

RALPH G. MASTROMONACO, P.E., P.C.

Consulting Engineers

13 Dove Court, Croton-on-Hudson, New York 10520

Tel: (914) 271-4762 Fax: (914) 271-2820

Civil / Site / Environmental

www.rgmpepc.com

Jeff Faiella, Chairman and Members
Village of Buchanan Planning Board
Municipal Building
236 Tate Avenue
Buchanan, NY 10511

November 30, 2022

Hand Delivered

Re: Village Square Residences and Commercial Development
3095 Albany Post Road
Village of Buchanan, NY

Dear Mr. Chairman and Members:

Enclosed please find ten (10) copies of the following information:

1. Village of Buchanan Application to the Planning Board dated November 21, 2022,
2. Escrow Agreement between Carbone Brothers and the Village of Buchanan,
3. Copy of Deed to property, Control Number 592703346,
4. The Village Square Residence and Commercial Development Overview materials dated November 22, 2022,
5. Plan entitled, Wetland Restoration / Enhancement Plan dated October 28, 2022 by Tim Miller Associates,
6. Sets of drawings by this office, as follows:
 - a. Site Plan Village Square Residential/Commercial for Carbone Brothers 3095, LLC dated November 23, 2022, sheet 1 of 5 sheets,
 - b. Utility Plan Village Square Residential/Commercial for Carbone Brothers 3095, LLC dated November 23, 2022 sheet 2 of 5 sheets,
 - c. Erosion Control Plan Village Square Residential/Commercial for Carbone Brothers 3095, LLC dated November 23, 2022 sheet 3 of 5 sheets,
 - d. Road Profiles / Sections Village Square Residential/Commercial for Carbone Brothers 3095, LLC dated November 23, 2022 sheet 4 of 5 sheets,
 - e. Details / Notes Village Square Residential/Commercial for Carbone Brothers 3095, LLC dated November 23, 2022 sheet 5 of 5 sheets,

The above materials are submitted for Special Permit and Site Plan review by the Planning Board.

Please call if you have any questions or require additional information.

Sincerely,



Ralph G. Mastromonaco, PE

Cc: A. Carbone, J. Thompson, RA, S. Marino, PWS

VILLAGE OF BUCHANAN
236 TATE AVE., BUCHANAN, NY 10511
(914) 737-1033

APPLICATION TO THE PLANNING BOARD

I. IDENTIFICATION OF APPLICANT

APPLICANT NAME: CARBONE BROTHERS 3095 LLC PHONE: (914) 804-7041
ADDRESS: 2043 ALBANY POST ROAD CROTON, NEW YORK 10520
APPLICANT EMAIL: CARBONEKITCAB@OPTONLINE.NET 3095ALBANYPOSTROAD@GMAIL.COM
ARCHITECT: JOSEPH G THOMPSON ARCHITECT ENGINEER: RALPH G. MASTROMONACO, PE

II. IDENTIFICATION OF PROPERTY

TAX MAP SECTION: 43.20 BLOCK: 2 LOT: 6
LOCATION OF AFFECTED PREMISES: 3095 ALBANY POST ROAD BUCHANAN, NY 10511
ZONING DISTRICT: C-1 / C-2 OVERLAY (AS PER 211-10 COL. #3) AREA SQ/FT: 212,147 +/-

III. DESCRIPTION OF PROPOSED ACTIVITY/OCCUPANCY

RESIDENTIAL X COMMERCIAL X OTHER _____

IV. TO THE PLANNING BOARD:

APPLICATION IS HEREBY MADE FOR (CHECK ALL THAT APPLY):

- X SITE DEVELOPMENT PLAN APPROVAL
 X SPECIAL PERMIT PURSUANT TO PART 211-10 COL. #3 OF THE VILLAGE CODE
____ SUBDIVISION APPROVAL
____ OTHER (EXPLAIN): _____

V. ADDITIONAL INFORMATION

HAVE PREVIOUS APPLICATIONS TO THE PLANNING OR ZONING BOARD BEEN FILED IN
REGARD TO THESE PREMISES? YES _____ NO X

HAS VIOLATION BEEN SERVED RELATIVE TO THIS MATTER? YES _____ NO X

VI. ATTACHED HERETO AND MADE PART OF THIS APPLICATION, I SUBMIT TEN (10) COPIES OF THE FOLLOWING (CHECK ALL THAT APPLY):

- X LONG ENVIRONMENTAL ASSESSMENT FORM
____ SKETCH PLAT
 X PROPOSED SITE DEVELOPMENT PLAN
 X PROPERTY SURVEY
 X FLOOR PLANS WITH ALL NECESSARY MEASUREMENTS
 X COPY OF DEED
____ SIGNED CONSENT BY OWNER IF APPLICANT IS NOT THE OWNER
 X OTHER (EXPLAIN): NARRATIVE OF THE PROJECT, WETLAND & STORMWATER REPORT

VII. APPROVAL FOR SUBMISSION

SIGNATURE OF APPLICANT _____ DATE 11/21/2022

VIII. RECEIPT

DATE RECEIVED BY CLERK _____ FEE RECEIVED \$ _____
RECEIPT NO. _____
ESCROW RECEIVED _____

NOTE: ALL APPLICANTS ARE RESPONSIBLE FOR DEPOSIT OF ESCROW AND THE REIMBURSEMENT OF COSTS INCURRED BY THE VILLAGE FOR ENGINEERING, ENVIRONMENTAL, LEGAL OR OTHER TECHNICAL CONSULTANTS WHERE DEEMED NECESSARY BY THE VILLAGE BOARDS AS PER LOCAL LAWS.

AFFIDAVIT OF APPLICANT

STATE OF NEW YORK)
COUNTY OF WESTCHESTER) SS:
VILLAGE OF BUCHANAN)

I HEREBY DEPOSE AND SAY THAT ALL THE ABOVE STATEMENTS AND THE STATEMENTS CONTAINED IN THE PAPERS SUBMITTED HEREWITH ARE TRUE.

CARBONE BROTHERS 3095 LLC


by **ANTHONY CARBONE, PRESIDENT**
2043 ALBANY POST ROAD CROTON, NY 10520

Notary Public, State of New York
No. 05CA6218590

Qualified in Westchester County
Commission Expires March 8, 2026

SWORN TO ME THIS

21 DAY OF Nov, 2022

Maria Carbone

NOTARY PUBLIC

COUNTY OF WESTCHESTER

AFFIDAVIT OF OWNERSHIP

STATE OF NEW YORK)
COUNTY OF WESTCHESTER) SS:
VILLAGE OF BUCHANAN)

ANTHONY CARBONE, BEING DULY SWORN, DEPOSES AND SAYS THAT HIS PLACE OF BUSINESS IS AT **2043 ALBANY POST ROAD**, IN **CROTON**, IN THE COUNTY OF **WESTCHESTER**, IN THE STATE OF **NEW YORK** AND THAT **CARBONE BROTHERS 3095 LLC** IS THE OWNER IN FEE OF ALL THAT CERTAIN LOT, PIECE OR PARCEL OF LAND SITUATED, LYING AND BEING IN THE VILLAGE OF BUCHANAN AFORESAID AND DESIGNATED AS TAX MAP **SECTION 43.20 BLOCK 2 LOT 6** OF THE BUCHANAN TAX MAP AND THAT HE HEREBY AUTHORIZES IN HIS BEHALF THAT THE STATEMENTS OF FACT CONTAINED IN SAID APPLICATION ARE TRUE.

CARBONE BROTHERS 3095 LLC


by **ANTHONY CARBONE, PRESIDENT**
2043 ALBANY POST ROAD CROTON, NY 10520

MARIA CARBONE

Notary Public, State of New York
No. 05CA6218590

Qualified in Westchester County
Commission Expires March 8, 2026

SWORN TO ME THIS

21 DAY OF Nov, 2022

Maria Carbone

NOTARY PUBLIC

COUNTY OF WESTCHESTER

NOTICE

TEN (10) COPIES OF THE APPLICATION AND ANY ATTACHEMENTS SHALL BE SUBMITTED TO THE CLERK'S OFFICE BEFORE THIS MATTER WILL BE PLACED ON THE PLANNING BOARD AGENDA. APPLICANTS MUST CONTACT VILLAGE ENGINEER GEORGE POMMER BEFORE THE MEETING AT: HAHN ENGINEERING, 1689 Route 22, BREWSTER, NY 10509 (845) 279-2220

OFFICE USE ONLY

CAL NO. _____

ESCROW AGREEMENT

This agreement is made, this ____ day of _____, 2022, between **CARBONE BROTHERS 3095 LLC**, with its office at **2043 ALBANY POST ROAD CROTON, NY 10520**, hereinafter referred to as the "Applicant", and the Planning Board [X], Zoning Board [], Village Board of Trustees [] or Pre-submission Conference [] of the Village of Buchanan, hereinafter referred to as the "Village".

Whereas the Applicant is proceeding under Chapters _____ and _____ of the Code of the Village of Buchanan, seeking _____ or wishing to have a Pre-submission Conference in the Village of Buchanan, and

Whereas, pursuant to Chapter 90 of the Code of the Village of Buchanan, the Board desires to establish an escrow account to cover the necessary and reasonable costs incurred by the approving authority (Board) for technical, legal, engineering, and other professional review of the application, whereby work to be performed by professionals employed by the Board will be paid for by the Applicant, as required under the provisions of the Code of the Village of the Village of Buchanan and pursuant to Local Law 11 of 2011, and

Whereas, both parties feel that it is appropriate to put this understanding in writing, the following as been agreed to by both parties:

1. The Board authorizes its professional staff to meet, study, review, and inspect all plans, documents, statements, improvements, applications and provisions made by the Applicant relating to the above-named project and to report to the Board all conclusions and findings, either orally or in writing as appropriate. The Applicant agrees to pay all professional fees incurred by the Village for the performance of the duties outlined above.
2. The Applicant and the Village, in accordance with the provisions of this Agreement, hereby create an escrow account, to be established with the Village Treasurer.
3. Applicant shall pay the Village; such sums as are required by the Treasurer or Administrator of the Village of Buchanan. Execution of this Agreement by the Treasurer or Administrator and the Applicant acknowledges receipt of the funds required upon application.
4. If, during the existence of this escrow agreement, the funds in escrow are insufficient to cover fees for professional services as described above during the evaluation of an application, Applicant shall, within 14 days of written notice of the insufficiency, deposit such additional sums with the Village as may be required by the Village Treasurer or Administrator to cover the expenses incurred. The notice of insufficiency shall be sent by the Village Treasurer or Administrator to the Applicant or his/her agent and shall include a record of all receipts and disbursements to date and the amount necessary to be posted, which may be up to 100% of the original amount, and which shall be paid prior to any additional professional services and/or by any next step in the approval process, including prior to the next scheduled meetings and/or Board meeting. If said additional funds are not deposited, all professional services will cease and the applicant will not be heard at any Board meeting.

5. The professionals employed by the Board shall submit vouchers to the Village, indicating the type and kind of services rendered, by Applicant name, and the time expended for each Applicant.

6. The Treasurer shall review each voucher submitted by each professional to determine whether the services were rendered as indicated. All vouchers shall be processed in accordance with established policies and procedures of the Village.

7. The Applicant shall retain the right of inspection of the escrow records, which may be arranged by contacting the Village Treasurer.

8. The Applicant may object to any payment from the escrow fund by giving three days' notice to the Treasurer and to any professional involved. The Applicant may appeal to the Board. The Board shall then review the payment made, utilizing the standards of reasonable cost and satisfactory performance of the task assigned. If the Board involved in the process agree that the fees were reasonable and satisfactory when compared with the task assigned, payment will be made to the consultant/professional involved.

9. Any and all interest payments resulting from or arising from the deposits of escrow funds shall revert to the Village, as compensation for services rendered in connection with the administration of this escrow agreement.

10. In the event that the amounts posted are more than required, the excess funds shall be returned to the Applicant within sixty (60) days after the project is completed, denied, or withdrawn.

11. In the event that the applicant is a corporation, partnership, limited liability company, or other than a person, this Escrow Agreement, and its terms, including payment of all invoices, vouchers, and escrow deposits is hereby personally guaranteed as indicated by the signature below.

APPLICANT: CARBONE BROTHERS 3095 LLC DATE: _____

Print Name: CARBONE BROTHERS 3095 LLC

Address: 2043 ALBANY POST ROAD CROTON, NY 10520

Phone: (914) 804 - 7041

Email: CARBONEKITCAB@OPTONLINE.NET
3095ALBANYPOSTROAD@GMAIL.COM

APPLICANT PERSONAL GUARANTEE: _____ DATE _____

Print Name: ANTHONY CARBONE, PRESIDENT
CARBONE BROTHERS 3095 LLC

TREASURER: _____ DATE: _____

The Office of the Westchester County Clerk: This page is part of the instrument; the County Clerk will rely on the information provided on this page for purposes of indexing this instrument. To the best of submitter's knowledge, the information contained on this Recording and Endorsement Cover Page is consistent with the information contained in the attached document.



592703346DED0023

Westchester County Recording & Endorsement Page

Submitter Information

Name:	RG AGENCY	Phone:	914-739-2700
Address 1:	1000 NORTH DIVISION STREET	Fax:	914-739-2808
Address 2:	PO BOX 431	Email:	ANGEATWORK@HOTMAIL.COM
City/State/Zip:	PEEKSKILL NY 10566	Reference for Submitter:	RGW 21956

Document Details

Control Number:	592703346	Document Type:	Deed (DED)
Package ID:	2019092700183001001	Document Page Count:	5
		Total Page Count:	6

Parties

Additional Parties on Continuation page

1st PARTY

2nd PARTY

1:	ROMAN CATHOLIC CHURCH OF ST CHRISTOPHER & ST - Other	1:	CARBONE BROTHERS 3095 LLC - Other
2:		2:	

Property

Additional Properties on Continuation page

Street Address:	3095 ALBANY POST ROAD	Tax Designation:	43.20-2-6
City/Town:	CORTLANDT	Village:	BUCHANAN

Cross-References

Additional Cross-Refs on Continuation page

1:	2:	3:	4:
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Supporting Documents

1: RP-5217	2: TP-584
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Recording Fees

Statutory Recording Fee:	\$40.00
Page Fee:	\$30.00
Cross-Reference Fee:	\$0.00
Mortgage Affidavit Filing Fee:	\$0.00
RP-5217 Filing Fee:	\$250.00
TP-584 Filing Fee:	\$5.00
Total Recording Fees Paid:	\$325.00

Mortgage Taxes

Document Date:	
Mortgage Amount:	
Basic:	\$0.00
Westchester:	\$0.00
Additional:	\$0.00
MTA:	\$0.00
Special:	\$0.00
Yonkers:	\$0.00
Total Mortgage Tax:	\$0.00

Transfer Taxes

Consideration:	\$305,000.00
Transfer Tax:	\$1,220.00
Mansion Tax:	\$0.00
Transfer Tax Number:	3631

Dwelling Type:	Exempt: <input type="checkbox"/>
Serial #:	

RECORDED IN THE OFFICE OF THE WESTCHESTER COUNTY CLERK



Recorded: 10/07/2019 at 04:07 PM
 Control Number: **592703346**
 Witness my hand and official seal

Timothy C. Idoni
Westchester County Clerk

Record and Return To

Pick-up at County Clerk's office

MALIA LAW LLC
1011 PARK STREET, SUITE 3

PEEKSKILL, NY 10566
Attn: GLEN MALIA, ESQ.

THIS INDENTURE, made this 2nd day of October, 2019

BETWEEN

ROMAN CATHOLIC CHURCH OF SAINT CHRISTOPHER AND SAINT PATRICK, successor by merger with **Roman Catholic Church of St. Christopher, Montrose, New York**, a New York religious corporation, having offices at 3094 Albany Post Road, Buchanan, New York 10511;

party of the first part, and

CARBONE BROTHERS 3095 LLC, a New York limited liability company, having offices at 2043 Albany Post Road, Croton, New York 10520;

party of the second part,

WITNESSETH, that the party of the first part, in consideration of Three Hundred Five Thousand and 00/100 (\$305,000.00) Dollars and other valuable consideration paid by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or successors and assigns of the party of the second part forever,

ALL that certain piece, plot or parcel of land situate, lying and being in the Village of Buchanan, Town of Cortlandt, County of Westchester, State of New York, more particularly bounded and described as set forth on Schedule A, annexed hereto and made a part hereof (the "Premises").

Being the same Premises conveyed to the party of the first part, by virtue of a deed from Helen Geis, individually and as Executrix under the Last Will and Testament of Charles J. Geis, deceased, which deed was dated January 30, 1967 and recorded on February 2, 1967 in Liber 6686 cp 696.

The Premises are being conveyed pursuant to that certain court order, issued by the Supreme Court of the State of New York, held in and for the County of Westchester, filed on August 7, 2019 under Index No. 61500/2019.

The Premises shall be conveyed subject to the following restrictive covenants:

(i) The party of the second part recognizes that the party of the first part is a religious corporation operated under the auspices of the Roman Catholic Church. The party of the second part accordingly recognizes and agrees that any violation of any of the covenants in clauses (ii) and (iii), and (iv) below would be seriously damaging and harmful to the reputation and standing of the party of the first part as such a religious corporation.

(ii) The party of the second part covenants that it shall not permit or conduct any obscene performances in violation of Article 235.0 of the New York Penal Law on the premises hereby conveyed or permit them to be used for any obscene or

pornographic purposes or activities including, without limitation, the sale, or distribution of any obscene or pornographic material. The terms "obscene", "material" and "performances" shall be defined for purposes of this covenant as they are defined in Section 235.0 of the New York Penal Law.

(iii) The party of the second part further covenants that it shall not use, permit or suffer the premises hereby conveyed to be used or occupied for the purpose of performing any abortions or euthanasia proceedings or providing any counseling or advice relating to abortions, birth control or euthanasia or place any signs or advertising on or about said premises that relate to abortions, birth control or euthanasia.

(iv) The covenants in (i) and (ii) and (iii) shall run with the land and shall bind the party of the second part and its successors and assigns, and any violation of any of the covenants shall entitle the party of the first part and its successors and assigns to seek an injunction in any court of competent jurisdiction in the State of New York enforcing said covenant or covenants, which shall be the sole right and remedy of the party of the first part in the case of any such violation and, for the avoidance of doubt, the party of the first part shall have no right of reversion of title in the case of any such violation.

TOGETHER with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above described premises to the center lines thereof;

TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises, including developmental rights, if any and air rights, if any, relating to said premises;

TO HAVE AND TO HOLD the premises herein granted unto the party of the second part, the heirs or successors and assigns of the party of the second part forever.

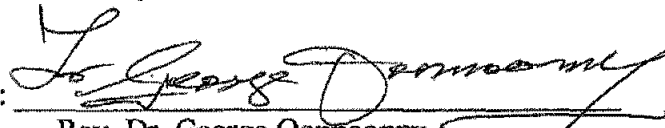
AND the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been encumbered in any way whatever, except as aforesaid.

AND the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose. The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the party of the first part has duly executed this deed the day and year first above written.

**ROMAN CATHOLIC CHURCH OF SAINT
CHRISTOPHER AND SAINT PATRICK,**
successor by merger with Roman Catholic Church
of St. Christopher, Montrose, New York

By: 
Rev. Dr. George Oonnoony
Pastor and Secretary

STATE OF NEW YORK)
) ss:
COUNTY OF WESTCHESTER)

On the 23 day of SEPTEMBER in the year 2019, before me, the undersigned, personally appeared **Rev. Dr. George Oonnoony**, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person on behalf of which the individual acted, executed the instrument.


Notary Public

ROBERT A. HEMSING
Notary Public, State of New York
No. 4957197
Qualified in Westchester County
Commission Expires Oct. 10, 2020

Title No. **RGW 21956**

Schedule A
(description)

All that certain piece, plot or parcel of land situate lying and being in the **VILLAGE OF BUCHANAN, TOWN OF CORTLANDT, COUNTY OF WESTCHESTER**, State of New York, bounded and described as follows:

BEGINNING at a point at the intersection of the northwesterly side of Lake Avenue with the northeasterly side of New York & Albany Post Road;

RUNNING THENCE along the northeasterly side of New York & Albany Post Road, the following courses and distances:

North 25° 19' 10" West 235.92 feet;

North 21° 22' 30" West 146.20 feet;

North 23° 25' 20" West 143.09 feet; and

North 10° 08' 20" West 3.00 feet to a pipe and lands formerly Vassily, now or formerly Paola Chacon-Paul (Control No. 561133451);

THENCE along said lands, the following courses and distances:

North 55° 34' 00" East 83.71 feet;

North 47° 34' 00" East 102.82 feet;

North 49° 09' 00" East 117.20 feet; and

North 48° 10' 00" East 95.44 feet to lands formerly The New York Central Railroad Company, now or formerly Consolidated Edison Company of New York, Inc. (Liber 5798 cp 23);

THENCE along said lands, the following courses and distances:

South 52° 41' 30" East 19.16 feet;

South 49° 01' 30" East 140.50 feet;

South 20° 11' 30" East 71.75 feet;

South 44° 11' 30" East 66.00 feet;

South 9° 26' 30" East 73.50 feet; and

South 32° 23' 30" West 118.00 feet to a wall which intersects the lands herein described and is the dividing line between lands now or formerly Consolidated Edison Company of New York, Inc. and lands formerly Peter Moretti, now or formerly The Board of Education of Central School District No. 3 (Liber 6314 cp 294);

THENCE along said lands, South 50° 12' 50" West 129.04 feet and South 25° 25' 50" East 180.00 feet to a pipe in the northwesterly side of Lake Avenue;

THENCE along the northwesterly side of Lake Avenue, South 64° 34' 10" West 77.74 feet and South 63° 14' 10" West 159.00 feet to the point or place of **BEGINNING**.

SECTION: 43.20
BLOCK: 2
LOT: 6
COUNTY: Westchester
STATE: New York
PREMISES: 3095 Albany Post Road
Buchanan, New York

**ROMAN CATHOLIC CHURCH OF
SAINT CHRISTOPHER AND SAINT PATRICK**
successor by merger with Roman Catholic Church of St. Christopher, Montrose, New York

to

CARBONE BROTHERS 3095 LLC

BARGAIN AND SALE DEED

RETURN BY MAIL TO:

Malia Law LLC
1011 Park Street, Suite 3
Peekskill, New York 10566
Attn: Glen Malia, Esq.

RECORDED AT REQUEST
OF RG AGENCY
PO BOX 431
PEEKSKILL, NY 10566
914-739-2700
RETURN BY MAIL TO

RHW 21956.

**Village Square Residences and Commercial Development
Village of Buchanan, NY**

November 22, 2022

Section 43.20 Block 2 Lot 6
3095 Albany Post Road
Buchanan, NY 10511

Owner:

Carbone Brothers 3095 LLC
2043 Albany Post Road
Croton-on-Hudson, NY 10520

Zone: C1 / C2 Overlay District
4.87 acres

Contents:

- (1) General Project Overview
- (2) Architectural Plans
- (3) Stormwater Report
- (4) Wetland Mitigation Report
- (5) Full Environmental Assessment

Village Square Residences and Commercial Development
Project Overview
November 22, 2022



The Village Square is composed of three (3) new multi-family residential apartment buildings and a free-standing commercial pad site at 3095 Albany Post Road in the Village of Buchanan.

The existing property at 3095 Albany Post Road is a visually prominent wooded lot at the corner of Albany Post and Lake Street and is located the gateway to the Village of Buchanan.

The overall design, scale and composition of the new buildings seek to visually compliment and be a positive addition to the Village nature and character of the surrounding neighborhood.

The proposed redevelopment of this property is to enhance the Village's active corridor by constructing new modern buildings, rented at market-rates that would serve to contribute to the ambiance of the current hamlet providing new high-quality housing and new locally based commercial services:

- Three (3) new seventeen (17) unit 5,840 SF footprint multi-family residential apartment buildings providing for a total of fifty-one (51) new units:
 - Buildings are a three-story design with access from the street and to the lower level to the rear parking area with the street-side visual impact mitigated by the drop in elevation at the rear.
 - All units are Two-Bedroom with layouts ranging in size from 930 SF – 1,100 SF.
 - Elevator Access
 - Protected by Fire Alarm and Suppression Systems
 - Multi-Purpose Community Rooms
 - Common tenant storage areas.
 - Common Laundry Rooms
 - Buildings shall be heated and cooled with high efficiency HVAC units.
- One new commercial pad site with Drive-thru.
- Streetscape with historic style street lamps, landscaping, sidewalks and street trees.
- All buildings interconnected and connected to adjacent properties with new sidewalks.
- Increase in aesthetic value that compliments the historic Village character.
- Increase to property value by modern construction.
- Convenient to bus lines and the Montrose railroad station will minimize traffic

Figure: Front Elevation of Single Building - Typical



Zoning Conformance C1 / C2 Overlay District – Special Permit Description Parts 1 and 2:

Chart: Schedule of Uses –Zoning Code – Chapter 211 Attachment 1 Part A

1	2	3
Districts	Uses Permitted by Right	Uses by Special Permit of the Planning Board or Board of Appeals
C-1/C-2 Overlay District	One- and two-bedroom multifamily apartment dwellings on parcels of land not less than 20,000 square feet, in back of or over a commercial establishment, provided that each dwelling unit contains a minimum of 750 square feet, with a maximum of 8 dwelling units per 40,000 square feet (prorated), that building height does not exceed 40 feet and 3 stories, subject to compliance with § 211-24.1. No more than 50% of the total floor area may be utilized for residential purposes. Notwithstanding the above, at the sole discretion of the Planning Board, a number of the dwellings not exceeding 20% of the total may be three-bedroom units.	<p>A. One- and two-bedroom multifamily apartment dwellings or two-family dwellings on parcels of land not less than 20,000 square feet, provided that each dwelling unit contains a minimum of 750 square feet, with a maximum of 12 dwelling units per 40,000 square feet (prorated), that building height does not exceed 40 feet and 3 stories, subject to compliance with § 211-24.1. Notwithstanding the above, at the sole discretion of the Planning Board, a number of the dwellings not exceeding 20% of the total may be three-bedroom units.</p> <p>B. Multifamily one- and two-bedroom townhouse dwellings or two-family dwellings on parcels of land not less than 20,000 square feet, provided that each dwelling unit contains a minimum of 750 square feet, with a maximum of 6 dwelling units per 40,000 square feet (prorated), that building height does not exceed 40 feet and 3 stories, subject to compliance with § 211-24.1. Notwithstanding the above, at the sole discretion of the Planning Board, a number of the dwellings not exceeding 20% of the total may be three-bedroom units.</p>

(1) As per Column 3 Part A the property of 212,147 square feet would allow 63 apartment units with a Special Permit, based on 12 units per each 40,000 square feet of land area – though only 51 are proposed.

As of Right in Column 2 of the chart, the Overlay rules in the zoning code would permit 42 units, consequently the application requests a Special Permit to allow the proposed 51 units, which is an addition of 9 units over the as-of-right number of units but less than the 63 units allowable by Special Permit. The benefit to the Village would be increased tax revenues from the 9 additional units.

(2) The underlying C-2 Zone requires that no more than 50% of the total area may be used for residential purposes.

- B. Dwelling units in back of or over a commercial establishment, provided that each dwelling unit contains a minimum of 750 square feet, with a maximum of four dwelling units per acre. No more than 50% of total floor area may be utilized for residential purposes.

The Special Permit is required to allow fully residential uses in the C1/C2 Overlay District so as to construct residential uses without vertically layering the uses above retail uses. This is done to maintain the privacy of the residential units and to reduce inherent conflicts with the commercial uses.

The small proposed Commercial plot is permitted by right in the underlying C2 zone. The commercial uses may be, generally; restaurants, pharmacies, funeral parlors, food stores, delicatessens, beauty shops and other retail uses as indicated on the zoning schedule.

General Information:

Population Commercial			
Location	Net Floor Area	Estimated Employee Rate per/1000 sf	Estimated Employees
Retail 1	2275	2	5

Population Residential			
Method (ref: CEQR 2014)			
Unit Type	Number	Estimated Occupancy	Estimated Population
2 Bedrooms	51	2.34	119
Total	51		119

Solid Waste Generation			
(ref: CEQR 2014)			
Type of Use	Population	Rate (lb/day)	Generated Waste (lb/day)
Residential	119	2.43	289
Type of Use	Employees	Rate (lb/week)	Generated Waste (lb/day)
Commercial	5	79	56
Total			345

The Village of Buchanan provides services for both residential and commercial waste and is expected to service the Village Square project. The weekly generation of solid waste would be about **1.2** tons per week.

Water Use / Sewage Generation		
Residential		
Population	gallons per capita/day	Water Demand
		(gallons per day)
119	100	11,900
Commercial		
Floor Area	Rate per Floor Area	Water Demand
		(gallons per day)
2275	0.1	227
Total		12,127

Sewage Systems:

The project will generate approximately 12,127 gallons of sewage per day, or an average of 8.5 gallons per minute. The peak hourly flow would be about 4 times that value or about 37 gallons per minute.

This flow is to be discharged to the 8" public sewer on the site. The hydraulic capacity of that sewer is between 1200 and 1900 gallons per minute. There are no other users upstream and the proposed sewer would appear to have more than enough capacity for the project.

The Village of Buchanan Wastewater Treatment Plant is the receiving sewage works. The plant presently receives an average daily flow of 0.3 million gallons per day (MGD). The Village Square would contribute an additional 0.012 million gallons per day. The capacity of the Plant, is 0.5 MGD and as such the flow from the project would not exceed the capacity of the plant nor impact the operation, being an increase of about 4 per cent.

Each building will connect to the existing sewer on the site by 6" service laterals. A small portion of the public sewer will be relocated away from the commercial pad.

Water Supply Services:

The water use of 12,127 gallons per day would come from the reputed 8" diameter water main bordering the site on Albany Post Road. The water main and hydrants are generally within the road shoulder. The water main would have spare capacity to handle the peak demand of 37 gallons per minute from the project.

The pressure in the system is regulated by Buchanan to 80 psi which would be adequate for the building height of 40 feet since the pressure at that height would be 60 psi which is more than adequate for residential and sprinkler use.

Electricity Use and Natural Gas:

Village Square will use electricity and natural gas from Con Edison. There is currently a moratorium on the use of new natural gas, however, the moratorium may be resolved by upcoming agreements between Con Edison and other suppliers. It is expected that the project will be able to use natural gas by the time of construction.

To increase efficiency, the building will contain zoned heating and cooling systems internal to each unit utilizing programmable thermostats. In addition, common areas and probably internal units will most likely use modern LED lighting to reduce electric demand. The windows and doors exposed to the exterior will be Energy Star rated double-paned glass to increase insulating ability.

Police / Emergency Medical Services / Fire Fighting Services

The Village Police Department patrols the proposed Village Square area. There are 6 members of the Police Department including the Chief. Given the proposed population at the project of 119 persons, we would expect an increase of from 2 to 4 offenses per year. Generally, the possible need for increased police personnel would be covered by the increases in revenue from the new taxes provided to the Village for the 51 new apartments and commercial space on the site. In addition, the NYS State Police office is located less than a mile south in Montrose and patrol the State Road bordering the site and environs.

Fire services are provided by the Village of Buchanan, Engine Company No. 1. There were 125 alarms in 2022 to date as compared to about 152 estimated alarms in 2021. The Fire station is less than one-half mile north of the site. The Buchanan Fire Department is an all-volunteer service. There is not expected to be a need for additional fire personnel due to the construction of Village Square. Access to the buildings are not affected by street wiring in this location.

The Emergency Medical Service (EMS) operates nearby at Kings Ferry Road and Albany Post Road. One may expect a slight increase in the number of emergency calls based upon the population increase of 119 persons.

Estimate of School Age Children

Based on the multiplier of 0.23 for two-bedroom units, times 51 units, the estimate of School Age Children would be **12** students. The project is in the Hendrick Hudson School District.

(Ref: Rutgers University, Center for Urban Policy Research, Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006. Total number of school age children in buildings with five or more units and highest assumed rents)

Traffic Generation:

At the peak hour of adjacent street traffic, the ITE manual estimates about 24 trips for the apartments. Based on a commercial coffee shop of 25 seats, the ITE estimates about 32 trips at the peak hour of adjacent street traffic. This would be a total of 56 trips during the peak hour.

Stormwater:

A Stormwater Report was prepared for the project. The resulting peak flows from the site will be controlled by a detention system that limits the outflows from the completed project to the existing conditions. As such, there should be no stormwater impacts as a result of the project.

Wetlands and Wetland Buffers:

The project will disturb approximately 0.4 acres of wetland. To mitigate any impacts, the applicant's wetland expert provided a wetland mitigation plan. To further mitigate any impacts, a large, new wetland will be created on the site in accordance with the NYS DEC Stormwater Design Manual. The description of these is prepared in detail on the Site Plans and Stormwater Report.

It is important to note that the new Stormwater Wetland has been designed to be the same area as the amount of wetland to be disturbed, being approximately 17,358 square feet.

Commercial Plot:

The Village Square, at the corner of Lake Street, incorporates a small commercial building of about 2,275 square feet and a related parking area. Parking is provided at 1 space per 250 square feet of commercial retail space.

Erosion Control:

During construction, the Contractor will be required to provide aggressive erosion control measures that protect the adjoining wetland and nearby Lake. A portion of the proposed Stormwater Wetland will be used as a sediment basin to settle solids from runoff.

Some external runoff will be directed around the site to avoid the exposed soil. Also, haybales and silt fences will be used throughout to further protect the on-site wetland and downstream Lake.

Project Team:**Joseph G. Thompson, Architect PLLC**

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10 North Street
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Village Square Residences
and
Commercial Development

at

3095 Albany Post Road

Village of Buchanan
Montrose Hamlet
Westchester County, New York

Stormwater Pollution Prevention Plan
(SWPPP)

November 21, 2022

Project: **Village Square Residences and
Commercial Development
Village of Buchanan, NY**

Scope: **Stormwater Report and SWPPP**

Date: **November 21, 2022**

Introduction:

The 4.87-acre, undeveloped, wooded site at 3095 Albany Post Road, is proposed for development for three (3) new apartment buildings and a small commercial plot. The project must follow the stormwater rules as a land development activity requiring conformance to the NYS Stormwater Design Manual and NYS General Permit. In addition, the project must conform to the Village's Stormwater Management Code, Chapter 211, condition C for disturbance between 1 and 5 acres.

Design Point #1 evaluates the existing condition as well as the proposed buildings, parking and the remaining wooded and impervious areas. This design point discharges to a minor water course that travels to an existing pond off the site.

For each storm studied the proposed stormwater control systems limits the peak flows to the current, undeveloped condition.

Methodology:

The overall watershed was determined from site inspections and NYS GIS topographical maps. The Runoff Curve Numbers were determined from Soil mapping of the Natural Resources Conservation Division in the web soil survey. The area of interest is principally a 'D' hydrologic grouping based on the soil mapping. There is an on-site wetland and an off-site wetland pond that affect the site, and the disturbance is to be mitigated by a Stormwater Wetland Pond (W-3), as noted in the NYS Stormwater Design Manual that is to be constructed on the site.

The Hydrocad computer software is used to compute runoff from the watershed and routings through the Stormwater Wetland to the outlet control structure.

The purpose of this analysis is also to ensure that peak flows after development do not exceed the peak flows that occur currently for a range of storms. This report analyzes the; 90% occurring storm, 1-yr, 2-yr, 5-yr, 10-yr, 25-yr, 50-yr and 100 year storm frequencies.

Figure: Site Plan – Three Apartment Buildings and One Commercial Plot

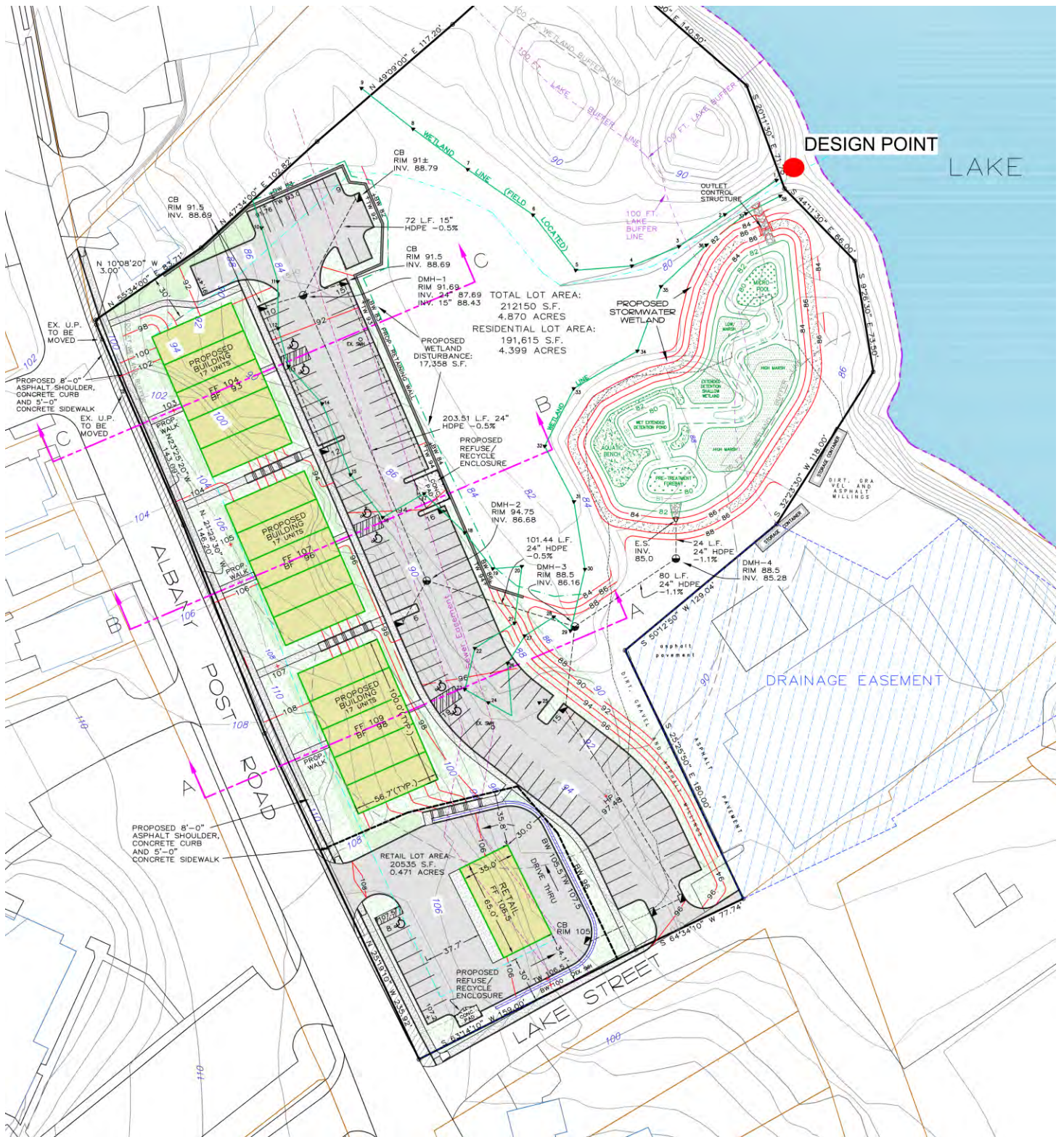


Figure: Watersheds to Design Point #1

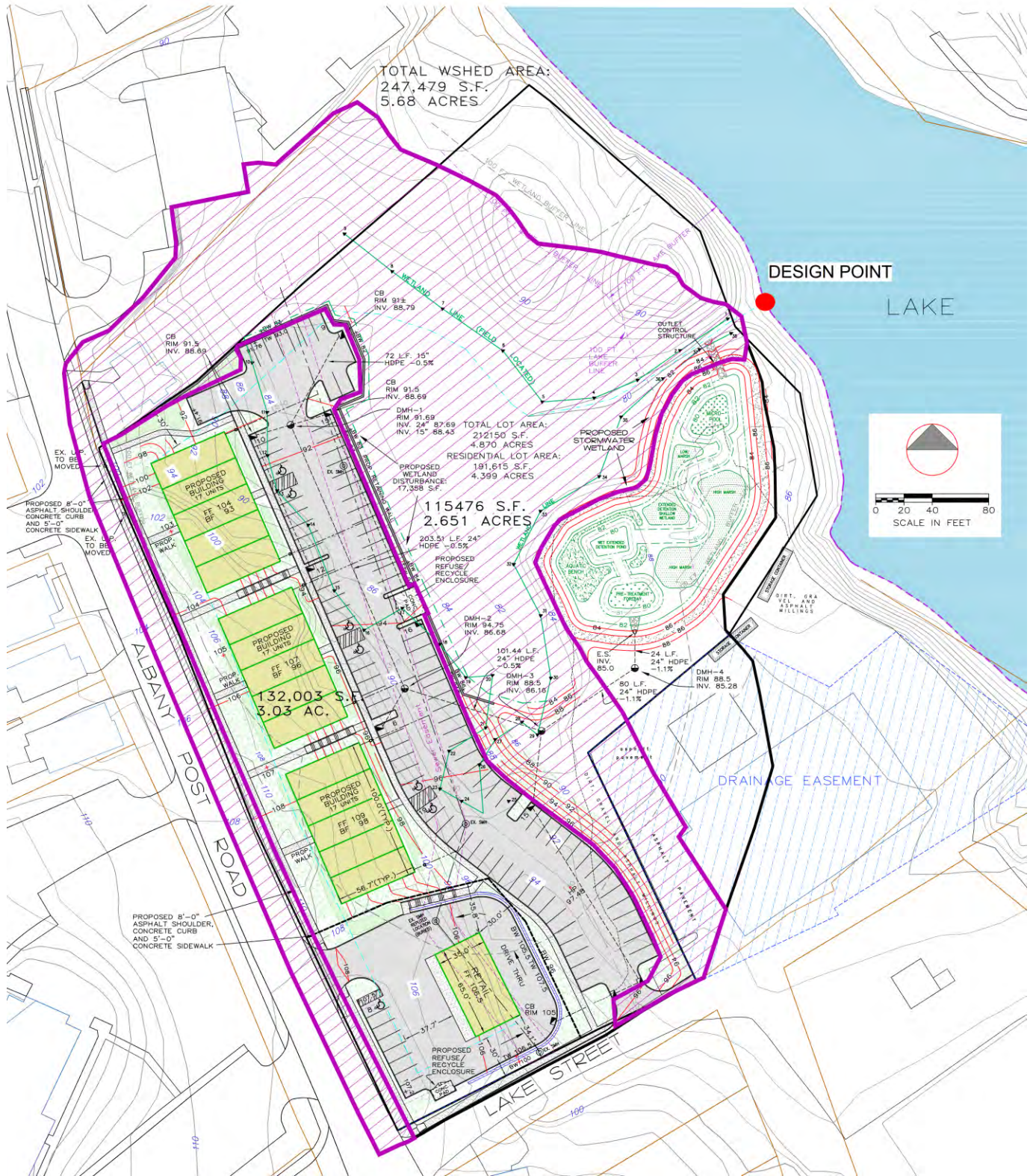


Table: Peak Flows at Design Point #1 Showing the Reduction in Final Flows

Storm (year)	Rainfall (in – 24 hr)	Existing Flow (cfs)	Final Flow (cfs)
100	9.24	32.5	31.0
50	7.71	26.4	24.9
25	6.44	21.3	18.6
10	5.09	15.9	10.3
5	4.26	12.6	5.8
2	3.37	9.1	4.1
1	2.75	6.6	3.0
90%	1.5	2.2	0.9

Table: NYS DEC Standards

Storm (as noted)	Existing Peak Flow (cfs)	Proposed Peak Flow (cfs)
100-yr Extreme Storm	32.5	31.0
10-yr Overbank Flood	15.9	10.3
2-yr	9.1	4.1
1-yr	6.6	3.0

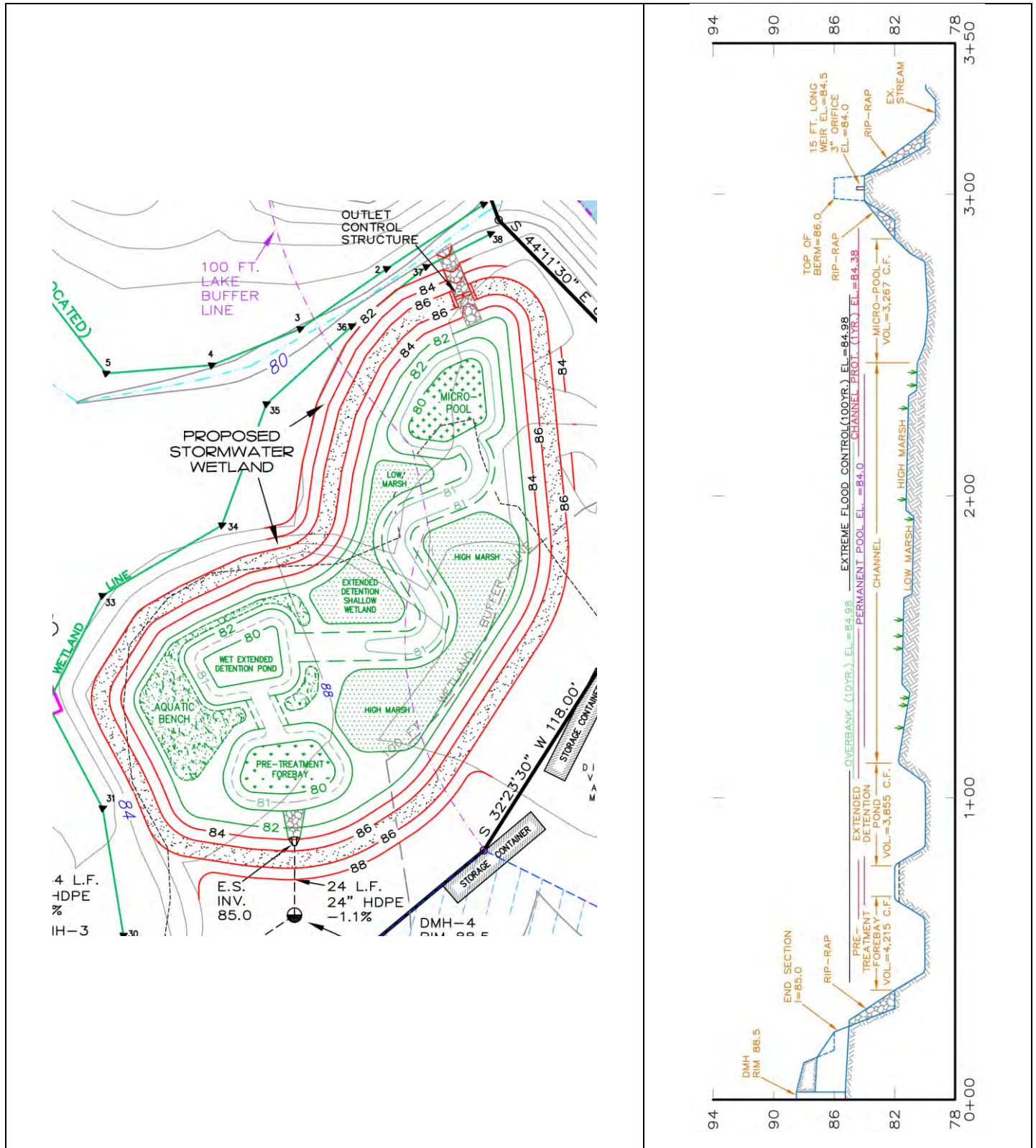
Channel Protection Volume (CPv), being the 24 hour detention of the 1-year storm, is computed at about 5.7 hours. However, this system uses using the NYS DEC criteria allowing a reduction in the CPv by using a minimum 3" low level orifice and complies as extended detention.

Table: Water Quality Volume Computation at DP1:

Item	Area (sq. ft)	Imp. Area (sq. ft)	Imp. %	Prec. In.	Rv	WQv (cu. ft.)	50% WQv (cu. ft.)
DP1	132,003	132,003	65%	1.5	0.64	10,506	5,253

The computed volume of the three low pools is 11,337 cubic feet. As noted in the enclosed Hydrocad report, the Stormwater Wetland provides in excess of the required minimum of 50% of the computed Water Quality Volume below the normal pool elevation, and in excess of the full WQ volume.

Figure: Plan and Cross-Section of the Stormwater Wetland



Soils:

The developed site Hydrologic Groups are generally noted as D throughout, indicating generally poor drainage throughout. This evaluation is confirmed by the existence of the central wetland.

Maintenance:

The stormwater wetland is protected by preliminary treatment areas that can be cleaned manually after annual inspection of silt levels.

Regulatory Notes:

The project requires that a Notice of Intent be filed with NYS DEC. Upon completion of the work, a Notice of Completion will be filed.

Conclusion:

Volumetric details of the proposed Stormwater Wetland are indicated in the attached Hydrocad printout. The printout indicates the storage amounts of each pool and the flow characteristics for each contributing area. The construction details are shown on the Site Plans for the project.

The stormwater wetland will treat the runoff of the Water Quality Volume (WQv) and will conform to the Channel Protection Volume requirements of NYS DEC in accordance with the standard methods of the NYS DEC.

The Overbank and Extreme Flooding are analyzed for the Design Point and these conform to the NYS DEC rules.

The stormwater system will also maintain peak flows to the same level or lower than existing conditions. Further, the stormwater treatment systems are in accordance with NYS DEC and Town rules, accordingly, no stormwater impacts are anticipated from this proposed development.

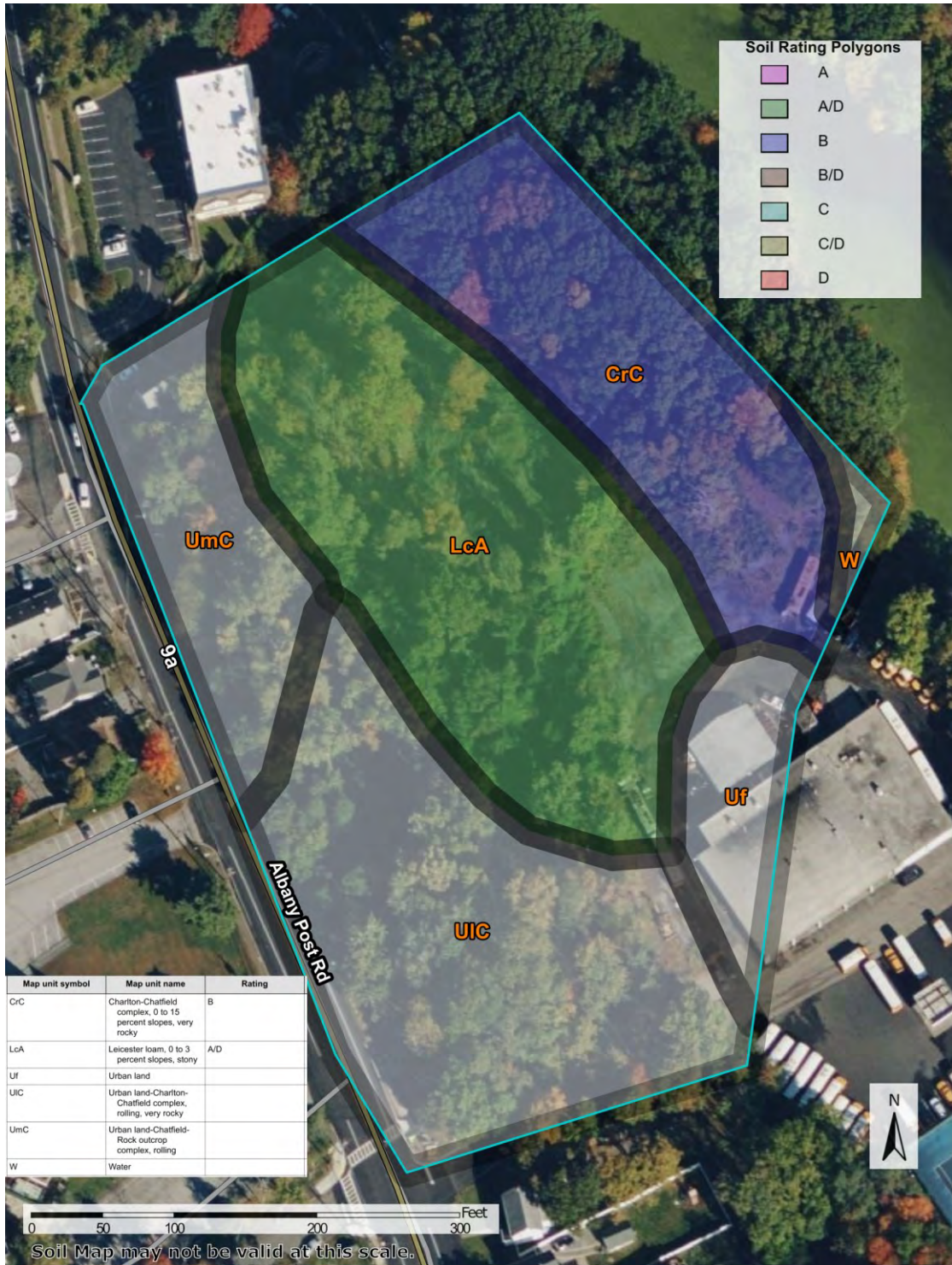
Submitted by:



Ralph G. Mastromonaco, PE

APPENDIX

Figure: Soil Hydrologic Groups



CAR_Complete

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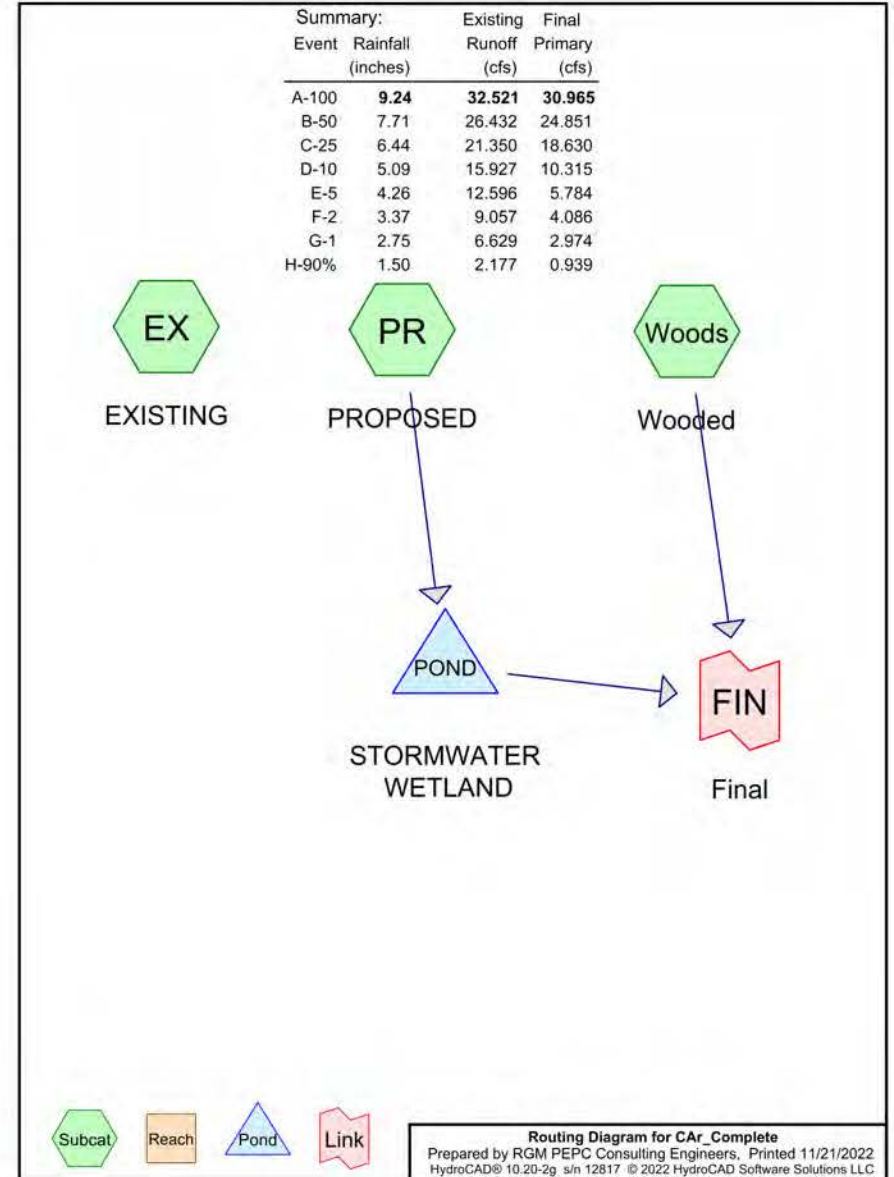
Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.170	80.00	>75% Grass cover, Good, HSG D (PR, Woods)
0.750	98.00	Buildings (EX, PR, Woods)
1.410	98.00	Roads - Walkways (PR)
1.160	98.00	Roads / Walks (EX)
6.400	83.00	Woods, Poor, HSG D (EX, Woods)
0.470	98.00	roads and Walks (Woods)
11.360	87.70	TOTAL AREA

Summary:

Event	Rainfall (inches)	Existing Runoff (cfs)	Final Primary (cfs)
A-100	9.24	32.521	30.965
B-50	7.71	26.432	24.851
C-25	6.44	21.350	18.630
D-10	5.09	15.927	10.315
E-5	4.26	12.596	5.784
F-2	3.37	9.057	4.086
G-1	2.75	6.629	2.974
H-90%	1.50	2.177	0.939



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Type III 24-hr A-100 Rainfall=9.24"

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Summary for Subcatchment EX: EXISTING

Runoff = 32.5 cfs @ 12.26 hrs, Volume= 3.595 af, Depth= 7.59"

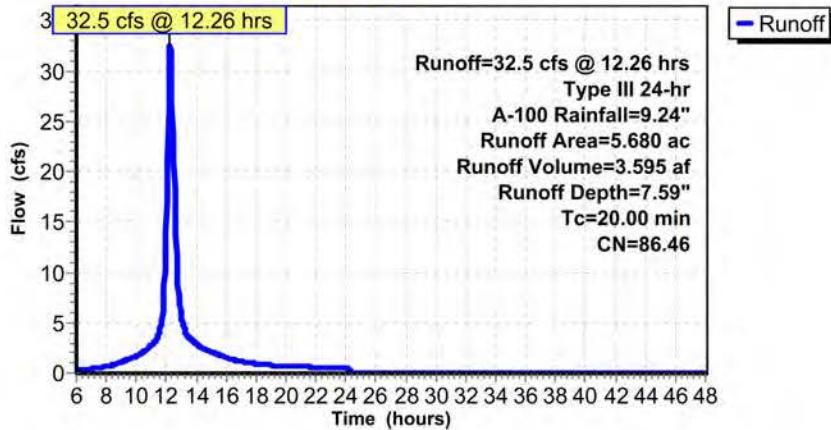
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr A-100 Rainfall=9.24"

Area (ac)	CN	Description
* 0.150	98.00	Buildings
* 1.160	98.00	Roads / Walks
4.370	83.00	Woods, Poor, HSG D
5.680	86.46	Weighted Average
4.370		76.94% Pervious Area
1.310		23.06% Impervious Area

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

Subcatchment EX: EXISTING

Hydrograph



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Type III 24-hr A-100 Rainfall=9.24"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX: EXISTING Runoff Area=5.680 ac 23.06% Impervious Runoff Depth=7.59"
Tc=20.00 min CN=86.46 Runoff=32.5 cfs 3.595 af

SubcatchmentPR: PROPOSED Runoff Area=3.030 ac 65.35% Impervious Runoff Depth=8.24"
Tc=20.00 min CN=91.76 Runoff=18.2 cfs 2.081 af

SubcatchmentWoods: Wooded Runoff Area=2.650 ac 18.87% Impervious Runoff Depth=7.50"
Tc=20.00 min CN=85.69 Runoff=15.0 cfs 1.656 af

Pond POND: STORMWATERWETLAND Peak Elev=84.98' Storage=26,125 cf Inflow=18.2 cfs 2.081 af
Outflow=16.6 cfs 1.789 af

Link FIN: Final Inflow=31.0 cfs 3.445 af
Primary=31.0 cfs 3.445 af

Total Runoff Area = 11.360 ac Runoff Volume = 7.332 af Average Runoff Depth = 7.75"
66.64% Pervious = 7.570 ac 33.36% Impervious = 3.790 ac

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Type III 24-hr A-100 Rainfall=9.24"

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Page 6

Summary for Subcatchment Woods: Wooded

Runoff = 15.0 cfs @ 12.27 hrs, Volume= 1.656 af, Depth= 7.50"
Routed to Link FIN : Final

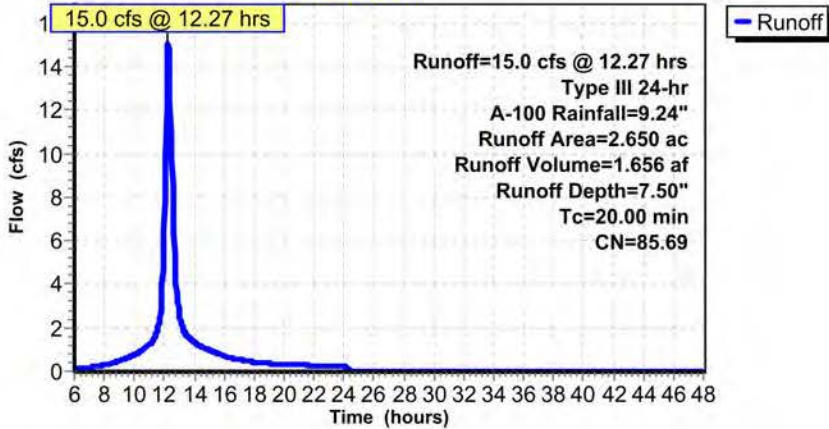
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr A-100 Rainfall=9.24"

Area (ac)	CN	Description
2.030	83.00	Woods, Poor, HSG D
* 0.030	98.00	Buildings
* 0.470	98.00	roads and Walks
0.120	80.00	>75% Grass cover, Good, HSG D
2.650	85.69	Weighted Average
2.150		81.13% Pervious Area
0.500		18.87% Impervious Area

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

Subcatchment Woods: Wooded

Hydrograph



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Type III 24-hr A-100 Rainfall=9.24"

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Summary for Subcatchment PR: PROPOSED

Runoff = 18.2 cfs @ 12.26 hrs, Volume= 2.081 af, Depth= 8.24"
Routed to Pond POND : STORMWATER WETLAND

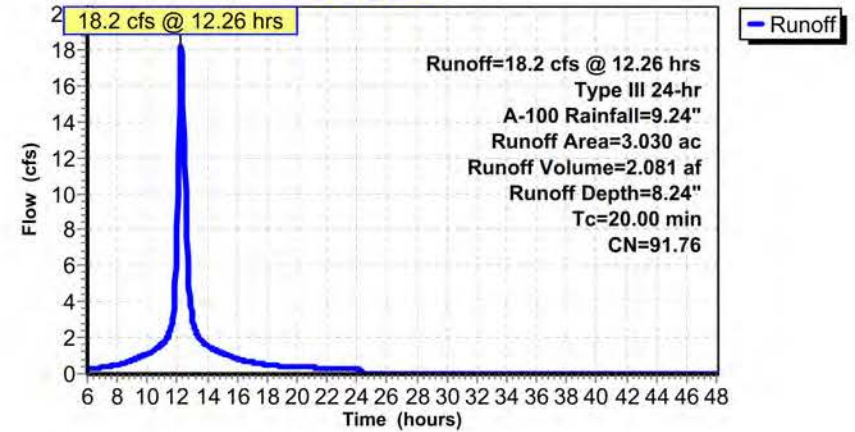
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr A-100 Rainfall=9.24"

Area (ac)	CN	Description
* 0.570	98.00	Buildings
* 1.410	98.00	Roads - Walkways
1.050	80.00	>75% Grass cover, Good, HSG D
3.030	91.76	Weighted Average
1.050		34.65% Pervious Area
1.980		65.35% Impervious Area

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

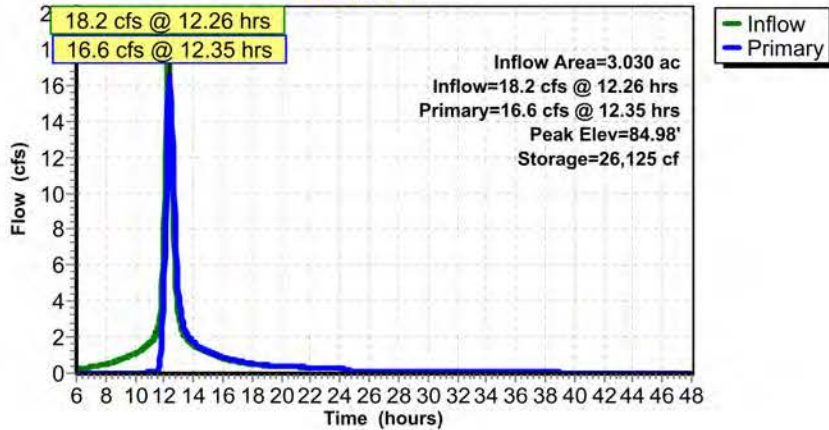
Subcatchment PR: PROPOSED

Hydrograph



Pond POND: STORMWATER WETLAND

Hydrograph



Summary for Pond POND: STORMWATER WETLAND

Inflow Area = 3.030 ac, 65.35% Impervious, Inflow Depth = 8.24" for A-100 event
 Inflow = 18.2 cfs @ 12.26 hrs, Volume= 2.081 af
 Outflow = 16.6 cfs @ 12.35 hrs, Volume= 1.789 af, Atten= 9%, Lag= 5.19 min
 Primary = 16.6 cfs @ 12.35 hrs, Volume= 1.789 af
 Routed to Link FIN : Final

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 84.98' @ 12.35 hrs Surf.Area= 18,878 sf Storage= 26,125 cf

Plug-Flow detention time= 212.63 min calculated for 1.787 af (86% of inflow)
 Center-of-Mass det. time= 153.01 min (932.17 - 779.15)

Volume	Invert	Avail.Storage	Storage Description
#1	84.00'	31,170 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2	80.00'	4,215 cf	pool 1 (Prismatic) Listed below (Recalc)
#3	80.00'	3,855 cf	pool 2 (Prismatic) Listed below (Recalc)
#4	80.00'	3,267 cf	Pool 3 (Prismatic) Listed below (Recalc)
		42,507 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
84.00	14,514	0	0
86.00	16,656	31,170	31,170

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	534	0	0
82.00	1,227	1,761	1,761
84.00	1,227	2,454	4,215

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	495	0	0
82.00	1,120	1,615	1,615
84.00	1,120	2,240	3,855

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	375	0	0
82.00	964	1,339	1,339
84.00	964	1,928	3,267

Device	Routing	Invert	Outlet Devices
#1	Primary	84.50'	15.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#2	Primary	84.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=16.6 cfs @ 12.35 hrs HW=84.98' (Free Discharge)
 1=Sharp-Crested Rectangular Weir(Weir Controls 16.4 cfs @ 2.27 fps)
 2=Orifice/Grate (Orifice Controls 0.2 cfs @ 4.46 fps)

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Type III 24-hr B-50 Rainfall=7.71"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX: EXISTING

Runoff Area=5.680 ac 23.06% Impervious Runoff Depth=6.10"
Tc=20.00 min CN=86.46 Runoff=26.4 cfs 2.889 af

SubcatchmentPR: PROPOSED

Runoff Area=3.030 ac 65.35% Impervious Runoff Depth=6.73"
Tc=20.00 min CN=91.76 Runoff=15.0 cfs 1.699 af

SubcatchmentWoods: Wooded

Runoff Area=2.650 ac 18.87% Impervious Runoff Depth=6.01"
Tc=20.00 min CN=85.69 Runoff=12.2 cfs 1.328 af

Pond POND: STORMWATERWETLAND

Peak Elev=84.92' Storage=25,101 cf Inflow=15.0 cfs 1.699 af
Outflow=13.4 cfs 1.406 af

Link FIN: Final

Inflow=24.9 cfs 2.735 af
Primary=24.9 cfs 2.735 af

Total Runoff Area = 11.360 ac Runoff Volume = 5.916 af Average Runoff Depth = 6.25"
66.64% Pervious = 7.570 ac 33.36% Impervious = 3.790 ac

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Type III 24-hr A-100 Rainfall=9.24"

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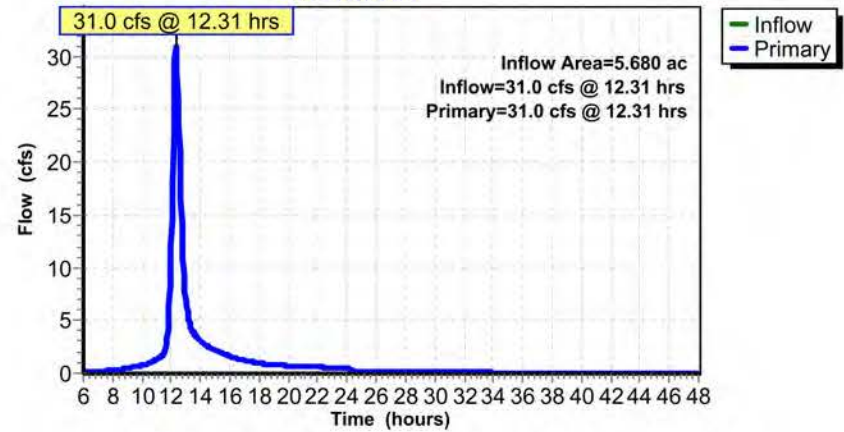
Summary for Link FIN: Final

Inflow Area = 5.680 ac, 43.66% Impervious, Inflow Depth > 7.28" for A-100 event
Inflow = 31.0 cfs @ 12.31 hrs, Volume= 3.445 af
Primary = 31.0 cfs @ 12.31 hrs, Volume= 3.445 af, Atten= 0%, Lag= 0.00 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link FIN: Final

Hydrograph



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Type III 24-hr B-50 Rainfall=7.71"

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Summary for Subcatchment PR: PROPOSED

Runoff = 15.0 cfs @ 12.26 hrs, Volume= 1.699 af, Depth= 6.73"
Routed to Pond POND : STORMWATER WETLAND

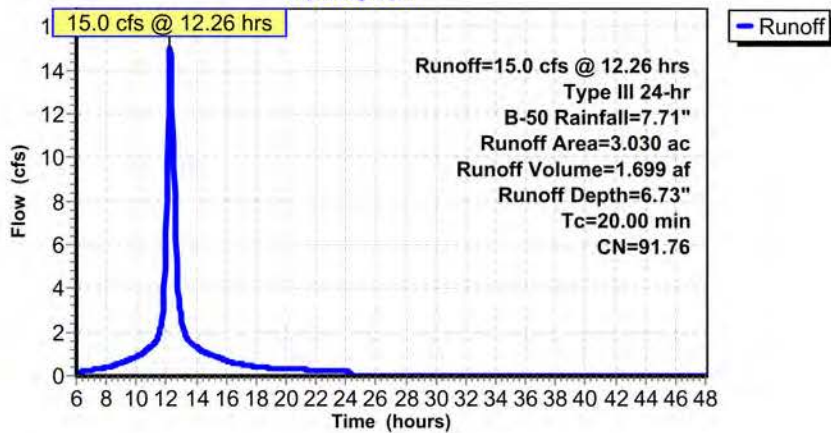
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr B-50 Rainfall=7.71"

Area (ac)	CN	Description
* 0.570	98.00	Buildings
* 1.410	98.00	Roads - Walkways
1.050	80.00	>75% Grass cover, Good, HSG D
3.030	91.76	Weighted Average
1.050		34.65% Pervious Area
1.980		65.35% Impervious Area

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

Subcatchment PR: PROPOSED

Hydrograph



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Type III 24-hr B-50 Rainfall=7.71"

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Summary for Subcatchment EX: EXISTING

Runoff = 26.4 cfs @ 12.27 hrs, Volume= 2.889 af, Depth= 6.10"

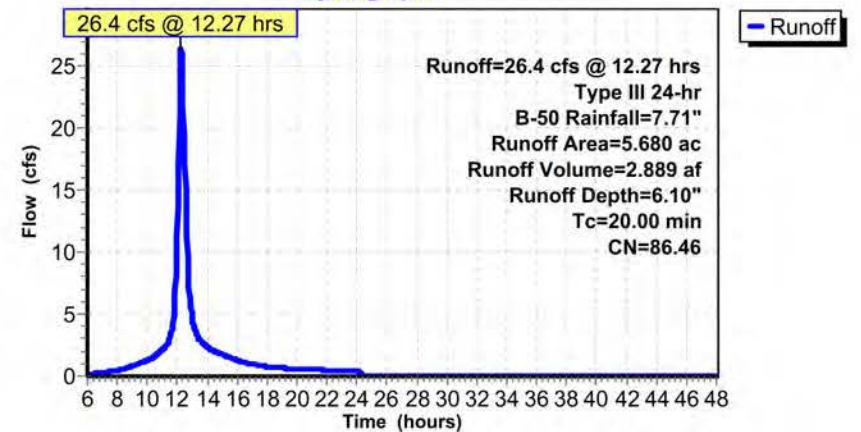
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr B-50 Rainfall=7.71"

Area (ac)	CN	Description
* 0.150	98.00	Buildings
* 1.160	98.00	Roads / Walks
4.370	83.00	Woods, Poor, HSG D
5.680	86.46	Weighted Average
4.370		76.94% Pervious Area
1.310		23.06% Impervious Area

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

Subcatchment EX: EXISTING

Hydrograph



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Type III 24-hr B-50 Rainfall=7.71"

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Summary for Pond POND: STORMWATER WETLAND

Inflow Area = 3.030 ac, 65.35% Impervious, Inflow Depth = 6.73" for B-50 event
Inflow = 15.0 cfs @ 12.26 hrs, Volume= 1.699 af
Outflow = 13.4 cfs @ 12.36 hrs, Volume= 1.406 af, Atten= 11%, Lag= 5.95 min
Primary = 13.4 cfs @ 12.36 hrs, Volume= 1.406 af
Routed to Link FIN : Final

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 84.92' @ 12.36 hrs Surf.Area= 18,807 sf Storage= 25,101 cf

Plug-Flow detention time= 248.31 min calculated for 1.405 af (83% of inflow)
Center-of-Mass det. time= 180.87 min (964.80 - 783.92)

Volume	Invert	Avail.Storage	Storage Description
#1	84.00'	31,170 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2	80.00'	4,215 cf	pool 1 (Prismatic) Listed below (Recalc)
#3	80.00'	3,855 cf	pool 2 (Prismatic) Listed below (Recalc)
#4	80.00'	3,267 cf	Pool 3 (Prismatic) Listed below (Recalc)
		42,507 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
84.00	14,514	0	0
86.00	16,656	31,170	31,170

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	534	0	0
82.00	1,227	1,761	1,761
84.00	1,227	2,454	4,215

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	495	0	0
82.00	1,120	1,615	1,615
84.00	1,120	2,240	3,855

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	375	0	0
82.00	964	1,339	1,339
84.00	964	1,928	3,267

Device	Routing	Invert	Outlet Devices
#1	Primary	84.50'	15.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#2	Primary	84.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=13.3 cfs @ 12.36 hrs HW=84.92' (Free Discharge)
 1=Sharp-Crested Rectangular Weir(Weir Controls 13.1 cfs @ 2.11 fps)
 2=Orifice/Grate (Orifice Controls 0.2 cfs @ 4.28 fps)

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Type III 24-hr B-50 Rainfall=7.71"

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Summary for Subcatchment Woods: Wooded

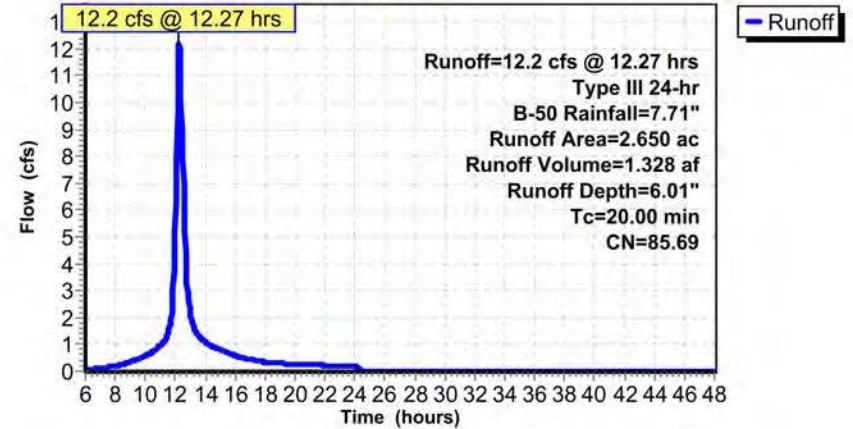
Runoff = 12.2 cfs @ 12.27 hrs, Volume= 1.328 af, Depth= 6.01"
Routed to Link FIN : Final

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr B-50 Rainfall=7.71"

Area (ac)	CN	Description			
2.030	83.00	Woods, Poor, HSG D			
* 0.030	98.00	Buildings			
* 0.470	98.00	roads and Walks			
0.120	80.00	>75% Grass cover, Good, HSG D			
<hr/>					
2.650	85.69	Weighted Average			
2.150		81.13% Pervious Area			
0.500		18.87% Impervious Area			
<hr/>					
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.00					Direct Entry,

Subcatchment Woods: Wooded

Hydrograph



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Type III 24-hr B-50 Rainfall=7.71"

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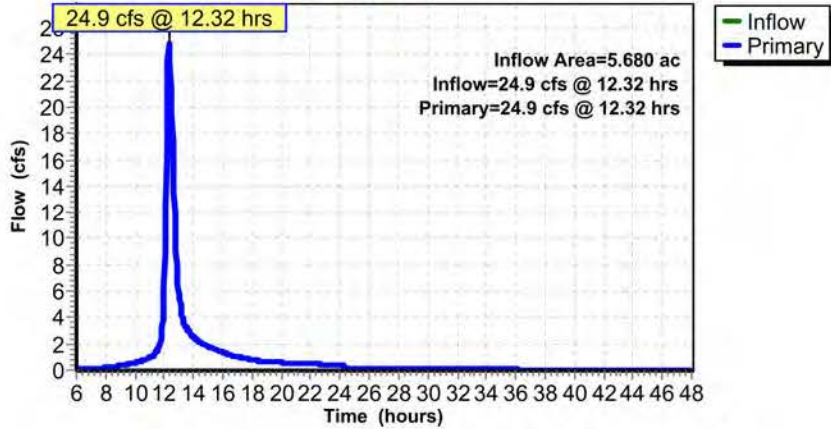
Summary for Link FIN: Final

Inflow Area = 5.680 ac, 43.66% Impervious, Inflow Depth > 5.78" for B-50 event
Inflow = 24.9 cfs @ 12.32 hrs, Volume= 2.735 af
Primary = 24.9 cfs @ 12.32 hrs, Volume= 2.735 af, Atten= 0%, Lag= 0.00 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link FIN: Final

Hydrograph



CAr_Complete

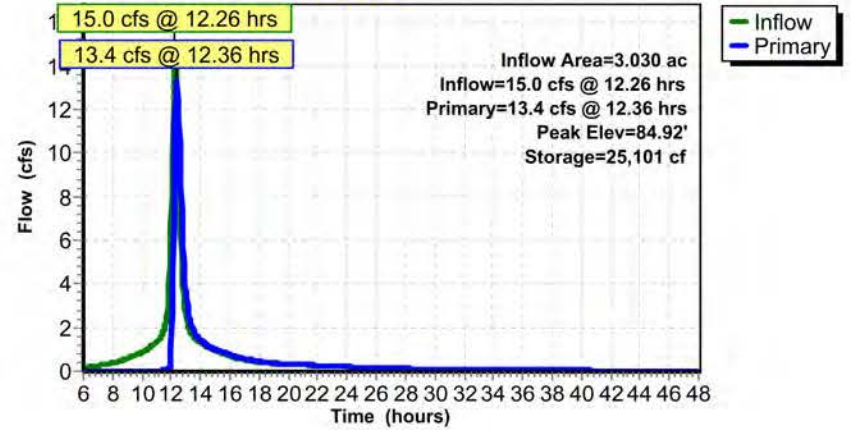
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Type III 24-hr B-50 Rainfall=7.71"

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Pond POND: STORMWATER WETLAND

Hydrograph



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Type III 24-hr C-25 Rainfall=6.44"

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Summary for Subcatchment EX: EXISTING

Runoff = 21.3 cfs @ 12.27 hrs, Volume= 2.310 af, Depth= 4.88"

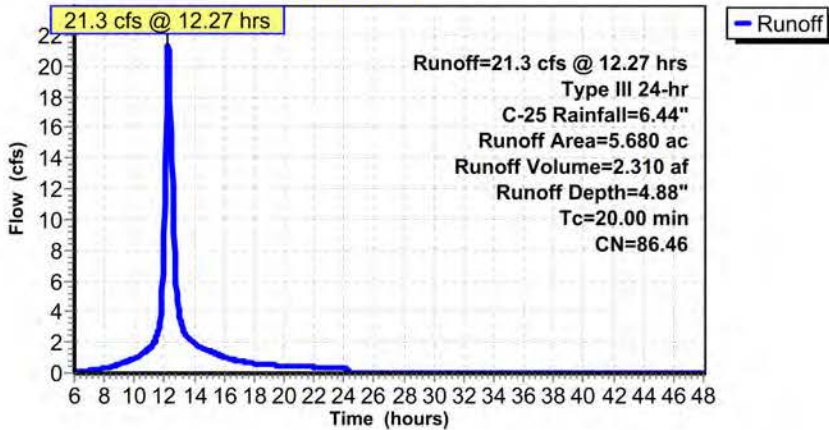
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr C-25 Rainfall=6.44"

Area (ac)	CN	Description
* 0.150	98.00	Buildings
* 1.160	98.00	Roads / Walks
4.370	83.00	Woods, Poor, HSG D
5.680	86.46	Weighted Average
4.370		76.94% Pervious Area
1.310		23.06% Impervious Area

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

Subcatchment EX: EXISTING

Hydrograph



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Type III 24-hr C-25 Rainfall=6.44"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX: EXISTING Runoff Area=5.680 ac 23.06% Impervious Runoff Depth=4.88"
Tc=20.00 min CN=86.46 Runoff=21.3 cfs 2.310 af

Subcatchment PR: PROPOSED Runoff Area=3.030 ac 65.35% Impervious Runoff Depth=5.48"
Tc=20.00 min CN=91.76 Runoff=12.4 cfs 1.382 af

Subcatchment Woods: Wooded Runoff Area=2.650 ac 18.87% Impervious Runoff Depth=4.79"
Tc=20.00 min CN=85.69 Runoff=9.8 cfs 1.059 af

Pond POND: STORMWATERWETLAND Peak Elev=84.84' Storage=23,945 cf Inflow=12.4 cfs 1.382 af
Outflow=10.0 cfs 1.090 af

Link FIN: Final Inflow=18.6 cfs 2.149 af
Primary=18.6 cfs 2.149 af

Total Runoff Area = 11.360 ac Runoff Volume = 4.751 af Average Runoff Depth = 5.02"
66.64% Pervious = 7.570 ac 33.36% Impervious = 3.790 ac

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Type III 24-hr C-25 Rainfall=6.44"

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Summary for Subcatchment Woods: Wooded

Runoff = 9.8 cfs @ 12.27 hrs, Volume= 1.059 af, Depth= 4.79"
Routed to Link FIN : Final

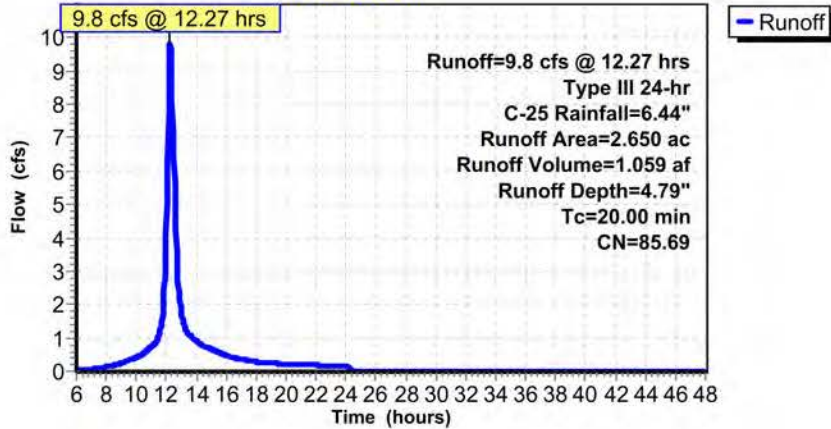
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr C-25 Rainfall=6.44"

Area (ac)	CN	Description
2.030	83.00	Woods, Poor, HSG D
* 0.030	98.00	Buildings
* 0.470	98.00	roads and Walks
0.120	80.00	>75% Grass cover, Good, HSG D
2.650	85.69	Weighted Average
2.150		81.13% Pervious Area
0.500		18.87% Impervious Area

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

Subcatchment Woods: Wooded

Hydrograph



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Type III 24-hr C-25 Rainfall=6.44"

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Summary for Subcatchment PR: PROPOSED

Runoff = 12.4 cfs @ 12.26 hrs, Volume= 1.382 af, Depth= 5.48"
Routed to Pond POND : STORMWATER WETLAND

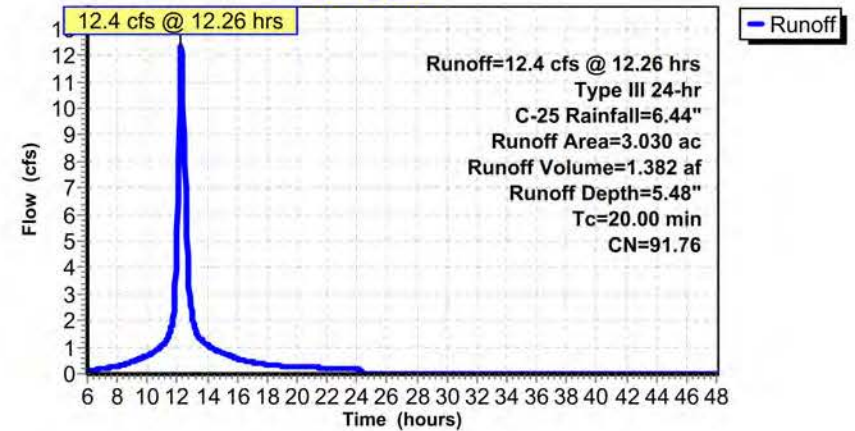
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr C-25 Rainfall=6.44"

Area (ac)	CN	Description
* 0.570	98.00	Buildings
* 1.410	98.00	Roads - Walkways
1.050	80.00	>75% Grass cover, Good, HSG D
3.030	91.76	Weighted Average
1.050		34.65% Pervious Area
1.980		65.35% Impervious Area

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

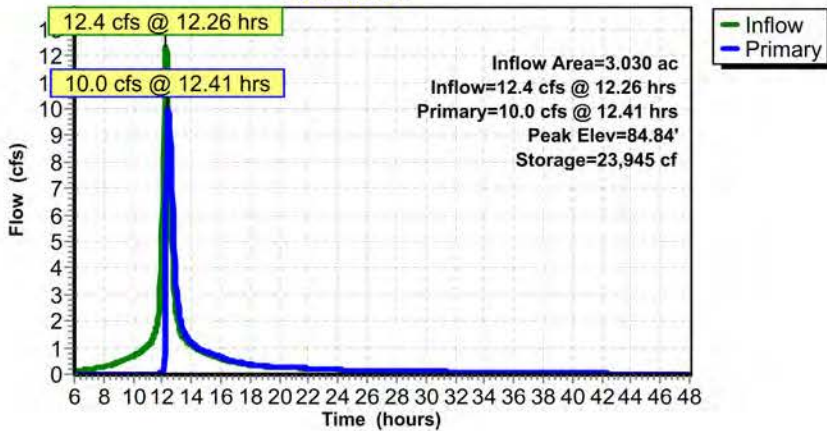
Subcatchment PR: PROPOSED

Hydrograph



Pond POND: STORMWATER WETLAND

Hydrograph



Summary for Pond POND: STORMWATER WETLAND

Inflow Area = 3.030 ac, 65.35% Impervious, Inflow Depth = 5.48" for C-25 event
 Inflow = 12.4 cfs @ 12.26 hrs, Volume= 1.382 af
 Outflow = 10.0 cfs @ 12.41 hrs, Volume= 1.090 af, Atten= 19%, Lag= 8.64 min
 Primary = 10.0 cfs @ 12.41 hrs, Volume= 1.090 af
 Routed to Link FIN : Final

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 84.84' @ 12.41 hrs Surf.Area= 18,727 sf Storage= 23,945 cf

Plug-Flow detention time= 295.88 min calculated for 1.090 af (79% of inflow)
 Center-of-Mass det. time= 218.37 min (1,007.37 - 789.00)

Volume	Invert	Avail.Storage	Storage Description
#1	84.00'	31,170 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2	80.00'	4,215 cf	pool 1 (Prismatic) Listed below (Recalc)
#3	80.00'	3,855 cf	pool 2 (Prismatic) Listed below (Recalc)
#4	80.00'	3,267 cf	Pool 3 (Prismatic) Listed below (Recalc)
		42,507 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
84.00	14,514	0	0
86.00	16,656	31,170	31,170

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	534	0	0
82.00	1,227	1,761	1,761
84.00	1,227	2,454	4,215

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	495	0	0
82.00	1,120	1,615	1,615
84.00	1,120	2,240	3,855

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	375	0	0
82.00	964	1,339	1,339
84.00	964	1,928	3,267

Device	Routing	Invert	Outlet Devices
#1	Primary	84.50'	15.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#2	Primary	84.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.9 cfs @ 12.41 hrs HW=84.84' (Free Discharge)

1=Sharp-Crested Rectangular Weir(Weir Controls 9.7 cfs @ 1.91 fps)

2=Orifice/Grate (Orifice Controls 0.2 cfs @ 4.08 fps)

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Type III 24-hr D-10 Rainfall=5.09"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX: EXISTING

Runoff Area=5.680 ac 23.06% Impervious Runoff Depth=3.60"
Tc=20.00 min CN=86.46 Runoff=15.9 cfs 1.703 af

SubcatchmentPR: PROPOSED

Runoff Area=3.030 ac 65.35% Impervious Runoff Depth=4.15"
Tc=20.00 min CN=91.76 Runoff=9.5 cfs 1.048 af

SubcatchmentWoods: Wooded

Runoff Area=2.650 ac 18.87% Impervious Runoff Depth=3.52"
Tc=20.00 min CN=85.69 Runoff=7.3 cfs 0.777 af

Pond POND: STORMWATERWETLAND

Peak Elev=84.73' Storage=22,173 cf Inflow=9.5 cfs 1.048 af
Outflow=5.5 cfs 0.756 af

Link FIN: Final

Inflow=10.3 cfs 1.533 af
Primary=10.3 cfs 1.533 af

Total Runoff Area = 11.360 ac Runoff Volume = 3.528 af Average Runoff Depth = 3.73"
66.64% Pervious = 7.570 ac 33.36% Impervious = 3.790 ac

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Type III 24-hr C-25 Rainfall=6.44"

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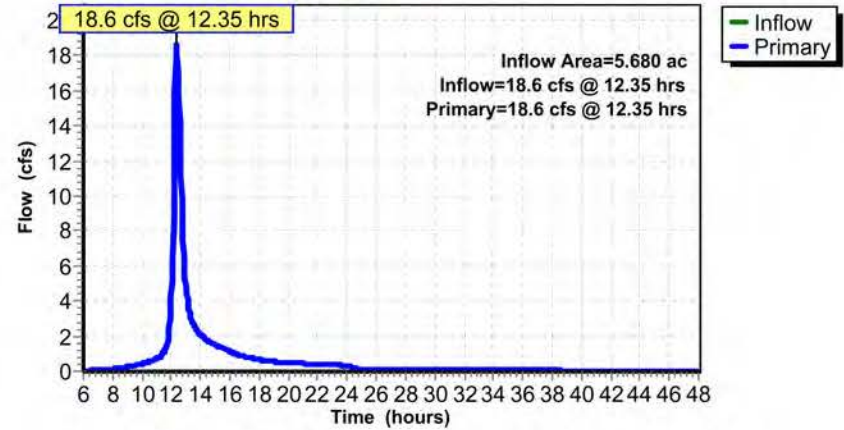
Summary for Link FIN: Final

Inflow Area = 5.680 ac, 43.66% Impervious, Inflow Depth > 4.54" for C-25 event
Inflow = 18.6 cfs @ 12.35 hrs, Volume= 2.149 af
Primary = 18.6 cfs @ 12.35 hrs, Volume= 2.149 af, Atten= 0%, Lag= 0.00 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link FIN: Final

Hydrograph



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Type III 24-hr D-10 Rainfall=5.09"

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Summary for Subcatchment PR: PROPOSED

Runoff = 9.5 cfs @ 12.27 hrs, Volume= 1.048 af, Depth= 4.15"
Routed to Pond POND : STORMWATER WETLAND

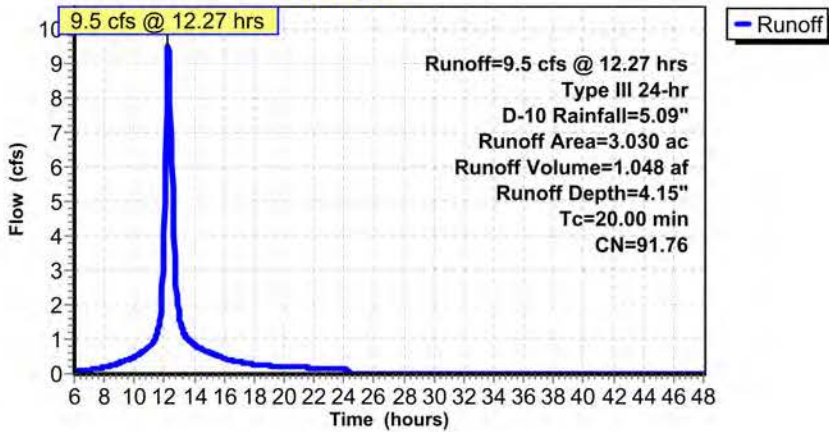
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr D-10 Rainfall=5.09"

Area (ac)	CN	Description
* 0.570	98.00	Buildings
* 1.410	98.00	Roads - Walkways
1.050	80.00	>75% Grass cover, Good, HSG D
3.030	91.76	Weighted Average
1.050		34.65% Pervious Area
1.980		65.35% Impervious Area

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

Subcatchment PR: PROPOSED

Hydrograph



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Type III 24-hr D-10 Rainfall=5.09"

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Summary for Subcatchment EX: EXISTING

Runoff = 15.9 cfs @ 12.27 hrs, Volume= 1.703 af, Depth= 3.60"

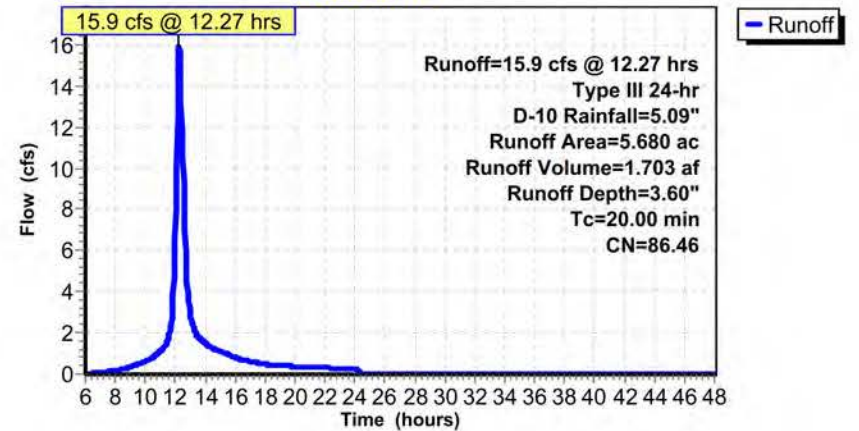
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr D-10 Rainfall=5.09"

Area (ac)	CN	Description
* 0.150	98.00	Buildings
* 1.160	98.00	Roads / Walks
4.370	83.00	Woods, Poor, HSG D
5.680	86.46	Weighted Average
4.370		76.94% Pervious Area
1.310		23.06% Impervious Area

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

Subcatchment EX: EXISTING

Hydrograph



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Type III 24-hr D-10 Rainfall=5.09"

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Summary for Pond POND: STORMWATER WETLAND

Inflow Area = 3.030 ac, 65.35% Impervious, Inflow Depth = 4.15" for D-10 event
 Inflow = 9.5 cfs @ 12.27 hrs, Volume= 1.048 af
 Outflow = 5.5 cfs @ 12.55 hrs, Volume= 0.756 af, Atten= 42%, Lag= 16.81 min
 Primary = 5.5 cfs @ 12.55 hrs, Volume= 0.756 af
 Routed to Link FIN : Final

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 84.73' @ 12.55 hrs Surf.Area= 18,604 sf Storage= 22,173 cf

Plug-Flow detention time= 381.05 min calculated for 0.756 af (72% of inflow)
 Center-of-Mass det. time= 292.20 min (1,088.34 - 796.15)

Volume	Invert	Avail.Storage	Storage Description
#1	84.00'	31,170 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2	80.00'	4,215 cf	pool 1 (Prismatic) Listed below (Recalc)
#3	80.00'	3,855 cf	pool 2 (Prismatic) Listed below (Recalc)
#4	80.00'	3,267 cf	Pool 3 (Prismatic) Listed below (Recalc)
		42,507 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
84.00	14,514	0	0
86.00	16,656	31,170	31,170

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	534	0	0
82.00	1,227	1,761	1,761
84.00	1,227	2,454	4,215

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	495	0	0
82.00	1,120	1,615	1,615
84.00	1,120	2,240	3,855

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	375	0	0
82.00	964	1,339	1,339
84.00	964	1,928	3,267

Device	Routing	Invert	Outlet Devices
#1	Primary	84.50'	15.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#2	Primary	84.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.5 cfs @ 12.55 hrs HW=84.73' (Free Discharge)
 1=Sharp-Crested Rectangular Weir(Weir Controls 5.3 cfs @ 1.56 fps)
 2=Orifice/Grate (Orifice Controls 0.2 cfs @ 3.73 fps)

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Type III 24-hr D-10 Rainfall=5.09"

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Summary for Subcatchment Woods: Wooded

Runoff = 7.3 cfs @ 12.27 hrs, Volume= 0.777 af, Depth= 3.52"
 Routed to Link FIN : Final

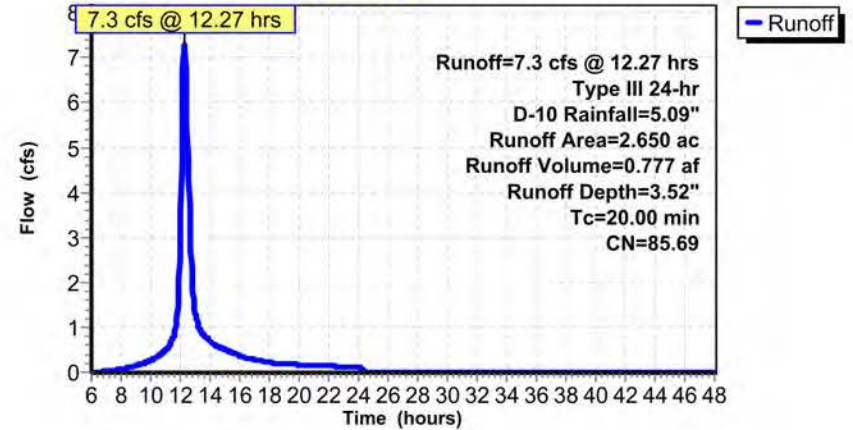
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type III 24-hr D-10 Rainfall=5.09"

Area (ac)	CN	Description
2.030	83.00	Woods, Poor, HSG D
* 0.030	98.00	Buildings
* 0.470	98.00	roads and Walks
0.120	80.00	>75% Grass cover, Good, HSG D
2.650	85.69	Weighted Average
2.150		81.13% Pervious Area
0.500		18.87% Impervious Area

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

Subcatchment Woods: Wooded

Hydrograph



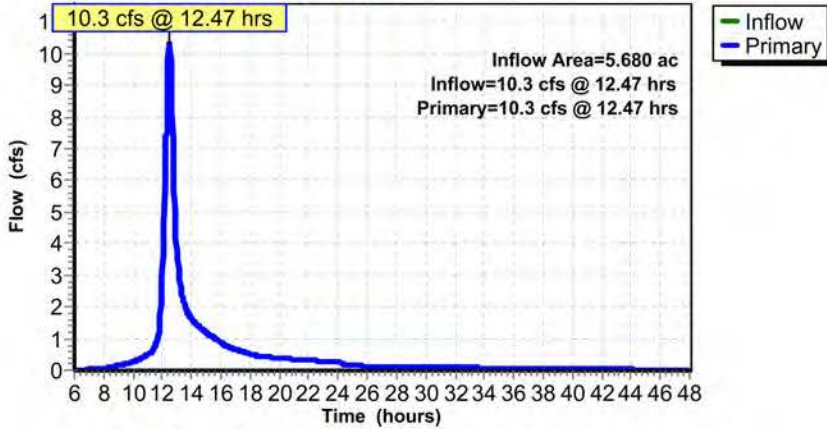
Summary for Link FIN: Final

Inflow Area = 5.680 ac, 43.66% Impervious, Inflow Depth > 3.24" for D-10 event
 Inflow = 10.3 cfs @ 12.47 hrs, Volume= 1.533 af
 Primary = 10.3 cfs @ 12.47 hrs, Volume= 1.533 af, Atten= 0%, Lag= 0.00 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

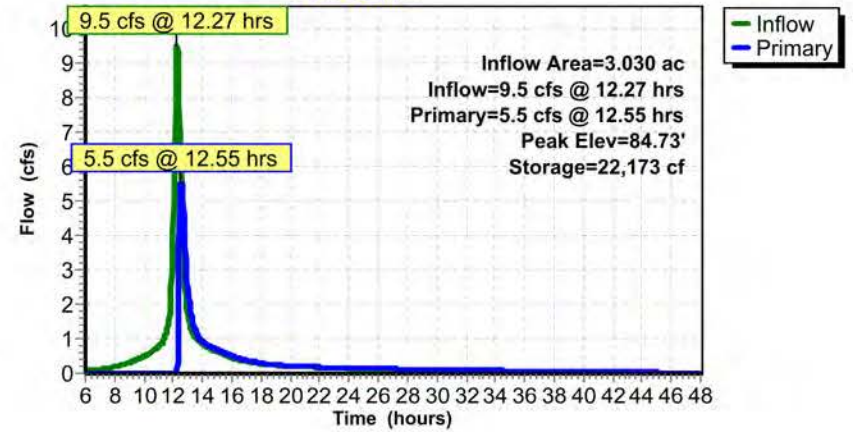
Link FIN: Final

Hydrograph



Pond POND: STORMWATER WETLAND

Hydrograph



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Type III 24-hr E-5 Rainfall=4.26"

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Summary for Subcatchment EX: EXISTING

Runoff = 12.6 cfs @ 12.27 hrs, Volume= 1.337 af, Depth= 2.83"

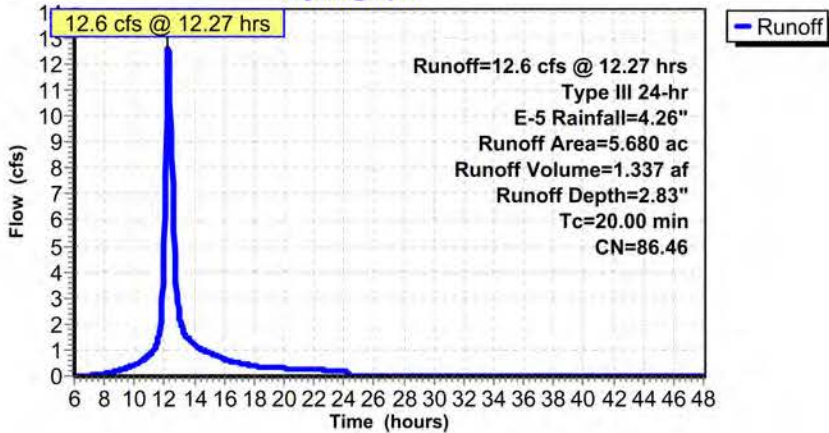
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr E-5 Rainfall=4.26"

Area (ac)	CN	Description
* 0.150	98.00	Buildings
* 1.160	98.00	Roads / Walks
4.370	83.00	Woods, Poor, HSG D
5.680	86.46	Weighted Average
4.370		76.94% Pervious Area
1.310		23.06% Impervious Area

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

Subcatchment EX: EXISTING

Hydrograph



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Type III 24-hr E-5 Rainfall=4.26"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX: EXISTING Runoff Area=5.680 ac 23.06% Impervious Runoff Depth=2.83"
Tc=20.00 min CN=86.46 Runoff=12.6 cfs 1.337 af

Subcatchment PR: PROPOSED Runoff Area=3.030 ac 65.35% Impervious Runoff Depth=3.34"
Tc=20.00 min CN=91.76 Runoff=7.7 cfs 0.844 af

Subcatchment Woods: Wooded Runoff Area=2.650 ac 18.87% Impervious Runoff Depth=2.75"
Tc=20.00 min CN=85.69 Runoff=5.7 cfs 0.608 af

Pond POND: STORMWATERWETLAND Peak Elev=84.63' Storage=20,744 cf Inflow=7.7 cfs 0.844 af
Outflow=2.6 cfs 0.553 af

Link FIN: Final Inflow=5.8 cfs 1.161 af
Primary=5.8 cfs 1.161 af

Total Runoff Area = 11.360 ac Runoff Volume = 2.790 af Average Runoff Depth = 2.95"
66.64% Pervious = 7.570 ac 33.36% Impervious = 3.790 ac

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Type III 24-hr E-5 Rainfall=4.26"

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Summary for Subcatchment Woods: Wooded

Runoff = 5.7 cfs @ 12.27 hrs, Volume= 0.608 af, Depth= 2.75"
Routed to Link FIN : Final

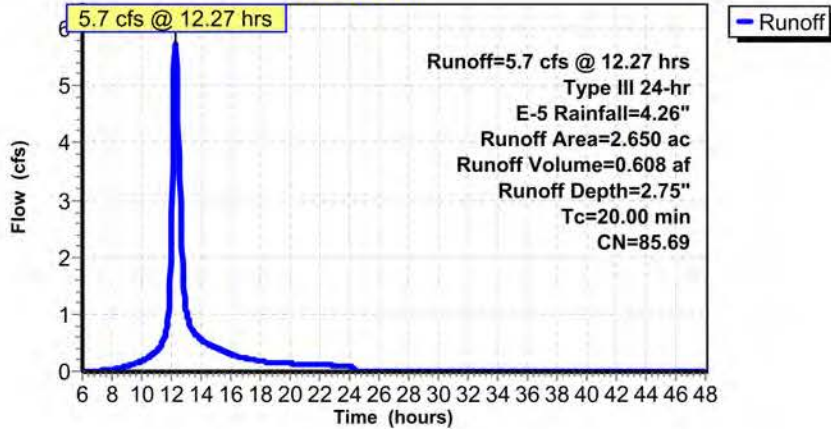
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr E-5 Rainfall=4.26"

Area (ac)	CN	Description
2.030	83.00	Woods, Poor, HSG D
* 0.030	98.00	Buildings
* 0.470	98.00	roads and Walks
0.120	80.00	>75% Grass cover, Good, HSG D
2.650	85.69	Weighted Average
2.150		81.13% Pervious Area
0.500		18.87% Impervious Area

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

Subcatchment Woods: Wooded

Hydrograph



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Type III 24-hr E-5 Rainfall=4.26"

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Summary for Subcatchment PR: PROPOSED

Runoff = 7.7 cfs @ 12.27 hrs, Volume= 0.844 af, Depth= 3.34"
Routed to Pond POND : STORMWATER WETLAND

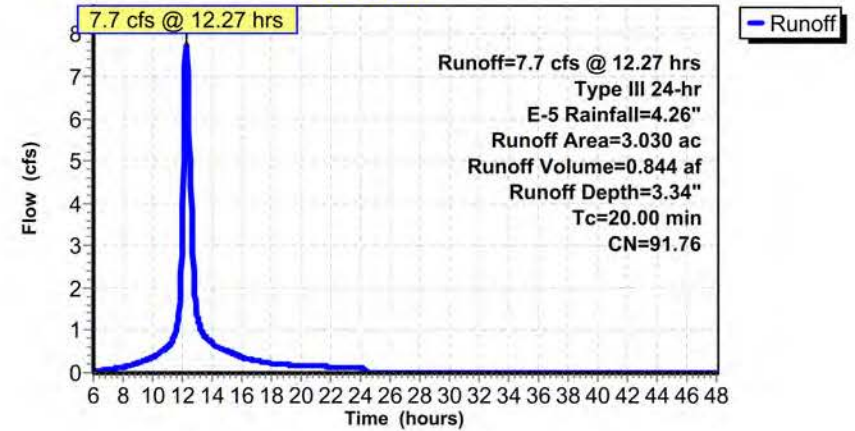
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr E-5 Rainfall=4.26"

Area (ac)	CN	Description
* 0.570	98.00	Buildings
* 1.410	98.00	Roads - Walkways
1.050	80.00	>75% Grass cover, Good, HSG D
3.030	91.76	Weighted Average
1.050		34.65% Pervious Area
1.980		65.35% Impervious Area

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

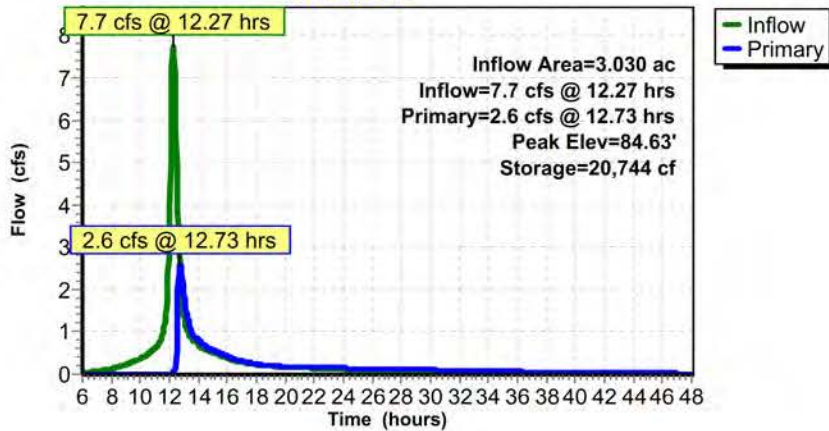
Subcatchment PR: PROPOSED

Hydrograph



Pond POND: STORMWATER WETLAND

Hydrograph



Summary for Pond POND: STORMWATER WETLAND

Inflow Area = 3.030 ac, 65.35% Impervious, Inflow Depth = 3.34" for E-5 event
 Inflow = 7.7 cfs @ 12.27 hrs, Volume= 0.844 af
 Outflow = 2.6 cfs @ 12.73 hrs, Volume= 0.553 af, Atten= 67%, Lag= 27.77 min
 Primary = 2.6 cfs @ 12.73 hrs, Volume= 0.553 af
 Routed to Link FIN : Final

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 84.63' @ 12.73 hrs Surf.Area= 18,503 sf Storage= 20,744 cf

Plug-Flow detention time= 474.16 min calculated for 0.552 af (65% of inflow)
 Center-of-Mass det. time= 378.43 min (1,180.36 - 801.93)

Volume	Invert	Avail.Storage	Storage Description
#1	84.00'	31,170 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2	80.00'	4,215 cf	pool 1 (Prismatic) Listed below (Recalc)
#3	80.00'	3,855 cf	pool 2 (Prismatic) Listed below (Recalc)
#4	80.00'	3,267 cf	Pool 3 (Prismatic) Listed below (Recalc)
		42,507 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
84.00	14,514	0	0
86.00	16,656	31,170	31,170

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	534	0	0
82.00	1,227	1,761	1,761
84.00	1,227	2,454	4,215

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	495	0	0
82.00	1,120	1,615	1,615
84.00	1,120	2,240	3,855

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	375	0	0
82.00	964	1,339	1,339
84.00	964	1,928	3,267

Device	Routing	Invert	Outlet Devices
#1	Primary	84.50'	15.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#2	Primary	84.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.5 cfs @ 12.73 hrs HW=84.63' (Free Discharge)

1=Sharp-Crested Rectangular Weir(Weir Controls 2.4 cfs @ 1.19 fps)

2=Orifice/Grate (Orifice Controls 0.2 cfs @ 3.43 fps)

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Type III 24-hr F-2 Rainfall=3.37"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX: EXISTING Runoff Area=5.680 ac 23.06% Impervious Runoff Depth=2.02"
Tc=20.00 min CN=86.46 Runoff=9.1 cfs 0.957 af

SubcatchmentPR: PROPOSED Runoff Area=3.030 ac 65.35% Impervious Runoff Depth=2.49"
Tc=20.00 min CN=91.76 Runoff=5.8 cfs 0.629 af

SubcatchmentWoods: Wooded Runoff Area=2.650 ac 18.87% Impervious Runoff Depth=1.96"
Tc=20.00 min CN=85.69 Runoff=4.1 cfs 0.433 af

Pond POND: STORMWATERWETLAND Peak Elev=84.53' Storage=19,157 cf Inflow=5.8 cfs 0.629 af
Outflow=0.5 cfs 0.338 af

Link FIN: Final Inflow=4.1 cfs 0.771 af
Primary=4.1 cfs 0.771 af

Total Runoff Area = 11.360 ac Runoff Volume = 2.018 af Average Runoff Depth = 2.13"
66.64% Pervious = 7.570 ac 33.36% Impervious = 3.790 ac

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Type III 24-hr E-5 Rainfall=4.26"

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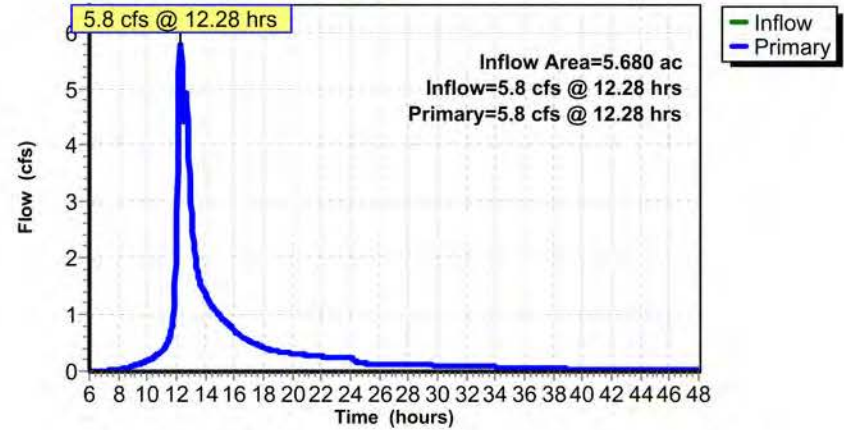
Summary for Link FIN: Final

Inflow Area = 5.680 ac, 43.66% Impervious, Inflow Depth > 2.45" for E-5 event
Inflow = 5.8 cfs @ 12.28 hrs, Volume= 1.161 af
Primary = 5.8 cfs @ 12.28 hrs, Volume= 1.161 af, Atten= 0%, Lag= 0.00 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link FIN: Final

Hydrograph



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Type III 24-hr F-2 Rainfall=3.37"

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Summary for Subcatchment PR: PROPOSED

Runoff = 5.8 cfs @ 12.27 hrs, Volume= 0.629 af, Depth= 2.49"
Routed to Pond POND : STORMWATER WETLAND

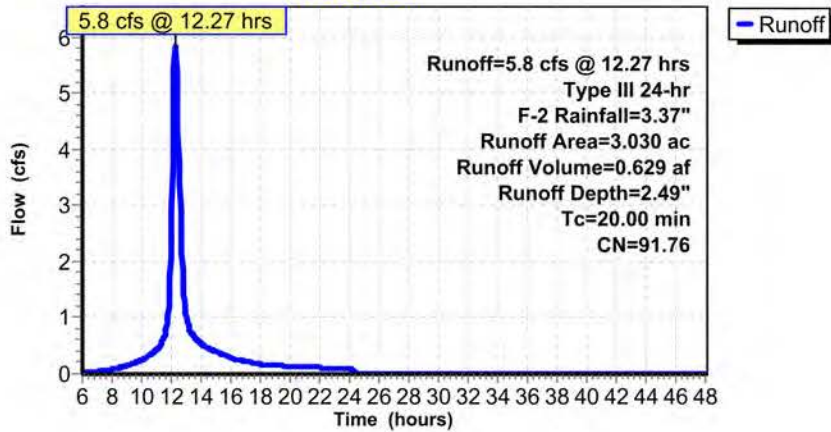
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr F-2 Rainfall=3.37"

Area (ac)	CN	Description
* 0.570	98.00	Buildings
* 1.410	98.00	Roads - Walkways
1.050	80.00	>75% Grass cover, Good, HSG D
3.030	91.76	Weighted Average
1.050		34.65% Pervious Area
1.980		65.35% Impervious Area

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

Subcatchment PR: PROPOSED

Hydrograph



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Type III 24-hr F-2 Rainfall=3.37"

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Summary for Subcatchment EX: EXISTING

Runoff = 9.1 cfs @ 12.27 hrs, Volume= 0.957 af, Depth= 2.02"

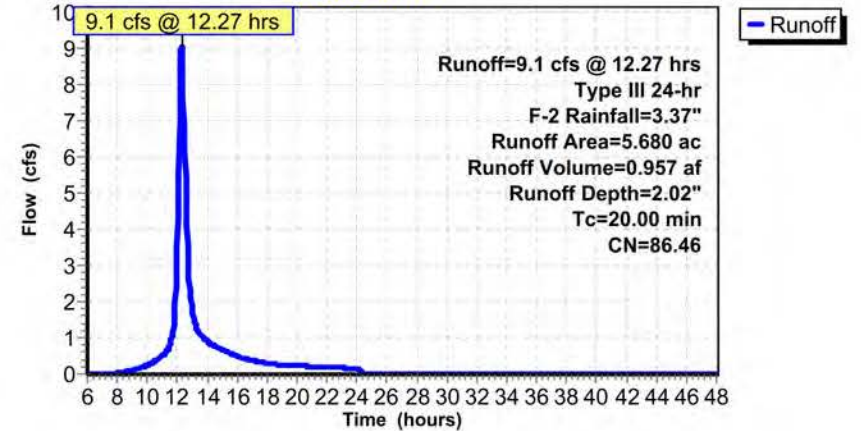
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr F-2 Rainfall=3.37"

Area (ac)	CN	Description
* 0.150	98.00	Buildings
* 1.160	98.00	Roads / Walks
4.370	83.00	Woods, Poor, HSG D
5.680	86.46	Weighted Average
4.370		76.94% Pervious Area
1.310		23.06% Impervious Area

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

Subcatchment EX: EXISTING

Hydrograph



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Type III 24-hr F-2 Rainfall=3.37"

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Summary for Pond POND: STORMWATER WETLAND

Inflow Area = 3.030 ac, 65.35% Impervious, Inflow Depth = 2.49" for F-2 event
 Inflow = 5.8 cfs @ 12.27 hrs, Volume= 0.629 af
 Outflow = 0.5 cfs @ 14.22 hrs, Volume= 0.338 af, Atten= 92%, Lag= 117.31 min
 Primary = 0.5 cfs @ 14.22 hrs, Volume= 0.338 af
 Routed to Link FIN : Final

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 84.53' @ 14.22 hrs Surf.Area= 18,391 sf Storage= 19,157 cf

Plug-Flow detention time= 674.45 min calculated for 0.338 af (54% of inflow)
 Center-of-Mass det. time= 566.43 min (1,376.46 - 810.03)

Volume	Invert	Avail.Storage	Storage Description
#1	84.00'	31,170 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2	80.00'	4,215 cf	pool 1 (Prismatic) Listed below (Recalc)
#3	80.00'	3,855 cf	pool 2 (Prismatic) Listed below (Recalc)
#4	80.00'	3,267 cf	Pool 3 (Prismatic) Listed below (Recalc)
		42,507 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
84.00	14,514	0	0
86.00	16,656	31,170	31,170

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	534	0	0
82.00	1,227	1,761	1,761
84.00	1,227	2,454	4,215

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	495	0	0
82.00	1,120	1,615	1,615
84.00	1,120	2,240	3,855

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	375	0	0
82.00	964	1,339	1,339
84.00	964	1,928	3,267

Device	Routing	Invert	Outlet Devices
#1	Primary	84.50'	15.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#2	Primary	84.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.4 cfs @ 14.22 hrs HW=84.53' (Free Discharge)
 1=Sharp-Crested Rectangular Weir(Weir Controls 0.2 cfs @ 0.55 fps)
 2=Orifice/Grate (Orifice Controls 0.2 cfs @ 3.06 fps)

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Type III 24-hr F-2 Rainfall=3.37"

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Summary for Subcatchment Woods: Wooded

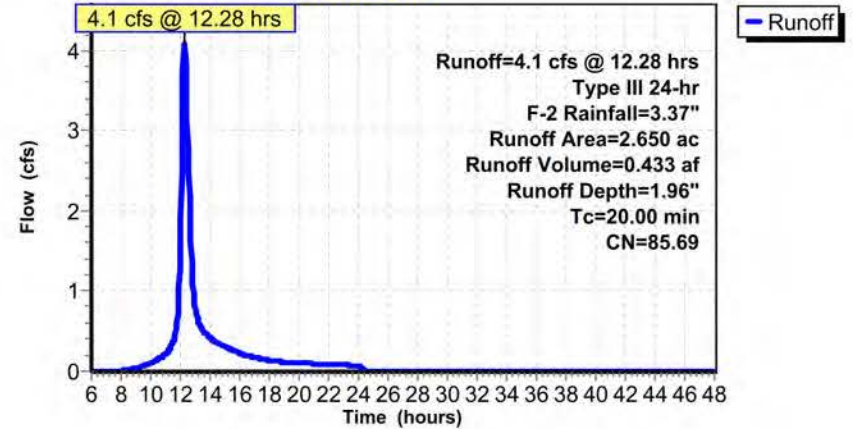
Runoff = 4.1 cfs @ 12.28 hrs, Volume= 0.433 af, Depth= 1.96"
 Routed to Link FIN : Final

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type III 24-hr F-2 Rainfall=3.37"

Area (ac)	CN	Description			
2.030	83.00	Woods, Poor, HSG D			
* 0.030	98.00	Buildings			
* 0.470	98.00	roads and Walks			
0.120	80.00	>75% Grass cover, Good, HSG D			
<hr/>					
2.650	85.69	Weighted Average			
2.150		81.13% Pervious Area			
0.500		18.87% Impervious Area			
<hr/>					
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.00					Direct Entry,

Subcatchment Woods: Wooded

Hydrograph



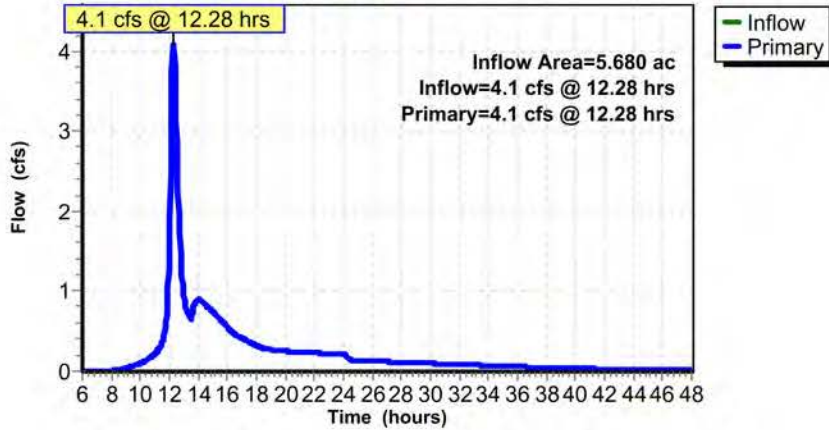
Summary for Link FIN: Final

Inflow Area = 5.680 ac, 43.66% Impervious, Inflow Depth > 1.63" for F-2 event
Inflow = 4.1 cfs @ 12.28 hrs, Volume= 0.771 af
Primary = 4.1 cfs @ 12.28 hrs, Volume= 0.771 af, Atten= 0%, Lag= 0.00 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

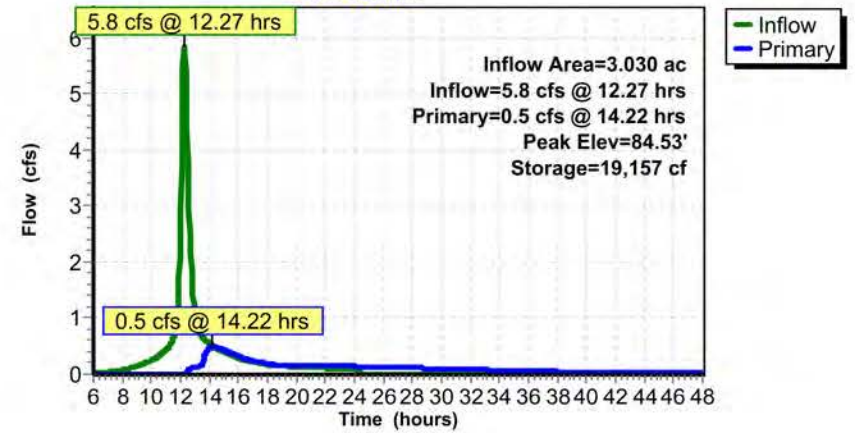
Link FIN: Final

Hydrograph



Pond POND: STORMWATER WETLAND

Hydrograph



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Type III 24-hr G-1 Rainfall=2.75"

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Summary for Subcatchment EX: EXISTING

Runoff = 6.6 cfs @ 12.28 hrs, Volume= 0.702 af, Depth= 1.48"

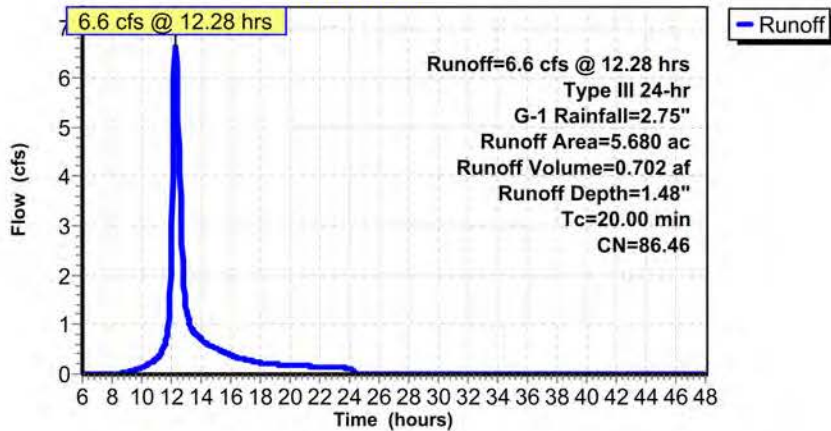
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr G-1 Rainfall=2.75"

Area (ac)	CN	Description
* 0.150	98.00	Buildings
* 1.160	98.00	Roads / Walks
4.370	83.00	Woods, Poor, HSG D
5.680	86.46	Weighted Average
4.370		76.94% Pervious Area
1.310		23.06% Impervious Area

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

Subcatchment EX: EXISTING

Hydrograph



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Type III 24-hr G-1 Rainfall=2.75"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX: EXISTING Runoff Area=5.680 ac 23.06% Impervious Runoff Depth=1.48"
Tc=20.00 min CN=86.46 Runoff=6.6 cfs 0.702 af

Subcatchment PR: PROPOSED Runoff Area=3.030 ac 65.35% Impervious Runoff Depth=1.90"
Tc=20.00 min CN=91.76 Runoff=4.5 cfs 0.481 af

Subcatchment Woods: Wooded Runoff Area=2.650 ac 18.87% Impervious Runoff Depth=1.43"
Tc=20.00 min CN=85.69 Runoff=3.0 cfs 0.315 af

Pond POND: STORMWATERWETLAND Peak Elev=84.38' Storage=16,982 cf Inflow=4.5 cfs 0.481 af
Outflow=0.1 cfs 0.195 af

Link FIN: Final Inflow=3.0 cfs 0.510 af
Primary=3.0 cfs 0.510 af

Total Runoff Area = 11.360 ac Runoff Volume = 1.499 af Average Runoff Depth = 1.58"
66.64% Pervious = 7.570 ac 33.36% Impervious = 3.790 ac

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Type III 24-hr G-1 Rainfall=2.75"

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Summary for Subcatchment Woods: Wooded

Runoff = 3.0 cfs @ 12.28 hrs, Volume= 0.315 af, Depth= 1.43"
Routed to Link FIN : Final

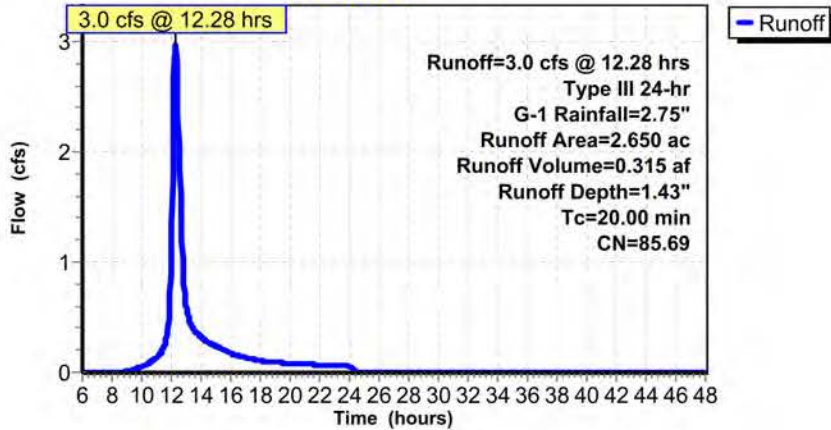
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr G-1 Rainfall=2.75"

Area (ac)	CN	Description
2.030	83.00	Woods, Poor, HSG D
* 0.030	98.00	Buildings
* 0.470	98.00	roads and Walks
0.120	80.00	>75% Grass cover, Good, HSG D
2.650	85.69	Weighted Average
2.150		81.13% Pervious Area
0.500		18.87% Impervious Area

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

Subcatchment Woods: Wooded

Hydrograph



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Type III 24-hr G-1 Rainfall=2.75"

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Summary for Subcatchment PR: PROPOSED

Runoff = 4.5 cfs @ 12.27 hrs, Volume= 0.481 af, Depth= 1.90"
Routed to Pond POND : STORMWATER WETLAND

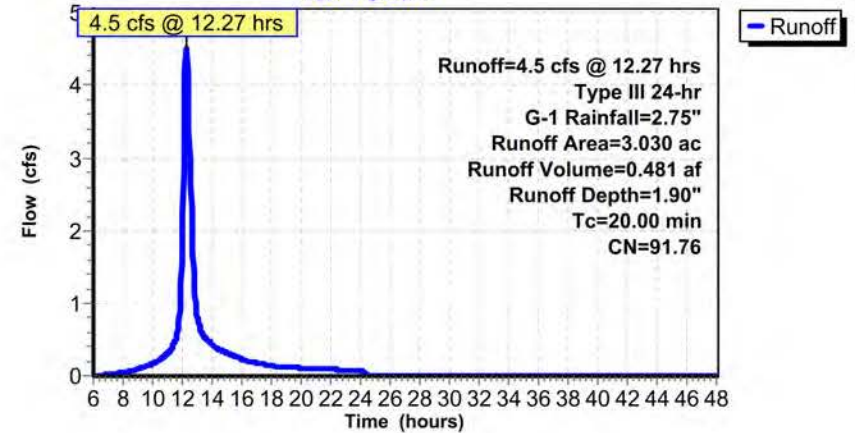
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr G-1 Rainfall=2.75"

Area (ac)	CN	Description
* 0.570	98.00	Buildings
* 1.410	98.00	Roads - Walkways
1.050	80.00	>75% Grass cover, Good, HSG D
3.030	91.76	Weighted Average
1.050		34.65% Pervious Area
1.980		65.35% Impervious Area

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

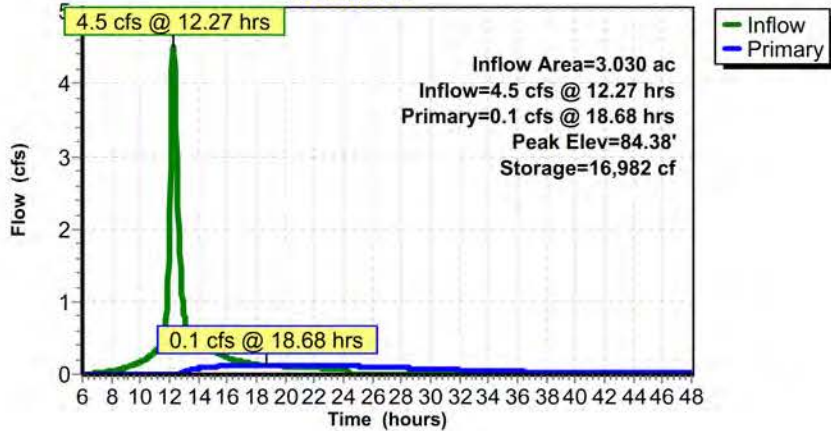
Subcatchment PR: PROPOSED

Hydrograph



Pond POND: STORMWATER WETLAND

Hydrograph



Summary for Pond POND: STORMWATER WETLAND

Inflow Area = 3.030 ac, 65.35% Impervious, Inflow Depth = 1.90" for G-1 event
 Inflow = 4.5 cfs @ 12.27 hrs, Volume= 0.481 af
 Outflow = 0.1 cfs @ 18.68 hrs, Volume= 0.195 af, Atten= 97%, Lag= 384.74 min
 Primary = 0.1 cfs @ 18.68 hrs, Volume= 0.195 af
 Routed to Link FIN : Final

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 84.38' @ 18.68 hrs Surf.Area= 18,236 sf Storage= 16,982 cf

Plug-Flow detention time= 810.59 min calculated for 0.195 af (41% of inflow)
 Center-of-Mass det. time= 687.62 min (1,505.15 - 817.53)

Volume	Invert	Avail.Storage	Storage Description
#1	84.00'	31,170 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2	80.00'	4,215 cf	pool 1 (Prismatic) Listed below (Recalc)
#3	80.00'	3,855 cf	pool 2 (Prismatic) Listed below (Recalc)
#4	80.00'	3,267 cf	Pool 3 (Prismatic) Listed below (Recalc)
		42,507 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
84.00	14,514	0	0
86.00	16,656	31,170	31,170

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	534	0	0
82.00	1,227	1,761	1,761
84.00	1,227	2,454	4,215

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	495	0	0
82.00	1,120	1,615	1,615
84.00	1,120	2,240	3,855

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	375	0	0
82.00	964	1,339	1,339
84.00	964	1,928	3,267

Device	Routing	Invert	Outlet Devices
#1	Primary	84.50'	15.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#2	Primary	84.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.1 cfs @ 18.68 hrs HW=84.38' (Free Discharge)

1=Sharp-Crested Rectangular Weir(Controls 0.0 cfs)

2=Orifice/Grate (Orifice Controls 0.1 cfs @ 2.45 fps)

CAr_Complete

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Type III 24-hr H-90% Rainfall=1.50"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX: EXISTING Runoff Area=5.680 ac 23.06% Impervious Runoff Depth=0.51"
Tc=20.00 min CN=86.46 Runoff=2.2 cfs 0.242 af

SubcatchmentPR: PROPOSED Runoff Area=3.030 ac 65.35% Impervious Runoff Depth=0.79"
Tc=20.00 min CN=91.76 Runoff=1.9 cfs 0.198 af

SubcatchmentWoods: Wooded Runoff Area=2.650 ac 18.87% Impervious Runoff Depth=0.48"
Tc=20.00 min CN=85.69 Runoff=0.9 cfs 0.106 af

Pond POND: STORMWATERWETLAND Peak Elev=83.19' Storage=8,644 cf Inflow=1.9 cfs 0.198 af
Outflow=0.0 cfs 0.000 af

Link FIN: Final Inflow=0.9 cfs 0.106 af
Primary=0.9 cfs 0.106 af

Total Runoff Area = 11.360 ac Runoff Volume = 0.546 af Average Runoff Depth = 0.58"
66.64% Pervious = 7.570 ac 33.36% Impervious = 3.790 ac

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Type III 24-hr G-1 Rainfall=2.75"

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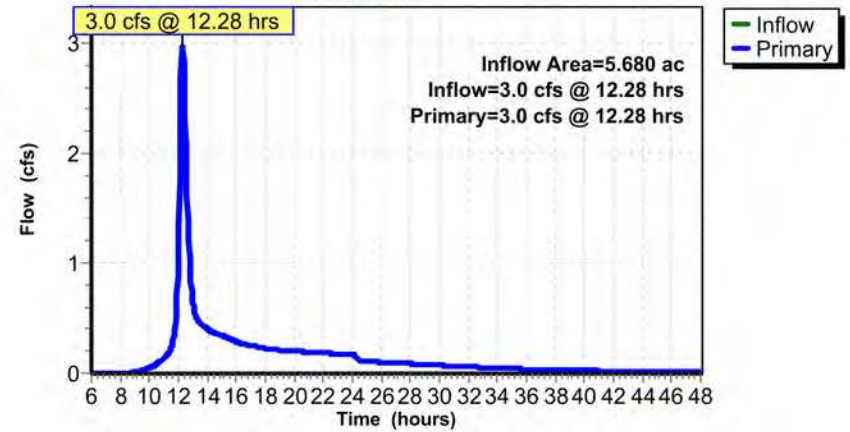
Summary for Link FIN: Final

Inflow Area = 5.680 ac, 43.66% Impervious, Inflow Depth > 1.08" for G-1 event
Inflow = 3.0 cfs @ 12.28 hrs, Volume= 0.510 af
Primary = 3.0 cfs @ 12.28 hrs, Volume= 0.510 af, Atten= 0%, Lag= 0.00 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link FIN: Final

Hydrograph



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Type III 24-hr H-90% Rainfall=1.50"

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Summary for Subcatchment PR: PROPOSED

Runoff = 1.9 cfs @ 12.28 hrs, Volume= 0.198 af, Depth= 0.79"
Routed to Pond POND : STORMWATER WETLAND

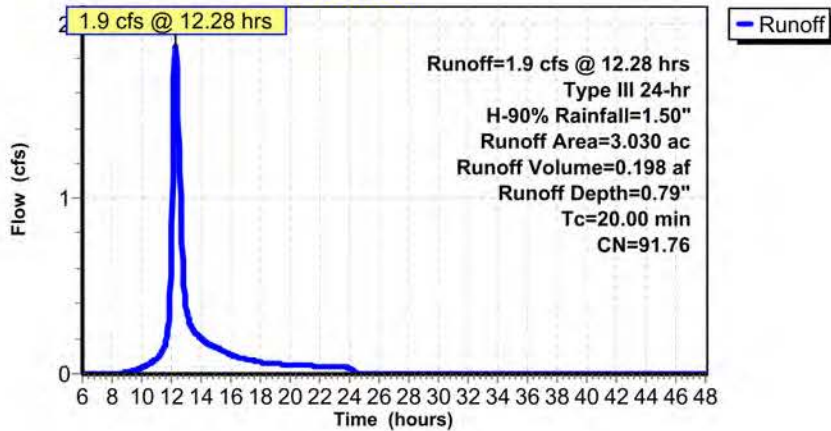
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr H-90% Rainfall=1.50"

Area (ac)	CN	Description
* 0.570	98.00	Buildings
* 1.410	98.00	Roads - Walkways
1.050	80.00	>75% Grass cover, Good, HSG D
3.030	91.76	Weighted Average
1.050		34.65% Pervious Area
1.980		65.35% Impervious Area

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

Subcatchment PR: PROPOSED

Hydrograph



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Type III 24-hr H-90% Rainfall=1.50"

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Summary for Subcatchment EX: EXISTING

Runoff = 2.2 cfs @ 12.30 hrs, Volume= 0.242 af, Depth= 0.51"

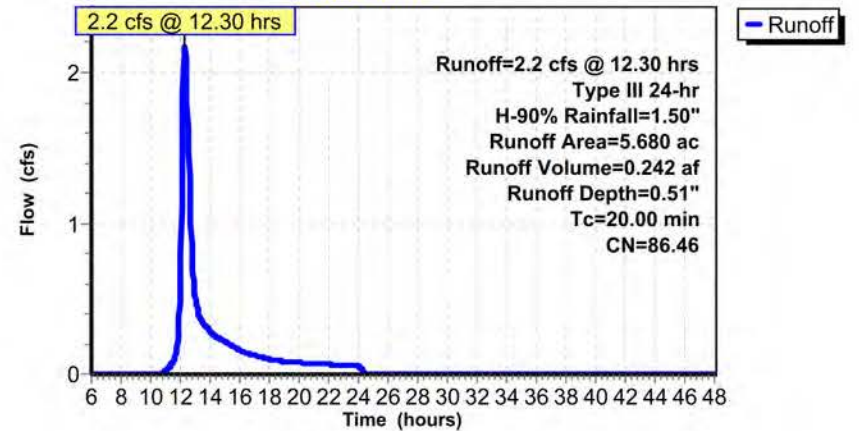
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr H-90% Rainfall=1.50"

Area (ac)	CN	Description
* 0.150	98.00	Buildings
* 1.160	98.00	Roads / Walks
4.370	83.00	Woods, Poor, HSG D
5.680	86.46	Weighted Average
4.370		76.94% Pervious Area
1.310		23.06% Impervious Area

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

Subcatchment EX: EXISTING

Hydrograph



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Type III 24-hr H-90% Rainfall=1.50"

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Summary for Pond POND: STORMWATER WETLAND

Inflow Area = 3.030 ac, 65.35% Impervious, Inflow Depth = 0.79" for H-90% event
Inflow = 1.9 cfs @ 12.28 hrs, Volume= 0.198 af
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.00 min
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link FIN : Final

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 83.19' @ 25.15 hrs Surf.Area= 3,311 sf Storage= 8,644 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	84.00'	31,170 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2	80.00'	4,215 cf	pool 1 (Prismatic) Listed below (Recalc)
#3	80.00'	3,855 cf	pool 2 (Prismatic) Listed below (Recalc)
#4	80.00'	3,267 cf	Pool 3 (Prismatic) Listed below (Recalc)
		42,507 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
84.00	14,514	0	0
86.00	16,656	31,170	31,170

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	534	0	0
82.00	1,227	1,761	1,761
84.00	1,227	2,454	4,215

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	495	0	0
82.00	1,120	1,615	1,615
84.00	1,120	2,240	3,855

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
80.00	375	0	0
82.00	964	1,339	1,339
84.00	964	1,928	3,267

Device	Routing	Invert	Outlet Devices
#1	Primary	84.50'	15.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#2	Primary	84.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=80.00' (Free Discharge)
 1=Sharp-Crested Rectangular Weir (Controls 0.0 cfs)
 2=Orifice/Grate (Controls 0.0 cfs)

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Type III 24-hr H-90% Rainfall=1.50"

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Summary for Subcatchment Woods: Wooded

Runoff = 0.9 cfs @ 12.30 hrs, Volume= 0.106 af, Depth= 0.48"
Routed to Link FIN : Final

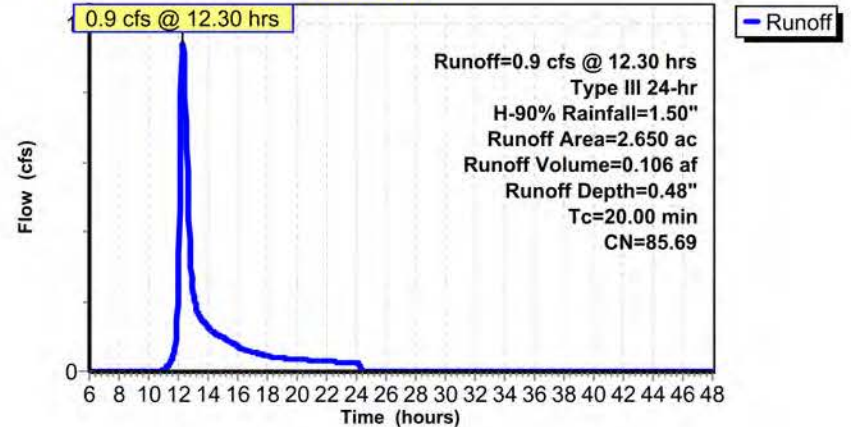
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr H-90% Rainfall=1.50"

Area (ac)	CN	Description
2.030	83.00	Woods, Poor, HSG D
* 0.030	98.00	Buildings
* 0.470	98.00	roads and Walks
0.120	80.00	>75% Grass cover, Good, HSG D
2.650	85.69	Weighted Average
2.150		81.13% Pervious Area
0.500		18.87% Impervious Area

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

Subcatchment Woods: Wooded

Hydrograph



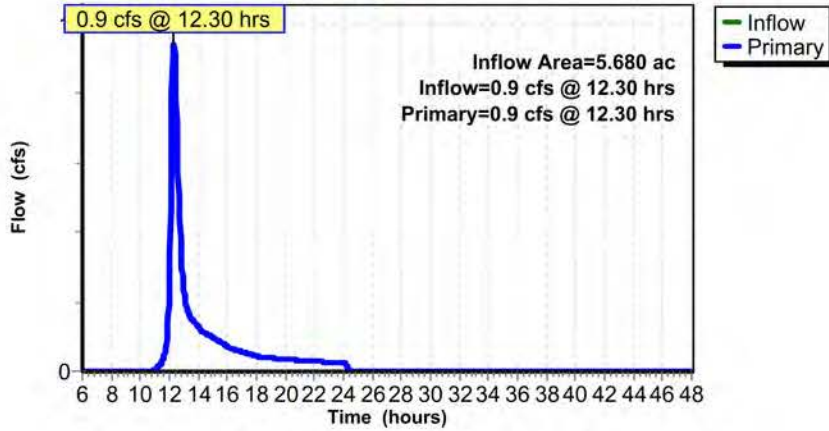
Summary for Link FIN: Final

Inflow Area = 5.680 ac, 43.66% Impervious, Inflow Depth = 0.22" for H-90% event
Inflow = 0.9 cfs @ 12.30 hrs, Volume= 0.106 af
Primary = 0.9 cfs @ 12.30 hrs, Volume= 0.106 af, Atten= 0%, Lag= 0.00 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

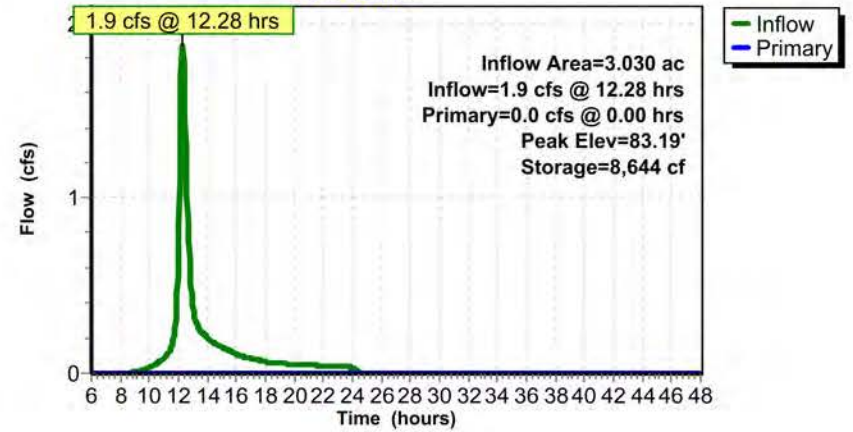
Link FIN: Final

Hydrograph



Pond POND: STORMWATER WETLAND

Hydrograph



CAr_Complete

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Multi-Event Tables

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Events for Subcatchment PR: PROPOSED

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
A-100	9.24	18.2	2.081	8.24
B-50	7.71	15.0	1.699	6.73
C-25	6.44	12.4	1.382	5.48
D-10	5.09	9.5	1.048	4.15
E-5	4.26	7.7	0.844	3.34
F-2	3.37	5.8	0.629	2.49
G-1	2.75	4.5	0.481	1.90
H-90%	1.50	1.9	0.198	0.79

Events for Pond POND: STORMWATER WETLAND

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
A-100	18.2	16.6	84.98	26,125
B-50	15.0	13.4	84.92	25,101
C-25	12.4	10.0	84.84	23,945
D-10	9.5	5.5	84.73	22,173
E-5	7.7	2.6	84.63	20,744
F-2	5.8	0.5	84.53	19,157
G-1	4.5	0.1	84.38	16,982
H-90%	1.9	0.0	83.19	8,644

Events for Link FIN: Final

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
A-100	31.0	31.0	0.00
B-50	24.9	24.9	0.00
C-25	18.6	18.6	0.00
D-10	10.3	10.3	0.00
E-5	5.8	5.8	0.00
F-2	4.1	4.1	0.00
G-1	3.0	3.0	0.00
H-90%	0.9	0.9	0.00

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Multi-Event Tables

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Events for Subcatchment EX: EXISTING

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
A-100	9.24	32.5	3.595	7.59
B-50	7.71	26.4	2.889	6.10
C-25	6.44	21.3	2.310	4.88
D-10	5.09	15.9	1.703	3.60
E-5	4.26	12.6	1.337	2.83
F-2	3.37	9.1	0.957	2.02
G-1	2.75	6.6	0.702	1.48
H-90%	1.50	2.2	0.242	0.51

Events for Subcatchment PR: PROPOSED

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
A-100	9.24	18.2	2.081	8.24
B-50	7.71	15.0	1.699	6.73
C-25	6.44	12.4	1.382	5.48
D-10	5.09	9.5	1.048	4.15
E-5	4.26	7.7	0.844	3.34
F-2	3.37	5.8	0.629	2.49
G-1	2.75	4.5	0.481	1.90
H-90%	1.50	1.9	0.198	0.79

Events for Subcatchment Woods: Wooded

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
A-100	9.24	15.0	1.656	7.50
B-50	7.71	12.2	1.328	6.01
C-25	6.44	9.8	1.059	4.79
D-10	5.09	7.3	0.777	3.52
E-5	4.26	5.7	0.608	2.75
F-2	3.37	4.1	0.433	1.96
G-1	2.75	3.0	0.315	1.43
H-90%	1.50	0.9	0.106	0.48

VILLAGE SQUARE

Wetland Functional Assessment and Evaluation of Impacts and Mitigation Measures

Project: Carbone Brothers 3095, LLC
Route 9A and Lake Street
Village of Buchanan, NY

Prepared By: Steve Marino, PWS
TIM MILLER ASSOCIATES, INC.
10 North Street
Cold Spring, New York 10516
(845) 265-4400

November, 2022

Introduction

The property owner, Mr. Anthony Carbone, is proposing to develop a 4.87 acre commercial property on the east side of Route 9A in the Village of Buchanan. Tim Miller Associates was retained to document and evaluate the existing wetland conditions, identify the potential impacts of the proposal and evaluate and recommend mitigation measures.

The site

The subject site is on the east side of Route 9A at the intersection with Lake Street, across from Hendrick Hudson High School and St. Christopher and St. Patrick Church (Figure 1). There are no existing buildings or structures on the site, although a portion of the rear of the property is paved.

The upland portions of the site are wooded, with common native and non-native species present. Red maple, Norway maple and slippery elm trees form the canopy while barberry and honeysuckle form the majority of the understory. In the northern part of the site the topography is generally flat for the first 100 - 150 feet from Route 9A, then slopes down to the delineated wetland area. The southern part of the site, adjacent to Lake Street, does not have wetlands and is about one half acre in size. According to historic aerial photos, buildings existed on this southern part of the site as recently as 1990 (Figures 2 thru 6). No New York State DEC wetlands are identified on the property; only the existing channel draining the wetland is shown on federal NWI mapping (Figure 7 and 8).

Included with the description of the wetland area is an evaluation of wetland functions. This evaluation is based on a modified version of the Magee Hollands "Rapid Procedure for Assessing Wetland Functional Capacity". The analysis is set up to allow evaluation of several parameters related to wetland value and function. These parameters are:

1. Position in the landscape
2. Hydrology
3. Soils
4. Vegetation

When considering the functions of the wetlands, parameters are evaluated based on a number of specific variables, including:

1. Modification of groundwater discharge
2. Modification of groundwater recharge
3. Storm and Flood-water storage
4. Modification of Stream Flow
5. Modification of Water Quality
6. Export of Detritus
7. Contribution to Abundance and Diversity of Wetland Vegetation
8. Contribution to Abundance and Diversity of Wetland Fauna

By evaluating aspects of each of these variables based on existing site conditions, it is possible to evaluate the level at which the existing wetland is providing these functions.

Wetland Description

The on-site wetland is a flat depressional area that extends approximately 320 feet from the northerly property line to the south. A small portion of the wetland extends onto the property to the north. Overflow of the depressional area flows out to the east through a narrow channel and into the lake on the property to the east of the site. Total area of the wetland is 50,082 square feet (1.15 ac.).

The majority of the wetland is vegetated with non-native, nuisance species. *Wisteria* (*Wisteria sinensis*), common reed (*Phragmites australis*), porcelainberry (*Ampelopsis glandulosa*) and Japanese knotweed (*Polygonum cuspidatum*) are the most common species observed. The small area of undisturbed wetland includes American elm (*Ulmus americana*) and red maple (*Acer rubrum*). See the attached photos for representative views of the wetland.

Soils within the wetland are identified as Leicester loam (LcA), a Westchester County hydric soil. Site examination confirms this description. See the attached NRCS soils mapping of the site.

Runoff from the surrounding properties and Route 9A flows overflow and as shallow lateral flow to the wetland area. The watershed draining to the site includes commercial and residential buildings along Route 9A, the bus garage to the south and a residence immediately to the north. Water leaves the site through a narrow channel to the east, entering the existing pond on Village of Buchanan property to the east along the existing power line easement. From here the water flows south, but it was not determined where the ultimate outlet to the Hudson occurs.

Based on the review of historic aerial photos portions of the site were disturbed by past activities until recently. Residences and parking areas are shown on the Route 9A frontage. A portion of the eastern side of the site was used as overflow parking for the school district bus depot to the south. This area is shown on the existing conditions survey as an asphalt pad.

Wetland Function

This wetland functions primarily in the storage of flood water and control of site runoff. In both cases the presence of vegetation and organic surface soils function to filter water physically and biochemically to improve water quality entering the system from upland areas. Watermarks on surrounding trees and the evidence of saturated soils indicate that there is seasonal or storm event related fluctuation of water in this wetland, but it is unknown at this time what the depth and duration of that water is.

The wetland on-site is too small to provide significant habitat for wetland dependent species, and is limited in the number of vegetation species it supports. Vegetative diversity is poor, and the invasive/non-native species outnumber the native species. The eastern part of the wetland is open from past disturbance and dominated by nuisance species. With the asphalt parking area immediately adjacent to the wetland, the capacity for buffering the wetland from human activity does not exist.

As part of the larger wetland system including the pond to the east and wetlands under the power line easement, it functions at a low level for wildlife habitat and vegetative diversity, primarily because of the presence of non-native species that dominate most of the on-site wetland. It does perform the important function of providing storage for flood control and stormwater runoff in large storm events.

Direct Impacts to Site Wetlands

It is our understanding that the proposed activities on site involve the construction of three residential buildings with frontage on Route 9A, and retail building at the corner of Route 9A and Lake Street. This development plan would require the filling of a portion of the wetland (approximately 17,000 square feet) for parking area and the construction of retaining wall. This retaining wall will separate the developed area from the wetland. A significant amount of non-native, invasive plant material is present in this area, and would require a good deal of work to clean out the vines and thicket (see attached photos).

This proposal would impact the primary function of the wetland, which is the storage and treatment of stormwater flows. Storage capacity for runoff would be lost, and the treatment of that runoff thorough the dense wetland vegetation and biologically active soils would be reduced. Most importantly, there should be no disruption of storm flows and flood waters into and out of the wetland, which could result in impacts to the primary function of this portion of the wetland.

The proposal would not significantly impact vegetative diversity or wildlife habitat, since the current condition of the wetland does not support those functions to any great extent.

Mitigation Proposal

In order to offset the impacts to the local wetlands, the applicant is proposing the construction of a stormwater wetland designed to replicate the existing wetland function as well as restore existing functions that are currently absent from the system. The project engineer has designed a shallow basin that will be excavated in the area in the eastern part of the site that is currently paved. This basin will flood periodically with storm events, providing hydrology for wetland plants that will be planted within and adjacent to the basin. Only native plants will be used, providing new vegetative diversity and wildlife habitat that is not currently available. It will also provide a wetland area adjacent to the existing pond on the neighboring property, enhancing the habitat value of that pond by adding diversity of structure and vegetation. The new wetland will offer a 1:1 replacement in area for the wetland being impacted, and significantly more functional benefit than the existing wetland. Long term maintenance and monitoring will be key to the success of the new wetland.

The remaining onsite wetland will be restored with an invasive species management, which will include the removal of nuisance vegetation such as *Phragmites*, porcelainberry, Japanese knotweed and wisteria.

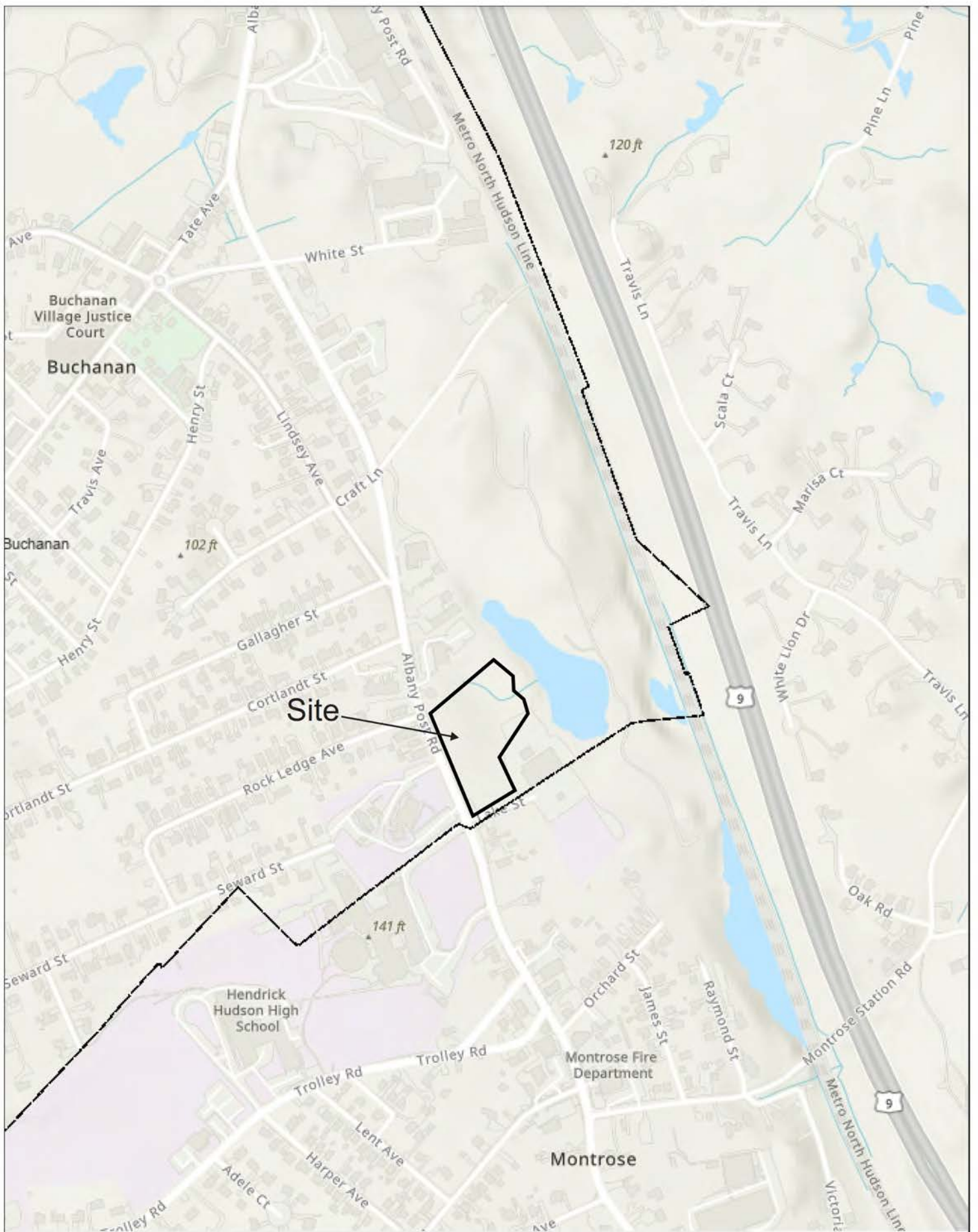


Figure 1: Site Location



Basemap Gallery

Aerial Photos Street Parcel Outlines

1947 1960 1976 1990 2000 2004 2007 2009 2010 2011 2013 2016 2018 2021 Map

Default Map	Topographic	OpenStreetMap
World Imagery (Firefly)	Streets	Terrain with Labels
Navigation	Community	Aerial 2021
USDA Imagery 2019	USDA Infrared Imagery 2019	Westchester County
Planimetric Basemap		

Figure 2: 1960 Aerial Photo
Route 9A, Buchanan
Source: Westchester County GIS



Basemap Gallery

Aerial Photos Street Parcel Outlines

1947 1960 1976 1990 2000 2004 2007 2009 2010 2011 2013 2016 2018 2021 Map

Default Map	Topographic	OpenStreetMap
World Imagery (Firefly)	Streets	Terrain with Labels
Navigation	Community	Aerial 2021
USDA Imagery 2019	USDA Infrared Imagery 2019	Westchester County
Planimetric Basemap		

Figure 3: 1976 Aerial Photo
Route 9A, Buchanan
Source: Westchester County GIS

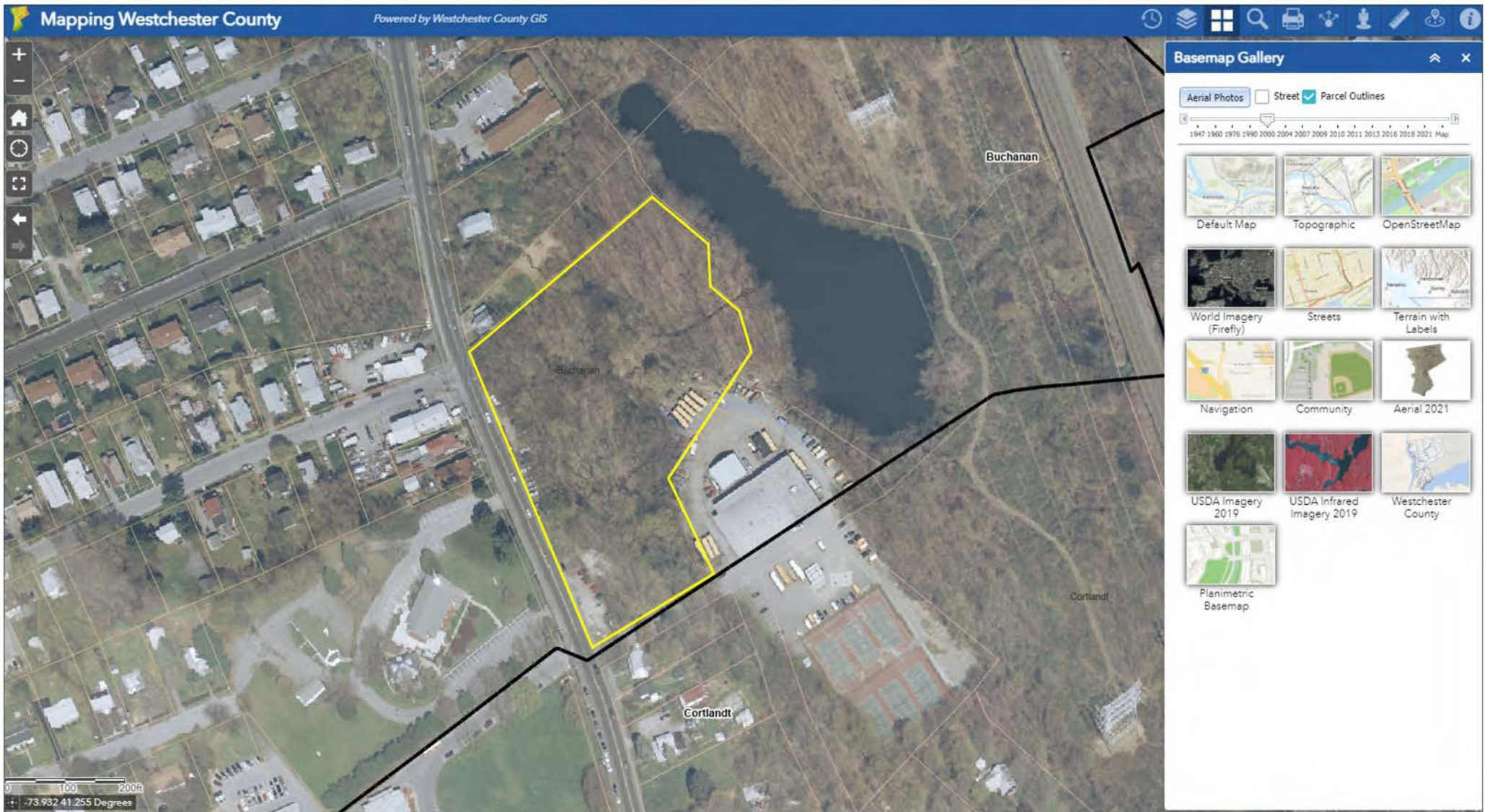


Figure 4: 2000 Aerial Photo
Route 9A, Buchanan
Source: Westchester County GIS



Basemap Gallery

Aerial Photos Street Parcel Outlines

1947 1960 1976 1990 2000 2004 2007 2009 2010 2011 2013 2016 2018 2021 Map

Default Map	Topographic	OpenStreetMap
World Imagery (Firefly)	Streets	Terrain with Labels
Navigation	Community	Aerial 2021
USDA Imagery 2019	USDA Infrared Imagery 2019	Westchester County
Planimetric Basemap		

Figure 5: 2013 Aerial Photo
Route 9A, Buchanan
Source: Westchester County GIS



Basemap Gallery

Aerial Photos Street Parcel Outlines

1947 1960 1976 1990 2000 2004 2007 2009 2010 2011 2013 2016 2018 2021 Map

Default Map	Topographic	OpenStreetMap
World Imagery (Firefly)	Streets	Terrain with Labels
Navigation	Community	Aerial 2021
USDA Imagery 2019	USDA Infrared Imagery 2019	Westchester County
Planimetric Basemap		

Figure 6: 2021 Aerial Photo
Route 9A, Buchanan
Source: Westchester County GIS

Environmental Resource Mapper

Base Map: Topographical Using this map

Search

Tools

Layers and Legend

- All Layers
- ★ Unique Geological Features
- Waterbody Classifications for Rivers/Streams
- Waterbody Classifications for Lakes
- State Regulated Freshwater Wetlands (Outside of the Adirondack Park)
- State Regulated Wetland Checkzone
- Imperiled Mussels
 - Mussel Screening Ponded Waters
 - Mussel Screening Streams
- Significant Natural Communities
 - Natural Communities Near This Location
- Rare Plants or Animals
- Base Flood Elevation Plus 72/75 Inches Sea-level Rise

Other Wetland Layers

Reference Layers

Tell Me More...

Need A Permit?

Contacts



Figure 7: New York State DEC Wetland Mapping
Route 9A, Buchanan
Source: NYSDEC Environmental Resource Mapper

Environmental Resource Mapper

Base Map: Topographical Using this map

Search

Tools

Layers and Legend

Other Wetland Layers

National Wetlands Inventory

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Reference Layers

Tell Me More...

Need A Permit?

Contacts

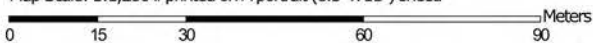


Figure 8: National Wetland Inventory Mapping
Route 9A, Buchanan
Source: NYSDEC Environmental Resource Mapper

Soil Map—Westchester County, New York
(Carbone, Route 9A Buchanan)



Map Scale: 1:1,280 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84




Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey


11/4/2022
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MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Westchester County, New York
Survey Area Data: Version 18, Sep 10, 2022

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

Date(s) aerial images were photographed: Oct 8, 2020—Oct 14, 2020

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
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	1.0	20.3%
LcA	Leicester loam, 0 to 3 percent slopes, stony	1.6	33.6%
UIC	Urban land-Charlton-Chatfield complex, rolling, very rocky	1.4	30.0%
UmC	Urban land-Chatfield-Rock outcrop complex, rolling	0.5	10.6%
W	Water	0.3	5.5%
Totals for Area of Interest		4.8	100.0%



Phragmites and porcelainberry on east side of wetland



Porcelainberry in trees in wetland



Existing pavement in area of proposed stormwater wetland



Knotweed on edge of wetland



Western area of wetland with stiltgrass and wisteria



Red maple poles with stiltgrass

**Full Environmental Assessment Form
Part 1 - Project and Setting**

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Village Square Residences and Commercial Development		
Project Location (describe, and attach a general location map): 3095 Albany Post Road, Buchanan, NY 10511		
Brief Description of Proposed Action (include purpose or need): The Village Square is composed of three (3) new Multi-family residential apartment buildings and a free-standing commercial site. The site will have 112 parking spaces and a proposed Stormwater Wetland.		
Name of Applicant/Sponsor: Carbone Brothers 3095, LLC	Telephone: 914-737-3560	E-Mail: carbonekitcab@optonline.net
Address: 2043 Albany Post Road		
City/PO: Croton-on-Hudson	State: NY	Zip Code: 10520
Project Contact (if not same as sponsor; give name and title/role): Anthony Carbone, President	Telephone:	E-Mail:
Address: Same As Above		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor):	Telephone:	E-Mail:
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. (“Funding” includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No or Village Board of Trustees		
b. City, Town or Village Planning Board or Commission <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Site Plan Approval	
c. City, Town or Village Zoning Board of Appeals <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
d. Other local agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
e. County agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
f. Regional agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
g. State agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	NYS DOT Permit	
h. Federal agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
i. Coastal Resources.		
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
iii. Is the project site within a Coastal Erosion Hazard Area?		<input type="checkbox"/> Yes <input type="checkbox"/> No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? Yes No

- **If Yes**, complete sections C, F and G.
- **If No**, proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? Yes No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? Yes No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) Yes No

If Yes, identify the plan(s):

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? Yes No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. Yes No
If Yes, what is the zoning classification(s) including any applicable overlay district?

b. Is the use permitted or allowed by a special or conditional use permit? Yes No

c. Is a zoning change requested as part of the proposed action? Yes No

If Yes,

i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Hendrick Hudson School District

b. What police or other public protection forces serve the project site? Village of Buchanan Police

c. Which fire protection and emergency medical services serve the project site? Village of Buchanan Fire Department

d. What parks serve the project site? Blue Mountain Reservation

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)?

b. a. Total acreage of the site of the proposed action? 4.87 acres

b. Total acreage to be physically disturbed? 3.00 acres

c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 4.87 acres

c. Is the proposed action an expansion of an existing project or use? Yes No

i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? Yes No

If Yes,

i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

_____ Yes No

ii. Is a cluster/conservation layout proposed? Yes No

iii. Number of lots proposed? _____

iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? Yes No

i. If No, anticipated period of construction: _____ months

ii. If Yes:

• Total number of phases anticipated _____

• Anticipated commencement date of phase 1 (including demolition) _____ month _____ year

• Anticipated completion date of final phase _____ month _____ year

• Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? Yes No
 If Yes, show numbers of units proposed.

	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	<u>51 Units</u>

g. Does the proposed action include new non-residential construction (including expansions)? Yes No
 If Yes,

i. Total number of structures One (1)
 ii. Dimensions (in feet) of largest proposed structure: 25' height; 35' width; and 65' length
 iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? Yes No
 If Yes,

i. Purpose of the impoundment: _____
 ii. If a water impoundment, the principal source of the water: Ground water Surface water streams Other specify: _____
 iii. If other than water, identify the type of impounded/contained liquids and their source. _____
 iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres
 v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length
 vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? Yes No
 (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
 If Yes:

i. What is the purpose of the excavation or dredging? _____
 ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
 • Volume (specify tons or cubic yards): _____
 • Over what duration of time? _____
 iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____

 iv. Will there be onsite dewatering or processing of excavated materials? Yes No
 If yes, describe. _____

 v. What is the total area to be dredged or excavated? _____ acres
 vi. What is the maximum area to be worked at any one time? _____ acres
 vii. What would be the maximum depth of excavation or dredging? _____ feet
 viii. Will the excavation require blasting? Yes No
 ix. Summarize site reclamation goals and plan: _____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? Yes No
 If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): Local wetland

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will the proposed action cause or result in disturbance to bottom sediments? Yes No

If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? Yes No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

c. Will the proposed action use, or create a new demand for water? Yes No

If Yes:

i. Total anticipated water usage/demand per day: 24,027 GPD gallons/day

ii. Will the proposed action obtain water from an existing public water supply? Yes No

If Yes:

- Name of district or service area: Village of Buchanan
- Does the existing public water supply have capacity to serve the proposal? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No
- Do existing lines serve the project site? Yes No

iii. Will line extension within an existing district be necessary to supply the project? Yes No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: No Extensions Proposed
- Source(s) of supply for the district: City of Peekskill

iv. Is a new water supply district or service area proposed to be formed to serve the project site? Yes No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? Yes No

If Yes:

i. Total anticipated liquid waste generation per day: 24,027 GPD gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): Sewage

iii. Will the proposed action use any existing public wastewater treatment facilities? Yes No

If Yes:

- Name of wastewater treatment plant to be used: Village of Buchanan Wastewater Treatment Plant
- Name of district: Village of Buchanan
- Does the existing wastewater treatment plant have capacity to serve the project? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No

- Do existing sewer lines serve the project site? Yes No
- Will a line extension within an existing district be necessary to serve the project? Yes No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: No Extension Proposed

- iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? Yes No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

- v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

- vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

- e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? Yes No

If Yes:

- i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 3.03 acres (impervious surface)

_____ Square feet or 4.87 acres (parcel size)

- ii. Describe types of new point sources. _____

- iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

Stormwater wetland and then to adjacent lake.

- If to surface waters, identify receiving water bodies or wetlands: Adjacent lake

- Will stormwater runoff flow to adjacent properties? Yes No

- iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? Yes No

- f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? Yes No

If Yes, identify:

- i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

- ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

- iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

- g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? Yes No

If Yes:

- i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) Yes No

- ii. In addition to emissions as calculated in the application, the project will generate:

- _____ Tons/year (short tons) of Carbon Dioxide (CO₂)
- _____ Tons/year (short tons) of Nitrous Oxide (N₂O)
- _____ Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆)
- _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydrofluorocarbons (HFCs)
- _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? Yes No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? Yes No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): _____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? Yes No

If Yes:

i. When is the peak traffic expected (Check all that apply): Morning Evening Weekend
 Randomly between hours of 7:AM to 9:AM.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): 0

iii. Parking spaces: Existing 0 Proposed 112 Net increase/decrease +112

iv. Does the proposed action include any shared use parking? Yes No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____

vi. Are public/private transportation service(s) or facilities available within 1/2 mile of the proposed site? Yes No

vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? Yes No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? Yes No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? Yes No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): Con Edison

iii. Will the proposed action require a new, or an upgrade, to an existing substation? Yes No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 AM - 4 PM
- Saturday: 7 AM - 4 PM
- Sunday: N/A
- Holidays: N/A

ii. During Operations: 24 HRS/Day Per Residential Use

- Monday - Friday: _____
- Saturday: _____
- Sunday: _____
- Holidays: _____

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? Yes No
 If yes:
 i. Provide details including sources, time of day and duration:

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? Yes No
 Describe: _____

n. Will the proposed action have outdoor lighting? Yes No
 If yes:
 i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:
Lamps over doors

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? Yes No
 Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? Yes No
 If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? Yes No
 If Yes:
 i. Product(s) to be stored _____
 ii. Volume(s) _____ per unit time _____ (e.g., month, year)
 iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? Yes No
 If Yes:
 i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? Yes No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? Yes No
 If Yes:
 i. Describe any solid waste(s) to be generated during construction or operation of the facility:
 • Construction: _____ tons per _____ (unit of time)
 • Operation : _____ tons per _____ (unit of time)
 ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:
 • Construction: _____

 • Operation: _____

 iii. Proposed disposal methods/facilities for solid waste generated on-site:
 • Construction: _____

 • Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? Yes No
 If Yes:
 i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____
 ii. Anticipated rate of disposal/processing:
 • _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
 • _____ Tons/hour, if combustion or thermal treatment
 iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? Yes No
 If Yes:
 i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

 ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

 iii. Specify amount to be handled or generated _____ tons/month
 iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

 v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? Yes No
 If Yes: provide name and location of facility: _____

 If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.
 i. Check all uses that occur on, adjoining and near the project site.
 Urban Industrial Commercial Residential (suburban) Rural (non-farm)
 Forest Agriculture Aquatic Other (specify): _____
 ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.06	3.03	+ 2.97
• Forested	4.81	2.31	-2.50
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)	1.15	1.15	0
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____ _____			

c. Is the project site presently used by members of the community for public recreation? Yes No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? Yes No
If Yes,
i. Identify Facilities: _____

e. Does the project site contain an existing dam? Yes No
If Yes:
i. Dimensions of the dam and impoundment:
• Dam height: _____ feet
• Dam length: _____ feet
• Surface area: _____ acres
• Volume impounded: _____ gallons OR acre-feet
ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection: _____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? Yes No
If Yes:
i. Has the facility been formally closed? Yes No
• If yes, cite sources/documentation: _____
ii. Describe the location of the project site relative to the boundaries of the solid waste management facility: _____
iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? Yes No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred: _____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? Yes No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: Yes No
 Yes – Spills Incidents database Provide DEC ID number(s): _____
 Yes – Environmental Site Remediation database Provide DEC ID number(s): _____
 Neither database
ii. If site has been subject of RCRA corrective activities, describe control measures: _____
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? Yes No
If yes, provide DEC ID number(s): _____
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s): _____

v. Is the project site subject to an institutional control limiting property uses? Yes No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? Yes No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 4' feet

b. Are there bedrock outcroppings on the project site? Yes No
 If Yes, what proportion of the site is comprised of bedrock outcroppings? < 1% %

c. Predominant soil type(s) present on project site:

<u>Charlton-Chatfield</u>	<u>20</u> %
<u>Leicester Loam</u>	<u>30</u> %
<u>Urban Land</u>	<u>45</u> %

d. What is the average depth to the water table on the project site? Average: _____ feet

e. Drainage status of project site soils: Well Drained: 25 % of site
 Moderately Well Drained: 50 % of site
 Poorly Drained: 25 % of site

f. Approximate proportion of proposed action site with slopes: 0-10%: 20 % of site
 10-15%: 50 % of site
 15% or greater: 30 % of site

g. Are there any unique geologic features on the project site? Yes No
 If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? Yes No

ii. Do any wetlands or other waterbodies adjoin the project site? Yes No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? Yes No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name One (1) Lake Classification B
- Wetlands: Name Associated with lake Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? Yes No
 If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? Yes No

j. Is the project site in the 100-year Floodplain? Yes No

k. Is the project site in the 500-year Floodplain? Yes No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? Yes No
 If Yes:
 i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site: _____

Northeastern Woodland mammals and amphibians _____

n. Does the project site contain a designated significant natural community? Yes No
 If Yes:
 i. Describe the habitat/community (composition, function, and basis for designation): _____

 ii. Source(s) of description or evaluation: _____
 iii. Extent of community/habitat:
 • Currently: _____ acres
 • Following completion of project as proposed: _____ acres
 • Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? Yes No
 If Yes:
 i. Species and listing (endangered or threatened): _____

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? Yes No
 If Yes:
 i. Species and listing: _____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? Yes No
 If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? Yes No
 If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? Yes No
 i. If Yes: acreage(s) on project site? _____
 ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? Yes No
 If Yes:
 i. Nature of the natural landmark: Biological Community Geological Feature
 ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? Yes No
 If Yes:
 i. CEA name: Hudson River
 ii. Basis for designation: Exceptional or Unique Character
 iii. Designating agency and date: Westchester County date: 1-31-90

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? Yes No

If Yes:

i. Nature of historic/archaeological resource: Archaeological Site Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based: _____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? Yes No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? Yes No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? Yes No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? Yes No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? Yes No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Ralph G. Mastro Monaco, PE, PC Date November 29, 2022

Signature  Title President