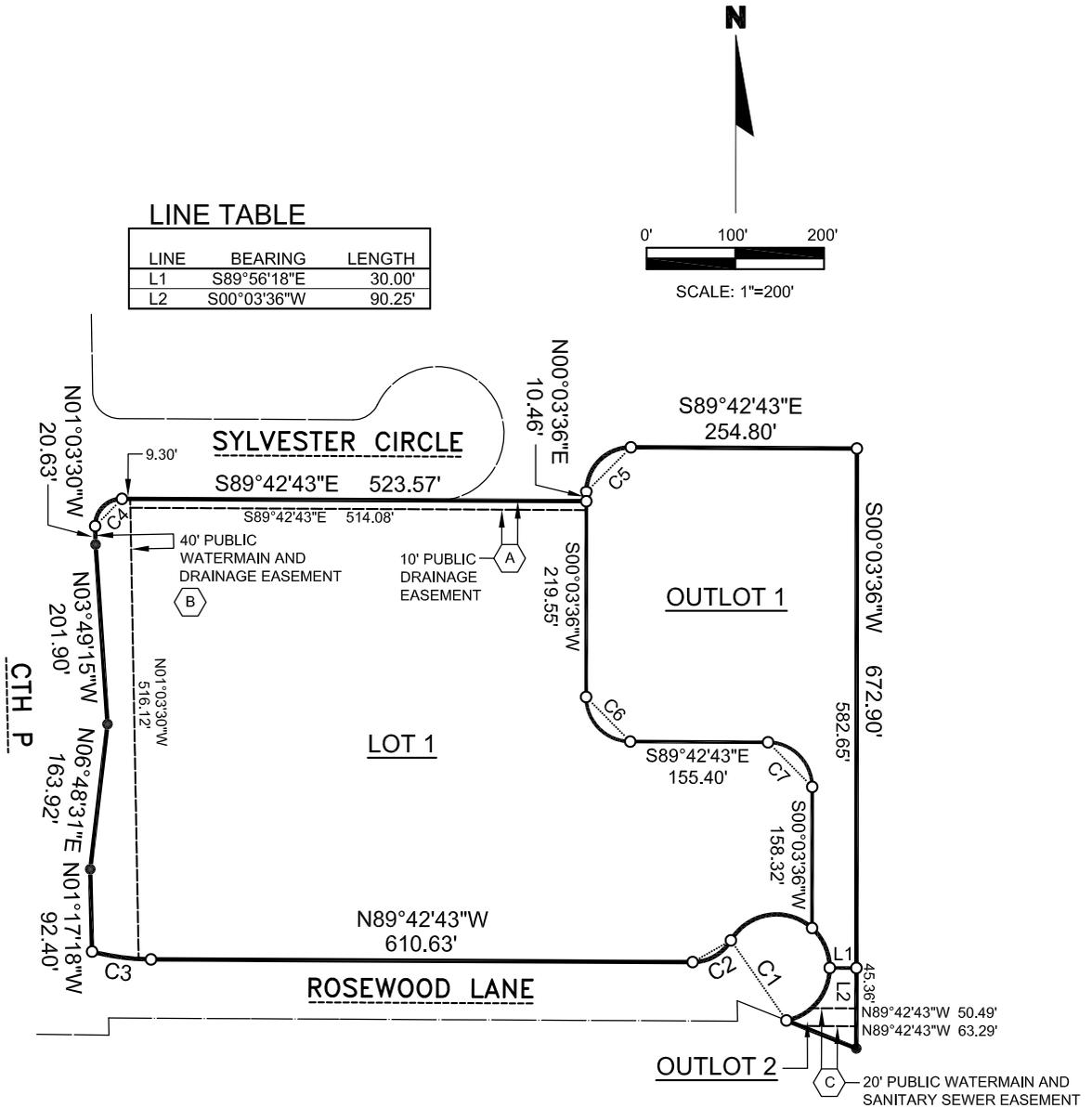
SIDE VIEW



L A R G E P R O J E C T S I G N

CERTIFIED SURVEY MAP NO. _____

A REDIVISION OF LOT 3, OUTLOT 1, AND PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 6289,
VOLUME 47, PAGE 166, BEING PART OF THE FRACTIONAL NW1/4-SW1/4 OF SECTION 18,
T10N, R20E, VILLAGE OF JACKSON, COUNTY OF WASHINGTON, STATE OF WISCONSIN



CURVE DATA TABLE

CURVE	LOT	RADIUS	CENTRAL ANGLE	ARC LENGTH	CHORD LENGTH	CHORD BEARING	BK TANGENT BEARING	AH TANGENT BEARING
C1	LOT 1	60.00'	228°24'33"	239.19'	109.45'	N34°54'15"W	N79°18'01"E	S30°53'29"W
	OUTLOT 1	60.00'	100°58'45"	105.74'	92.58'	S81°22'51"W		
	OUTLOT 2	60.00'	48°11'28"	50.47'	48.99'	N24°02'02"W		
			79°14'20"	82.98'	76.52'	N39°40'52"E		
C2		50.00'	59°23'48"	51.83'	49.54'	S60°35'23"W	S30°53'29"W	N89°42'43"W
C3		267.00'	14°24'43"	67.16'	66.99'	N82°30'22"W	N89°42'43"W	N75°18'01"W
C4		30.00'	91°20'47"	47.83'	42.92'	N44°36'53"E	N01°03'30"W	S89°42'43"E
C5		50.00'	90°13'41"	78.74'	70.85'	N45°10'26"E	N89°42'43"W	S00°03'36"W
C6		50.00'	89°46'19"	78.34'	70.57'	N44°49'34"W	S00°03'36"W	S89°42'43"E
C7		50.00'	89°46'19"	78.34'	70.57'	S44°49'34"E	S89°42'43"E	S00°03'36"W

CERTIFIED SURVEY MAP NO. _____

A REDIVISION OF LOT 3, OUTLOT 1, AND PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 6289, VOLUME 47, PAGE 166, BEING PART OF THE FRACTIONAL NW1/4-SW1/4 OF SECTION 18, T10N, R20E, VILLAGE OF JACKSON, COUNTY OF WASHINGTON, STATE OF WISCONSIN

SURVEYOR'S CERTIFICATE

I, Jay W. Panetti, Professional Land Surveyor, hereby certify:

That at the direction of James G. Blise, agent for D2C/GC Jackson, LLC, I have surveyed, divided, and mapped the following described parcel of land:

All of Lot 3, all of Outlot 1, and part of Lot 1 of Certified Survey Map No. 6289, as recorded in Volume 47 on Page 166 of Certified Survey Maps for Washington County as Document No. 1216871, being a part of the Fractional Northwest Quarter of the Southwest Quarter of Section 18, Township 10 North, Range 20 East, Village of Jackson, County of Washington, State of Wisconsin, bounded and described as follows:

Commencing at the southwest corner of Section 18, T10N, R20E;
thence N01°17'18"W, along the west line of the Southwest Quarter of said Section 18, 1588.46 feet;
thence N88°42'42"E, 33.00 feet to the existing easterly right-of-way line of CTH P and the point of beginning;
thence N06°48'31"E, along the existing easterly right-of-way line of CTH P, 163.92 feet;
thence N03°49'15"W, along the existing easterly right-of-way line of CTH P, 201.90 feet;
thence N01°03'30"W, along the existing easterly right-of-way line of CTH P, 20.63 feet;
thence northeasterly along the existing southerly right-of-way line of Sylvester Circle, along the arc of a curve to the right, having a radius of 30.00 feet, whose long chord bears N44°36'53"E 42.92 feet;
thence S89°42'43"E, along the existing southerly right-of-way line of Sylvester Circle and the northerly line of Lot 3 of Certified Survey Map No. 6289, 523.57 feet;
thence N00°03'36"E, 10.46 feet;
thence northeasterly along the arc of a curve to the right, having a radius of 50.00 feet, whose long chord bears N45°10'26"E 70.85 feet;
thence S89°42'43"E, 254.80 feet to the easterly line of Lot 1 of Certified Survey Map No. 6289;
thence S00°03'36"W, 672.90 feet to the southeast corner of Outlot 1 of said Certified Survey Map No. 6289;
thence N68°16'22"W, along the southerly line of said Outlot 1, 84.79 feet to the existing easterly right-of-way line of Rosewood Lane;
thence northerly along the existing easterly right-of-way line of Rosewood Lane, along the arc of a curve to the left, having a radius of 60.00 feet, whose long chord bears N34°54'15"W 109.45 feet;
thence southwesterly along the existing northerly right-of-way line of Rosewood Lane, along the arc of a curve to the right, having a radius of 50.00 feet, whose long chord bears S60°35'23"W 49.54 feet;
thence N89°42'43"W, along the existing northerly right-of-way line of Rosewood Lane, 610.63 feet;
thence westerly along the existing northerly right-of-way line of Rosewood Lane, along the arc of a curve to the right, having a radius of 267.00 feet, whose long chord bears N82°30'22"W 66.99 feet, to the existing easterly right-of-way line of CTH P;
thence N01°17'18"W, along the existing easterly right-of-way line of CTH P, 92.40 feet to the point of beginning.

Said parcel contains 10.513 acres, more or less. Parcel subject to easements, restrictions and reservations in use or of record.

That this Certified Survey Map is a correct representation of the exterior boundaries of the land surveyed and the division thereof made.

That I have fully complied with the provisions of Chapter 236.34 of the Wisconsin Statutes and the Land Division and Subdivision Ordinance of the Village of Jackson, in surveying, dividing, and mapping the same.

Dated this _____ day of _____, 2019.

Jay W. Panetti
Professional Land Surveyor S-2747

This instrument prepared by:
Jay W. Panetti, PLS
Gremmer & Associates, Inc.
93 South Pioneer Road, Suite 300
Fond du Lac, WI 54935
(920) 924-5720

VILLAGE OF JACKSON PLANNING COMMISSION APPROVAL

Approved by the Planning Commission of the Village of Jackson on this _____ day of _____, 2019.

Chairperson - Michael E. Schwab

VILLAGE OF JACKSON VILLAGE BOARD APPROVAL

Approved by the Village Board of the Village of Jackson on this _____ day of _____, 2019.

Village President - Michael E. Schwab

Village Administrator - John M. Walther

CERTIFIED SURVEY MAP NO. _____

A REDIVISION OF LOT 3, OUTLOT 1, AND PART OF LOT 1 OF CERTIFIED SURVEY MAP NO. 6289, VOLUME 47, PAGE 166, BEING PART OF THE FRACTIONAL NW1/4-SW1/4 OF SECTION 18, T10N, R20E, VILLAGE OF JACKSON, COUNTY OF WASHINGTON, STATE OF WISCONSIN

CORPORATE OWNER'S CERTIFICATE

D2C/GC Jackson, LLC, a corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, does hereby certify that said corporation caused the land shown and described on this Certified Survey Map to be surveyed, divided, and mapped and easements dedicated as represented on this Certified Survey Map.

D2C/GC Jackson, LLC, does further certify that this Certified Survey Map is required by s.235.10 or s.236.12 to be submitted to the following for approval or objection:

Village of Jackson Planning Commission
Village of Jackson Village Board

IN WITNESS WHEREOF, the said D2C/GC Jackson, LLC, has caused these presents to be signed by GenCap Jackson Industrial, LLC and JB/MB Jackson, LLC, its members, at Jackson, Wisconsin, and its corporate seal to be hereunto affixed on this _____ day of _____, 2019.

In presence of:

D2C/GC Jackson, LLC
Corporate Name

GenCap Jackson Industrial, LLC
Member

JB/MB Jackson, LLC
Member

James G. Blise

State of Wisconsin)
Washington County) SS

Personally came before me this _____ day of _____, 2019, _____, of the above named corporation, to me known to be the person who executed the foregoing instrument, and to be known to be such member of said corporation, and acknowledged that they executed the foregoing instrument as such officer as the deed of said corporation, by its authority.

Notary Public, State of Wisconsin

My commission expires

CONSENT OF CORPORATE MORTGAGEE

Landmark Credit Union, a corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, mortgagee of the above described land, does hereby consent to the surveying, dividing, and mapping of the land and dedication of the easements described on this Certified Survey Map, and does hereby consent to the above certificate of D2C/GC Jackson, LLC, owner.

In witness whereof, the said Landmark Credit Union has caused these presents to be signed by Adam Newman, its Senior Vice-President of Business Lending, and countersigned by _____, its _____, at _____, Wisconsin, and its corporate seal to be hereunto affixed this _____ day of _____, 2019.

In the presence of:

Landmark Credit Union

Adam Newman
Senior Vice-President
of Business Lending

(countersign)

Date

State of Wisconsin)
_____ County) SS

Personally came before me this _____ day of _____, 2019, _____, President, and _____, Cashier of the above named corporation, to me known to be the persons who executed the foregoing instrument, and to me known to be such President and Cashier of said corporation, and acknowledged that they executed the foregoing instrument as such officers as the deed of said corporation, by its authority.

Notary Public, State of Wisconsin

My commission expires

STAFF REVIEW COMMENTS
Plan Commission Meeting – Meeting Date, May 23, 2019

1. Planned Unit Development – Springfield Sign/BEK & Associates-Culver’s – Free Standing Sign

Building Inspection

- A building permit for the sign will be required.
- The proposed sign meets the maximum height restriction of 20-feet. (Ord. 48-301(4))
- The sign would meet the requirements for a Conditional Use permit as outlined in Ordinance Section 48-302.

Public Works/Engineering

- Recommend denying the proposal and request redeveloping a sign that replaces the existing ground sign that allows all the entities to be on a free-standing sign with an electronic reader board.

Police Department

- No comments.

Fire Department

- No comments.

Administrative/Planning

- The Village Code does not allow for the additional sign. The adjacent landowner appears willing to accommodate researching options for a sign (or replacement sign) on his property.

2. Concept Plan – Morning Meadows – Single Family Subdivision

Building Inspection

- A permit is required for any proposed signage not exempted by Ordinance Section 48-300.

Public Works/Engineering

- The rural street design (ditches and culverts for driveways) is a great fit for the subdivision. The subdivision is remote from all other entities of the Village.
- Each lot will be required to have a separate storm lateral for sump pump discharge.
- The subdivision was first proposed in 2004 and requested sanitary sewer and water be installed to service the development. The utilities were installed along Sherman Road and

STAFF REVIEW COMMENTS

Plan Commission Meeting – Meeting Date, May 23, 2019

into the Town of Polk with no subdivision development. The development will be required to pay the special assessment associated with the installation.

Police Department

- No comments.

Fire Department

Sec. 18-113. - Spacing of fire hydrants on public streets.

Fire hydrants on public streets shall conform to the following placement requirements:

- (1) Hydrants on single-family zoned residential streets shall be spaced no more than 500 feet apart.
- (2) Hydrants on multifamily, business, commercial and industrial zoned streets shall be spaced no more than 250 feet apart.
- (3) Hydrants spacing on streets zoned PUD shall be determined by the fire chief or authorized representative using the spacing requirements of either subsection (1) or (2) of this section, as appropriate.

Administrative/Planning

- The property will be required to be annexed to the Village from the town of Jackson in order to receive municipal water and sewer. This subdivision had initially been planned for, fifteen years ago, with the resultant installation of Village water and sewer westward along Sherman Road. The proposed rural cross-section is indeed appropriate for this stream-bisected subdivision in that the development would be considerably remote from the Village proper. To the north stands the Hwy P Streambank Protection Area owned by the Wisconsin Department of Natural Resources; and to the east sits a longtime landscaping business in the town of Jackson, not to become part of the Village for the foreseeable future.
- Recommend Approval.

3. Planned Unit Development – Dittmar Realty/Maplewood Farms – Preliminary Plat - Single Family Subdivision

Building Inspection

- A permit is required for any proposed signage not exempted by Ordinance Section 48-300.

Public Works/Engineering

- The development agreement is being developed along with staff reviewing the utility plans.
- The DNR has reviewed the property and found no wetlands on the property.

STAFF REVIEW COMMENTS
Plan Commission Meeting – Meeting Date, May 23, 2019

Police Department

- No comments.

Fire Department

Sec. 18-113. - Spacing of fire hydrants on public streets.

Fire hydrants on public streets shall conform to the following placement requirements:

- (1) Hydrants on single-family zoned residential streets shall be spaced no more than 500 feet apart.
- (2) Hydrants on multifamily, business, commercial and industrial zoned streets shall be spaced no more than 250 feet apart.
- (3) Hydrants spacing on streets zoned PUD shall be determined by the fire chief or authorized representative using the spacing requirements of either subsection (1) or (2) of this section, as appropriate.

Administrative/Planning

- No additional comments

4. Planned Unit Development – Premier Rosewood Jackson LLC – Rosewood Lane Multi-Family Development

Building Inspection

- A permit is required for any proposed signage not exempted by Ordinance Section 48-300.
- Buildings will require NFPA 13-R fire sprinkler systems.

Public Works/Engineering

- The Jackson Water Utility is concerned with all the hydrants the Jackson Fire Department is proposing. The utility was being proposed to be public with easements granted to the Jackson Water Utility. Options could be making the system private or rotate the buildings that the Fire Department connection is within the required 150 ft of a hydrant.

Police Department

- No comments.

Fire Department

STAFF REVIEW COMMENTS

Plan Commission Meeting – Meeting Date, May 23, 2019

- This development has only 3 hydrants to support the complex. We have sent a copy to the developer of where we would like the hydrant located. There is a total of 5 hydrants and I have attached the copy to this document. Hydrants must be within 150 ft of the FDC. These apartments will be sprinklered. It is a prerequisite that the FDC connection be placed on the front of the building (nearest the parking lot).

Sec. 18-135. - Additional standards applicable to sprinkler systems.

- (a) 30-degree, five storz connection shall be installed as the fire department connection. The connection point shall be between three feet and four feet above the finished property grade. The fire department connection shall be located within 150 feet of a hydrant.
- (b) Any additional square footage added to a sprinkler structure will require the installation of a horn/strobe combination alarm signaling device. The device shall be located above the fire department connection inside and outside of the building. This device shall be used in place of the water flow alarm apparatus.

Administrative/Planning

- No additional comments.

5. Certified Survey Map – Premier Rosewood Jackson LLC – Rosewood Lane Multi-Family Development

Building Inspection

- No comments.

Public Works/Engineering

- Due to the timeframe of discontinuing public way of Sylvester Circle process, a new CSM for a separate parcel of the multi-family development needed to be created.

Police Department

- No comments.

Fire Department

- No comments.

Administrative/Planning

- No additional comments.

Chapter 18

FIRE PREVENTION AND PROTECTION*

DIVISION 2. HYDRANTS

Sec. 18-113. Spacing of fire hydrants on public streets.

Fire hydrants on public streets shall conform to the following placement requirements:

- (1) Hydrants on single-family zoned residential streets shall be spaced no more than 500 feet apart.
- (2) Hydrants on multifamily, business, commercial and industrial zoned streets shall be spaced no more than 250 feet apart.
- (3) Hydrants spacing on streets zoned PUD shall be determined by the fire chief or authorized representative using the spacing requirements of either subsection (1) or (2) of this section, as appropriate.

DIVISION 3. FIRE PROTECTION SYSTEMS

Sec. 18-135. Additional standards applicable to sprinkler systems.

- (a) A 30-degree, five storz connection shall be installed as the fire department connection. The connection point shall be between three feet and four feet above the finished property grade. The fire department connection shall be located within 150 feet of a hydrant.

