



Village/Town of Mount Kisco Building Department
104 Main Street
Mount Kisco, New York 10549
Ph. (914) 864-0019-fax (914) 864-1085

December 3, 2020

Mr. Martin R. Ramirez
17 Lenox Place
Mount Kisco, NY 10549



Re: Notice of Denial
17 Lenox Place
Mount Kisco, NY 10549
(SBL) 80.33-2-6

Dear Mr. Ramirez,

Your recent Building Permit Application for the proposed wood deck addition has been denied for the following reasons:

1. The property is located within the RT-6 (One- and Two- Family Residence) Zoning District where the required front yard setback is 25 feet and the existing building is located 10.75 feet from the front property line. Also, the required rear yard setback is 20 feet and the existing building is located 18 feet from the rear property line. Therefore, the existing structure does not comply with the current RT-6 Zoning district. According to Chapter 110-35 (D) *Noncomplying buildings and structures may not be enlarged without a variance being obtained from the Zoning Board of Appeals pursuant to this chapter. No building or structure which is noncomplying with respect to applicable developmental regulations (by illustration, but not by limitation, height, setbacks, building and development coverage, lot area or lot width) shall be enlarged or altered in such a manner as to increase any such noncompliance or so as to enlarge or increase the area of such building or structure, including but not limited to the alteration of roof or floor levels or the addition of area above, below or adjacent to such noncomplying building or structure. Therefore a variance is required in accordance with §110-35D of the Village/Town of Mount Kisco Code.*
2. The minimum required lot area is 6,250 square feet and the existing lot area is 3,900 square feet. Therefore; a lot area variance of 2,350 square feet is required in accordance with §110-10 C (1) (a) of the Village/Town of Mount Kisco Code.

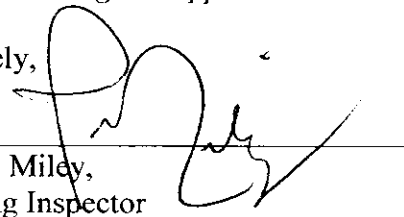
3. The maximum permitted building coverage is 25% (975 square feet) and the proposed building coverage is 29% (1,130 square feet). Therefore, a building coverage variance of 4% is required in accordance with §110-10 C (1) (b) of the Village/Town of Mount Kisco Code.

4. The maximum permitted development coverage is 40% (1,560 square feet) and the proposed development coverage is 59% (2,300 square feet). Therefore; a development coverage variance of 19% is required in accordance with §110-10 C (1) (c) of the Village/Town of Mount Kisco Code.

5. The minimum rear setback is 20 feet and the proposed rear setback is 0 feet. Therefore; a rear setback variance of 20 feet is required in accordance with §110-10 C (2) (b) of the Village/Town of Mount Kisco Code.

You have the right to appeal this decision within 60 days.

Sincerely,



Peter J. Miley,
Building Inspector

/pat

112
CH # 1502
REC # 25580

Village/Town of Mount Kisco Building Department
104 Main Street
Mount Kisco, New York 10549
(914) 864-0019 FAX (914) 864-1085

Application #: _____

Permit #: _____

BUILDING PERMIT APPLICATION

Note: Three sets of construction documents must be submitted with application.

Project Address: 17 lenox Place

Zoning District: _____ Section/Block/Lot(s): 80.33.2-6

Applicant's Name: Martin Rivera Ramirez

Address: 17 lenox Place

Email address: jrendon92@gmail.com Phone #: 914 255 6277

Name of Property Owner: Martin Rivera Phone #: 914 255 6277
(If Different)

Present Address of Owner: Same

Email address: _____ Phone #: 914 255 6277

Description of Improvement and Proposed Use in Detail: wood deck over concrete patio

Total Estimated Cost of Improvement: \$ 980.00

AFFIDAVIT OF CONSTRUCTION COST: This affidavit must be completed by the Design Professional if the estimated cost is \$20,000.00 or more, or the project is a legalization.

I _____ do hereby affirm and certify as follows: (i) I am the architect/engineer (circle one) licensed by the State of New York; (II) I have reviewed the plans, drawings and specifications of this application and am fully familiar with the proposed construction; (III) based on my experience, I estimate the total cost of construction, including all labor, all material, all professional fees and all associated costs to be approximately \$ _____, and (IV) pursuant to Penal Law 210.4, I acknowledge that a false statement made knowingly is a Class A Misdemeanor.

Signature: _____

Sign & Affix Seal _____

Date: _____

Property Use: (please answer all questions)

Existing use Residential:

☒ Single Family ☐ 2 Family ☐ Other (Please specify) _____

Intended use:

☐ Single Family ☐ 2 Family ☐ Other (Please specify) _____

Existing Use Commercial:

☐ Multi Family (How Many) ____ ☐ Retail ☐ Restaurant ☐ Other (Please specify) _____

Intended Use:

☐ Multi Family (How Many) ____ ☐ Retail ☐ Restaurant ☐ Other (Please specify) _____

Is there an approved site plan for this property?

Is this a new residential house? ☐ Yes ☐ No ☐ Addition ☐ Alteration

Is this a new commercial building? ☐ Yes ☐ No ☐ Addition ☐ Alteration

Municipal sewer? ☐ Yes ☐ No Septic System? ☐ Yes ☐ No (if applicable, attach Health Dept. Approval)

Is this structure within the flood plain? ☐ Yes ☐ No (If yes, please file a Flood Development Permit)

Is this project within any wetlands, buffer or water course? ☐ Yes ☐ No (If ye, file a Wetlands application)

Topography: ☐ Flat ☐ Hilly ☐ Rocky ☐ Steep Incline ☐ Other (please specify) _____

Will the land disturbance affect any steep slopes? ☐ Yes ☐ No (if yes, please file Planning Board application)

How many square feet of land disturbance is there? _____

Contractor: homeowner

Address: _____

Phone #: _____ Fax #: _____

Email address : _____

Westchester County Home Improvement License #: _____

Architect or Engineer: _____ NYS Lic. #: _____

Address: _____

Phone #: _____ Fax #: _____

Email address : _____

Electrician: _____ Phone #: _____ WC Lic. #. _____

Address: _____

Phone #: _____ Email address : _____

Plumber: _____ Phone #: _____ WC Lic. # _____

Address: _____

Phone #: _____ Email address : _____

The undersigned applicant hereby agrees with all applicable provisions of the Code of the Village/Town of Mount Kisco and all other laws, codes, rules and requirements applicable to the proposed construction and that statements contained herein are true to the best of his/her knowledge.

Applicant's Signature

MICHELLE K. RUSSO

NOTARY PUBLIC-STATE OF NEW YORK

No. 01RU6313298

Qualified In Putnam County

My Commission Expires 10-20-2022

Sworn to before me this 26th day of August 2020

Notary Public, Westchester County:

Affidavit of Owner Authorization:

If the applicant is not the owner in fee of the premises:

The applicant _____ has my consent from to make this application as submitted.

Owner's Name Printed

Owner's Signature

Sworn to before me this _____ day of _____

Notary Public, Westchester County: _____

Name of Project Contact Person:

Daytime Phone #: 914 666 2428 Fax #: _____

914 255 6272

DO NOT WRITE BELOW THIS LINE - OFFICE USE ONLY

Received by: _____

Board Approvals:

- ☐ Application/Permit Fee _____
- ☐ License: _____
- ☐ Insurance: _____
- ☐ 3 sets of drawings: _____
- ☐ Flood Plain Development Application (if required) _____

- ☐ Planning
- ☐ Zoning
- ☐ ARB
- ☐ Other

Reviewed By: _____

Date: _____

Building Inspector Approval: _____

Date approved: _____

Conditions: _____

11

Mount Kisco January 14, 2021

To the Zoning Board of Appeals

Village/Town of Mount Kisco
Zoning Board of Appeals

FEB 12 2021

RECEIVED

This present letter is to Appeal the denial of the project for my property located in

17 Lenox place, Mount Kisco NY 10549.

The construction in matter is to cover with a wood panels a pre-existent old cement patio that was damaged because of the years that was in place.

We can call that deck but truly is not a complex structure like a full deck can be and it really is a wood paneling to cover the seriously damaged cement patio that was already there.

Best regards

Martin Rivera
Fernando Rendon

NO2.

Date: _____

Village/Town of Mount Kisco
Zoning Board of Appeals

Case No.: ZBA 21-3

Fee: \$130

FEB 12 2021

Date Filed: _____

RECEIVED

Village/Town of Mount Kisco
Municipal Building
104 Main Street, Mt. Kisco, NY 10549

**Zoning Board of Appeals
Application**

son Appellant: Martin Rivera Ramirez
Address: 17 Lenox Pl
Address of subject property (if different): _____

Appellant's relationship to subject property: ☒ Owner _____ Lessee _____ Other _____

Property owner (if different): _____
Address: _____

TO THE CHAIRMAN, ZONING BOARD OF APPEALS: An appeal is hereby taken
from the decision of the Building Inspector, Peter J. Miley
dated Dec 3, 2020. Application is hereby made for the following:

5 Variation ^(s) or _____ Interpretation of Section (s) See public notice
of the Code of the Village/Town of Mount Kisco,

to permit the: ☒ Erection; ☒ Alteration; _____ Conversion; _____ Maintenance
of a rear yard deck made out of wood over a concrete patio

_____ in accordance with plans filed on (date) Oct 28 2020
for Property ID # 80-33-2-6 located in the RT-6 Zoning District.
The subject premises is situated on the N side of (street) Lenox Pl.
_____ in the Village/Town of Mount Kisco, County of Westchester, NY.
Does property face on two different public streets? Yes/No NO
(If on two streets, give both street names) _____

Type of Variance sought: _____ Use ☒ Area

Is the appellant before the Planning Board of the Village of Mount Kisco with regard to this property? no

Is there an approved site plan for this property? no in connection with a _____ Proposed or _____ Existing building; erected (yr.) _____

Size of Lot: 65 feet wide 60 feet deep Area 2,350 sq ft

Size of Building: at street level 40 +/- feet wide 27 +/- feet deep

Height of building: 1 1/2 story Present use of building: single family

Does this building contain a nonconforming use? no Please identify and explain: _____

Is this building classified as a non-complying use? no Please identify and explain: _____

Has any previous application or appeal been filed with this Board for these premises?
Yes/No? no

Was a variance ever granted for this property? no If so, please identify and explain: _____

Are there any violations pending against this property? no If so, please identify and explain: _____

Has a Work Stop Order or Appearance Ticket been served relative to this matter?
____ Yes or no No Date of Issue: _____

Have you inquired of the Village Clerk whether there is a petition pending to change the subject zoning district or regulations? no petitions

I submit the following attached documents, drawings, photographs and any other items listed as evidence and support and to be part of this application:

The following items MUST be submitted:

- ✓
- lkm ✓
- ✓
- a) Attached hereto is a copy of the order or decision (Notice of Denial) issued by the Building Inspector or duly authorized administrative official issued on December 3, 2020 upon which this application is based.
 - b) Copy of notice to the administrative official that I have appealed, setting forth the grounds of appeal and have requested the application to be scheduled for a public hearing.
 - c) A typewritten statement of the principal points (facts and circumstances) on which I base my application with a description of the proposed work.
 - d) Ten (10) sets of site plans, plat or as-built survey drawings professionally signed and sealed (as may be required).
 - e) A block diagram with street names, block and lot numbers, and street frontage showing all property affected within 300' of the subject property, with a North point of the compass indicated.
 - f) A full list of names and addresses of the owners of all property shown on the above noted block diagram that lie within or tangent to the 300' radius from the subject property.
 - g) A copy of the Public Notice for the public hearing of this application.
 - h) A sworn Affidavit of Mailing, duly notarized, that a true copy of said Public Notice has been sent by mail to all property owners within 300 feet of this premises at least 10 days prior to the public hearing.

NOTE: APPLICANT MUST CAUSE A TRUE COPY OF THE PUBLIC NOTICE TO BE PUBLISHED IN THE OFFICIAL NEWSPAPER OF THE VILLAGE AT LEAST 15 DAYS PRIOR TO THE PUBLIC HEARING.

- i) A true copy of the filed deed and/or signed lease or contract for the use of the subject property.
- *j) At least two sets of unmounted photographs, 4" by 6" in size, showing actual conditions on both sides of street, between intersecting streets. Print street names and mark premises in question.
- *k) A floor plan of the subject building with all the necessary measurements.
- *l) A longitudinal section of the subject building and heights marked thereon as well as front elevations.

* Optional - As Needed

I hereby depose & say that all the above statements and the statements contained in the papers submitted herewith are true.

(Appellant to sign here)

Sworn to before me this day of: February 12, 2021

Notary Public, Patricia A Tupa, Westchester County, NY

PATRICIA A TIPA
NOTARY PUBLIC-STATE OF NEW YORK
No. 01T16170206
Qualified in Westchester County
My Commission Expires 07-02-2023

[TO BE COMPLETED IF APPELLANT IS NOT THE PROPERTY OWNER IN FEE]

State of New York }
County of Westchester } ss

Being duly sworn, deposes and say that he resides at _____ in the County of Westchester, in the State of New York, that he is the owner in fee of all that certain lot, piece or parcel of land situated, lying and being in the Village of Mount Kisco, County of Westchester aforesaid and known and designated as number _____ and that he hereby authorized _____ to make the annexed application in his behalf and that the statements contained in said application are true.

(sign here)

OWNERNAME	PROPADDRESS	PROPCITY	PROPII	PROPPRINT	KE Mailing Address	C/O	City	State	Zip
222 Kisco Plaza East Corp.	222 Main St	Mt Kisco	10549	80.33-1-13	27 Radio Circle	MRE Mgmt Corp	Mt Kisco	NY	10549
Larchmont Development LLC - BCAMK LLC	200 Main St	Mt Kisco	10549	80.33-1-11	48 Grand St		New Rochelle	NY	10801
Reisz Claudia	135 Grove St	Mt Kisco	10549	80.33-3-8					
209 East Main Street, LLC	209 Main St	Mt Kisco	10549	80.33-4-8	13A Fisher Lane	Phylliss	Katonah	NY	10536
D C G A Inc	20 Lundy Ln	Mt Kisco	10549	80.33-2-9	26 Pines Bridge Rd		Mt Kisco	NY	10549
Gomez, Guillermo - Patricia Gomez	108 Grove St	Mt Kisco	10549	80.25-3-17					
Hammond, Robert K - Grace O Hammond	28 Lenox Pl	Mt Kisco	10549	80.33-4-1	4 Russell Rd		North Salem	NY	10560
Finch, Gary C	149 Grove St	Mt Kisco	10549	80.33-3-7.1	28 Oakridge Rd		Mt Kisco	NY	10549
Twelve-Five Inc	13 Lundy Ln	Mt Kisco	10549	80.25-3-22	38 Wellington St		London Ontario Canada		NGA 4S4
Ford, Donald G	16 Lundy Ln	Mt Kisco	10549	80.33-2-2	26 Pines Bridge Rd		Mt Kisco	NY	10549
Martabano, Kenneth D - Karen Martabano	13 Lenox Pl	Mt Kisco	10549	80.33-2-7	145 Martin Rd		Hopewell Junction	NY	12533
Byrne, Patrick - Tara Flanagan	16 Oakridge Rd	Mt Kisco	10549	80.25-3-40	15 Christopher Rd		Bedford Cornors	NY	10549
Morgano Matthew - Caroline Matthew	100 Grove St	Mt Kisco	10549	80.25-3-15					
Albanese Carmelo - Isidoro Albanese	109 Grove St	Mt Kisco	10549	80.25-4-7	122 McLain St		Bedford Cornors	NY	10549
NBR Properties LLC	213 E Main St	Mt Kisco	10549	80.33-4-7	Po Box 280	Neal Rice	Mt Kisco	NY	10549
Demaio, Antonia - Antonio & Annunziata Demaio Trus	124 Grove St	Mt Kisco	10549	80.33-2-5	6 Little Pine Rds		Mt Kisco	NY	10549
Oliveri, Antonio - Carmela Oliveri	117 Grove St	Mt Kisco	10549	80.33-3-1	54 Brook St		Mt Kisco	NY	10549
Village Of Mount Kisco	Lundy Ln	Mt Kisco	10549	80.25-3-23	104 Main St.		Mt Kisco	NY	10549
Village of Mount Kisco	227 Main St	Mt Kisco	10549	80.33-4-3	104 Main St.		Mt Kisco	NY	10549
Cambareri, Pat	9 Lundy Ln	Mt Kisco	10549	80.25-3-24	5 Chestnut Ridge Rd		Mt Kisco	NY	10549
Stern Angela - Douglas Bennett	131 Grove St	Mt Kisco	10549	80.33-3-9	25 Barker St, unit 506		Mt Kisco	NY	10549
Larchmont Development LLC - BCAMK LLC	206 Main St	Mt Kisco	10549	80.33-1-12	48 Grand St		New Rochelle	NY	10801
Cambareri, Pat	183 Main St	Mt Kisco	10549	80.25-3-25	5 Chestnut Ridge Rd		Mt Kisco	NY	10549
Hudson Riley, LLC	179 Main St	Mt Kisco	10549	80.25-3-26.1	700 Old Post Rd		Bedford	NY	10506
193 East Main LLC	201 Main St	Mt Kisco	10549	80.33-2-1	2020 Wolverton	Giettle Busk			
		Mt Kisco			Bldg A		Boca Raton	FL	33434
23 Lenox Place LLC	23 Lenox Pl	Mt Kisco	10549	80.33-2-4	502 Stonewall Ln		Brewster	NY	10509
Hudson Valley Propert Developm	104 Grove St	Mt Kisco	10549	80.25-3-16	157 Tibbetts Rd		Yonkers	NY	10705
Erkan, Mary Jean	116 Grove St	Mt Kisco	10549	80.25-3-19	84 Smith Ave		Mt Kisco	NY	10549
Alanad Properties, LLC	226 Main St	Mt Kisco	10549	80.33-1-14	160 Todd Rd		Katonah	NY	10536
175 Main St of Mount Kisco LLC	175 E Main St	Mt Kisco	10549	80.25-3-26	16 Lawrence St		Mt Kisco	NY	10549
Cerbone Lucy A - Lucy A Cerbone Rev Lvng Trst	217 Main St	Mt Kisco	10549	80.33-4-6	27 Grandview Dr		Mt Kisco	NY	10549
Cerbone, Lucy A	219 Main St	Mt Kisco	10549	80.33-4-5	27 Grandview Dr		Mt Kisco	NY	10549
Gasparri, Robert J	21 Lundy Ln	Mt Kisco	10549	80.25-3-20	502 Stonewall Ln		Brewster	NY	10509
Rendon, Fernando J - Martin R Ramirez	17 Lenox Pl	Mt Kisco	10549	80.33-2-6	NA				
Apropos Housing Opp.	114 Grove St	Mt Kisco	10549	80.25-3-18	86 Smith Ave		Mt Kisco	NY	10549
Oliveri, Antonio - Carmela Oliveri	121 Grove St	Mt Kisco	10549	80.33-3-11	54 Brook St		Mt Kisco	NY	10549
Ciliberto, Francis - Antonia Ciliberto	111 Grove St	Mt Kisco	10549	80.25-4-8	50 St Marks Pl		Mt Kisco	NY	10549
Big Bass Realty LLC	221 Main St	Mt Kisco	10549	80.33-4-4	91 Deerhill Ct		Carmel	NY	12603
Village Of Mount Kisco	17 E Hyatt Ave	Mt Kisco	10549	80.33-4-2	104 Main St.		Mt Kisco	NY	10549
175 Main St of Mount Kisco LLC	175 E Main St	Mt Kisco	10549	80.25-3-26.2	16 Lawrence St		Mt Kisco	NY	10549
17 Lundy LLC	17 Lundy Ln	Mt Kisco	10549	80.25-3-21	9 Fisher Lane	Eduard Coku	Ridgefield	CT	0877
Ferraro, Joseph - Galia Ferraro	125 Grove St	Mt Kisco	10549	80.33-3-10					

Village/Town of Mount Kisco
Zoning Board of Appeals

FEB 12 2021

RECEIVED



PUBLIC NOTICE

Mount Kisco Zoning Board of Appeals
Village of Mount Kisco NY

Village/Town of Mount Kisco
Zoning Board of Appeals
FEB 12 2021
RECEIVED

PLEASE TAKE NOTICE that the Zoning Board of Appeals of the Village/Town of Mount Kisco, New York will hold a Public Hearing on the 16 day of March 2021 at the Municipal Building, Mount Kisco, New York, beginning at 7:00 PM pursuant to the Zoning Ordinance on the appeal of : Martin Rivera , 17 Lenox Place Mount Kisco NY from the decision of Peter J. Miley, Building Inspector, dated December 3, 2020 denying the application dated to permit the installation of a woodeck in the rear yard. The property involved is known as 17 Lenox Place and described on the village Tax Map as Section 80.33 Block 2 Lot 6 and is located on the N side of Lenox Place in a RT-6 Zoning District. Said appeal is being made to obtain a variance from Section(s) 110-10c (1) (a) ; 110-10c (1) (b) ; 110-10c (1) (c) ; 110-10c (2) (b) 110-35 (D) Code of the Village/Town of Mount Kisco, which requires a variance to enlarge a non-complying building , a variance for deficient lot area; a variance for building and develop coverage and, a rear setback variance.

Harold Boxer, Chair
Zoning Board of Appeals
Village/Town of Mount Kisco

AFFIDAVIT OF MAILING

Village/Town of Mount Kisco
Zoning Board of Appeals

FEB 12 2021

RECEIVED

STATE OF NEW YORK

}

}SS.:

}

COUNTY OF WESTCHESTER

Fernando Rendon

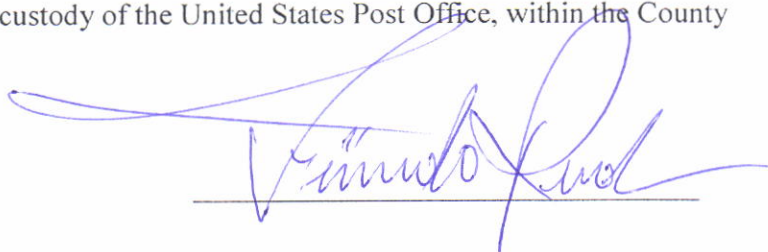
being duly sworn, deposes and

says:

I reside at 24 South Croton AV Mount Kisco

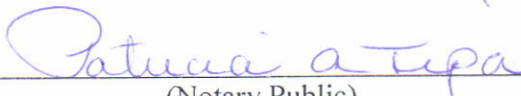
On 11 20 21 I served a notice of hearing, a copy of which is attached hereto and labeled Exhibit A, upon persons whose names are listed in a schedule of property owners within 300 feet of the subject property identified in this notice. A copy of this schedule of property owners' names is attached hereto and labeled Exhibit B.

I placed a true copy of such notice in a postage paid property addressed wrapper addressed to the addresses set forth in Exhibit B, in a post office or official depository under the exclusive care and custody of the United States Post Office, within the County of Westchester.



Sworn to before me on this

12th day of February 2021



(Notary Public)

PATRICIA A TIPA
NOTARY PUBLIC-STATE OF NEW YORK
No. 01TI6170206
Qualified in Westchester County
My Commission Expires 07-02-2023



AFFIDAVIT OF PUBLICATION FROM

State of Wisconsin
County of Brown, ss.:

On the 11 day of March in the year 2021, before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed, the instrument.

_____ being duly sworn says that he/she is the principal clerk of **THE JOURNAL NEWS**, a newspaper published in the County of Westchester and the State of New York, and the notice of which the annexed is a printed copy, was published in the newspaper area(s) on the date (s) below:

Zone:
Westchester

Run Dates:
02/16/2021

Signature

Sworn to before me, this 11 day of March, 2021

Pang Pappathopoulos
Notary Public, State of Wisconsin, County of Brown

10/23/2023
My commission expires

Legend:

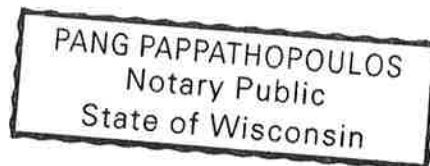
WESTCHESTER:

Amawalk, Ardsley, Ardsley on Hudson, Armonk, Baldwin Place, Bedford, Bedford Hills, Brewster, Briarcliff Manor, Bronxville, Buchanan, Carmel, Chappaqua, Cold Spring, Crompond, Cross River, Croton Falls, Croton on Hudson, Dobbs Ferry, Eastchester, Elmsford, Garrison, Goldens Bridge, Granite Springs, Greenburg, Harrison, Hartsdale, Hastings, Hastings on Hudson, Hawthorne, Irvington, Jefferson Valley, Katonah, Lake Peekskill, Larchmont, Lincoln Dale, Mahopac, Mahopac Falls, Mamaroneck, Millwood, Mohegan Lake, Montrose, Mount Kisco, Mount Vernon, New Rochelle, North Salem, Ossining, Patterson, Peekskill, Pelham, Pleasantville, Port Chester, Pound Ridge, Purchase, Purdys, Putnam Valley, Rye, Scarsdale, Shenorock, Shrub Oak, Somers, South Salem, Tarrytown, Thornwood, Tuckahoe, Valhalla, Verplanck, Waccabuc, White Plains, Yorktown Heights, Yonkers

ROCKLAND:

Blauvelt, Congers, Garnerville, Haverstraw, Hillburn, Monsey, Nanuet, New City, Nyack, Orangeburg, Palisades, Pearl River, Piermont, Pomona, Slootsburg, Sparkill, Spring Valley, Stony Point, Suffern, Tallman, Tappan, Thiells, Tomkins Cove, Valley Cottage, West Haverstraw, West Nyack

Ad Number: 0004601650



17 Lenox Place

State of New York)
) ss:
County of Westchester)

AFFIDAVIT OF POSTING

Gjon Rrotaj, being duly sworn, says that on the 2nd day of March 2021, he conspicuously fastened up and posted in seven public places, in the Village/Town of Mount Kisco, County of Westchester, a printed notice of which the annexed is a true copy, to Wit: ---

Municipal Building –
104 Main Street

X

Public Library
100 Main Street

X

Fox Center

X

Justice Court – Green Street
40 Green Street

X

Mt. Kisco Ambulance Corp
310 Lexington Ave

X

Carpenter Avenue Community House
200 Carpenter Avenue

X

Leonard Park Multi Purpose Bldg

X


Gjon Rrotaj

Sworn to before me this 2nd day of March 2021


Notary Public

MICHELLE K. RUSSO
NOTARY PUBLIC-STATE OF NEW YORK
No. 01RU6313298
Qualified In Putnam County
My Commission Expires 10-20-2022

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.



592523098DED0017

Westchester County Recording & Endorsement Page

Submitter Information

Name: The Great American Title Agency, Inc. Phone: 914 761 1776
Address 1: 170 Hamilton Ave, Ste 207 Fax: 914 761 1770
Address 2: Email: azhina@gamericantitle.com
City/State/Zip: White Plains NY 10601 Reference for Submitter: GA1950174

Document Details

Control Number: **592523098** Document Type: **Deed (DED)**
Package ID: 2019090900070001001 Document Page Count: **3** Total Page Count: **4**

Parties

☐ Additional Parties on Continuation page

1st PARTY

2nd PARTY

1: LUCIANO RIZZOTTO & JANICE E RIZZOTTO LIVING TRUS - Other 1: RENDON FERNANDO J - Individual
2: RIZZOTTO ALBERT - Individual 2: RAMIREZ MARTIN R - Individual

Property

☐ Additional Properties on Continuation page

Street Address: 17 LENOX PL Tax Designation: 80.33-2-6
City/Town: MOUNT KISCO Village:

Cross-References

☐ Additional Cross-Refs on Continuation page

1: 2: 3: 4:

Supporting Documents

1: RP-5217 2: TP-584

Recording Fees

Statutory Recording Fee: \$40.00
Page Fee: \$20.00
Cross-Reference Fee: \$0.00
Mortgage Affidavit Filing Fee: \$0.00
RP-5217 Filing Fee: \$125.00
TP-584 Filing Fee: \$5.00
Total Recording Fees Paid: **\$190.00**

Transfer Taxes

Consideration: \$380,000.00
Transfer Tax: \$1,520.00
Mansion Tax: \$0.00
Transfer Tax Number: 2396

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**

Dwelling Type: Exempt: ☐
Serial #:

Record and Return To

☐ Pick-up at County Clerk's office

Martin Rivera Ramirez & Fernando J. Rendon
17 Lenox Place

Mount Kisco, NY 10549

RECORDED IN THE OFFICE OF THE WESTCHESTER COUNTY CLERK



Recorded: 09/11/2019 at 02:13 PM
Control Number: **592523098**
Witness my hand and official seal

Timothy C. Idoni

Timothy C. Idoni
Westchester County Clerk

FOR COUNTY USE ONLY

C1 SWIS Code 5 5 5 6 0 0

C2 Date Deed Recorded 09 - 11 - 2019

C3 Book 5 5 2 5 2 C4 Page 0 3 0 9 8

FAX (518) 473-9781 or PHONE (518) 473-9781

New York State Department of
Taxation and Finance

Office of Real Property Tax Services

RP-5217

Real Property Transfer Report (4/10)

PROPERTY INFORMATION

PREP

1. Property Location: STREET NUMBER: MOUNT KISCO CITY OR TOWN: LENOX PL STATE: NY ZIP CODE: 10549

2. Buyer Name: RIVERA RAMIREZ MARTIN LAST NAME, COMPANY: FIRST NAME: FERNANDO J.

3. Tax Billing Address: Indicate where future Tax Bills are to be sent (Buyer, Seller, Other, Address of Seller) LAST NAME, COMPANY: FIRST NAME:

4. Indicate the number of Assessment Roll parcels transferred on the deed: # of Parcels: 1 OR Part of a Parcel: (Only if Part of a Parcel) Check as they apply: 4A. Planning Agency with Subdivision Authority Existed: 4B. Subdivision Approval was Required for Transfer: 4C. Parcel Approved for Subdivision with Map Provided:

5. Deed: 65.00 FRONT FEET X 60.00 DEPTH OR 0.00 ACRES

6. Seller Name: LUIGI RIZZOTTO & JANAE E RIZZOTTO LIVING TRUST LAST NAME, COMPANY: FIRST NAME:

7. Select the description which most accurately describes the use of the property at the time of sale: A. One-Family Residential Check the boxes below as they apply: 8. Ownership Type is Condominium: 9. New Construction on a Vacant Lot: 10A. Property Located within an Agricultural District: 10B. Buyer received a disclosure notice indicating that the property is in an Agricultural District:

SALE INFORMATION

11. Sale Contract Date: 4/29/2019

12. Date of Sale/Transfer: 9/10/2019

13. Full Sale Price: 380,000.00

(Full Sale Price is the total amount paid for the property including personal property. This payment may be in the form of cash, other property or goods, or the assumption of mortgages or other obligations.) Please report to the nearest whole dollar amount.

15. Check one or more of these conditions as applicable to transfer: A. Sale Between Related or Former Related: B. Sale Between Related Company or Partnership: C. One of the Buyers is also a Seller: D. Buyer or Seller is Government Agency or Lending Institution: E. Deed Type not Warranty or Bargain and Sale (Specify below): F. Sale is Fractional or Less than Fee Interest (Specify below): G. Significant Change in Property Between Taxable Status and Sale Used: H. Sale of Business is Included in Sale Price: I. Other Unusual Factors Affecting Sale Price (Specify below):

Comments(s) on Condition:

14. Indicate the value of personal property included in the sale: 0.00

ASSESSMENT INFORMATION - Data should reflect the latest Final Assessment Roll and Tax Bills

16. Year of Assessment Roll from which information taken(Y): 19

17. Total Assessed Value: 52,000.00

18. Property Class: 210

19. School District Name: Beauford

20. Tax Map Identifier(s)/Roll Identifier(s) (If more than four, attach sheet with additional identifiers): 80.33-2-6

CERTIFICATION

I certify that all of the items of information entered on this form are true and correct (to the best of my knowledge and belief) and I understand that the making of any willful false statement of material fact herein subject me to the provisions of the penal law relative to the making and filing of false instruments.

SELLER SIGNATURE

SELLER SIGNATURE: DATE: 9/10/2019

BUYER SIGNATURE: DATE: 9/10/2019

BUYER CONTACT INFORMATION

(If Buyer is authorized to sign, Buyer should sign as individual or corporation, partnership, company, company, etc. and must state on the right side of document their name and contact information in an authorized capacity of party and the answer questions regarding the transaction must be signed. Type or print clearly.)

Buyer: MARTIN FIRST NAME: FERNANDO J. LAST NAME: COMPANY: 514 2566277 (Cellular Number) (Home Number)

17. STREET NUMBER: LENOX PLACE CITY OR TOWN: MOUNT KISCO STATE: NY ZIP CODE: 10549

BUYER'S ATTORNEY: TANGRO, KENNETH FIRST NAME: LAST NAME: 514 2209500 (Cellular Number) (Home Number)

592523098-002

FOR COUNTY USE ONLY

NOTES: STAMPED WITH COUNTY OF CATTARAUGUS BY PHONE (516) 473-3751

C1 SWIS Code 5 5 5 6 0 0

C2 Date Deed Recorded 09 / 11 / 2019

C3 Book 5 9 2 5 2 C4 Page 0 3 0 9 3

New York State Department of
Taxation and Finance

Office of Real Property Tax Services

RP-5217

Real Property Transfer Report (8/10)



PROPERTY INFORMATION

PREP

1. Property Location: MOUNT KISCO LOT 10544

2. Buyer Name: RIVERA RAMIREZ MARTIN

3. Tax Billing Address: RENDON HERNANDEZ

4. Indicate the number of Assessment Roll parcels transferred on the deed: 65.00 60.00 0.00

5. Used Property Size: 65.00 60.00 0.00

6. Seller Name: LUIGIANO RIZZOTTO & JANICE E RIZZOTTO LIVING TRUS

7. Select the description which most accurately describes the use of the property at the time of sale:

A. One Family Residential

Check the boxes below as they apply:

8. Ownership Type is Condominium ☐

9. New Construction on a Vacant Land ☐

10A. Property Located within an Agricultural District ☐

10B. Buyer received a disclosure notice indicating that the property is in an Agricultural District ☐

SALE INFORMATION

11. Sale Contract Date: 4/29/2019

12. Date of Sale/Transfer: 9/10/2019

13. Full Sale Price: 380,000.00

14. Indicate the value of personal property included in the sale: 0.00

15. Check one or more of these conditions as applicable to transfer:

☐ A. Sale Between Relatives or Former Relatives

☐ B. Sale between Related Companies or Partners in Business

☐ C. One of the Buyers is also a Seller

☐ D. Buyer or Seller is Government, Agency or Lending Institution

☐ E. Deed Type not Warranty or Bargain and Sale (See A, B, C, D)

☐ F. Sale of Property less than five years (Specify Below)

☐ G. Significant Change in Property Between Taxable Status and Sale Date

☐ H. Sale of Business is included in Sale Price

☒ I. Other Unusual Factors Affecting Sale Price (Specify Below)

Comment(s) on Condition:

ASSESSMENT INFORMATION - Date should reflect the latest Final Assessment Roll and Tax Bill

16. Year of Assessment Roll from which information taken (YY): 19

17. Total Assessed Value: 52,250.00

18. Property Class: 210

19. School District Name: Bedford

20. Tax Map (Identifiers) Roll (Identifiers) (if more than four, attach sheet with additional identifiers): 80.33-2-6

CERTIFICATION

I certify that all of the items of information entered on this form are true and correct to the best of my knowledge and belief, and I understand that the making of any willful false statement of material fact herein subjects me to the provisions of the penal law relative to the making and filing of false instruments.

SELLER SIGNATURE

BUYER CONTACT INFORMATION

Albert Rizzotto Successor Trustee 9/10/2019

BUYER SIGNATURE 9/10/2019

BUYER'S ATTORNEY

BUYER'S ATTORNEY

BUYER'S ATTORNEY

DEED

Consult your lawyer before signing this instrument. This instrument should be used by lawyers only.

THIS INDENTURE, made the 10th day of September, two thousand nineteen,

BETWEEN

Albert Rizzotto, residing at 3640 Sagamore Avenue, Mohegan Lake, New York 10547, as
Successor Trustee of the Luciano Rizzotto and Janice E. Rizzotto Living Trust dated 6/5/14,

party of the first part,

and

Martin Rivera Ramirez, residing at 312 Chestnut Ridge, Mount Kisco, New York 10549 and
Fernando J. Rendon, residing at 24 S. Croton Avenue, Mount Kisco, New York 10540, as joint
tenants with right of survivorship,

party of the second part.

WITNESSETH, that the party of the first part, in consideration of three hundred eighty thousand
dollars and no/100 (\$380,000.00), lawful money of the United States, to them paid by the party
of the second part, does hereby grant and release unto the party of the second part, the heirs,
successors or assigns of the party of the second part forever,

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon
erected, situate, lying and being in the Village of Mount Kisco, Town of Mount Kisco,
Westchester County, New York being more particularly bounded and described as follows:

BEGINNING at a point on the Northerly side of Lenox Place distant 125 feet Westerly as
measured along the Northerly side of Lenox Place from the Westerly side of Grove Street; which
point on the division line between the Westerly side of lands now or formerly of 23 Lenox Place
LLC/22 W Hyatt Avenue LLC and the Easterly side of the premises described herein, intersects
the Northerly side of Lenox Place;

RUNNING thence along the Northerly side of Lenox Place North 88 degrees 25' 10" West 65
feet to lands now or formerly of Kenneth D. and Karen Martabano;

RUNNING thence along said last mentioned lands North 4 degrees 31' 10" West 60.01 feet to
the lands now or formerly of DCGA Inc.;

RUNNING thence along said last mentioned lands South 88 degrees 25' 10" East 65.14 feet to
said lands now or formerly of 23 Lenox Place LLC/22 W Hyatt Avenue LLC;

RUNNING thence along said last mentioned lands South 4 degrees 23' 10" East 60 feet to the point or place of BEGINNING.

BEING and intended to be the same premises conveyed by Luciano Rizzotto and his wife, Janice F. Rizzotto, Grantors, to by Luciano Rizzotto and Janice E. Rizzotto, as Trustees of the Luciano Rizzotto and Janice E. Rizzotto Living Trust dated June 5, 2014, Grantees, by Deed dated June 5, 2014 and recorded in the Westchester County Clerk's Office on June 27, 2014, Document Control Number 541553183.

Janice E. Rizzotto died on June 1, 2015 a resident of the Village and Town of Mount Kisco, County of Westchester, State of New York.

Luciano Rizzotto died on September 12, 2018 a resident of the Village and Town of Mount Kisco, County of Westchester, State of New York.

Said premises being also known as: 17 Lenox Place, Mount Kisco, New York 10549, Section: 80.33; Block: 2; Lot 6.

SUBJECT to covenants, conditions, restrictions and rights of way of record, if any.

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.

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.

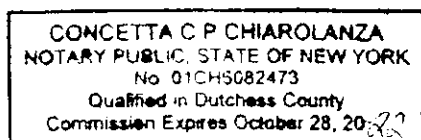
The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

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

Albert Rizzotto Successor Trustee
THE LUCIANO AND JANICE E. RIZZOTTO
LIVING TRUST
Albert Rizzotto, Successor Trustee, the
Luciano Rizzotto and Janice E. Rizzotto
Living Trust

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

On the 10th day of September, 2019, before me, the undersigned, personally appeared Albert Rizzotto, as Successor Trustee of the Luciano Rizzotto and Janice E. Rizzotto Living Trust, 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 she executed the same in her capacity, and that by her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument



Concetta C.P. Chiarolanza
Notary Public

Section: 80.33
Block: 2
Lot: 6

Village of Mount Kisco
Town of Mount Kisco

Record and return by mail to:

Martin Rivera Ramirez
Fernando J. Rendon
17 Lenox Place
Mount Kisco, New York 10549

PUBLIC NOTICE

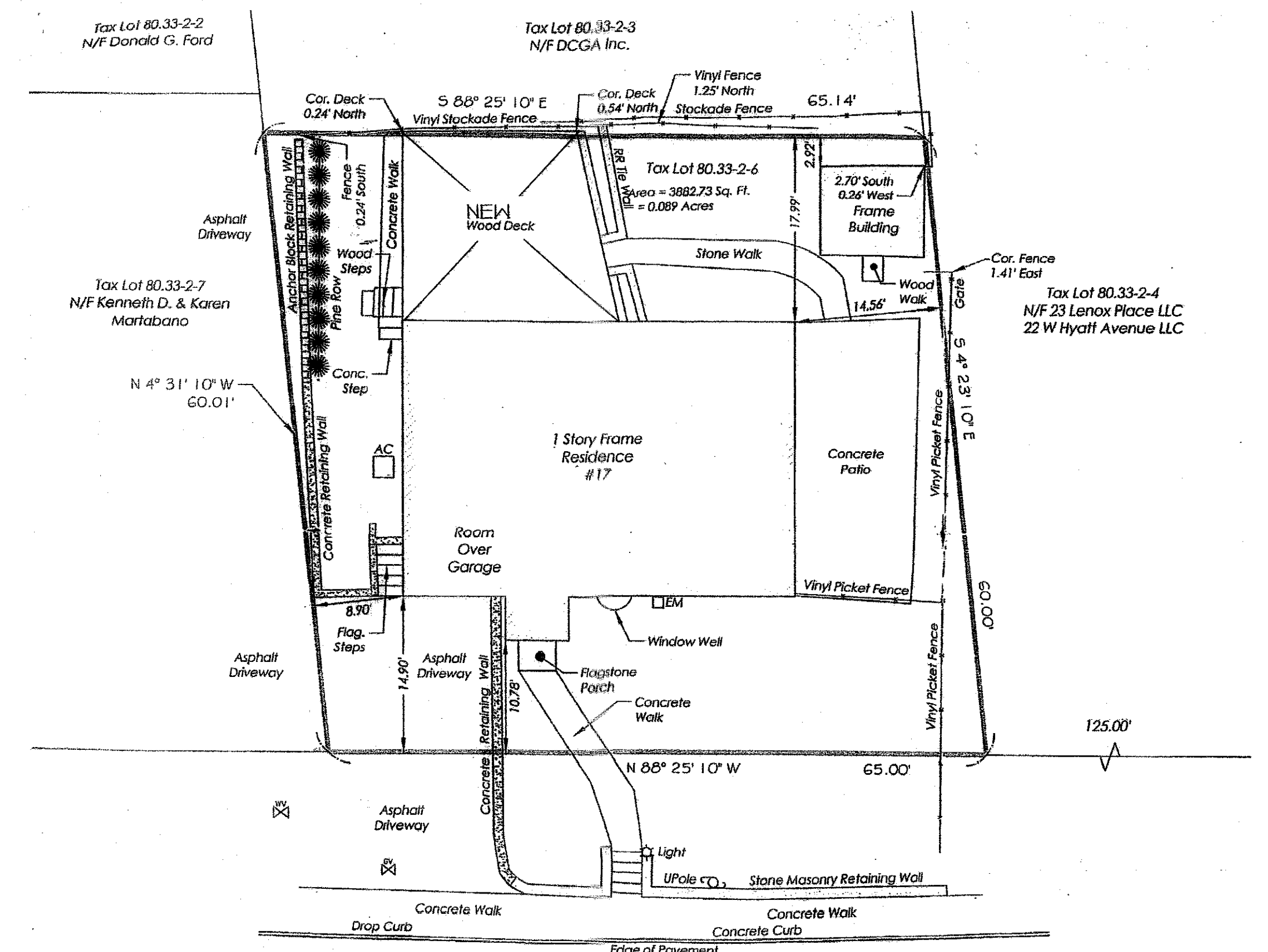
Mount Kisco Zoning Board of Appeals
Village of Mount Kisco NY

PLEASE TAKE NOTICE that the Zoning Board of Appeals of the Town/Village of Mount Kisco, New York will hold a Public Hearing on the 16 day of March 2021 at the Municipal Building, Mount Kisco, New York, beginning at 7:00 PM pursuant to the Zoning Ordinance on the appeal of: Martin Rivera, 17 Lenox Place Mount Kisco NY from the decision of Peter J. Miley, Building Inspector, dated December 3, 2020 denying the application to issue a building permit for the installation of a wood deck located in the rear yard. The property involved is known as 17 Lenox Place and described on the village Tax Map as Section 80.33 Block 2 Lot 6 and is located on the N side of Lenox Place in a RT-6 Zoning District. Said appeal is being made to obtain a variance from Section(s) 110-35 (D); 110-10 (1) (a); 110-10 C (1) (b); 110-10 C (1) (c); and 110-10 C (2) (b) of the Town/Village of Mount Kisco, NY Code which requires a variance to enlarge a non-complying building on a noncomplying lot, a variance for deficient lot area; a variance for building and development coverage and, a rear-yard setback variance.

Harold Boxer, Chair

Zoning Board of Appeals
Village/Town of Mount Kisco

4601650



SITE PLAN
N.T.S.

NOTE SITE PLAN
INFORMATION FROM
SURVEY BY TC MERRITTS
LAND SURVEYORS

LUMBER: 2X GROUND CONTACT PRESSURE TREATED LUMBER AS SUPPLIED BY HOME DEPOT OR EQUAL.

JOIST HANGERS: COMPLIANT WITH ASTM-A653 690 (0.9 OZ./SQ. FT.)

FASTENERS: EPOXY COATED CARBON STEEL (ZINC PLATED) SCREWS AC-25T.

CONSTRUCTION: IN ACCORDANCE WITH DCA6 PRESCRIPTIVE RESIDENTIAL WOOD DECK CONSTRUCTION GUIDE BASED ON 2015 IRC.

Village/Town of Mount Kisco
Zoning Board of Appeals

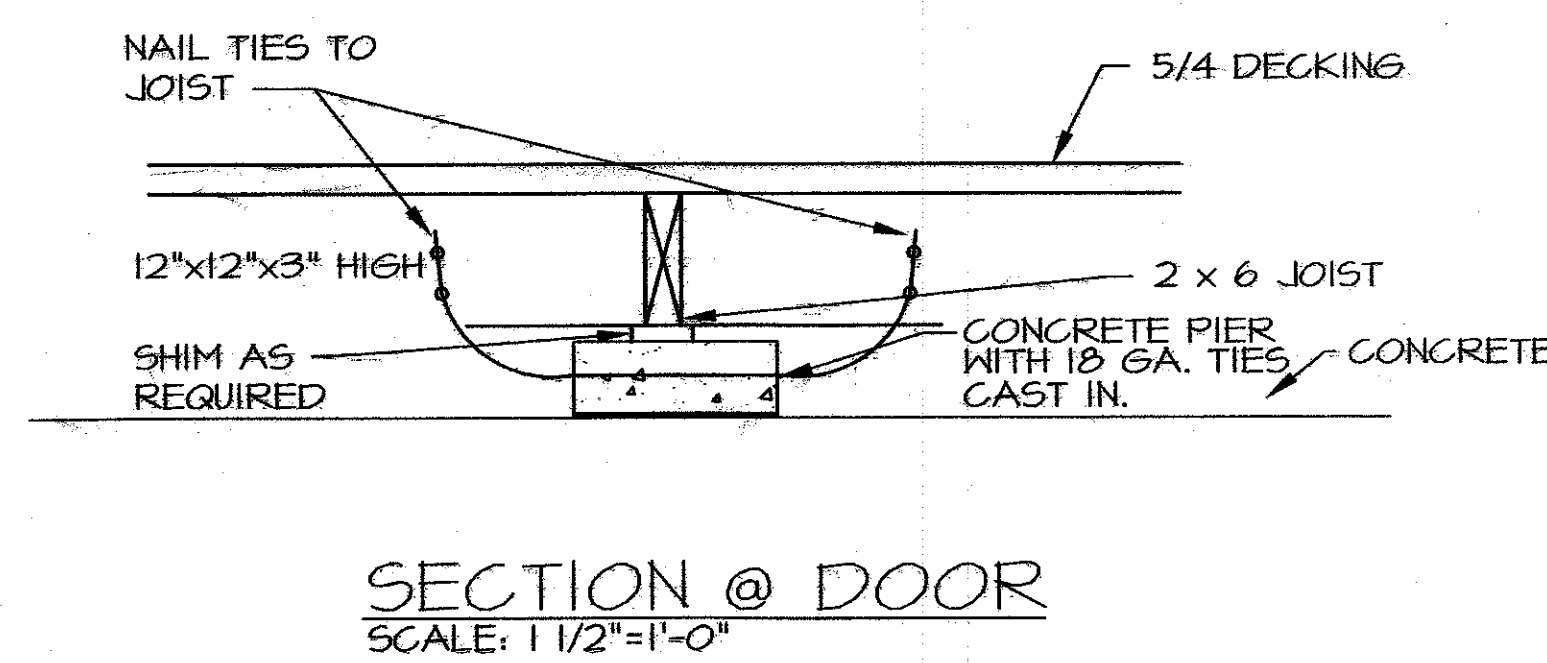
EB 12 2021

RECEIVED

Village/Town of Mount Kisco
Building Department


ET 28 2020

RECEIVED



PROJECT PROPOSED WOOD DECK OVER CONCRETE PATIO
17 LENOX PLACE, MOUNT KISCO, N.Y.

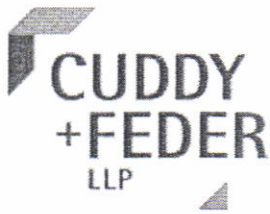
DRAWING TITLE PLANS, SECTIONS & SPECIFICATIONS



PERILLO ASSOCIATES
CONSULTING ENGINEERS
39 FIELDS LANE, NORTH SALEM, NY 10560

DRAWN BY: JLS
SCALE: AS NOTED
DATE: 8/19/20

DRAWING NO.
GC-1



445 Hamilton Avenue, 14th Floor
White Plains, New York 10601
T 914 761 1300
F 914 761 5372
cuddyfeder.com

William S. Null, Esq.,
wnull@cuddyfeder.com

03/11/2021

VIA EMAIL: planning@mountkisco.ny.gov

Mr. Harold Boxer, Chair, and
Members of the Zoning Board of Appeals
Village/Town of Mount Kisco
104 Main Street
Mount Kisco, New York 10549

Village/Town of Mount Kisco
Zoning Board of Appeals

MAR 11 2021

RECEIVED

Re: Application of SCS Sarles St. Community Solar Farm (180 S. Bedford Road)

Dear Chair Boxer and Members of the Zoning Board of Appeals:

On behalf of Sunrise Community Solar, LLC, we respectfully submit this letter requesting that this Board adjourn the Public Hearing on this Application from its March 16, 2021 meeting to the April 20, 2021 regularly scheduled meeting. At this time, the Planning Board, as Lead Agency under SEQRA has been continuing its review of the supplemental information submitted by our client. Based upon this Board's legal inability to act prior to the Planning Board's adoption of a SEQRA determination, we respectfully request this matter to be adjourned, as noted above.

Thank you for your consideration.

Respectfully yours,

William S. Null

William S. Null

cc: Doug Hertz, Sunrise Community Solar, LLC; Richard Williams, Jr., InSite Engineering; Peter Miley, Building Inspector; Whitney Singleton, Esq., Village Attorney; and Simon Kates, Buckhurst Fish & Jacquemart, Inc.

LAW OFFICES OF
SNYDER & SNYDER, LLP
94 WHITE PLAINS ROAD
TARRYTOWN, NEW YORK 10591

NEW YORK OFFICE
445 PARK AVENUE, 9TH FLOOR
NEW YORK, NEW YORK 10022
(212) 749-1448
FAX (212) 932-2693

LESLIE J. SNYDER
ROBERT D. GAUDIOSO

DAVID L. SNYDER
(1956-2012)

(914) 333-0700
FAX (914) 333-0743

WRITER'S E-MAIL ADDRESS
rgaudioso@snyderlaw.net

NEW JERSEY OFFICE
ONE GATEWAY CENTER, SUITE 2600
NEWARK, NEW JERSEY 07102
(973) 824-9772
FAX (973) 824-9774

REPLY TO:

TARRYTOWN OFFICE

February 16, 2021

Honorable Chairman Harold Boxer
and Members of the Zoning Board of Appeals
Village of Mount Kisco
104 Main Street
Mount Kisco, New York 10549

Re: 180 S. Bedford Road
Public Utility Wireless Telecommunications Facility
Homeland Towers, LLC & Verizon Wireless

Honorable Chairman and
Members of the Zoning Board of Appeals:


As you are aware, we are the attorneys for Homeland Towers, LLC ("Homeland Towers") and Verizon Wireless (together "Applicants") in connection with their application to place a public utility wireless telecommunications facility ("Facility") at the above referenced property ("Property").

As you may be aware the Planning Board has failed as Lead Agency to make an initial SEQRA determination in accordance New York State Environmental Quality Review Act, codified in New York Environmental Law Article 8, Section 8-0101, et seq. Thus, the Zoning Board of Appeals is unable to act on the Applicants' requests for variances. Moreover, on February 9, 2021 the Planning Board improperly suspended its review of the Application. Accordingly, we understand that the matter will not be heard by the Zoning Board of Appeals at the February 16, 2021 ZBA meeting and will be adjourned to March 16, 2021.

Enclosed please find ten (10) copies of the filing made today with the Planning Board.

We thank you for your consideration. If you have any questions or require any additional documentation, please do not hesitate to contact me at 914-333-0700.

Snyder & Snyder, LLP

By: 
Robert D. Gaudio

RDG/djk

Enclosures

cc: Planning Board (14 copies under separate cover letter)

Applicants

Z:\SSDATA\WPDATA\SS3\RDG\Homelandtowers\Mount Kisco\NY172\ZBA Letter 2.12.21 (Revised Docs).rtf

LAW OFFICES OF
SNYDER & SNYDER, LLP
94 WHITE PLAINS ROAD
TARRYTOWN, NEW YORK 10591

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445 PARK AVENUE, 9TH FLOOR
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LESLIE J. SNYDER
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(1956-2012)

(914) 333-0700
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WRITER'S E-MAIL ADDRESS
rgaudioso@snyderlaw.net

NEW JERSEY OFFICE
ONE GATEWAY CENTER, SUITE 2600
NEWARK, NEW JERSEY 07102
(973) 824-9772
FAX (973) 824-9774

REPLY TO:
TARRYTOWN OFFICE

February 16, 2021

Honorable Chairman Bonforte
and Members of the Planning Board
Village of Mount Kisco
104 Main Street
Mount Kisco, New York 10549

Re: 180 S. Bedford Road
Public Utility Wireless Telecommunications Facility
Homeland Towers, LLC & Verizon Wireless

Honorable Chairman Bonforte and
Members of the Planning Board:

As you are aware, we are the attorneys for Homeland Towers, LLC ("Homeland Towers") and Verizon Wireless (together "Applicants") in connection with their application to place a public utility wireless telecommunications facility ("Facility") at the above referenced property ("Property").

In furtherance of the foregoing, enclosed please find 14 copies the following:

- 1) Letter from New York City Department of Environmental Protection dated January 25, 2021, confirming that "DEP review and approval of a Stormwater Pollution Prevention Plan (SWPPP) is not required."
- 2) Letter from EBI Consulting with supporting documentation dated January 25, 2021, responding to comments received from the Conservation Advisory Committee, and confirming that the Facility is not within a designated critical habitat.
- 3) Supplemental Report from Lane Appraisals, Inc. responding to public comments, and confirming that the data included in the Lane Appraisals Report, does in fact include studies on homes within close proximity to a wireless telecommunications tower. Additionally, the broker letters submitted in opposition are "so unsupported and so extreme, and lack any validation or methodology, that they should be given no credence."
- 4) Supplemental Site Justification Report from Klaus Wimmer of Homeland Towers dated February 12, 2021.

- 5) APT Engineering Revision Letter dated February 9, 2021 listing the revisions made to the engineering documents submitted herewith.
- 6) Revised Steep Slope Letter dated February 1, 2021 signed and sealed by Scott M. Chasse, P.E. confirming that the Applicants have met the criteria under the Village Code for issuance of the Steep Slope Permit.
- 7) Revised Stormwater Management Report dated January, 2021 and signed and sealed by Kevin A. McCaffery, P.E., confirming that "the post-development peak discharges to the waters of the State of New York for the 2-, 5-, 10-, and 25- year storm events are less than the pre-development peak discharges. As a result, the proposed telecommunications facility will not result in any adverse condition to the surrounding areas and properties."
- 8) Revised Zoning Drawings including the information received from the Solar Farm application, as requested by the Village.

On February 5, 2021 the Village provided consultant invoices for the first time demanding \$45,908.50 from the Applicants in order to replenish the escrow account and pay for past charges from the Village's consultants dating back to September, 2020. Please note that the Applicants hereby object to these illegal fees and are filing an audit request with the Village Board of Trustees in accordance with state law. In addition, the suspension of the review of the application by the Planning Board at the February 9, 2021 work session is an unreasonable delay of the Application and in violation of 47 U.S.C. §332(c)(7)(B)(ii).

We thank you for your consideration, and look forward to discussing this matter with the Planning Board at the next available public hearing. If you have any questions or require any additional documentation, please do not hesitate to contact me at 914-333-0700.

Snyder & Snyder, LLP

By: 
Robert D. Gaudioso

RDG/djk

Enclosures

cc: Zoning Board (10 copies, under separate cover letter)
Applicants

Z:\SSDATA\WPDATA\SS3\RDG\Homelandtowers\Mount Kisco\NY172\PB Letter 2.12.21 (DEP, EBI, Lane).rtf



January 25, 2021

Vincent Sapienza, P.E.
Commissioner

Paul V. Rush, P.E.
Deputy Commissioner
Bureau of Water Supply
prush@dep.nyc.gov

465 Columbus Ave.
Valhalla, New York 10595
T: (845) 340-7800
F: (845) 334-7175

Mr. Klaus Wimmer
Regional Manager
Homeland Towers, LLC
9 Harmony Street, 2nd Floor
Danbury, CT 06810

Via email: kw@homelandtowers.us

Re: Homeland Tower - Proposed Cell Tower
180 S. Bedford Road
(V) Mount Kisco; (C) Westchester
Tax Map ID: 80.44-1-1
New Croton Reservoir Basin
DEP Log# 2020-CNC-0798.OT.1

Dear Mr. Wimmer:

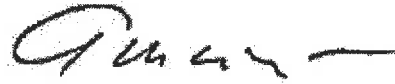
The New York City Department of Environmental Protection (DEP) reviewed the latest submission for the above captioned project received on October 29, 2020. Based on the site visit conducted on October 21, 2020, our review, and pursuant to regulatory thresholds detailed in Section §18-39 of the *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and its Sources (Watershed Regulations)*, it appears that DEP review and approval of a Stormwater Pollution Prevention Plan (SWPPP) is not required for the project as proposed. **This project may still require regulatory approval from other agencies.**

This Determination is based on the set of plans prepared by Scott Chasse, P.E. of APT Engineering, PLLC titled: Homeland Towers, LLC - Wireless Telecommunications Facility, 180 S. Bedford Rd., Mount Kisco, NY 10549, dated August 13, 2020, last revised on December 22, 2020. Please note that should the site plan change, this determination must be reconsidered.

DEP strongly encourages the project sponsor to implement temporary best management practices (BMP's), including erosion and sediment controls (ESC) as necessary, for the duration of the project. Prior to the start of the construction activities, DEP requests the applicant to contact the undersigned since the project is in the New Croton Reservoir Basin.

If you have any questions or require any further assistance, please do not hesitate to contact me at (914) 749-5356 or at aoncioiu@dep.nyc.gov.

Sincerely,



Andreea A. Oncioiu
Associate Project Manager II
EOH Project Review Group
Regulatory & Engineering Programs

c: (V) Mount Kisco Planning Board - planning@mountkisco.org
Anthony Oliveri, P.E., Dolph Rotfeld Engineering PC - anthony@drepc.com
Natalie S. Browne, NYS DEC - natalie.browne@dec.ny.gov

January 25, 2021

Honorable Chairman
and Members of the Planning Board
Village/Town of Mount Kisco
104 Main Street
Mount Kisco, NY 10549

RE: Proposed Communications Facility
Site Identifier: Mt Kisco / NY172
Site Address: 180 South Bedford Road, Mt Kisco, Westchester County, New York
EBI Project No. 6120007971

Dear Honorable Chairman and Members of the Planning Board:

We are writing in response to comments received from the CAC in connection with the proposed Homeland Towers and Verizon Wireless facility ("Facility") at the above captioned property. The proposed project consists of the construction of a new wireless communications Facility. Specifically, the proposed installation will consist of an approximately 140-foot monopine tower (145-foot at the top of branches) and associated support equipment, located within a 41-foot by 62-foot fenced compound within a 56-foot by 62-foot lease area. Access will be gained via the construction of a proposed 12-foot wide gravel access road, emanating approximately 100-feet west/northwest from an existing dirt road which emanates south from Bedford Road and has a variable width. Utility conduits are proposed to extend underground approximately 190 feet to the north to an existing utility pole located on the south side of South Bedford Road.

USFWS

EBI reviewed online resources maintained by the USFWS (<http://ecos.fws.gov/ipac>) to identify any species that are federally-listed under the Endangered Species Act (ESA) as either endangered or threatened, and that are known to occur within the project vicinity. Based on EBI's research of online files maintained by the USFWS, two non-aquatic, federally-listed (i.e. endangered or threatened) species are known to occur within the project vicinity, the Indiana Bat (*Myotis sodalist*) and the Bog Turtle (*Clemmys muhlenbergii*). EBI recommended tree clearing only between October 31 and March 31 to avoid disturbance of the Indiana Bat (*Myotis sodalist*), to which the USFWS concurred on December 29, 2020.

The Project Site does not consist of suitable habitat for the Bog Turtle, as no wetlands were observed in the area of the telecommunications compound, and the topography is not appropriate for the bog turtle habitat. Bog turtles prefer (i.e. slow, shallow, muck-bottomed rivulets of sphagnum bogs, calcareous fens, marshy/sedge-tussock meadows, spring seeps, wet cow pastures, and shrub swamps) capable of supporting the listed species, which are not present in the areas of the proposed Facility. Therefore the proposed Facility will have "no effect" on the Bog Turtle. The USFWS "acknowledges this determination".

Additionally, EBI utilized the USFWS online Critical Habitat Portal online mapping tool, and determined that the proposed Facility location is not within a designated critical habitat

NYS DEC Review

EBI also reviewed online resources maintained by the New York State Department of Environmental Conservation

(NYDEC, <https://giservices.dec.ny.gov/gis/erm/>) to identify any state-protected rare species that are known to occur within proximity of the proposed Project Site. Based on EBI's review of these resources, the Project Site is not located within the vicinity of "Significant Natural Communities" or within the immediate vicinity of "Rare Plants or Animals". Additionally, EBI utilized the USFWS online Critical Habitat Portal online mapping tool, and determined that the proposed Facility location is not within a designated critical habitat. Therefore, no additional consultation was needed.

Additionally, it should be noted according to the T&E Wildlife Habitat Assessment Report (T&E Assessment), revised September 1, 2020, prepared by ECO correspondence with the New York Natural Heritage Program found no listing of rare or state listed species in the vicinity of the Project Site. Additionally, there were no state listed significant natural communities or other significant habitats. It should be noted the T&E Assessment included the entire parcel. Please see attached supporting documents.

Migratory Birds (including song birds)

According to the Migratory Bird Treaty Act (MBTA) and ESA, the tower is to be constructed utilizing "Recommended Best Practices for Communications Tower Design, Siting, Construction, Operation, Maintenance and Decommissioning" (<https://www.fws.gov/migratorybirds/pdf/management/usfwscommmtowerguidance.pdf>), which includes the tower to be constructed as a monopole (no guyed lines), at 145 feet to the top of the branches (under 200 feet), and with no lighting. Further, based on a species review dated October 1, 2020 completed by EBI Consulting, EBI recommended tree clearing only between October 31 and March 31 to avoid disturbance of the Indiana Bat (*Myotis sodalist*) which would also avoid tree clearing during a majority of the nesting season for all avian species. As such, the proposed tower meets most of the USFWS's tower siting and design recommendations (height < 200 ft, no guyed lines, no lighting), and further will avoid tree clearing during avian nesting season. Therefore, the proposed facility is not anticipated to adversely affect migratory birds.

Please note that the majority of avian species classified as "song birds" are passerine species, and almost all of them are classified as migratory birds by the MBTA. As noted above, the proposed installation of the facility is **unlikely** to Adversely Affect migratory birds, which includes a majority of migratory species of "song birds".

Additionally, although the proposed installation will remove trees that may be utilized by resident bird species during the over-wintering season, the Project Site installation will occur on a small portion of the Subject Property in close vicinity to an existing access road and local road. Note that many of the resident avian species (including song birds) that do not migrate are habitat generalist; and although trees will be impacted, the remaining habitat on the Subject Property, and within the immediate vicinity of the Subject Property, is composed of the same generalist habitat being impacted.

Therefore, due to the tower design, (no guy wires, height, no lighting), and based on tree clearing restrictions to be implemented, it is considered **unlikely** the proposed installation will have an Adverse Effect on migratory bird species.

Noise Impacts

Typically, noise from communications towers occur from generators and air-conditioning units. Generators are cycled on a limited basis. However, all proposed equipment, will be outdoors, and therefore no air conditioning units are proposed, thus limiting noise. Therefore with the exception of limited generator cycling and use during an emergency, noise from the proposed communications tower will be negligible, and impacts of noise to species will be minimal.

Sincerely,

A handwritten signature in dark ink, appearing to read "Elaine Langer", with a stylized flourish at the end.A second handwritten signature in dark ink, identical to the one above, appearing to read "Elaine Langer", with a stylized flourish at the end.

Ms. Elaine Langer
Program Manager/ Biologist

Attachments: Supporting Documentation

SUPPORTING DOCUMENTATION



United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, New York 13045



December 29, 2020

Mr. Jason Stayer
Biologist II
EBI Consulting
21 B Street
Burlington, MA 01803

Dear Mr. Stayer:

This letter is in response to your October 1, 2020, letter regarding a telecommunications facility proposed at 180 South Bedford Road in the Village of Mount Kisco, Westchester County, New York. As you are aware, Federal agencies, such as the Federal Communications Commission (FCC), have responsibilities under Section 7(a)(2) of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to consult with the U.S. Fish and Wildlife Service (Service) regarding projects that may affect federally listed species or designated critical habitat, and confer with the Service regarding projects that are likely to jeopardize federally proposed species or adversely modify proposed critical habitat. We understand that all FCC licensees, applicants, tower companies, and their representatives have been designated as the FCC's non-federal representatives for the purposes of completing informal consultation pursuant to Section 7(a)(2) of the ESA.

On behalf of the FCC, EBI Consulting determined that the proposed project "may affect, but is not likely to adversely affect," the federally listed Indiana bat (*Myotis sodalis*; Endangered). Given the amount of tree removal and conservation measures described in your October 1, 2020, letter (*e.g.*, conducting tree removal between October 31 and March 31), the Service concurs with your determination.

EBI consulting also determined that the project will result in "no effect" to the federally listed bog turtle (*Clemmys* [= *Glyptemys*] *muhlenbergii*; Threatened) as no suitable habitat was present for this species. The Service acknowledges this determination.

No further coordination under the ESA is required with the Service at this time. Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. The most recent compilation of federally listed and proposed endangered and threatened species in New York is available for your information. Until the proposed projects are complete, we recommend that you check our website regularly to ensure that listed species presence/probable absence information for the proposed projects are current.*

Any additional information regarding the proposed projects and their potential to impact listed species should be coordinated with both this office and with the New York State Department of Environmental Conservation.

Thank you for your time. If you require additional information or assistance please contact Noelle Rayman-Metcalf at 607-753-9334. Future correspondence with us on these projects should reference project file 20I4463.

Sincerely,

David A. Stilwell
Field Supervisor

*Additional information referred to above may be found on our website at:
<http://www.fws.gov/northeast/nyfo/es/section 7.htm>

cc: NYSDEC, New Paltz, NY (Env. Permits)

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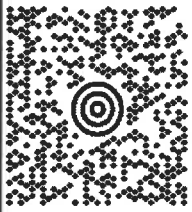
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Critical Habitat for Threatened & Endangered Species [USFWS]



A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

U.S. Fish and Wildlife Service | The data found in this file were developed by the U.S. Fish & Wildlife Service field offices. For more information please refer to the species level metadata found with the individual shapefiles. The ECOS Joint Development Team is responsible for creating and serving this conglomerate file. No data alterations are made by ECOS. | Westchester County GIS, USDA FSA



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road

Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo/es/section7.htm>



In Reply Refer To:

September 25, 2020

Consultation Code: 05E1NY00-2020-SLI-4463

Event Code: 05E1NY00-2020-E-13376

Project Name: Mt Kisco

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (<http://www.fws.gov/windenergy/>)

eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office

3817 Luker Road

Cortland, NY 13045-9385

(607) 753-9334

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Long Island Ecological Services Field Office

340 Smith Road

Shirley, NY 11967-2258

(631) 286-0485

Project Summary

Consultation Code: 05E1NY00-2020-SLI-4463

Event Code: 05E1NY00-2020-E-13376

Project Name: Mt Kisco

Project Type: COMMUNICATIONS TOWER

Project Description: Construction of a 140-foot monopine tower (145-foot at the top of branches) and associated support equipment located within a fenced 41-foot by 62-foot fenced compound on a 56-foot by 62-foot lease area.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/41.19965691895215N73.71337498271814W>



Counties: Westchester, NY

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i>	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	

Reptiles

NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i>	Threatened
Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/182/office/52410.pdf Habitat assessment guidelines: https://ecos.fws.gov/ipac/guideline/assessment/population/182/office/52410.pdf	

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



EBI Consulting

environmental | engineering | due diligence

Jason Stayer

Biologist II

11445 East Via Linda, Suite 2#472

Scottsdale, AZ 85259

480-661-0051

jstayer@ebiconsulting.com

SUMMARY OF EXPERIENCE

Mr. Stayer received his BS in the Management of Information Systems from the University of Texas at Arlington with an emphasis in database management. Mr. Stayer also received a MS in Wildlife Ecology from Texas State University with an emphasis on avian species, specifically a Master's Thesis on raptor species. He has spent 5 years working for the U.S. Fish and Wildlife Service (USFWS) responsible for conducting numerous wildlife and habitat assessments, understanding and implementing all sections of the Endangered Species Act (ESA), responsible for reviewing National Environmental Policy Act (NEPA) documents, writing and reviewing grant proposals, writing and reviewing biological reports, and publication of numerous documents related to the Endangered Species Act.

RELEVANT PROJECT EXPERIENCE

Mr. Stayer has worked with EBI Consulting as a Biologist II since January of 2014. Prior to working with EBI, Mr. Stayer worked as a wildlife biologist for the USFWS Carlsbad Field Office. Mr. Stayer worked closely with the U.S. Navy and National Park Service to establish a habitat monitoring program for the Federally threatened island night lizard. He has also worked with numerous water districts to assess project impacts, develop project alternatives, and propose mitigation for numerous Federally listed threatened and endangered species in compliance with the ESA and NEPA. As a USFWS fish and wildlife biologist Jason has conducted numerous species and habitat assessments and developed ESA Section 4 documents for the Coachella Valley Fringe-toed Lizard, Island Night Lizard, Coastal California Gnatcatcher, Santa Ana Sucker, and Southwestern Willow Flycatcher. Jason has also drafted Section 7 Consultation documents for 30 different state and federally listed species.

EDUCATION

Bachelor of Science, Management of Information Systems, December 2002
University of Texas at Arlington, Arlington, TX

Master of Science, Wildlife Ecology, August 2008
Texas State University, San Marcos, TX

PROFESSIONAL REGISTRATIONS

Seabird Assessment Oil Spill Response, March 2009
Carlsbad Fish and Wildlife Office, Carlsbad, CA

Listing and Candidate Assessment (Section 4 - ESA), March 2010
Lakewood Fish and Wildlife Office, Lakewood, CO

Habitat Conservation Plan Development (Section 10 - ESA), March 2011
Carlsbad Fish and Wildlife Office, Carlsbad, CA

Recovery Planning Implementation (Section 4 - ESA), April 2011
National Convention Training Center, Shepherdstown, WV



Interagency Consultation (Section 7 - ESA), April 2012

Carlsbad Fish and Wildlife Office, Carlsbad, CA

Critical Writing and Critical Thinking, June 2012

National Convention Training Center, Shepherdstown, WV

24 hour HAZWOPER Certification, March 2013

Carlsbad Fish and Wildlife Office, Carlsbad, CA

PUBLICATIONS

USFWS Publication	5-year review on the Coachella Valley fringe-toed lizard (August 10, 2010)
Federal Register	Proposed revised critical habitat for the southwestern willow flycatcher – assist Arizona Fish and Wildlife Office (Carlsbad Field Office lead) (August 15, 2011)
Federal Register	90-day finding on the coastal California gnatcatcher (October 26, 2011)
USFWS Publication	5-year review on the island night lizard (October 10, 2012)
Federal Register	Final revised critical habitat for the southwestern willow flycatcher – assist Arizona Fish and Wildlife Office (Carlsbad Field Office lead) (January 03, 2013)
Federal Register	Island night lizard proposed delisting rule (February 04, 2013)
Federal Register	Draft post-delisting monitoring plan for the night lizard (February 04, 2013)
Federal Register	Island night lizard final delisting rule (April, 01 2014)
Federal Register	Final post-delisting monitoring plan for the night lizard (April, 01 2014)



EBI Consulting

environmental | engineering | due diligence

Elaine Langer

Program Manager

21 B Street

Burlington, MA 01803

Office: 617.715.0000 Mobile: 617.308.0000

Home: 781.200.7000

SUMMARY OF EXPERIENCE

Elaine Langer, Program Manager has extensive experience in environmental investigations and site assessments since 2007. In addition, Ms. Langer has extensive experience conducting NEPA land use survey and asbestos and lead paint assessments and sampling.

RELEVANT PROJECT EXPERIENCE

Environmental Site Assessments. Ms. Langer has conducted and managed ASTM Phase I Environmental Site Assessments, Environmental Impact Assessments, ACM and LBP Surveys, and NEPA compliance reports for various clients for a variety of properties located in the northeastern United States. These properties have included industrial, commercial, retail and multi-family residential properties, as well as telecommunications sites.

MOBILE TELECOMMUNICATION SITE ASSESSMENTS. In addition to environmental assessments, Ms. Langer has prepared NEPA land use surveys and Environmental Assessments for telecommunications sites throughout the northeastern United States. Environmental reviews include analysis of historic properties, wetlands, endangered/threatened species, critical habitat, floodplains and other areas of environmental concern and the possible impacts of cellular installations on these sensitive areas.

WETLAND INVESTIGATIONS. Ms. Langer has experience with wetland surveys and permitting for telecommunications sites. Ms. Langer is formally trained in performing wetland delineations and identifying key wetland vegetation and soils. Additionally, Ms. Langer has performed long term mitigation of Wetland communities in the area of telecommunications towers.

EDUCATION

B.S., SUNY Environmental Science and Forestry (Environmental Forest Biology)

PROFESSIONAL AFFILIATIONS

NYS Licensed Asbestos Building Inspector

Wetland Delineation Certification, Rutgers University

PROFESSIONAL REGISTRATIONS

PUBLICATIONS

Wildlife Habitat Assessment for
New York State or Federally Listed
Threatened or Endangered Species
And Species of Special Concern

Project:

SUNRISE COMMUNITY SOLAR

Village of Mount Kisco
Westchester County, NY

Prepared By:

Bruce Friedmann

ECOLOGICAL ANALYSIS, LLC
633 Route 211 East
Suite 4 Box 4
Middletown, New York 10941
(845) 495-0123

Revised September 1, 2020



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• Fax: 866-688-0836 • www.4ecological.com

Introduction

The proposed Sunrise Community Solar field project (SCS) site is located on an approximately 24.5 acres parcel situated generally to the southwest of the intersection of NYS Route 172 (South Bedford Road) and Sarles Road within the Village of Mount Kisco. As part of this project's review requirements, Ecological Analysis, LLC, (EA) completed a wildlife habitat assessment of the property, which included observations of resident wildlife, as well as the potential for the site to support certain "target" species that are listed as "endangered", "threatened" or "species of special concern" by the New York State Department of Conservation (NYSDEC) and/or by the federal government's United States Fish and Wildlife Service (USFWS).

The list of target species used throughout this report was additionally refined by querying both the New York State office of the Natural Heritage Program (NHP) of the NYSDEC and the USFWS IPaC¹ website. Copies of the communications with the NYSDEC and of the USFWS IPaC report are provided in Appendices A and B of this report.

While the staff of the NHP responded to our request, we did not receive a response from the Region 3 office of the NYSDEC as our request was made at the onset of a time when Region 3 staff were working from home due to state work restrictions in place to address Covid-19. The NHP response stated that they have "no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity" and therefore no additional target species were considered as a result of our inquiries.

The online generated IPaC report listed two endangered species (Indiana bat and bog turtle) that may be present on or near the project area, however IPaC reports are automatically generated using data that is neither site-specific nor project-specific and thus any potential effects of any project would be modified by project and site specific details. The IPaC report stated that the project area lies outside of critical habitat for the Indiana bat. The expected potential for project impacts to these two species is discussed in the impacts section below.

The subject site is located in the coterminous jurisdictions of the Town and Village of Mount Kisco in central Westchester County, New York. The property is generally wooded, with upland woods on well drained soils on most of the property (Photo 1), an abandoned residential property and open fields within 3.4 acres near the center of the parcel (Photo 2), exposed bedrock ledges, knobs and talus slopes (Photo 3), and a small, 0.2 acres roadside wetland on the southeast edge of the parcel (Photo 4). The present fragmented nature of this site and other nearby off-site areas, influenced by both natural and anthropogenic factors, is reflective of the existing environment of central Westchester County, which includes many urban, suburban, and exurban neighborhoods interspersed within patches of second-growth forests that are on privately or publicly held lands. Elevations above sea level across the property range from approximately 400 feet around the periphery of the site, to approximately 530 feet at the highest point. The property is in the watershed of the Kisco River. A vegetation survey of the property was also initiated for the property and a list of the 102 taxa of vegetation observed during the current late Winter and late Spring site visits is attached to this report (Appendix C).

The site features five major habitat/ecosystem variants² that were observed and evaluated (Figure 1):

1. Uplands – Southern hardwoods;
2. Uplands – Hemlock northern hardwoods;
3. Uplands – Successional old field/meadows/cultural;
4. Uplands – Acidic talus slope woodlands;
5. Wetland – Palustrine shrub swamp.

¹ Information for Planning and Consultation (IPaC), a project planning tool of the USFWS.

² Adapted from: Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Of these five, the one that predominates across the property is the southern hardwood variant which is largely present as an oak-birch-maple forest. The other four habitats are smaller in scale and relatively confined in their presence. These include: an area of Norway spruce and Eastern white pine along the existing access driveway onto the property;

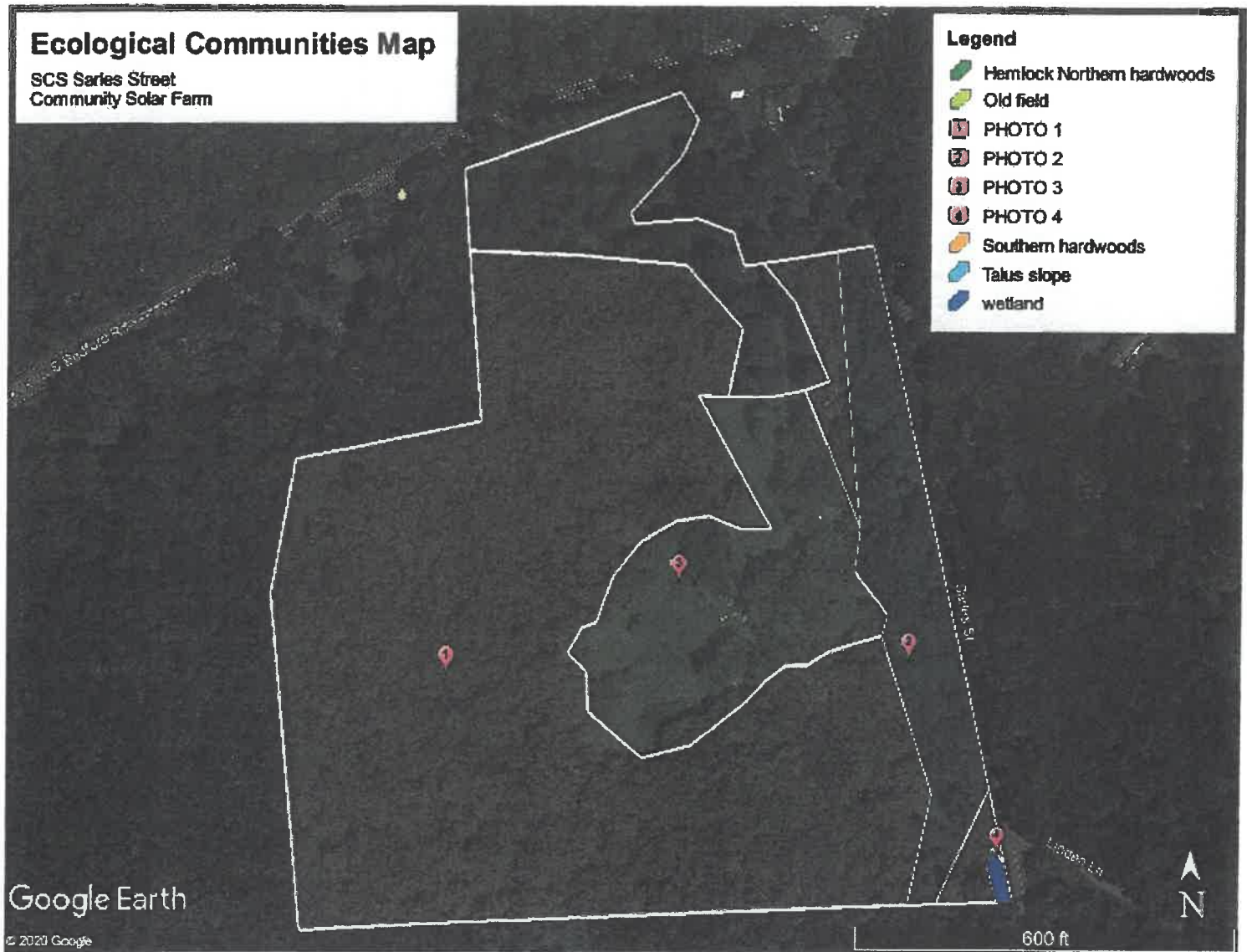
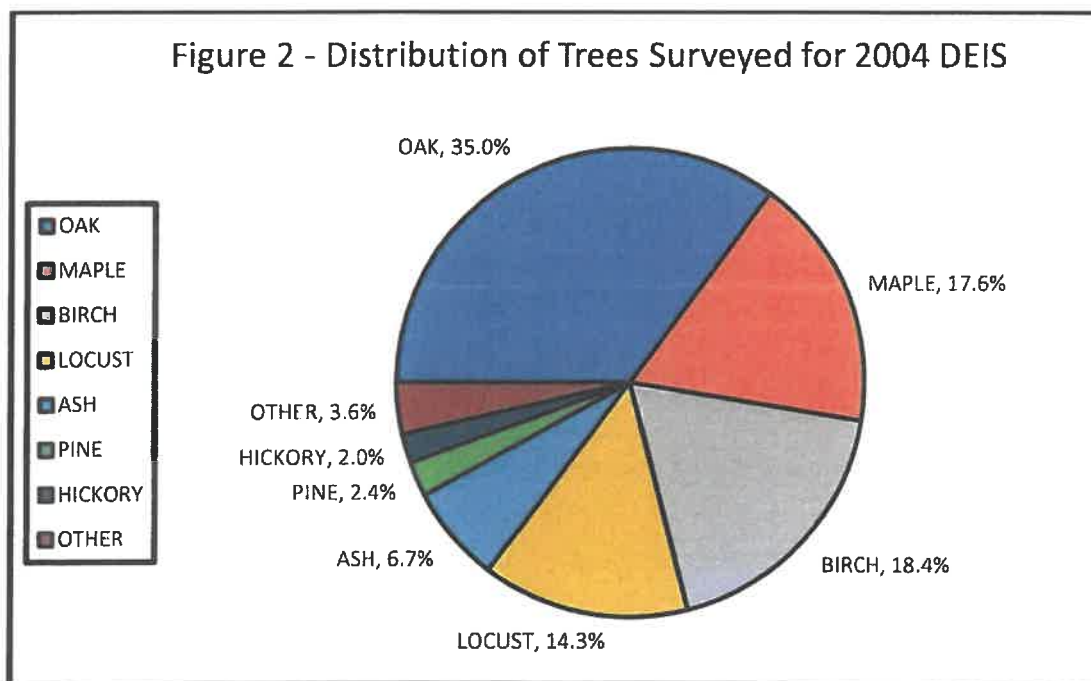


Figure 1 – Locations of major ecological communities across the site.

a hilltop area of abandoned and overgrown successional field where an estate residence was once located; and the small wetland that has developed alongside Sarles Road.

Earlier site surveys and investigations of the habitats, wildlife, and vegetation across this parcel were conducted in the Spring and Summer of 2001 as part of a SEQRA study conducted for a previous landowner by the environmental firm of Tim Miller Associates. The relevant section of the draft environmental impact statement (DEIS) for that SEQRA project (Chapter/Section 3.3 Terrestrial and Aquatic Ecology³) is presented in the appendices to this report (Appendix D). As part of that SEQRA study, an inventory was made of all trees on the property that were of a size equal to or greater than 8 inches in diameter (diameter at breast height, or DBH), and each of these trees was identified to taxa, surveyed to location on the parcel, and tagged in a sequence of serially numbered metal disk tags. The complete inventory of these data is presented in the 2004 DEIS document. Approximately 1,620 trees were included in that survey, of which approximately 1,069 were considered to be "specimen trees" as defined by the Mount Kisco Tree Preservation ordinance. That ordinance, Chapter 99 of Mount Kisco's general legislation, defines a "specimen tree" as one which has a minimum circumference of 36 inches (approximately 11.5" DBH), and/or a minimum crown spread of 15 feet, or is otherwise identified significant by the Village's Naturalist.

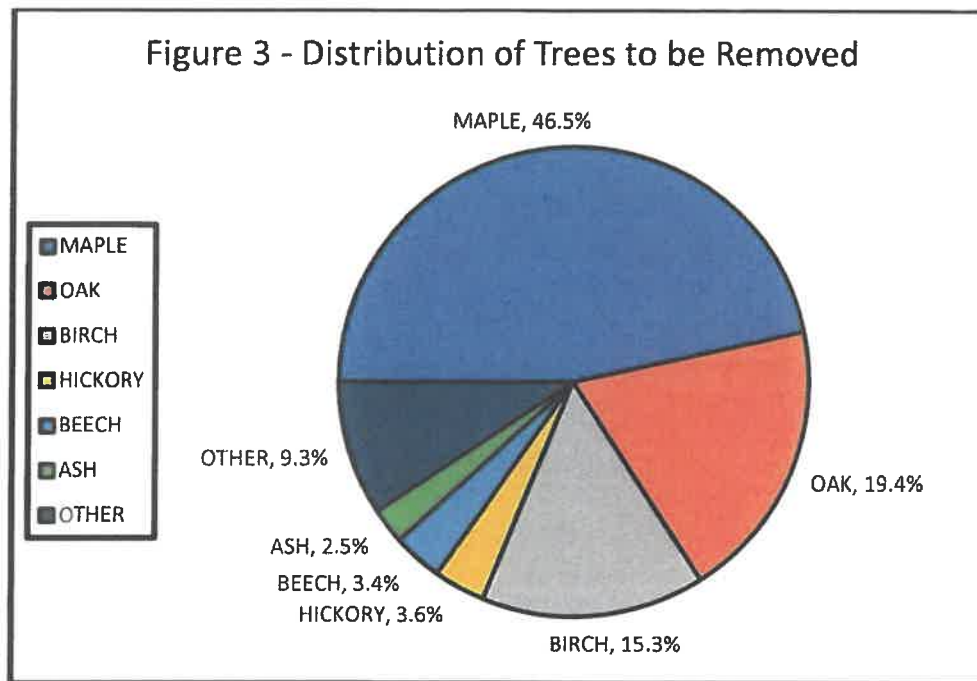
The most prevalent trees identified in the DEIS tree survey were oaks and maples of several species, sweet birch, black locust, ashes, Eastern white pine, and hickories of various species. Several other tree species were noted in lesser numbers, including American beech, tulip poplar, black walnut, Eastern hemlock, Eastern red cedar, apples, cherries, sassafras, and sycamore.



While the taxa distribution shown in Figure 2 is dated to 2004, a more recent survey of living trees within the footprint of the proposed solar field demonstrates that the characterization of the predominant wooded community on the site remains one dominated by various oaks, maples, and birches. For the currently proposed project, a field survey was performed in August, 2020, to provide a count of trees that would be removed in order to clear the property to the Limits of Disturbance (LOD) required for this project's needs. The most prevalent species of trees found within the Project's LOD were various species of maples, oaks, and birches (Figure 3). A count of the total number of live trees to be

³ Tim Miller Associates. 2004. Sarles Estates Draft Environmental Impact Statement.

removed (TBR's), the number of Town designated "specimen trees" TBR, and the number of "Dead" TBR's (the latter category is based on a visual assessment by the field surveyors that, in August of 2020, a tree appeared to be dead).



Those counts were: 462 live TBR, 141 specimen TBR, and 44 dead TBR, for a total count of 603 live trees and 44 dead trees to be removed within the Limits of Disturbance. Those trees that are identified as "dead" were assessed visually by Insite in August of 2020 and appeared to be dead or to have been knocked down following an episode of high winds on August 4 associated with the passage of a downgraded extratropical depression (Hurricane Isaias). There are no time-of-year restrictions imposed by state or federal regulatory agencies in regard to the felling or removal of trees on this property.

The area within the project's proposed LOD is 7.4 acres, of which approximately 3.18 acres is southern hardwood habitat, 0.87 is hemlock northern hardwood habitat, and 3.35 is old field habitat.

On-site observations and assessments were conducted by Mr. Bruce Friedmann, a Senior Environmental Scientist with EA, LLC. A total of 9 ¼ hours of on-site walks and observations occurred over two days during the months of March and May, 2020. During the site walks EA employed a series of random, zig-zag transects with observations, listening, and/or ground searches being conducted as site specific features changed along the walking transect routes (e.g. through upland hardwood forested slopes, to successional fields, to the talus slope, and through the wetland).

The site visits were focused on observing wildlife habitat present on the property. The random nature of these transects allowed the investigator to observe and actively investigate landscape features of interest encountered. This tactic also allowed data to be collected from a greater variety of micro-habitats than would be encountered by more rigid transect procedures. During these transects, incidental observations of wildlife and vegetation were made and are noted in this report.

Many of the understory and groundstory shrubs and forbs observed to be dominant within both the forested and the open meadow areas of the property are plant species that are listed by the NYSDEC as either prohibited or regulated⁴.

⁴ In New York State, listed prohibited invasive species cannot be knowingly possessed with the intent to sell, import, purchase, transport or introduce or propagate. Regulated invasive species are species which cannot be knowingly

These include: garlic mustard, mugwort, Japanese barberry, oriental bittersweet, cypress spurge, privets, bush honeysuckles, Japanese honeysuckle, Nepalese browntop (stiltgrass), wineberry, multiflora rose, burning bush, Norway maple, and black locust.

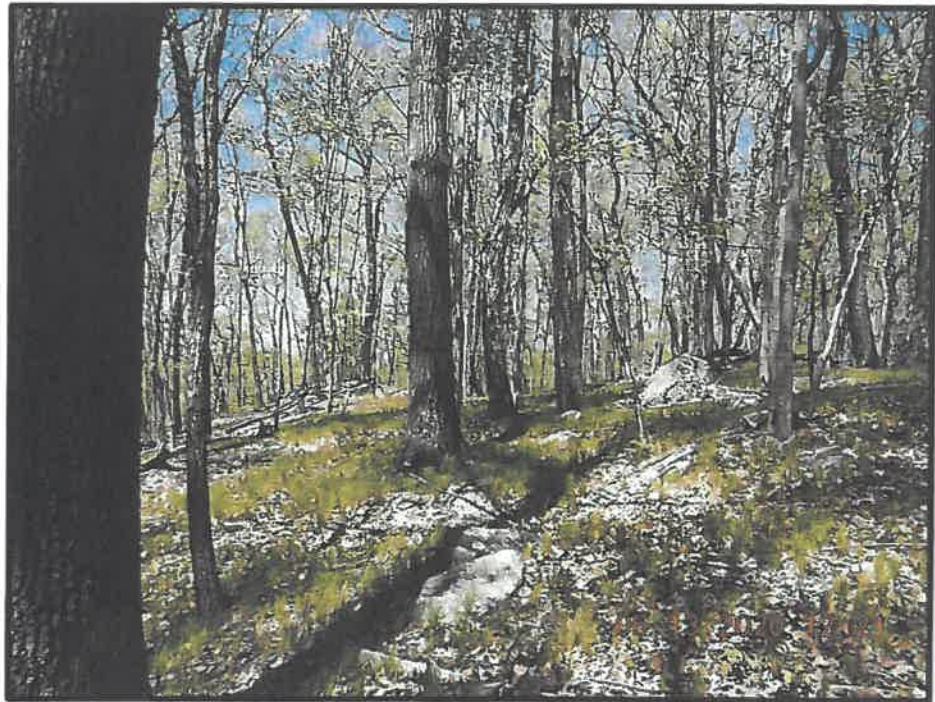
Upland Communities

The upland areas on the subject property range from second growth Southern hardwood forested areas to small stands of Northern hardwood evergreen trees, to several areas of bedrock exposures, to an area of cleared forest land that had been developed as a residential estate property, but has reverted to a shrubby field dominated by multiflora rose, brambles (several *Rubus* spp.) and a variety of herbaceous plants and grasses.

The majority of the property is an upland forested community that is primarily dominated by several species of oak (chestnut, white, and pin oaks) that are co-dominant with any one or more of the following: maples (sugar and red maples), sweet birch, and ashes (white and green ashes) in the overstory (Photo 1). Photo 1 was taken in the larger, western portion of the Southern Hardwoods Forest polygon of Figure 1.

PHOTO 1

View, looking north,
of typical hardwood
forested areas traversed
by remnants of pastoral
era stone walls.



Black locusts are present within the developed areas and along the roads that border the parcel. Underneath the dense and closed canopy of the overstory trees, there is a very open understory shrub and sapling layer over a sparse herbaceous ground layer of vegetation that is reflective of the low light intensities that reach the forest floor during most of the growing season. These strata were primarily comprised of saplings of the overstory trees in the understory layer while garlic mustard, wood ferns, and bedstraws were found in the herbaceous ground layer. This type of forest habitat within the project site provides habitat for wildlife species that require forest interior conditions, such as wood thrush, veery, Eastern wood pewee, red-eyed vireo, black-capped chickadee, rose-breasted grosbeak, wild turkey, nuthatches, and pileated woodpecker. Regionally common mammals that would utilize this forested habitat would include whitetail

introduced into a free-living state, or introduced by a means that one should have known would lead to such an introduction. Adapted from: 6 CRR-NY Part 575 Prohibited and Regulated Invasive Species. Current through January 31, 2020

deer, red fox, raccoon, striped skunk, porcupine, opossum, and many of the terrestrial or arboreal rodent species, including gray squirrel, red squirrel, and Eastern chipmunk.

Areas of denser evergreen tree canopies are uncommon on this parcel and are generally confined to the edges of the abandoned access driveway where much of these trees have been felled and harvested since the hilltop residence was abandoned (approximately 40-45 years prior). These areas (q.v. Figure 1 – Hemlock Northern Hardwoods polygon), though presently limited, may be used as cover by many of the same species that utilize the more open deciduous woodlands of the site. Some specialist species that prefer this cover type and may also utilize the site include black throated green warbler, pine warbler, pileated woodpecker and Acadian flycatcher.

As shown in Photo 2, much of the eastern edge of the parcel consists of steep gradient slopes that present bedrock exposures along the upper edge of the slopes above a strongly sloping area of both embedded and loose talus. Photo 2 was taken of the upslope elevations within the Talus Slope polygon demarked on Figure 1.

PHOTO 2

View, looking
northwest, of top of
talus slopes bordering
Sarles Road on eastern
edge
of parcel.



The upland areas of abandoned residential foundations, yards, and fields (Photo 3) on this property are dominated by multiflora roses (frequently showing evidence of damage caused by rose rosette viral infection), American red raspberry, various grasses, goldenrods, and clovers. Saplings of white pine and Eastern red cedar are colonizing these fields. White tail deer, mourning dove, American robin, gray catbird, and blue jay were observed in these more open areas of the site. Photo 3 was taken in the center portion of the Successional Old Field/Meadows/Cultural polygon of Figure 1. Extensive beds of plantings of pachysandra still remain in several areas around the abandoned residential foundations and this plant has spread into adjacent areas of woodland, to the exclusion of other native ground vegetation.

The ecological values of unoccupied, abandoned, or razed cultural habitats can differ widely in association with site specific details for the types of remaining structures, landscaping plantings or pioneering vegetation present. At this site, an undisturbed successional meadow around several abandoned concrete foundations has developed into a diverse plant community of grasses, forbs and shrubs, and may support an array of wildlife, including invertebrates,

reptiles, mammals, and birds. Upland meadows such as is present here, often have large populations of small mammals and can be used as hunting grounds for fox, coyote, and raptors.

PHOTO 3

View, to south, of rubble and successional old fields around hilltop abandoned residential areas.



Wetland Community

The single small wetland on the property (PHOTO 4) would be classified as either a wooded or scrub/shrub habitat. Photo 4 was taken within the Wetlands 'A' polygon of Figure 1. This small pocket, of less than 800 square footage, is dominated by skunk cabbage, spotted jewelweed, sensitive fern, and stinging nettle. Although it was dry during our initial visit in March, it held a shallow pool of standing water during our visit in May. There is a 12" corrugated steel culvert underneath Sarles Road that carries any discharge from this wetland. The overstory vegetation shading this localized wetland area consists of ashes and red maples, as both saplings and mature trees, within a surrounding sparse understory of multiflora rose, wineberry, and tangles of oriental bittersweet vines.

The only wetland inhabitants observed during our visit were aquatic insect larvae and green frogs. However other, larger, fauna may utilize these areas in transit and smaller, omnivorous, mammals such as raccoons and skunks would forage within and around the wetland, consuming smaller vertebrate and invertebrate aquatic prey species.

There were no streams nor vernal pools of water identified on the property during the wildlife study field investigations. There is, however, one small headwater tributary that is included within the NYSDEC Environmental Resource Mapper (Mapper) GIS database, as shown on the Mapper display for the project site (Appendix E). Although the feature is shown on the Mapper output, we were unable, during either of our site visits, to find any evidence of streamflow, or stream or wetland vegetation, when exploring the area of the natural hillside swale where this mapped stream resource has been depicted.

PHOTO 4

View, to south, of
the small wetland
located along
Sarles Road on
eastern edge of
parcel.



The Natural Heritage Program (NHP) of the NYSDEC publishes mapping resources that provide evaluations of the ecological condition of forested lands throughout the state for general planning purposes. The wooded lands on the project parcel and on adjacent terrains are either unrated by the NHP or are forests fragments that are assigned to some of the lower statewide rating classifications (see NHP Forest Resource Condition Indices figure in Appendix E). The project's fenced-in solar enclosure (blue-outlined polygon shown on the figure) and the entire, larger, project parcel are in an unrated area adjacent to urban and residential developments that serve to separate it from any more extensive tracts of nearby forest. The forested areas nearest to this site are ranked by the NYSDEC NHP with Forest Condition Indices that indicate that each of them is compromised by one or several of the metrics applied by NHP to evaluate their ecological condition. As shown on the figure, the site was not evaluated to include any core forest areas (shown on the figure as areas of black cross-hatching). Core forests, where present, as on some of the nearby forested lands shown on the figure, contain sufficient undisturbed interior forest habitat to be of greater importance for those many species of wildlife and forest songbirds which typically avoid areas of human disturbance. While not intended solely as a wildlife impact mitigation measure, the landscape plantings to be utilized on the site will be directed towards the use of native species of bushes and trees that will offer wildlife values associated with shelter and forage opportunities.

Wildlife Use of the Site

The site provides several different types of habitats and their associated localized ecotones for use by wildlife species. The wooded uplands provide acorns and hickory nuts (mast) from trees in addition to producing various berries, fruits, twigs, and winter buds for wildlife browsing on the various shrubs. The site is bordered in part by the ecologically more diverse lands of the Marsh Sanctuary that also supports a diversity of mast and browse producing plant species supporting local wildlife populations (Appendix F). Dead wood, including fallen trunks and limbs and decaying stumps, was observed throughout the site, providing shelter for smaller animals and producing invertebrate food sources for many predatory species of mammals, reptiles, amphibians, and birds. Some of the standing, but stressed, ash trees show extensive bark stripping, or blonding, by woodpeckers as a result of bark peeling by pileated woodpeckers (a species that was observed on site), and insect exit hole evidence was observed on these trees that would be related to infestations of emerald ash borer beetle larvae.

In the context of the parcel's overall landscape, a number of bird species, which require either open meadow or closed canopy woodlands to thrive, are likely to use this site, either as a stopover during seasonal migrations or for feeding or nesting activities. Such species might include: vireos, ovenbirds, thrushes, and woodpeckers as well as some of the owl species and some of the migratory warblers. While these species are not specifically state protected, they are of concern as areas of woodlands are cleared for development. The presence of wooded areas and undeveloped parcels extending for several miles in all directions within numerous regional preserves, parklands and undeveloped portions of this and other parcels results in continuous woodland corridors that may be used by these species if displaced either temporarily or permanently from the hilltop areas of the site proposed for this development.

Potential for Use by Threatened or Endangered Species or Species of Special Concern

The site was examined for potential use by a number of threatened or endangered species which are given statutory protection by Section 182.2g of 6 NYCRR Part 182. Based strictly on the characteristics of the property including its single, roadside, wetland area, habitat potential was analyzed for the following species that are either New York State threatened or endangered:

- Bog turtle - Endangered
- Mud turtle - Endangered
- Tiger salamander - Endangered
- Northern cricket frog – Endangered
- Indiana bat – Endangered
- Northern long-eared bat – Threatened
- Northern fence lizard - Threatened
- Timber rattlesnake – Threatened

Habitat potential was also evaluated for the following species of special concern, a category of protected animals that is also listed by 6 NYCRR Part 182:

- Eastern box turtle
- Wood turtle
- Spotted turtle
- Eastern hognose snake
- Worm snake
- Mole salamanders:
 - Marbled salamander
 - Blue spotted salamander
 - Jefferson salamander

Several of the species from these listings of protected animals were eliminated from consideration due to the lack of known populations within the range of central Westchester County generally, including:

- Bog turtle – outside of known range for bog turtles, lack of suitable habitat. Neither of the requests to either the USFWS or the NYSDEC NHP returned any known concern for this species at this site.
- Mud turtle - north of its known range of Long Island, lack of open field areas, lack of suitable open water.
- Tiger salamander - north of its known range, confined to eastern Long Island.
- Northern cricket frog - requires sunlit pond habitat, within New York State known only in the Hudson Highlands and areas of Orange, Ulster, and Dutchess Counties. There are no known populations in Westchester County.
- Indiana bat – the NYSDEC NHP does not list any critical habitat or any known populations at or near this site.

- Northern long-eared bat – Neither request to either the USFWS or the NYSDEC NHP returned any known concern for this species at or near this site.
- Northern fence lizard and timber rattlesnake – While both have populations in the Hudson Highlands to the north of Westchester County (and the fence lizard has a known population to the east, bordering Connecticut), these two species have specific requirements for exposed rock and ledge terrain for denning and basking that are not present on this site.
- Worm snake – requires moist woody areas with sandy or rock substrate. Known from the Peekskill area in upper Westchester County and from Long Island.

Habitat conditions available on the site (forested uplands, meadows, and a small, intermittently flooded wetland) were then considered, and several further of these species were eliminated from consideration.

- Spotted turtle - the habitat for the spotted turtle is flooded wetlands, ponded areas and adjacent wooded areas. The requirement for flooded, ponded areas is not met by this site.
- Mole salamanders - Mole salamanders include the three species listed: marbled salamanders, blue-spotted salamanders, and Jefferson salamanders. While the blue-spotted and Jefferson salamanders are known to have populations in areas of northern Westchester County, only the marbled salamander has populations generally located throughout the county. All of the mole salamanders are terrestrial as adults and spend most of their lifespan utilizing inground burrows within upland, wooded areas. But they do require the isolated features of vernal pool wetlands for breeding purposes and the single site wetland does not persist as a vernal pool habitat that could be exploited for the successful breeding of any of these species.

Of the remaining species from the above listings, each of their range and habitat requirements may be met in part within portions of the proposed project site. Each of these species and their general habitat requirements are listed in the following table and then discussed individually below.

<i>General habitat requirements for state listed "Species of Special Concern" potentially present on the SCS property</i>		
Common Name	Scientific Name	Habitat requirements met on the SCS property
Eastern box turtle	<i>Terrapene carolina</i>	Upland woods, wooded wetland corridors
Wood turtle	<i>Glyptemys insculpta</i>	Upland woods, wooded wetland corridors
Eastern hognose snake	<i>Heterodon platyrhinos</i>	Wooded areas with stone walls or rocky surface

Eastern Box Turtle and Wood Turtle

Based on site reconnaissance, there are densely wooded areas of the property that may be used by both the Eastern box turtle and the wood turtle. These two species are listed by New York State as species of special concern.

These are primarily terrestrial turtles, although, if present, they may make seasonal movements to any offsite stream beds or shallow ponds that would serve as refugia for them during the hotter months of summer. The major threats to terrestrial turtles appear to be pesticide poisoning, collection as pets and natural predation in areas where predators such as raccoons may be increasing.

On this property, these turtles would potentially utilize any of the wooded areas on the parcel, along with the Sarles Road wetland.

Eastern Hognose Snake

There is the possibility that habitat on-site could support the Eastern hognose snake. This species is listed by NYSDEC as being a species of special concern, although it has also been described as being locally common. It is a highly secretive species that may utilize the stone walls and wooded areas of the site for cover and feeding. Since this species is also adaptable to new fields, pastures and suburban areas, the proposed development of the property should not result in a significant adverse impact to the hognose snake, if in fact it is present on this site. No hognose snakes were observed on the site.

Potential Impacts to "Species of Special Concern"

Following the use of the range and habitat assessments discussed above to eliminate many of the target species from further consideration, the currently proposed development plan was reviewed to determine what if any impact the proposed structures, access roadways and other site plan features may have on the local populations of the three listed species remaining under consideration. The potentially impacted "species of special concern" identified above include the following three species, that if present, are likely to utilize the upland or wetland portions of this site during at least some portion of their life phases:

The Eastern box turtle and the wood turtle both make extensive overland movements for foraging and may use any portion of this property. While construction at any time on a portion of the site may temporarily alter some patterns of movement, there will be areas of undisturbed land for turtle foraging movements to occur. The temporary disturbance of portions of the site at any time could potentially impact individuals in the development area, but is unlikely to impact the population as a whole. Long term impacts are not expected unless visitors to this site proceed to capture and collect individuals. The planned provision of a 6" gap between the bottom of the security cyclone fence and the ground would allow all small terrestrial animals such as these turtles to freely move throughout the property.

The hognose snake is known to be adaptable to new developments in rural and suburban areas. Thus, the proposed development should not result in a significant adverse impact to the hognose snake population, if in fact the species has a presence on this site.

Conclusion

There were no protected wildlife species identified for this location by state or federal agencies. The site remains predominately an area of southern hardwood forest, dominated by oaks, maples, and birches, with a limited development of understory tiers, as it was also described in a previous analysis of the terrestrial and aquatic ecology of the site that was conducted by others over 2001-2004 (reference to Tim Miller Associates DEIS report of 2004, Appendix D). A section of demolished residential foundations remains with the property, and has developed into an open meadow. This part of the site has been designated as the main focus for the proposed project. As this area is located within the highest elevations of the property, and is centrally located, surrounded by the forested lands, the impacts of the project on the site woods has been significantly reduced. In addition to avoiding the removal of existing live trees to the extent practicable, the project proposes to establish a landscaped border/buffer around much of the perimeter of the project installation, using native shrub and tree species. Many of these plantings provide mitigation for some impacts to both resident and transient wildlife through the enhanced provision of nesting, shelter, browse, and foraging opportunities. An estimated 7.4 acres of the existing vegetative communities will be removed by the project and replaced with the proposed surrounding landscaping plantings as well as by pollinator seedlings made across the site. All of the old field/meadow would be disturbed, and replanted. Approximately 3.18 acres of the southern hardwood forest and 0.87 acres of the hemlock northern hardwood area would be cleared, resulting in the removal of 603 existing

live trees. Tree loss would be offset in accordance with re-plantings made in compliance with applicable Town tree conservation measures.

As stated earlier, it can be expected that a temporary displacement of many of the different wildlife species on the property might occur during development of the property, and permanent displacement of some species would occur within the fenced confines of the proposed projects where an estimated 603 trees would be removed. However, any pre-existing corridors for wildlife movement will remain around all sides of the centrally located solar field. These local wildlife corridors would still connect to adjacent offsite undeveloped tracts of land. These features will allow for the continued relatively unobstructed movement of species through the site as well as onto adjacent lands. Therefore, it is our professional opinion that none of the wildlife species identified within this report should be adversely affected by the proposed development plan.

Appendices:

- APPENDIX A – Correspondence with NYSDEC
 - EA letter to request Jurisdictional Determination of NYSDEC, dated March 12, 2020
 - EA letter to NYSDEC Natural Heritage Program, dated March 13, 2020
 - NYSDEC Natural Heritage Program response, dated March 27, 2020
- APPENDIX B – USFWS IPaC resource list, generated online on March 12, 2020
- APPENDIX C – List of observed vegetation, March- May, 2020
- APPENDIX D – Chapter 3.3, Terrestrial and Aquatic Ecology. from Sarles Estates DEIS, 2004.
- APPENDIX E – NYSDEC Environmental Resources map, generated online on June 8, 2020
- APPENDIX F – Miscellaneous plant lists and observations
- APPENDIX G – Work resume of field investigator

Appendix A

Correspondence with NYSDEC



633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

12 March 2020

Mr. John Petronella, Regional Permit Administrator
NYSDEC Region 3
21 South Putt Corner Road
New Paltz, NY 12561-1620

Re: Jurisdictional Determination Request
180 South Bedford Road
Sunrise Community Solar project
Town of Mount Kisco, Westchester County

Dear Mr. Petronella:

Ecological Analysis, LLC, has been retained to perform the environmental work for the proposed commercial development project identified above and located within the enclosed area highlighted on a copy of the USGS 1:24,000 Mount Kisco Quadrangle map.

At present, the parcel is undeveloped.

At this time, the site plan for this community solar farm is in the review phase and an exact site plan has not been done. To aid us in this process, we are trying to identify all of the environmental and ecological constraints associated with this property. So for that purpose we are requesting a Jurisdictional Determination from your office for this approximately 25 acres site. This information will then be used throughout the subsequent planning stages of this commercial development project.

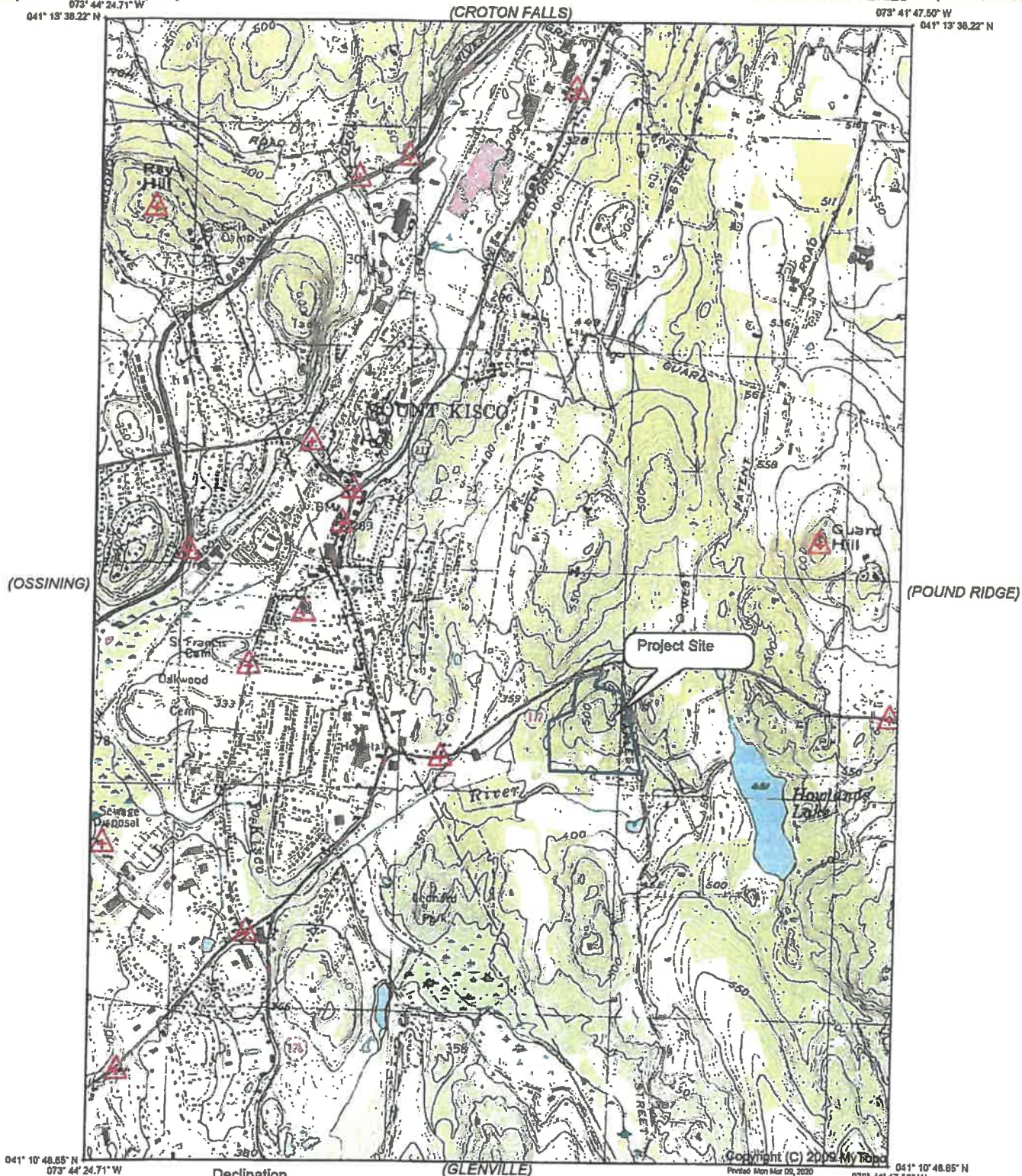
If you have any questions, please do not hesitate to contact me. Thank you for your time.

Sincerely yours,

Bruce R. Friedmann

Bruce R. Friedmann
Senior Environmental Scientist
Ecological Analysis, LLC

Attachment: USGS location map, Mount Kisco Quad



Copyright (C) 2009 MyTopo
Printed Mon Mar 02, 2020

(WHITE PLAINS)

Produced by MyTopo Terrain Navigator
Topography based on USGS 1:24,000
Maps

North American 1983 Datum (NAD83)
Transverse Mercator Projection

To place on the predicted North American
1927 move the projection lines 11M N and
35M E

Declination

★
MNGN

GN 0.84° E
MN 13.36° W

SCALE 1:24000

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1000

0

1

0

1

MILE

YARDS

KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM 1929

(Unavailable)

MT KISCO, NY
1998



633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

March 13, 2020

Ms. Jean Pietrusiak
NYS Natural Heritage Program
Information Services
625 Broadway, 5th Floor
Albany, New York 12233-4757

Re: Jurisdictional Determination Request
180 South Bedford Road
Sunrise Community Solar project
S/B/L 80.44-1-1
Village of Mount Kisco, Westchester County

Dear Ms. Pietrusiak:

Ecological Analysis, LLC, has been retained to perform the environmental work for the proposed commercial development project identified above and located within the enclosed area highlighted on a copy of the USGS 1:24,000 Mount Kisco Quadrangle map.

At present, the parcel is mostly forested and undeveloped, outside of clearings around the abandoned foundations of a previous inhabitation.

At this time, the site plan for this community solar farm is in the Planning Board review phase and an exact site plan has not been done. To aid us in this process, we are trying to identify all of the environmental and ecological constraints associated with this property. We are requesting any information in regards to threatened and/or endangered species or ecologically significant communities on or adjacent to the referenced property. This information will then be used throughout the subsequent planning stages of this commercial development project.

If you have any questions, please email me at bfriedmann@4ecological.com or call me at (845) 495-0123. Thank you for your time and attention.

Sincerely yours,

Bruce R. Friedmann

Bruce R. Friedmann
Senior Environmental Scientist
Ecological Analysis, LLC

Attachment: USGS location map, Mount Kisco Quad

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

March 27, 2020

Bruce R. Friedmann
Ecological Analysis, LLC
633 Route 211 East, Suite 4
Middletown, NY 10941

Re: Sunrise Community Solar Project, 180 South Bedford Road
County: Westchester Town/City: Mount Kisco

Dear Mr. Friedmann:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 3 Office, Division of Environmental Permits, at dep.r3@dec.ny.gov.

Sincerely,



Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

Appendix B

USFWS IPaC resource list

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Westchester County, New York



Local offices

Long Island Ecological Services Field Office


☎ (631) 286-0485

📠 (631) 286-4003

340 Smith Road
Shirley, NY 11967-2258

New York Ecological Services Field Office

☎ (607) 753-9334

 (607) 753-9699

3817 Luker Road
Cortland, NY 13045-9385

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

¹ and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are not shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

Indiana Bat *Myotis sodalis*

Endangered

There is final critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/5949>

Reptiles

NAME

STATUS

Bog Turtle *Clemmys muhlenbergii*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/6962>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the **PROBABILITY OF PRESENCE SUMMARY** at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus*

Breeds Oct 15 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Black-billed Cuckoo *Coccyzus erythrophthalmus*

Breeds May 15 to Oct 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9399>

Bobolink *Dolichonyx oryzivorus*

Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Canada Warbler *Cardellina canadensis*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 20 to Aug 10

Cerulean Warbler *Dendroica cerulea*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/2974>

Breeds Apr 29 to Jul 20

Golden Eagle *Aquila chrysaetos*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Breeds elsewhere

Prairie Warbler *Dendroica discolor*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Jul 31

Red-headed Woodpecker *Melanerpes erythrocephalus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Sep 10

Rusty Blackbird *Euphagus carolinus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Wood Thrush *Hylocichla mustelina*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Aug 31

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects,

and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Löring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercled worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C

List of observed vegetation, March and May, 2020

**List of vegetation observed in March and May, 2020, across the
Sunrise Community Solar property**

COMMON NAME	SCIENTIFIC NAME
Norway maple	<i>Acer platanoides</i>
Red maple	<i>Acer rubrum</i>
Sugar maple	<i>Acer saccharum</i>
Tree of heaven	<i>Ailanthus altissima</i>
Garlic mustard	<i>Alliaria petiolata</i>
Wild leek	<i>Allium tricoccum</i>
Field garlic	<i>Allium vineale</i>
Wild columbine	<i>Aquilegia canadensis</i>
Smooth rock cress	<i>Arabis laevigata</i>
Jack in the pulpit	<i>Arisaema triphyllum</i>
Common wormwood	<i>Artemisia vulgaris</i>
Ebony spleenwort	<i>Asplenium platyneuron</i>
Japanese barberry	<i>Berberis thunbergii</i>
Yellow birch	<i>Betula alleghaniensis</i>
Sweet birch	<i>Betula lenta</i>
Smooth brome grass	<i>Bromus inermis</i>
Pennsylvania sedge	<i>Carex pensylvanica</i>
Bitternut hickory	<i>Carya cordiformis</i>
Pignut hickory	<i>Carya glabra</i>
Shagbark hickory	<i>Carya ovata</i>
Oriental bittersweet	<i>Celastrus orbiculatus</i>
Mouse-ear chickweed	<i>Cerastium fontanum</i>
Celandine	<i>Chelidonium majus</i>
Spotted wintergreen	<i>Chimaphila maculata</i>
Wild basil	<i>Clinopodium vulgare</i>
Flowering dogwood	<i>Cornus florida</i>
Deer-tongue grass	<i>Dichanthelium clandestinum</i>
Spinulose wood fern	<i>Dryopteris carthusiana</i>
Marginal woodfern	<i>Dryopteris marginalis</i>
Field horsetail	<i>Equisetum arvense</i>
Philadelphia fleabane	<i>Erigeron philadelphicus</i>
Dogtooth violet	<i>Erythronium americanum</i>
Winged euonymus	<i>Euonymus alata</i>
Cypress spurge	<i>Euphorbia cyparissias</i>

COMMON NAME	SCIENTIFIC NAME
White wood aster	<i>Eurybia divaricata</i>
American beech	<i>Fagus grandifolia</i>
White ash with blanding	<i>Fraxinus americana</i>
Catchweed bedstraw	<i>Galium aparine</i>
Bedstraw	<i>Galium spp.</i>
Spotted geranium	<i>Geranium maculatum</i>
Virginia stickseed	<i>Hackelia virginiana</i>
Witchhazel	<i>Hamamelis virginiana</i>
Jewelweed	<i>Impatiens capensis</i>
Eastern red cedar	<i>Juniperus virginiana</i>
Hairy bushclover	<i>Lespedeza hirta</i>
Privet	<i>Ligustrum spp.</i>
Tulip poplar	<i>Liriodendron tulipifera</i>
Japanese honeysuckle	<i>Lonicera japonica</i>
Bush honeysuckle	<i>Lonicera spp.</i>
Common woodrush	<i>Luzula multiflora</i>
Canada mayflower	<i>Maianthemum canadense</i>
Nepalese browntop	<i>Microstegium vimineum</i>
Indian pipe	<i>Monotropa uniflora</i>
Daffodil	<i>Narcissus pseudonarcissus</i>
Sensitive fern	<i>Onoclea sensibilis</i>
Japanese pachysandra	<i>Pachysandra terminalis</i>
Virginia creeper	<i>Parthenocissus quinquefolia</i>
Pokeweed	<i>Phytolacca americana</i>
Norway spruce	<i>Picea abies</i>
Eastern white pine	<i>Pinus strobus</i>
Common plantain	<i>Plantago major</i>
Mayapple	<i>Podophyllum peltatum</i>
Hairy solomon's seal	<i>Polygonatum pubescens</i>
Jumpseed	<i>Polygonum virginianum</i>
Rock polypody	<i>Polypodium virginianum</i>
Christmas fern	<i>Polystichum acrostichoides</i>
Common cinquefoil	<i>Potentilla simplex</i>
Black cherry	<i>Prunus serotina</i>
Waxflower shinleaf	<i>Pyrola elliptica</i>
White oak	<i>Quercus alba</i>
Chestnut oak	<i>Quercus prinus</i>
Red oak	<i>Quercus rubra</i>

COMMON NAME	SCIENTIFIC NAME
Littleleaf buttercup	<i>Ranunculus abortivus</i>
Great laurel	<i>Rhododendron maximum</i>
Black locust	<i>Robinia pseudoacacia</i>
Multiflora rose	<i>Rosa multiflora</i>
Allegheny blackberry	<i>Rubus allegheniensis</i>
American red raspberry	<i>Rubus idaeus</i>
Wineberry	<i>Rubus phoenicolasius</i>
Bloodroot	<i>Sanguinaria canadensis</i>
Little bluestem	<i>Schizachyrium scoparium</i>
Japanese bristlegrass	<i>Setaria faberi</i>
Yellow foxtail	<i>Setaria pumila</i>
Roundleaf greenbrier	<i>Smilax rotundifolia</i>
Greenbrier	<i>Smilax spp.</i>
Horsenettle	<i>Solanum carolinense</i>
Canada goldenrod	<i>Solidago canadensis</i>
Goldenrods	<i>Solidago spp.</i>
Lamb's ear	<i>Stachys byzantina</i>
Common chickweed	<i>Stellaria media</i>
Skunk cabbage	<i>Symplocarpus foetidus</i>
Common dandelion	<i>Taraxacum officinale</i>
Japanese yew	<i>Taxus cuspidata</i>
Eastern poison ivy	<i>Toxicodendron radicans</i>
Eastern hemlock	<i>Tsuga canadensis</i>
American elm	<i>Ulmus americana</i>
Stinging nettle	<i>Urtica dioica</i>
Lowbush blueberry	<i>Vaccinium angustifolium</i>
Common mullein	<i>Verbascum thapsus</i>
Common gypsyweed	<i>Veronica officinalis</i>
Common blue violet	<i>Viola sororia</i>
Grape	<i>Vitis spp.</i>

This list represents species that were observed during field surveys in March and May, 2020, and therefore is not reported as an exhaustive list of all of those species that are present on the property.

Appendix D

Chapter 3.3 Terrestrial and Aquatic Ecology from Sarles Estates DEIS
September 24, 2004

3.3 Terrestrial and Aquatic Ecology

3.3.1 Existing Conditions

Vegetation

Most of the project site consists of second growth upland woods vegetative cover. Also located on the site is a disturbed area associated with a former estate residence. Vegetation in this portion of the site includes a mixture of old field successional species as well as a grove of large evergreen trees. In addition, a small pocket of wetland vegetation was observed in the southeastern corner of the project site adjacent to Sarles Street. Figure 3.3-1 is an aerial photograph of the project site that shows the extent of the woodlands on the site and on adjacent properties. Also indicated on Figure 3.3-1 is the location of the former residence in the central portion of the site and the small wetland area in the southeastern corner of the site.

The three vegetative community types on the project site are described in the following paragraphs. Data was compiled by field surveys conducted by environmental consultants from Tim Miller Associates, Inc. A list of observed plant species on the project site, indicating common and botanical names, is included in Table 3.3-1.

Upland Woodlands

The majority of the subject site is vegetated with a second-growth hardwood forest with a generally closed canopy. The primary tree species in this community type include sugar maple, red maple, white oak, pignut hickory, beech and occasionally hemlock. The majority of the trees on the site range from 10 to 16 inches diameter at breast height (dbh) (approximately 30 - 50 years old.) Understory trees and shrubs include flowering dogwood, witch hazel, barberry, and seedlings and saplings of the overstory trees. Common ground cover species include poison ivy, Virginia creeper, garlic mustard, blackberry and Christmas fern. A tree survey was conducted on the project site to identify and map all trees with a diameter of eight inches or greater at breast height (dbh) and all specimen trees with a minimum circumference of 36 inches and a minimum crown spread of 15 feet. The results of the tree survey are described further below.

Former House Site/Mixed Evergreens

This portion of the subject site was formerly used for residential use, and includes large cleared areas, old foundations and retaining walls, and landscape plantings. On both the south and north end of this area, vegetation is dominated by large evergreens that were introduced and have gotten large since the site was abandoned. On the north end of the site this is particularly true from the edge of the clearing to Route 172, where a mix of white pine and Norway spruce dominate the vegetation and form a dense canopy. Abandonment of the residential use occurred 25-30 years ago. The remaining areas of the clearing support introduced grasses, successional old-field herbaceous plants and blackberry canes, with much of this area remaining as bare earth.

Wetland Area and its Functions

A small pocket of wetland vegetation occurs in the southeast corner of the site adjacent to Sarles Street. This area is approximately 500 square feet in size and is drained by an existing

Figure 3.3-1. Aerial
photograph of the project site,
is not available.

culvert that drains to the east side of Sarles Street. Vegetation in this wetland area consists primarily of skunk cabbage, water plantain, sensitive fern and poison ivy. This area has a moist substrate but no standing water. This area does not support any fish populations, but may provide habitat opportunities for some amphibians and reptiles. However, no vertebrate species or wildlife indicators were observed in the wetland area. This wet area appears to have developed from the accumulation of sediment and road debris at the culvert pipe inlet. Functional attributes of this wetland pocket are associated with stormwater functions (water detention, pollutant filtering, nutrient trapping), and possibly small animal habitat. The small size of the wetland area (approximately 500 square feet) and its proximity to Sarles Street diminish the habitat value of this wetland area.

Protected Species

Correspondence from the New York State Department of Environmental Conservation Natural Heritage Program indicates that there are no known occurrences of rare or unusual habitat types on this property. The Natural Heritage Program's database identified one historical record of a protected plant species within the vicinity of the project site. The state records indicate a rattlebox (*Crotalaria sagittalis*) plant was last sighted in 1915 at a location simply identified as "Mount Kisco". The exact coordinates of the sighting of this endangered species were not provided. However, according to the Natural Heritage records and *Necomb's Wildflower Guide* (1977), this herbaceous species occurs in sandy soils. Sandy soil conditions do not occur within the project site as previously described in Chapter 3.1. This plant species has not been identified on the project site and is not expected to be encountered due to the existing soil conditions at the project site. Because the Natural Heritage Program considers its database findings to be sensitive information and specifically indicates that it may not be released to the public, this correspondence is not included in this document.

No rare, endangered or threatened plant species were identified on the project site or are expected to be encountered as described above. The value of the existing vegetative community types for wildlife is discussed below. The vegetative communities on the project site do not represent unique habitat types and are typical to other woodland areas in the area. The existing on-site vegetation appears to be in a generally healthy and productive state. Species abundance and distribution was typical within each community type.

A list of plants observed or expected to reside on the project site is provided below. Some of the ferns listed are protected in New York State, as noted. Federal and New York State laws provide protections against the "taking" of plant species that have been identified as "endangered", "threatened", "rare", and in New York, "exploitably vulnerable". The protected ferns are considered exploitably vulnerable under State law, meaning they may be vulnerable to collection that could make them rare. These are not rare, endangered or threatened species under Federal or State law. Since the protection afforded by State law applies to takings without the consent of the property owner, the disturbance of any State protected species on this site as a result of this project development and with the consent of the property owner is legal.

Table 3.3-1 Project Site Vegetation			
Common Name (Scientific Name)	Community Type		
TREES	U	W	HS
American beech (<i>Fagus grandifolia</i>)	X		
Red oak (<i>Quercus rubra</i>)	X		
White oak (<i>Quercus alba</i>)	X		
Chestnut oak (<i>Quercus prinus</i>)	X		
Red maple (<i>Acer rubrum</i>)	X	X	
Sugar maple (<i>Acer saccharum</i>)	X		
Pignut hickory (<i>Carya glabra</i>)	X		
Shagbark hickory (<i>Carya ovata</i>)	X		
Bitternut hickory (<i>Carya cordiformis</i>)	X		
American elm (<i>Ulmus americana</i>)	X		
Tulip poplar (<i>Liriodendron tulipifera</i>)	X		
Hop hornbeam (<i>Ostrya virginiana</i>)	X		
Sassafras (<i>Sassafras albidum</i>)	X		
Black cherry (<i>Prunus serotina</i>)	X		X
Black locust (<i>Robinia pseudoacacia</i>)	X		X
Flowering dogwood (<i>Cornus florida</i>)	X		
White ash (<i>Fraxinus americana</i>)	X		
Black Birch (<i>Betula lenta</i>)	X		
White pine (<i>Pinus strobus</i>)	X		X
Eastern hemlock (<i>Tsuga canadensis</i>)	X		
Spruce (<i>Picea sp.</i>)	X		X
SHRUBS			
Arrowwood (<i>Viburnum dentatum</i>)	X		
Rhododendron (<i>Rhododendron sp.</i>)	X		X
Witch hazel (<i>Hamamelis virginiana</i>)	X		
Spicebush (<i>Lindera benzoin</i>)	X		
Tartarian honeysuckle (<i>Lonicera tartarica</i>)	X		X
Japanese barberry (<i>Berberis thunbergii</i>)	X		
Multiflora rose (<i>Rosa multiflora</i>)	X		X
Staghorn sumac (<i>Rhus typhina</i>)	X		
Winged euonymus (<i>Euonymus alata</i>)	X		X
HERBACEOUS PLANTS, CANES AND VINES	U	W	HS
Asters (<i>Aster spp.</i>)			X
Wood nettle (<i>Laportea canadensis</i>)			X
Smartweed (<i>Polygonum spp.</i>)			X
Mullein (<i>Verbascum blattaria</i>)			X
Deptford pink (<i>Dianthus amurensis</i>)			X
Spotted knapweed (<i>Centaurea maculosa</i>)			X
Canada thistle (<i>Cirsium arvense</i>)			X
Wild carrot (<i>Daucus carota</i>)			X
Bladder campion (<i>Silene cucubalis</i>)			X
Ragweed (<i>Ambrosia spp.</i>)			X
Garlic mustard (<i>Alliaria petiolata</i>)	X		X
Pachysandra (<i>Pachysandra sp.</i>)	X		X
Skunk cabbage (<i>Symplocarpus foetidus</i>)	X	X	
Jack in the pulpit (<i>Arisaema triphyllum</i>)	X		

Table 3.3-1 continued on Next Page

Table 3.3-1 - Continued Project Site Vegetation			
Common Name (Scientific Name)	Community Type		
HERBACEOUS PLANTS, CANES AND VINES	U	W	HS
Blood root (<i>Sanguinaria canadensis</i>)	X		
Daisy Fleabane (<i>Erigeron annuus</i>)			X
Milkweed (<i>Asclepias syriaca</i>)	X		X
Clover (<i>Trifolium spp.</i>)			X
Thistle (<i>Cirsium spp.</i>)			X
Indian Pipe (<i>Monotropa uniflora</i>)	X		
Spotted wintergreen (<i>Chimaphila maculata</i>)	X		X
Water Plantain (<i>Alisma plantago</i>)		X	
Blackberry (<i>Rubus allegheniensis</i>)	X		X
Poison ivy (<i>Toxicodendron radicans</i>)	X	X	X
Virginia creeper (<i>Parthenocissus quinquefolia</i>)	X	X	X
Common greenbriar (<i>Smilax rotundifolia</i>)	X		
Grape (<i>Vitis spp.</i>)	X		
FERNS	X		
Bracken fern (<i>Pteridium aquilinum</i>)*	X		
Marginal woodfern (<i>Dryopteris marginalis</i>)	X		
Hayscented fern (<i>Dennstaedtia punctilobula</i>)*	X		
Christmas fern (<i>Polystichum acrostichoides</i>)	X		
New York fern (<i>Dryopteris noveboracensis</i>)	X		
Sensitive fern (<i>Onoclea sensibilis</i>)*	X	X	
<p>*Note: All ferns listed above are protected in New York State with the exception of those followed by an asterisk. The protected ferns are considered "exploitably vulnerable" under State law, meaning they may be vulnerable to collection that could make them rare. The protection afforded by State law applies to takings without the consent of the property owner; these are not "rare", "endangered" or "threatened" species. No attempt was made to inventory plants other than the tree survey.</p> <p>U = upland woods, W = wetland, HS = former house site</p> <p>Source: Tim Miller Associates, Field Investigations: 4/10/01, 4/12/01, 7/11/01</p>			

Tree Survey

A tree survey was conducted on the project site to identify and map all trees with a diameter at breast height (dbh) of eight inches or greater. A map of the surveyed trees is provided in the rear of the document. A tree schedule which lists the total number of surveyed trees by tag number, species and size is provided on the full-size Details sheet in the rear of the document. The tree survey identified approximately 1,620 trees with a minimum dbh of eight inches on the project site. Of these, 66 percent are defined as specimen trees by the Mount Kisco Tree Preservation Ordinance. According to the ordinance, a specimen tree has minimum circumference of 36 inches and a minimum crown spread of 15 feet. Approximately 1,069 of the surveyed trees meet the Mount Kisco definition of a specimen tree.

Buffer Locations and Adjacent Uses

The project site is bounded by developed areas to the east and north, and undeveloped land to the south and west. The eastern edge of the project site is adjacent to Sarles Street. The east side of Sarles Street supports single family low density "estate" homes in the Town of Bedford. To the north, the project site is bounded by Route 172. A residence and law office is currently located at the corner of Sarles Street and Route 172 to the northeast of the project site. The project site is primarily wooded along the northern and eastern borders.

To the south and west of the project site is the Marsh Memorial Sanctuary, which is an undeveloped wooded area. The project site woodlands are contiguous to the woodlands on the Sanctuary property.

Fish and Wildlife Habitat

The habitat types on this site are described below. Vegetative cover of these areas is described above. None of these habitat types are unique to the area.

Upland Woodlands / Stone Walls

The canopy in the areas of successional forest is not as dense as would be found in older forest areas, and invading sunlight promotes the growth of shrub and herbaceous plants. Indicators of higher predatory species (red fox) have been found on the site. Deer, which are common within Westchester County have also been observed on the site.

A number of loose stone walls are located along portions of the property line and one in the interior of the property, and are indicated on the sealed land survey prepared by H. Stanley Johnson LS that has been provided to the Village Building Inspector. These are low, loosely constructed rubble walls that are typical of abandoned farm lands in Westchester County. These stone walls offer nesting and cover area for a variety of species, including snakes, small mammals (chipmunks, mice, rabbits, voles, etc.) and various amphibian species. Insect populations that are likely to live within the walls provide a food base for many of these creatures.

The stone walls appear on the engineer's base drawings used to design the project. They can be seen in half-tone on all of the full size drawings and in the DEIS Figures, specifically in Figure 3.1-2.

Former House Site/Mixed Evergreens

The presence of this area adds to the habitat diversity of the project site. The open successional old-field area allows ample solar penetration which, in turn supports a number of flowering herbaceous plants and associated insects. Numerous song birds were present in this area. The building remains may also provide habitat opportunities for smaller mammal and reptile species.

Wetland

As described above, there is one small wetland area on the site. This area has a moist substrate but no standing water. This area does not support any fish populations, but may provide habitat opportunities for some amphibians and reptiles. However, no vertebrate species or wildlife indicators were observed in the wetland area. The small size of the wetland area (approximately 500 square feet) and its proximity to Sarles Street diminish the habitat value of this wetland area.

Table 3.3-2 includes a list of actual observations and expected occurrences of wildlife species on the project site in each habitat type, including the "edge habitat" which comprise the boundary areas between the habitats described above.

Table 3.3-2
Wildlife List

Common Name	Scientific Name	Habitat Type				
		U	W	HS	Ed	SW
Mammals						
white-tail deer*	<i>Odocoileus virginianus</i>	X	X	X	X	
raccoon*	<i>Procyon lotor</i>	X	X		X	
red fox*	<i>Vulpes vulpes</i>	X	X		X	
gray fox	<i>Urocyon cinereoargenteus</i>	X			X	
opossum	<i>Didelphis virginiana</i>	X	X			
eastern chipmunk	<i>Eutamias sp.</i>	X			X	X
gray squirrel*	<i>Sciurus carolinensis</i>	X	X			
flying squirrel	<i>Glaucomys volans</i>	X	X			
cottontail rabbit	<i>Sylvilagus floridanus</i>	X			X	
striped skunk	<i>Mephitis mephitis</i>	X		X	X	
white-footed mouse	<i>Peromyscus leucopus</i>	X		X	X	X
deer mouse	<i>Peromyscus maniculatus</i>	X		X	X	X
house mouse	<i>Mus musculus</i>			X	X	
meadow vole	<i>Microtus pennsylvanicum</i>			X	X	X
starnosed mole	<i>Codylura cristata</i>	X		X	X	
eastern mole	<i>Scalopus aquaticus</i>	X		X		
woodchuck	<i>Marmota monax</i>	X				
short-tailed shrew	<i>Blarina brevicauda</i>	X		X	X	X
common shrew	<i>Sorex cinereus</i>	X		X	X	
little brown bat	<i>Myotis lucifugus</i>	X	X		X	
red bat	<i>Lasiurus borealis</i>	X	X		X	
Reptiles						
garter snake	<i>Thamnophis sirtalis</i>	X	X	X	X	X
milk snake	<i>Lampropeltis triangulum</i>	X		X	X	
hognose snake**	<i>Heterodon platyrhinos</i>	X	X		X	
brown snake	<i>Storeria dekayi</i>	X	X	X	X	X
ringneck snake	<i>Diadophis punctatus</i>	X	X			X
eastern racer	<i>Coluber constrictor</i>	X			X	X
copperhead	<i>Agkistrodon contortrix</i>	X	X		X	
box turtle	<i>Terrapene carolina</i>	X	X		X	
Amphibians						
red-backed salamander	<i>Plethodon cinereus</i>	X	X		X	
newt	<i>Notophthalmus viridescens</i>	X	X		X	X
American toad	<i>Bufo americanus</i>	X			X	X
gray treefrog	<i>Hyla versicolor</i>	X	X			
wood frog	<i>Rana sylvatica</i>	X	X			X
Birds		U	W	HS	Ed	SW
turkey	<i>Meleagris gallopavo</i>	X	X			
wood thrush	<i>Hylocichla mustelina</i>	X	X			
pileated woodpecker	<i>Dryocopus pileatus</i>	X	X			
hairy woodpecker*	<i>Picoides villosus</i>	X	X			
downy woodpecker	<i>Picoides pubescens</i>	X	X			
northern flicker*	<i>Colaptes auratus</i>	X	X			
ovenbird	<i>Seiurus aurocapillus</i>	X	X			
sharp shinned hawk	<i>Accipiter striatus</i>	X	X		X	

Table 3.3-2 Continued on Next Page

Table 3.3-2 - Continued
Wildlife List

Common Name	Scientific Name	Habitat Type				
		U	W	HS	Ed	SW
Birds						
red-tailed hawk	<i>Buteo jamaicensis</i>	X	X	X	X	
robin*	<i>Turdus migratorius</i>	X	X	X	X	
catbird	<i>Dumetella carolinensis</i>	X		X	X	
mockingbird*	<i>Mimus polyglottos</i>	X	X	X	X	
flycatchers	<i>Empidonax sp.</i>	X	X		X	
eastern phoebe	<i>Sayornis phoebe</i>	X	X		X	
common yellowthroat	<i>Geothlypis trichas</i>				X	
American redstart	<i>Setophaga ruticella</i>	X	X	X	X	
red-eyed vireo*	<i>Vireo olivaceus</i>	X	X			
crow*	<i>Corvus brachyrhynchos</i>	X	X	X	X	
blue jay*	<i>Cyanocitta cristata</i>	X	X	X	X	
scarlet tanager	<i>Piranga olivacea</i>	X	X			
American goldfinch	<i>Carduelis tristis</i>	X	X	X		
cardinal	<i>Cardinalis cardinalis</i>			X	X	
veery*	<i>Hylocicla fuscescens</i>	X				
eastern bluebird*	<i>Sialia sialis</i>	X				
chipping sparrow	<i>Spizella passerina</i>			X	X	
towhee	<i>Pipilo erythrophthalmus</i>	X	X			
tufted titmouse	<i>Parus bicolor*</i>	X		X	X	
warbler	<i>Dendroica spp.</i>	X	X			
wren	<i>Troglodytes spp.</i>	X	X	X	X	
eastern wood pewee	<i>Contopus virens</i>	X	X			
junco	<i>Junco hyemalis</i>	X	X			
mourning dove*	<i>Zenaida macroura</i>			X	X	
chickadee*	<i>Parus spp.</i>	X	X	X	X	
nuthatch*	<i>Sitta spp.</i>	X	X	X	X	
northern oriole	<i>Icterus galbula</i>	X			X	
finch	<i>Carpodacus spp.</i>	X		X	X	
evening grosbeak	<i>Hesperiphona vespertina</i>	X			X	
brown thrasher	<i>Toxostoma rufum</i>				X	
turkey vulture	<i>Cathartes aura</i>	X	X		X	
eastern screech owl	<i>Otus asio</i>	X	X	X	X	
great horned owl*	<i>Bubo virginianus</i>	X	X	X	X	

U = upland woods, W = wetland, HS = former house site, Ed = edge habitat, SW = stone walls

* - Species or indicators observed during field surveys

** - New York State species of special concern

Source: Tim Miller Associates, Inc., 2001, Westchester County, 1987

Field Investigation dates: 4/10/01, 4/12/01, 7/11/01

Recent in-field surveys for wildlife were conducted by Steve Marino and Andrew Mavian of Tim Miller Associates. Mr. Marino is a certified Professional Wetland Scientist and field biologist with over 15 years' experience working in New York, Rhode Island and Connecticut. Mr. Mavian is a Senior Environmental Planner with over seven years' of experience working in New York, Maryland and Virginia.

The wildlife surveys were conducted primarily during Spring and Summer, however, observations during site visits at other times of the year were also incorporated. The surveys were conducted at different times of the day and under varying weather conditions. Visual observations of individuals or groups of species were noted as well as other indicators such as vocalizations, foot prints and scat. No wildlife species were collected or trapped during the on-site field investigations.

The wildlife field surveys did not attempt to estimate wildlife populations on site. Based on the field survey and experience in the area, dominant mammalian and avian species on site are those typically found in northern Westchester County. Dominant mammals include white-tailed deer, gray squirrel, eastern chipmunk, raccoon, opossum, deer mouse, and woodchuck. Dominant avian species include resident songbirds (chickadee, nuthatch, vireos, cardinals, warblers, etc.), downy woodpecker, blue jay, crow, mourning dove, mockingbird and wild turkey. The wildlife species observed on-site appear to be healthy and productive.

No unique, rare or endangered species were observed on the site during recent field investigations. Correspondence from the New York State Department of Environmental Conservation Natural Heritage Program indicates that there are no known occurrences of rare or protected wildlife species on the subject property. The Natural Heritage Program records do indicate one historical record of a protected wildlife species in the vicinity of the project site. A bog turtle (*Clemmys muhlenbergii*) was last sighted in 1950 at a location identified as "Byram Lake Road Wetland". The exact coordinates of the sighting were not provided. However, Byram Lake Road is more than one mile to the south of the project site. The bog turtle is a semi-aquatic species that inhabit specialized subclimax open canopy areas within large dynamic wetland systems with standing water (Klemens, Amphibians and Reptiles of Connecticut, 2000). The one small wetland area on the project site contains no standing water, therefore suitable habitat for the bog turtle does not exist at the project site.

The composition of species that utilize the project site are expected to be similar to those species found in the upland habitats of the adjacent Marsh Memorial Sanctuary and other similar nearby wooded areas. Resident wildlife is likely to migrate between the adjacent Sanctuary and the project site. It is also likely that some wildlife species may travel between the project site and nearby woodlands on the opposite side of Route 172 and Sarles Street.

3.3.2 Potential Impacts

Vegetation

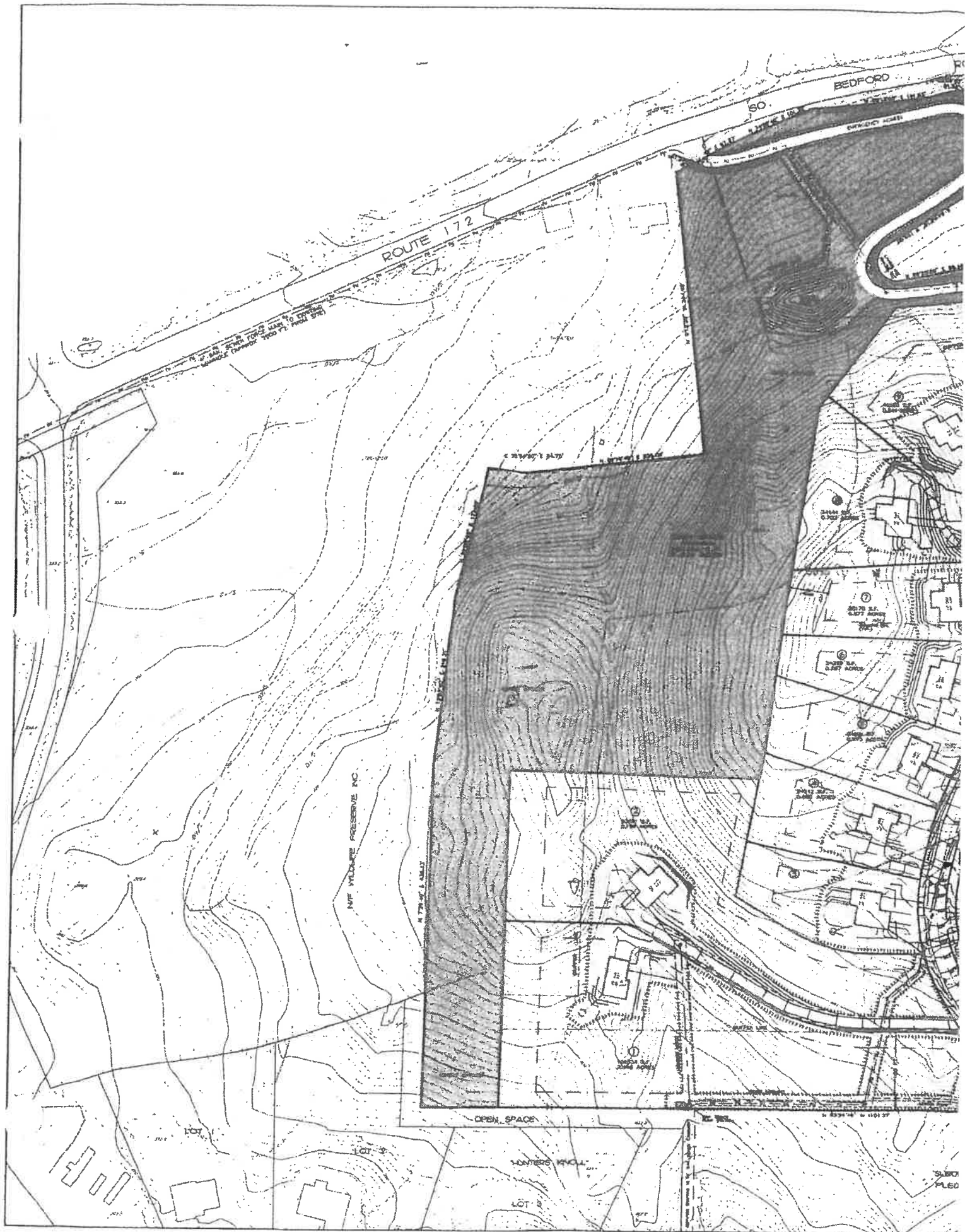
With the proposed site plan, the applicant has attempted to minimize clearing of wooded areas to the extent possible to achieve 16 single family residences on the property. The project engineer estimates that approximately 8.89 acres would be disturbed by the proposed development, including 0.24 acres of existing impervious areas at the abandoned residence, driveway and pool. The project will preserve approximately 64.4 percent of the site. The proposed areas of disturbance are summarized in Table 3.3-3. Most of the disturbed vegetation is comprised of upland woodland species.

Figure 3.3-2 illustrates the land cover on the project site with the proposed development.

A significant portion of the project site is proposed to be protected by designation as open space and offered for dedication to the Village, in two lots:

- an open space lot 0.7 acres in size at the southeast corner of the site
- an open space lot 8.8 acres in size around the remaining perimeter of the property

In addition, proposed easements totaling approximately 3.4 acres will protect additional land located within individual house lots from further development or tree clearing. Dedicated open space on the current plan accounts for 38 percent (9.5 acres) of the project site. In total, all



open space areas provided on the current plan accounts for nearly 52 percent (12.9 acres) of the project site.

As previously discussed, no plant species were identified on the project site that would be subject to legal protection under Federal or State law in association with this development project. A historical record of a protected rattlebox plant indicates this species was last sighted in Mount Kisco in 1915. This species inhabits sandy soils, which are not present on the project site. Therefore, this species is not expected to be encountered on the project site.

The proposed disturbance to the existing vegetation would result in a loss of wildlife habitat where disturbance is proposed and has the potential to result in increased erosion and sedimentation. The potential for impacts associated with erosion and sedimentation are described in Chapter 3.1 of the DEIS. As previously discussed, erosion and sedimentation controls are proposed as part of the proposed project to minimize or avoid impacts.

Table 3.3-3 Changes in Surface Cover (Acres)			
	Existing	Disturbance	Proposed
Woods (upland)	24.58	8.64	15.94
Wetlands	0.01	0.01	0.02
Impervious/pavement	0.34	0.17	1.76
Impervious/buildings	0.07	0.07	0.65
Lawn/landscaping	0.00	0.00	6.63
TOTAL	25.00	8.89	25.00

Wetlands

A small pocket of wetland vegetation approximately 500 square feet in size will be eliminated in the southeast corner of the site adjacent to Sarles Street and replaced by an engineered subsurface water quality structure. The vegetation removal will effect the skunk cabbage, water plantain, sensitive fern and poison ivy that exist in this area. In turn, some amphibians and reptiles that may utilize this area would be affected by its removal. As previously stated, however, this site provides no unique habitat for unique, rare or endangered vegetative or wildlife species. Functional attributes identified for this wetland pocket associated with stormwater (water detention, pollutant filtering, and nutrient trapping) will actually be enhanced by the engineered stormwater management facilities proposed within the project under post-development conditions, as described in DEIS Section 3.2.

Tree Survey

The proposed development is anticipated to result in the loss of approximately 511 of the 1,620 surveyed trees on the project site. Approximately 68 percent of the total number of surveyed trees on the project site will be preserved by the proposed subdivision. Of the impacted trees, approximately 357 are considered specimen trees under the Mount Kisco Tree Preservation Ordinance.

Removal of trees will occur in some areas of steep slopes. An estimated 21 percent of the total number of surveyed trees on the site will be removed from steep slopes for the proposed subdivision. As cited in the project description, a steep slopes permit is required to cut any tree greater than 4 inches diameter on any steep slope, hilltop or ridgeline [§110-33.1.B.(1)].

Proposed tree protection measures are described further below that will be implemented where practicable to save individual trees near proposed development activity.

Fish and Wildlife

Loss of wildlife habitat will result from the proposed development as described in the above section. Portions of the on-site woodlands will be cleared to provide building envelopes for the proposed road, driveways, residences and lawn areas. There are no fish or aquatic species on the project site that would be affected by the proposed development. Removal of a portion of the wooded area on this site will result in some fragmentation of habitat that now comprises the site and adjoining land to the immediate south and west. The proposed plan is intended to minimize this effect by preservation of buffers and open space areas in their natural state to the maximum extent practicable.

All areas where residences, roads and driveways are proposed will no longer function as wildlife habitat or be available for wildlife use. The level of traffic generated by 16 residences is not expected to significantly impede the movements of larger vertebrate species (see Chapter 3.5 for trip generation information). No road curbs are proposed that would impede the movements of smaller vertebrate species.

While not as valuable as the existing forested habitat, the lawns and landscaping will still be used as forage by deer and other plant-eating wildlife, and many species of trees and shrubs commonly chosen for home landscaping will provide both food and nesting sites for songbirds and other avian species.

In general, as a project site is developed, some species will temporarily relocate to similar habitats off-site. Because less than half of this site is scheduled for alteration, not all of the on-site wildlife will relocate to off-site areas permanently. The composition of the wildlife population on the project site may be slightly altered immediately adjacent to developed areas, as species able to adapt to a suburban environment (such as raccoons, opossum, woodchucks, mice, songbirds, etc.) will have a greater ecological advantage, while species less tolerant of human activity (such as wood thrush, oven bird, sharp shinned hawk, veery, eastern wood pewee) may utilize these portions of the project site less.

With the implementation of the proposed stormwater and erosion control measures (see Section 3.1 and 3.2 description), the proposed project would not result in adverse impacts related to surface water. In fact, the proposed project would result in reductions in the existing levels of sediment, phosphorous, nitrogen, and Biochemical Oxygen Demand (BOD) in stormwater runoff from the project site following the treatment of stormwater runoff by a variety of proposed stormwater best management practices (see Section 3.2).

No protected wildlife species have been identified or observed on the project site. The project site does not meet the habitat requirements of the bog turtle, a protected species last sighted in 1950 over one mile from the site. Therefore, the project site would not support this protected species. Thus, no significant adverse impacts to wildlife are projected to occur. The proposed project will preclude future use of the developed portions of the property by wildlife species. This loss of habitat is an unavoidable adverse impact of the proposed development, but is not considered to be significant since there are no wildlife species that are protected under Federal or State law that would be impacted by this project.

No fencing is proposed as part of the project other than temporary fencing around equipment and material during the construction process. As shown in Figure 3.3-2, an undisturbed wooded buffer would remain along most of the perimeter of the project site, with the exception of the site access road and stormwater control structures in the southeastern corner, a 20 foot wide sewer easement in the southwestern side, a stormwater basin in the western side, a drainage easement in the northwestern corner and the existing driveway in the northern portion.

Existing stone walls found on portions of the property line will remain largely undisturbed by the proposal. The entrance roadway would displace approximately 70 lineal feet of the wall along Sarles Street, which would be reconstructed along the edges of the new subdivision road. Approximately 15 lineal feet of a wall in the southwestern corner of the property would be removed for construction of a sewer line, and approximately 20 feet of a wall in the northwestern corner would be removed to accommodate drainage. These stones would be incorporated into the adjacent walls to remain. The interior stone wall would be largely displaced by proposed site features. This wall would be rebuilt as landscape features within individual building lots, where possible.

Cumulative Impacts

From a cumulative perspective, the disturbance and loss of wildlife habitat on the project site contributes to overall losses of wildlife habitat in the region resulting from human activity and development. The proposed project site would result in a net reduction of open space available as wildlife habitat. The importance of existing park land and woodlands in the surrounding area would increase as existing habitat areas are eliminated by development on this site and elsewhere in the Village.

With the current project proposal for Sarles Estates to preserve land in its natural condition, including woodland located within 200 feet of the Marsh Sanctuary lands to the west of the site, the amount of land within the Village that is permanently dedicated for open space and wildlife habitat will be expanded.

3.3.3 Proposed Mitigation

Marsh Memorial Sanctuary

None of the proposed residential lots would abut the adjacent Marsh Memorial Sanctuary. Dedicated open space is proposed adjacent to the Sanctuary. The proposed project retains an undisturbed wooded buffer 200-feet wide along the western property border adjacent to the Sanctuary, which will be preserved in its natural condition via an open space lot to be offered for dedication to the Village.

Tree Protection Measures

Tree protection on the site will take several forms. First, limits of disturbance will be established in the field. No trees beyond these limits will be disturbed. These limits will be marked with erosion control fencing as noted in Westchester County's *Best Management Practices* handbook.

Secondly, trees that will definitely be removed will be marked. No large trees that are not marked will be removed unless during the construction it is determined that those trees cannot be saved.

Thirdly, where practicable, large trees will be saved through the use of tree wells. These wells will typically be constructed with excess rock from on site excavation activities. The walls of the wells will be dry laid, with provision for positive drainage out of the wells.

Vegetated Buffer and Neighboring Uses

As previously indicated and as illustrated in Figure 3.3-2, an undisturbed wooded buffer will be maintained around the perimeter of the project site. Buffer areas shown on the project plans that fall on house lots and will be protected by conservation easements consist of an area 100 feet deep along the south side of the project site (primarily in Lot 1), an area 200 feet deep (which include small portions of Lots 1, 2, 7, 8 and 9), and an area 100 feet deep on the rear of Lots 9 through 15. The buffer areas within house lots will be owned by the individual lot owners and will be protected by open space conservation easements as well as the existing environmental protection afforded by the Village Code. Other portions of the vegetated buffers occur within the designated open space lots.

Adjacent land is primarily undeveloped to the west and south and developed to the north and east. The proposed wooded perimeter buffers will help to visually screen the project from all off-site areas.

Compliance with Zoning Code

A discussion of the proposed project's compliance with the Mount Kisco Zoning Code is provided in Chapter 3.5.

Tree Maintenance Provisions

Maintenance for trees on individual private lots will be the responsibility of those respective property owners. Maintenance of any street trees planted along the proposed roadways will be the responsibility of the Village. Any street trees along the proposed roadway will be selected and planted in accordance with Mount Kisco regulations. Street tree species will be selected later in the approval process with consultation from the Village officials. Street tree selections are anticipated to be ornamental and/or native trees that require minimal maintenance. Tax revenues generated by the proposed development can be used by the Village to fund any future maintenance costs associated with street trees.

Landscape Plantings

The project includes approximately 6.65 acres of lawn and landscape plantings. The landscape plantings would consist of a mixture of native and ornamental species. While not as valuable as the existing forested habitat, the lawns and landscaped areas created by the proposed development will still be used as forage by deer and other plant eating wildlife, and many species of trees and shrubs commonly chosen for home landscaping will provide both food and nesting sites for squirrels, songbirds and other avian species. A conceptual landscaping plan has been developed for the project site. Table 3.3-4 lists typical landscaping species likely to be

included in the Sarles Estates project. A full size conceptual landscape plan is included at the rear of this document.

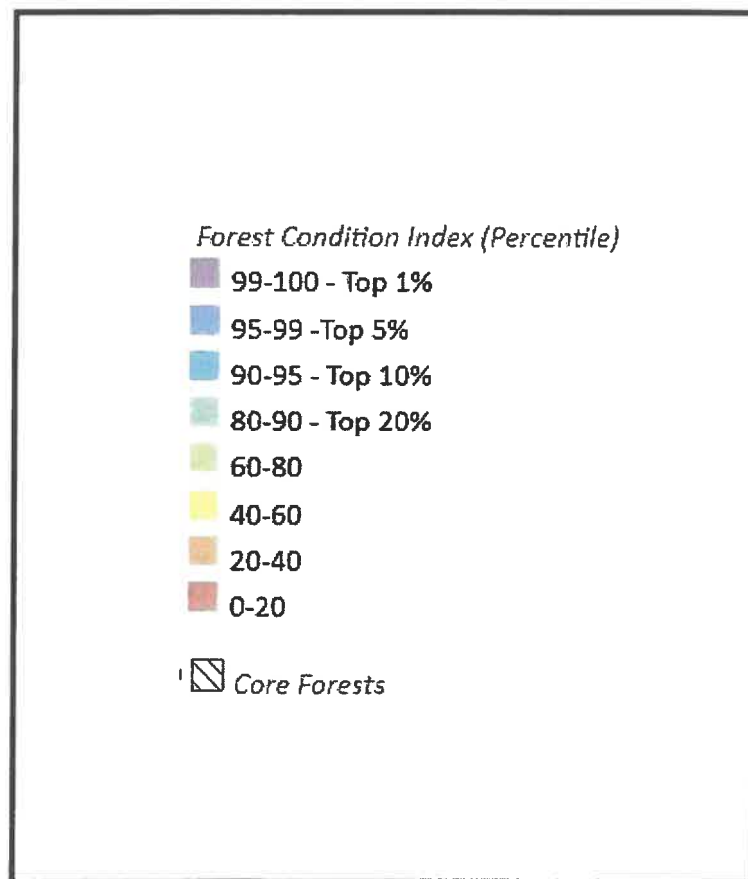
Table 3.3-4 Typical Landscape Plants Sarles Estates	
Trees	Shrubs
Deciduous Trees - Major	Deciduous Shrubs
horse chestnut (<i>Aesculus hippocastanum</i>)	bottlebrush buckeye (<i>Aesculus parviflora</i>)
red maple (<i>Acer rubrum</i>)	oak leaf hydrangea (<i>Hydrangea quercifolia</i>)
American beech (<i>Fagus grandifolia</i>)	witchhazel (<i>Hamamelis virginiana</i>)
white oak (<i>Quercus alba</i>)	staghorn sumac (<i>Rhus typhina</i>)
pin oak (<i>Quercus rubra</i>)	beautybush (<i>Myrica pensylvanica</i>)
little leaf linden (<i>Tilia cordata</i>)	viburnum (<i>Viburnum sp.</i>)
American elm (<i>Ulmus americana</i>)	Evergreen shrubs
Deciduous Trees - Minor	inkberry (<i>Ilex glabra</i>)
shadblow (<i>Amelanchier canadensis</i>)	Virginia red cedar (<i>Juniperus virginiana</i>)
paperbark birch (<i>Betula papyrifera</i>)	mountain laurel (<i>Kalmia latifolia</i>)
flowering dogwood (<i>Cornus florida</i>)	rosebay rhododendron (<i>Rhododendron maximum</i>)
crabapple (<i>Malus sp.</i>)	white rhododendron (<i>Rhododendron album</i>)
cherry (<i>Prunus sp.</i>)	leatherleaf viburnum (<i>Viburnum rhytidophyllum</i>)
plum (<i>Prunus sp.</i>)	
Coniferous Trees	
white fir (<i>Abies concolor</i>)	
Colorado spruce (<i>Picea pungens</i>)	
Norway spruce (<i>Picea abies</i>)	
douglas fir (<i>Pseudotsuga mensiesii</i>)	
white pine (<i>Pinus strobus</i>)	
red pine (<i>Pinus resinosa</i>)	
SOURCE: Tim Miller Associates, Inc.	

In addition, certain invasive species such as multi-flora rose and barberry will be eliminated where encountered on the project site. The removal of these invasive species is beneficial to wildlife.

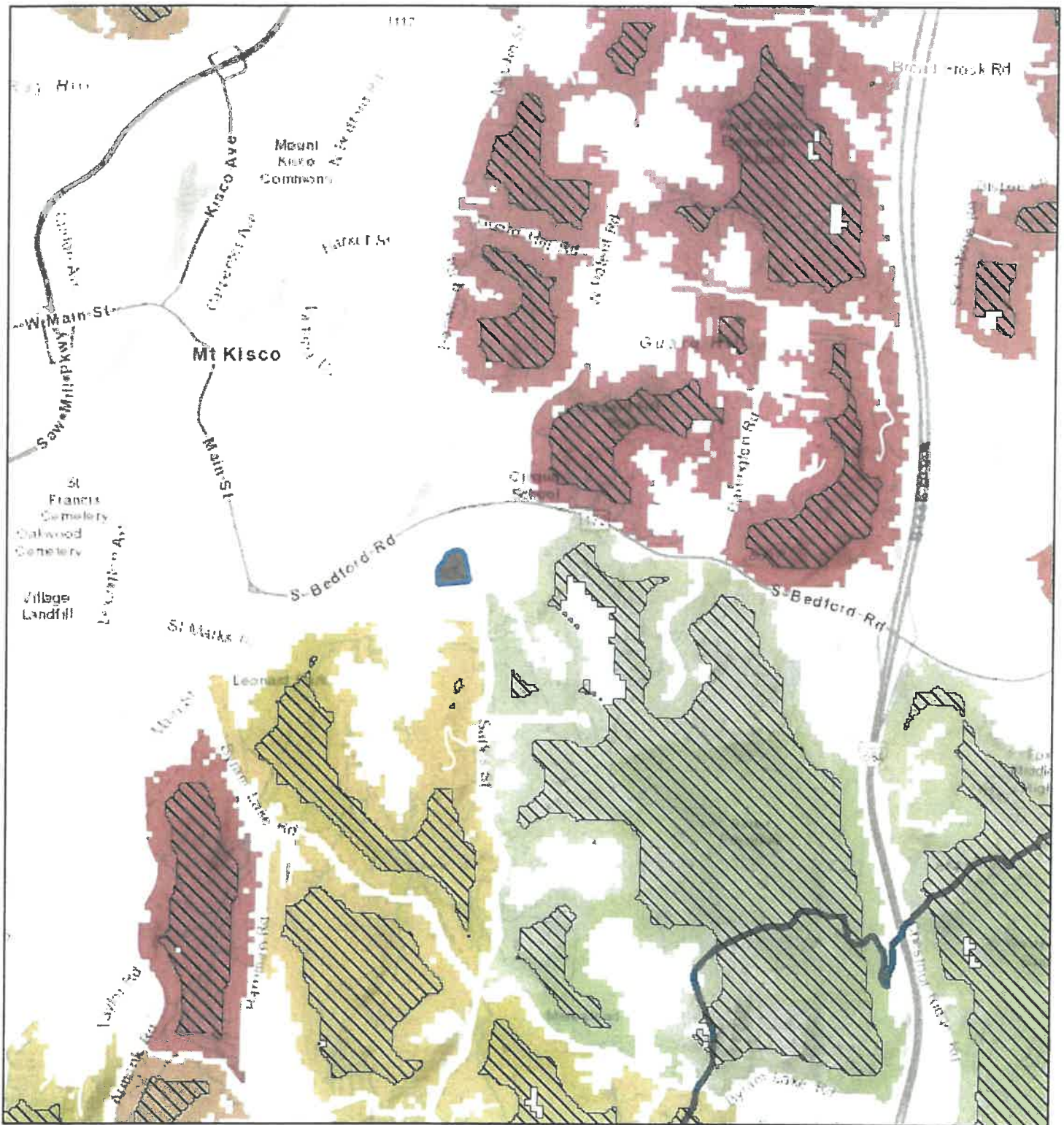
Appendix E

NYSDEC Environmental Resource Map

Layers and Legend for NYSDEC Environmental Resources Maps

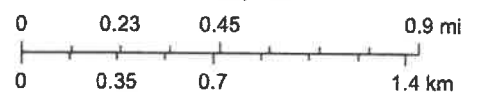


NHP Forest Resource Condition Indices



September 1, 2020

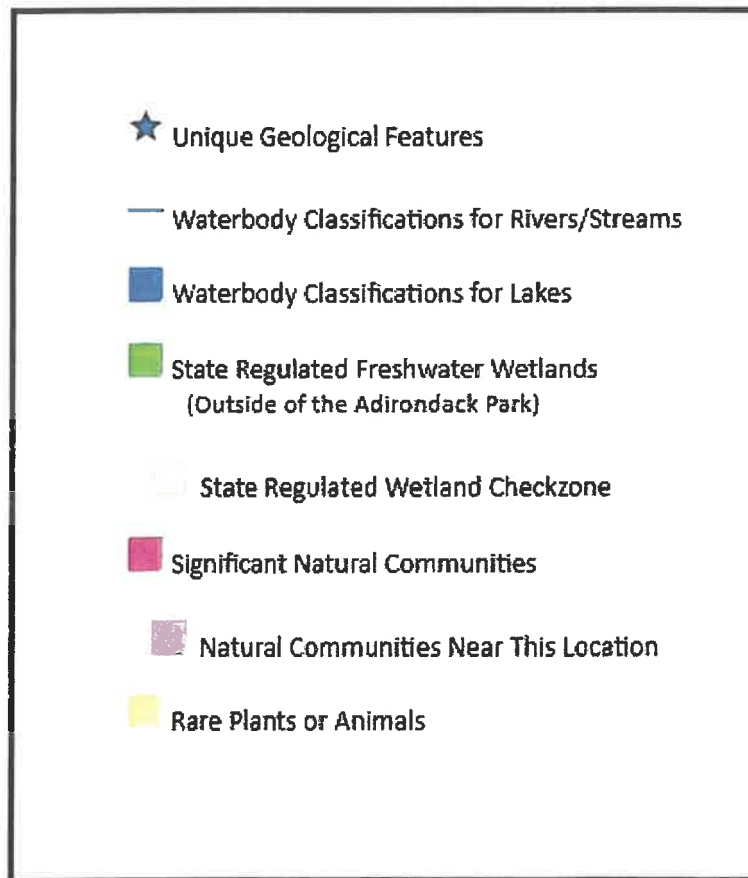
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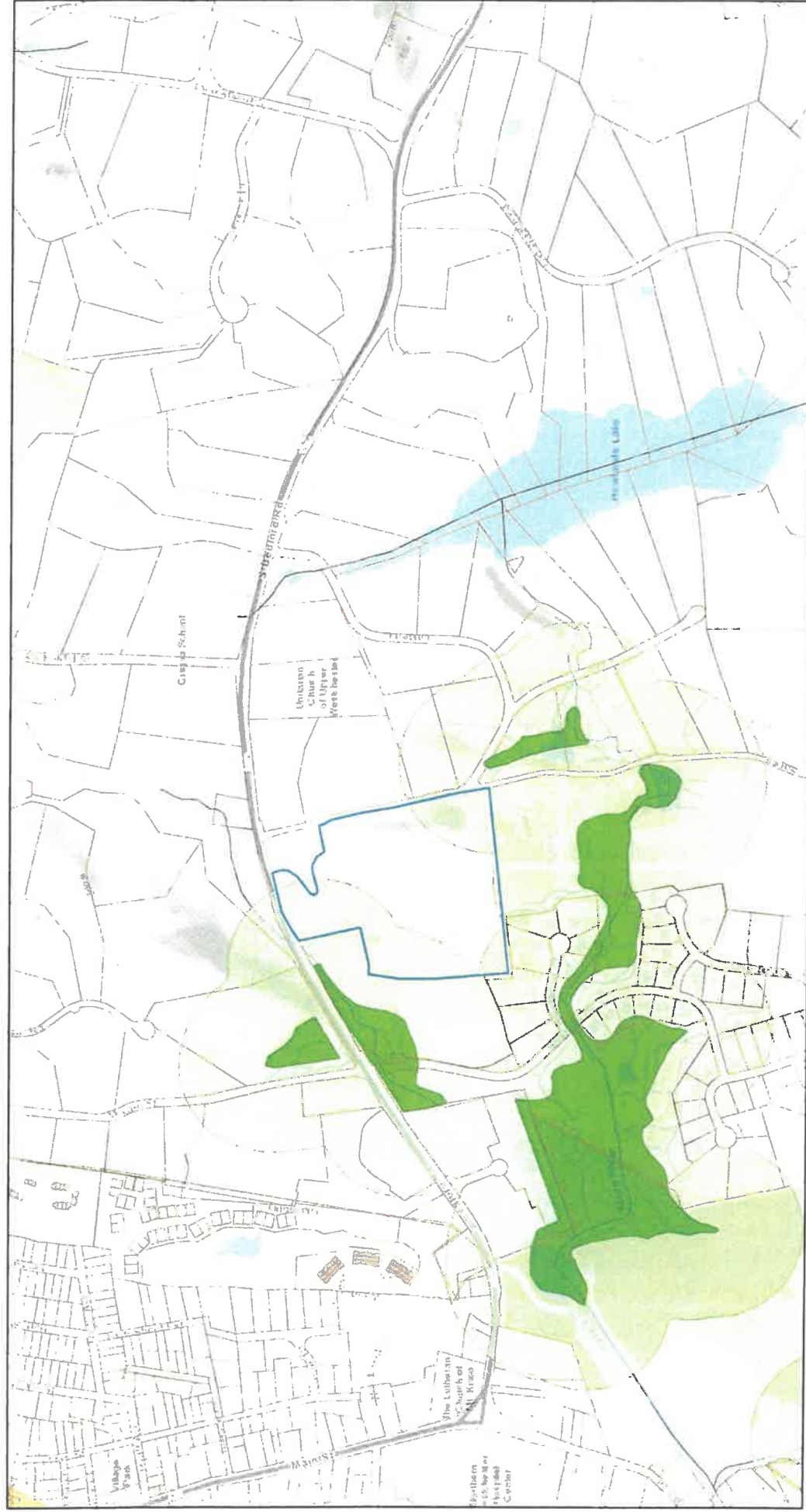
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Author: NYSDEC Hudson Valley Natural Resource Mapper
Not a legal document

Layers and Legend for NYSDEC Environmental Resources Maps



Mount Kisco - Parcel 80.44-1-1



June 8, 2020

1:9,028

0 0.07 0.15 0.25 0.3 mi
0 0.13 0.25 0.5 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, Mapbox, OpenStreetMap contributors, and the GIS User Community

NYS Department of Environmental Conservation
Not a legal document

Appendix F

Miscellaneous plant lists and observations

Trip Report from the Torrey Botanical Society

CORNELIA VAN RENSSELAER MARSH MEMORIAL WILD SANCTUARY

Mt. Kisco

September 9, 1967

A group of 21 members hiked through a part of the Cornelia Van Rensselaer marsh memorial Wildlife Sanctuary in Mt. Kisco, New York. The sanctuary comprises substantial acreage of marshland, woods, and fields, in addition to the 18-acre Brookside tract of upland deciduous woods visited by the group.

Flowering plants included *Solidago bicolor*, *graminifolia* and *canadensis*, *Lobelia siphilitica*, and several asters from the largest-leaved *Aster macrophyllus* to one of the smallest-leaved species *Aster ericoides*. Two violets were seen in bloom, of an undetermined species.

Participants were treated to sandwiches and cooling drink by Mrs. Marsh, after the walk. The leader was Leona T. Rem, Kitchawan Research Laboratory of the Brooklyn Botanic Garden.

A detailed summary of a visit by local botanist Patrick L. Cooney, Ph.D. has been posted on the NY/NJ/CT Botany Online website along with his Plant List for the Marsh Sanctuary. He also found record of a group visit to the Sanctuary by regional botanists in 1967!

PLANT LIST:

Patrick L. Cooney, Ph. d.

* = blooming on the day of the field trip, May 15, 2008

Trees:

Acer sp. (Japanese maple) planted
Acer negundo (box elder)
Acer rubrum (red maple)
Acer saccharum (sugar maple)
Betula lenta (black birch)
Carpinus caroliniana (musclewood)
Carya (shagbark hickory)
Carya spp. (hickory trees)
Cercis canadensis (red bud) *
Cornus florida (flowering dogwood)
Fagus grandifolia (American beech)
Fraxinus americana (white ash)
Juniperus virginiana (red cedar)
Picea abies (Norway spruce)
Pinus rigida (pitch pine)
Pinus strobus (white pine)
Prunus serotina (black cherry)
Pyrus sp. (malus probably) (apple)
Quercus alba (white oak)
Quercus palustris (pin oak)
Quercus prinus (chestnut oak)
Quercus rubra (red oak)
Quercus velutina (black oak)
Robinia pseudoacacia (black locust)

Salix sp. (willow)

Taxus sp. (yew)

Tsuga canadensis (eastern hemlock)

Ulmus americana (American elm)

Shrubs and sub-shrubs:

Alnus serrulata (smooth alder)

Berberis thunbergii (Japanese barberry) waning blooms

Euonymus alatus (winged euonymus) *

Forsythia sp. (forsythia) *waning

Gaylussacia baccata (black huckleberry)

Hamamelis virginiana (witch hazel)

Lonicera morrowii (Morrow's honeysuckle) *

Pachysandra terminalis (pachysandra) *one in bloom

Rhododendron maximum (rosebay rhododendron) *

Rhododendron sp. (white rhododendron) * hort.

Rosa multiflora (multi-flora rose)

Rubus phoenicolasius (wineberry)

Rubus sp. (blackberry)

Viburnum sieboldii (Siebold's viburnum)

Vines:

Celastrus orbiculatus (Asiatic bittersweet)

Lonicera japonica (Japanese honeysuckle)

Parthenocissus quinquefolia (Virginia creeper)

Smilax sp. (greenbrier)

Toxicodendron radicans (poison ivy)

Vitis sp. (grape)

Wisteria sp. (wisteria)

Herbs:

Achillea millefolium (common yarrow)

Ajuga sp. (bugleweed) *

Alliaria petiolata (garlic mustard) *

Allium tricoccum (wild leek or ramps)

Allium vineale (garlic onion (hollow stem)

Apocynum sp. (dogbane)

Aquilegia canadensis (yellow columbine) * hort.

Arctium sp. (burdock)

Arisaema triphyllum v. triphyllum (jack in the pulpit)

Artemisia vulgaris (common mugwort)

Asclepias syriaca (common milkweed)

Aster spp. (asters)

Barbarea vulgaris (common wintercress) *

Chelidonium majus (celandine) *

Chenopodium album (pigweed)

Convallaria majalis (lily of the valley) *

Dicentra cucullaria (Dutchman's breeches)

Erythronium americanum (trout lily)

Euphorbia cyparissias (cypress spurge) *
Fragaria virginiana (common strawberry) *
Gaillardia aristata (common blanket flower) *
Galium sp. (galium)
Geranium maculatum (wild geranium) *
Geum canadense (white avens)
Hemerocallis fulva (tawny day lily)
Impatiens sp. (capensis probably) (jewelweed)
Myosotis scorpioides (forget me not) *
Plantago lanceolata (English plantain) *
Podophyllum peltatum (mayapple)
Polygonum cuspidatum (Japanese knotweed)
Polygonum virginianum (jumpseed)
Symplocarpus foetidus (skunk caggage)
Taraxacum officinale (dandelion) *
Tridens sp. (red clover, probably)
Typhus sp. (cattail)
Urtica dioica v. *dioica* (stinging nettle)
Verbascum thapsus (common mullein)
Viola sororia (common blue violet) *

Rushes:

Sedges:

Carex laxiflora type (sedge)
Carex pensylvanica (Pennsylvania sedge)
Carex stricta (tussock sedge)

Grasses:

Anthoxanthum odoratum (sweet vernal grass) *
Dactylis glomerata (orchard grass)
Microstegium vimineum (Japanese stilt grass)
Panicum clandestinum (deer-tongue grass)
Poa annua (annual bluegrass)
Schizachyrium scoparium (little blue stem grass)

Ferns and fern Allies:

Equisetum arvense (field horsetail)
Dennstaedtia punctilobula (hay-scented fern)
Onoclea sensibilis (sensitive fern)
Osmunda claytoniana (interrupted fern)
Polystichum acrostichoides (Christmas fern)
Thelypteris noveboracensis (New York fern)

Appendix G

Work resume of field investigator

EDUCATION/TRAINING

- University of California, B.A. Zoology
- Southern Maine Vocational Technical Institute, Marine Science, and Engineering
- Army Corps of Engineers, Wetland Delineation Training Program

PROFESSIONAL AFFILIATIONS

- New York State Wetlands Forum
- Orange County Land Trust
- New York Flora Association

SELECTED PUBLICATIONS AND PRESENTATIONS

- VanHeukelem, W.F., R.M. Harrel, S.G. Hughes, S. Lindell and B. Friedmann. 2001. Optimal conditions for swim bladder inflation in striped bass larvae reared in intensive systems. Northeastern Regional Aquaculture Center. NRAC Pub. No. 00-006. Univ. Ma North Dartmouth, Ma 5pp.
- Friedmann, B. R., and K. M. Shuttly 1999. Effect of timing of oil film removal and first feeding on swim bladder inflation success among intensively cultured striped bass larvae. N. Am. J. Aquaculture. 61 (1):43-46.
- Friedmann, B.R. 1995. Culture techniques for the large-scale production of intensively-cultured striped bass, *Morone saxatilis*, fry and fingerlings. Presented at Aquaculture '95 San Diego, California
- Friedmann, B.R. 1995. Comparative aspects of the larviculture of North American temperate basses (Percichthyidae) and their hybrids. Presented at Aquaculture '95 San Diego, California

PROFESSIONAL EXPERIENCE

Senior Environmental Scientist

Ecological Analysis, LLC, Middletown, New York

Collected environmental field data and prepared documentation for environmental impact analyses, including vegetation and/or wildlife surveys, habitat assessments, and wetland delineations for projects in NYS, from St. Lawrence County upstate, to Westchester County downstate.

Provided support in the operation of a 900,000 sq. ft., indoor, 2 acres hydroponic commercial grow-out facility for tilapia aquaculture.

Environmental Scientist

Tim Miller Associates, Inc., Cold Spring, New York

- Collected environmental field data and prepared documentation for environmental impact analyses, including vegetation and wildlife field survey, habitat assessments, and wetland delineations. Conducted stormwater runoff monitoring at construction sites. Project field sites were located within the lower Hudson River valley in towns of Westchester, Putnam, Dutchess, Rockland, Orange, Ulster, and Sullivan Counties.

Aquaculture Research Supervisor

Aquafuture, Inc., Turners Falls, Massachusetts

- Directly responsible for operations research hatchery and staff at a 600,000-gallon indoor commercial culture facility for hybrid striped bass.
- Supervised research projects under the aegis of NOAA, USDA (NRCS and SBIR) programs, and the US-Israel Science and Technology Commission.

Biology Laboratory Manager

EA Engineering, Science, and Technology, Inc., Alexandria, Egypt

- Directly responsible for daily operations of the environmental field and laboratory staff of the Alexandria, Egypt, Wastewater Treatment Program for a USAID EIS. Supervised a field and laboratory staff of 12 in-country scientific professionals and technicians.
- Designed and directed the development of related environmental database and co-authored input to quarterly and annual program reports.

Biologist

EA Engineering, Science, and Technology, Inc., Newburgh, New York and

Texas Instruments Ecological Services, Verplanck, New York

- Conducted aquatic and terrestrial field surveys in New York, New Jersey, Florida, and Puerto Rico. Supervised design, construction and operational phases for various freshwater and saltwater aquaculture and bioassay testing facilities.
- Designed, constructed, and supervised a toxicology laboratory for the testing of freshwater bioassay organisms in accordance with the standard protocols of U. S. Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (NYSDEC). Conducted Rapid Bioassessment Protocol (RBP) field stream surveys according to EPA RBP protocols. Field tested and conducted environmental risk assessment stream surveys according to NYSDEC Biothreat Model protocols.
- Developed and applied relational database programs to integrate and track information for samples processed concurrently in multiple labs. Queried, extracted, and condensed data for presentation in quarterly and annual operating reports.

**SELECTED PUBLICATIONS
AND PRESENTATIONS-continued**

- Friedmann B.R., W.P. Dey, and S. M. Jinks. 1995. Use of oleophilic pads to achieve high swimbladder inflation percentages among intensively-cultured striped bass, *Morone saxatilis*. Poster session at Aquaculture '95 San Diego California
- Friedmann, B. R. 1994. Larviculture techniques for the large-scale production of intensively cultured striped bass fry and fingerlings. Presented at the 1994 Striped Bass Workshop of the Atlantic States Marine Fisheries Commission. Washington, D.C. 1994
- Friedmann, B. R. 1990. Intensive culture techniques for striped bass fingerlings. Pgs. 49-55 In: Proceedings of a Workshop on Biology and Culture of Striped Bass. R.H. Peterson, Ed. Can. Tech. Rpt. Fish. Aquat. Sci. No. 1832.
- Dunning, D.J., Q.E. Ross, B. R. Friedmann, and K.C. Marcellus. 1990. Coded wire tag retention by, and tagging mortality of, striped bass reared at the Hudson River Hatchery. Am. Fish. Soc. Sym. 7:262-266.
- Mattson, M.T., B. R. Friedmann, D.J. Dunning, and Q.E. Ross. 1990. Magnetic tag detection efficiency for Hudson River striped bass. Am. Fish. soc. sym. 7:267-271.
- Kremer, Q. L., B. R. Friedmann, and W.P. Dey 1988. Larval striped bass (*Morone saxatilis*) mortality under intensive culture conditions. Evidence of the role of water composition and nutrition from tissue monitoring and diet-related phenomena. International Fish Health Conference Vancouver, B.C.

PROFESSIONAL EXPERIENCE- (continued)

- Prepared courtroom exhibits as staff biologist during FERC 316(b) adjudicatory hearings for Hudson River utility companies. Co-authored related multi-plant impact reports for regional electric utilities, and provided data documentation and technical librarian research services as supporting functions for staff witnesses.
- Responsible for hiring, training, daily scheduling, and tasking of up to 25 scientific professionals and technicians.

INDUSTRIAL EXPERIENCE

- **Chemical Plant Operator**
BASF Corporation, Peekskill, New York
 - Conducted plant operations at a coated-mica manufacturing facility utilizing gas-fired belt furnaces, belt filters, bag houses, centrifugal separators, product conveyors, and tray dryers for a 10 metric ton (MT) daily production of specialty effects pigments for use in automotive, cosmetics, and plastics industries. Process operator at the facility's combined demineralized water plant and industrial pretreatment wastewater plant.
- **Chemical Plant Operator**
Nepera, Inc. Harriman, New York
 - Conducted plant operations at a vitamin B₃ manufacturing plant, a SCADA controlled, FDA-regulated manufacturing facility utilizing high pressure/temperature reactors, crystallizers, centrifuges, compactors, mills, and packaging equipment for a 10 MT daily production of packaged product.
- **Chemical Treatment Plant Operator**
LMS Engineers, LLC. Pearl River, New York
 - Responsible for operational SPDES compliance of a SCADA-controlled waste metals removal pre-treatment system at an IBM computer chip manufacturing facility.

LANE APPRAISALS, INC.

Real Estate Valuation Consultants

EDWARD J. FERRARONE, MAI
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JOHN W. LANE, MAI (1907-1993)

January 28, 2021

Honorable Chairman and
Members of the Planning Board
Town/Village of Mount Kisco
104 East Main Street
Mount Kisco, NY 10549

Re: Proposed Wireless Telecommunications Facility
180 South Bedford Road, Mount Kisco, NY

Dear Chairman and
Members of the Planning Board:

We are in receipt of a Memo in Opposition from Rex Pietrobono, dated January 19, 2021 ("Pietrobono Letter"), in connection with the proposed public utility wireless telecommunications facility ("Facility") by Homeland Towers, LLC ("Homeland") at 180 South Bedford Road, Mt. Kisco, New York ("Property"). The Pietrobono Letter states that it is in response to Lane Appraisals Inc.'s report ("Lane Report"), previously submitted to this Planning Board.

The Lane Report analyzed property values near cell towers in similar areas to the Property. Based upon such data, the Lane Report concluded that the proposed Facility will not result in the diminution of property values or reduce the marketability of properties in the immediate area. New York courts have upheld our analyses in connection with wireless facilities in locations throughout the state (similar to the Facility), finding that they present substantial evidence to establish that these facilities will not reduce the value of nearby property. *See, e.g., Sprint Spectrum LP v. Cestone*, N.Y.L.J. 2/5/01 p. 21 (S.D.N.Y. 2001); *T-Mobile Northeast LLC v. Town of Ramapo*, 701 F.Supp.2d 446, 463 (S.D.N.Y.2009); *Orange County-Poughkeepsie Limited Partnership v. Town of East Fishkill*, 61 Communications Reg. (P & F) 1433, 2015 WL 409260 (S.D. N.Y. 2015).

Importantly, reports from Lane Appraisals are not influenced by guess work or unsupported opinions. Our firm's method is to obtain the sale price of neighborhood homes ((i) those with a view of an existing cell tower, and (ii) those without a view of the cell tower) in the same neighborhood a/k/a geographic area, during a limited period

of time, and compare price per square foot with regard to same. Sales are obtained from the local Multiple Listing Service and from the NYS sales recording service, and they are plotted on a map. The neighborhood is visited, mostly in the fall and winter, and properties are visited to ascertain if the tower can or can not be seen from the property. Our basis for comparison is a winter view from the property not necessarily the dwelling. Google Earth and topographical maps are used to judge topography and sight lines. In rare cases, these resources are used to reasonably judge if a property can or can not see a tower, if the property driveway extends a distance from the street.

In the Lane Report, I analyzed numerous properties both with and without a view of a cell tower. The large number of comparables and the average they provide negates the need to account for the smaller differences. Simply put, because the sample size is larger, the minor differences tend to average themselves out. Moreover, as noted above, the comparables for each of the existing cell towers reviewed in the Lane Report are from a small geographical area, specifically, near an existing cell tower, which also limits the differences in amenities that are likely to exist. Homes within the same geographical area a/k/a neighborhood, tend to have similar characteristics/amenities, further negating the need to seek out and adjust for minor differences.

Our firm's method also negates the possibility that the samples were cherry picked to conveniently support a theory. The large sample size of homes that are within the same small geographic area (near an existing cell tower) and sold during a finite amount of time, limits the pool of comparables to choose from, negating any ability to "cherry pick" to support a theory. We included virtually all sales within an area during a certain time period, excepting only sales of non-typical dwellings such as uninhabited dwellings, tear downs or of estate quality property out of the area norm.

Despite the misstatements of Mr. Pietrobono, the Lane report evaluated five towers in the northern Westchester areas of Pound Ridge, Lewisboro, Somers and New Castle. There are no more similar areas. The remaining studies are meant to illustrate the fact that in differing communities, homes fall within similar price ranges and are subject to similar conditions. In each case, no subjective adjustments are made, and the actual price per square foot for each dwelling in the area is utilized. In each of these communities, we used every or virtually every sale within a certain radius, determined by the situation in each community. Within these areas there are homes both near and relatively far, that are within sight distance. All or virtually all home sales are included. Each included study, plus dozens of others over a 20 year period in several counties, reach the same conclusion.

Mr. Pietrobono claims that none of our studies include sales within close proximity to the tower. We include three studies, two of which were included in the original document and one that is a former study on a location in Pound Ridge. Each study includes a sale or two within 500 feet of the tower. In study 3A, 87 Westchester Avenue is next door to the tower, and within 500 feet. This sale had the highest price per square foot of any sale in the study. In study 7, the sales at 28 and 31 Wright Avenue are within 500 feet of the tower and have among the highest price per square foot values in the study. In study 10, on Sky Lane in Phillipstown, 19 Sky Lane is within 250 feet of the tower. Once again, this is the highest price per square foot value in the study.

Finally, Mr. Pietrobono relies solely on real estate broker letters which are unsupported opinions absolutely devoid of any data or objective proof what so ever, and his own opinions which suffer the same lack of evidence. Such broker letters also fail to state the methodology used to form the broker's opinion. Such opinions are so unsupported and so extreme, and lack any validation or methodology, that they should be given no credence.

In conclusion, the Lane Report uses actual data from known properties near cell towers sold on specific dates to demonstrate that sales within sight of a tower facility fall within similar average price per square foot ranges as other sales in the neighborhood, and that there has not been a diminution of the value due to the construction of similar facilities in the Westchester County area. The Lane Report is based on accepted methodology and includes the underlying data. The Lane Report provides substantial evidence to sustain its finding that "the installation, presence, and/or operation of the proposed Facility will not result in diminution of property values or reduce the marketability of properties in the immediate area."

Sincerely,

A handwritten signature in dark ink, reading "Paul A. Alfieri III". The signature is fluid and cursive, with the last name "Alfieri" being more prominent.

Paul A. Alfieri III, MAI
Certified General Appraiser
State of New York #46-9780
January 28, 2021

Exhibit 3A, Pound Ridge, Westchester County, NY

A 130' monopole located on a Town site at 89 Westchester Avenue in Pound Ridge, NY visited in April 2017. The following sales have a view of the communications tower:

2014 - 2017 STUDY

These properties have a view of the communications tower.

<u>Address</u>	<u>Sales Price</u>	<u>Sale Date</u>	<u>Living Area</u>	<u>Price/SF</u>
17 Trinity Pass Rd	\$885,000	8-10-2016	2,850	\$311
97 Westchester Av	\$2,100,000	7-12-2016	3,853	\$545
24 Pine Dr	\$640,000	12-2-2016	3,112	\$206
32 Pine Dr	\$795,000	7-15-2016	3,456	\$230
10 Trinity Ln	\$640,000	7-18-2014	2,152	\$297
12 Hemlock Hill Dr	\$1,050,000	8-17-2016	3,205	\$328
Average Sales Price per Square Foot:				\$320
Average sales price for properties without 97 Westchester Av				\$274

The following properties are in the same neighborhood but have no view of the communications tower:

<u>Address</u>	<u>Sales Price</u>	<u>Sale Date</u>	<u>Living Area</u>	<u>Price/SF</u>
57 Upper Shad Rd	\$575,000	7-31-2014	2,040	\$282
49 Upper Shad Rd	\$617,500	6-15-2016	3,234	\$191
17 Bayberry Way	\$750,000	9-29-2015	3,408	\$220
140 Westchester Av	\$985,000	5-08-2014	2,838	\$347
33 Hemlock Hill Dr	\$1,200,000	3-24-2016	4,023	\$298
33 Hemlock Hill Dr	\$1,162,500	7-28-2014	4,023	\$289
34 Hemlock Hill Dr	\$568,000	7-30-2014	2,102	\$270
Average Sales Price per Square Foot:				\$271

Study indicates higher prices for homes with a view of a communications tower if the property next door to the Tower is considered. If the sale at 97 Westchester Avenue is withheld from the average calculation, then the average price per square is virtually the same for properties with and without a view of the Tower.

Exhibit 7, 55 McAlpin Avenue, Mahopac, Putnam County, NY

A 120' flagpole type tower located at 55 McAlpin Avenue, at the corner of See Avenue and east of Route 6, in the Town of Carmel, Mahopac P.O., NY visited in February 2019. The following sales are located on the surrounding streets and are within sight of the tower:

2016 - 2018 STUDY

<u>Address</u>	<u>Sales Price</u>	<u>Sale Date</u>	<u>Area</u>	<u>Price/SF</u>
20 Front St	\$ 300,000	6-14-2017	1,512	\$198
10 Miller Av	\$ 179,900	5-10-2017	840	\$214
5 Baldwin St	\$ 260,000	7-12-2016	1,100	\$236
3 Baldwin St	\$ 235,500	6-26-2017	1,200	\$196
1 Baldwin St	\$ 332,000	12-19-2016	1,798	\$185
160 See Av	\$ 250,000	7-27-2016	1,576	\$159
143 See Av	\$ 357,000	9-16-2016	1,762	\$203
31 Wright Av	\$ 240,000	8-01-2018	974	\$246
28 Wright Av	\$ 310,000	1-03-2018	1,324	\$234
20 McAlpin Av	\$ 310,000	8-16-2017	1,824	\$170
12 McAlpin Av	\$ 447,500	11-28-2018	1,798	\$249
18 McAlpin Av	\$ 372,000	11-3-2016	2,122	\$175

Average Sales Price per Square Foot: \$205

The following properties are in the same neighborhood but have no view of the tower:

<u>Address</u>	<u>Sales Price</u>	<u>Sale Date</u>	<u>Area</u>	<u>Price/SF</u>
21 M & M Ln	\$ 284,900	10-11-2017	2,052	\$139
27 Tanager Rd	\$ 345,000	1-12-2017	2,210	\$156
45 Tanager Rd	\$ 400,000	1-15-2016	2,745	\$146
45 Lakeview Terr	\$ 250,500	6-30-2016	1,856	\$135
4 Olympus Dr	\$ 450,000	8-01-2016	2,602	\$173
535 Kennicut Hill Rd	\$ 312,000	8-14-2018	1,204	\$259
254 Dahlia Dr	\$ 295,000	5-15-2016	1,708	\$173
17 Mt Hope Rd	\$ 277,900	8-29-2016	1,118	\$248
40 Mt Hope Rd	\$ 231,450	1-06-2016	1,732	\$134
43 Mt Hope Rd	\$ 185,000	9-14-2019	1,320	\$140
7 Lakeview Dr	\$ 360,000	5-31-2018	1,843	\$195
2 Lakeview Dr	\$ 342,000	3-03-2016	1,184	\$289
10 Lakeview Dr	\$ 365,000	7-20-2018	2,593	\$141
54 Lakeview Dr	\$ 235,000	6-26-2018	1,824	\$129
107 Lakeview Dr	\$ 315,000	12-29-2018	1,920	\$164
17 Highridge Rd	\$ 360,000	11-5-2016	1,667	\$216
45 Highridge Rd	\$ 439,000	9-01-2018	2,476	\$177
30 Greenfield Rd	\$ 364,950	7-24-2017	1,512	\$241
33 Greenfield Rd	\$ 460,000	7-31-2018	2,940	\$156
30 Mayfair Ln	\$ 360,000	1-30-2017	1,686	\$214
60 N Ridge Rd	\$ 681,106	11-7-2018	2,568	\$265
14 Overhill Rd	\$ 329,900	9-05-2016	1,476	\$224
70 Heather Dr	\$ 225,000	9-29-2016	1,200	\$188
32 Overlook Dr	\$ 404,000	6-23-2018	2,350	\$172
7 Odessa Rd	\$ 412,500	6-17-2018	2,276	\$181
14 Longdale Rd	\$ 403,500	12-20-2018	2,372	\$170
24 Baxter Ct	\$ 425,000	1-22-2018	1,976	\$215
28 Baxter Ct	\$ 392,080	1-22-2017	1,976	\$198
23 Baxter Ct	\$ 295,000	1-22-2016	1,336	\$221
31 Strawberry Fields Ln	\$ 639,000	6-01-2018	3,694	\$173

Average Sales Price per Square Foot: \$188

Study indicates that the properties with views of a communications tower have a greater average price per square foot than those without a view of a communications tower.

Exhibit 10, Sky Lane, Philipstown, Putnam County, NY

A 400' former radio guyed tower located at the top of Sky Lane, east of Ridge Road, in the Town of Philipstown, NY visited in October, November and December 2017. The following sales are located on the surrounding streets and are within sight of the tower:

2015 - 2017 STUDY

<u>Address</u>	<u>Sales Price</u>	<u>Sale Date</u>	<u>Area</u>	<u>Price/SF</u>
20 Steuben Rd	\$ 227,000	1-06-2016	1,316	\$172
15 Steuben Rd	\$ 268,000	8-21-2017	1,384	\$194
7 Steuben Rd	\$ 210,000	9-02-2015	1,124	\$187
21 Valley Ln	\$ 215,000	3-21-2016	1,168	\$184
420 Sprout Brook Rd	\$ 307,500	6-23-2015	1,728	\$178
418 Sprout Brook Rd	\$ 379,000	8-03-2016	2,420	\$157
384 Sprout Brook Rd	\$ 135,000	2-21-2017	768	\$176
338 Sprout Brook Rd	\$ 352,000	6-22-2017	1,808	\$195
334 Sprout Brook Rd	\$ 269,000	2-09-2015	1,816	\$148
326 Sprout Brook Rd	\$ 300,000	2-01-2017	1,200	\$250
322 Sprout Brook Rd	\$ 419,800	5-13-2015	2,671	\$157
319 Sprout Brook Rd	\$ 235,000	4-20-2017	1,159	\$203
308 Sprout Brook Rd	\$ 300,000	10-18-2017	1,660	\$181
303 Sprout Brook Rd	\$ 325,000	1-14-2015	1,414	\$230
19 Sky Ln	\$ 687,000	6-29-2017	2,741	\$251
39 Mountain Dr	\$ 447,500	7-22-2015	2,400	\$186

Average Sales Price per Square Foot: \$190

The following properties are in the same neighborhood but have no view of the tower:

<u>Address</u>	<u>Sales Price</u>	<u>Sale Date</u>	<u>Area</u>	<u>Price/SF</u>
159 Old Albany Post	\$ 210,000	11-30-2015	1,100	\$191
200 Old Albany Post	\$ 370,000	8-19-2016	1,868	\$198
196 Old Albany Post	\$ 370,000	5-19-2017	1,776	\$208
180 Old Albany Post	\$ 480,000	12-18-2014	3,517	\$136
20 Old Albany Post	\$ 289,000	6-12-2015	1,554	\$186
516 Sprout Brook Rd	\$ 335,000	1-29-2017	1,503	\$223
504 Sprout Brook Rd	\$ 315,000	8-05-2016	1,750	\$180
495 Sprout Brook Rd	\$ 520,000	4-27-2016	2,904	\$179
492 Sprout Brook Rd	\$ 325,000	12-11-2015	2,188	\$149
471 Sprout Brook Rd	\$ 365,000	3-15-2015	1,860	\$196
54 Steuben Rd	\$ 270,000	3-27-2015	1,512	\$179
90 Steuben Rd	\$ 289,000	6-09-2017	1,456	\$198
60 Steuben Rd	\$ 300,000	6-06-2016	1,260	\$238
62 Steuben Rd	\$ 330,000	9-27-2017	1,823	\$181
72 Steuben Rd	\$ 300,000	2-23-2015	1,700	\$176

Average Sales Price per Square Foot: \$188

Study indicates that the properties with views of a radio tower and properties without a view of a radio tower have virtually equal average price per square feet, in this specific neighborhood.



HOMELAND TOWERS

Supplemental Site Justification Report

for

Wireless Facility, 180 S Bedford Rd, Mount Kisco, NY

Prepared by:
Klaus Wimmer
Homeland Towers, LLC

February 12, 2021

Honorable Chairman Bonforte and
Members of the Planning Board
Village of Mount Kisco
104 Main St
Mount Kisco, NY 10549

RE: Supplemental Site Justification Report

Hon. Chairman Bonforte and Members of the Planning Board:

I am the Regional Manager for Homeland Towers, LLC. I was responsible for identifying a suitable location for a telecommunications facility that would remedy Verizon Wireless' significant gap in reliable wireless service throughout this area of Mount Kisco specifically in the area of downtown Mount Kisco, Route 117, along Route 172, and adjoining commercial and residential areas including the southern portion of the Village (the "Coverage Area"). It is important to note that Route 172 is a main artery for access to the Northern Westchester Hospital for most of the surrounding communities and a vital corridor for first responders and the public. In fact, the Fire Department has insisted on access to the property from the east because of mutual aid calls coming from municipalities to the east.

I have prepared this report to provide additional background on the work that has gone into this project and also provide the history and context to the selection of the proposed location and the character of the area.

I have been working in the wireless telecommunications industry since 1996 and can confirm through personal knowledge that all the carriers have been trying to provide reliable coverage connecting I-684 along Route 172 into the Village of Mount Kisco since then in order to remedy gaps in service. I was personally involved in the siting of several facilities in the area and have unsuccessfully searched for suitable locations along Rt 172, including the properties submitted in my prior Alternate Site Analysis as part of this application. I am reiterating this because there has been testimony that coverage is sufficient, that a site is not needed and that we arbitrarily decided to locate a site in this residentially zoned area. Such testimony is false. Moreover, statements that I personally selected the location on the property for the facility are incorrect and intentionally mischaracterize my prior testimony. As has been amply demonstrated, including by the letter submitted to the Board from the owner of the property, the location of the facility on the property was dictated by the owner of the property, not Homeland Towers or Verizon Wireless. As the site plan demonstrates, it would be more cost effective for Homeland Towers to construct the facility in the location of the proposed Solar Farm. Homeland Towers has no fundamental objection to locating the facility on top of the hill other than that such location is not available to Homeland Towers from the owner of the property, similar to the fact that multiple Village owned properties are not available to Homeland Towers because the Village Board has refused to lease space at such locations to

Homeland Towers (despite extraordinary and time-consuming efforts by Homeland Towers to obtain such lease approvals).

As part of our effort in 2018/2019 Homeland Towers proposed to re-build and combine the existing communications towers on Guard Hill, Bedford, NY. There are currently 2 communications towers on Guard Hill, which are utilized by NY State, Westchester County and the Town of Bedford emergency communications systems. In 2018 Westchester County proposed to replace one of the towers with a new 120' tower for shared use with the Town of Bedford. The County tower project was to be fully funded through residents' tax revenue. Homeland Towers proposed a public-private partnership and would provide all the funding and capital for the new tower for shared use by NY State, Westchester County, the Town of Bedford and wireless carriers. That would have eliminated the 2nd tower at Guard Hill, thereby preventing a "tower farm" and save the residents' tax dollars. This tower would have eliminated the need for a tower along Route 172.

Representatives of Westchester County and the Town of Bedford strongly supported our proposal and were in favor of this solution. Unfortunately, the underlying Guard Hill Park property is co-owned by the Town and "The Bedford Historical Society." As a result, this project subsequently failed to proceed, as the Town of Bedford was not in a position to enter into a lease without the co-owner's agreement. Mr. Stockbridge, who has been vocal in opposing our proposed site, is the Bedford Town Historian and is probably familiar with the events of the time.

As the coverage gap and the need for a site is well known and documented, the inability to place a facility for wireless carriers at Guard Hill or Leonard Park solely because those property owners refused to allow it, results in a facility being placed elsewhere. As stated by Mayor Picinich: *"With all that said, there is still a gap in coverage that needs to be addressed."* (VB meeting 1/28/19 at Page 26)¹. The carriers must provide reliable service within their FCC licensed coverage areas and the Telecommunications Act of 1996 makes it clear that municipalities may not prohibit or effectively prohibit service. This is particularly true in an area along a major State road (Route 172) that connects Interstate Route 684 with a major regional hospital, and carriers approximately 20,000 vehicles a day.

The need for a site in this area is well documented and on the record. The Village Board entertained our lease proposal. During those meetings the need for better coverage in the Village was openly acknowledged. As Mayor Picinich stated at the 1/28/19 Village Board meeting: *"... where the holes are right now are more around Leonard Park, stretching out back that way"* and *"with all that said, there is still a gap in coverage that needs to be addressed."* (VB meeting 1/28/19 at Page 4, Page 26). Trustee Schleimer at the same meeting stated that *"the biggest gap in coverage seems to be on the Rt. 172 corridor."* (VB meeting 1/28/19 at Page 6).

¹ References to VB meeting refer to Village Board meeting minutes, relevant portions of which are attached hereto in Exhibit J.

Statements documenting the need for coverage were also made at the Village Board Meeting for the Special Permit for the Mountain Ave site in June 17, 2019. At the time Trustee Schleimer stated: *"We were looking at putting in cell towers in other areas of the Village, we did an informal survey to find out where the gaps were, and the feedback that she received was that the lack of service or gap was on the Rt. 172 corridor for Verizon. She needed to justify for herself and the residents that there is indeed a need to increase the coverage, and why"....*(VB meeting 6/17/19 at Page 3)

The facility was sited to be at the least intrusive location available. By being on a 25-acre parcel, the facility is distant from a large number of residential uses. The fact that the Village just recently passed a zoning amendment to expressly allow a large Solar Farm on the property is further evidence that this parcel is appropriate for public utility uses. Only one truly residential property is in proximity of the facility, which is remarkable given the density of Mount Kisco. Moreover, this property at 2 Sarles Street is not a purely residential use. In fact, this property is already used as a commercial law office. The existing office/house is located directly at an intersection, about 50' feet from a heavily traveled, major state thoroughfare of Route 172 (see Exhibit A). In fact, there are no residential properties for approximately a quarter mile to the west, and there are none to the east of the 2 Sarles Street property along Route 172. The 2 Sarles Street property is being used for a commercial purpose, as it appears that the owner has converted the 2 Sarles Street property from a residential use to a commercial use as evidenced by the signs on Rt 172 including parking for about 10 cars (see Exhibit A), and as it is documented in the assessment roll (see Exhibit B). The sign for his Law Office appears to be of similar size as the signs for the major office buildings at the "Corporate Center" at 90, 100 & 110 S Bedford Rd and the "Northern Westchester Professional Park" at 103, 105 S Bedford Rd. (see Exhibit A)

Further, there is not a single residential property along this stretch of Rt 172 from Linden Lane in the Town of Bedford into the Village of Mt Kisco which is approximately a one (1) mile stretch. Adjacent to the 2 Sarles Street property, going east towards Mt Kisco, the Marsh Sanctuary is not a residential property. It is a preserve which offers community gardens, hosts educational programs and even an Annual Octoberfest and Music Festival (see Exhibit C). The need for reliable wireless communications in times of emergencies is critical in areas where large parcels are used to attract the general public in connection with "paid" events such as music festivals where food and alcohol are served to paying customers. The same is true going west towards Bedford where a large community center is being constructed and adjacent to that is the "Unitarian Fellowship of Northern Westchester" and "A Kids World" pre-school and Daycare. (see Exhibit D). Up the street from 2 Sarles Street is the large compound of the former Rippowam Cisqua School, which is certainly also not a residentially used property. Clearly this stretch of Rt 172 is being used for commercial and nonresidential uses by many different entities.

As documented in the Setback Analysis I previously submitted as part of this application, it is not possible to locate a wireless facility anywhere in the Village that complies to the setback requirements of the code and provides the necessary service. The proposed facility is

388' from the office/residence at 2 Sarles Street. Wireless facilities are routinely placed in residential districts in proximity to residences. (see Exhibit E).

Homeland Towers strives to locate facilities that are "least intrusive to the area and impact the least residents." This is why we spent considerable time and effort to locate the facility at Leonard Park. To document the respective impact on the surrounding area of our proposed location as compared to the wireless facility on Mountain Avenue, which is a Village owned property that was recently approved, I have prepared comparable maps that show residences and commercial buildings within a ¼ mile radius to the respective locations (see Exhibit F). The proposed location has only 8 residences within a ¼ mile radius compared to approximately 42 residences, 12 commercial uses, and 7 multifamily buildings from the Mountain Ave Site. For comparison purposes only, I also prepared the same map for the suggested other location at the "Tennis-court". As is shown, about 18 residences would be within a ¼ mile radius. (see Exhibit F).

Recently, on January 26, 2021 we received correspondence from Attorney Cassese regarding the possible availability of 21 Linden Lane, Bedford, NY as a possible alternate location for the proposed facility. Mr. Cassese failed to return two calls from Homeland Tower's counsel. On January 27, I called and emailed Mr. Cassese and again on February 1, I emailed Mr. Cassese requesting more detailed information about the proposed location on the property and received a markup of the tax-map indicating the proposed location from Mr. Cassese limiting the locations at 21 Linden Lane where his undisclosed client would be willing to entertain a facility. (see Exhibit G). Obviously, landlords do not simply make entire parcels available for the siting of wireless facilities. I spoke with Mr. Cassese on January 2, 2021 wherein we discussed the proposed location and agreed to perform a feasibility analysis and due diligence of the location.

The Bedford Zoning Code requires a setback of 110% of the height of the Tower and has a 150-foot height limit, as well as a priority list that requires Town or Municipal property to be used as the first priority location for a "large wireless facility." Given the location on the property proposed by Mr. Cassese on behalf of his undisclosed client, it appears that the setback will not be met. Moreover, the property is not a Town or Municipal property and therefore is not permitted as the top priority in Bedford.

As is evident, further zoning and due diligence analysis is required to establish the requirements under the Bedford code and determine the feasibility of the proposed alternate location at 21 Linden Lane, Bedford, NY. A preliminary review of the proposed location indicates that the setback requirement under the code cannot be met.

To compare the potential impact of this speculative alternate location in Bedford, I have also attached a ¼ mile radius map that shows that 16 residences and 3 commercial buildings are within a ¼ mile radius to the respective location that would be impacted (see Exhibit I). This compares to 180 S Bedford Rd where 8 residences are within a ¼ mile radius (see Exhibit F).

In conclusion, the above narrative and the attached exhibits demonstrate that the proposed location has been thoroughly researched, took many years of effort to secure and is the least intrusive available location for the proposed facility. The need has been well known to the community and well documented. The commercial and non-residential neighborhood and character of the surrounding properties not only justify that this facility be located on the large 25-acre property. The Visual Resource Analysis demonstrates the proposed location results in visibility from the least number of resources and residences, and is less intrusive than any alternatives presented.

Respectfully

Klaus Wimmer

Klaus Wimmer
Regional Manager
Homeland Towers, LLC

EXHIBIT A

2 Sarles St distance to Route 172 and Parking lot for office





Sign for Law Offices at 2 Sarles Street & South Bedford Rd, Mt Kisco NY



Sign for Corporate Center 90, 100, 110 Route S Bedford Rd, Mt Kisco, NY



Sign for Northern Westchester Professional Park 103, 105 S Bedford Rd, Mt Kisco, NY

EXHIBIT B

Copy of assessment roll for 2 Sarles St, documenting "483 Converted Re".

Note owners are actually Anna C. and John G. Pietrobono

The property category number of 483 indicates a converted residence

TAX MAP PARCEL NUMBER	PROPERTY LOCATION & CLASS	ASSESSMENT	EXEMPTION CODE-----	VILLAGE-----	-----
CURRENT OWNERS NAME	SCHOOL DISTRICT	LAND	TAX DESCRIPTION	TAXABLE VALUE	
CURRENT OWNERS ADDRESS	PARCEL SIZE/GRID COORD	TOTAL	SPECIAL DISTRICTS		ACCOUNT NO
80.44-1-2	2 Sarles St			00.44-1-2	049800
Pietrobono Anna C	<u>483 Converted Re</u>		VILLAGE TAXABLE VALUE	59,500	
Pietrobono John G	Bedford Cent #2 552002	15,000			
2 Sarles St	002 24	59,500			
Mt Kisco, NY 10549	Annexation				
	ACRES 1.91				
	EAST-0670810 NRTH-0437710				
	DEED BOOK 47353 PG-477				
	FULL MARKET VALUE	798,658			

EXHIBIT C


Commercial activities at Marsh Sanctuary

2/2/2021

10th Annual Oktoberfest & Fall Music Festival at the Marsh Sanctuary

Events

Events



OCT 4

10th Annual Oktoberfest & Fall Music Festival at the Marsh Sanctuary

Public · Hosted by The Marsh Sanctuary

Saturday, October 4, 2014 at 2:00 PM – 9:00 PM EDT

More than a year ago

The Marsh Sanctuary

114 South Bedford Road, Mount Kisco, NY 10549

[Show Map](#)

0 Went · 0 Interested

Share this event with your friends

Details

Please join us for the annual Oktoberfest and Fall Music Festival at Marsh Memorial Sanctuary!

Food and Captain Lawrence Brewing Company beer will be provided with a \$20 donation. We will accept a \$10 donation by the non-drinkers.

There will be live musical performances. If there are any bands that are interested in performing a set, please feel free to contact us.

Parking will be at 90 South Bedford (MKMG) and 71 Series Street. Walk to Stratford Drive from MKMG and follow the signs to the trail. From 71 Series Street, follow the trail to Brookside Amphitheater.

Post on our Facebook page or call (914) 241-2808 with any questions.


Please bring a flashlight to follow the trail back after dark.

Hope to see you there!

Please feel free to share this invite with your friends and family.

[See Less](#)

Hosted by



The Marsh Sanctuary

Email or Phone

English
French

Password

Privacy
Cookie
Favorite

Forgot account?

Do you want to join Facebook?

<https://www.facebook.com/events/338442898652544/>

1/2



Rewilding School

Marsh Sanctuary is host to an environmental education program coordinated by The Rewilding School. The Rewilding School is a Westchester based organization that provides educational and personal growth programs focusing on connecting with nature and the environment. They offer programs for individuals of all ages. The three programs offered by The Rewilding School at Marsh Sanctuary are the Homeschool series, the Afterschool series, and the Wild Summer and Winter Camp series.

The Homeschooling program offered by The Rewilding School is held on weekday afternoons from 1:30 to 3:30 with a different emphasis area each day of the week. Some of the areas the program explores are foods that can be found in nature, making things using resources found in nature, basic survival techniques, outdoor games, and plant and animal identification. The program is designed for kids ages 5 to 14.

The Afterschool program is held on Tuesdays and Wednesdays from 3:45 to 5:00 with Tuesdays focusing on crafting using natural materials and Wednesdays focusing on survival skills. This program is designed for kids 7 to 14.

The Wild Summer program are week long day camps built around different themes (ship wrecked pirates, stone aged tinkers, legends of the shire, school of woodland wizardry, etc.). Activities are designed to encourage thinking, imagination, relationship building, and awareness of the environment. This program is for students from grades 1 to 6.

We believe The Rewilding Schools mission of providing young people a place to explore and learn in a natural environment coincides with our mission of providing a place of sanctuary. As the world has become more technology based it is easy to lose sight of how important the natural world around us. Providing young people a place to play, explore, imagine, cooperate in relationships with friends, and learn about the importance of the natural world, will provide a sanctuary from the world of technology and build citizens that value the natural world for years to come.

The Rewilding School offers a variety of other programs for both kids and adults at other sites in the area. To get more information about The Rewilding School or to sign up for a program please visit their website at www.rewildingschool.com.



[Home](#)

[About Marsh](#)

[Visit](#)

[Programs](#)

[Photo C](#)



Imagine

Exploring and learning about nature



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EXHIBIT D

Community Center construction on South Bedford Rd adjacent to 2 Sarles St.



Exhibit E

Please find below a sample list of existing telecommunications infrastructure that is located in close proximity to residences or residential areas. A satellite image of each site is shown with the distance in red.

1. 150 ft Monopole, 20 Vervalen Rd, Poughkeepsie, NY
Distance to closest Residence appr. 140 ft



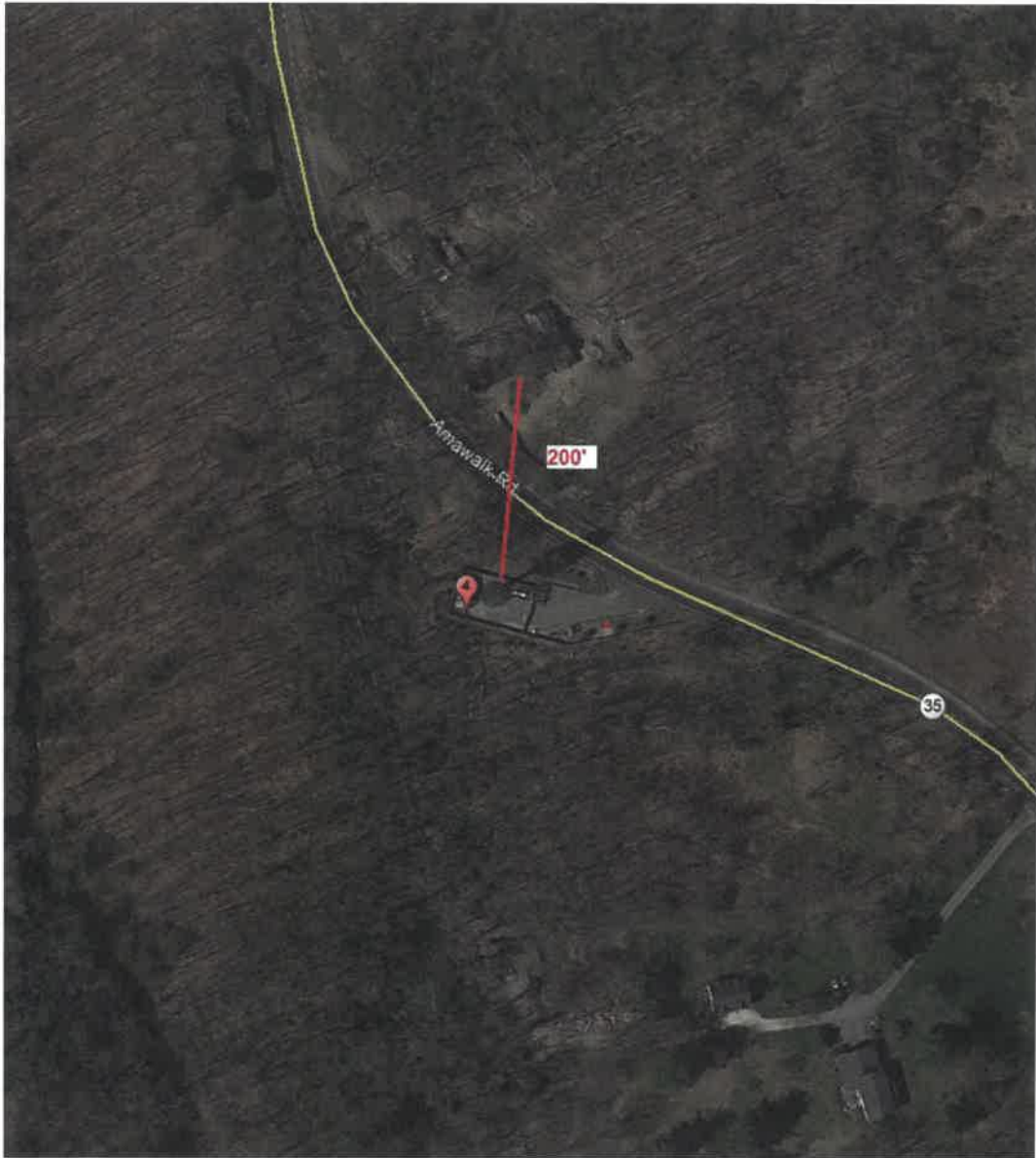
2. 170 ft Lattice Tower, 30 Morning View Ct, Chappaqua, NY
Distance to closest Residence appr. 150 ft



3. 195 ft Lattice Tower, Crest Dr, Mahopac, NY
Distance to closest Residence appr. 110 ft



4. 2580 Route 35, Somers, NY 130 ft Lattice Tower
Distance to closest Residence appr. 200 ft



5. 90' Monopine*, 183 Soundview Lane, New Canaan, CT
Distance to closest Residence appr. 175 ft



*recently constructed tower, areal image is not yet available

6. 100' Monopole, Hermits Rd, Irvington, NY
Distance to closest Residence appr. 360 ft



7. 120' Monopole*, Dartantra Dr, East Fishkill, NY
Distance to closest Residence appr. 380 ft



*recently constructed tower, areal image is not yet available

8. 145' proposed Monopine*, 180 S Bedford Rd, Mt Kisco, NY
Distance to closest Residence appr. 388 ft



*proposed monopine, areal image is not available

EXHIBIT F

Below is an aerial image of the proposed facility location, the red circle represents a ¼ mile radius. There are approximately 8 homes located within ¼ mile.

- A. 180 S Bedford Rd, Mount Kisco, NY; about 8 residences are within a ¼ mile radius



Below is an aerial image of the Mountain Ave Cell Tower location, the red circle represents a ¼ mile radius. There are approximately 42 homes, 12 commercial buildings and 7 multifamily buildings located within ¼ mile.

- B. Mountain Ave, Mount Kisco, NY; about 42 residences, 12 commercial buildings and 7 multifamily buildings located within ¼ mile radius



Below is an aerial image of the Alternate “Tennis Court” Location proposed by the Planning Board, the red circle represents a ¼ mile radius. There would be approximately 18 homes located within ¼ mile.

- C. Alternate (“Tennis Court”) Location proposed by Planning Board, 180 S Bedford Rd, Mt Kisco, NY. About 18 residences would be within a ¼ mile radius

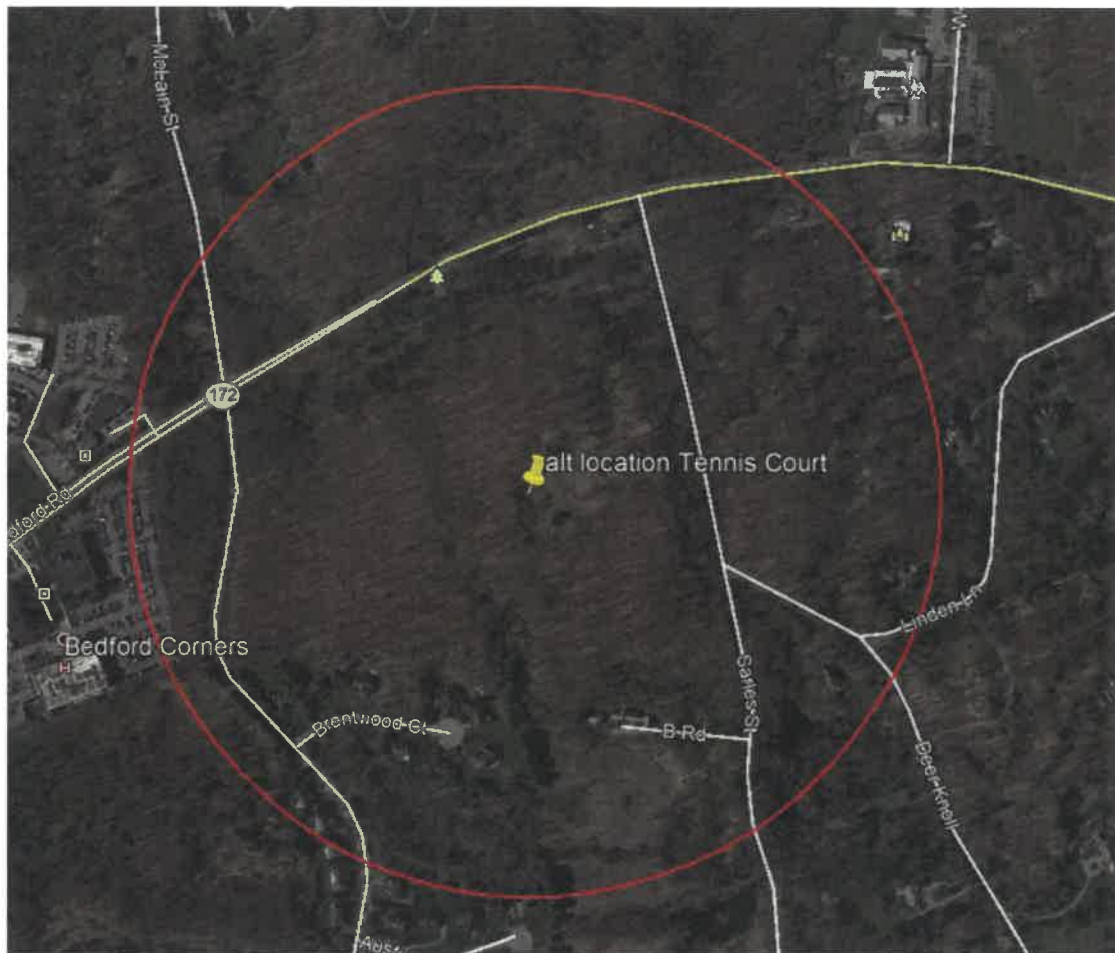


EXHIBIT G

Copy of correspondence with Attorney Cassese regarding 21 Linden Ln, Bedford, NY



Wed 1/27/2021 3:23 PM

Klaus Wimmer

21 Linden Lane Bedford / Mt Kisco

To: 'anthony@casseselaw.com'

You forwarded this message on 2/1/2021 1:34 PM.



21 Linden Lane Bedford 1-26-21.pdf
128 KB



21 Linden Ln Tax map.pdf
2 MB

Good Afternoon Mr. Cassese,

I am responding to the fax you sent to attorney Robert Gaudio regarding 21 Linden Lane, Bedford and the owner's interest to lease us space for a cell tower. We will certainly evaluate your client's property as a possible location. As part of our site due diligence we'll have to perform a coverage analysis. I have attached a tax map of the property. Kindly mark off where the owner would like to locate the site and email it back to me.

Please contact me with any questions or to discuss. I look forward to hear back from you.

Thanks

Klaus Wimmer

Regional Manager



HOMELAND TOWERS

9 Harmony Street, 2nd Floor

Danbury, CT 06810

Office: (203) 297-6345 | Cell: (845) 242-3814

Email: kw@homelandtowers.us

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Mon 2/1/2021 1:34 PM

Klaus Wimmer

FW: 21 Linden Lane Bedford / Mt Kisco

To: 'anthony@casseselaw.com'

Cc: 'Robert Gaudioso'



21 Linden Lane Bedford 1-26-21.pdf
128 KB



21 Linden Ln Tax map.pdf
2 MB

Mr. Cassese,

I am following up on the attached letter you sent to attorney Robert Gaudioso (copied) regarding a wireless facility at 21 Linden Lane. Please indicate where on the property this facility should be placed so we can evaluate this location. I look forward to hear back from you at your earliest convenience.

Klaus Wimmer

Regional Manager



HOMELAND TOWERS

9 Harmony Street, 2nd Floor

Danbury, CT 06810

Office: (203) 297-6345 | Cell: (845) 242-3814

Email: kw@homelandtowers.us

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Proposed location of wireless facility at 21 Linden Ln, indicated by circles by Mr. Cassese



EXHIBIT I

Below is an aerial image of the alternate location proposed at 21 Linden Lane, Bedford, NY location. The red circle represents a ¼ mile radius. There are approximately 16 homes and 3 commercial buildings located within a ¼ mile.

21 Linden Ln, Bedford, NY; about 16 residences and 3 commercial buildings are located within ¼ mile radius

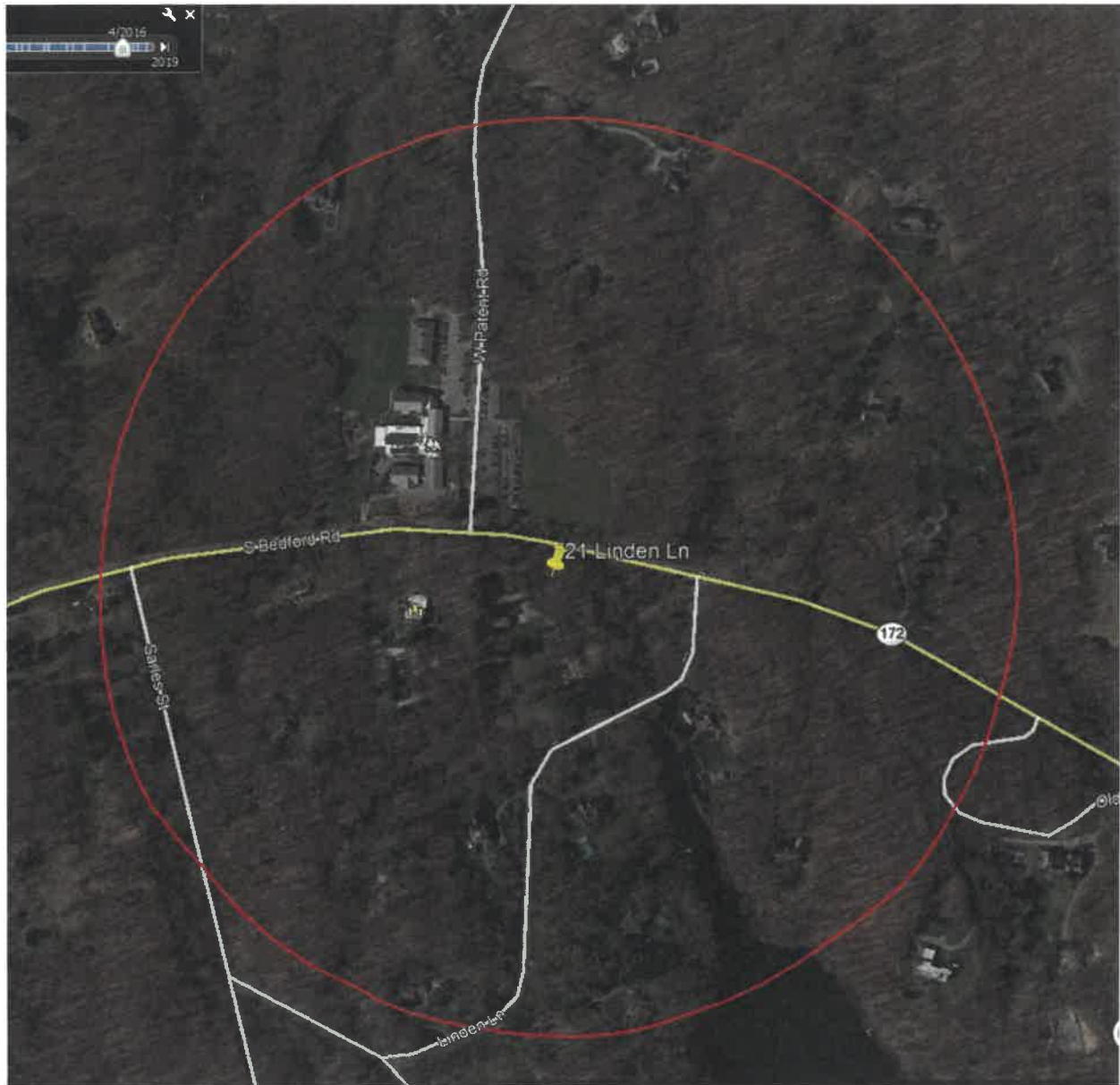


EXHIBIT J

Copies of relevant pages of Village Board meetings of 1/28/19 and 6/17/19
in order of reference

saying that the Board offered up property owned by the Village meaning the Village would maintain control over that property and reap the benefit of the revenue generated. When we were approached on where the gap in coverage was, we then looked for what properties were owned by the Village leading them to these locations. Mayor Picinich stated that there is nothing bad about looking for revenue that doesn't come from taxes. With reference to a cell tower in a residential area, she wanted to make everyone aware of the cell tower located in a Conservation Development (CD) zone on Captain Merritt's Hill within 700 feet of a house and has been there for twenty (20) years. This would not be a precedent, having said that, from her own view, she believes because this is much closer to a home, the negative impact as it relates to the home value is the primary negative impact. Mayor Picinich continued to say that she believes the visuals from the higher levels have been mitigated specifically to the site of the water tower. She doesn't believe, after the research that she's read, that the waves coming from this tower are any greater than your persistent cellphone use all day every day, nor the microwave in your home, nor the WIFI that we are using in our homes. When we have a problem and concerns are raised, her view is to try and mitigate the issue. The one challenge that she believes cannot be mitigated with reference to the water tower location is the decrease in property values for the people who are closest to it, therefore it is not a viable location in her opinion. As far as Leonard Park, the Village asked Homeland Towers to look at a property, a space in the park, that was away from the pool, that was elevated, and we asked for them to try and reduce environmental impact, and she is concerned with the visual impact on the lower end and was concerned about the impact of the road. She is also concerned that this location in the park would add something industrial to a space that is meant to be natural. With all that said, there is still a gap in coverage that needs to be addressed. From what she heard from the Board, it sounds like neither one of these locations solves the problem at this moment in time. She apologized to Homeland Towers for the time, resources, and information and said that they would table the discussion for now and continue to work on it; intensification of use is going to create less viable service. She let the public know that she would be attending a meeting with the Supervisors of some of the surrounding towns to discuss this issue and try to make some recommendations on some new locations. Private property owners will also have the opportunity to come forward and request the tower be put on their property granting

couple years. Technology is always evolving and so things are left to change as that evolves with usage. Trustee Schleimer then stated that the biggest gap in coverage seems to be on the Rt. 172 corridor. At some point Mount Kisco ends and Bedford begins along that road and there has been feedback stating that the dropped calls are actually taking place on the Bedford side not in Mount Kisco, so she wanted to know if their research showed the same thing. Mr. Gaudioso said they provided maps at both 700 MHz, which is much larger and covers more bandwidth and 2100 MHz which is smaller, but the gaps are bigger. Some of the statistics the engineers came up with were in the 700 MHz gap, the residents within that gap area are 1,308; 347 were in Mount Kisco, 687 were in Bedford and 274 in New Castle. But when you look at the 2100 MHz gap there is 6,820 residents of which 5,367 residents are in Mount Kisco. Those numbers tell the story that the 2100 MHz gap is not only along the Rt. 172 corridor, but also residential areas in Mount Kisco and those statistics do prove that. So while Bedford has a tower right off of I-684 that tower does not cover the Rt. 172 corridor towards Mount Kisco and that is where the biggest problem area is currently with respect to Verizon, but we know that all the carriers that people are using are all located on the same or similar sites in this area and they are all going to have similar type of needs.

Mayor Picinich started by saying that looking at the tests that were done, the ground was staked in both locations. The staking in Leonard Park was much larger than the staking at the water tank location, and she wanted an explanation on why that was the case. Mr. Gaudioso said that the park was the original location and when they have a larger area they try to provide as much space as possible to allow for other carriers, all the emergency services, and to allow for more equipment if needed for any future technology. When looking at the water tank location, rather than saying there is not enough space, they designed something using the property to its best potential for the need stating that the water tower is not the most ideal location.

Trustee Schleimer wanted to know if there had been a request from emergency services that they needed more coverage. Mr. Gaudioso stated that Homeland Towers has not been in direct contact with them, but as mentioned before, they make emergency services available for free on the towers. Whether they need it now or in the future we know that they are all going in that direction and they too will want systems for data transmissions. A lot of emergency services are on FirstNet, a national broadband emergency service network, which will run on the AT&T system called Band 14. Trustee

the Village. Mr. Gaudioso replied that it is his understanding that Verizon is on all the locations except for one, but are in the process of co-locating on that tower. Trustee Grunthal then asked if this was a little premature; asking for new towers when there are other locations are still possible. Mr. Gaudioso said that the co-location on that tower will not provide the service in the downtown southern district of the Village. Mayor Picinich wanted to offer clarification on what is considered the southern district of the Village and the location of the other towers. The tower on the mountain that Verizon is currently looking to co-locate on will meet the need of Central Business Districts 1 & 2 and the northern end of the Village. Where the holes are right now are more around Leonard Park, stretching out back that way. Trustee Grunthal then asked about 5G; his understanding on 5G is that it is transmitted by much smaller towers from point to point and that one does not necessarily have to have a large tower to provide that service. Mr. Gaudioso replied that these facilities are designed to provide the current technology which is 4G LTE service which provides data and voice service. The need for the macro site towers that are in discussion here will not go away with 5G service. The 5G service is a different type of technology using, most likely but not necessarily, higher frequency that travel shorter distances, more densifying networks, but 5G is not set in stone at the moment. One of the things that PierCom spelled out in their report is that all these carriers have a different frequency band and they are all using different technology but they are all going in a certain direction. It's not just the coverage, it is the whole footprint of where the signal will be, and it is also the bandwidth of what they have in each frequency band to be able to handle the day to day usage of phone calls and other day to day uses. Those two different coverages and capacities have to be balanced. He believes that at the end of the day the Village will need this infrastructure is needed.

Trustee Grunthal wanted some clarification on the gap of coverage; was that specific to Verizon. Mr. Gaudioso stated that Verizon is the one that Homeland Towers is working on behalf of specifically but Homeland Towers does provide the infrastructure for all the carriers to use and that it is typical that when a tower is built all the carriers will come. The report that PierCon Solutions prepared is based on the surrounding sites that Verizon is on and based on the two (2) frequency bands that are specific to Verizon. Trustee Grunthal wanted to make sure that Mr. Gaudioso was not saying that there is a total gap in coverage; that no other carriers can have their radio frequencies in these holes that are referred to. Mr. Gaudioso stated that the maps submitted were exclusive to Verizon coverage.

the information that was reviewed and all the supplemental information that was requested. They had a project meeting on May 8, 2019, and was happy to see the responsiveness with the questions that we asked as well as the questions posed by others including the Village planning consultant and others on the Planning Board. The tech memo is based on the background history of the Village owned property and that it is an existing cell site. It accommodates two (2) of the four (4) carriers that service the area, T-Mobile and AT&T, on an 86-foot tall pole. There is a height increase that is being proposed as part of this action, replacing the current pole that is 86 feet in height with a new pole that is 109 feet in height with the MTA sitting on top of the new pole. One of the key things that they looked at is coverage and capacity or service from the commercial carriers as well as the MTA. They looked at the testimonies provided by MTA and determined that their radio frequency needs are unique. They found that raising the height and having the MTA antennas on top is reasonable and appropriate. They then looked at the commercial carriers, AT&T which is up there now would slide over to the new pole at the same height; T-Mobile is looking to increase their height on the new pole. They received, requested, and reviewed a lot of information from T-Mobile and they feel that the height increase is justified for T-Mobile. They also reviewed the coverage from other towers and were able to determine that this tower will provide new service and new coverage for the carriers. The coverage that exists for T-Mobile now is optimistic at best, with the tree line it is extremely hard to find a signal. They also looked at Verizon, which would be new to this site, and would be placed in between T-Mobile and AT&T on the new tower. In looking at all of that information, Crown Castle has addressed all the concerns that the public and the Board have had, and they feel there is a need for these carriers and the height is appropriate.

Deputy Mayor Farber asked if Mr. Musso was comfortable with this plan. Mr. Musso replied that he did, the Village has a unique way of monitoring this site being that it is on Village owned property.

Trustee Schleimer stated that she had trouble determining coverage due to her maps not being in color, but from what she understands part of the review is subject to the applicant demonstrating that the facility is needed to provide coverage to an area of the Village that currently has inadequate coverage. We were looking at putting in cell towers in other areas of the Village, we did an informal survey to find out where the gaps were, and the feedback that she received was that the lack of service or gap was on the Rt. 172 corridor for Verizon. She needed to justify for herself and the residents that there is indeed a need to increase the coverage, and why, especially in light of the fact that the technology is now moving to 5G.

Mayor Picinich replied that Mr. Musso's report provides all that information in detail.

Mr. Musso replied that surveys could be deceiving sometimes so they may be skewed where people have coverage or not. The other thing about these maps is that capacity is just as much of an issue as coverage. Things have changed in the last five (5) years, so it's not just about coverage it is also about providing the service that people need in terms of data and apps. Looking at the demographics that are put into these coverage maps, it is all about boosting up service as well. We see the 5G being advertised, it is not rolled out in our region, but it will be, and if any of these frequencies that were put into these coverage maps or the radio frequency emission report, 5G may introduce new frequencies; so they would be subject to return for modification and review prior to any updates. Mr. Musso continued to say that with all the technical information that was provided there is justification for this tower.



February 9, 2021

Honorable Chairman
and Members of the Planning Board
Village of Mount Kisco
104 Main Street
Mount Kisco, New York 10549

RE: Homeland Towers Site Name: Mt. Kisco NY172
180 S. Bedford Road
Mt. Kisco, NY 10594
Revised Submission

Honorable Chairmen and Members of the Board,

As part of the proposed Wireless Telecommunications Facility application at the above referenced address currently before the Planning Board, please find attached the following:

- Updated Zoning Drawings (with coordination with Solar Farm application incorporated)
- Updated Stormwater Report
- Steep Slope Letter signed a NY Licensed Professional Engineer (Scott M. Chasse, PE)

The comment letter from the Mount Kisco Volunteer Fire Department signed by David Hughes (Chief of Department) dated January 19, 2021 is currently being reviewed and revised material will be submitted at a future date.

Please do not hesitate to contact me should you have any questions or comments.

Sincerely,

APT Engineering

Robert C. Burns
Program Manager

APT ENGINEERING

567 VAUXHALL STREET EXTENSION, SUITE 311 · WATERFORD, CT 06385 · PHONE 860-663-1697 · FAX 860-663-0935



February 1, 2021

Honorable Chairman
and Members of the Planning Board
Village of Mount Kisco
104 Main Street
Mount Kisco, New York 10549

RE: 180 S. Bedford Road
Public Utility Wireless Telecommunications Facility
Homeland Towers, LLC

Dear Honorable Chairman and
Members of the Planning Board:

I am Scott M. Chasse, with APT Engineering, the Professional Engineer for the above referenced project to construct a public utility wireless telecommunications facility ("Facility") at the above referenced property ("Property"). As you are aware, the application ("Application") filed by Homeland Towers and Verizon Wireless ("Applicants") also includes a request for a Steep Slope Permit in accordance with §110-33.1(A) of the Zoning Code. In reviewing the Application, the following factors are offered for consideration in accordance with the Steep Slope Permit requirements contained in the Village Zoning Code. Please note that the following sections in **bold** face type are the actual quotes from the Zoning Code, and the response to each section is noted below.

A. Steep slopes.

(1) Development limitations. To protect environmentally sensitive lands, preserve the Village's natural resources, and promote the orderly development of land, development on parcels that contain excessively steep slope areas, which parcel on the effective date of this chapter is in excess of 40,000 square feet and is in single, undivided ownership, shall be limited by deducting the following from the gross lot area of such parcels to determine the net lot area [in conjunction with § 110-33.1B(1) herein]:

(a) Fifty percent of the area of steep slopes greater than 25%.

(b) Twenty-five percent of the area of steep slopes greater than 20% but not greater than 25%.

Please see below the following slope information for the Property:

111,614 SF slopes 20%-25%;

381,778 SF slopes over 25%;

10% of the existing property has slopes over 20% but not greater than 25%; and

45% of the existing property has slopes over 20%.

(2) Steep slopes protection regulations.

(a) Purpose. For the purpose of preventing erosion, preventing stormwater runoff and flooding, providing safe building sites, preventing landslides and soil instability, protecting the quantity and quality of the Village's surface and groundwater resources, protecting important scenic views and

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vistas, preserving areas of wildlife habitat, minimizing the area of land disturbance related to site development and protecting the Village's character and property values, it is the intent of these steep slope regulations to minimize disturbance on steep slopes and to avoid disturbance and construction activities on very steep slopes. Further, it is the intent of these steep slope regulations to minimize the development of hilltops and ridgelines. The Village Board, the Planning Board, the Zoning Board of Appeals, the Building Inspector and the Village Engineer shall take these objectives into consideration in reviewing and acting on any plans submitted pursuant to the provisions of this chapter.

(b) Exempt and regulated activities.

[1] Regulated activities.

[a] It shall be unlawful to create any disturbance greater than 100 square feet in aggregate, or to cut any tree with a diameter greater than four inches when measured from 1 1/2 feet from ground level, on any steep slope, hilltop, or ridgeline, other than an exempt activity as defined herein, without a Steep Slopes Permit issued in conformance with these regulations.

The proposed project involves 7,436 SF (2,346 sf of 20-25% slope and 5,090 sf of over 25% slope) of disturbance on slopes over 20% and trees larger than 4" diameter. Therefore, as the project involves land disturbance in areas with slopes over 20%, a Steep Slope Permit will be required, and the Applicants respectfully request that the Planning Board issue the Steep Slope Permit.

[b] In order to protect the stability of slopes and to ensure the safety of residents, construction activities on steep slopes shall be minimized and shall follow the standards for grading set forth herein.

The grading plan included with the Site Plan follows the standards set by the Village code.

[c] Construction activities shall not be permitted on very steep slopes unless there is no viable alternative.

The proposed plan has 5,090 sf of disturbance on very steep slopes, however due to the location of the Facility and slope of the Property there are no other viable alternatives.

[2] Exempt activities. The following activities shall be exempt from provisions of this chapter:

[a] Any customary landscaping, provided that any such activity conforms to all other applicable laws of the Village of Mt. Kisco.

[b] Repair of existing structures with no increase in any physical dimension.

The project does not qualify as an exempt activity, therefore; a Steep Slope Permit has been requested.

(c) Standards for development approval. In denying, granting, or granting with modifications any application for a steep slopes permit, the Planning Board shall consider the consistency of the proposed activity with the following standards:

[1] Disturbance and construction activities on very steep slopes shall not be permitted unless there is no viable alternative.

Given the Facility's proposed location, there are no viable options that avoid disturbance of very steep slopes.

[2] Disturbance of areas with steep slopes shall be in conformance with the following provisions:

[a] The planning, design and development of buildings shall provide the maximum in structural safety and slope stability while adapting the affected site to, and taking advantage of, the best use of the natural terrain and aesthetic character.

The compound has been designed to minimize the disturbance in the area of development.

[b] The terracing of building sites shall be kept to an absolute minimum. The construction of retaining walls greater than six feet in height or 60 feet in length shall not be permitted unless there is no viable alternative.

The proposed facility is not terraced and there are no retaining walls currently proposed.

[c] Roads and driveways shall follow the natural topography to the greatest extent possible in order to minimize the potential for erosion and shall be consistent with other applicable regulations of the Village of Mt. Kisco and current engineering practices.

The proposed access drive to the compound extends off the existing access drive and follows the natural terrain in the most feasible way possible to reduce land disturbance and meet current engineering practices.

[d] Replanting shall consist of vegetation intended to further slope stabilization with a preference for indigenous woody and herbaceous vegetation.

Currently the proposed slopes are to be seeded with NYSDEC permanent construction area planting mixture #1 from the New York State Standards and Specifications for Erosion and Sediment control (Blue Book), latest edition and covered with Erosion Control Blankets to allow the turf to be established.

[e] When development activities are proposed to occur on hilltops or ridgelines, the plans submitted for review shall demonstrate that the impacts on the functions, aesthetics and essential characteristics of such areas are effectively minimized and mitigated. The natural elevations and vegetative cover of ridgelines shall be disturbed only if the crest of a ridge and the tree line at the crest of the ridge remains uninterrupted and shall not be permitted unless there is no viable alternative. This may be accomplished either by positioning buildings and areas of disturbance below a ridgeline or hilltop or by positioning buildings and areas of disturbance at a ridgeline or hilltop so that the elevation of the roof line of the building is no greater than the elevation of the natural tree line. However, under no circumstances shall more than 50 feet along a ridgeline, to a width of 50 feet generally centered on a ridgeline, be disturbed.

The Facility is not located on a hilltop or ridgeline.

[f] Any regrading shall blend in with the natural contours and undulations of the land.

All proposed grading will be blended into the existing natural contours.

[g] Cuts and fills shall be rounded off to eliminate sharp angles at the top, bottom, and sides of regraded slopes.

All proposed cuts and fill contours are shown rounded off on the Site Plan.

[h] The angle of cut and fill slopes shall not exceed a slope of one vertical to two horizontal except where retaining walls, structural stabilization, or other methods acceptable to the Village Engineer are used, in which case the angle shall not exceed a slope of one vertical to three horizontal.

The cut and fill slopes do not exceed a 2:1 slope.

[i] Tops and bottoms of cut and fill slopes shall be set back from structures a distance that will ensure the safety of the structures in the event of the collapse of the cut or fill slopes. Generally, such distance shall be considered to be six feet plus 1/2 the height of the cut or fill.

The Facility is set back from the edge of the slope by 26' and the foundation of the tower will be designed so that it will not be sitting on any of the proposed fill required for construction of the equipment compound. There are no other structures proposed other than a concrete equipment pad located approximately 5' from the edge of the slope.

[j] Disturbance of rock outcrops shall be by means of explosives only if labor and machines are not effective and only if rock blasting is conducted in accordance with all applicable regulations of the Village of Mt. Kisco and the State of New York.

There are no rock outcroppings observed within the proposed area of disturbance. It is not known if there is any ledge in the area because a Geotechnical Exploration has not been performed yet. The Applicants do not anticipate the need for blasting to construct the proposed Facility. If ledge is encountered, chipping is the preferred method to blasting. If blasting were required, the appropriate protocols would be followed in accordance with State, County and municipal regulations.

[k] Disturbance of steep slopes shall be undertaken in workable units in which the disturbance can be completed and stabilized in one construction season so that areas are not left bare and exposed during the winter and spring thaw periods (December 15 to April 15).

The total construction time is anticipated to take 12 weeks and no disturbance to any steep slopes will occur between December 15 and April 15.

[l] Disturbance of existing vegetative ground cover shall not take place more than 15 days prior to grading and construction.

The Applicants will comply with this requirement.

[m] Temporary soil stabilization, including, if appropriate, temporary stabilization measures such as netting or mulching to secure soil during the grow-in period, must be applied to an area of disturbance within two days of establishing the final grade, and permanent stabilization must be applied within 15 days of establishing the final grade.

Erosion control blankets are proposed on all graded slopes with a 3:1 slope or steeper.

[n] Soil stabilization must be applied within two days of disturbance if the final grade is not expected to be established within 21 days. In locations where construction activities have temporarily ceased, temporary soil stabilization measures must be applied within one week.

The Erosion Control notes (Site Plan Sheet- EC-1) on the Site Plan comply with this criteria.

[o] Topsoil shall be stripped from all areas of disturbance, stockpiled and stabilized in a manner to minimize erosion and sedimentation, and replaced elsewhere on the site at the time of final grading. Stockpiling shall not be permitted on slopes of greater than 10%.

Soil Stockpiling as shown on the Site Plan is not proposed on any slopes greater than 10% and that a note has been added to the Temporary Stockpile Detail (See Site Plan Sheet EC-2).

[p] No organic material or rock with a size that will not allow appropriate compaction or cover by topsoil shall be used as fill material. Fill material shall be no less granular than the soil upon which it is placed, and shall drain readily.

All fill material will be in accordance with the NY State licensed Professional Geotechnical Engineer's recommendations once the Geotechnical Exploration and Report have been completed and prepared for this project.

[q] Compaction of fill materials in fill areas shall be such to ensure support of proposed structures and stabilization for intended uses.

All compaction of fill material will be in accordance with the NY State Licensed Professional Geotechnical Engineer's and proposed Tower and Tower Foundation Structural Engineer's recommendations once the Geotechnical Exploration and Report and tower/tower foundation design have been completed and prepared for the project.

[r] Structures shall be designed to fit into the hillside rather than altering the hillside to fit the structure. (Among the methods that may be employed to achieve this goal are reduced footprint design, "step-down" structures, stilt houses, minimization of grading outside the building footprint, placement of structures at minimum street setback requirements to preserve natural terrain, etc.).

There are no "buildings" being proposed as part of the Facility.

[s] Development shall be sited on the least sensitive portions of the site to preserve the natural landforms, geological features, and vegetation.

The current facility location on site was designed to not adversely affect natural land forms and geological features and to minimize any necessary tree clearing.

[t] The stability of slopes and the erodibility of soils on slopes is a function of various physical soil properties and underlying bedrock conditions. Where site surveys indicate the presence of soils or underlying bedrock conditions the physical properties of which might present limitations on construction practices or high erodibility that may result in unstable slopes, the Planning Board may limit the type and extent of construction activities or disturbance to these areas as necessary to ensure public health, safety, and welfare.

The project is designed such that the proposed slopes are stable and will not be impacted by erosion. This will be further evaluated once the Geotechnical Exploration and Report have been prepared.

[u] Impacts from construction activities or other disturbance on bedrock outcrops and glacial erratics shall be minimized.

There were no outcroppings or glacial erratics visible in the area of the development area.

[v] All measures for the control of erosion and sedimentation shall be undertaken consistent with this chapter and with the Westchester County Soil and Water Conservation District's "Best Management Practices Manual for Erosion and Sediment Control," and New York State Department of Environmental Conservation "Guidelines for Urban Erosion and Sediment Control", as amended, or its equivalent satisfactory to the Planning Board, whichever requires the higher standards.

All erosion control measures have been designed in accordance with NYSDEC guidelines.

[w] All proposed disturbance of steep slopes shall be undertaken with consideration of the soils limitations characteristics contained in the Identification Legend, Westchester County Soils Survey, 1989, as prepared by the Westchester County Soil and Water Conservation District, in terms of recognition of limitation of soils on steep slopes for development and application of all mitigating measures, and as deemed necessary by the Planning Board.

According to the Westchester County Soils Survey, CsD soils which are a B soil are located in the proposed area of disturbance.

(d) Permit procedures.

[1] Application for permit. An application for a steep slopes permit shall be filed with the Planning Board, and shall contain the following information and such other information as required by it, except when waived by the Planning Board as not pertinent or necessary for the proposed disturbance:

[a] Name, post office address and telephone number of the owner and applicant.

Property Owner is Skull Island Partners LLC,
c/o David Seldin, 1571 Oceanview Drive, Tierra Verde, Florida 33715
(646) 932-3628

Applicants are Homeland Towers, LLC and New York SMSA Limited Partnership d/b/a Verizon Wireless, c/o Snyder & Snyder, LLP 94 White Plains Road, Tarrytown, New York 10591
(914) 333-0700

[b] Street address and Tax Map designation of property covered by the application.

The Property is identified as 180 South Bedford Road - SBL 80.44-1-1

[c] Statement of authority from owner for any agent making application.

A letter of authorization from the Property Owner has been included with the Application.

[d] Listing of property owners adjacent to, across streets from, and downslope within 500 feet of the property, and any additional property owners deemed appropriate by the Planning Board.

A map and list of adjacent property owners has been included on Sheet R-1 of the Site Plan.

[e] Statement of proposed work and purpose thereof.

A statement of proposed work and purpose of application has been included in the Application materials submitted. The Application is for a public utility wireless telecommunications facility to address a significant gap in Verizon Wireless's network.

[f] A statement prepared by a licensed architect, registered landscape architect, or engineer, that describes:

[i] The methods to be used in overcoming foundation and other structural problems created by slope conditions, in preserving the natural watershed and in preventing soil erosion; and

[ii] The methods to be used to eliminate or mitigate water runoff on all adjacent properties and any other property that will be naturally affected by increased water runoff.

The proposed equipment compound is designed with clean broken stone with 40% voids that will allow the increase in runoff to be held within the voids and infiltrated back into the ground. A swale has been

designed on the south side of the driveway to convey the existing stormwater runoff from the uphill areas south of the proposed development area around the proposed compound and driveway and discharge through a riprap energy dissipator, slowing down the runoff where it will naturally drain down the hill towards S. Bedford Road as it does in existing conditions.

[g] A statement made under the seal of a licensed professional engineer certifying that:

[i] The proposed activity will disturb the steep slope area to the minimum extent practicable; and

[ii] The proposed mitigation measures will prevent, to the maximum extent practicable, the adverse effect of any disturbance of the steep slope area on the environment and any neighboring properties.

The proposed development has been designed to minimize the disturbance on steep slope areas as much as possible and that disturbance will not adversely effect the neighboring properties.

[h] Eleven copies of plans for the proposed regulated activities drawn to a scale of not less than one inch equals 50 feet (unless otherwise specified by the Planning Board). Such plans shall be sealed and show the following:

[i] Location of proposed construction or disturbance and its relationship to property lines, easements, buildings, roads, walls, sewage disposal systems, wells, and wetlands within 100 feet of the proposed construction or disturbance, unless a greater distance is deemed appropriate by the Planning Board.

This has been included on the Site Plan.

[ii] Estimated material quantities of excavation/fill.

465 CY of excavation, 780 CY of fill required and 215 CY of gravel import.

[iii] Location and size of areas of soils by soils types in the area of proposed disturbance and to a distance of 100 feet surrounding the area of disturbance.

Soil boundaries and soil types are included on the Site Plan.

[iv] Existing and proposed contours (NGVD, National Geodetic Vertical Datum) at two-foot intervals in the area of proposed disturbance and to a distance of 100 feet beyond.

This information has been provided on the Site Plan.

[v] Slope categories for the entire project site itself showing at minimum the steep slope and very steep slope categories. Slope is to be determined from on-site topographic surveys prepared with a two-foot contour interval. The vertical rise is to be measured, on the basis of two-foot contours, in a ten-foot horizontal length.

This information has been provided on the Site Plan.

[vi] Cross sections of steep slope areas proposed to be disturbed.

A Cross section through the steep slope area has been provided on the Site Plan.

[vii] Retaining walls or like constructions, with details of construction.

There are no retaining walls or like construction proposed.

[viii] Erosion and sedimentation control plan prepared in accordance with the requirements listed above in Subsection A(2)(c)[2][k] through [o]. These plans must be submitted under the seal of a licensed professional engineer and must show and certify the following:

[A] All existing and proposed natural and artificial drainage courses and other features for the control of drainage, erosion and water.

[B] The calculated volume of water runoff from the slope(s) and from the lot in question, as unimproved.

[C] The calculated volume of water runoff from the slope(s) and from the lot in question, as improved.

[D] The existence, location and capacity of all natural and artificial drainage courses and facilities within 500 feet of the lot, which are or will be used to carry or contain water runoff to and from the slopes(s) and the lot.

The sediment and erosion control plans contain these requirements except addressing all natural and artificial drainage courses and facilities within 500' of the lot. The proposed design is decreasing the runoff and therefore analysis of those areas is not necessary. The Property drains into S. Bedford Road and per this requirement is shown on the Site Plan.

[j] A list of all applicable county, state or federal permits that are required for such work or improvements.

There are no applicable county, state or federal permits required. The approvals required for the Facility have been noted on the EAF filed with the Application.

[k] An application fee in the amount set forth in a fee schedule established by the Village Board.

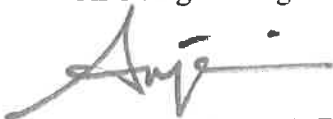
The Applicants have filed the necessary application fees with the Planning Board.

Conclusion

Based on the aforementioned it is respectfully submitted that the Applicants have met the criteria for issuance of the Steep Slope Permit.

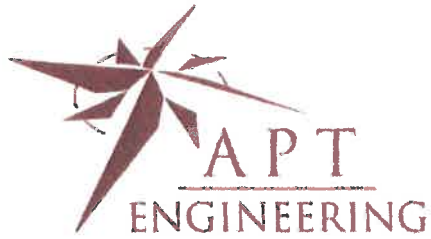
Sincerely,

APT Engineering



Scott M. Chasse, P.E.
Principal





STORMWATER MANAGEMENT REPORT

**PROPOSED WIRELESS
TELECOMMUNICATIONS FACILITY**

**MOUNT KISCO
180 S. BEDFORD ROAD
MOUNT KISCO, NEW YORK 10594**

Prepared for:

**Homeland Towers, LLC
9 Harmony Street, 9th Floor
Danbury, CT**

Prepared by:

**APT Engineering, P.C.
567 Vauxhall Street Extension, Suite 311
Waterford, CT 06385**

**November 2020
Revised:
January 2021**



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Introduction

At the request of Homeland Towers, LLC, APT Engineering, P.C. (“APT”) has undertaken analysis of and design to address stormwater impacts resulting from development of a proposed wireless telecommunications facility at 180 S. Bedford Road in Mount Kisco, New York (the “Project”). The Project, known as Mount Kisco, involves the installation of a fenced 2,542 SF gravel telecommunications equipment compound with a 140’ AGL Monopine and associated utilities off an existing gravel/paved driveway at 180 S. Bedford Road in Mount Kisco, New York (“Site”).

The purpose of this report is to provide an analysis of the potential stormwater drainage impacts associated with the Project, as well as a description of the design to mitigate such potential stormwater drainage impacts. The design is intended to be in full compliance with the State and Town regulations while taking prevailing site conditions and practical factors into account.

Existing Site Conditions

The Site is a privately-owned irregular shaped parcel located at 180 S. Bedford Road in Mount Kisco, New York, that consists of approximately 25± acres of mostly undeveloped forested land. The center of the lot has a cleared area where a former camp ground was located.

The Site’s existing topography generally slopes downward in all directions from high points in the middle of the parcel. Within the project area, the topography slopes downward to the north from a high point to the south and includes slopes that range from approximately 0 to 50 percent throughout. Elevations within the Site range from approximately 530 feet AMSL in the middle portion of the site to approximately 402 feet AMSL in the southeast corner, 408 in the southwest corner and 386 feet AMSL in the northwest corner of the site. Elevations within the project area range from approximately 446 feet AMSL to the south of the project area to approximately 414 feet AMSL on the north side of the project area.

Developed Site Conditions

The Project will be constructed off an existing gravel/paved access drive in the northwestern area of the Site in an existing forested area. Access to the Site will be provided via an existing gravel/paved access drive off S. Bedford Road. The Project includes the installation of 41’x62’ (2,542± SF) fenced gravel equipment compound with a 140’ AGL Monopine and associated utilities. The project will be located in an existing wooded area to the west of the existing access drive. 50 trees will need to be removed within the project area.

Stormwater Management

Analysis Methodology

The hydrologic analysis was performed using the HydroCAD stormwater modeling system computer program developed by HydroCAD Software Solutions, LLC.

Hydrographs for each watershed were developed using the SCS Synthetic Unit Hydrograph Method with a Type III rainfall distribution. Hydrographs were developed for the NOAA Atlas 14, Volume 10, Version 2 Precipitation 2-, 5-, 10-, and 25-year storm event with rainfall depths of 3.50, 4.51, 5.36 and 6.52 inches respectively.

The existing and proposed drainage areas used in the calculations are illustrated on the Existing and Proposed Drainage Area Plans (EDA-1 & PDA-1). These maps and the corresponding HydroCAD output are attached.

Existing Drainage Patterns

The proposed Project area drains from the south of the project area overland through existing woodland to the north of the project area and eventually to the existing gravel/paved access drive. The access drive eventually drains to the S. Bedford Road drainage system.

The Site was modeled at one (1) Analysis Point (“AP-1”). AP-1 is the top of the existing slope above the existing access drive to the north of the Project area. Peak discharges have been computed at the point of study for the 2-, 25-, 50-, and 100-year storm events.

The project site soils identified by the United States Department of Agriculture (USDA) Natural Resources Conservation Service consist of Map Unit Symbol ChB, named “Charlton fine sandy loam, 3 to 8 percent slopes,” CsD, named “Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky” and CrC, named “Chatfield-Charlton complex, 0 to 15 percent slopes, very rocky”. Map Unit Symbol ChB, CsD and CrC are classified in the HSG rating of “B”.

The pre-developed discharges at the Analysis Point are tabulated in Table 1-1.

Table 1-1

<i>Analysis Point</i>	Pre-developed Peak Storm Runoff (Q), cubic feet per second (cfs)			
	2-year	5-year	10-year	25-year
AP-1	0.19	0.58	1.03	1.76

Proposed Drainage Patterns

The Project will require the removal of an existing grass area and the installation of 41’x62’ (2,542± SF) fenced gravel equipment compound with a 140’ AGL Monopine and associated utilities.

To manage the increase in post-development runoff due to the change in cover type associated with converting woodland to grass, gravel and concrete equipment pads, the gravel equipment compound has been designed to be 12” thick crushed stone with 40% voids. The crushed stone gravel compound will store the increased runoff created by the change in ground cover and allow the increased runoff to infiltrate into the ground.

The infiltration rate for the crushed stone equipment compound is modeled with a rate of 1.00 inch/hour. The infiltration rate were determined from the Saturated Hydraulic Conductivity Maps by the United States Department of Agriculture (USDA) Natural Resources Conservation Service. The infiltration rates for the ChB, CrC and CsD was shown to be 1.45 inches/hour but was reduced to 1.00 inch/hour for this analysis.

Since the proposed development mimics the existing conditions, the post-development condition was modeled using the same Analysis Point. Peak discharges have been computed at the point of study for the 2-year, 5-year, 10-year, and 25-year storm events. The post-development discharges at each point of study are tabulated in Table 1-2.

Table 1-2

<i>Analysis Point</i>	Post-developed Peak Storm Runoff (Q), cubic feet per second (cfs)			
	2-year	5-year	10-year	25-year
AP-1	0.17	0.51	0.90	1.54

Conclusion

The stormwater management for the proposed site has been designed such that the post-development peak discharges to the waters of the State of New York for the 2-, 5-, 10-, and 25-year storm events are less than the pre-development peak discharges. As a result, the proposed telecommunication facility will not result in any adverse conditions to the surrounding areas and properties.

APPENDIX A: NRCS SOIL SURVEY

Hydrologic Soil Group—Westchester County, New York (Mount Kisco)

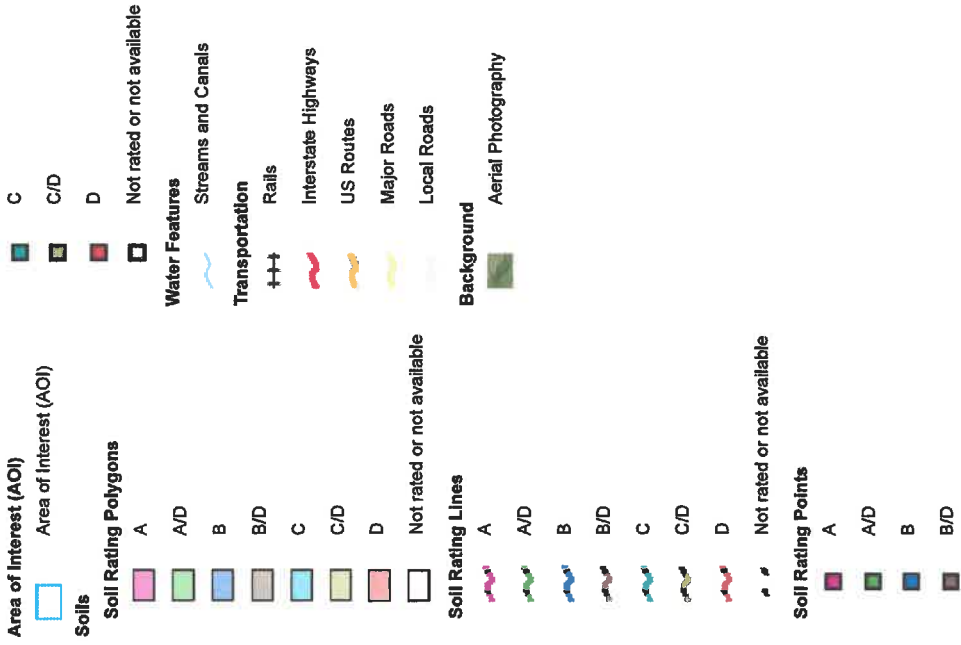


Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

9/14/2020
Page 1 of 4

MAP LEGEND



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 16, Jun 11, 2020

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 16, 2017

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	B	15.5	16.5%
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	B	2.5	2.7%
ChD	Charlton fine sandy loam, 15 to 25 percent slopes	B	0.1	0.1%
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	B	25.3	27.0%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	B	30.1	32.2%
CuD	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	D	3.2	3.4%
Ff	Fluvaquents-Udifuvents complex, frequently flooded	A/D	7.7	8.2%
HrF	Hollis-Rock outcrop complex, 35 to 60 percent slopes	D	1.9	2.0%
LcA	Leicester loam, 0 to 3 percent slopes, stony	A/D	2.5	2.6%
LcB	Leicester loam, 3 to 8 percent slopes, stony	A/D	1.2	1.2%
RhA	Riverhead loam, 0 to 3 percent slopes	A	0.6	0.6%
Sh	Sun loam	C/D	1.7	1.8%
SuB	Sutton loam, 3 to 8 percent slopes	B/D	1.3	1.4%
W	Water		0.3	0.3%
Totals for Area of Interest			93.7	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX B: EXISTING DRAINAGE AREA MAP (EDA-1) & HYDROLOGIC COMPUTATION (HYDROCAD)

EXISTING DRAINAGE AREAS			
	TOTAL AREA (SF)	COMPOSITE CN	TC (MIN.)
CDA-1	59,219	65	20.8

EXISTING DRAINAGE AREAS			
	TOTAL AREA (SF)	COMPOSITE CN	TC (MIN.)
CDA-1	59,219	65	20.8



SHEET NUMBER:

EDA-1



EDA-1



AP 1



Routing Diagram for Mount Kisco

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.359	55	Woods, Good, HSG B (EDA-1)
1.359	55	TOTAL AREA

Mount Kisco

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.359	HSG B	EDA-1
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.359		TOTAL AREA

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Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.359	0.000	0.000	0.000	1.359	Woods, Good	EDA-1
0.000	1.359	0.000	0.000	0.000	1.359	TOTAL AREA	

Mount Kisco

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Type III 24-hr 2-yr Rainfall=3.50"

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 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 EDA-1: EDA-1Runoff Area=59,219 sf 0.00% Impervious Runoff Depth=0.35"
Flow Length=513' Tc=20.6 min CN=55 Runoff=0.19 cfs 0.039 af**Link 4L: AP 1**Inflow=0.19 cfs 0.039 af
Primary=0.19 cfs 0.039 af**Total Runoff Area = 1.359 ac Runoff Volume = 0.039 af Average Runoff Depth = 0.35"**
100.00% Pervious = 1.359 ac 0.00% Impervious = 0.000 ac

Mount Kisco

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Type III 24-hr 2-yr Rainfall=3.50"

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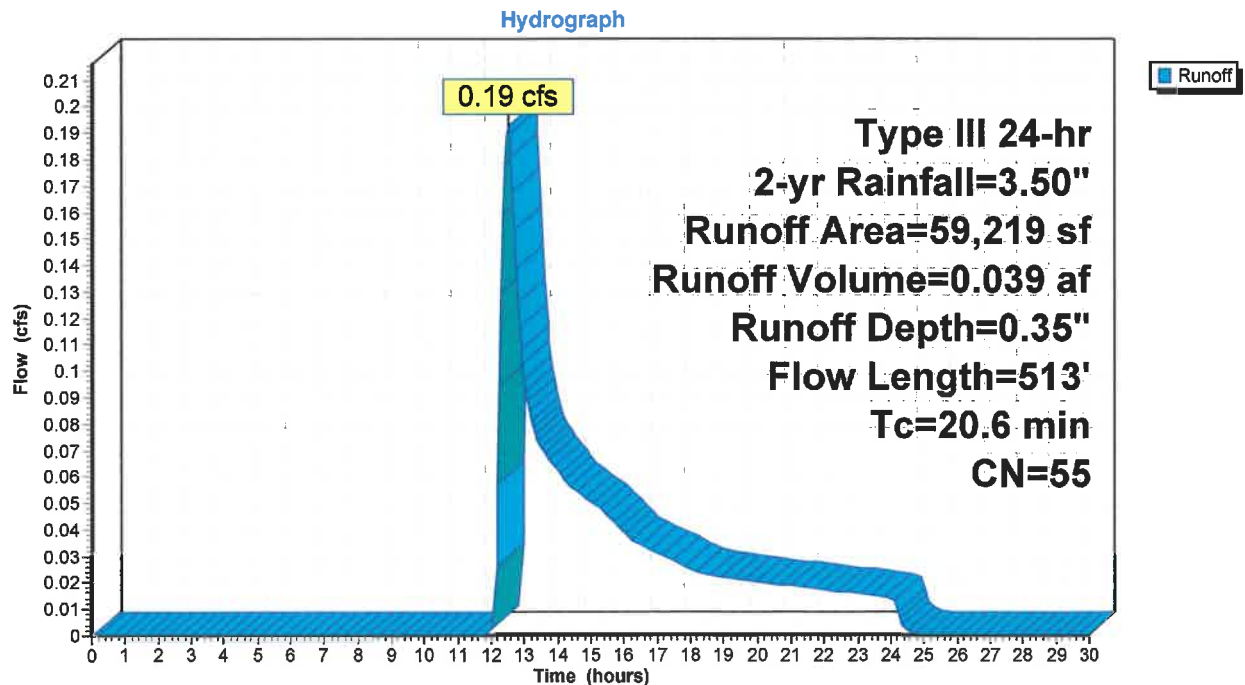
Summary for Subcatchment EDA-1: EDA-1

Runoff = 0.19 cfs @ 12.50 hrs, Volume= 0.039 af, Depth= 0.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.50"

Area (sf)	CN	Description
59,219	55	Woods, Good, HSG B
59,219		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		Sheet Flow, A-B Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		Shallow Concentrated Flow, B-C Forest w/Heavy Litter Kv= 2.5 fps
0.8	53	0.1887	1.09		Shallow Concentrated Flow, C-D Forest w/Heavy Litter Kv= 2.5 fps
2.1	120	0.1500	0.97		Shallow Concentrated Flow, D-E Forest w/Heavy Litter Kv= 2.5 fps
20.6	513	Total			

Subcatchment EDA-1: EDA-1

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Type III 24-hr 2-yr Rainfall=3.50"

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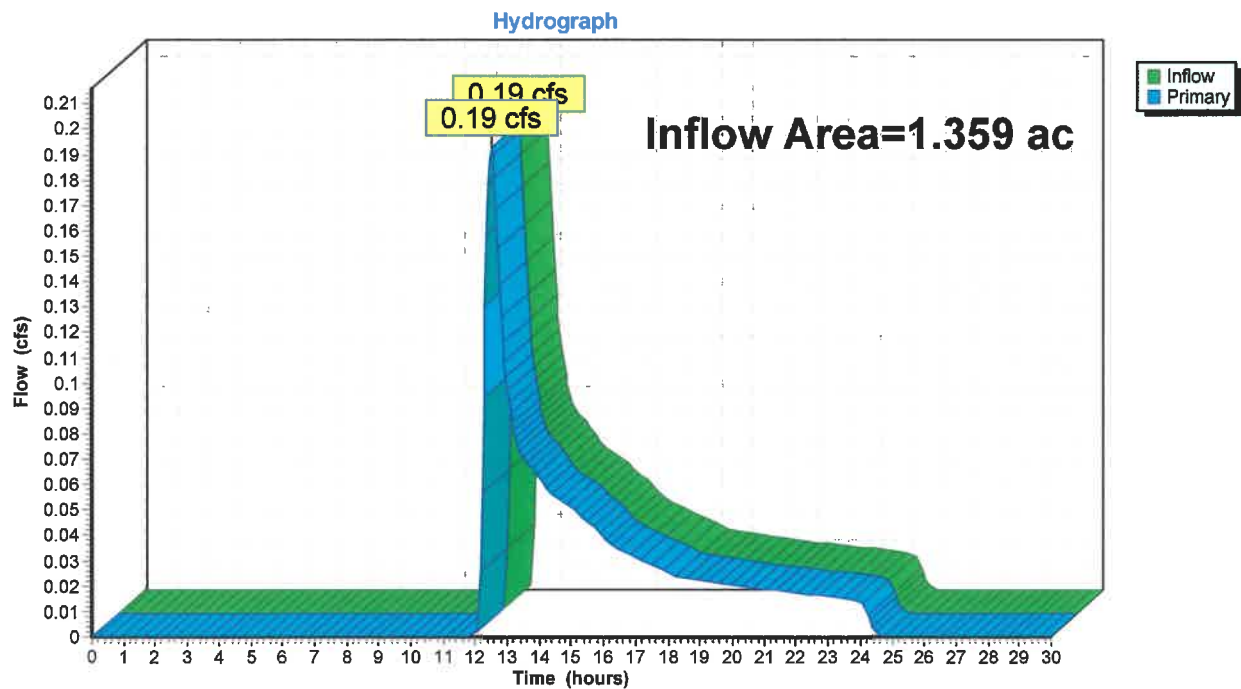
Page 7

Summary for Link 4L: AP 1

Inflow Area = 1.359 ac, 0.00% Impervious, Inflow Depth = 0.35" for 2-yr event
Inflow = 0.19 cfs @ 12.50 hrs, Volume= 0.039 af
Primary = 0.19 cfs @ 12.50 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 4L: AP 1



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Type III 24-hr 5-yr Rainfall=4.51"

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 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 EDA-1: EDA-1Runoff Area=59,219 sf 0.00% Impervious Runoff Depth=0.75"
Flow Length=513' Tc=20.6 min CN=55 Runoff=0.58 cfs 0.085 af**Link 4L: AP 1**Inflow=0.58 cfs 0.085 af
Primary=0.58 cfs 0.085 af**Total Runoff Area = 1.359 ac Runoff Volume = 0.085 af Average Runoff Depth = 0.75"**
100.00% Pervious = 1.359 ac 0.00% Impervious = 0.000 ac

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Type III 24-hr 5-yr Rainfall=4.51"

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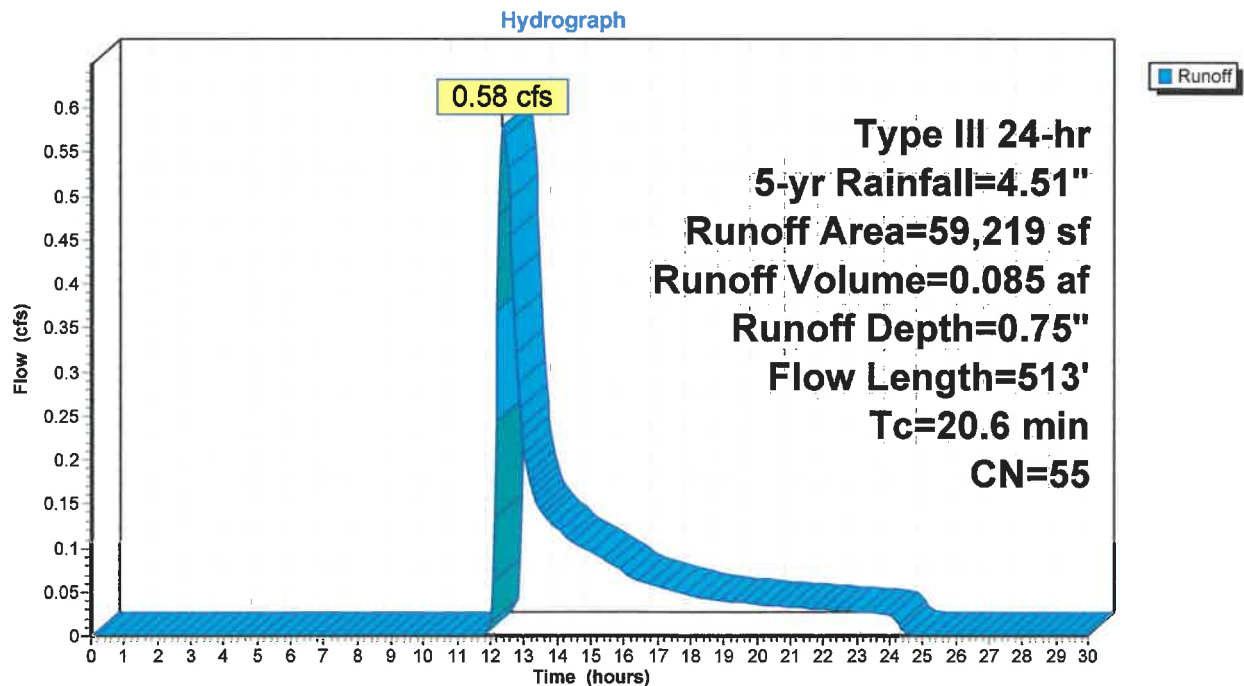
Summary for Subcatchment EDA-1: EDA-1

Runoff = 0.58 cfs @ 12.37 hrs, Volume= 0.085 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.51"

Area (sf)	CN	Description
59,219	55	Woods, Good, HSG B
59,219		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		Sheet Flow, A-B Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		Shallow Concentrated Flow, B-C Forest w/Heavy Litter Kv= 2.5 fps
0.8	53	0.1887	1.09		Shallow Concentrated Flow, C-D Forest w/Heavy Litter Kv= 2.5 fps
2.1	120	0.1500	0.97		Shallow Concentrated Flow, D-E Forest w/Heavy Litter Kv= 2.5 fps
20.6	513	Total			

Subcatchment EDA-1: EDA-1

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Type III 24-hr 5-yr Rainfall=4.51"

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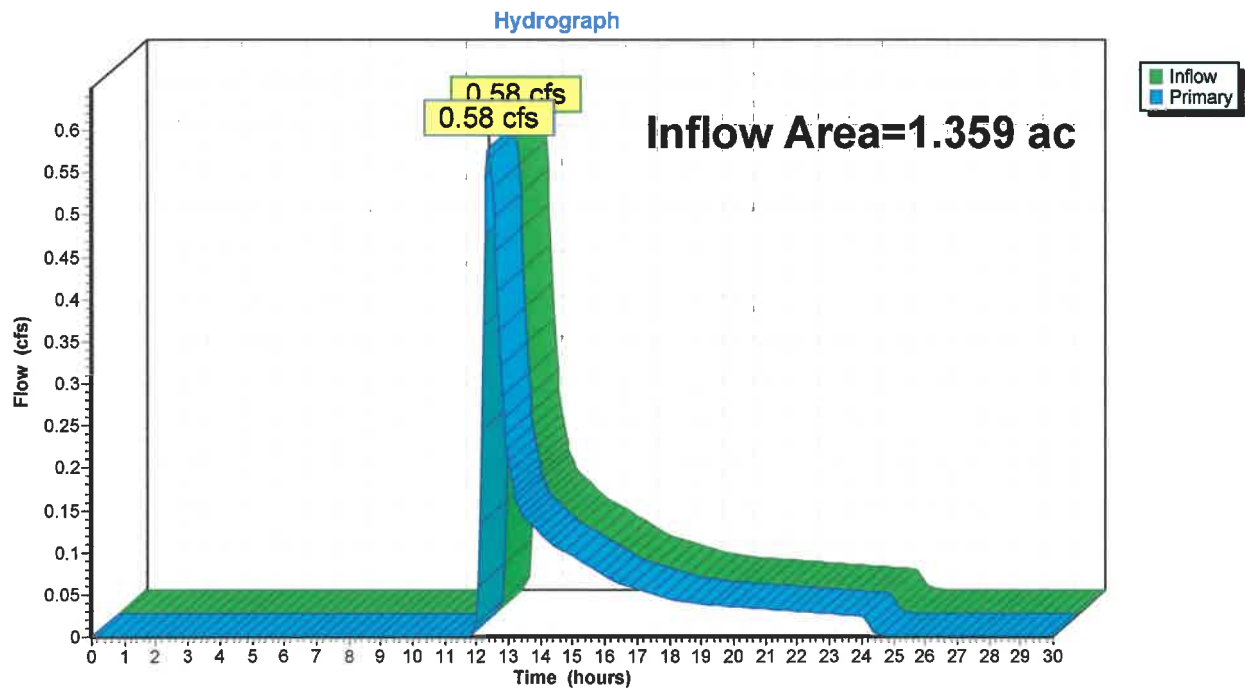
Page 10

Summary for Link 4L: AP 1

Inflow Area = 1.359 ac, 0.00% Impervious, Inflow Depth = 0.75" for 5-yr event
Inflow = 0.58 cfs @ 12.37 hrs, Volume= 0.085 af
Primary = 0.58 cfs @ 12.37 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 4L: AP 1



Mount Kisco*Type III 24-hr 10-yr Rainfall=5.36"*

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 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 EDA-1: EDA-1Runoff Area=59,219 sf 0.00% Impervious Runoff Depth=1.16"
Flow Length=513' Tc=20.6 min CN=55 Runoff=1.03 cfs 0.132 af**Link 4L: AP 1**Inflow=1.03 cfs 0.132 af
Primary=1.03 cfs 0.132 af**Total Runoff Area = 1.359 ac Runoff Volume = 0.132 af Average Runoff Depth = 1.16"**
100.00% Pervious = 1.359 ac 0.00% Impervious = 0.000 ac

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Type III 24-hr 10-yr Rainfall=5.36"

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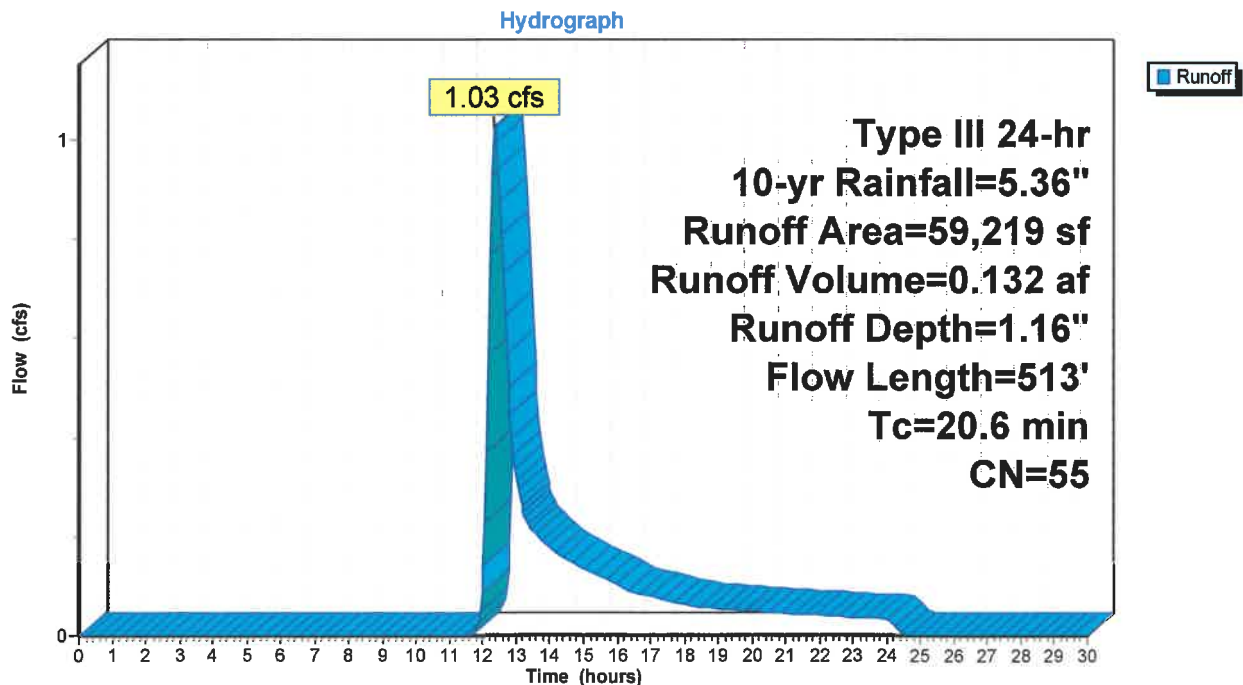
Summary for Subcatchment EDA-1: EDA-1

Runoff = 1.03 cfs @ 12.34 hrs, Volume= 0.132 af, Depth= 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.36"

Area (sf)	CN	Description
59,219	55	Woods, Good, HSG B
59,219		100.00% Pervious Area

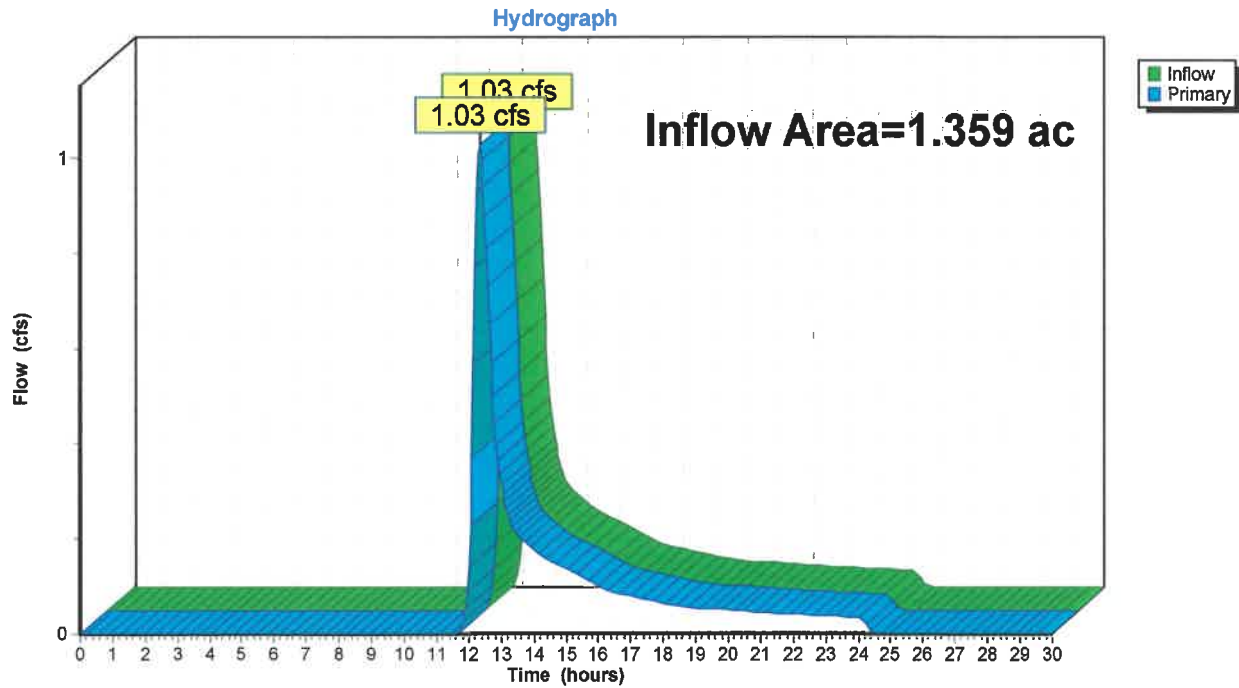
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		Sheet Flow, A-B Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		Shallow Concentrated Flow, B-C Forest w/Heavy Litter Kv= 2.5 fps
0.8	53	0.1887	1.09		Shallow Concentrated Flow, C-D Forest w/Heavy Litter Kv= 2.5 fps
2.1	120	0.1500	0.97		Shallow Concentrated Flow, D-E Forest w/Heavy Litter Kv= 2.5 fps
20.6	513	Total			

Subcatchment EDA-1: EDA-1

Summary for Link 4L: AP 1

Inflow Area = 1.359 ac, 0.00% Impervious, Inflow Depth = 1.16" for 10-yr event
Inflow = 1.03 cfs @ 12.34 hrs, Volume= 0.132 af
Primary = 1.03 cfs @ 12.34 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 4L: AP 1

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Type III 24-hr 25-yr Rainfall=6.52"

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 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 EDA-1: EDA-1Runoff Area=59,219 sf 0.00% Impervious Runoff Depth=1.83"
Flow Length=513' Tc=20.6 min CN=55 Runoff=1.76 cfs 0.207 af**Link 4L: AP 1**Inflow=1.76 cfs 0.207 af
Primary=1.76 cfs 0.207 af**Total Runoff Area = 1.359 ac Runoff Volume = 0.207 af Average Runoff Depth = 1.83"**
100.00% Pervious = 1.359 ac 0.00% Impervious = 0.000 ac

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Type III 24-hr 25-yr Rainfall=6.52"

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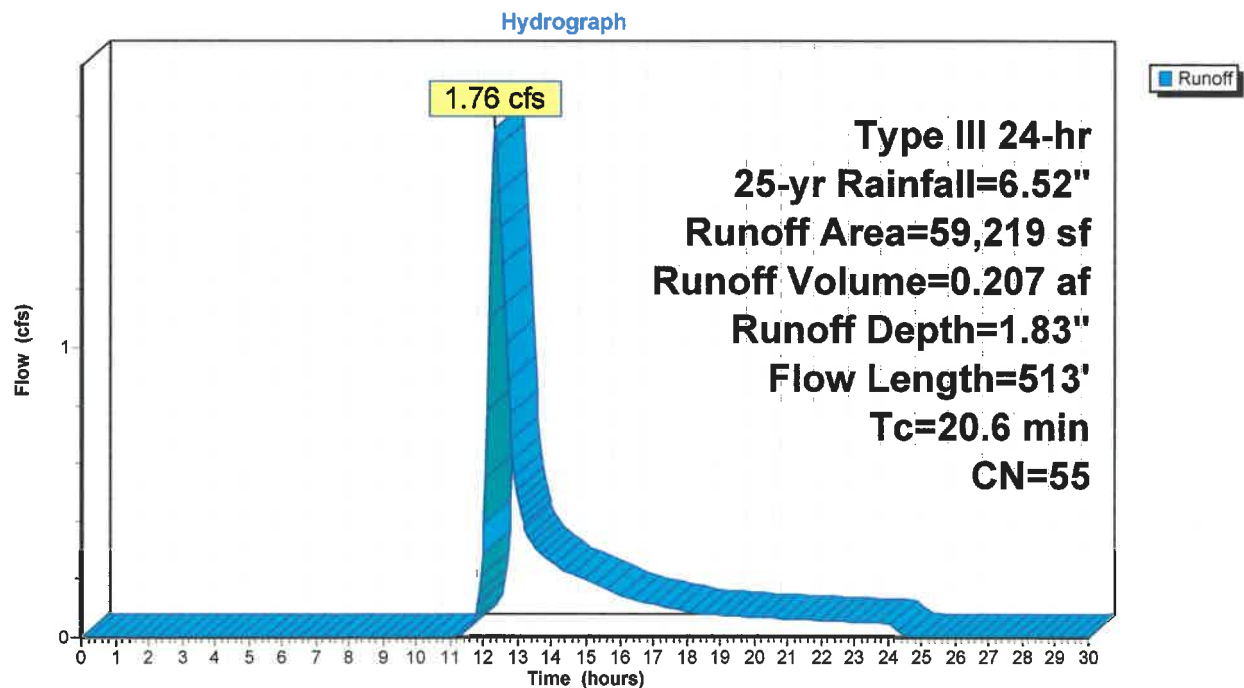
Summary for Subcatchment EDA-1: EDA-1

Runoff = 1.76 cfs @ 12.32 hrs, Volume= 0.207 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.52"

Area (sf)	CN	Description
59,219	55	Woods, Good, HSG B
59,219		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		Sheet Flow, A-B Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		Shallow Concentrated Flow, B-C Forest w/Heavy Litter Kv= 2.5 fps
0.8	53	0.1887	1.09		Shallow Concentrated Flow, C-D Forest w/Heavy Litter Kv= 2.5 fps
2.1	120	0.1500	0.97		Shallow Concentrated Flow, D-E Forest w/Heavy Litter Kv= 2.5 fps
20.6	513	Total			

Subcatchment EDA-1: EDA-1

Mount Kisco

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Type III 24-hr 25-yr Rainfall=6.52"

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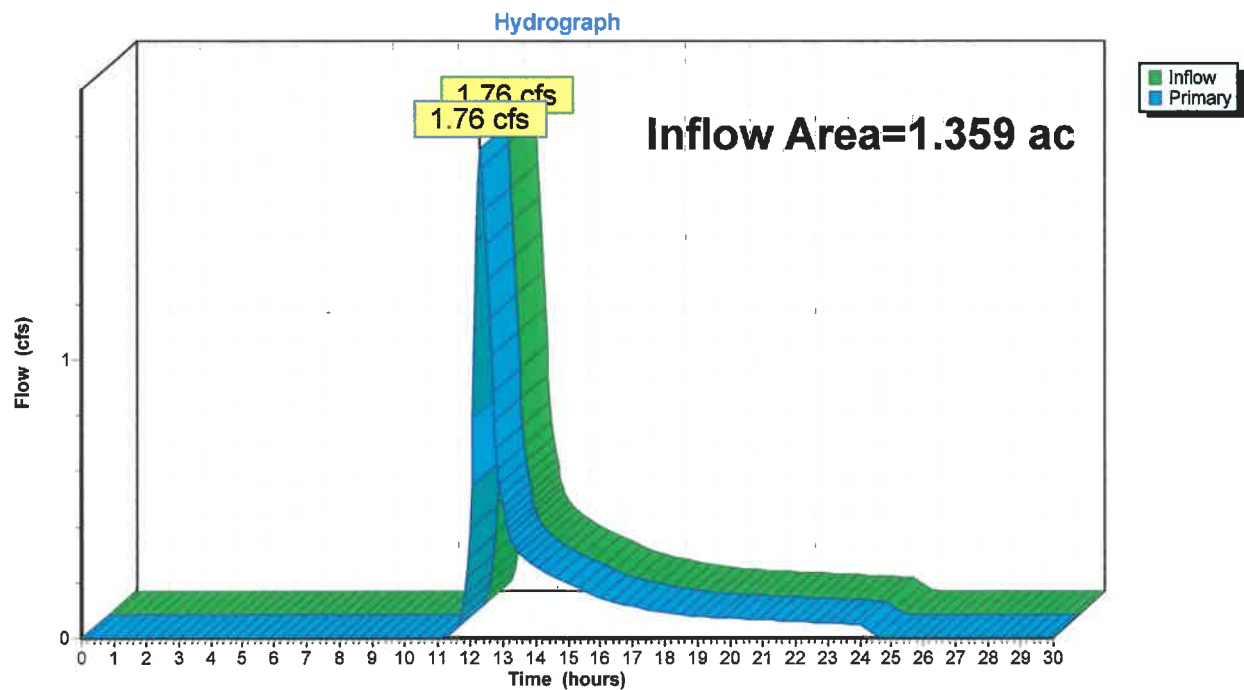
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Summary for Link 4L: AP 1

Inflow Area = 1.359 ac, 0.00% Impervious, Inflow Depth = 1.83" for 25-yr event
Inflow = 1.76 cfs @ 12.32 hrs, Volume= 0.207 af
Primary = 1.76 cfs @ 12.32 hrs, Volume= 0.207 af, Atten= 0%, Lag= 0.0 min

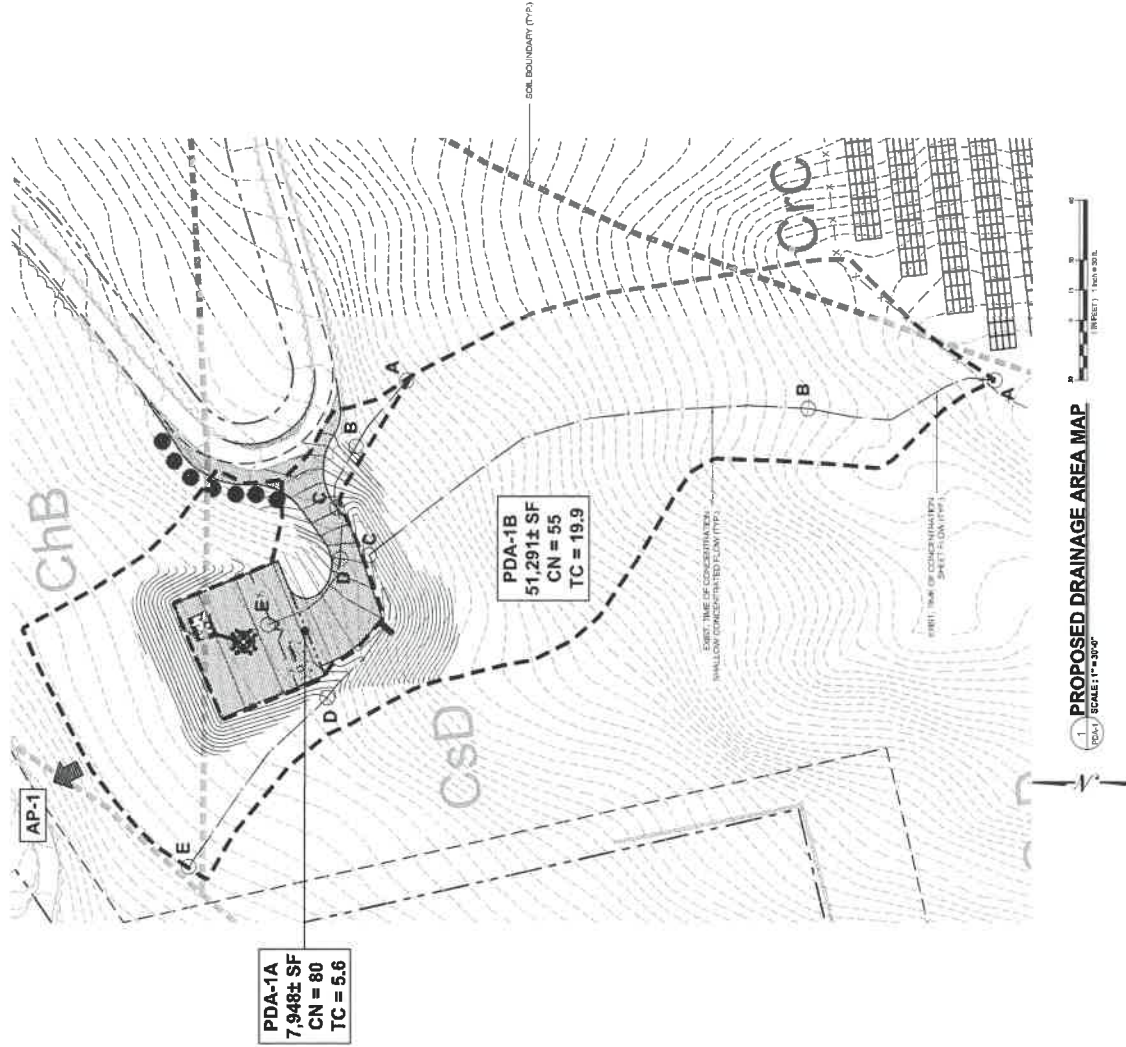
Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 4L: AP 1

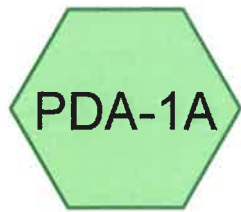


APPENDIX C: PROPOSED DRAINAGE AREA MAP (PDA-1) & HYDROLOGIC COMPUTATION (HYDROCAD)

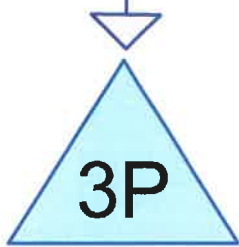
PROPOSED DRAINAGE AREAS			
	TOTAL AREA (SF)	COMPOSITE CN	TC (MINS.)
PDA-1A	7,948	80	5.6
PDA-1B	51,291	55	19.9



 HomeLand Towers, LLC 9 HARMONY STREET DANBURRY, CT 06810 (203) 297-4545	
 verizon 4 CENTERCROSS ROAD WEST NACK, NY 10984	
 APT ENGINEERING 807 NATIONAL STREET BOX 1000 - SUITE 311 DANBURRY, CT 06810 (203) 297-4545 WWW.APTENGINEERING.COM	
PERMITTING DOCUMENTS NO. DATE DESCRIPTION 1 11/11/19 FOR REVIEW RCB	
DESIGN PROFESSIONALS OF RECORD DANBURY TOWNSHIP, P.E. COMPTON ENGINEERING 807 NATIONAL STREET DANBURY, CT 06810 (203) 297-4545 WWW.COMPTONENGINEERING.COM	
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HOMELAND TOWERS MOUNT KISCO 185 N. RD. 600 RD. DANBURY, CT 06810 (203) 297-4545 APT FILING NUMBER: NY193403 DATE: 11/11/19 CHECKED BY: RCB	
SHEET TITLE: PROPOSED DRAINAGE AREA MAP	
SHEET NUMBER: PDA-1	



PDA-1A



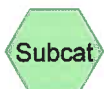
EQUIPMENT
COMPOUND



AP-1



PDA-1B



Routing Diagram for Mount Kisco

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Mount Kisco

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.036	61	>75% Grass cover, Good, HSG B (PDA-1A)
0.115	85	Gravel roads, HSG B (PDA-1A)
0.021	98	Unconnected pavement, HSG B (PDA-1A)
1.189	55	Woods, Good, HSG B (PDA-1A, PDA-1B)
1.360	58	TOTAL AREA

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.360	HSG B	PDA-1A, PDA-1B
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.360		TOTAL AREA

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Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.036	0.000	0.000	0.000	0.036	>75% Grass cover, Good	PDA-1A
0.000	0.115	0.000	0.000	0.000	0.115	Gravel roads	PDA-1A
0.000	0.021	0.000	0.000	0.000	0.021	Unconnected pavement	PDA-1A
0.000	1.189	0.000	0.000	0.000	1.189	Woods, Good	PDA-1A, PDA-1B
0.000	1.360	0.000	0.000	0.000	1.360	TOTAL AREA	

Mount Kisco*Type III 24-hr 2-yr Rainfall=3.50"*

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 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 PDA-1A: PDA-1A

Runoff Area=7,948 sf 11.32% Impervious Runoff Depth=1.57"
Flow Length=154' Tc=5.6 min UI Adjusted CN=79 Runoff=0.33 cfs 0.024 af

Subcatchment PDA-1B: PDA-1B

Runoff Area=51,291 sf 0.00% Impervious Runoff Depth=0.35"
Flow Length=535' Tc=19.9 min CN=55 Runoff=0.17 cfs 0.034 af

Pond 3P: EQUIPMENT COMPOUND

Peak Elev=425.28' Storage=0.006 af Inflow=0.33 cfs 0.024 af
Discarded=0.06 cfs 0.024 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.024 af

Link 5L: AP-1

Inflow=0.17 cfs 0.034 af
Primary=0.17 cfs 0.034 af

Total Runoff Area = 1.360 ac Runoff Volume = 0.058 af Average Runoff Depth = 0.51"
98.48% Pervious = 1.339 ac 1.52% Impervious = 0.021 ac

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Type III 24-hr 2-yr Rainfall=3.50"

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Summary for Subcatchment PDA-1A: PDA-1A[49] Hint: $T_c < 2dt$ may require smaller dt

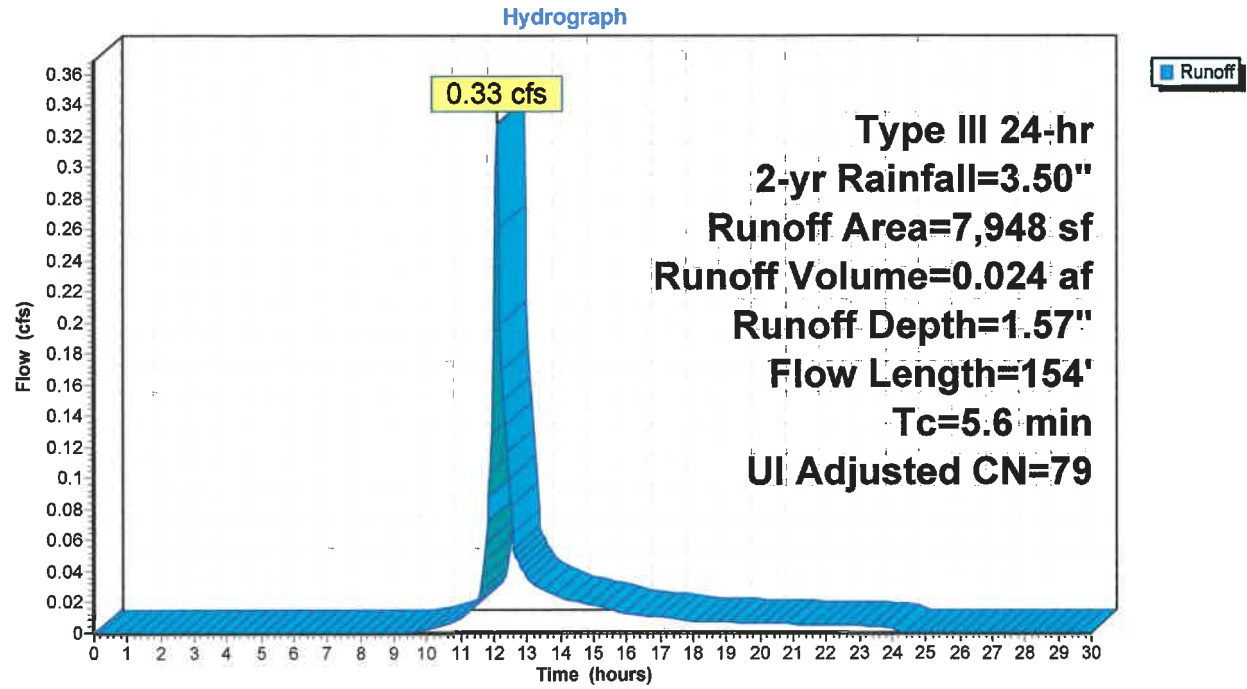
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, $dt=0.05$ hrs
Type III 24-hr 2-yr Rainfall=3.50"

Area (sf)	CN	Adj	Description
5,008	85		Gravel roads, HSG B
1,547	61		>75% Grass cover, Good, HSG B
493	55		Woods, Good, HSG B
900	98		Unconnected pavement, HSG B
7,948	80	79	Weighted Average, UI Adjusted
7,048			88.68% Pervious Area
900			11.32% Impervious Area
900			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	42	0.3810	0.22		Sheet Flow, A-B Woods: Light underbrush $n=0.400$ $P2=3.50"$
2.0	34	0.2647	0.28		Sheet Flow, B-C Grass: Dense $n=0.240$ $P2=3.50"$
0.2	26	0.1153	2.21		Sheet Flow, C-D Smooth surfaces $n=0.011$ $P2=3.50"$
0.2	52	0.1154	5.47		Shallow Concentrated Flow, D-E Unpaved $K_v=16.1$ fps
5.6	154	Total			

Subcatchment PDA-1A: PDA-1A



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Type III 24-hr 2-yr Rainfall=3.50"

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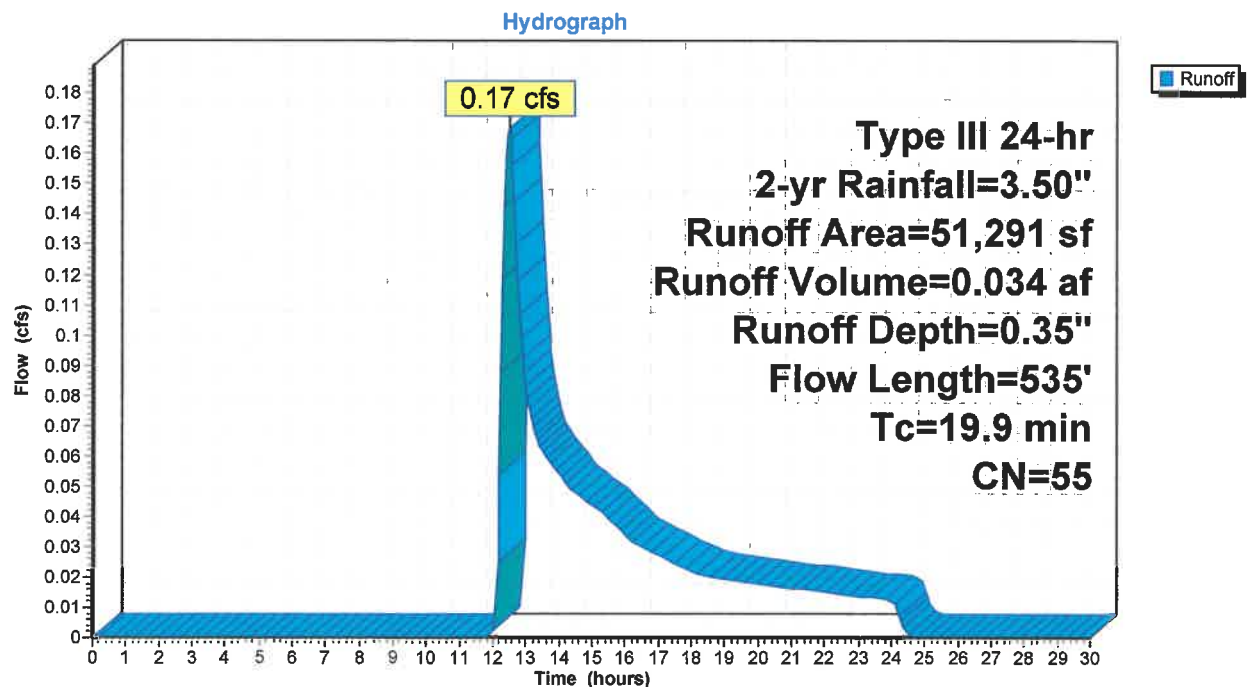
Summary for Subcatchment PDA-1B: PDA-1B

Runoff = 0.17 cfs @ 12.49 hrs, Volume= 0.034 af, Depth= 0.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.50"

Area (sf)	CN	Description
51,291	55	Woods, Good, HSG B
51,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		Sheet Flow, A-B Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		Shallow Concentrated Flow, B-C Forest w/Heavy Litter Kv= 2.5 fps
0.3	85	0.0800	4.24		Shallow Concentrated Flow, C-D Grassed Waterway Kv= 15.0 fps
1.9	110	0.1500	0.97		Shallow Concentrated Flow, D-E Forest w/Heavy Litter Kv= 2.5 fps
19.9	535	Total			

Subcatchment PDA-1B: PDA-1B

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Type III 24-hr 2-yr Rainfall=3.50"

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Summary for Pond 3P: EQUIPMENT COMPOUND

Inflow Area = 0.182 ac, 11.32% Impervious, Inflow Depth = 1.57" for 2-yr event
 Inflow = 0.33 cfs @ 12.09 hrs, Volume= 0.024 af
 Outflow = 0.06 cfs @ 12.57 hrs, Volume= 0.024 af, Atten= 81%, Lag= 28.6 min
 Discarded = 0.06 cfs @ 12.57 hrs, Volume= 0.024 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 425.28' @ 12.57 hrs Surf.Area= 0.058 ac Storage= 0.006 af

Plug-Flow detention time= 30.5 min calculated for 0.024 af (100% of inflow)
 Center-of-Mass det. time= 30.5 min (871.4 - 840.9)

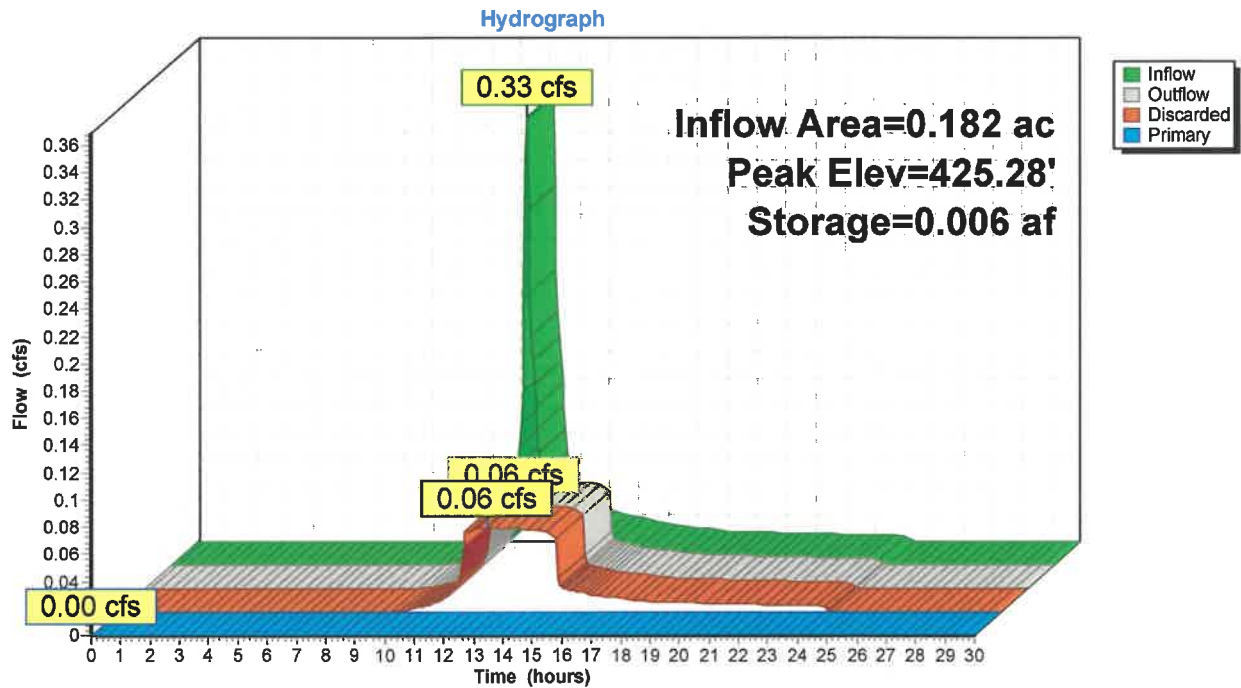
Volume	Invert	Avail.Storage	Storage Description
#1	425.00'	0.023 af	62.00'W x 41.00'L x 1.00'H Prismatic 0.058 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	425.00'	1.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 420.00'
#2	Primary	426.00'	62.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Discarded OutFlow Max=0.06 cfs @ 12.57 hrs HW=425.28' (Free Discharge)
 ↑ **1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=425.00' (Free Discharge)
 ↑ **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: EQUIPMENT COMPOUND



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Type III 24-hr 2-yr Rainfall=3.50"

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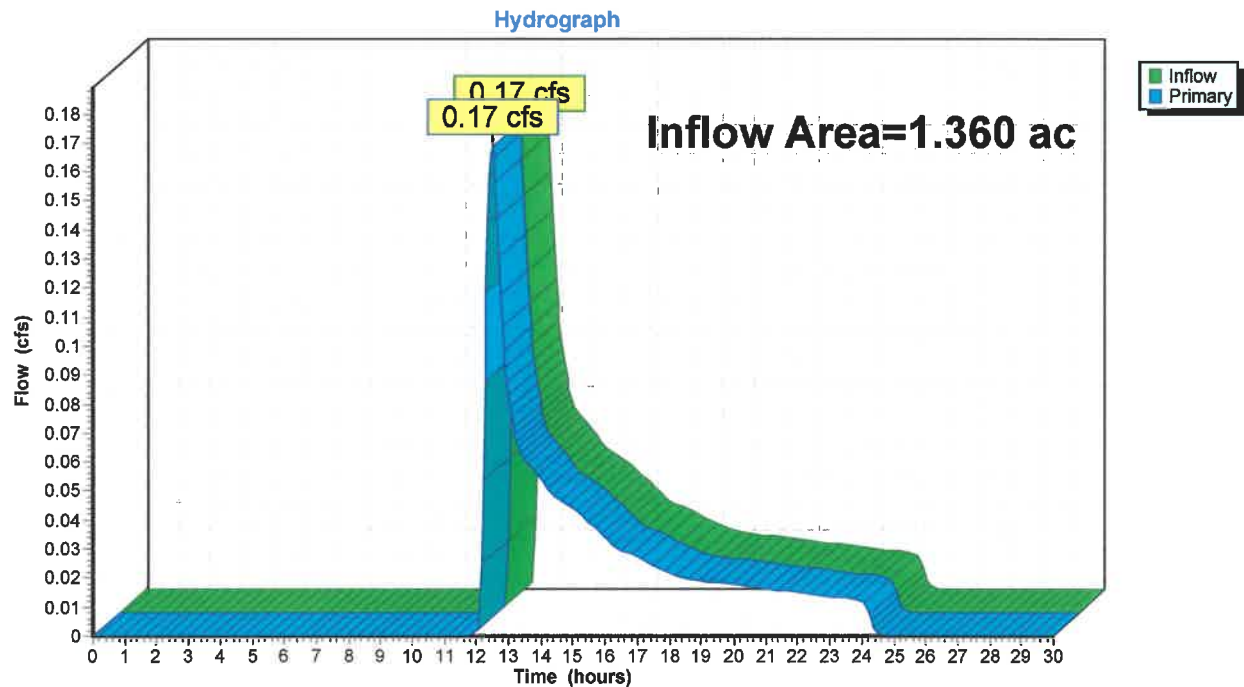
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Summary for Link 5L: AP-1

Inflow Area = 1.360 ac, 1.52% Impervious, Inflow Depth = 0.30" for 2-yr event
Inflow = 0.17 cfs @ 12.49 hrs, Volume= 0.034 af
Primary = 0.17 cfs @ 12.49 hrs, Volume= 0.034 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 5L: AP-1



Mount Kisco*Type III 24-hr 5-yr Rainfall=4.51"*

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 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 PDA-1A: PDA-1A

Runoff Area=7,948 sf 11.32% Impervious Runoff Depth=2.38"
Flow Length=154' Tc=5.6 min UI Adjusted CN=79 Runoff=0.50 cfs 0.036 af

Subcatchment PDA-1B: PDA-1B

Runoff Area=51,291 sf 0.00% Impervious Runoff Depth=0.75"
Flow Length=535' Tc=19.9 min CN=55 Runoff=0.51 cfs 0.073 af

Pond 3P: EQUIPMENT COMPOUND

Peak Elev=425.52' Storage=0.012 af Inflow=0.50 cfs 0.036 af
Discarded=0.07 cfs 0.036 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.036 af

Link 5L: AP-1

Inflow=0.51 cfs 0.073 af
Primary=0.51 cfs 0.073 af

Total Runoff Area = 1.360 ac Runoff Volume = 0.110 af Average Runoff Depth = 0.97"
98.48% Pervious = 1.339 ac 1.52% Impervious = 0.021 ac

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Type III 24-hr 5-yr Rainfall=4.51"

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Summary for Subcatchment PDA-1A: PDA-1A[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.50 cfs @ 12.09 hrs, Volume= 0.036 af, Depth= 2.38"

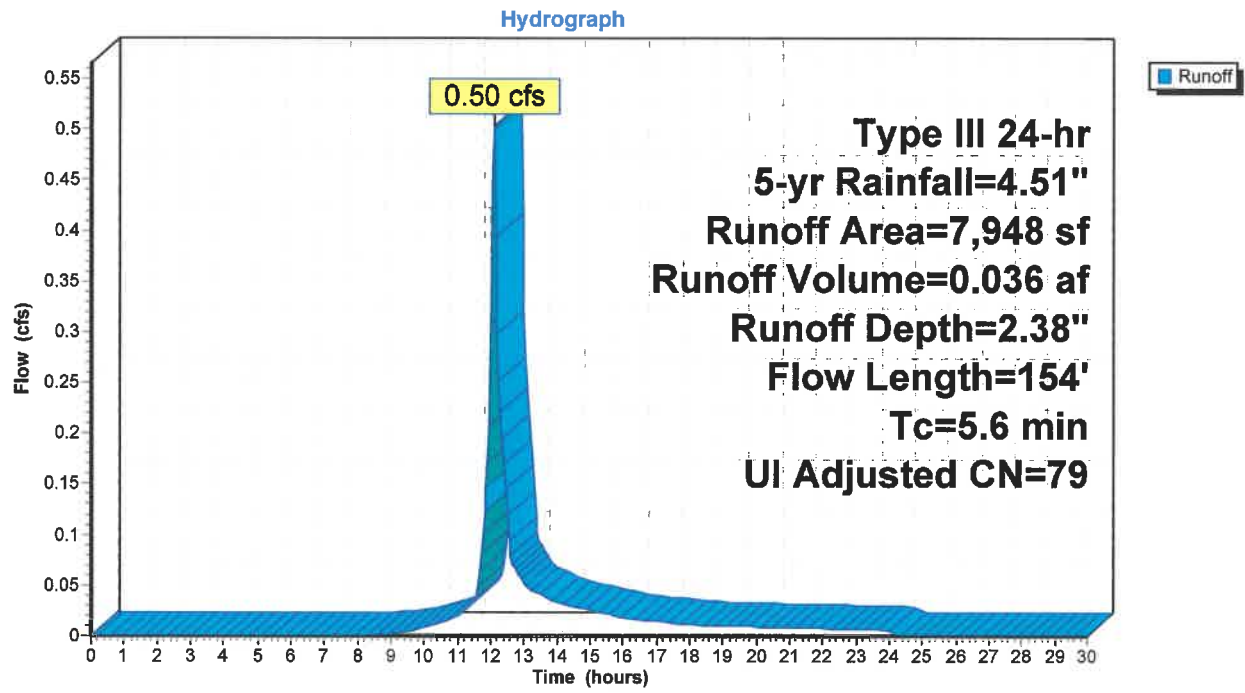
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, $dt=0.05$ hrs

Type III 24-hr 5-yr Rainfall=4.51"

Area (sf)	CN	Adj	Description
5,008	85		Gravel roads, HSG B
1,547	61		>75% Grass cover, Good, HSG B
493	55		Woods, Good, HSG B
900	98		Unconnected pavement, HSG B
7,948	80	79	Weighted Average, UI Adjusted
7,048			88.68% Pervious Area
900			11.32% Impervious Area
900			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	42	0.3810	0.22		Sheet Flow, A-B Woods: Light underbrush $n=0.400$ $P2=3.50"$
2.0	34	0.2647	0.28		Sheet Flow, B-C Grass: Dense $n=0.240$ $P2=3.50"$
0.2	26	0.1153	2.21		Sheet Flow, C-D Smooth surfaces $n=0.011$ $P2=3.50"$
0.2	52	0.1154	5.47		Shallow Concentrated Flow, D-E Unpaved $K_v=16.1$ fps
5.6	154	Total			

Subcatchment PDA-1A: PDA-1A



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Type III 24-hr 5-yr Rainfall=4.51"

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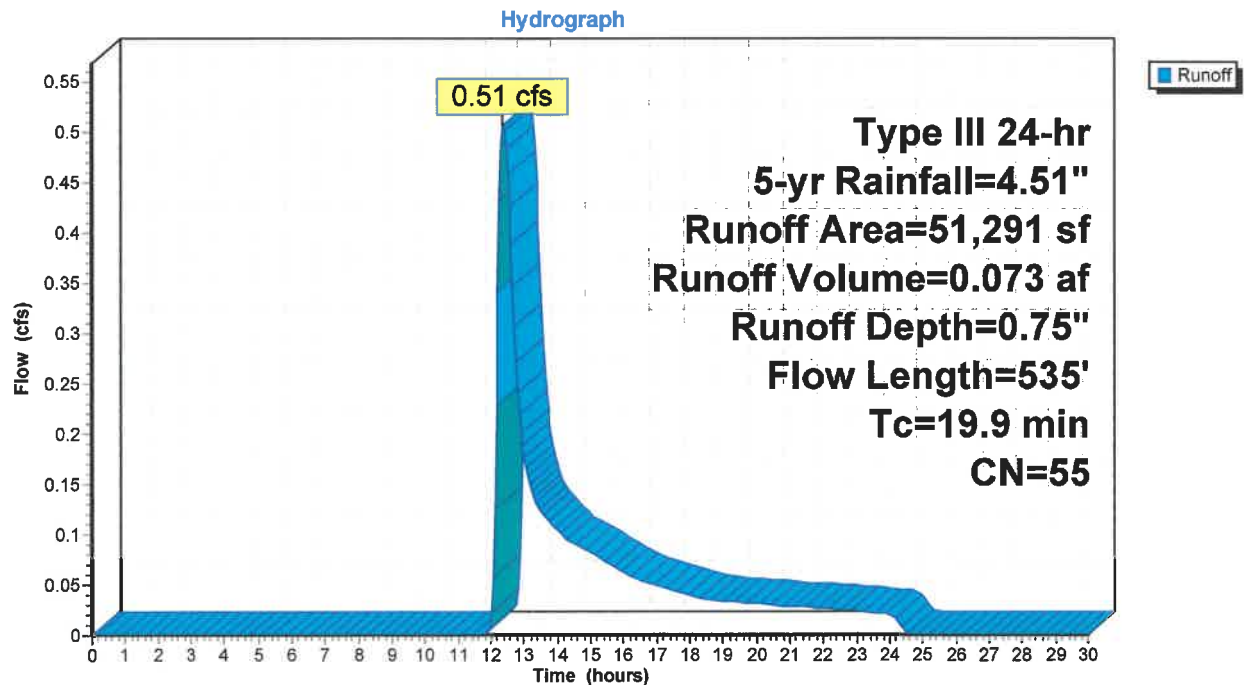
Summary for Subcatchment PDA-1B: PDA-1B

Runoff = 0.51 cfs @ 12.36 hrs, Volume= 0.073 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.51"

Area (sf)	CN	Description
51,291	55	Woods, Good, HSG B
51,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		Sheet Flow, A-B Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		Shallow Concentrated Flow, B-C Forest w/Heavy Litter Kv= 2.5 fps
0.3	85	0.0800	4.24		Shallow Concentrated Flow, C-D Grassed Waterway Kv= 15.0 fps
1.9	110	0.1500	0.97		Shallow Concentrated Flow, D-E Forest w/Heavy Litter Kv= 2.5 fps
19.9	535	Total			

Subcatchment PDA-1B: PDA-1B

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Type III 24-hr 5-yr Rainfall=4.51"

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Summary for Pond 3P: EQUIPMENT COMPOUND

Inflow Area = 0.182 ac, 11.32% Impervious, Inflow Depth = 2.38" for 5-yr event
 Inflow = 0.50 cfs @ 12.09 hrs, Volume= 0.036 af
 Outflow = 0.07 cfs @ 12.75 hrs, Volume= 0.036 af, Atten= 87%, Lag= 40.0 min
 Discarded = 0.07 cfs @ 12.75 hrs, Volume= 0.036 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 425.52' @ 12.75 hrs Surf.Area= 0.058 ac Storage= 0.012 af

Plug-Flow detention time= 64.8 min calculated for 0.036 af (100% of inflow)
 Center-of-Mass det. time= 64.7 min (893.4 - 828.7)

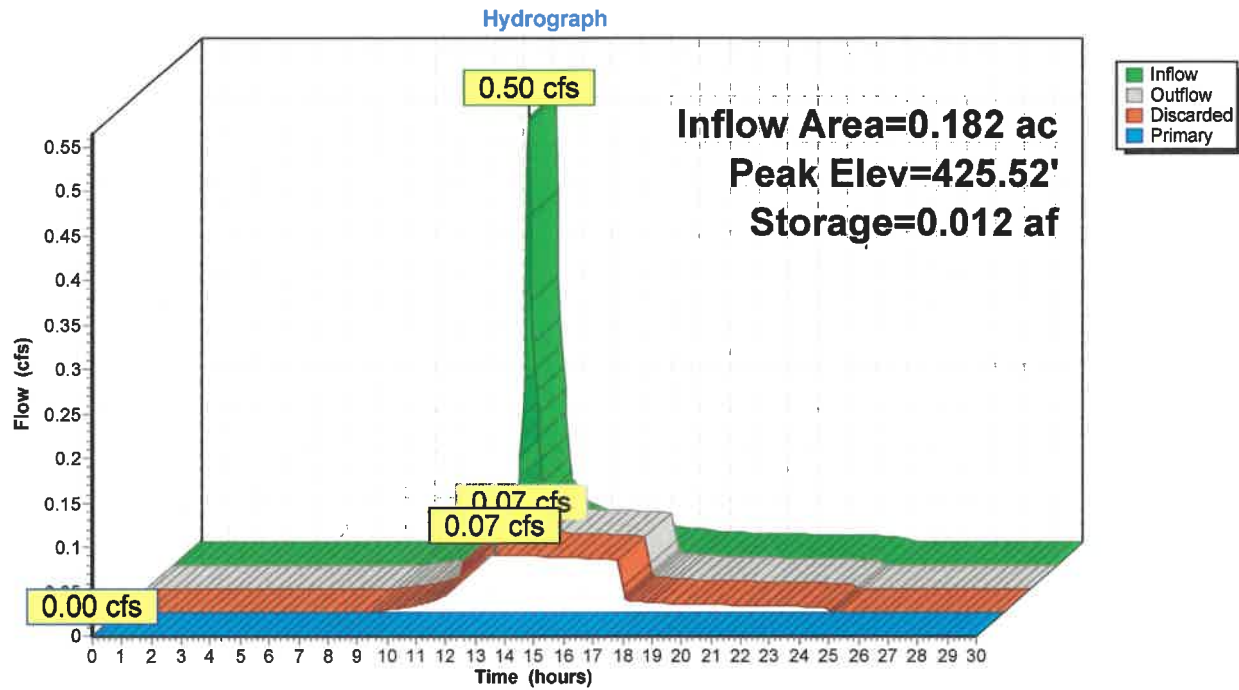
Volume	Invert	Avail.Storage	Storage Description
#1	425.00'	0.023 af	62.00'W x 41.00'L x 1.00'H Prismatic 0.058 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	425.00'	1.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 420.00'
#2	Primary	426.00'	62.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Discarded OutFlow Max=0.07 cfs @ 12.75 hrs HW=425.52' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=425.00' (Free Discharge)
 ↳ **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: EQUIPMENT COMPOUND



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Type III 24-hr 5-yr Rainfall=4.51"

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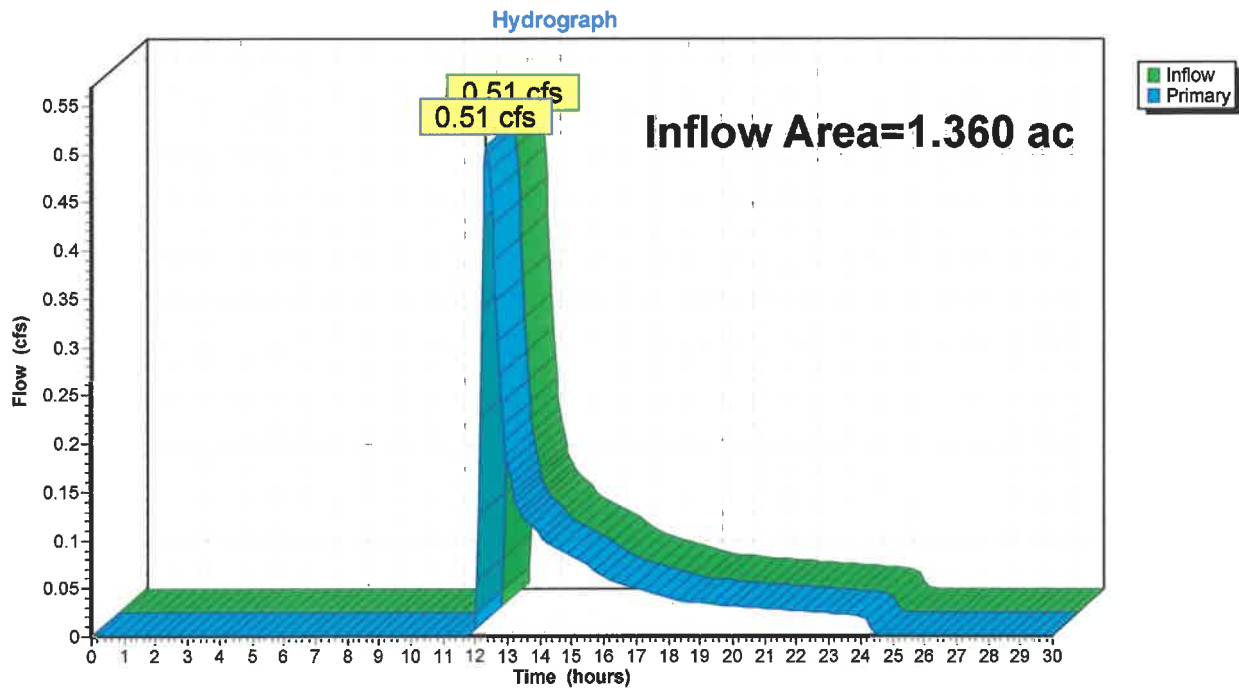
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Summary for Link 5L: AP-1

Inflow Area = 1.360 ac, 1.52% Impervious, Inflow Depth = 0.65" for 5-yr event
Inflow = 0.51 cfs @ 12.36 hrs, Volume= 0.073 af
Primary = 0.51 cfs @ 12.36 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 5L: AP-1



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Type III 24-hr 10-yr Rainfall=5.36"

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 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 PDA-1A: PDA-1A

Runoff Area=7,948 sf 11.32% Impervious Runoff Depth=3.11"
Flow Length=154' Tc=5.6 min UI Adjusted CN=79 Runoff=0.66 cfs 0.047 af

Subcatchment PDA-1B: PDA-1B

Runoff Area=51,291 sf 0.00% Impervious Runoff Depth=1.16"
Flow Length=535' Tc=19.9 min CN=55 Runoff=0.90 cfs 0.114 af

Pond 3P: EQUIPMENT COMPOUND

Peak Elev=425.76' Storage=0.018 af Inflow=0.66 cfs 0.047 af
Discarded=0.07 cfs 0.047 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.047 af

Link 5L: AP-1

Inflow=0.90 cfs 0.114 af
Primary=0.90 cfs 0.114 af

Total Runoff Area = 1.360 ac Runoff Volume = 0.162 af Average Runoff Depth = 1.43"
98.48% Pervious = 1.339 ac 1.52% Impervious = 0.021 ac

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Type III 24-hr 10-yr Rainfall=5.36"

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Summary for Subcatchment PDA-1A: PDA-1A[49] Hint: $T_c < 2dt$ may require smaller dt

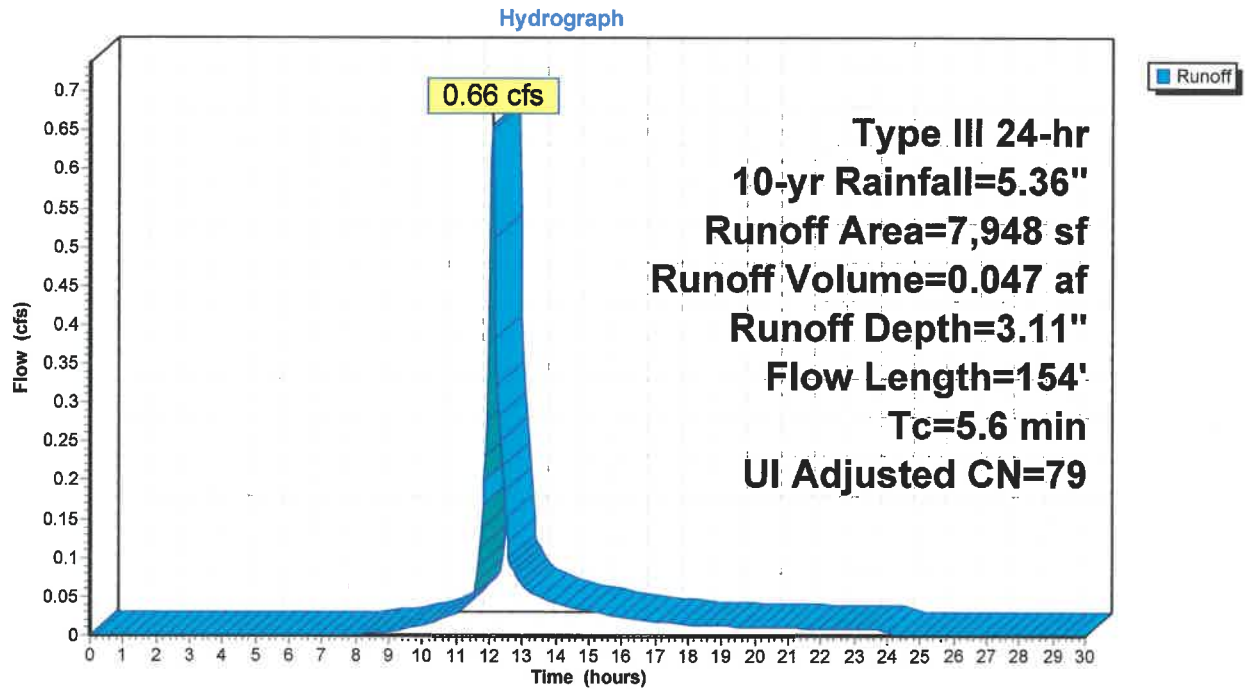
Runoff = 0.66 cfs @ 12.09 hrs, Volume= 0.047 af, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, $dt=0.05$ hrs
Type III 24-hr 10-yr Rainfall=5.36"

Area (sf)	CN	Adj	Description
5,008	85		Gravel roads, HSG B
1,547	61		>75% Grass cover, Good, HSG B
493	55		Woods, Good, HSG B
900	98		Unconnected pavement, HSG B
7,948	80	79	Weighted Average, UI Adjusted
7,048			88.68% Pervious Area
900			11.32% Impervious Area
900			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	42	0.3810	0.22		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.50"
2.0	34	0.2647	0.28		Sheet Flow, B-C
					Grass: Dense n= 0.240 P2= 3.50"
0.2	26	0.1153	2.21		Sheet Flow, C-D
					Smooth surfaces n= 0.011 P2= 3.50"
0.2	52	0.1154	5.47		Shallow Concentrated Flow, D-E
					Unpaved Kv= 16.1 fps
5.6	154	Total			

Subcatchment PDA-1A: PDA-1A



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Type III 24-hr 10-yr Rainfall=5.36"

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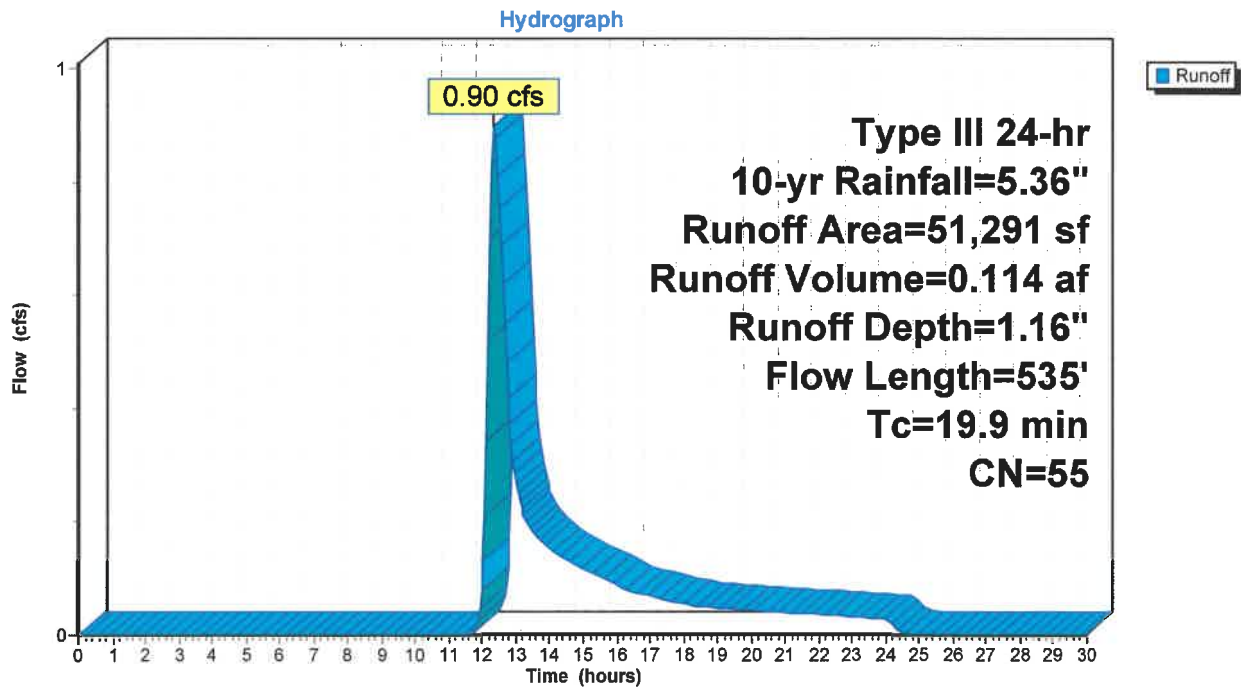
Summary for Subcatchment PDA-1B: PDA-1B

Runoff = 0.90 cfs @ 12.33 hrs, Volume= 0.114 af, Depth= 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.36"

Area (sf)	CN	Description
51,291	55	Woods, Good, HSG B
51,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		Sheet Flow, A-B Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		Shallow Concentrated Flow, B-C Forest w/Heavy Litter Kv= 2.5 fps
0.3	85	0.0800	4.24		Shallow Concentrated Flow, C-D Grassed Waterway Kv= 15.0 fps
1.9	110	0.1500	0.97		Shallow Concentrated Flow, D-E Forest w/Heavy Litter Kv= 2.5 fps
19.9	535	Total			

Subcatchment PDA-1B: PDA-1B

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Type III 24-hr 10-yr Rainfall=5.36"

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Summary for Pond 3P: EQUIPMENT COMPOUND

Inflow Area = 0.182 ac, 11.32% Impervious, Inflow Depth = 3.11" for 10-yr event
 Inflow = 0.66 cfs @ 12.09 hrs, Volume= 0.047 af
 Outflow = 0.07 cfs @ 12.96 hrs, Volume= 0.047 af, Atten= 90%, Lag= 52.2 min
 Discarded = 0.07 cfs @ 12.96 hrs, Volume= 0.047 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 425.76' @ 12.96 hrs Surf.Area= 0.058 ac Storage= 0.018 af

Plug-Flow detention time= 97.1 min calculated for 0.047 af (100% of inflow)
 Center-of-Mass det. time= 97.0 min (918.0 - 821.1)

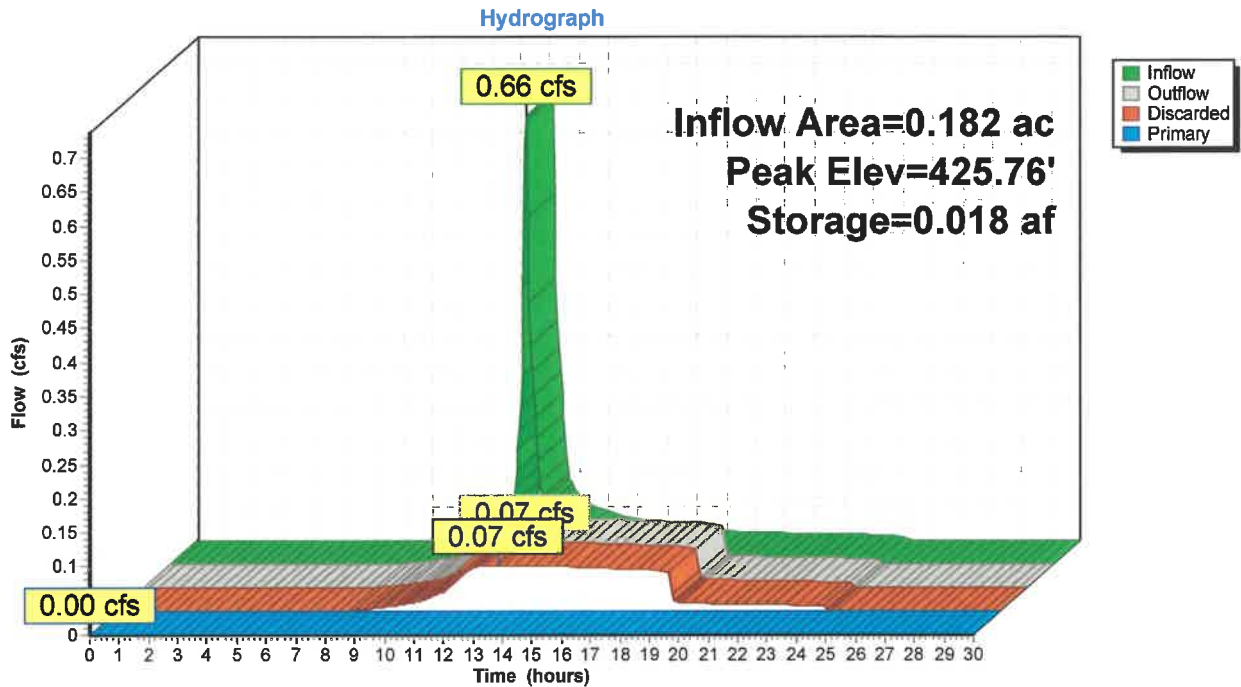
Volume	Invert	Avail.Storage	Storage Description
#1	425.00'	0.023 af	62.00'W x 41.00'L x 1.00'H Prismatic 0.058 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	425.00'	1.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 420.00'
#2	Primary	426.00'	62.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Discarded OutFlow Max=0.07 cfs @ 12.96 hrs HW=425.76' (Free Discharge)
 ↗ **1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=425.00' (Free Discharge)
 ↗ **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: EQUIPMENT COMPOUND



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Type III 24-hr 10-yr Rainfall=5.36"

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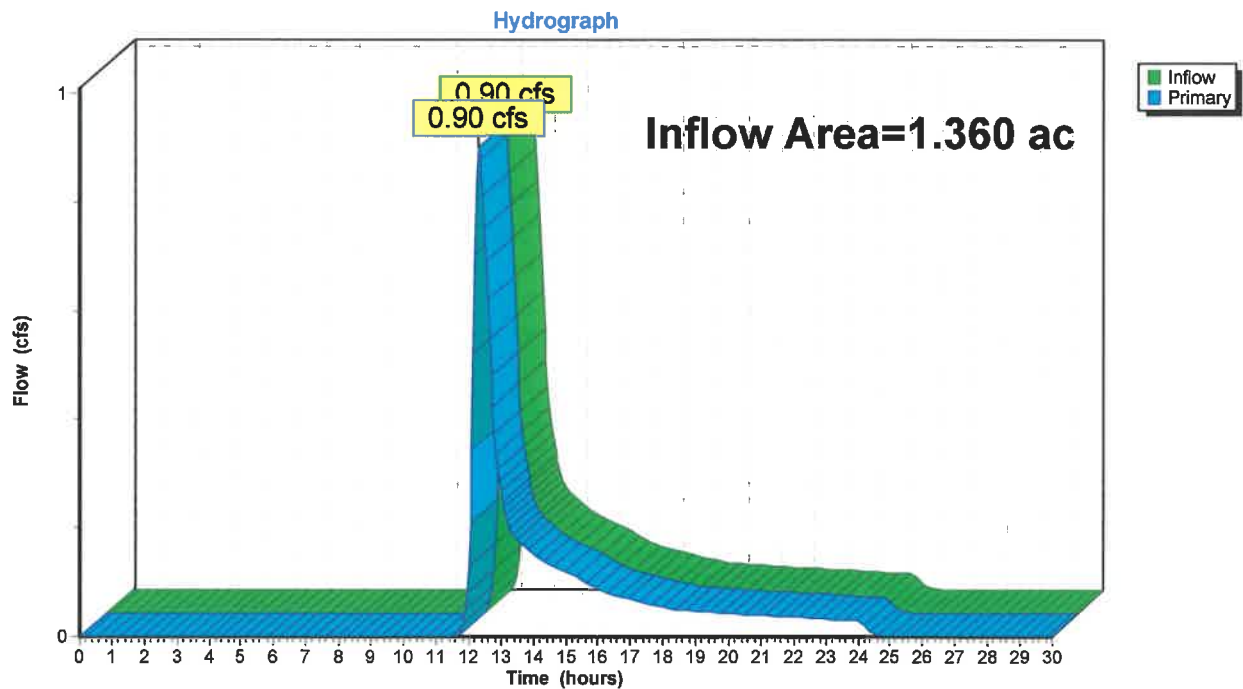
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Summary for Link 5L: AP-1

Inflow Area = 1.360 ac, 1.52% Impervious, Inflow Depth = 1.01" for 10-yr event
Inflow = 0.90 cfs @ 12.33 hrs, Volume= 0.114 af
Primary = 0.90 cfs @ 12.33 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 5L: AP-1



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Type III 24-hr 25-yr Rainfall=6.52"

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 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 PDA-1A: PDA-1A

Runoff Area=7,948 sf 11.32% Impervious Runoff Depth=4.15"
Flow Length=154' Tc=5.6 min UI Adjusted CN=79 Runoff=0.87 cfs 0.063 af

Subcatchment PDA-1B: PDA-1B

Runoff Area=51,291 sf 0.00% Impervious Runoff Depth=1.83"
Flow Length=535' Tc=19.9 min CN=55 Runoff=1.54 cfs 0.179 af

Pond 3P: EQUIPMENT COMPOUND

Peak Elev=426.01' Storage=0.023 af Inflow=0.87 cfs 0.063 af
Discarded=0.07 cfs 0.060 af Primary=0.23 cfs 0.003 af Outflow=0.30 cfs 0.063 af

Link 5L: AP-1

Inflow=1.54 cfs 0.182 af
Primary=1.54 cfs 0.182 af

Total Runoff Area = 1.360 ac Runoff Volume = 0.242 af Average Runoff Depth = 2.14"
98.48% Pervious = 1.339 ac 1.52% Impervious = 0.021 ac

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Type III 24-hr 25-yr Rainfall=6.52"

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Summary for Subcatchment PDA-1A: PDA-1A[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.87 cfs @ 12.09 hrs, Volume= 0.063 af, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, $dt=0.05$ hrs
Type III 24-hr 25-yr Rainfall=6.52"

Area (sf)	CN	Adj	Description
5,008	85		Gravel roads, HSG B
1,547	61		>75% Grass cover, Good, HSG B
493	55		Woods, Good, HSG B
900	98		Unconnected pavement, HSG B
7,948	80	79	Weighted Average, UI Adjusted
7,048			88.68% Pervious Area
900			11.32% Impervious Area
900			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	42	0.3810	0.22		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.50"
2.0	34	0.2647	0.28		Sheet Flow, B-C
					Grass: Dense n= 0.240 P2= 3.50"
0.2	26	0.1153	2.21		Sheet Flow, C-D
					Smooth surfaces n= 0.011 P2= 3.50"
0.2	52	0.1154	5.47		Shallow Concentrated Flow, D-E
					Unpaved Kv= 16.1 fps
5.6	154	Total			

Mount Kisco

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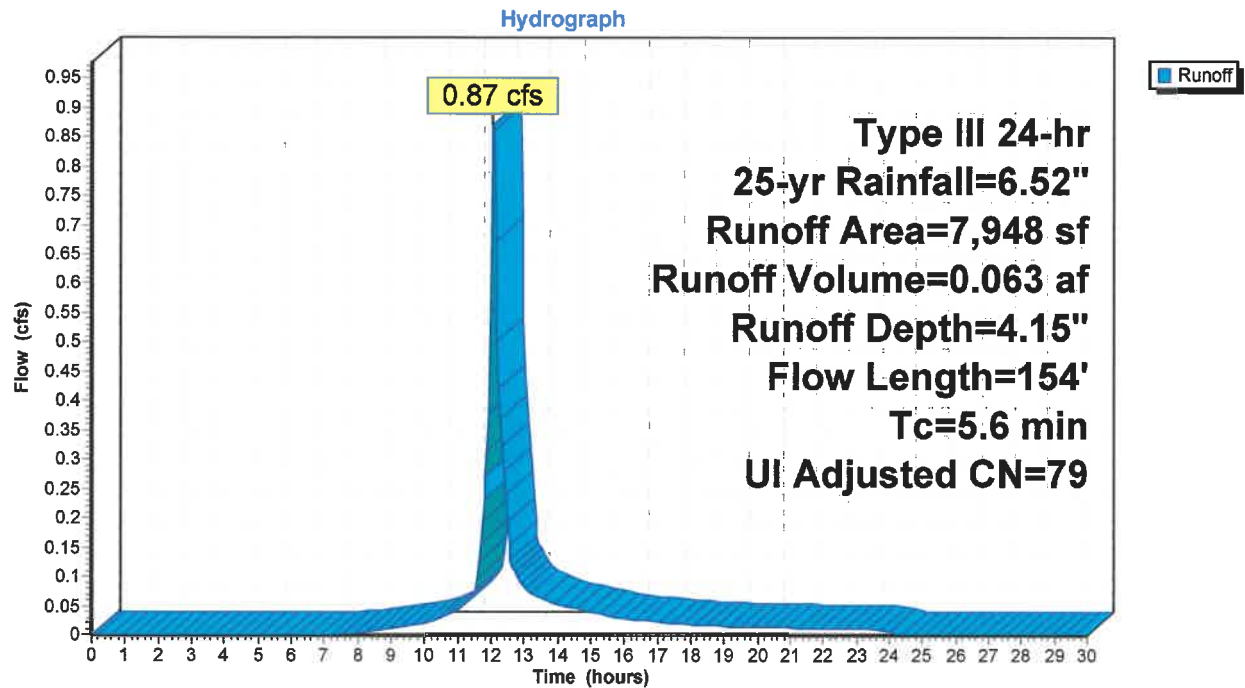
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Type III 24-hr 25-yr Rainfall=6.52"

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Subcatchment PDA-1A: PDA-1A



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Type III 24-hr 25-yr Rainfall=6.52"

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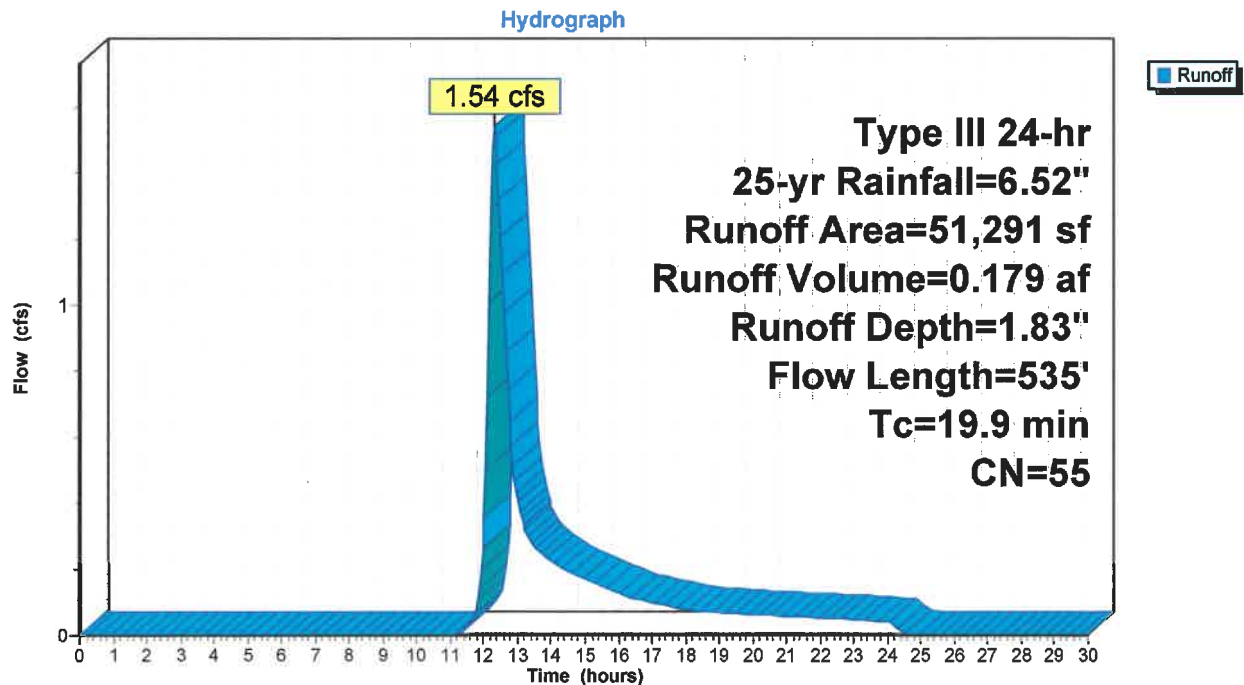
Summary for Subcatchment PDA-1B: PDA-1B

Runoff = 1.54 cfs @ 12.31 hrs, Volume= 0.179 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.52"

Area (sf)	CN	Description
51,291	55	Woods, Good, HSG B
51,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		Sheet Flow, A-B Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		Shallow Concentrated Flow, B-C Forest w/Heavy Litter Kv= 2.5 fps
0.3	85	0.0800	4.24		Shallow Concentrated Flow, C-D Grassed Waterway Kv= 15.0 fps
1.9	110	0.1500	0.97		Shallow Concentrated Flow, D-E Forest w/Heavy Litter Kv= 2.5 fps
19.9	535	Total			

Subcatchment PDA-1B: PDA-1B

Summary for Pond 3P: EQUIPMENT COMPOUND

[93] Warning: Storage range exceeded by 0.01'

[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=5)

Inflow Area = 0.182 ac, 11.32% Impervious, Inflow Depth = 4.15" for 25-yr event
 Inflow = 0.87 cfs @ 12.09 hrs, Volume= 0.063 af
 Outflow = 0.30 cfs @ 12.50 hrs, Volume= 0.063 af, Atten= 65%, Lag= 24.6 min
 Discarded = 0.07 cfs @ 12.49 hrs, Volume= 0.060 af
 Primary = 0.23 cfs @ 12.50 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Peak Elev= 426.01' @ 12.49 hrs Surf.Area= 0.058 ac Storage= 0.023 af

Plug-Flow detention time= 125.4 min calculated for 0.063 af (100% of inflow)
 Center-of-Mass det. time= 125.2 min (938.1 - 812.9)

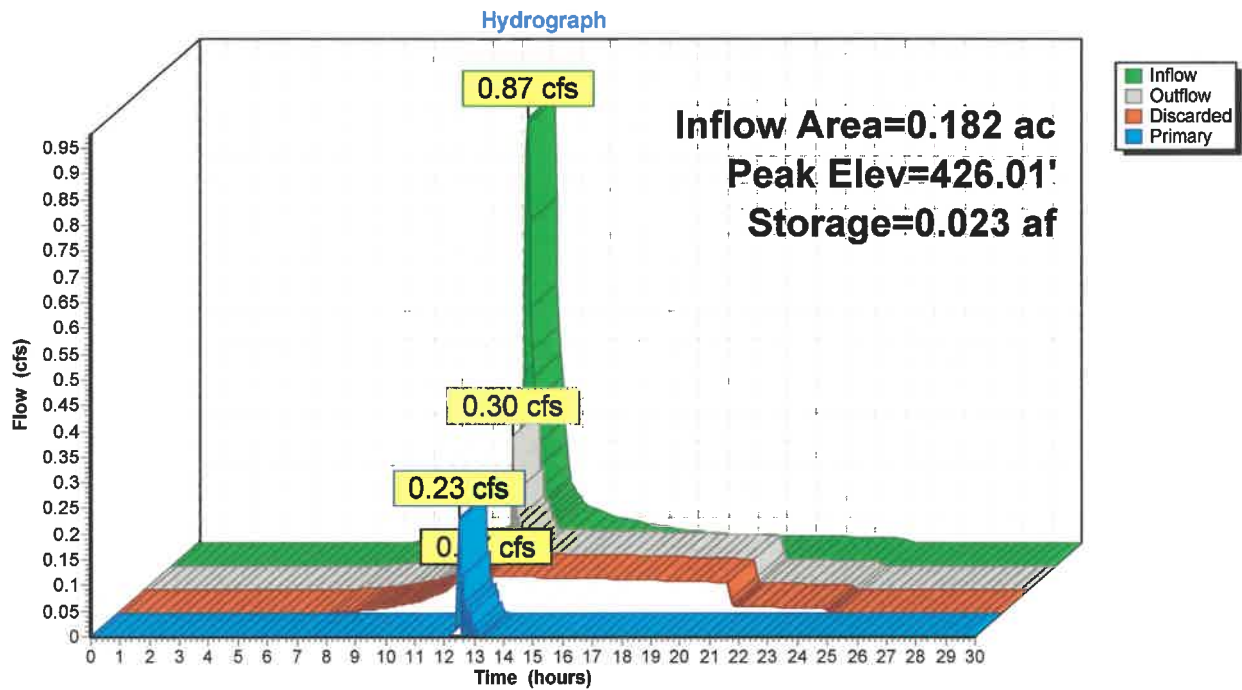
Volume	Invert	Avail.Storage	Storage Description
#1	425.00'	0.023 af	62.00'W x 41.00'L x 1.00'H Prismatic 0.058 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	425.00'	1.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 420.00'
#2	Primary	426.00'	62.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Discarded OutFlow Max=0.07 cfs @ 12.49 hrs HW=426.01' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.21 cfs @ 12.50 hrs HW=426.01' (Free Discharge)
 ↳ **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.21 cfs @ 0.33 fps)

Pond 3P: EQUIPMENT COMPOUND



Mount Kisco

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Type III 24-hr 25-yr Rainfall=6.52"

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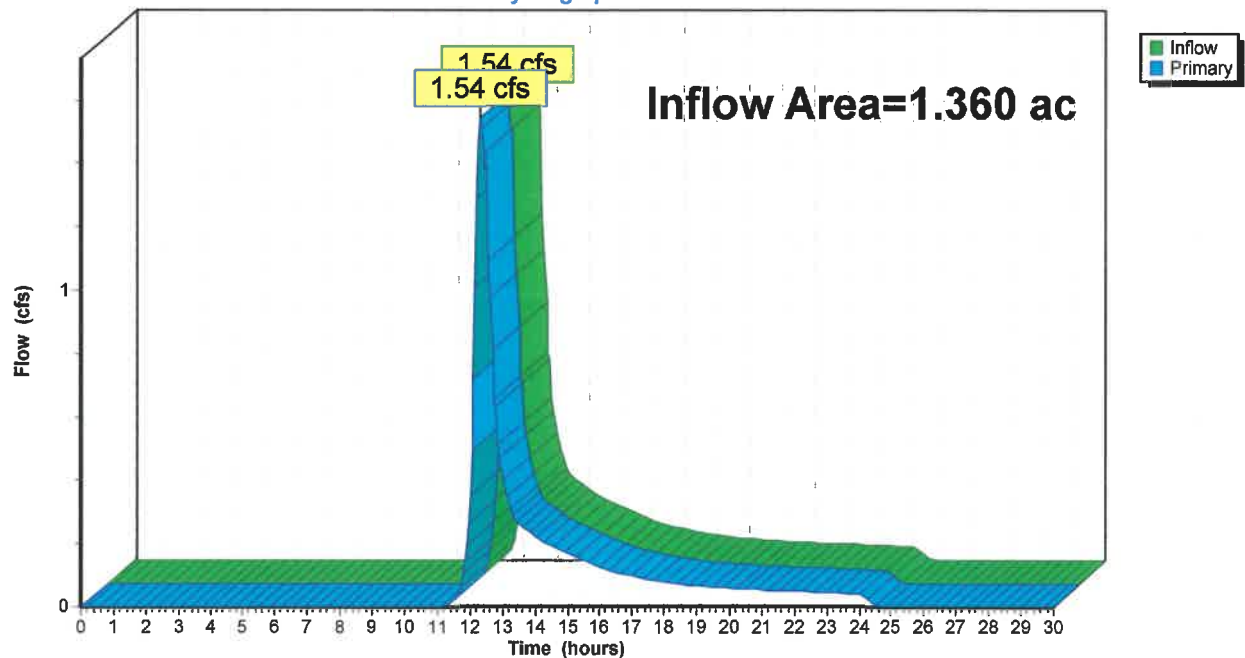
Summary for Link 5L: AP-1

Inflow Area = 1.360 ac, 1.52% Impervious, Inflow Depth = 1.60" for 25-yr event
Inflow = 1.54 cfs @ 12.31 hrs, Volume= 0.182 af
Primary = 1.54 cfs @ 12.31 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 5L: AP-1

Hydrograph



APPENDIX D: NOAA ATLAS 14 PRECIPITATION FREQUENCY TABLE



NOAA Atlas 14, Volume 10, Version 3
Location name: Mount Kisco, New York, USA*
Latitude: 41.1981°, Longitude: -73.7128°
Elevation: 509.72 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orian Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerals](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.357 (0.280-0.446)	0.417 (0.327-0.522)	0.515 (0.402-0.647)	0.596 (0.463-0.752)	0.708 (0.531-0.926)	0.793 (0.583-1.06)	0.881 (0.625-1.21)	0.975 (0.659-1.37)	1.10 (0.717-1.60)	1.21 (0.764-1.78)
10-min	0.505 (0.397-0.632)	0.590 (0.463-0.739)	0.729 (0.570-0.916)	0.844 (0.656-1.07)	1.00 (0.753-1.31)	1.12 (0.825-1.50)	1.25 (0.886-1.71)	1.38 (0.933-1.94)	1.57 (1.02-2.27)	1.71 (1.08-2.53)
15-min	0.594 (0.467-0.744)	0.694 (0.545-0.870)	0.858 (0.671-1.08)	0.993 (0.772-1.25)	1.18 (0.886-1.54)	1.32 (0.971-1.76)	1.47 (1.04-2.01)	1.62 (1.10-2.29)	1.84 (1.20-2.67)	2.01 (1.27-2.97)
30-min	0.840 (0.660-1.05)	0.980 (0.769-1.23)	1.21 (0.945-1.52)	1.40 (1.09-1.77)	1.66 (1.25-2.17)	1.86 (1.37-2.48)	2.07 (1.46-2.83)	2.28 (1.54-3.20)	2.56 (1.67-3.72)	2.78 (1.76-4.12)
60-min	1.09 (0.853-1.36)	1.27 (0.993-1.59)	1.56 (1.22-1.96)	1.81 (1.40-2.28)	2.14 (1.61-2.80)	2.40 (1.76-3.19)	2.66 (1.88-3.64)	2.93 (1.98-4.12)	3.29 (2.13-4.77)	3.56 (2.25-5.26)
2-hr	1.42 (1.13-1.77)	1.65 (1.31-2.06)	2.03 (1.60-2.54)	2.34 (1.83-2.94)	2.77 (2.09-3.60)	3.10 (2.29-4.10)	3.44 (2.44-4.67)	3.78 (2.57-5.29)	4.25 (2.77-6.13)	4.62 (2.93-6.78)
3-hr	1.64 (1.30-2.04)	1.91 (1.52-2.37)	2.36 (1.86-2.93)	2.72 (2.13-3.40)	3.22 (2.44-4.17)	3.61 (2.67-4.75)	4.00 (2.86-5.42)	4.41 (3.00-6.14)	4.99 (3.26-7.16)	5.43 (3.46-7.95)
6-hr	2.05 (1.64-2.52)	2.41 (1.92-2.97)	3.00 (2.39-3.71)	3.50 (2.76-4.34)	4.17 (3.18-5.37)	4.68 (3.49-6.14)	5.21 (3.76-7.06)	5.80 (3.96-8.02)	6.64 (4.34-9.47)	7.31 (4.67-10.6)
12-hr	2.48 (1.99-3.03)	2.97 (2.38-3.63)	3.77 (3.01-4.62)	4.43 (3.52-5.46)	5.34 (4.10-6.86)	6.03 (4.53-7.89)	6.75 (4.91-9.14)	7.58 (5.19-10.4)	8.81 (5.78-12.5)	9.82 (6.29-14.2)
24-hr	2.88 (2.33-3.49)	3.50 (2.83-4.25)	4.51 (3.63-5.50)	5.36 (4.28-6.56)	6.52 (5.04-8.32)	7.38 (5.58-9.62)	8.30 (6.10-11.2)	9.40 (6.46-12.8)	11.0 (7.27-15.6)	12.4 (7.98-17.8)
2-day	3.24 (2.64-3.91)	3.98 (3.23-4.80)	5.17 (4.19-6.26)	6.17 (4.96-7.50)	7.53 (5.86-9.57)	8.55 (6.51-11.1)	9.64 (7.13-13.0)	11.0 (7.56-14.9)	13.0 (8.56-18.1)	14.7 (9.45-20.9)
3-day	3.52 (2.88-4.23)	4.31 (3.52-5.18)	5.61 (4.56-6.76)	6.69 (5.40-8.10)	8.17 (6.38-10.3)	9.26 (7.08-12.0)	10.4 (7.75-14.0)	11.9 (8.21-16.1)	14.1 (9.30-19.6)	15.9 (10.3-22.6)
4-day	3.77 (3.09-4.52)	4.61 (3.77-5.52)	5.97 (4.87-7.18)	7.11 (5.76-8.58)	8.66 (6.78-10.9)	9.82 (7.52-12.6)	11.1 (8.22-14.8)	12.6 (8.70-17.0)	14.9 (9.84-20.6)	16.8 (10.9-23.8)
7-day	4.48 (3.69-5.33)	5.39 (4.44-6.43)	6.89 (5.65-8.23)	8.13 (6.62-9.76)	9.83 (7.73-12.3)	11.1 (8.53-14.2)	12.5 (9.27-16.5)	14.1 (9.78-18.9)	16.5 (11.0-22.8)	18.5 (12.0-26.1)
10-day	5.17 (4.28-6.13)	6.13 (5.07-7.28)	7.71 (6.35-9.19)	9.02 (7.38-10.8)	10.8 (8.53-13.5)	12.2 (9.37-15.5)	13.6 (10.1-17.9)	15.3 (10.6-20.4)	17.7 (11.8-24.4)	19.8 (12.8-27.7)
20-day	7.29 (6.07-8.59)	8.38 (6.97-9.88)	10.2 (8.41-12.0)	11.6 (9.56-13.8)	13.7 (10.8-16.8)	15.2 (11.7-19.0)	16.8 (12.4-21.7)	18.5 (13.0-24.5)	20.8 (14.0-28.5)	22.7 (14.8-31.6)
30-day	9.09 (7.60-10.7)	10.3 (8.57-12.1)	12.2 (10.1-14.4)	13.8 (11.4-16.3)	16.0 (12.7-19.5)	17.7 (13.6-22.0)	19.4 (14.3-24.8)	21.1 (14.8-27.8)	23.4 (15.7-31.8)	25.2 (16.4-34.9)
45-day	11.3 (9.53-13.3)	12.6 (10.6-14.8)	14.7 (12.3-17.3)	16.5 (13.7-19.4)	18.9 (15.0-23.0)	20.8 (16.1-25.7)	22.6 (16.7-28.7)	24.4 (17.2-32.0)	26.7 (18.0-36.1)	28.4 (18.5-39.2)
60-day	13.3 (11.2-15.4)	14.6 (12.3-17.1)	16.9 (14.2-19.8)	18.8 (15.6-22.1)	21.4 (17.0-25.9)	23.4 (18.1-28.8)	25.4 (18.8-32.0)	27.3 (19.3-35.6)	29.6 (20.0-39.9)	31.2 (20.4-43.0)

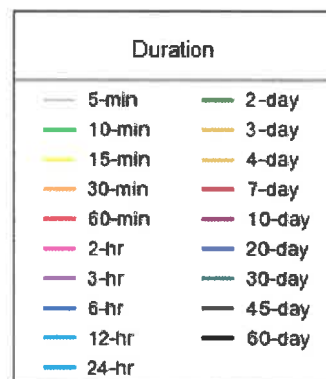
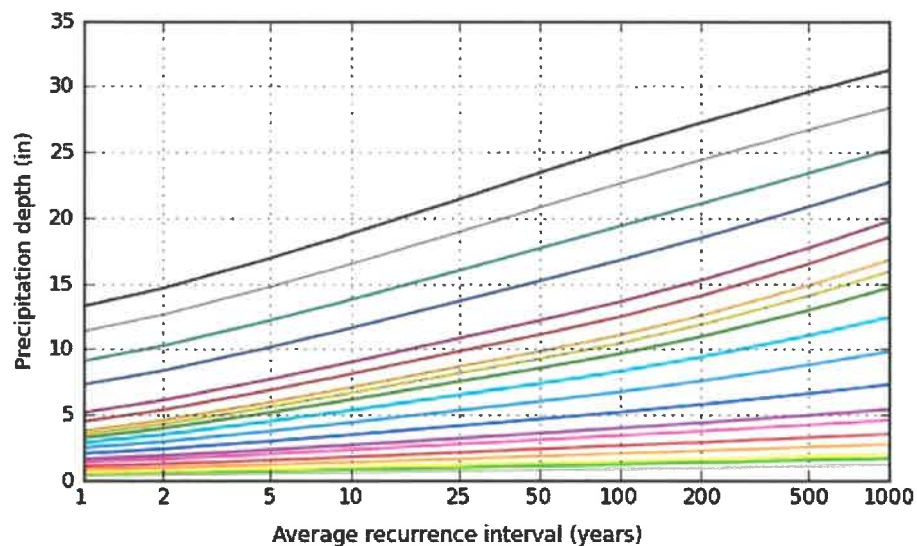
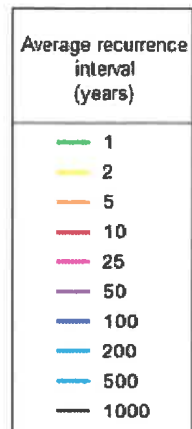
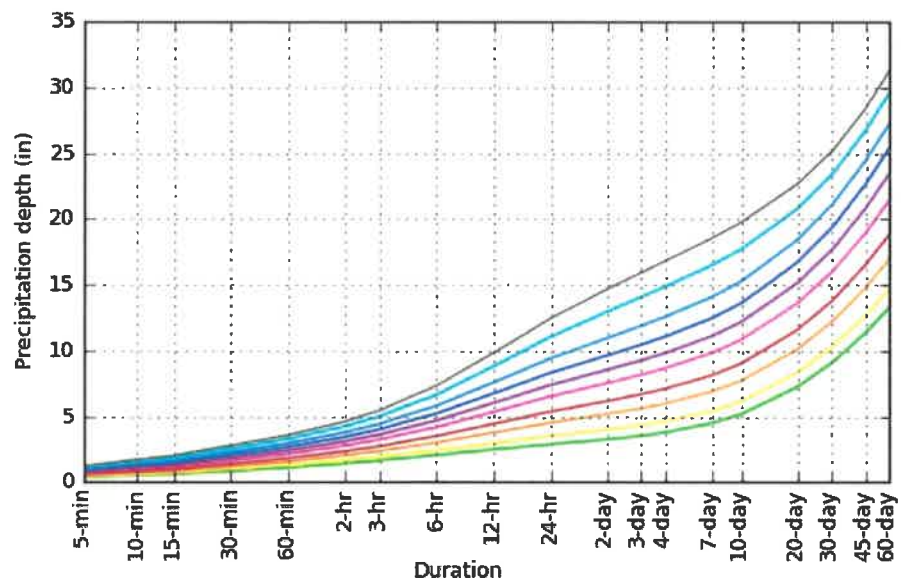
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves

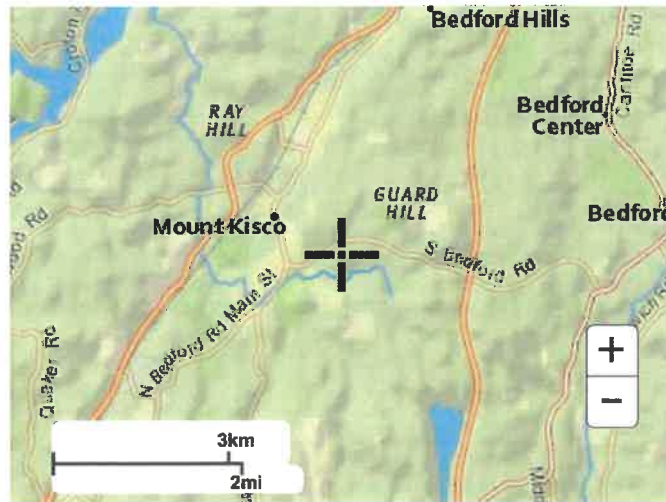
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NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Mon Sep 14 16:18:54 2020

[Back to Top](#)**Maps & arials****Small scale terrain**



Large scale terrain



Large scale map



Large scale aerial



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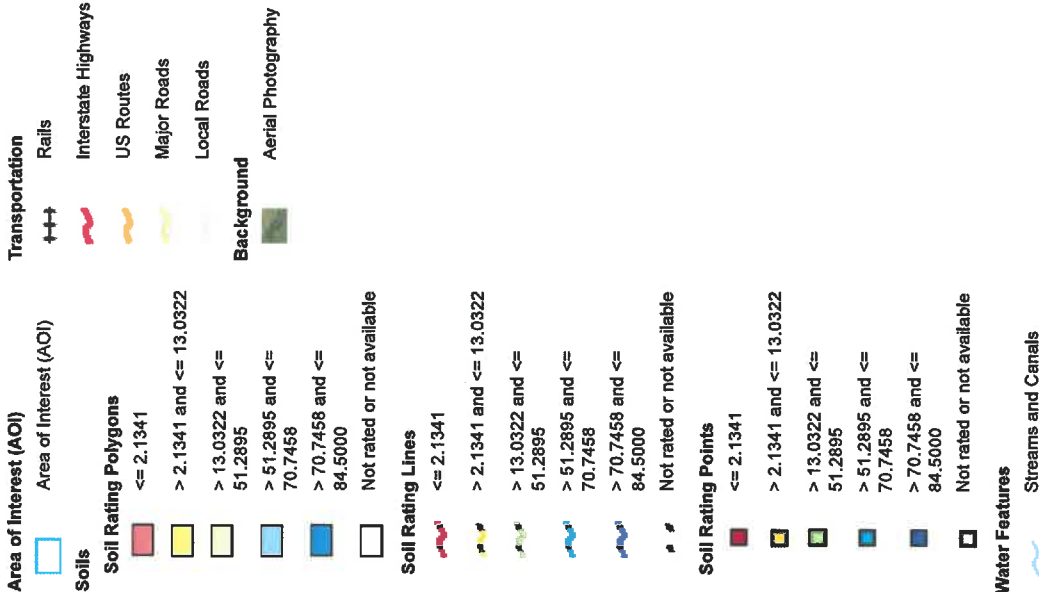
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APPENDIX E: NRCS SATURATED HYDRAULIC CONDUCTIVITY

Saturated Hydraulic Conductivity (Ksat)—Westchester County, New York
(Mount Kisco)



MAP LEGEND



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 16, Jun 11, 2020

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 16, 2017

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

Saturated Hydraulic Conductivity (Ksat)

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	10.0000	15.5	16.5%
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	10.0000	2.5	2.7%
ChD	Charlton fine sandy loam, 15 to 25 percent slopes	10.0000	0.1	0.1%
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	12.1818	25.3	27.0%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	10.1993	30.1	32.2%
CuD	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	10.1993	3.2	3.4%
Ff	Fluvaquents-Udifuvents complex, frequently flooded	70.7458	7.7	8.2%
HrF	Hollis-Rock outcrop complex, 35 to 60 percent slopes	13.0322	1.9	2.0%
LcA	Leicester loam, 0 to 3 percent slopes, stony	51.2895	2.5	2.6%
LcB	Leicester loam, 3 to 8 percent slopes, stony	51.2895	1.2	1.2%
RhA	Riverhead loam, 0 to 3 percent slopes	84.5000	0.6	0.6%
Sh	Sun loam	2.1341	1.7	1.8%
SuB	Sutton loam, 3 to 8 percent slopes	10.0000	1.3	1.4%
W	Water		0.3	0.3%
Totals for Area of Interest			93.7	100.0%

Description

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

Rating Options

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

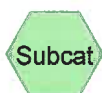
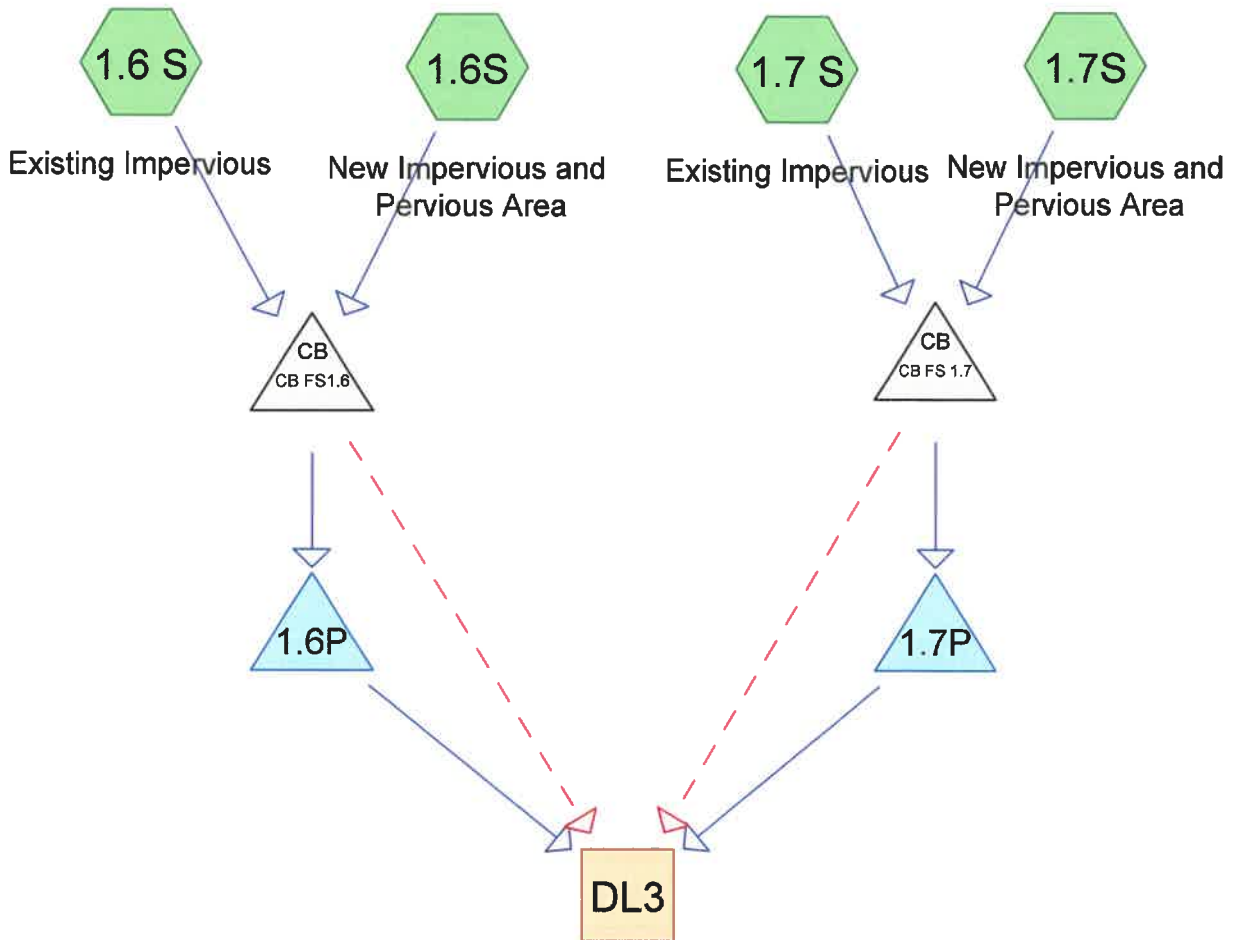
Tie-break Rule: Fastest

Interpret Nulls as Zero: No

Layer Options (Horizon Aggregation Method): All Layers (Weighted Average)

200

APPENDIX F: PROPOSED DRIVEWAY DRAINAGE HYDROLOGIC COMPUTATION (HYDROCAD)



Subcat



Reach



Pond



Link

Routing Diagram for Mount Kisco - Driveway Drainage
 Prepared by APT ENGINEERING, Printed 1/20/2021
 HydroCAD® 10.00-22 s/n 07402 © 2018 HydroCAD Software Solutions LLC

Mount Kisco - Driveway Drainage

Prepared by APT ENGINEERING

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Type III 24-hr 1-yr Rainfall=2.88"

Printed 1/20/2021

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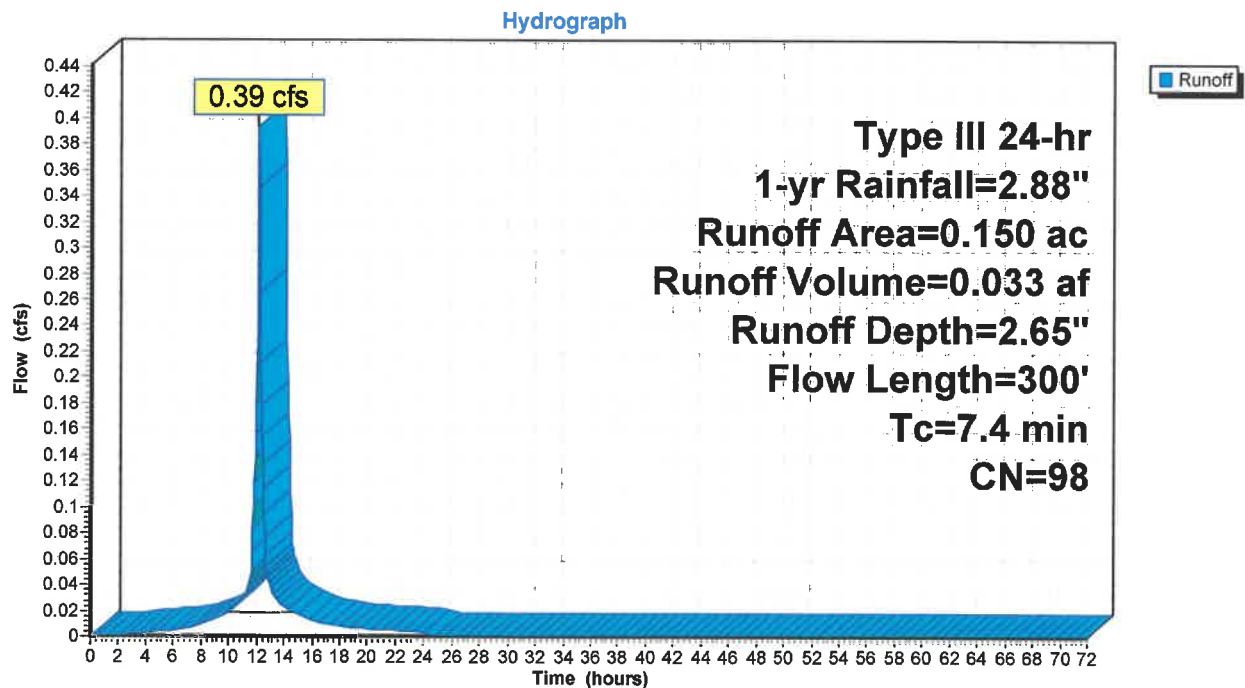
Summary for Subcatchment 1.6 S: Existing Impervious

Runoff = 0.39 cfs @ 12.10 hrs, Volume= 0.033 af, Depth= 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-yr Rainfall=2.88"

Area (ac)	CN	Description
0.150	98	Paved parking, HSG B
0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	300	Total			

Subcatchment 1.6 S: Existing Impervious

Mount Kisco - Driveway Drainage

Type III 24-hr 1-yr Rainfall=2.88"

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Summary for Subcatchment 1.6S: New Impervious and Pervious Area

Runoff = 0.11 cfs @ 12.16 hrs, Volume= 0.014 af, Depth= 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-yr Rainfall=2.88"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	55	Woods, Good, HSG B
0.250	61	>75% Grass cover, Good, HSG B
0.450	63	Weighted Average
0.400		88.89% Pervious Area
0.050		11.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	300	Total			

Mount Kisco - Driveway Drainage

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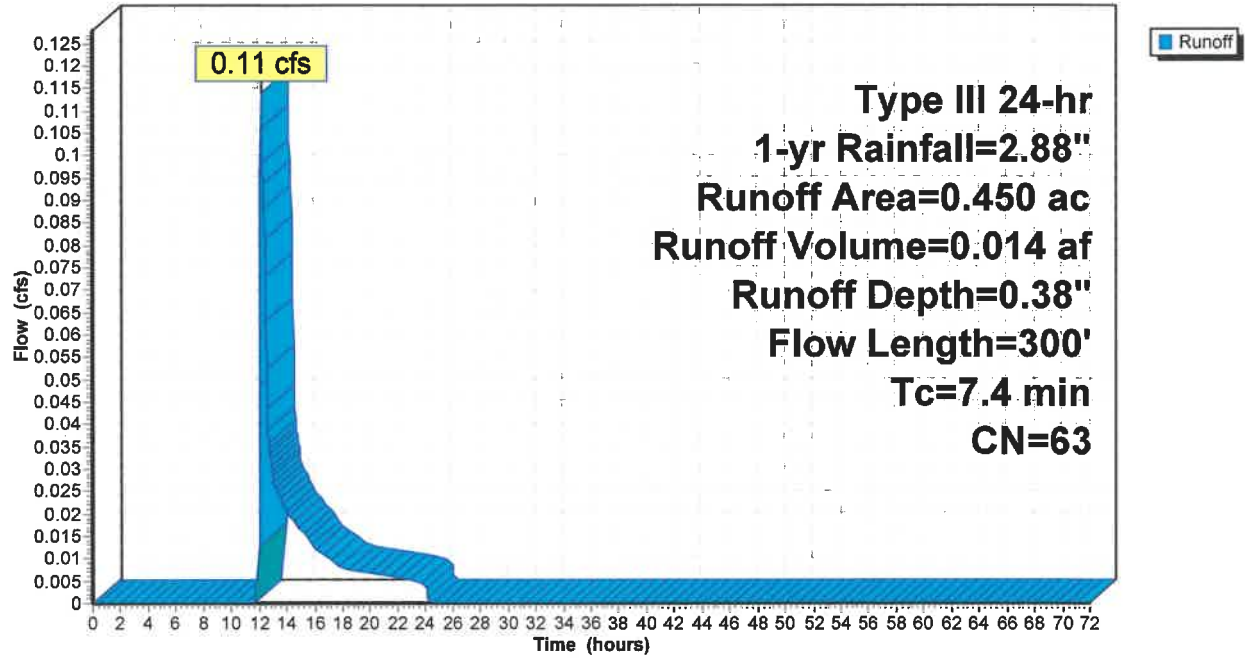
Type III 24-hr 1-yr Rainfall=2.88"

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Subcatchment 1.6S: New Impervious and Pervious Area

Hydrograph



Mount Kisco - Driveway Drainage

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Type III 24-hr 1-yr Rainfall=2.88"

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Summary for Subcatchment 1.7 S: Existing Impervious

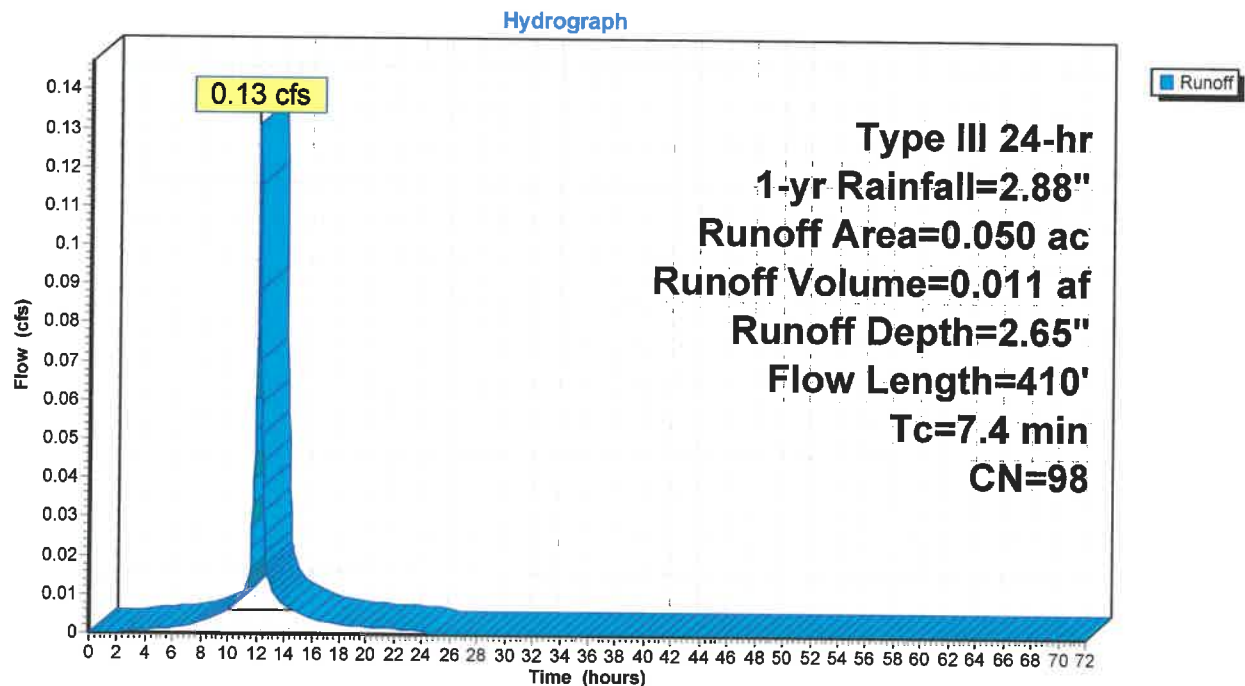
Runoff = 0.13 cfs @ 12.10 hrs, Volume= 0.011 af, Depth= 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-yr Rainfall=2.88"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7 S: Existing Impervious



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Type III 24-hr 1-yr Rainfall=2.88"

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Summary for Subcatchment 1.7S: New Impervious and Pervious Area

Runoff = 0.12 cfs @ 12.15 hrs, Volume= 0.013 af, Depth= 0.45"

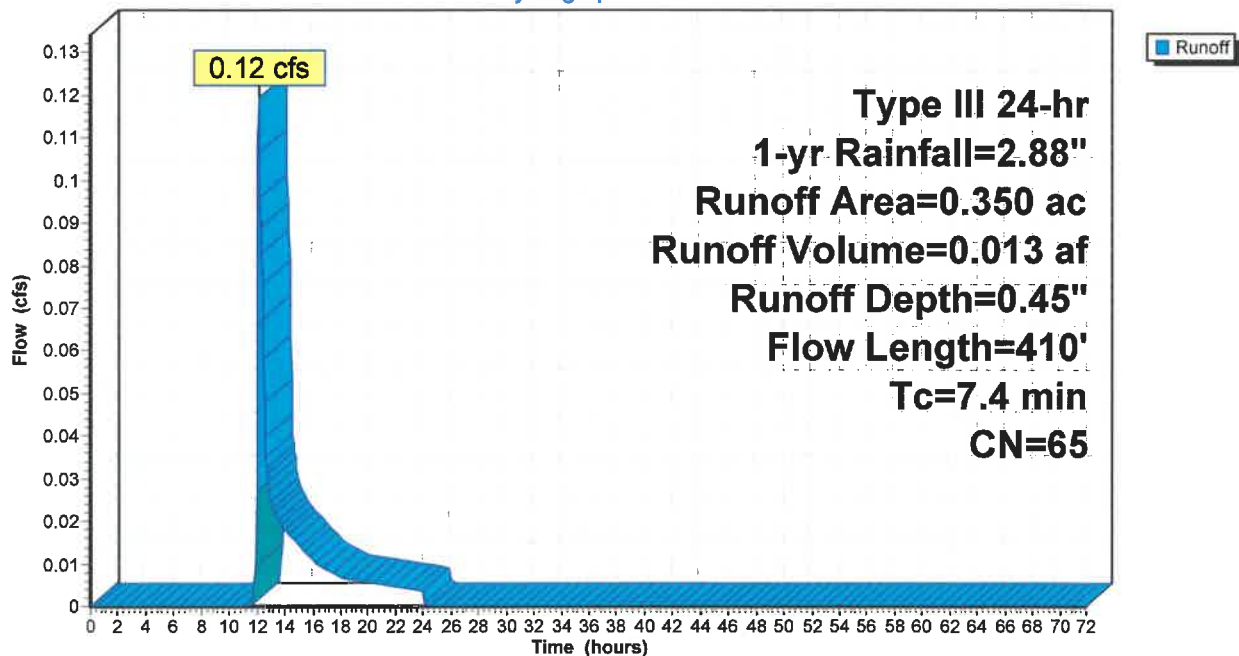
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-yr Rainfall=2.88"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	61	>75% Grass cover, Good, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.350	65	Weighted Average
0.300		85.71% Pervious Area
0.050		14.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7S: New Impervious and Pervious Area

Hydrograph



Mount Kisco - Driveway Drainage

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Type III 24-hr 1-yr Rainfall=2.88"

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Summary for Reach DL3:

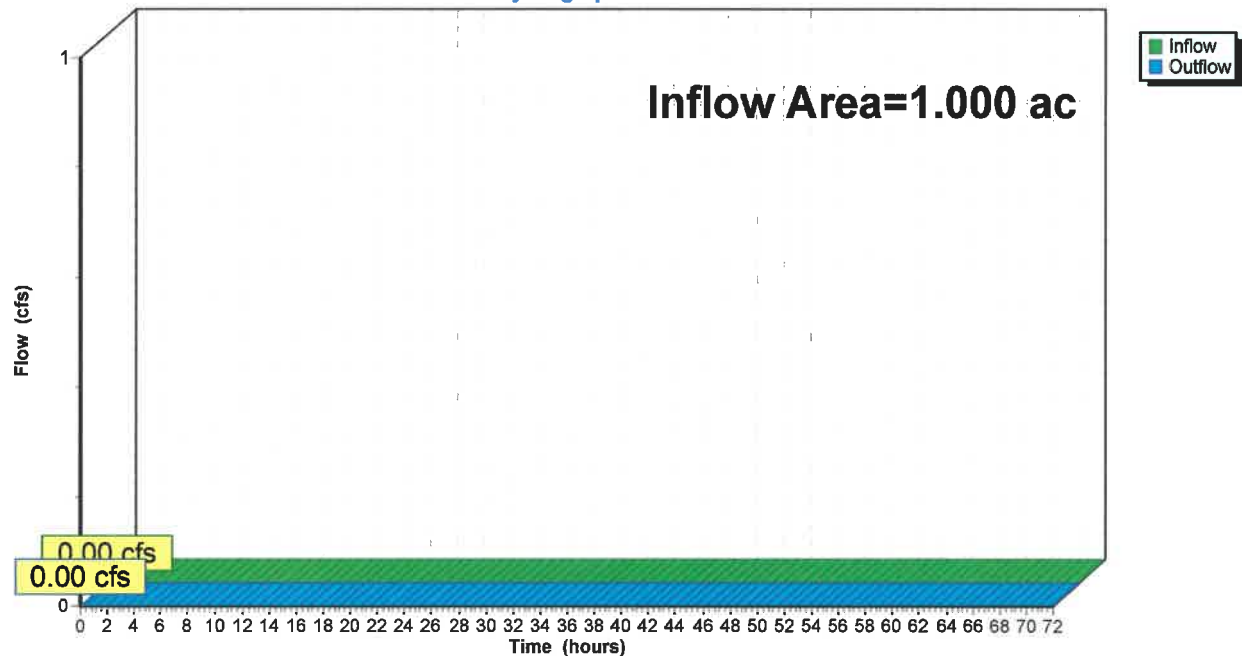
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.000 ac, 30.00% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DL3:

Hydrograph



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Type III 24-hr 1-yr Rainfall=2.88"

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Summary for Pond 1.6P:

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 0.95" for 1-yr event
 Inflow = 0.50 cfs @ 12.11 hrs, Volume= 0.048 af
 Outflow = 0.31 cfs @ 12.05 hrs, Volume= 0.048 af, Atten= 38%, Lag= 0.0 min
 Discarded = 0.31 cfs @ 12.05 hrs, Volume= 0.048 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 418.22' @ 12.26 hrs Surf.Area= 0.013 ac Storage= 0.002 af

Plug-Flow detention time= 1.4 min calculated for 0.047 af (100% of inflow)
 Center-of-Mass det. time= 1.4 min (809.5 - 808.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	417.80'	0.013 af	11.00'W x 52.29'L x 3.50'H Field A 0.046 af Overall - 0.015 af Embedded = 0.031 af x 40.0% Voids
#2A	418.30'	0.015 af	ADS_StormTech SC-740 +Cap x 14 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 7 Chambers
		0.027 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	417.80'	23.000 in/hr Exfiltration over Horizontal area Phase-In= 0.05'
#2	Primary	420.30'	6.0" Round 6.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.30' / 419.80' S= 0.0100 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.31 cfs @ 12.05 hrs HW=417.88' (Free Discharge)↳ **1=Exfiltration** (Exfiltration Controls 0.31 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=417.80' (Free Discharge)↳ **2=6.0" Round Culvert** (Controls 0.00 cfs)

Mount Kisco - Driveway Drainage

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Type III 24-hr 1-yr Rainfall=2.88"

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Pond 1.6P: - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +5.0" End Stone x 2 = 52.29' Base Length

2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

14 Chambers x 45.9 cf = 643.2 cf Chamber Storage

2,013.2 cf Field - 643.2 cf Chambers = 1,370.0 cf Stone x 40.0% Voids = 548.0 cf Stone Storage

Chamber Storage + Stone Storage = 1,191.2 cf = 0.027 af

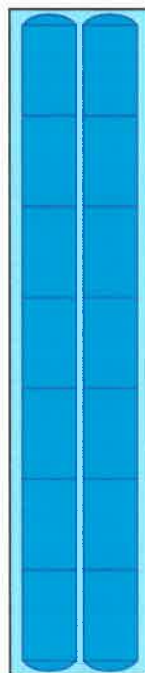
Overall Storage Efficiency = 59.2%

Overall System Size = 52.29' x 11.00' x 3.50'

14 Chambers

74.6 cy Field

50.7 cy Stone



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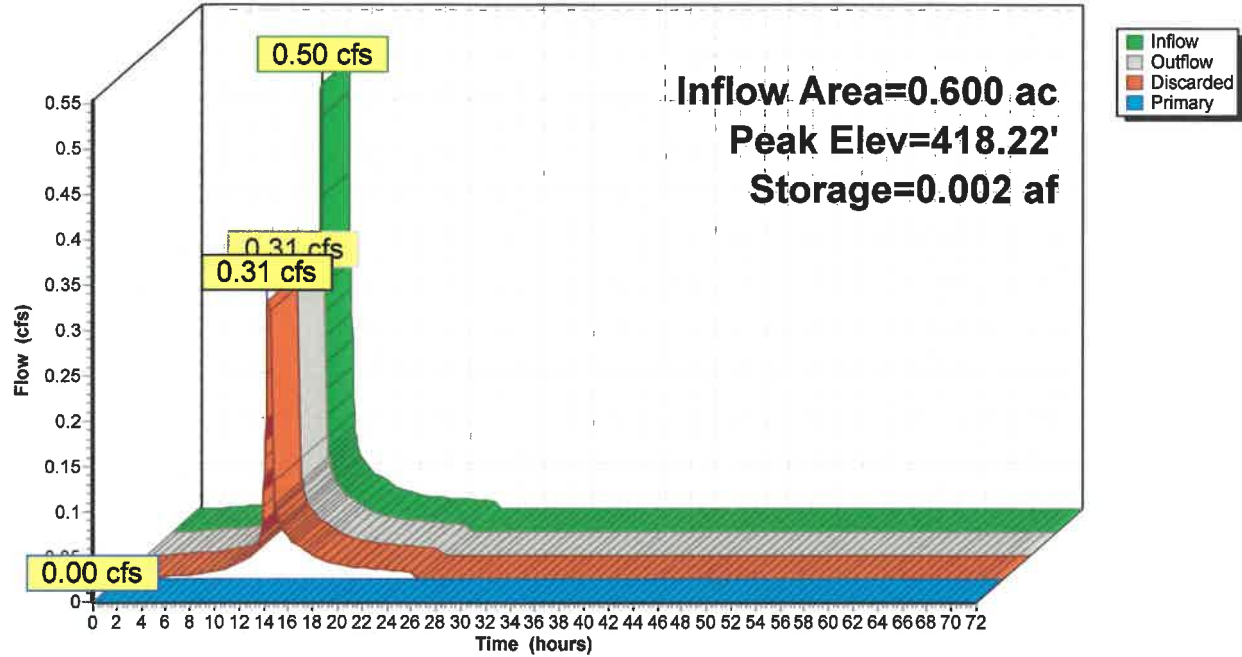
Type III 24-hr 1-yr Rainfall=2.88"

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Pond 1.6P:

Hydrograph



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Type III 24-hr 1-yr Rainfall=2.88"

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Stage-Area-Storage for Pond 1.6P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)	Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
417.80	0.013	0.000	420.45	0.013	0.023
417.85	0.013	0.000	420.50	0.013	0.023
417.90	0.013	0.001	420.55	0.013	0.023
417.95	0.013	0.001	420.60	0.013	0.024
418.00	0.013	0.001	420.65	0.013	0.024
418.05	0.013	0.001	420.70	0.013	0.024
418.10	0.013	0.002	420.75	0.013	0.024
418.15	0.013	0.002	420.80	0.013	0.025
418.20	0.013	0.002	420.85	0.013	0.025
418.25	0.013	0.002	420.90	0.013	0.025
418.30	0.013	0.003	420.95	0.013	0.025
418.35	0.013	0.003	421.00	0.013	0.026
418.40	0.013	0.004	421.05	0.013	0.026
418.45	0.013	0.004	421.10	0.013	0.026
418.50	0.013	0.005	421.15	0.013	0.027
418.55	0.013	0.005	421.20	0.013	0.027
418.60	0.013	0.006	421.25	0.013	0.027
418.65	0.013	0.006	421.30	0.013	0.027
418.70	0.013	0.007			
418.75	0.013	0.007			
418.80	0.013	0.008			
418.85	0.013	0.008			
418.90	0.013	0.009			
418.95	0.013	0.009			
419.00	0.013	0.010			
419.05	0.013	0.010			
419.10	0.013	0.011			
419.15	0.013	0.011			
419.20	0.013	0.012			
419.25	0.013	0.012			
419.30	0.013	0.013			
419.35	0.013	0.013			
419.40	0.013	0.014			
419.45	0.013	0.014			
419.50	0.013	0.015			
419.55	0.013	0.015			
419.60	0.013	0.016			
419.65	0.013	0.016			
419.70	0.013	0.016			
419.75	0.013	0.017			
419.80	0.013	0.017			
419.85	0.013	0.018			
419.90	0.013	0.018			
419.95	0.013	0.019			
420.00	0.013	0.019			
420.05	0.013	0.020			
420.10	0.013	0.020			
420.15	0.013	0.020			
420.20	0.013	0.021			
420.25	0.013	0.021			
420.30	0.013	0.022			
420.35	0.013	0.022			
420.40	0.013	0.022			

Mount Kisco - Driveway Drainage

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Type III 24-hr 1-yr Rainfall=2.88"

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Summary for Pond 1.7P:

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 0.73" for 1-yr event
 Inflow = 0.25 cfs @ 12.12 hrs, Volume= 0.024 af
 Outflow = 0.05 cfs @ 11.95 hrs, Volume= 0.024 af, Atten= 80%, Lag= 0.0 min
 Discarded = 0.05 cfs @ 11.95 hrs, Volume= 0.024 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 396.07' @ 12.72 hrs Surf.Area= 0.010 ac Storage= 0.005 af

Plug-Flow detention time= 31.1 min calculated for 0.024 af (100% of inflow)
 Center-of-Mass det. time= 31.1 min (871.7 - 840.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	395.10'	0.009 af	11.00'W x 38.05'L x 3.50'H Field A 0.034 af Overall - 0.011 af Embedded = 0.023 af x 40.0% Voids
#2A	395.60'	0.011 af	ADS_StormTech SC-740 +Cap x 10 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 5 Chambers
		0.020 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	395.10'	5.000 in/hr Exfiltration over Horizontal area Phase-In= 0.05'
#2	Primary	397.60'	6.0" Round 6.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.60' / 397.10' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.05 cfs @ 11.95 hrs HW=395.17' (Free Discharge)↳ **1=Exfiltration** (Exfiltration Controls 0.05 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=395.10' (Free Discharge)↳ **2=6.0" Round Culvert** (Controls 0.00 cfs)

Mount Kisco - Driveway Drainage

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Type III 24-hr 1-yr Rainfall=2.88"

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Pond 1.7P: - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +5.0" End Stone x 2 = 38.05' Base Length

2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

10 Chambers x 45.9 cf = 459.4 cf Chamber Storage

1,464.9 cf Field - 459.4 cf Chambers = 1,005.5 cf Stone x 40.0% Voids = 402.2 cf Stone Storage

Chamber Storage + Stone Storage = 861.6 cf = 0.020 af

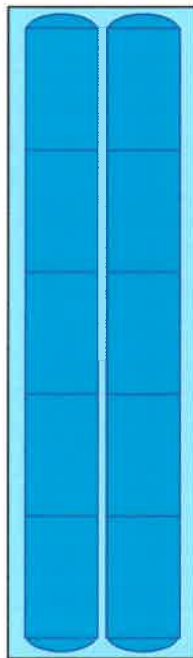
Overall Storage Efficiency = 58.8%

Overall System Size = 38.05' x 11.00' x 3.50'

10 Chambers

54.3 cy Field

37.2 cy Stone



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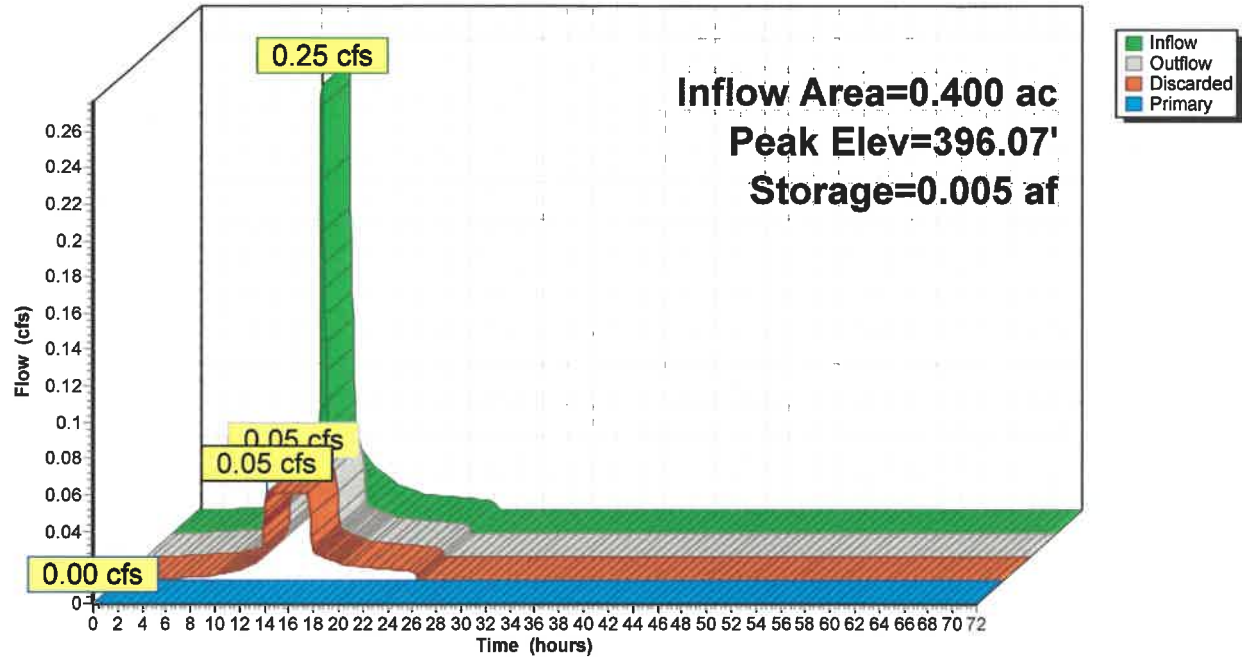
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Pond 1.7P:

Hydrograph



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Stage-Area-Storage for Pond 1.7P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)	Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
395.10	0.010	0.000	397.75	0.010	0.016
395.15	0.010	0.000	397.80	0.010	0.017
395.20	0.010	0.000	397.85	0.010	0.017
395.25	0.010	0.001	397.90	0.010	0.017
395.30	0.010	0.001	397.95	0.010	0.017
395.35	0.010	0.001	398.00	0.010	0.017
395.40	0.010	0.001	398.05	0.010	0.018
395.45	0.010	0.001	398.10	0.010	0.018
395.50	0.010	0.002	398.15	0.010	0.018
395.55	0.010	0.002	398.20	0.010	0.018
395.60	0.010	0.002	398.25	0.010	0.018
395.65	0.010	0.002	398.30	0.010	0.019
395.70	0.010	0.003	398.35	0.010	0.019
395.75	0.010	0.003	398.40	0.010	0.019
395.80	0.010	0.003	398.45	0.010	0.019
395.85	0.010	0.004	398.50	0.010	0.019
395.90	0.010	0.004	398.55	0.010	0.020
395.95	0.010	0.005	398.60	0.010	0.020
396.00	0.010	0.005			
396.05	0.010	0.005			
396.10	0.010	0.006			
396.15	0.010	0.006			
396.20	0.010	0.006			
396.25	0.010	0.007			
396.30	0.010	0.007			
396.35	0.010	0.007			
396.40	0.010	0.008			
396.45	0.010	0.008			
396.50	0.010	0.008			
396.55	0.010	0.009			
396.60	0.010	0.009			
396.65	0.010	0.010			
396.70	0.010	0.010			
396.75	0.010	0.010			
396.80	0.010	0.011			
396.85	0.010	0.011			
396.90	0.010	0.011			
396.95	0.010	0.012			
397.00	0.010	0.012			
397.05	0.010	0.012			
397.10	0.010	0.013			
397.15	0.010	0.013			
397.20	0.010	0.013			
397.25	0.010	0.013			
397.30	0.010	0.014			
397.35	0.010	0.014			
397.40	0.010	0.014			
397.45	0.010	0.015			
397.50	0.010	0.015			
397.55	0.010	0.015			
397.60	0.010	0.016			
397.65	0.010	0.016			
397.70	0.010	0.016			

Mount Kisco - Driveway Drainage

Type III 24-hr 1-yr Rainfall=2.88"

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Summary for Pond CB FS 1.7:


[57] Hint: Peaked at 398.31' (Flood elevation advised)

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 0.73" for 1-yr event
 Inflow = 0.25 cfs @ 12.12 hrs, Volume= 0.024 af
 Outflow = 0.25 cfs @ 12.12 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.25 cfs @ 12.12 hrs, Volume= 0.024 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 398.31' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	398.00'	6.0" Round 6.0" Round Culvert L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 398.00' / 397.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	397.50'	12.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.50' / 397.00' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	398.40'	2.5' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.24 cfs @ 12.12 hrs HW=398.31' (Free Discharge)

1=6.0" Round Culvert (Inlet Controls 0.24 cfs @ 1.89 fps)
Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=397.50' (Free Discharge)

2=Culvert (Controls 0.00 cfs)


3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Mount Kisco - Driveway Drainage

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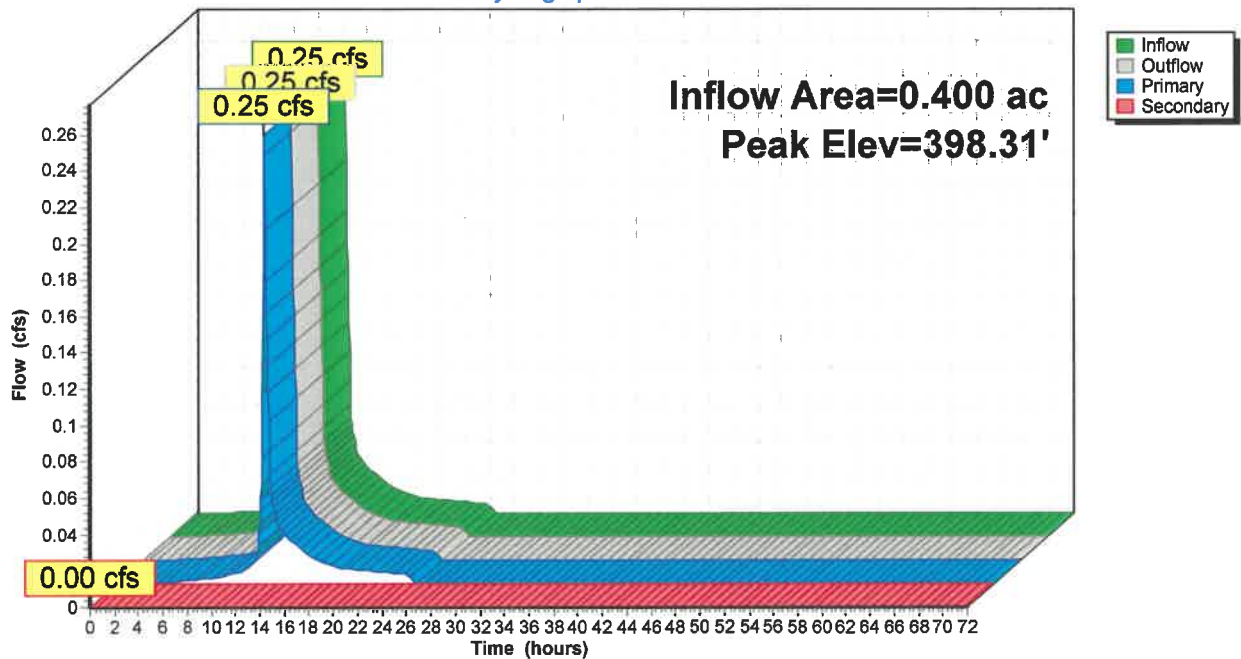
Type III 24-hr 1-yr Rainfall=2.88"

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Pond CB FS 1.7:

Hydrograph



Mount Kisco - Driveway Drainage

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Type III 24-hr 1-yr Rainfall=2.88"

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Stage-Area-Storage for Pond CB FS 1.7:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
397.50	0	398.03	0
397.51	0	398.04	0
397.52	0	398.05	0
397.53	0	398.06	0
397.54	0	398.07	0
397.55	0	398.08	0
397.56	0	398.09	0
397.57	0	398.10	0
397.58	0	398.11	0
397.59	0	398.12	0
397.60	0	398.13	0
397.61	0	398.14	0
397.62	0	398.15	0
397.63	0	398.16	0
397.64	0	398.17	0
397.65	0	398.18	0
397.66	0	398.19	0
397.67	0	398.20	0
397.68	0	398.21	0
397.69	0	398.22	0
397.70	0	398.23	0
397.71	0	398.24	0
397.72	0	398.25	0
397.73	0	398.26	0
397.74	0	398.27	0
397.75	0	398.28	0
397.76	0	398.29	0
397.77	0	398.30	0
397.78	0	398.31	0
397.79	0	398.32	0
397.80	0	398.33	0
397.81	0	398.34	0
397.82	0	398.35	0
397.83	0	398.36	0
397.84	0	398.37	0
397.85	0	398.38	0
397.86	0	398.39	0
397.87	0	398.40	0
397.88	0	398.41	0
397.89	0	398.42	0
397.90	0	398.43	0
397.91	0	398.44	0
397.92	0	398.45	0
397.93	0	398.46	0
397.94	0	398.47	0
397.95	0	398.48	0
397.96	0	398.49	0
397.97	0	398.50	0
397.98	0		
397.99	0		
398.00	0		
398.01	0		
398.02	0		

Mount Kisco - Driveway Drainage

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Type III 24-hr 1-yr Rainfall=2.88"

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Summary for Pond CB FS1.6:

[57] Hint: Peaked at 421.20' (Flood elevation advised)

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 0.95" for 1-yr event
 Inflow = 0.50 cfs @ 12.11 hrs, Volume= 0.048 af
 Outflow = 0.50 cfs @ 12.11 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.50 cfs @ 12.11 hrs, Volume= 0.048 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 421.20' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	420.50'	6.0" Round 6.0" Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.50' / 420.40' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	420.00'	12.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.00' / 419.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	421.20'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.47 cfs @ 12.11 hrs HW=421.17' (Free Discharge)

1=6.0" Culvert (Barrel Controls 0.47 cfs @ 2.40 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=420.00' (Free Discharge)

2=Culvert (Controls 0.00 cfs)

3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Mount Kisco - Driveway Drainage

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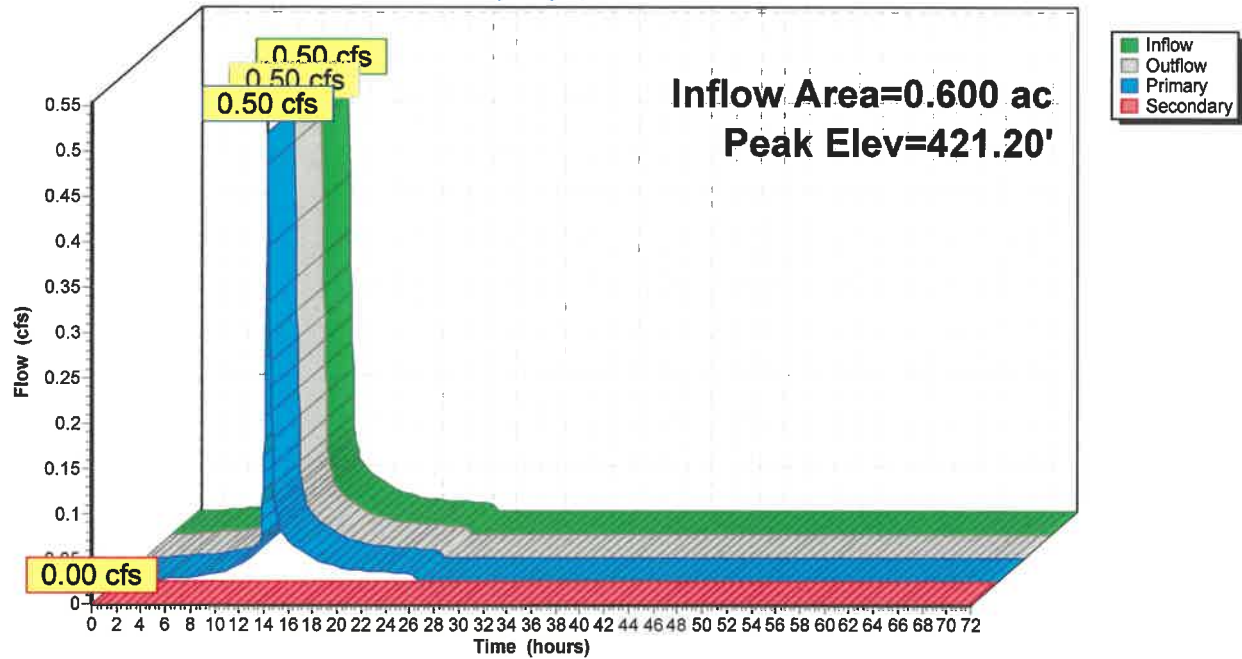
Type III 24-hr 1-yr Rainfall=2.88"

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Pond CB FS1.6:

Hydrograph



Mount Kisco - Driveway Drainage

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Type III 24-hr 1-yr Rainfall=2.88"

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Stage-Area-Storage for Pond CB FS1.6:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
420.00	0	420.53	0	421.06	0
420.01	0	420.54	0	421.07	0
420.02	0	420.55	0	421.08	0
420.03	0	420.56	0	421.09	0
420.04	0	420.57	0	421.10	0
420.05	0	420.58	0	421.11	0
420.06	0	420.59	0	421.12	0
420.07	0	420.60	0	421.13	0
420.08	0	420.61	0	421.14	0
420.09	0	420.62	0	421.15	0
420.10	0	420.63	0	421.16	0
420.11	0	420.64	0	421.17	0
420.12	0	420.65	0	421.18	0
420.13	0	420.66	0	421.19	0
420.14	0	420.67	0	421.20	0
420.15	0	420.68	0		
420.16	0	420.69	0		
420.17	0	420.70	0		
420.18	0	420.71	0		
420.19	0	420.72	0		
420.20	0	420.73	0		
420.21	0	420.74	0		
420.22	0	420.75	0		
420.23	0	420.76	0		
420.24	0	420.77	0		
420.25	0	420.78	0		
420.26	0	420.79	0		
420.27	0	420.80	0		
420.28	0	420.81	0		
420.29	0	420.82	0		
420.30	0	420.83	0		
420.31	0	420.84	0		
420.32	0	420.85	0		
420.33	0	420.86	0		
420.34	0	420.87	0		
420.35	0	420.88	0		
420.36	0	420.89	0		
420.37	0	420.90	0		
420.38	0	420.91	0		
420.39	0	420.92	0		
420.40	0	420.93	0		
420.41	0	420.94	0		
420.42	0	420.95	0		
420.43	0	420.96	0		
420.44	0	420.97	0		
420.45	0	420.98	0		
420.46	0	420.99	0		
420.47	0	421.00	0		
420.48	0	421.01	0		
420.49	0	421.02	0		
420.50	0	421.03	0		
420.51	0	421.04	0		
420.52	0	421.05	0		

Mount Kisco - Driveway Drainage

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Type III 24-hr 10-yr Rainfall=5.13"

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Summary for Subcatchment 1.6 S: Existing Impervious

Runoff = 0.71 cfs @ 12.10 hrs, Volume= 0.061 af, Depth= 4.89"

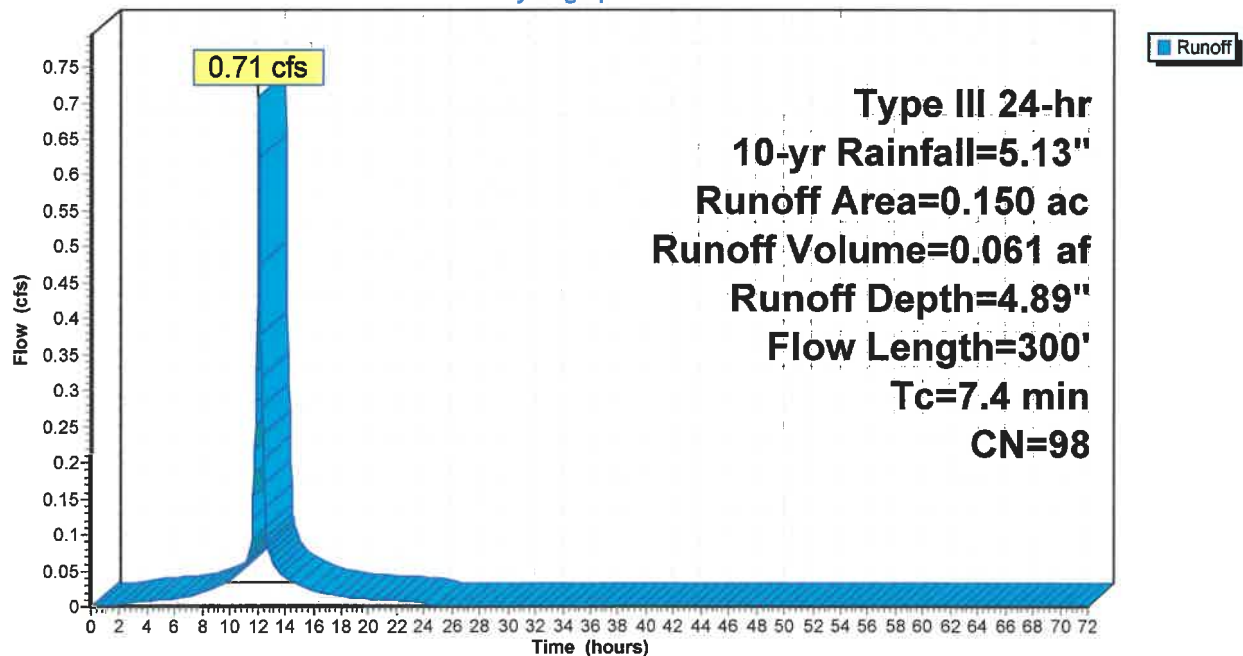
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.150	98	Paved parking, HSG B
0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	300	Total			

Subcatchment 1.6 S: Existing Impervious

Hydrograph



Mount Kisco - Driveway Drainage

Type III 24-hr 10-yr Rainfall=5.13"

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Summary for Subcatchment 1.6S: New Impervious and Pervious Area

Runoff = 0.74 cfs @ 12.12 hrs, Volume= 0.060 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	55	Woods, Good, HSG B
0.250	61	>75% Grass cover, Good, HSG B
0.450	63	Weighted Average
0.400		88.89% Pervious Area
0.050		11.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	300	Total			

Mount Kisco - Driveway Drainage

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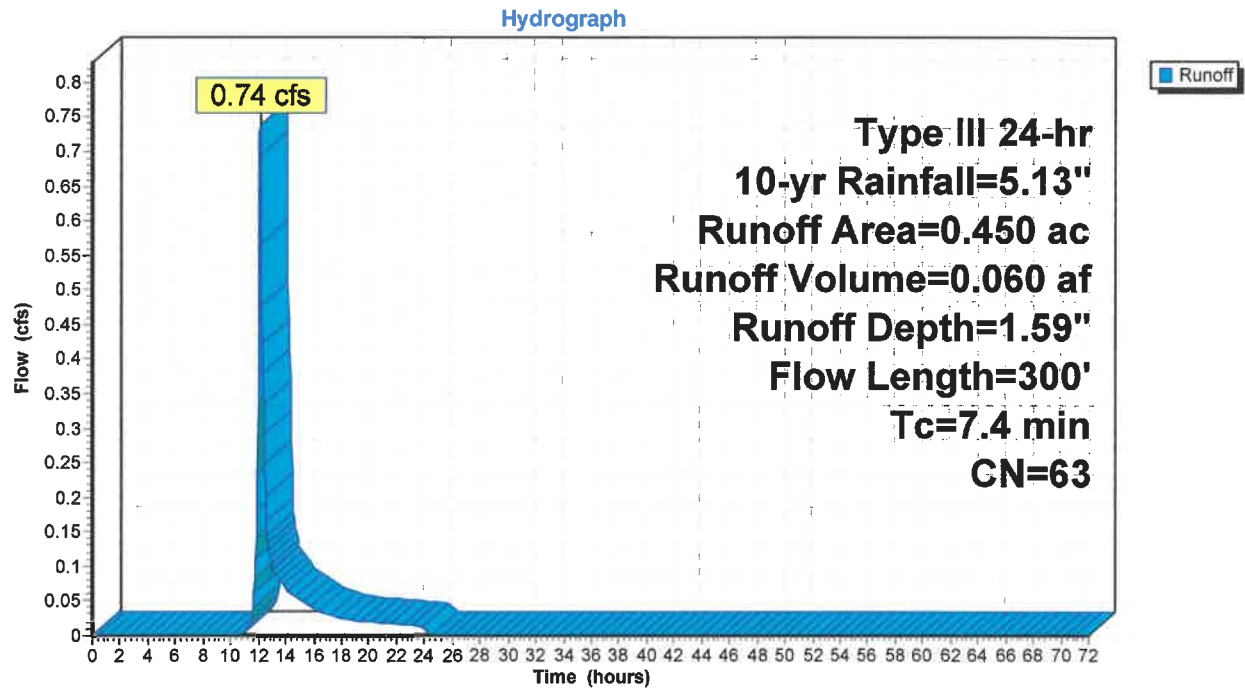
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Type III 24-hr 10-yr Rainfall=5.13"

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Subcatchment 1.6S: New Impervious and Pervious Area



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Type III 24-hr 10-yr Rainfall=5.13"

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Summary for Subcatchment 1.7 S: Existing Impervious

Runoff = 0.24 cfs @ 12.10 hrs, Volume= 0.020 af, Depth= 4.89"

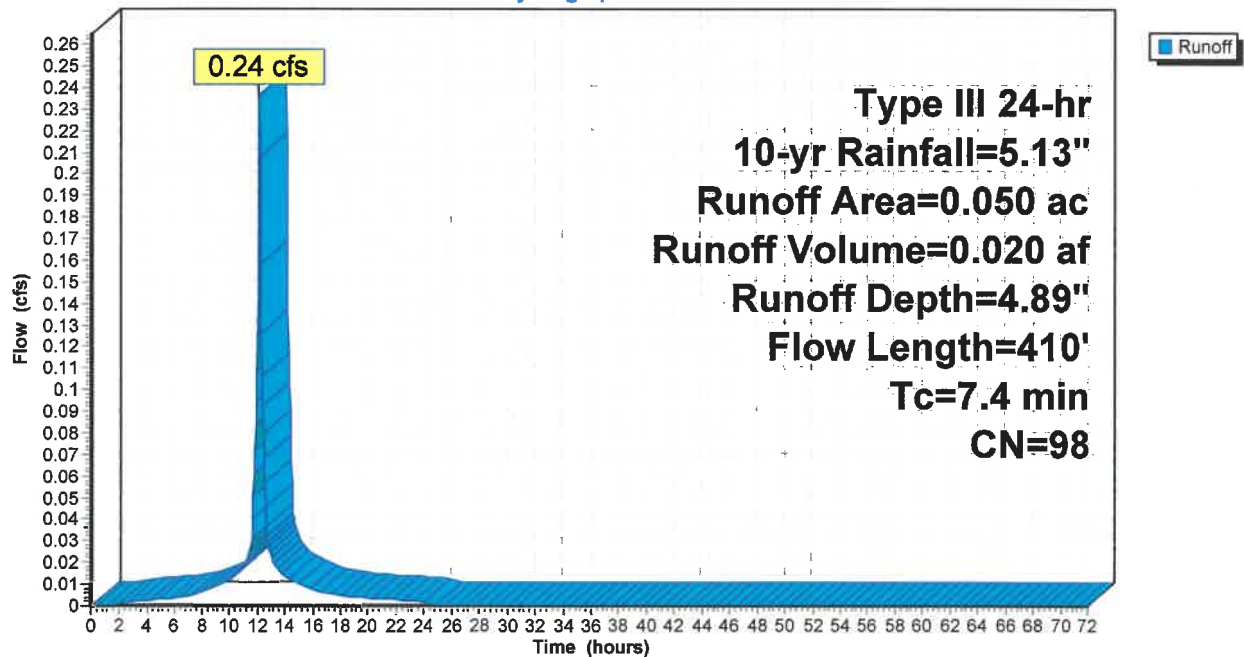
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7 S: Existing Impervious

Hydrograph



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Type III 24-hr 10-yr Rainfall=5.13"

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Summary for Subcatchment 1.7S: New Impervious and Pervious Area

Runoff = 0.64 cfs @ 12.12 hrs, Volume= 0.051 af, Depth= 1.74"

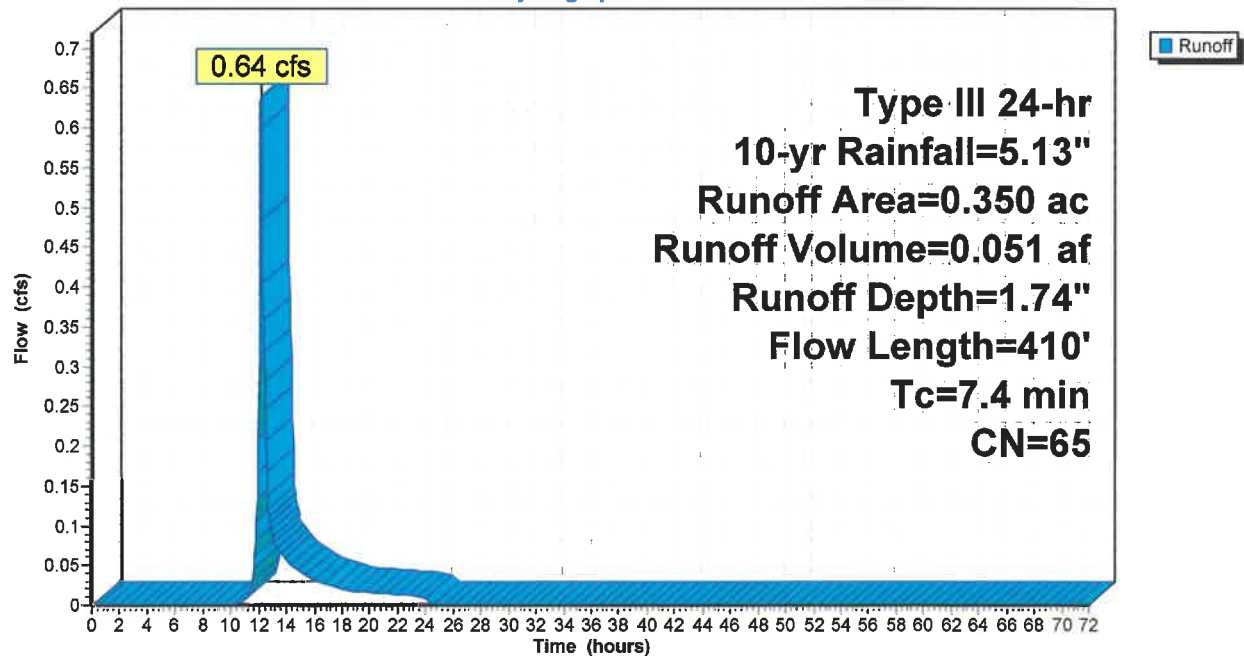
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	61	>75% Grass cover, Good, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.350	65	Weighted Average
0.300		85.71% Pervious Area
0.050		14.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7S: New Impervious and Pervious Area

Hydrograph



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Type III 24-hr 10-yr Rainfall=5.13"

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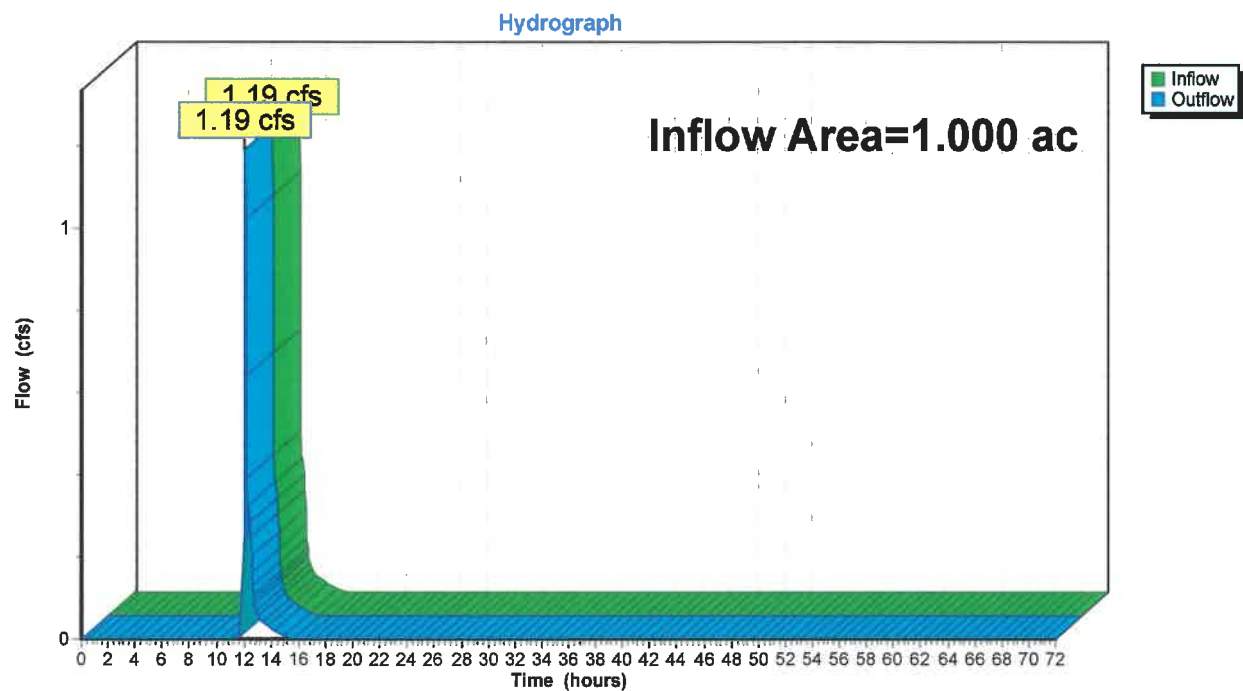
Summary for Reach DL3:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.000 ac, 30.00% Impervious, Inflow Depth = 0.39" for 10-yr event
Inflow = 1.19 cfs @ 12.11 hrs, Volume= 0.033 af
Outflow = 1.19 cfs @ 12.11 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DL3:



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Type III 24-hr 10-yr Rainfall=5.13"

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Summary for Pond 1.6P:

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 2.13" for 10-yr event
 Inflow = 0.62 cfs @ 12.11 hrs, Volume= 0.106 af
 Outflow = 0.31 cfs @ 11.85 hrs, Volume= 0.106 af, Atten= 51%, Lag= 0.0 min
 Discarded = 0.31 cfs @ 11.85 hrs, Volume= 0.106 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 419.36' @ 12.58 hrs Surf.Area= 0.013 ac Storage= 0.013 af

Plug-Flow detention time= 8.3 min calculated for 0.106 af (100% of inflow)
 Center-of-Mass det. time= 8.3 min (825.7 - 817.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	417.80'	0.013 af	11.00'W x 52.29'L x 3.50'H Field A 0.046 af Overall - 0.015 af Embedded = 0.031 af x 40.0% Voids
#2A	418.30'	0.015 af	ADS_StormTech SC-740 +Cap x 14 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 7 Chambers
		0.027 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	417.80'	23.000 in/hr Exfiltration over Horizontal area Phase-In= 0.05'
#2	Primary	420.30'	6.0" Round 6.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.30' / 419.80' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.31 cfs @ 11.85 hrs HW=417.91' (Free Discharge)↳ **1=Exfiltration** (Exfiltration Controls 0.31 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=417.80' (Free Discharge)↳ **2=6.0" Round Culvert** (Controls 0.00 cfs)

Mount Kisco - Driveway Drainage

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Type III 24-hr 10-yr Rainfall=5.13"

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Pond 1.6P: - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +5.0" End Stone x 2 = 52.29' Base Length

2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

14 Chambers x 45.9 cf = 643.2 cf Chamber Storage

2,013.2 cf Field - 643.2 cf Chambers = 1,370.0 cf Stone x 40.0% Voids = 548.0 cf Stone Storage

Chamber Storage + Stone Storage = 1,191.2 cf = 0.027 af

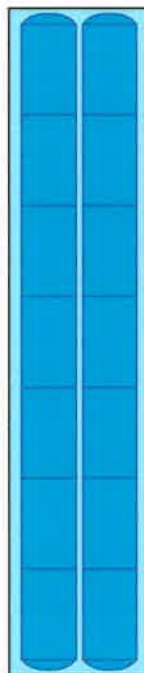
Overall Storage Efficiency = 59.2%

Overall System Size = 52.29' x 11.00' x 3.50'

14 Chambers

74.6 cy Field

50.7 cy Stone



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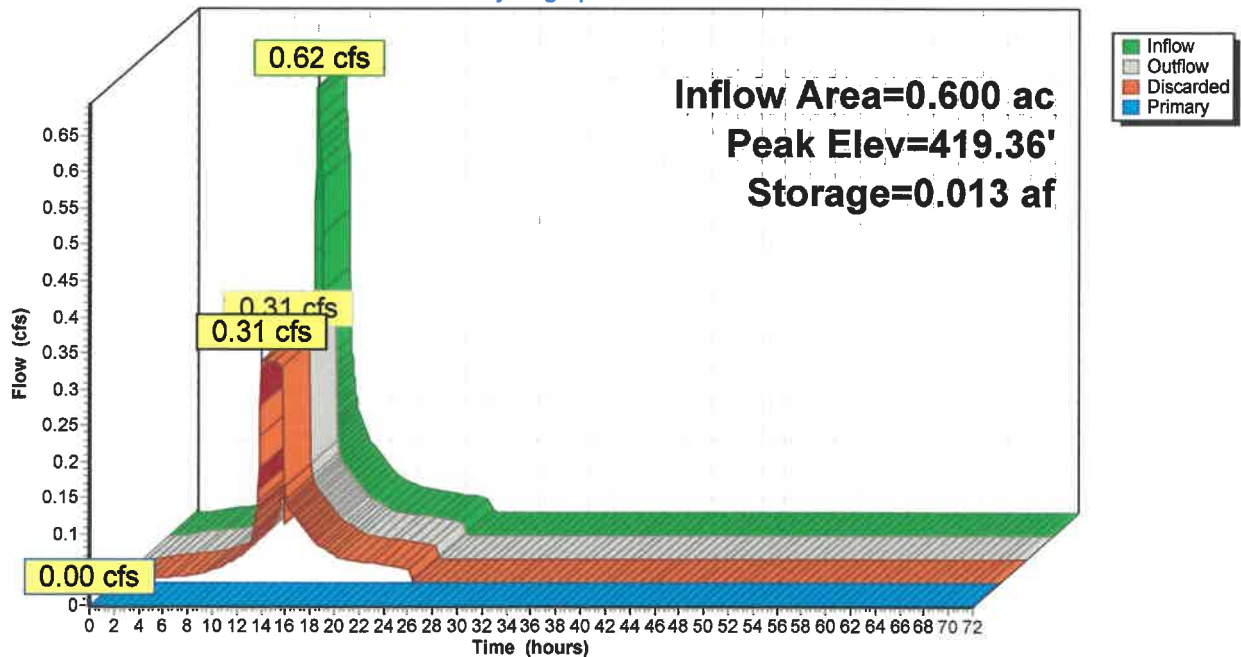
Type III 24-hr 10-yr Rainfall=5.13"

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Pond 1.6P:

Hydrograph



Mount Kisco - Driveway Drainage

Type III 24-hr 10-yr Rainfall=5.13"

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Stage-Area-Storage for Pond 1.6P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)	Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
417.80	0.013	0.000	420.45	0.013	0.023
417.85	0.013	0.000	420.50	0.013	0.023
417.90	0.013	0.001	420.55	0.013	0.023
417.95	0.013	0.001	420.60	0.013	0.024
418.00	0.013	0.001	420.65	0.013	0.024
418.05	0.013	0.001	420.70	0.013	0.024
418.10	0.013	0.002	420.75	0.013	0.024
418.15	0.013	0.002	420.80	0.013	0.025
418.20	0.013	0.002	420.85	0.013	0.025
418.25	0.013	0.002	420.90	0.013	0.025
418.30	0.013	0.003	420.95	0.013	0.025
418.35	0.013	0.003	421.00	0.013	0.026
418.40	0.013	0.004	421.05	0.013	0.026
418.45	0.013	0.004	421.10	0.013	0.026
418.50	0.013	0.005	421.15	0.013	0.027
418.55	0.013	0.005	421.20	0.013	0.027
418.60	0.013	0.006	421.25	0.013	0.027
418.65	0.013	0.006	421.30	0.013	0.027
418.70	0.013	0.007			
418.75	0.013	0.007			
418.80	0.013	0.008			
418.85	0.013	0.008			
418.90	0.013	0.009			
418.95	0.013	0.009			
419.00	0.013	0.010			
419.05	0.013	0.010			
419.10	0.013	0.011			
419.15	0.013	0.011			
419.20	0.013	0.012			
419.25	0.013	0.012			
419.30	0.013	0.013			
419.35	0.013	0.013			
419.40	0.013	0.014			
419.45	0.013	0.014			
419.50	0.013	0.015			
419.55	0.013	0.015			
419.60	0.013	0.016			
419.65	0.013	0.016			
419.70	0.013	0.016			
419.75	0.013	0.017			
419.80	0.013	0.017			
419.85	0.013	0.018			
419.90	0.013	0.018			
419.95	0.013	0.019			
420.00	0.013	0.019			
420.05	0.013	0.020			
420.10	0.013	0.020			
420.15	0.013	0.020			
420.20	0.013	0.021			
420.25	0.013	0.021			
420.30	0.013	0.022			
420.35	0.013	0.022			
420.40	0.013	0.022			

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Type III 24-hr 10-yr Rainfall=5.13"

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Summary for Pond 1.7P:

[79] Warning: Submerged Pond CB FS 1.7 Primary device # 1 OUTLET by 0.15'

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 1.98" for 10-yr event
 Inflow = 0.51 cfs @ 12.11 hrs, Volume= 0.066 af
 Outflow = 0.33 cfs @ 12.44 hrs, Volume= 0.066 af, Atten= 35%, Lag= 19.8 min
 Discarded = 0.05 cfs @ 11.55 hrs, Volume= 0.053 af
 Primary = 0.28 cfs @ 12.44 hrs, Volume= 0.013 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 397.95' @ 12.44 hrs Surf.Area= 0.010 ac Storage= 0.017 af

Plug-Flow detention time= 113.5 min calculated for 0.066 af (100% of inflow)
 Center-of-Mass det. time= 113.5 min (950.2 - 836.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	395.10'	0.009 af	11.00'W x 38.05'L x 3.50'H Field A 0.034 af Overall - 0.011 af Embedded = 0.023 af x 40.0% Voids
#2A	395.60'	0.011 af	ADS_StormTech SC-740 +Cap x 10 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 5 Chambers
		0.020 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	395.10'	5.000 in/hr Exfiltration over Horizontal area Phase-In= 0.05'
#2	Primary	397.60'	6.0" Round 6.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.60' / 397.10' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.05 cfs @ 11.55 hrs HW=395.17' (Free Discharge)└─**1=Exfiltration** (Exfiltration Controls 0.05 cfs)**Primary OutFlow** Max=0.28 cfs @ 12.44 hrs HW=397.95' (Free Discharge)└─**2=6.0" Round Culvert** (Barrel Controls 0.28 cfs @ 2.68 fps)

Mount Kisco - Driveway Drainage

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Type III 24-hr 10-yr Rainfall=5.13"

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Pond 1.7P: - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +5.0" End Stone x 2 = 38.05' Base Length

2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

10 Chambers x 45.9 cf = 459.4 cf Chamber Storage

1,464.9 cf Field - 459.4 cf Chambers = 1,005.5 cf Stone x 40.0% Voids = 402.2 cf Stone Storage

Chamber Storage + Stone Storage = 861.6 cf = 0.020 af

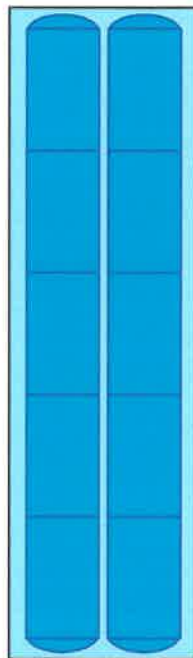
Overall Storage Efficiency = 58.8%

Overall System Size = 38.05' x 11.00' x 3.50'

10 Chambers

54.3 cy Field

37.2 cy Stone



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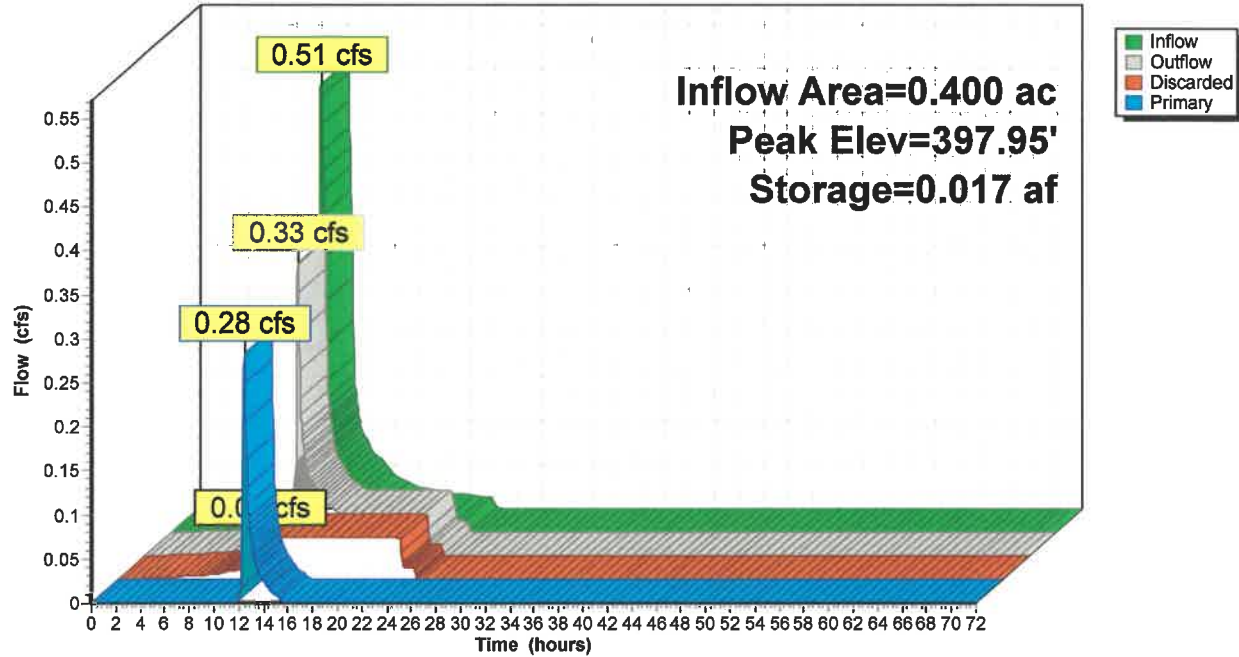
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Pond 1.7P:

Hydrograph



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Stage-Area-Storage for Pond 1.7P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)	Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
395.10	0.010	0.000	397.75	0.010	0.016
395.15	0.010	0.000	397.80	0.010	0.017
395.20	0.010	0.000	397.85	0.010	0.017
395.25	0.010	0.001	397.90	0.010	0.017
395.30	0.010	0.001	397.95	0.010	0.017
395.35	0.010	0.001	398.00	0.010	0.017
395.40	0.010	0.001	398.05	0.010	0.018
395.45	0.010	0.001	398.10	0.010	0.018
395.50	0.010	0.002	398.15	0.010	0.018
395.55	0.010	0.002	398.20	0.010	0.018
395.60	0.010	0.002	398.25	0.010	0.018
395.65	0.010	0.002	398.30	0.010	0.019
395.70	0.010	0.003	398.35	0.010	0.019
395.75	0.010	0.003	398.40	0.010	0.019
395.80	0.010	0.003	398.45	0.010	0.019
395.85	0.010	0.004	398.50	0.010	0.019
395.90	0.010	0.004	398.55	0.010	0.020
395.95	0.010	0.005	398.60	0.010	0.020
396.00	0.010	0.005			
396.05	0.010	0.005			
396.10	0.010	0.006			
396.15	0.010	0.006			
396.20	0.010	0.006			
396.25	0.010	0.007			
396.30	0.010	0.007			
396.35	0.010	0.007			
396.40	0.010	0.008			
396.45	0.010	0.008			
396.50	0.010	0.008			
396.55	0.010	0.009			
396.60	0.010	0.009			
396.65	0.010	0.010			
396.70	0.010	0.010			
396.75	0.010	0.010			
396.80	0.010	0.011			
396.85	0.010	0.011			
396.90	0.010	0.011			
396.95	0.010	0.012			
397.00	0.010	0.012			
397.05	0.010	0.012			
397.10	0.010	0.013			
397.15	0.010	0.013			
397.20	0.010	0.013			
397.25	0.010	0.013			
397.30	0.010	0.014			
397.35	0.010	0.014			
397.40	0.010	0.014			
397.45	0.010	0.015			
397.50	0.010	0.015			
397.55	0.010	0.015			
397.60	0.010	0.016			
397.65	0.010	0.016			
397.70	0.010	0.016			

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Type III 24-hr 10-yr Rainfall=5.13"

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Summary for Pond CB FS 1.7:

[57] Hint: Peaked at 398.54' (Flood elevation advised)

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 2.13" for 10-yr event
 Inflow = 0.88 cfs @ 12.11 hrs, Volume= 0.071 af
 Outflow = 0.88 cfs @ 12.11 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.51 cfs @ 12.11 hrs, Volume= 0.066 af
 Secondary = 0.37 cfs @ 12.11 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 398.54' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	398.00'	6.0" Round 6.0" Round Culvert L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 398.00' / 397.80' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	397.50'	12.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.50' / 397.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	398.40'	2.5' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.50 cfs @ 12.11 hrs HW=398.54' (Free Discharge)

↑ **1=6.0" Round Culvert** (Inlet Controls 0.50 cfs @ 2.57 fps)

Secondary OutFlow Max=0.35 cfs @ 12.11 hrs HW=398.54' (Free Discharge)

↑ **2=Culvert** (Passes 0.35 cfs of 2.77 cfs potential flow)

↑ **3=Broad-Crested Rectangular Weir** (Weir Controls 0.35 cfs @ 1.03 fps)

Mount Kisco - Driveway Drainage

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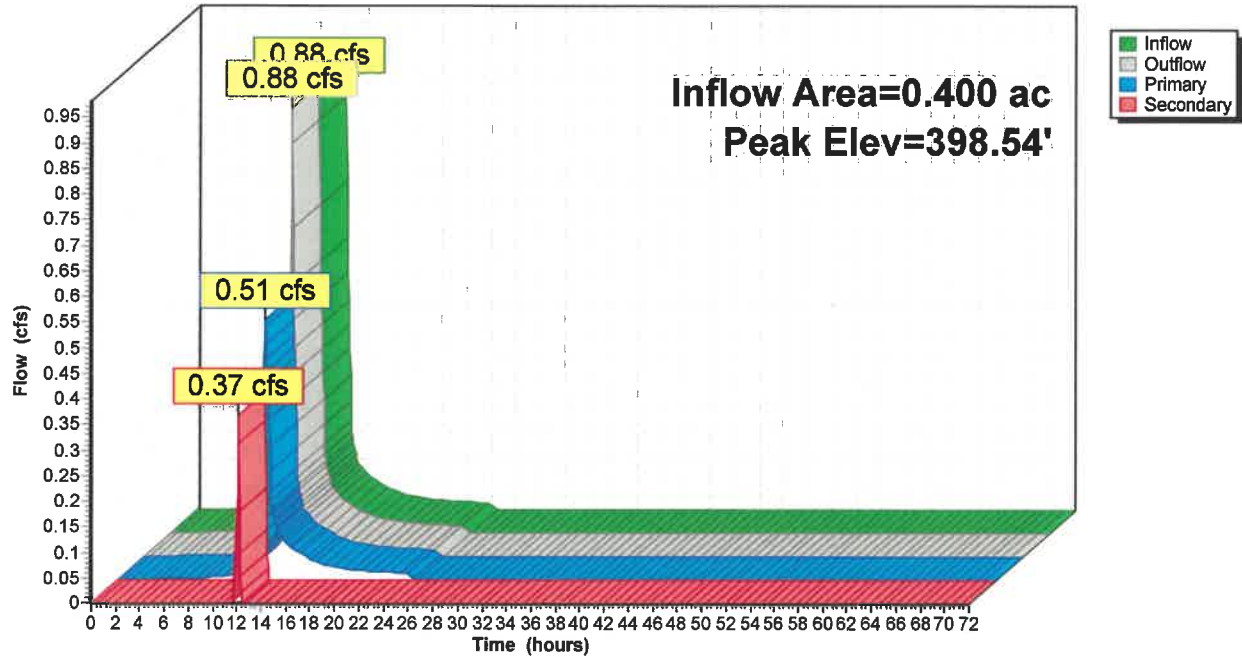
Type III 24-hr 10-yr Rainfall=5.13"

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Pond CB FS 1.7:

Hydrograph



Mount Kisco - Driveway Drainage

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Type III 24-hr 10-yr Rainfall=5.13"

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Stage-Area-Storage for Pond CB FS 1.7:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
397.50	0	398.03	0
397.51	0	398.04	0
397.52	0	398.05	0
397.53	0	398.06	0
397.54	0	398.07	0
397.55	0	398.08	0
397.56	0	398.09	0
397.57	0	398.10	0
397.58	0	398.11	0
397.59	0	398.12	0
397.60	0	398.13	0
397.61	0	398.14	0
397.62	0	398.15	0
397.63	0	398.16	0
397.64	0	398.17	0
397.65	0	398.18	0
397.66	0	398.19	0
397.67	0	398.20	0
397.68	0	398.21	0
397.69	0	398.22	0
397.70	0	398.23	0
397.71	0	398.24	0
397.72	0	398.25	0
397.73	0	398.26	0
397.74	0	398.27	0
397.75	0	398.28	0
397.76	0	398.29	0
397.77	0	398.30	0
397.78	0	398.31	0
397.79	0	398.32	0
397.80	0	398.33	0
397.81	0	398.34	0
397.82	0	398.35	0
397.83	0	398.36	0
397.84	0	398.37	0
397.85	0	398.38	0
397.86	0	398.39	0
397.87	0	398.40	0
397.88	0	398.41	0
397.89	0	398.42	0
397.90	0	398.43	0
397.91	0	398.44	0
397.92	0	398.45	0
397.93	0	398.46	0
397.94	0	398.47	0
397.95	0	398.48	0
397.96	0	398.49	0
397.97	0	398.50	0
397.98	0	398.51	0
397.99	0	398.52	0
398.00	0	398.53	0
398.01	0	398.54	0
398.02	0		

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Type III 24-hr 10-yr Rainfall=5.13"

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Summary for Pond CB FS1.6:

[57] Hint: Peaked at 421.38' (Flood elevation advised)

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 2.42" for 10-yr event
 Inflow = 1.45 cfs @ 12.11 hrs, Volume= 0.121 af
 Outflow = 1.45 cfs @ 12.11 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.62 cfs @ 12.11 hrs, Volume= 0.106 af
 Secondary = 0.83 cfs @ 12.11 hrs, Volume= 0.014 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 421.38' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	420.50'	6.0" Round 6.0" Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.50' / 420.40' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	420.00'	12.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.00' / 419.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	421.20'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.62 cfs @ 12.11 hrs HW=421.37' (Free Discharge)

└─1=6.0" Culvert (Barrel Controls 0.62 cfs @ 3.14 fps)

Secondary OutFlow Max=0.80 cfs @ 12.11 hrs HW=421.37' (Free Discharge)

└─2=Culvert (Passes 0.80 cfs of 3.53 cfs potential flow)

└─3=Broad-Crested Rectangular Weir (Weir Controls 0.80 cfs @ 1.16 fps)

Mount Kisco - Driveway Drainage

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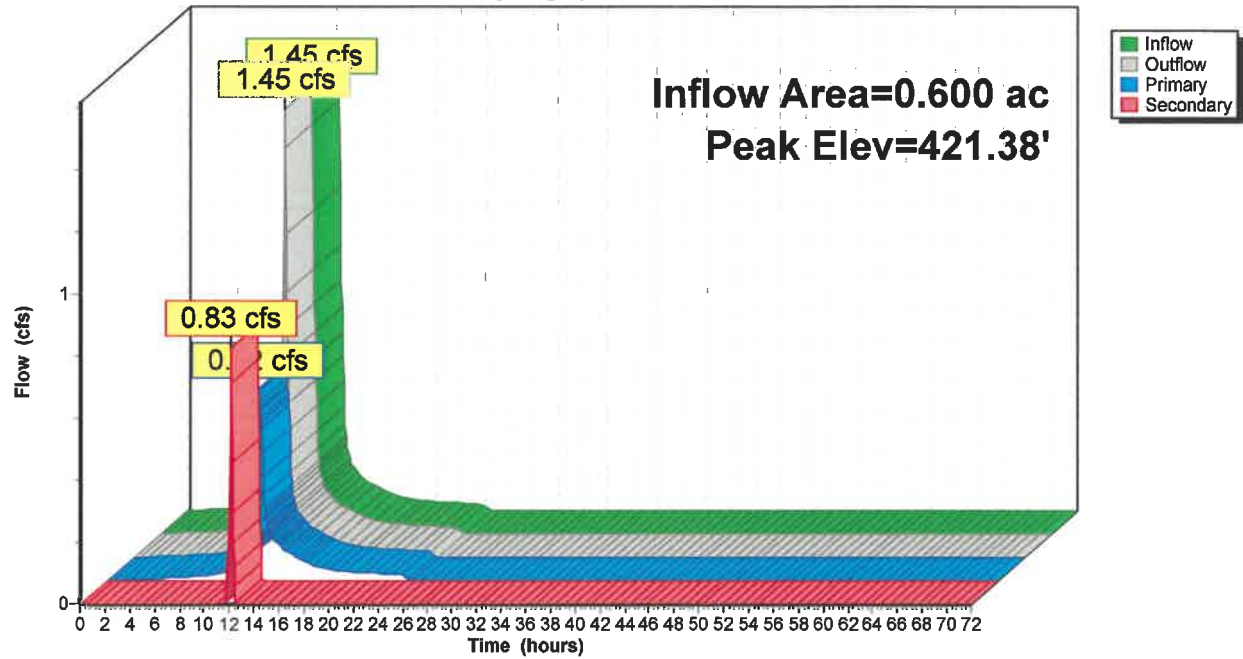
Type III 24-hr 10-yr Rainfall=5.13"

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Pond CB FS1.6:

Hydrograph



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Type III 24-hr 10-yr Rainfall=5.13"

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Stage-Area-Storage for Pond CB FS1.6:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
420.00	0	420.53	0	421.06	0
420.01	0	420.54	0	421.07	0
420.02	0	420.55	0	421.08	0
420.03	0	420.56	0	421.09	0
420.04	0	420.57	0	421.10	0
420.05	0	420.58	0	421.11	0
420.06	0	420.59	0	421.12	0
420.07	0	420.60	0	421.13	0
420.08	0	420.61	0	421.14	0
420.09	0	420.62	0	421.15	0
420.10	0	420.63	0	421.16	0
420.11	0	420.64	0	421.17	0
420.12	0	420.65	0	421.18	0
420.13	0	420.66	0	421.19	0
420.14	0	420.67	0	421.20	0
420.15	0	420.68	0	421.21	0
420.16	0	420.69	0	421.22	0
420.17	0	420.70	0	421.23	0
420.18	0	420.71	0	421.24	0
420.19	0	420.72	0	421.25	0
420.20	0	420.73	0	421.26	0
420.21	0	420.74	0	421.27	0
420.22	0	420.75	0	421.28	0
420.23	0	420.76	0	421.29	0
420.24	0	420.77	0	421.30	0
420.25	0	420.78	0	421.31	0
420.26	0	420.79	0	421.32	0
420.27	0	420.80	0	421.33	0
420.28	0	420.81	0	421.34	0
420.29	0	420.82	0	421.35	0
420.30	0	420.83	0	421.36	0
420.31	0	420.84	0	421.37	0
420.32	0	420.85	0	421.38	0
420.33	0	420.86	0		
420.34	0	420.87	0		
420.35	0	420.88	0		
420.36	0	420.89	0		
420.37	0	420.90	0		
420.38	0	420.91	0		
420.39	0	420.92	0		
420.40	0	420.93	0		
420.41	0	420.94	0		
420.42	0	420.95	0		
420.43	0	420.96	0		
420.44	0	420.97	0		
420.45	0	420.98	0		
420.46	0	420.99	0		
420.47	0	421.00	0		
420.48	0	421.01	0		
420.49	0	421.02	0		
420.50	0	421.03	0		
420.51	0	421.04	0		
420.52	0	421.05	0		

Mount Kisco - Driveway Drainage

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Type III 24-hr 100-yr Rainfall=8.30"

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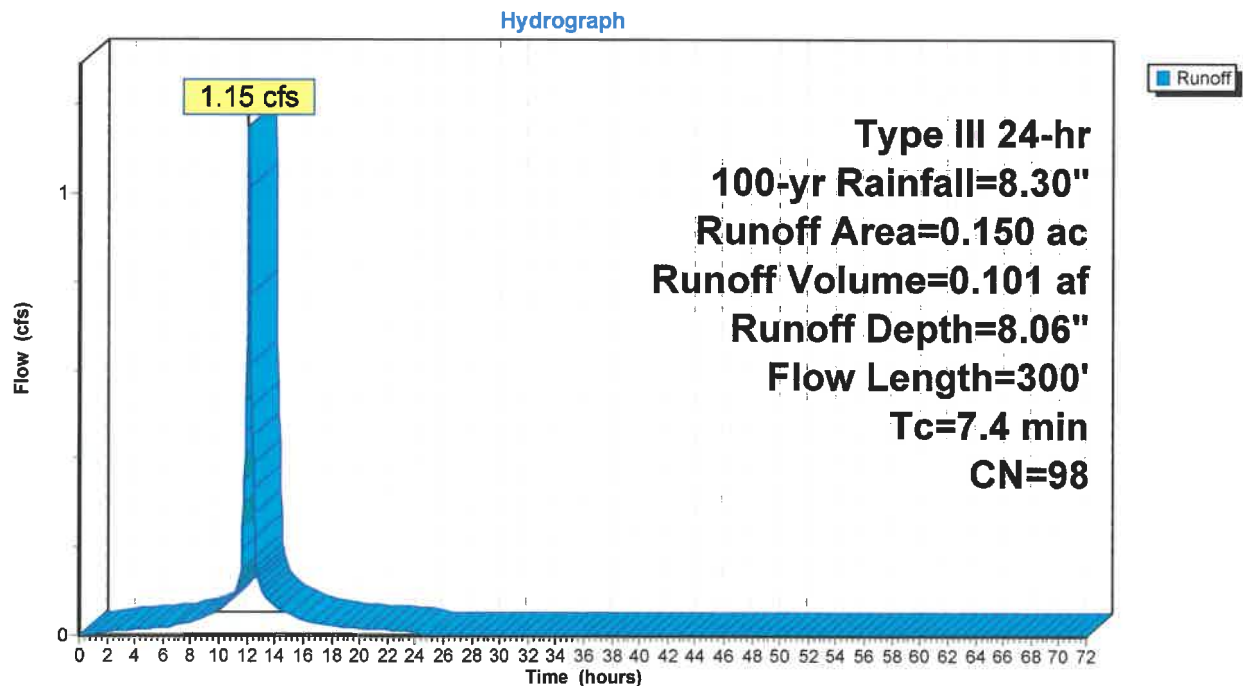
Summary for Subcatchment 1.6 S: Existing Impervious

Runoff = 1.15 cfs @ 12.10 hrs, Volume= 0.101 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.30"

Area (ac)	CN	Description
0.150	98	Paved parking, HSG B
0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	300	Total			

Subcatchment 1.6 S: Existing Impervious

Mount Kisco - Driveway Drainage

Type III 24-hr 100-yr Rainfall=8.30"

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Summary for Subcatchment 1.6S: New Impervious and Pervious Area

Runoff = 1.93 cfs @ 12.11 hrs, Volume= 0.146 af, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.30"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	55	Woods, Good, HSG B
0.250	61	>75% Grass cover, Good, HSG B
0.450	63	Weighted Average
0.400		88.89% Pervious Area
0.050		11.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	300	Total			

Mount Kisco - Driveway Drainage

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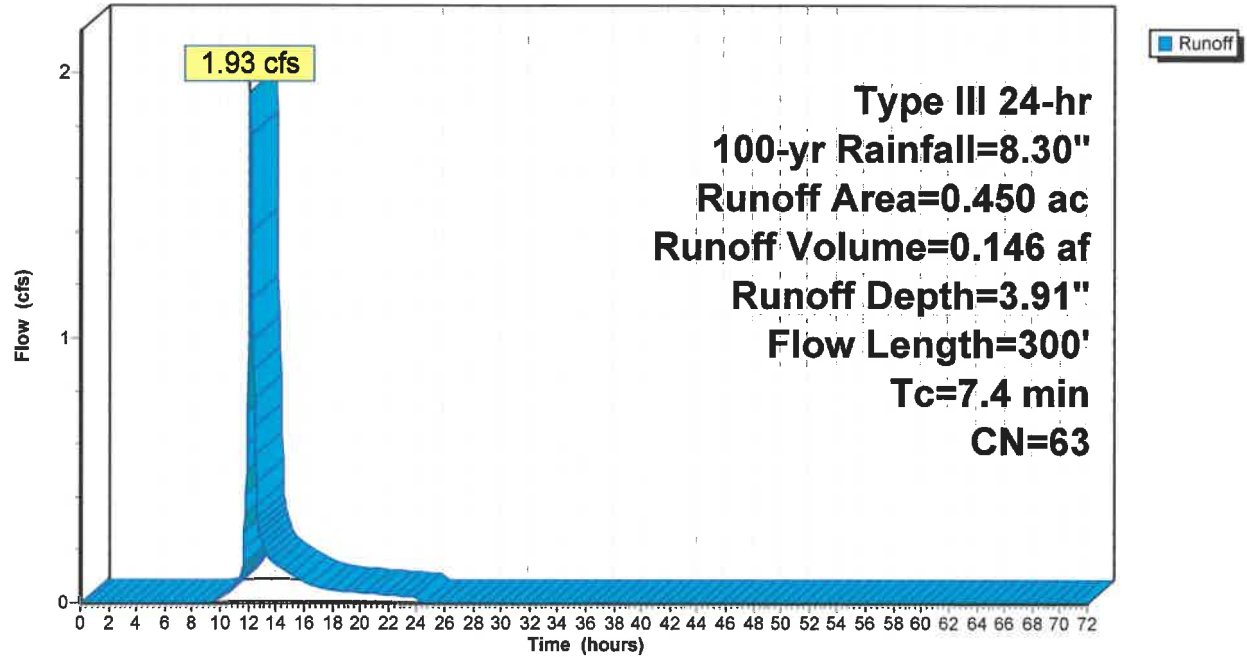
Type III 24-hr 100-yr Rainfall=8.30"

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Subcatchment 1.6S: New Impervious and Pervious Area

Hydrograph



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Type III 24-hr 100-yr Rainfall=8.30"

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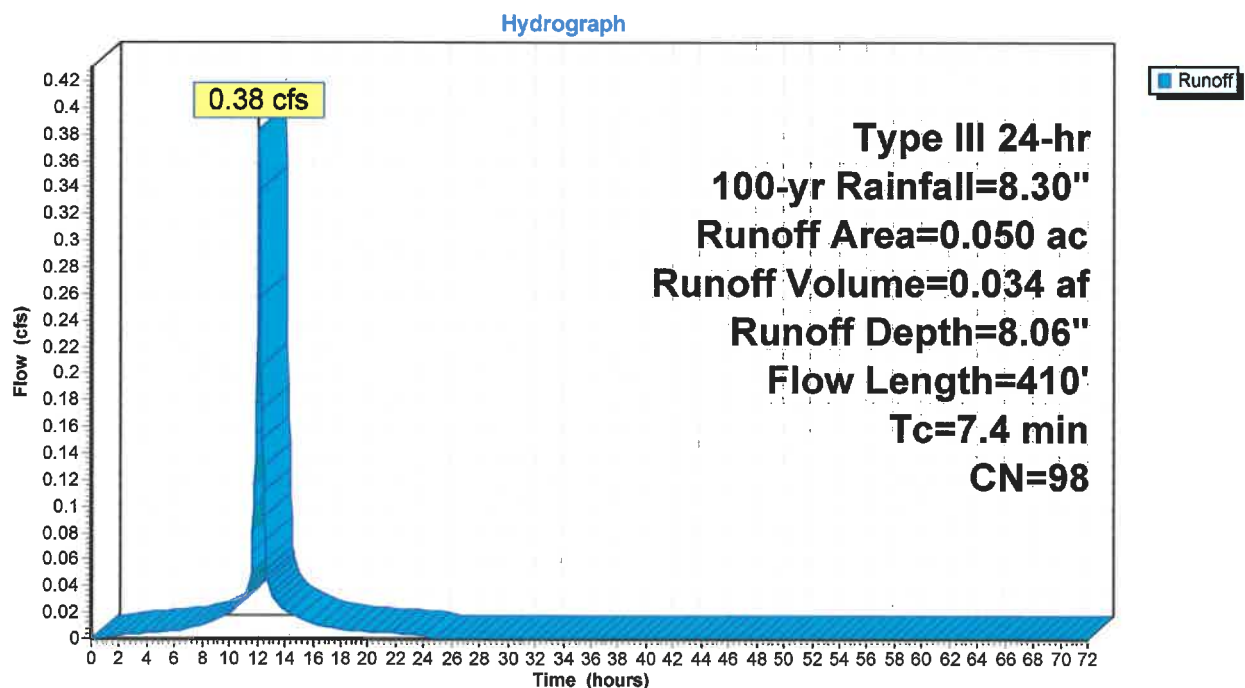
Summary for Subcatchment 1.7 S: Existing Impervious

Runoff = 0.38 cfs @ 12.10 hrs, Volume= 0.034 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.30"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7 S: Existing Impervious

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Type III 24-hr 100-yr Rainfall=8.30"

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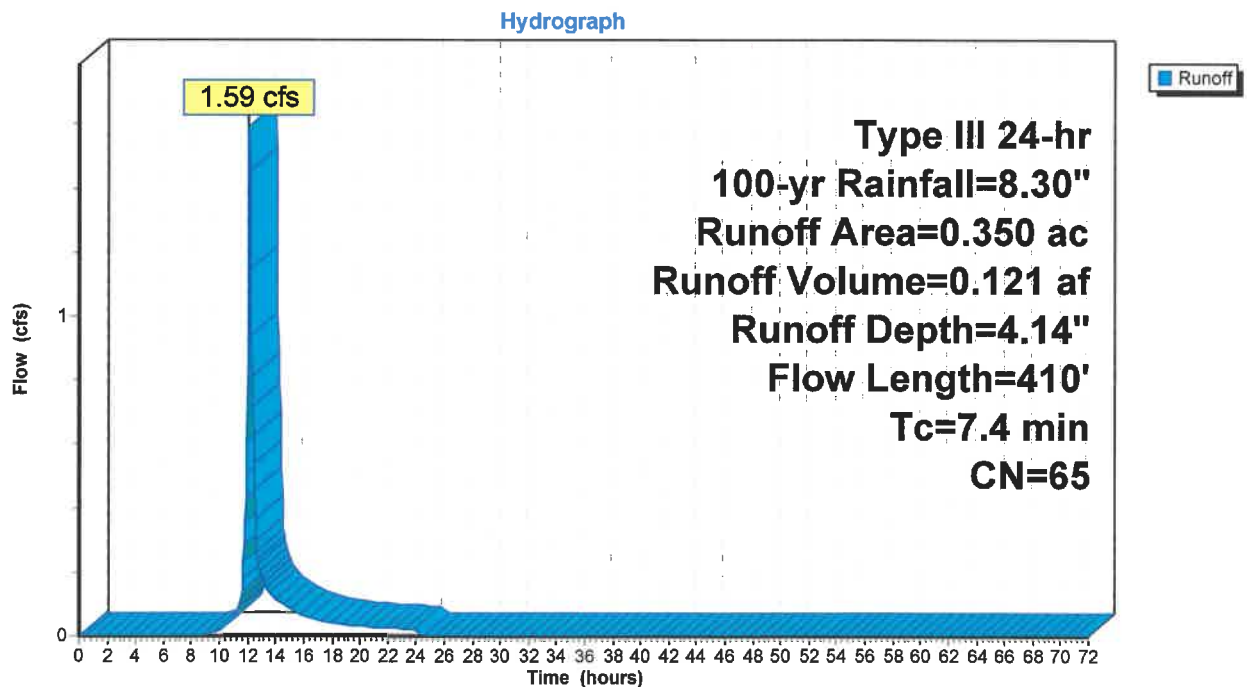
Summary for Subcatchment 1.7S: New Impervious and Pervious Area

Runoff = 1.59 cfs @ 12.11 hrs, Volume= 0.121 af, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.30"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	61	>75% Grass cover, Good, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.350	65	Weighted Average
0.300		85.71% Pervious Area
0.050		14.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7S: New Impervious and Pervious Area

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Type III 24-hr 100-yr Rainfall=8.30"

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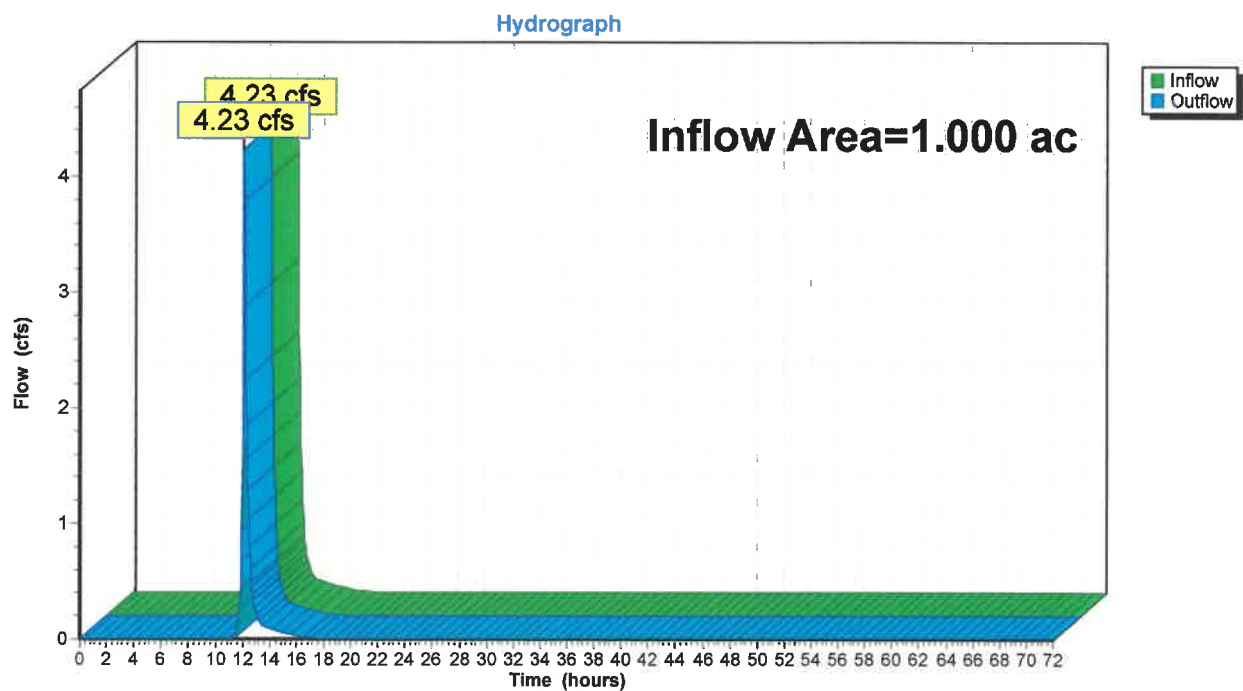
Summary for Reach DL3:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.000 ac, 30.00% Impervious, Inflow Depth = 1.79" for 100-yr event
Inflow = 4.23 cfs @ 12.11 hrs, Volume= 0.149 af
Outflow = 4.23 cfs @ 12.11 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DL3:



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Type III 24-hr 100-yr Rainfall=8.30"

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Summary for Pond 1.6P:

[79] Warning: Submerged Pond CB FS1.6 Primary device # 1 INLET by 0.05'

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 3.72" for 100-yr event
 Inflow = 0.72 cfs @ 12.11 hrs, Volume= 0.186 af
 Outflow = 0.46 cfs @ 12.68 hrs, Volume= 0.186 af, Atten= 36%, Lag= 34.1 min
 Discarded = 0.31 cfs @ 11.65 hrs, Volume= 0.182 af
 Primary = 0.15 cfs @ 12.68 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 420.55' @ 12.68 hrs Surf.Area= 0.013 ac Storage= 0.023 af

Plug-Flow detention time= 18.4 min calculated for 0.186 af (100% of inflow)
 Center-of-Mass det. time= 18.3 min (841.1 - 822.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	417.80'	0.013 af	11.00'W x 52.29'L x 3.50'H Field A 0.046 af Overall - 0.015 af Embedded = 0.031 af x 40.0% Voids
#2A	418.30'	0.015 af	ADS_StormTech SC-740 +Cap x 14 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 7 Chambers
		0.027 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	417.80'	23.000 in/hr Exfiltration over Horizontal area Phase-In= 0.05'
#2	Primary	420.30'	6.0" Round 6.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.30' / 419.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.31 cfs @ 11.65 hrs HW=417.91' (Free Discharge)↑ **1=Exfiltration** (Exfiltration Controls 0.31 cfs)**Primary OutFlow** Max=0.15 cfs @ 12.68 hrs HW=420.55' (Free Discharge)↑ **2=6.0" Round Culvert** (Barrel Controls 0.15 cfs @ 2.31 fps)

Mount Kisco - Driveway Drainage

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Type III 24-hr 100-yr Rainfall=8.30"

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Pond 1.6P: - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +5.0" End Stone x 2 = 52.29'

Base Length

2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

14 Chambers x 45.9 cf = 643.2 cf Chamber Storage

2,013.2 cf Field - 643.2 cf Chambers = 1,370.0 cf Stone x 40.0% Voids = 548.0 cf Stone Storage

Chamber Storage + Stone Storage = 1,191.2 cf = 0.027 af

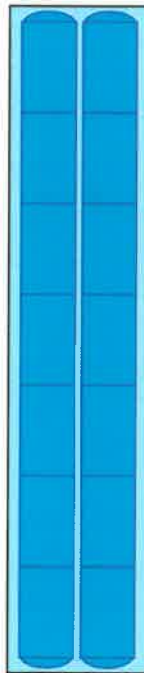
Overall Storage Efficiency = 59.2%

Overall System Size = 52.29' x 11.00' x 3.50'

14 Chambers

74.6 cy Field

50.7 cy Stone



Mount Kisco - Driveway Drainage

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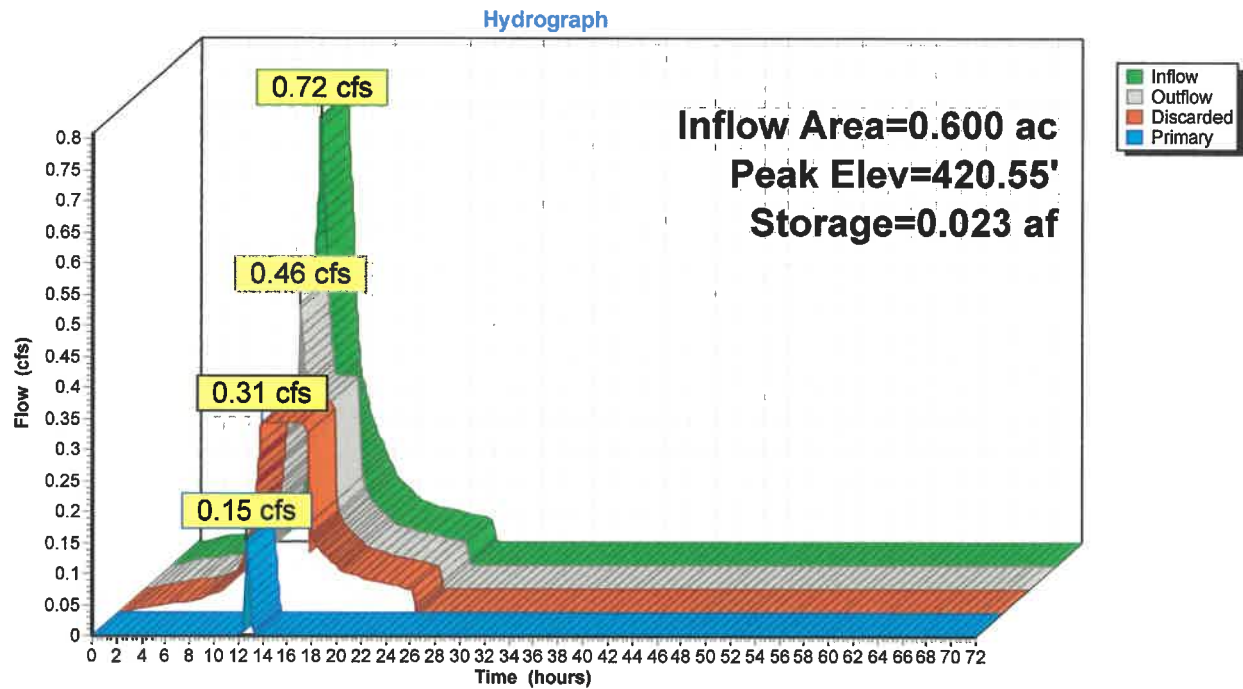
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Pond 1.6P:



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Type III 24-hr 100-yr Rainfall=8.30"

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Stage-Area-Storage for Pond 1.6P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)	Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
417.80	0.013	0.000	420.45	0.013	0.023
417.85	0.013	0.000	420.50	0.013	0.023
417.90	0.013	0.001	420.55	0.013	0.023
417.95	0.013	0.001	420.60	0.013	0.024
418.00	0.013	0.001	420.65	0.013	0.024
418.05	0.013	0.001	420.70	0.013	0.024
418.10	0.013	0.002	420.75	0.013	0.024
418.15	0.013	0.002	420.80	0.013	0.025
418.20	0.013	0.002	420.85	0.013	0.025
418.25	0.013	0.002	420.90	0.013	0.025
418.30	0.013	0.003	420.95	0.013	0.025
418.35	0.013	0.003	421.00	0.013	0.026
418.40	0.013	0.004	421.05	0.013	0.026
418.45	0.013	0.004	421.10	0.013	0.026
418.50	0.013	0.005	421.15	0.013	0.027
418.55	0.013	0.005	421.20	0.013	0.027
418.60	0.013	0.006	421.25	0.013	0.027
418.65	0.013	0.006	421.30	0.013	0.027
418.70	0.013	0.007			
418.75	0.013	0.007			
418.80	0.013	0.008			
418.85	0.013	0.008			
418.90	0.013	0.009			
418.95	0.013	0.009			
419.00	0.013	0.010			
419.05	0.013	0.010			
419.10	0.013	0.011			
419.15	0.013	0.011			
419.20	0.013	0.012			
419.25	0.013	0.012			
419.30	0.013	0.013			
419.35	0.013	0.013			
419.40	0.013	0.014			
419.45	0.013	0.014			
419.50	0.013	0.015			
419.55	0.013	0.015			
419.60	0.013	0.016			
419.65	0.013	0.016			
419.70	0.013	0.016			
419.75	0.013	0.017			
419.80	0.013	0.017			
419.85	0.013	0.018			
419.90	0.013	0.018			
419.95	0.013	0.019			
420.00	0.013	0.019			
420.05	0.013	0.020			
420.10	0.013	0.020			
420.15	0.013	0.020			
420.20	0.013	0.021			
420.25	0.013	0.021			
420.30	0.013	0.022			
420.35	0.013	0.022			
420.40	0.013	0.022			

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Summary for Pond 1.7P:

[79] Warning: Submerged Pond CB FS 1.7 Primary device # 1 INLET by 0.21'

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 3.70" for 100-yr event
 Inflow = 0.65 cfs @ 12.11 hrs, Volume= 0.123 af
 Outflow = 0.62 cfs @ 12.17 hrs, Volume= 0.123 af, Atten= 5%, Lag= 3.8 min
 Discarded = 0.05 cfs @ 10.40 hrs, Volume= 0.071 af
 Primary = 0.57 cfs @ 12.17 hrs, Volume= 0.052 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 398.22' @ 12.17 hrs Surf.Area= 0.010 ac Storage= 0.018 af

Plug-Flow detention time= 93.2 min calculated for 0.123 af (100% of inflow)
 Center-of-Mass det. time= 93.2 min (929.4 - 836.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	395.10'	0.009 af	11.00'W x 38.05'L x 3.50'H Field A 0.034 af Overall - 0.011 af Embedded = 0.023 af x 40.0% Voids
#2A	395.60'	0.011 af	ADS_StormTech SC-740 +Cap x 10 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 5 Chambers
		0.020 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	395.10'	5.000 in/hr Exfiltration over Horizontal area Phase-In= 0.05'
#2	Primary	397.60'	6.0" Round 6.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.60' / 397.10' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.05 cfs @ 10.40 hrs HW=395.18' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.57 cfs @ 12.17 hrs HW=398.21' (Free Discharge)
 ↳ **2=6.0" Round Culvert** (Barrel Controls 0.57 cfs @ 3.00 fps)

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Pond 1.7P: - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +5.0" End Stone x 2 = 38.05' Base Length

2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

10 Chambers x 45.9 cf = 459.4 cf Chamber Storage

1,464.9 cf Field - 459.4 cf Chambers = 1,005.5 cf Stone x 40.0% Voids = 402.2 cf Stone Storage

Chamber Storage + Stone Storage = 861.6 cf = 0.020 af

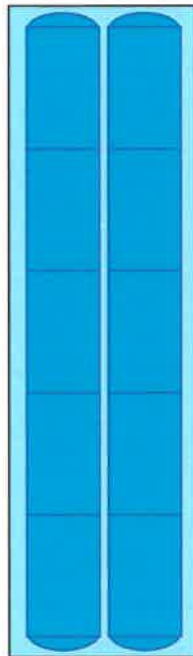
Overall Storage Efficiency = 58.8%

Overall System Size = 38.05' x 11.00' x 3.50'

10 Chambers

54.3 cy Field

37.2 cy Stone



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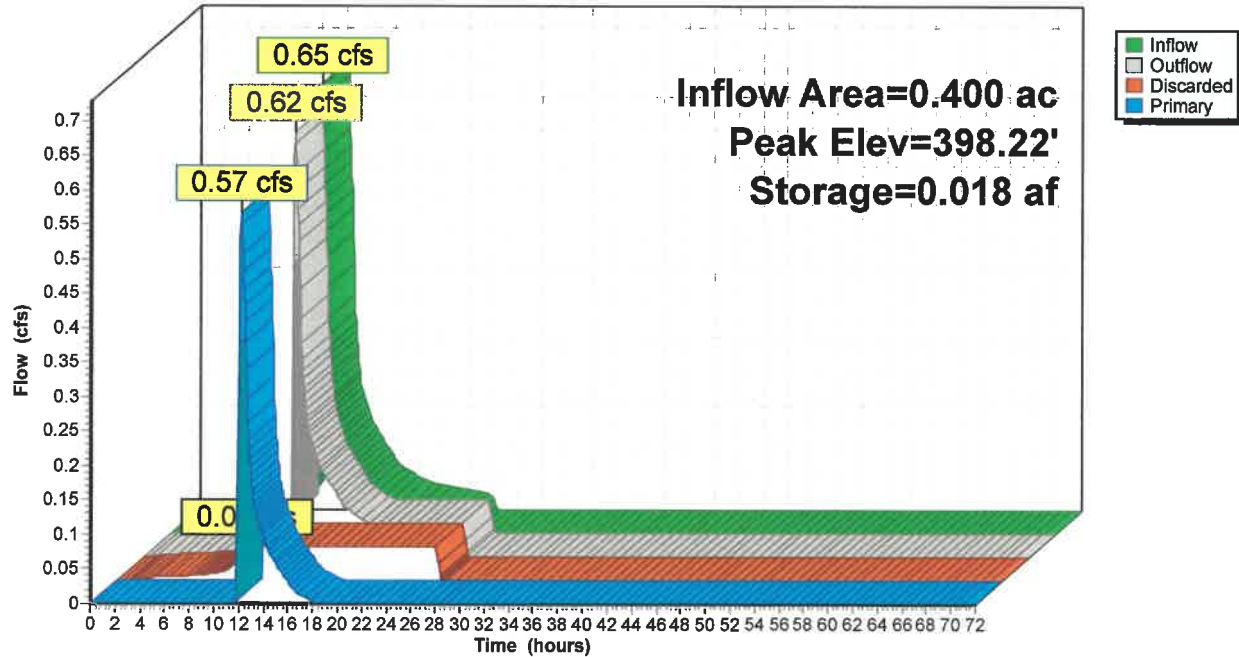
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Pond 1.7P:

Hydrograph



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Stage-Area-Storage for Pond 1.7P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)	Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
395.10	0.010	0.000	397.75	0.010	0.016
395.15	0.010	0.000	397.80	0.010	0.017
395.20	0.010	0.000	397.85	0.010	0.017
395.25	0.010	0.001	397.90	0.010	0.017
395.30	0.010	0.001	397.95	0.010	0.017
395.35	0.010	0.001	398.00	0.010	0.017
395.40	0.010	0.001	398.05	0.010	0.018
395.45	0.010	0.001	398.10	0.010	0.018
395.50	0.010	0.002	398.15	0.010	0.018
395.55	0.010	0.002	398.20	0.010	0.018
395.60	0.010	0.002	398.25	0.010	0.018
395.65	0.010	0.002	398.30	0.010	0.019
395.70	0.010	0.003	398.35	0.010	0.019
395.75	0.010	0.003	398.40	0.010	0.019
395.80	0.010	0.003	398.45	0.010	0.019
395.85	0.010	0.004	398.50	0.010	0.019
395.90	0.010	0.004	398.55	0.010	0.020
395.95	0.010	0.005	398.60	0.010	0.020
396.00	0.010	0.005			
396.05	0.010	0.005			
396.10	0.010	0.006			
396.15	0.010	0.006			
396.20	0.010	0.006			
396.25	0.010	0.007			
396.30	0.010	0.007			
396.35	0.010	0.007			
396.40	0.010	0.008			
396.45	0.010	0.008			
396.50	0.010	0.008			
396.55	0.010	0.009			
396.60	0.010	0.009			
396.65	0.010	0.010			
396.70	0.010	0.010			
396.75	0.010	0.010			
396.80	0.010	0.011			
396.85	0.010	0.011			
396.90	0.010	0.011			
396.95	0.010	0.012			
397.00	0.010	0.012			
397.05	0.010	0.012			
397.10	0.010	0.013			
397.15	0.010	0.013			
397.20	0.010	0.013			
397.25	0.010	0.013			
397.30	0.010	0.014			
397.35	0.010	0.014			
397.40	0.010	0.014			
397.45	0.010	0.015			
397.50	0.010	0.015			
397.55	0.010	0.015			
397.60	0.010	0.016			
397.65	0.010	0.016			
397.70	0.010	0.016			

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Type III 24-hr 100-yr Rainfall=8.30"

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Summary for Pond CB FS 1.7:

[57] Hint: Peaked at 398.72' (Flood elevation advised)


Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 4.63" for 100-yr event
 Inflow = 1.98 cfs @ 12.11 hrs, Volume= 0.154 af
 Outflow = 1.98 cfs @ 12.11 hrs, Volume= 0.154 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.65 cfs @ 12.11 hrs, Volume= 0.123 af
 Secondary = 1.33 cfs @ 12.11 hrs, Volume= 0.031 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 398.72' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	398.00'	6.0" Round 6.0" Round Culvert L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 398.00' / 397.80' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	397.50'	12.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.50' / 397.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	398.40'	2.5' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.65 cfs @ 12.11 hrs HW=398.72' (Free Discharge)

1=6.0" Round Culvert (Inlet Controls 0.65 cfs @ 3.30 fps)
Secondary OutFlow Max=1.29 cfs @ 12.11 hrs HW=398.72' (Free Discharge)

2=Culvert (Passes 1.29 cfs of 3.21 cfs potential flow)


3=Broad-Crested Rectangular Weir (Weir Controls 1.29 cfs @ 1.62 fps)

Mount Kisco - Driveway Drainage

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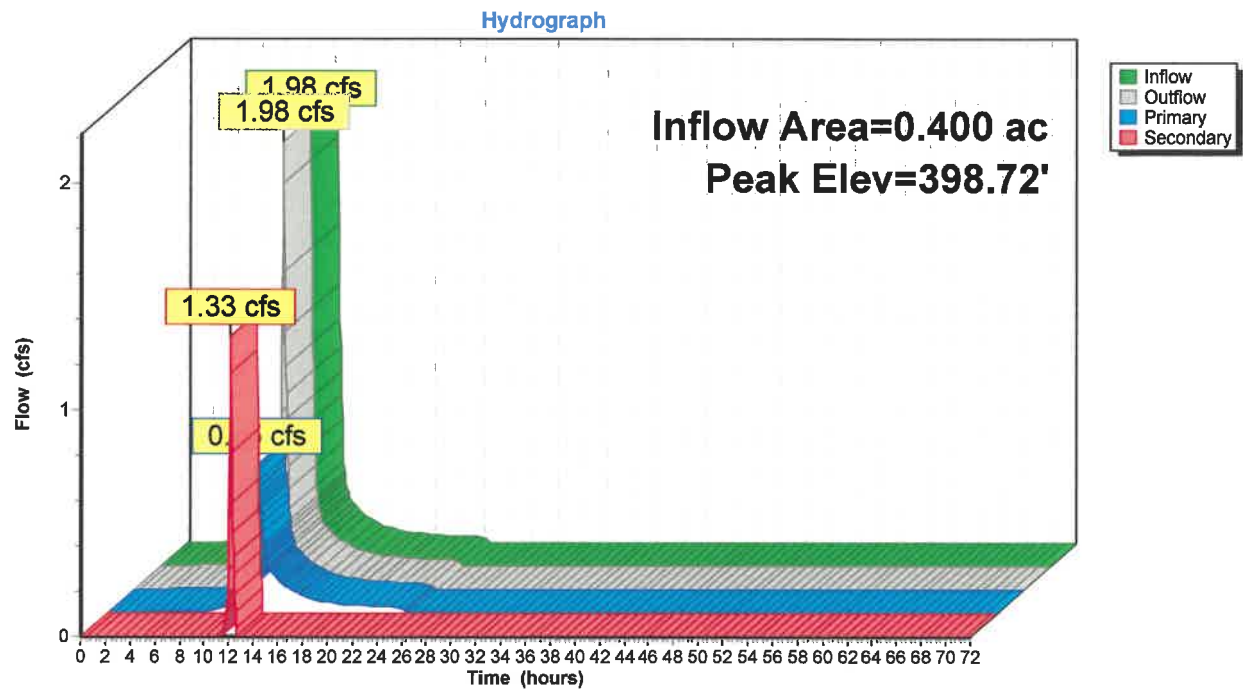
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Pond CB FS 1.7:



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Stage-Area-Storage for Pond CB FS 1.7:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
397.50	0	398.03	0	398.56	0
397.51	0	398.04	0	398.57	0
397.52	0	398.05	0	398.58	0
397.53	0	398.06	0	398.59	0
397.54	0	398.07	0	398.60	0
397.55	0	398.08	0	398.61	0
397.56	0	398.09	0	398.62	0
397.57	0	398.10	0	398.63	0
397.58	0	398.11	0	398.64	0
397.59	0	398.12	0	398.65	0
397.60	0	398.13	0	398.66	0
397.61	0	398.14	0	398.67	0
397.62	0	398.15	0	398.68	0
397.63	0	398.16	0	398.69	0
397.64	0	398.17	0	398.70	0
397.65	0	398.18	0	398.71	0
397.66	0	398.19	0	398.72	0
397.67	0	398.20	0	398.73	0
397.68	0	398.21	0		
397.69	0	398.22	0		
397.70	0	398.23	0		
397.71	0	398.24	0		
397.72	0	398.25	0		
397.73	0	398.26	0		
397.74	0	398.27	0		
397.75	0	398.28	0		
397.76	0	398.29	0		
397.77	0	398.30	0		
397.78	0	398.31	0		
397.79	0	398.32	0		
397.80	0	398.33	0		
397.81	0	398.34	0		
397.82	0	398.35	0		
397.83	0	398.36	0		
397.84	0	398.37	0		
397.85	0	398.38	0		
397.86	0	398.39	0		
397.87	0	398.40	0		
397.88	0	398.41	0		
397.89	0	398.42	0		
397.90	0	398.43	0		
397.91	0	398.44	0		
397.92	0	398.45	0		
397.93	0	398.46	0		
397.94	0	398.47	0		
397.95	0	398.48	0		
397.96	0	398.49	0		
397.97	0	398.50	0		
397.98	0	398.51	0		
397.99	0	398.52	0		
398.00	0	398.53	0		
398.01	0	398.54	0		
398.02	0	398.55	0		

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Type III 24-hr 100-yr Rainfall=8.30"

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Summary for Pond CB FS1.6:

[57] Hint: Peaked at 421.55' (Flood elevation advised)

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 4.94" for 100-yr event
 Inflow = 3.08 cfs @ 12.11 hrs, Volume= 0.247 af
 Outflow = 3.08 cfs @ 12.11 hrs, Volume= 0.247 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.72 cfs @ 12.11 hrs, Volume= 0.186 af
 Secondary = 2.36 cfs @ 12.11 hrs, Volume= 0.061 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 421.55' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	420.50'	6.0" Round 6.0" Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.50' / 420.40' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	420.00'	12.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.00' / 419.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	421.20'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.72 cfs @ 12.11 hrs HW=421.54' (Free Discharge)

1=6.0" Culvert (Barrel Controls 0.72 cfs @ 3.66 fps)

Secondary OutFlow Max=2.30 cfs @ 12.11 hrs HW=421.54' (Free Discharge)

2=Culvert (Passes 2.30 cfs of 3.86 cfs potential flow)

3=Broad-Crested Rectangular Weir (Weir Controls 2.30 cfs @ 1.69 fps)

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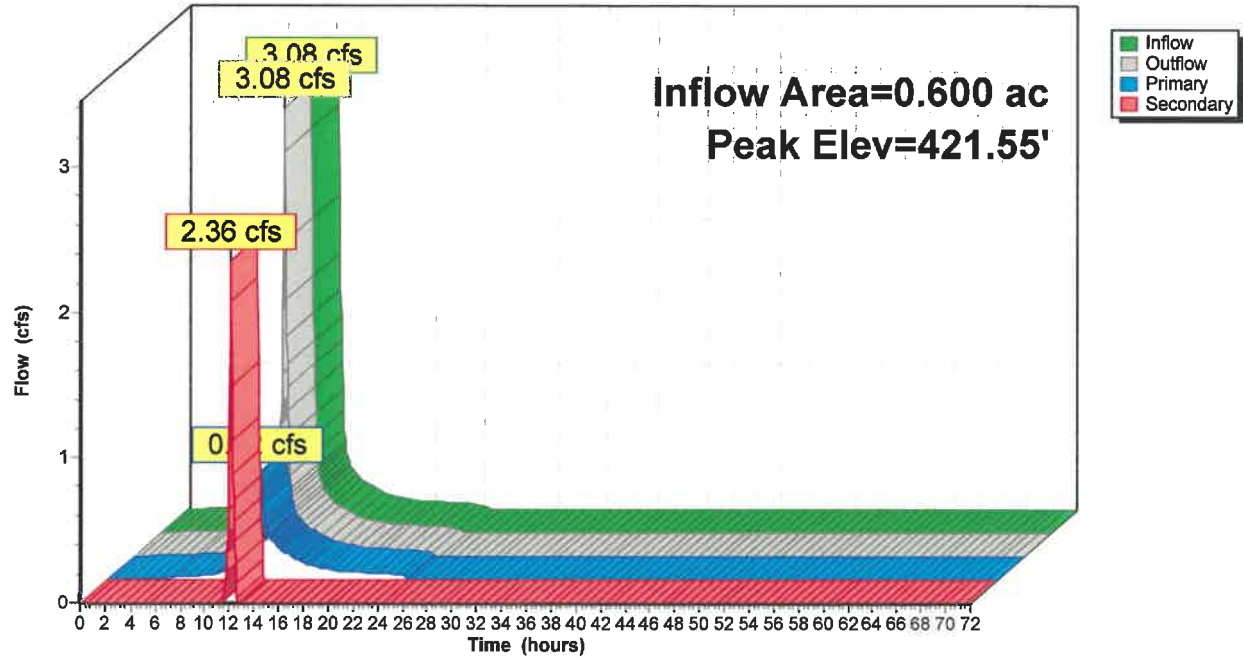
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Pond CB FS1.6:

Hydrograph



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Type III 24-hr 100-yr Rainfall=8.30"

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Stage-Area-Storage for Pond CB FS1.6:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
420.00	0	420.53	0	421.06	0
420.01	0	420.54	0	421.07	0
420.02	0	420.55	0	421.08	0
420.03	0	420.56	0	421.09	0
420.04	0	420.57	0	421.10	0
420.05	0	420.58	0	421.11	0
420.06	0	420.59	0	421.12	0
420.07	0	420.60	0	421.13	0
420.08	0	420.61	0	421.14	0
420.09	0	420.62	0	421.15	0
420.10	0	420.63	0	421.16	0
420.11	0	420.64	0	421.17	0
420.12	0	420.65	0	421.18	0
420.13	0	420.66	0	421.19	0
420.14	0	420.67	0	421.20	0
420.15	0	420.68	0	421.21	0
420.16	0	420.69	0	421.22	0
420.17	0	420.70	0	421.23	0
420.18	0	420.71	0	421.24	0
420.19	0	420.72	0	421.25	0
420.20	0	420.73	0	421.26	0
420.21	0	420.74	0	421.27	0
420.22	0	420.75	0	421.28	0
420.23	0	420.76	0	421.29	0
420.24	0	420.77	0	421.30	0
420.25	0	420.78	0	421.31	0
420.26	0	420.79	0	421.32	0
420.27	0	420.80	0	421.33	0
420.28	0	420.81	0	421.34	0
420.29	0	420.82	0	421.35	0
420.30	0	420.83	0	421.36	0
420.31	0	420.84	0	421.37	0
420.32	0	420.85	0	421.38	0
420.33	0	420.86	0	421.39	0
420.34	0	420.87	0	421.40	0
420.35	0	420.88	0	421.41	0
420.36	0	420.89	0	421.42	0
420.37	0	420.90	0	421.43	0
420.38	0	420.91	0	421.44	0
420.39	0	420.92	0	421.45	0
420.40	0	420.93	0	421.46	0
420.41	0	420.94	0	421.47	0
420.42	0	420.95	0	421.48	0
420.43	0	420.96	0	421.49	0
420.44	0	420.97	0	421.50	0
420.45	0	420.98	0	421.51	0
420.46	0	420.99	0	421.52	0
420.47	0	421.00	0	421.53	0
420.48	0	421.01	0	421.54	0
420.49	0	421.02	0	421.55	0
420.50	0	421.03	0		
420.51	0	421.04	0		
420.52	0	421.05	0		

APPENDIX G: HYDRODYNAMICS SEPARATOR SIZING AND MAINTENANCE



State of New Jersey

PHILIP D. MURPHY
Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

CATHERINE R. MCCABE
Acting Commissioner

SHEILA Y. OLIVER
Lt. Governor

Mail Code – 401-02B
Division of Water Quality
Bureau of Nonpoint Pollution Control
P.O. Box 420 – 401 E. State St.
Trenton, NJ 08625-0420
Phone: (609) 633-7021 / Fax: (609) 777-0432
http://www.state.nj.us/dep/dwq/bnpc_home.htm

March 27, 2018

Graham Bryant, M.Sc., P.E.
President
Hydroworks, LLC
136 Central Avenue
Clark, NJ 07066

Re: MTD Lab Certification
HydroStorm Hydrodynamic Separator by Hydroworks, LLC
Online Installation

TSS Removal Rate 50%

Dear Mr. Bryant:

The Stormwater Management rules under N.J.A.C. 7:8-5.5(b) and 5.7 (c) allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards at N.J.A.C. 7:8-5 if the pollutant removal rates have been verified by the New Jersey Corporation for Advanced Technology (NJCAT) and have been certified by the New Jersey Department of Environmental Protection (NJDEP). Hydroworks, LLC has requested an MTD Laboratory Certification for the Hydroworks HydroStorm Hydrodynamic Separator.

The project falls under the “Procedure for Obtaining Verification of a Stormwater Manufactured Treatment Device from New Jersey Corporation for Advance Technology” dated January 25, 2013. The applicable protocol is the “New Jersey Laboratory Testing Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device” dated January 25, 2013.

NJCAT verification documents submitted to the NJDEP indicate that the requirements of the aforementioned protocol have been met or exceeded. The NJCAT letter also included a recommended certification TSS removal rate and the required maintenance plan. The NJCAT Verification Report with the Verification Appendix (dated February 2018) for this device is published online at <http://www.njcat.org/verification-process/technology-verification-database.html>.

The NJDEP certifies the use of the HydroStorm by Hydroworks, LLC at a TSS removal rate of 50% when designed, operated, and maintained in accordance with the information provided in the Verification Appendix and the following conditions:

1. The maximum treatment flow rate (MTFR) for the manufactured treatment device (MTD) is calculated using the New Jersey Water Quality Design Storm (1.25 inches in 2 hrs) in N.J.A.C. 7:8-5.5.
2. The HydroStorm shall be installed using the same configuration reviewed by NJCAT and shall be sized in accordance with the criteria specified in item 6 below.
3. This HydroStorm cannot be used in series with another MTD or a media filter (such as a sand filter) to achieve an enhanced removal rate for total suspended solids (TSS) removal under N.J.A.C. 7:8-5.5.
4. Additional design criteria for MTDs can be found in Chapter 9.6 of the New Jersey Stormwater Best Management Practices (NJ Stormwater BMP) Manual, which can be found online at www.njstormwater.org.
5. The maintenance plan for a site using this device shall incorporate, at a minimum, the maintenance requirements for the Hydrostorm. A copy of the maintenance plan is attached to this certification. However, it is recommended to review the maintenance website at <http://www.hydroworks.com/hydrostormo&m.pdf> for any changes to the maintenance requirements.
6. Sizing Requirement:

The example below demonstrates the sizing procedure for the Hydrostorm:

Example: A 0.25-acre impervious site is to be treated to 50% TSS removal using a HydroStorm. The impervious site runoff (Q) based on the New Jersey Water Quality Design Storm was determined to be 0.79 cfs.

Maximum Treatment Flow Rate (MTFR) Evaluation:

The site runoff (Q) was based on the following:

time of concentration = 10 minutes

$i = 3.2$ in/hr (page 5-8, Fig. 5-3 of the NJ Stormwater BMP Manual)

$c = 0.99$ (runoff coefficient for impervious)

$Q = ciA = 0.99 \times 3.2 \times 0.25 = 0.79$ cfs

Given the site runoff is 0.79 cfs and based on Table 1 below, the HydroStorm Model HS4 with a MTFR of 0.88 cfs could be used for this site to remove 50% of the TSS from the impervious area without exceeding the MTFR.

The sizing table corresponding to the available system models is noted below. Additional specifications regarding each model can be found in the Verification Appendix under Table A-1.

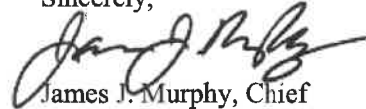
Table 1 HydroStorm Sizing Information

HydroStorm Model	NJDEP 50% TSS Maximum Treatment Flow Rate (cfs)	Treatment Area (ft²)	Hydraulic Loading Rate (gpm/ft²)	50% Maximum Sediment Storage (ft³)
HS3	0.50	7.1	31.4	3.6
HS4	0.88	12.6	31.4	6.3
HS5	1.37	19.6	31.4	9.8
HS6	1.98	28.3	31.4	14.2
HS7	2.69	38.5	31.4	19.3
HS8	3.52	50.3	31.4	25.2
HS9	4.45	63.6	31.4	31.8
HS10	5.49	78.5	31.4	39.3
HS11	6.65	95.0	31.4	47.5
HS12	7.91	113.0	31.4	56.5

A detailed maintenance plan is mandatory for any project with a Stormwater BMP subject to the Stormwater Management Rules, N.J.A.C. 7:8. The plan must include all of the items identified in the Stormwater Management Rules, N.J.A.C. 7:8-5.8. Such items include, but are not limited to, the list of inspection and maintenance equipment and tools, specific corrective and preventative maintenance tasks, indication of problems in the system, and training of maintenance personnel. Additional information can be found in Chapter 8: Maintenance and Retrofit of Stormwater Management Measures.

If you have any questions regarding the above information, please contact Brian Salvo or Nick Grotts of my office at (609) 633-7021.

Sincerely,



James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

Attachment: Maintenance Plan

cc: Chron File
Richard Magee, NJCAT
Vince Mazzei, NJDEP - DLUR
Ravi Patraju, NJDEP - BES
Gabriel Mahon, NJDEP - BNPC
Brian Salvo, NJDEP – BNPC
Nick Grotts, NJDEP – BNPC



Hydroworks® HydroStorm

Operations & Maintenance Manual

Version 1.0

Please call Hydroworks at 888-290-7900 or email us at support@hydroworks.com if you have any questions regarding the Inspection Checklist. Please fax a copy of the completed checklist to Hydroworks at 888-783-7271 for our records.

Introduction

The HydroStorm is a state of the art hydrodynamic separator. Hydrodynamic separators remove solids, debris and lighter than water (oil, trash, floating debris) pollutants from stormwater. Hydrodynamic separators and other water quality measures are mandated by regulatory agencies (Town/City, State, Federal Government) to protect storm water quality from pollution generated by urban development (traffic, people) as part of new development permitting requirements.

As storm water treatment structures fill up with pollutants they become less and less effective in removing new pollution. Therefore, it is important that storm water treatment structures be maintained on a regular basis to ensure that they are operating at optimum performance. The HydroStorm is no different in this regard and this manual has been assembled to provide the owner/operator with the necessary information to inspect and coordinate maintenance of their HydroStorm.

Hydroworks® HydroStorm Operation

The Hydroworks HydroStorm (HS) separator is a unique hydrodynamic by-pass separator. It incorporates a protected submerged pretreatment zone to collect larger solids, a treatment tank to remove finer solids, and a dual set of weirs to create a high flow bypass. High flows are conveyed directly to the outlet and do not enter the treatment area, however, the submerged pretreatment area still allows removal of coarse solids during high flows.

Under normal or low flows, water enters an inlet area with a horizontal grate. The area underneath the grate is submerged with openings to the main treatment area of the separator. Coarse solids fall through the grate and are either trapped in the pretreatment area or conveyed into the main treatment area depending on the flow rate. Fines are transported into the main treatment area. Openings and weirs in the pretreatment area allow entry of water and solids into the main treatment area and cause water to rotate in the main treatment area creating a vortex motion. Water in the main treatment area is forced to rise along the walls of the separator to discharge from the treatment area to the downstream pipe.

The vortex motion forces solids and floatables to the middle of the inner chamber. Floatables are trapped since the inlet to the treatment area is submerged. The design maximizes the retention of settled solids since solids are forced to the center of the inner chamber by the vortex motion of water while water must flow up the walls of the separator to discharge into the downstream pipe.

A set of high flow weirs near the outlet pipe create a high flow bypass over both the pretreatment area and main treatment chamber. The rate of flow into the treatment area is regulated by the number and size of openings into the treatment chamber and the height of by-pass weirs. High flows flow over the weirs directly to the outlet pipe preventing the scour and resuspension of any fines collected in the treatment chamber.



A central access tube is located in the structure to provide access for cleaning. The arrangement of the inlet area and bypass weirs near the outlet pipe facilitate the use of multiple inlet pipes.

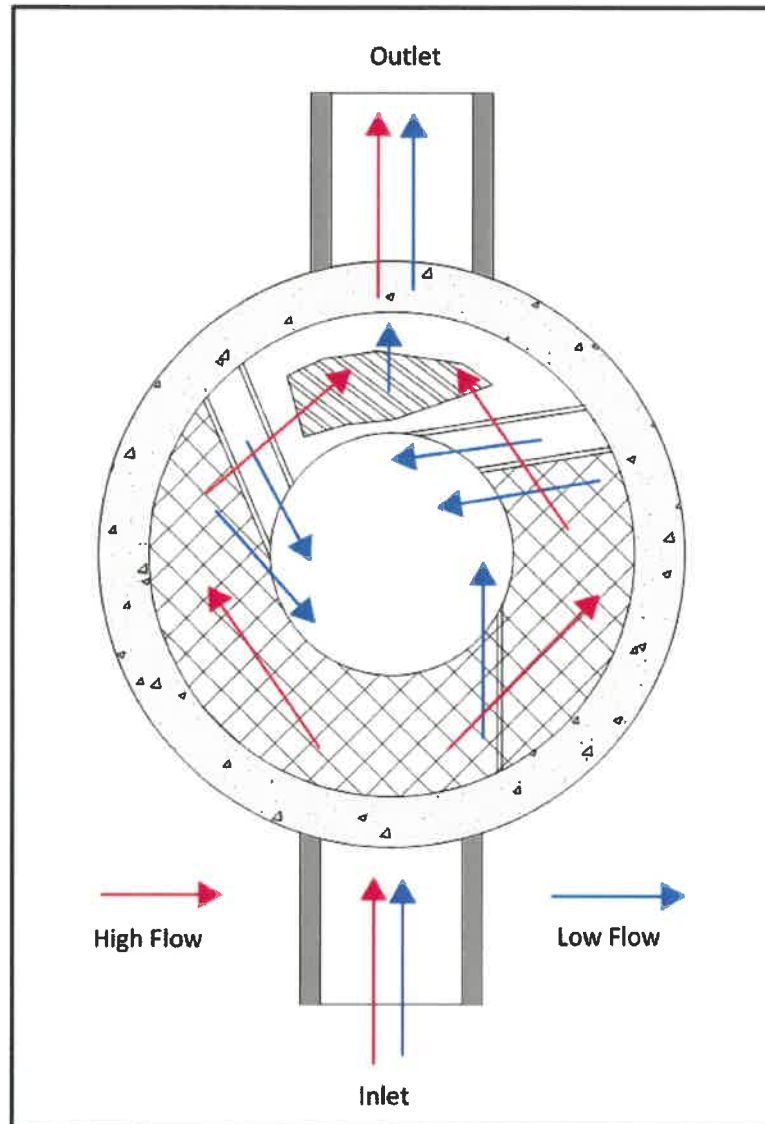


Figure 1. Hydroworks HydroStorm Operation – Plan View

Figure 2 is a profile view of the HydroStorm separator showing the flow patterns for low and high flows.

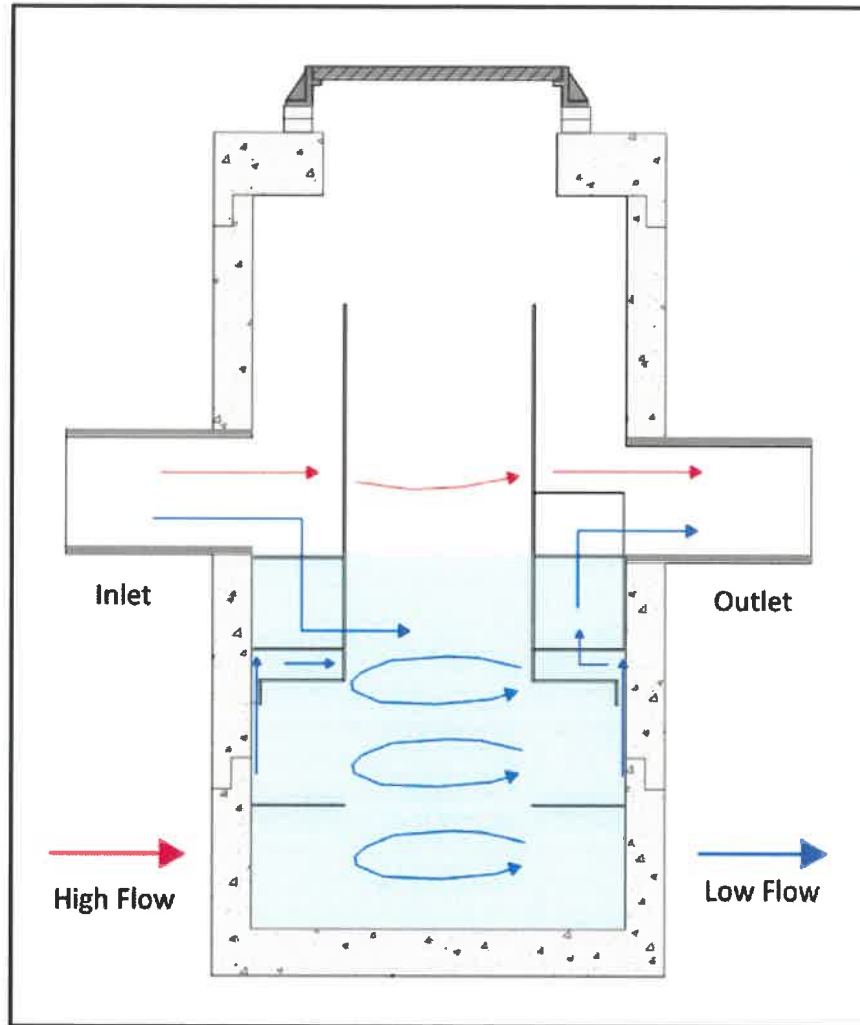


Figure 2. Hydroworks HydroStorm Operation – Profile View

The HS 4i is an inlet version of the HS 4 separator. There is a catch-basin grate on top of the HS 4i. A funnel sits underneath the grate on the frame and directs the water to the inlet side of the separator to ensure all low flows are properly treated. The whole funnel is removed for inspection and cleaning.

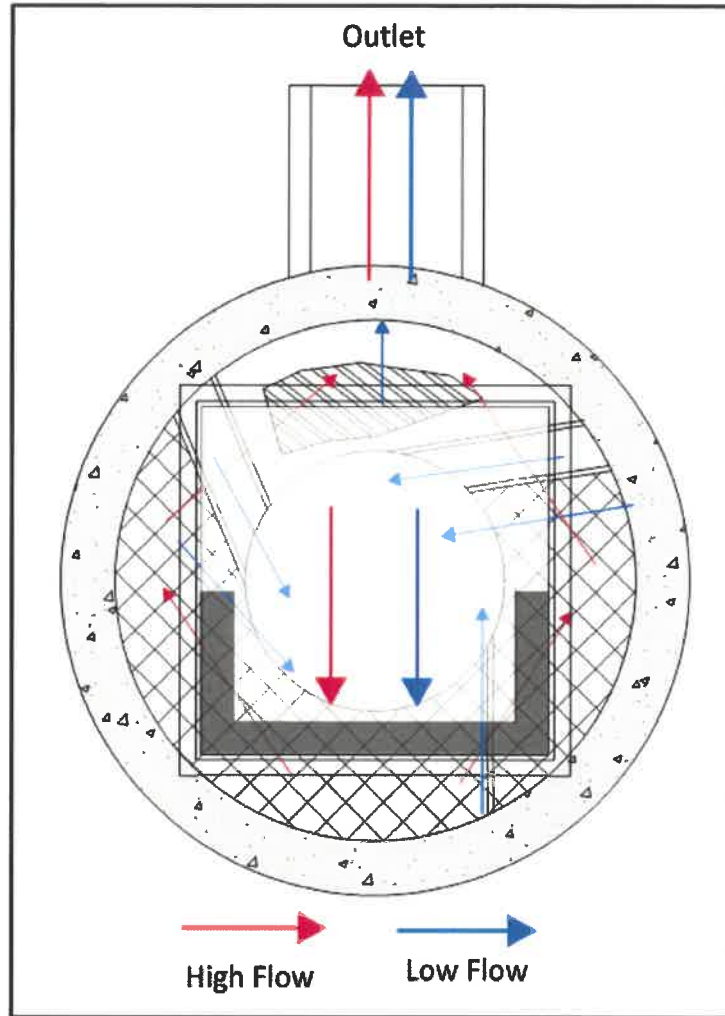


Figure 3. Hydroworks HS 4i Funnel

Inspection

Procedure

Floatables

A visual inspection can be conducted for floatables by removing the covers and looking down into the center access tube of the separator. Separators with an inlet grate (HS 4i or custom separator) will have a plastic funnel located under the grate that must be removed from the frame prior to inspection or maintenance. If you are missing a funnel please contact Hydroworks at the numbers provided at the end of this document.



TSS/Sediment

Inspection for TSS build-up can be conducted using a Sludge Judge®, Core Pro®, AccuSludge® or equivalent sampling device that allows the measurement of the depth of TSS/sediment in the unit. These devices typically have a ball valve at the bottom of the tube that allows water and TSS to flow into the tube when lowering the tube into the unit. Once the unit touches the bottom of the device, it is quickly pulled upward such that the water and TSS in the tube forces the ball valve closed allowing the user to see a full core of water/TSS in the unit. The unit should be inspected for TSS through each of the access covers. Several readings (2 or 3) should be made at each access cover to ensure that an accurate TSS depth measurement is recorded.

Frequency

Construction Period

The HydroStorm separator should be inspected every four weeks and after every large storm (over 0.5" (12.5 mm) of rain) during the construction period.

Post-Construction Period

The Hydroworks HydroStorm separator should be inspected during the first year of operation for normal stabilized sites (grassed or paved areas). If the unit is subject to oil spills or runoff from unstabilized (storage piles, exposed soils) areas the HydroStorm separator should be inspected more frequently (4 times per year). The initial annual inspection will indicate the required future frequency of inspection and maintenance if the unit was maintained after the construction period.

Reporting

Reports should be prepared as part of each inspection and include the following information:

1. Date of inspection
2. GPS coordinates of Hydroworks unit
3. Time since last rainfall
4. Date of last inspection
5. Installation deficiencies (missing parts, incorrect installation of parts)
6. Structural deficiencies (concrete cracks, broken parts)
7. Operational deficiencies (leaks, blockages)
8. Presence of oil sheen or depth of oil layer
9. Estimate of depth/volume of floatables (trash, leaves) captured
10. Sediment depth measured
11. Recommendations for any repairs and/or maintenance for the unit
12. Estimation of time before maintenance is required if not required at time of inspection



A sample inspection checklist is provided at the end of this manual.

Maintenance

Procedure

The Hydroworks HydroStorm unit is typically maintained using a vacuum truck. There are numerous companies that can maintain the HydroStorm separator. Maintenance with a vacuum truck involves removing all of the water and sediment together. The water is then separated from the sediment on the truck or at the disposal facility.

A central access opening (24" or greater) is provided to the gain access to the lower treatment tank of the unit. This is the primary location to maintain by vacuum truck. The pretreatment area can also be vacuumed and/or flushed into the lower treatment tank of the separator for cleaning via the central access once the water level is lowered below the pretreatment floor.

In instances where a vacuum truck is not available other maintenance methods (i.e. clamshell bucket) can be used, but they will be less effective. If a clamshell bucket is used the water must be decanted prior to cleaning since the sediment is under water and typically fine in nature. Disposal of the water will depend on local requirements. Disposal options for the decanted water may include:

1. Discharge into a nearby sanitary sewer manhole
2. Discharge into a nearby LID practice (grassed swale, bioretention)
3. Discharge through a filter bag into a downstream storm drain connection

The local municipality should be consulted for the allowable disposal options for both water and sediments prior to any maintenance operation. Once the water is decanted the sediment can be removed with the clamshell bucket.

Disposal of the contents of the separator depend on local requirements. Maintenance of a Hydroworks HydroStorm unit will typically take 1 to 2 hours based on a vacuum truck and longer for other cleaning methods (i.e. clamshell bucket).



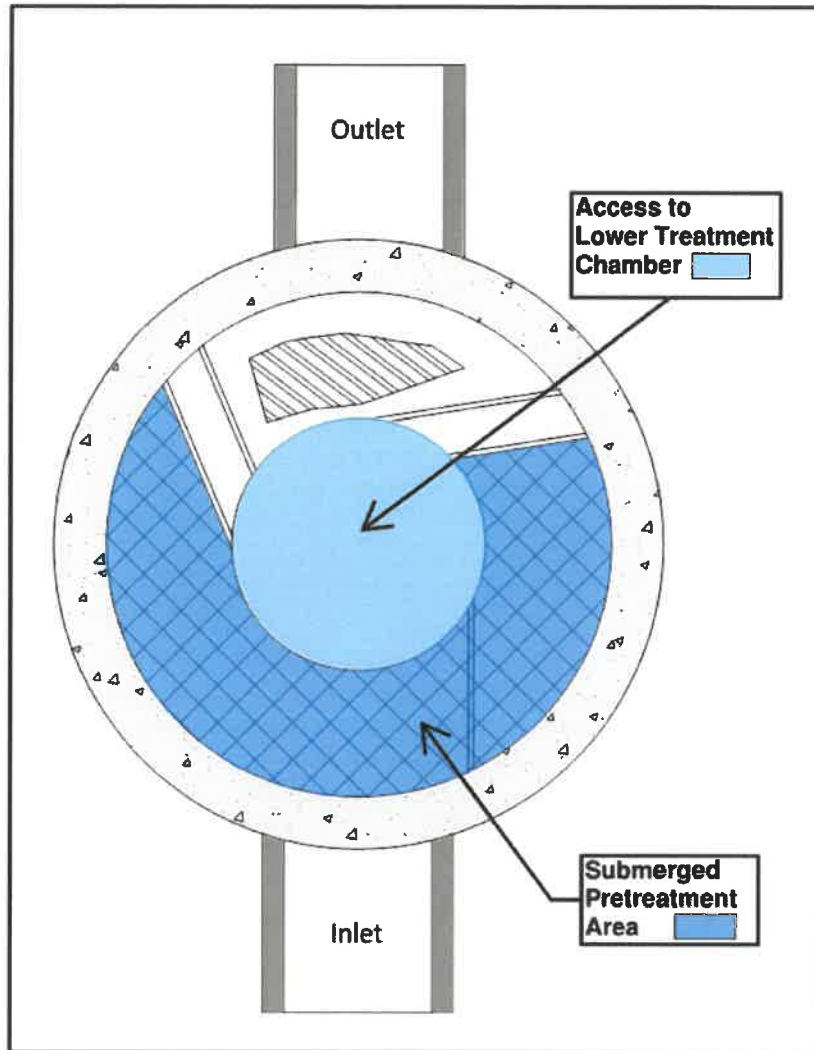


Figure 3. Maintenance Access

Frequency

Construction Period

A HydroStorm separator can fill with construction sediment quickly during the construction period. The HydroStorm must be maintained during the construction period when the depth of TSS/sediment reaches 24" (600 mm). It must also be maintained during the construction period if there is an appreciable depth of oil in the unit (more than a sheen) or if floatables other than oil cover over 50% of the area of the separator

The HydroStorm separator should be maintained at the end of the construction period, prior to operation for the post-construction period.



Post-Construction Period

The HydroStorm was independently tested by Alden Research Laboratory in 2017. A HydroStorm HS 4 was tested for scour with a 50% sediment depth of 0.5 ft. Therefore, maintenance for sediment accumulation is required if the depth of sediment is 1 ft or greater in separators with standard water (sump) depths (Table 1).

There will be designs with increased sediment storage based on specifications or site-specific criteria. A measurement of the total water depth in the separator through the central access tube should be taken and compared to water depth given in Table 1. The standard water depth from Table 1 should be subtracted from the measured water depth and the resulting extra depth should be added to the 1 ft to determine the site-specific sediment maintenance depth for that separator.

For example, if the measured water depth in the HS-7 is 7 feet, then the sediment maintenance depth for that HS-7 is 2 ft ($= 1 + 7 - 6$) and the separator does not need to be cleaned for sediment accumulation until the measure sediment depth is 2 ft.

The HydroStorm separator must also be maintained if there is an appreciable depth of oil in the unit (more than a sheen) or if floatables other than oil cover over 50% of the water surface of the separator.

Table 1 Standard Dimensions for Hydroworks HydroStorm Models

Model	Diameter (ft)	Total Water Depth (ft)	Sediment Maintenance Depth for Table 1 Total Water Depth(ft)
HS-3	3	3	1
HS-4	4	4	1
HS-5	5	4	1
HS-6	6	4	1
HS-7	7	6	1
HS-8	8	7	1
HS-9	9	7.5	1
HS-10	10	8	1
HS-11	11	9	1
HS-12	12	9.5	1



HYDROSTORM INSPECTION SHEET

Date _____
Date of Last Inspection _____

Site _____
City _____
State _____
Owner _____

GPS Coordinates _____

Date of last rainfall _____

Site Characteristics

	Yes	No
Soil erosion evident	<input type="checkbox"/>	<input type="checkbox"/>
Exposed material storage on site	<input type="checkbox"/>	<input type="checkbox"/>
Large exposure to leaf litter (lots of trees)	<input type="checkbox"/>	<input type="checkbox"/>
High traffic (vehicle) area	<input type="checkbox"/>	<input type="checkbox"/>

HydroStorm

	Yes	No
Obstructions in the inlet or outlet	<input type="checkbox"/> *	<input type="checkbox"/>
Missing internal components	<input type="checkbox"/> **	<input type="checkbox"/>
Improperly installed inlet or outlet pipes	<input type="checkbox"/> ***	<input type="checkbox"/>
Internal component damage (cracked, broken, loose pieces)	<input type="checkbox"/> **	<input type="checkbox"/>
Floating debris in the separator (oil, leaves, trash)	<input type="checkbox"/>	<input type="checkbox"/>
Large debris visible in the separator	<input type="checkbox"/> *	<input type="checkbox"/>
Concrete cracks/deficiencies	<input type="checkbox"/> ***	<input type="checkbox"/>
Exposed rebar	<input type="checkbox"/> **	<input type="checkbox"/>
Water seepage (water level not at outlet pipe invert)	<input type="checkbox"/> ***	<input type="checkbox"/>
Water level depth below outlet pipe invert _____"		

Routine Measurements

Floating debris depth	<input type="checkbox"/> < 0.5" (13mm)	<input type="checkbox"/> > 0.5" (13mm)	<input type="checkbox"/> *
Floating debris coverage	<input type="checkbox"/> < 50% of surface area	<input type="checkbox"/> > 50% surface area	<input type="checkbox"/> *
Sludge depth	<input type="checkbox"/> < 12" (300mm)	<input type="checkbox"/> > 12" (300mm)	<input type="checkbox"/> *

* Maintenance required
** Repairs required
*** Further investigation is required



Other Comments: _____

[illegible]



Hydroworks® HydroStorm

One Year Limited Warranty

Hydroworks, LLC warrants, to the purchaser and subsequent owner(s) during the warranty period subject to the terms and conditions hereof, the Hydroworks HydroStorm to be free from defects in material and workmanship under normal use and service, when properly installed, used, inspected and maintained in accordance with Hydroworks written instructions, for the period of the warranty. The standard warranty period is 1 year.

The warranty period begins once the separator has been manufactured and is available for delivery. Any components determined to be defective, either by failure or by inspection, in material and workmanship will be repaired, replaced or remanufactured at Hydroworks' option provided, however, that by doing so Hydroworks, LLC will not be obligated to replace an entire insert or concrete section, or the complete unit. This warranty does not cover shipping charges, damages, labor, any costs incurred to obtain access to the unit, any costs to repair/replace any surface treatment/cover after repair/replacement, or other charges that may occur due to product failure, repair or replacement.

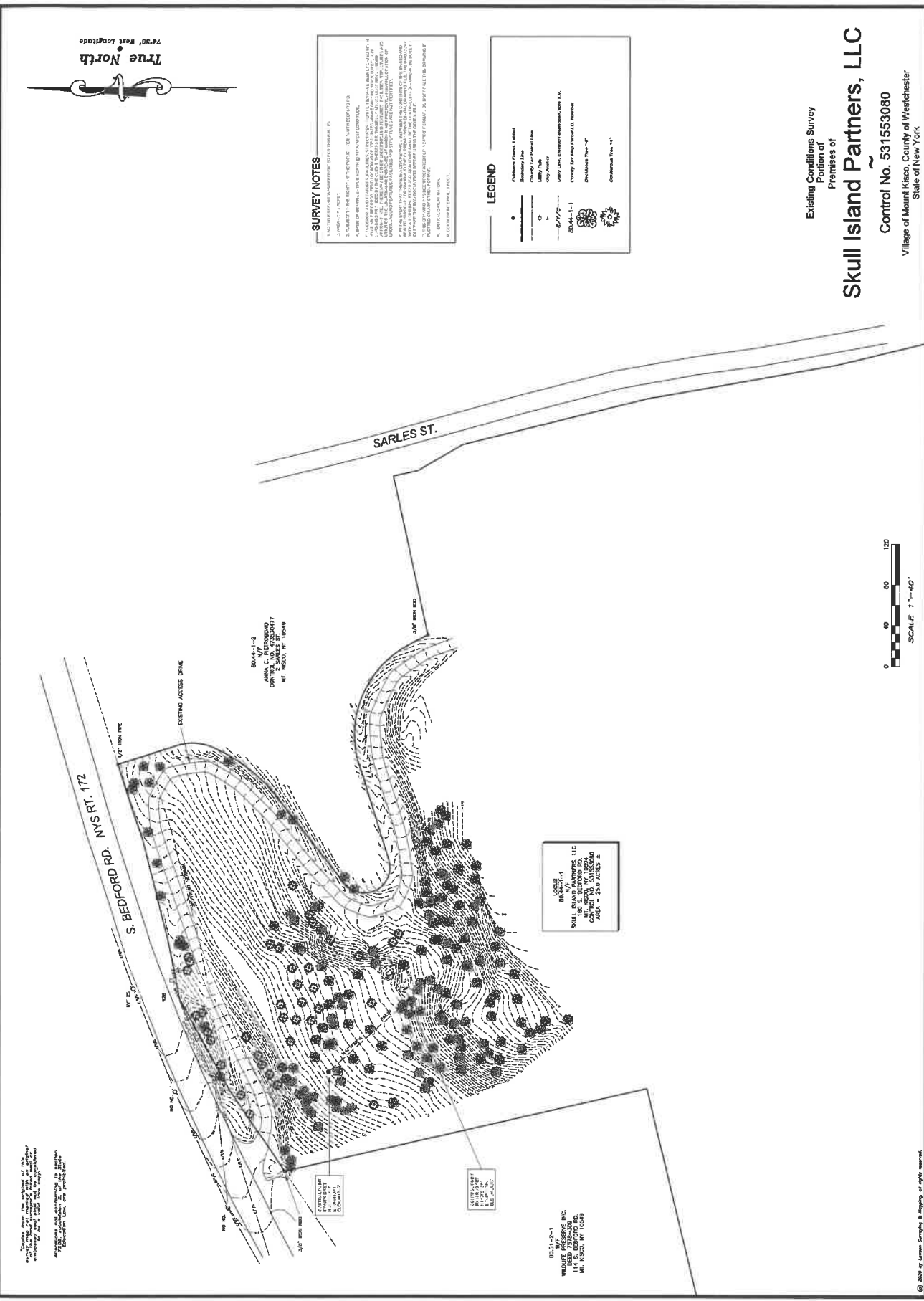
This warranty does not apply to any material that has been disassembled or modified without prior approval of Hydroworks, LLC, that has been subjected to misuse, misapplication, neglect, alteration, accident or act of God, or that has not been installed, inspected, operated or maintained in accordance with Hydroworks, LLC instructions and is in lieu of all other warranties expressed or implied. Hydroworks, LLC does not authorize any representative or other person to expand or otherwise modify this limited warranty.

The owner shall provide Hydroworks, LLC with written notice of any alleged defect in material or workmanship including a detailed description of the alleged defect upon discovery of the defect. Hydroworks, LLC should be contacted at 136 Central Ave., Clark, NJ 07066 or any other address as supplied by Hydroworks, LLC. (888-290-7900).

This limited warranty is exclusive. There are no other warranties, express or implied, or merchantability or fitness for a particular purpose and none shall be created whether under the uniform commercial code, custom or usage in the industry or the course of dealings between the parties. Hydroworks, LLC will replace any goods that are defective under this warranty as the sole and exclusive remedy for breach of this warranty.

Subject to the foregoing, all conditions, warranties, terms, undertakings or liabilities (including liability as to negligence), expressed or implied, and howsoever arising, as to the condition, suitability, fitness, safety, or title to the Hydroworks HydroStorm are hereby negated and excluded and Hydroworks, LLC gives and makes no such representation, warranty or undertaking except as expressly set forth herein. Under no circumstances shall Hydroworks, LLC be liable to the Purchaser or to any third party for product liability claims; claims arising from the design, shipment, or installation of the HydroStorm, or the cost of other goods or services related to the purchase and installation of the HydroStorm. For this Limited Warranty to apply, the HydroStorm must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and Hydroworks' written installation instructions.

Hydroworks, LLC expressly disclaims liability for special, consequential or incidental damages (even if it has been advised of the possibility of the same) or breach of expressed or implied warranty. Hydroworks, LLC shall not be liable for penalties or liquidated damages, including loss of production and profits; labor and materials; overhead costs; or other loss or expense incurred by the purchaser or any third party. Specifically excluded from limited warranty coverage are damages to the HydroStorm arising from ordinary wear and tear; alteration, accident, misuse, abuse or neglect; improper maintenance, failure of the product due to improper installation of the concrete sections or improper sizing; or any other event not caused by Hydroworks, LLC. This limited warranty represents Hydroworks' sole liability to the purchaser for claims related to the HydroStorm, whether the claim is based upon contract, tort, or other legal basis.

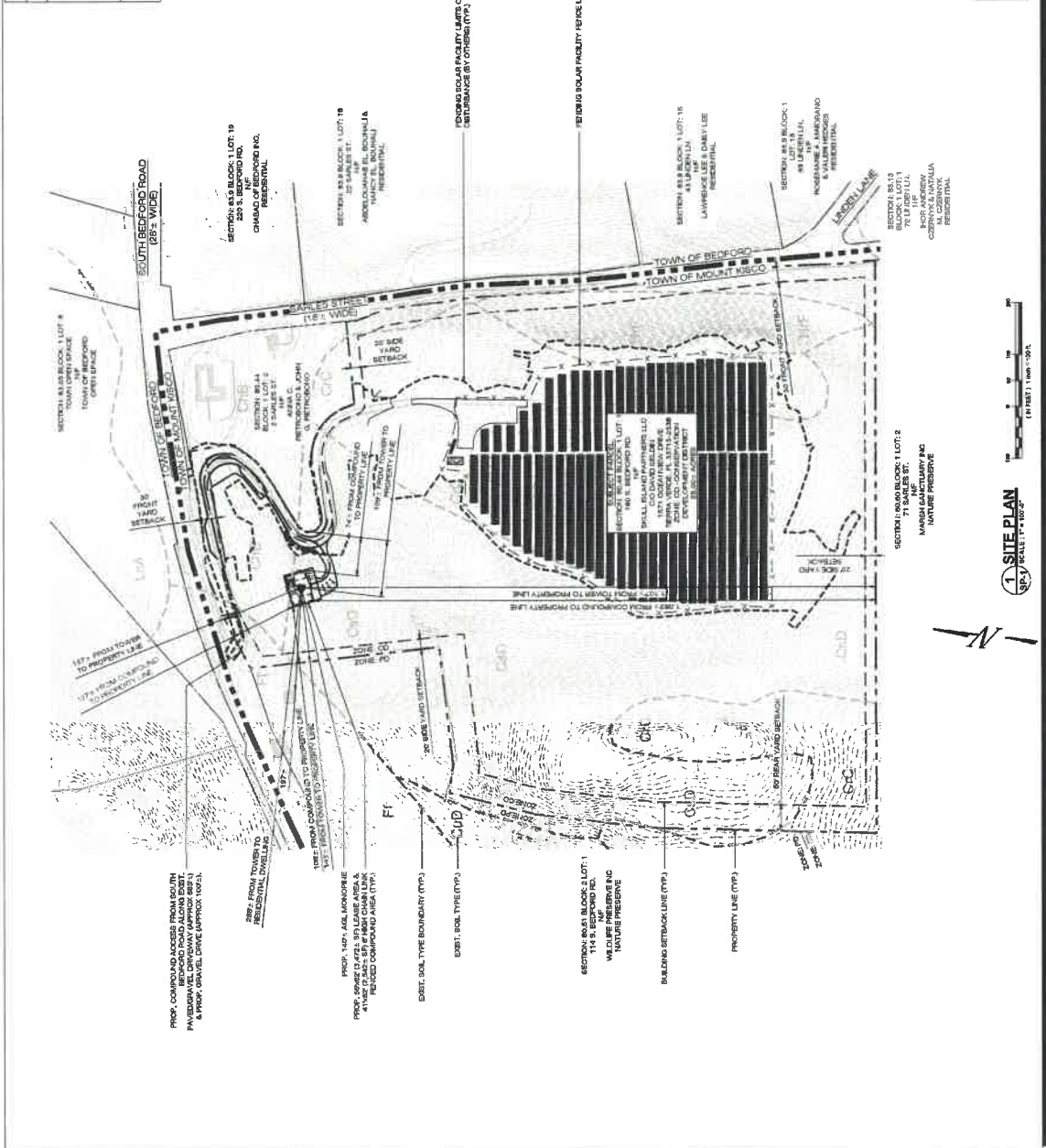


**ZONING TABLE: VILLAGE OF MOUNT KISCO ZONING DISTRICT
CD - CONSERVATION DEVELOPMENT DISTRICT**

ITEM	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA (SQ. FT.)	25	25	NO
MIN. LOT WIDTH (FT.)	25	25	NO
MIN. FRONT SETBACK (FT.)	10	10	NO
MIN. SIDE YARD SETBACK (FT.)	5	5	NO
MIN. REAR YARD SETBACK (FT.)	5	5	NO
MAX. BUILDING COVERAGE	25%	25%	NO
MAX. BUILDING HEIGHT	25'	25'	NO
TOWER RESIDENCE SETBACK (FT.)	1,000	1,000	NO
NA = NOT APPLICABLE			
NO - NO CHANGE			
.. VARIANCE REQUIRED			

LIMITS OF DISTURBANCE

COMMUNITY COLLEGE PARK	331,489.7 SF 7.61 ACRES
HOMELAND TOWERS FACILITY	29,791.1 SF 0.67 ACRES
SECTION 88.3 BLOCK 1 LOT 18	366,692. SF 8.4 ACRES
ORIGINAL TOTAL	
PROPOSED TOTAL	
LIMITS OF DISTURBANCE	



verizon
4 CENTERCROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
300 VALLEY STREET, SUITE 201
WEST NYACK, NY 10994
WWW.APTENGINEERING.COM TEL: 800.800.8007

PERMITTING DOCUMENTS

NO.	DATE	REVISION
1	01/15/20	FOR REVIEW RCD
2	01/15/20	FOR REVIEW RCD
3	01/15/20	FOR REVIEW RCD
4	01/15/20	FOR REVIEW RCD
5	01/15/20	FOR REVIEW RCD
6	01/15/20	FOR REVIEW RCD
7	01/15/20	FOR REVIEW RCD
8	01/15/20	FOR REVIEW RCD
9	01/15/20	FOR REVIEW RCD
10	01/15/20	FOR REVIEW RCD

DESIGN PROJECT INFORMATION

PROJECT NAME: SECTION 88.3 BLOCK 1 LOT 18
OWNER: SECTION 88.3 BLOCK 1 LOT 18
DESIGNER: APT ENGINEERING
ADDRESS: 300 VALLEY STREET, SUITE 201, WEST NYACK, NY 10994
DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 400 VALLEY STREET, SUITE 201, WEST NYACK, NY 10994
DATE: 01/15/20

NOTES:
1. THE VILLAGE OF NEW YORK STATE EDUCATION LAW ARTICLE 148B SECTION 148B(1)(b) REQUIRES THE DESIGNER TO OBTAIN A LETTER FROM THE TOWN OF BEDFORD, NEW YORK, DATED AUGUST 8, 2020, REGARDING THE PROPOSED DEVELOPMENT.
2. THE TOWN OF BEDFORD, NEW YORK, HAS REVIEWED THE PROPOSED DEVELOPMENT AND HAS DETERMINED THAT THE PROPOSED DEVELOPMENT IS IN ACCORDANCE WITH THE TOWN OF BEDFORD, NEW YORK, ZONING ORDINANCE.
3. THE TOWN OF BEDFORD, NEW YORK, HAS REVIEWED THE PROPOSED DEVELOPMENT AND HAS DETERMINED THAT THE PROPOSED DEVELOPMENT IS IN ACCORDANCE WITH THE TOWN OF BEDFORD, NEW YORK, ZONING ORDINANCE.
4. THE TOWN OF BEDFORD, NEW YORK, HAS REVIEWED THE PROPOSED DEVELOPMENT AND HAS DETERMINED THAT THE PROPOSED DEVELOPMENT IS IN ACCORDANCE WITH THE TOWN OF BEDFORD, NEW YORK, ZONING ORDINANCE.
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7. THE TOWN OF BEDFORD, NEW YORK, HAS REVIEWED THE PROPOSED DEVELOPMENT AND HAS DETERMINED THAT THE PROPOSED DEVELOPMENT IS IN ACCORDANCE WITH THE TOWN OF BEDFORD, NEW YORK, ZONING ORDINANCE.
8. THE TOWN OF BEDFORD, NEW YORK, HAS REVIEWED THE PROPOSED DEVELOPMENT AND HAS DETERMINED THAT THE PROPOSED DEVELOPMENT IS IN ACCORDANCE WITH THE TOWN OF BEDFORD, NEW YORK, ZONING ORDINANCE.
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10. THE TOWN OF BEDFORD, NEW YORK, HAS REVIEWED THE PROPOSED DEVELOPMENT AND HAS DETERMINED THAT THE PROPOSED DEVELOPMENT IS IN ACCORDANCE WITH THE TOWN OF BEDFORD, NEW YORK, ZONING ORDINANCE.

HOMELAND TOWERS
MOUNT KISCO
ADDRESS: 100 S. BEDFORD RD.
WEST NYACK, NY 10994
DATE: 01/15/20
DRAWN BY: CH
CHECKED BY: CH

SHEET TITLE:
SITE PLAN

SP-1

MAP INFORMATION:
1. THE TOWN OF BEDFORD, NEW YORK, HAS REVIEWED THE PROPOSED DEVELOPMENT AND HAS DETERMINED THAT THE PROPOSED DEVELOPMENT IS IN ACCORDANCE WITH THE TOWN OF BEDFORD, NEW YORK, ZONING ORDINANCE.
2. THE TOWN OF BEDFORD, NEW YORK, HAS REVIEWED THE PROPOSED DEVELOPMENT AND HAS DETERMINED THAT THE PROPOSED DEVELOPMENT IS IN ACCORDANCE WITH THE TOWN OF BEDFORD, NEW YORK, ZONING ORDINANCE.
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[illegible]

[illegible]

[illegible]

HIGHLAND TOWERS, LLC
100 WEST STREET
2ND FLOOR
NEW YORK, NY 10006
PHONE: 212.337.4345

4 CENTERCROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
100 WEST STREET EXTENSION, SUITE 111
NEW YORK, NY 10006
WWW.APTENGINEERING.COM FAX: 212.337.4345

PERMITTING LOG (UNITS)

NO.	DATE	REVISION
1	01/15/19	FOR REVIEW
2	01/15/19	FOR REVIEW
3	01/15/19	FOR REVIEW
4	01/15/19	FOR REVIEW
5	01/15/19	FOR REVIEW
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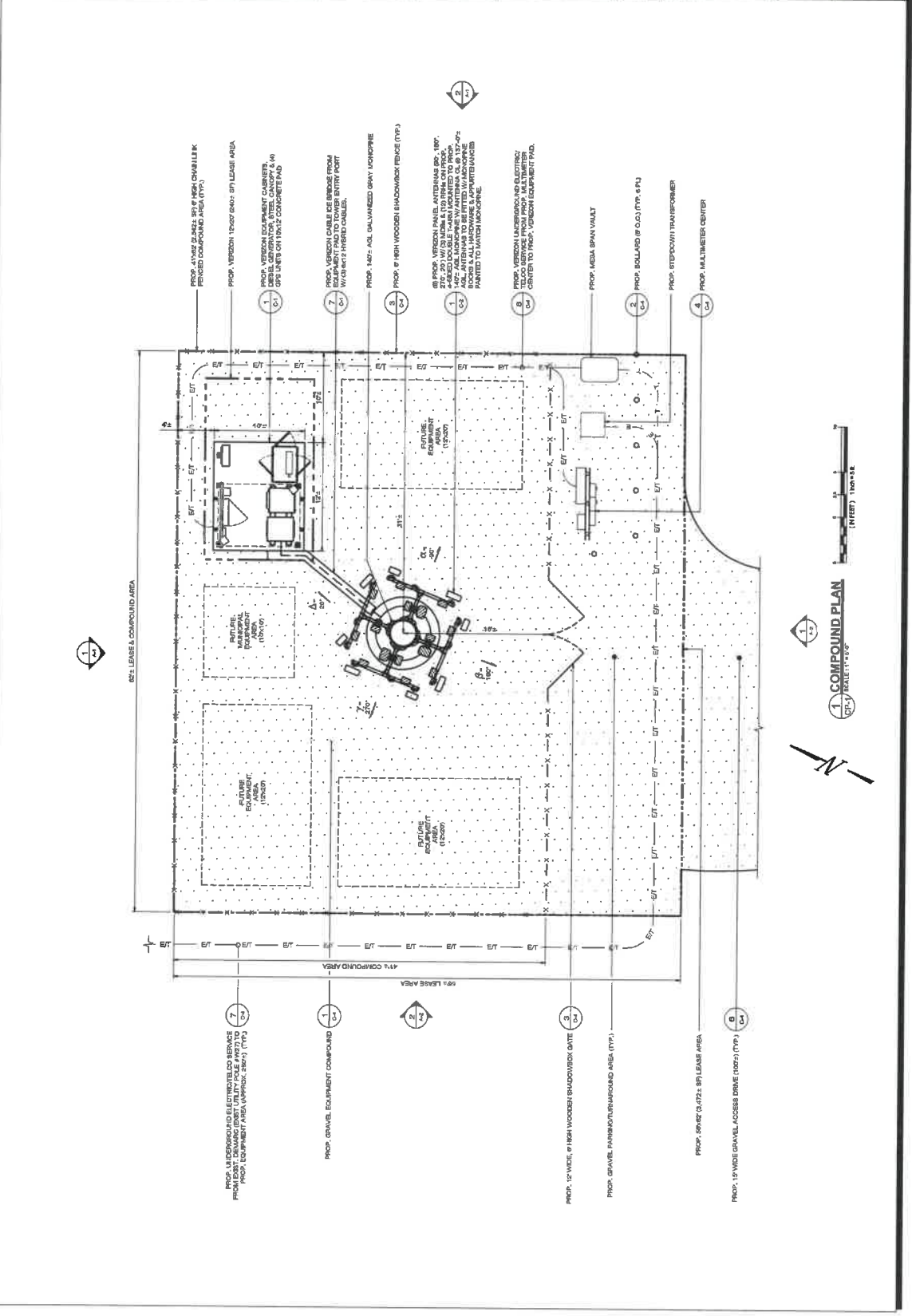
DESIGN PROFESSIONAL'S OF RECORD

PROF. SCOTT M. CHASE, P.E.
COMP. APT ENGINEERING
100 WEST STREET EXTENSION, SUITE 111
NEW YORK, NY 10006
PHONE: 212.337.4345
FAX: 212.337.4345
ADDRESS: 100 WEST STREET, LLC
2ND FLOOR
NEW YORK, NY 10006

NOTE: IT IS A VIOLATION OF NEW YORK STATE ELEC. LAW TO INSTALL ANY ELECTRICAL EQUIPMENT OR MATERIALS ON ANY PROPERTY WITHOUT THE WRITTEN PERMISSION OF THE LAND SUPPLIER. TO ALTER ANYTHING IN THE FIELD OF ANY ELECTRICAL EQUIPMENT OR MATERIALS, THE LAND SUPPLIER SHALL BE NOTIFIED IN WRITING AND THE DATE OF SUCH NOTIFICATION SHALL BE THE DATE OF THE ALTERATION.

HOMELAND TOWERS
MOUNT AIRBORNE
100 S. BROADWAY
NEW YORK, NY 10004
APT FILING NUMBER: 1000000000
DATE: 01/15/19
DRAWN BY: CEN
CHECKED BY: RCB

SHEET TITLE
COMPOUND PLAN
SHEET NUMBER:
CP-1



1 NORTH ELEVATION
 (A-1) SCALE: 1" = 10'-0"

2 EAST ELEVATION
 (A-2) SCALE: 1" = 10'-0"

TOWER TO BE DESIGNED TO SUPPORT FUTURE MUNICIPAL ANTENNAS.

VERIZON TOWERS
 4 CENTERBROOK ROAD
 WEST NYACK, NY 10994

APT ENGINEERING
 100 HAWTHORNE STREET, SUITE 311
 WEST NYACK, NY 10994-2007
 WWW.APTENGINEERING.COM TEL: 845-365-0207

PERMITTING DOCUMENTS

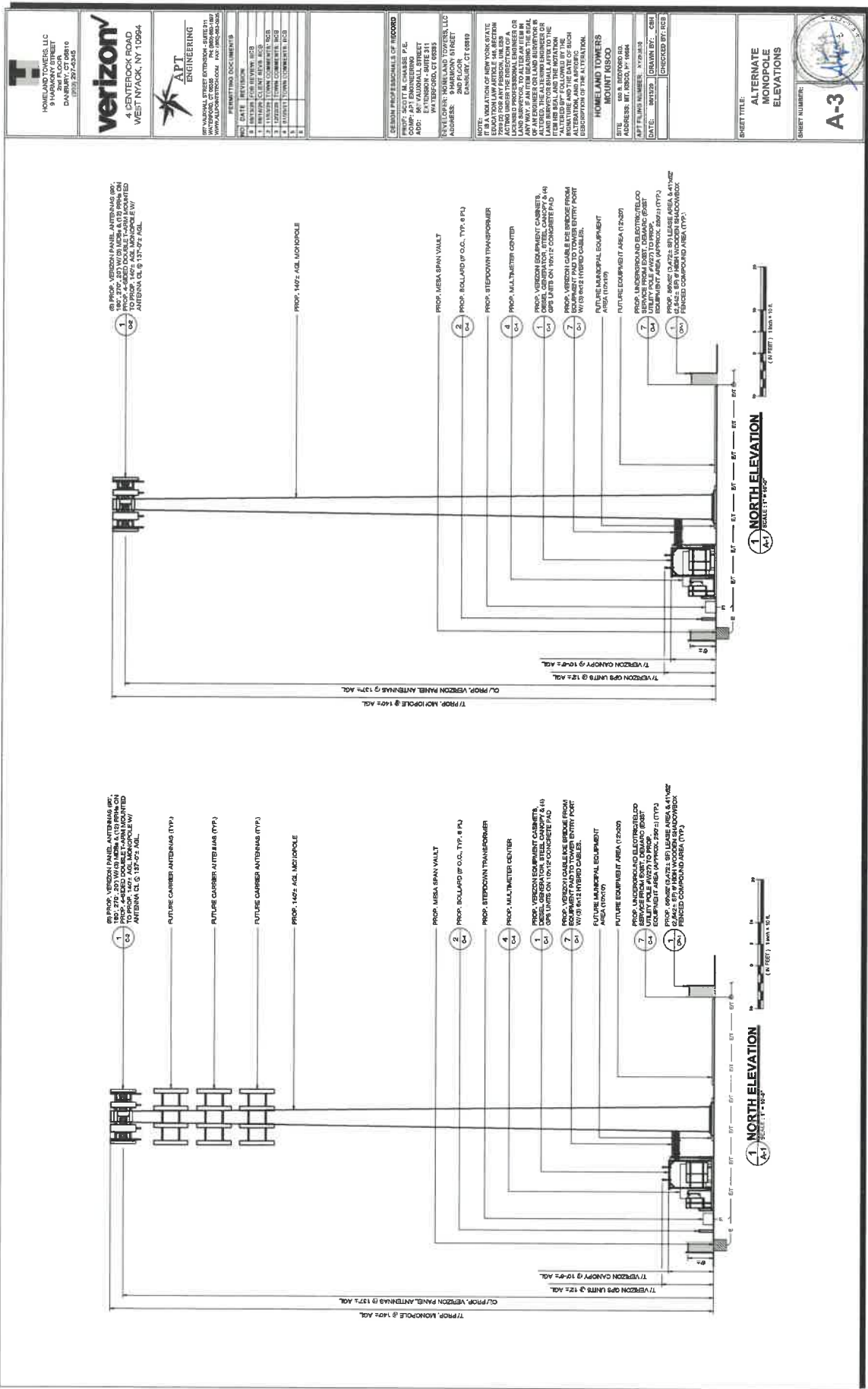
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		HONELAND TOWERS, LLC 9 HAWORTH DRIVE DANBURY, CT 06810 (203) 253-0510	
		4 CENTERCROSS ROAD WEST HAVEN, CT 06994	
		APT ENGINEERING 100 WINDHAM STREET, EXTENSION, SUITE 511 WATERFORD, CT 06495 (203) 426-0000	
PERMITTED DOCUMENTS		DATE: 05/01/10 DESIGN:	
1	INTENT	FOR REVIEW	NOTES
2	DESIGN	FOR CONSTRUCTION	NOTES
3	AS-BUILT	FOR CONSTRUCTION	NOTES
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[illegible]

**TOWER TO BE DESIGNED TO SUPPORT
FUTURE MUNICIPAL ANTENNAS.**



HOMELAND ENGINEERING, LLC
9 HAWKINS STREET
DANBURY, CT 06810
(203) 297-4345

verizon
4 CENTERCROCK ROAD
WEST HAVEN, CT 06615

APT ENGINEERING
100 HARTFORD STREET
HARTFORD, CT 06103
(860) 426-1100
WWW.APTENGINEERING.COM APT PER-00000007

PERMITTING DOCUMENTS

NO.	DATE	REVISION
1	01/15/2019	ISSUED FOR PERMIT
2	01/15/2019	REVISED PER VERIZON COMMENTS
3	01/15/2019	REVISED PER VERIZON COMMENTS
4	01/15/2019	REVISED PER VERIZON COMMENTS

DESIGN PROFESSIONAL OF RECORD
PROJECT: SCOTT M. CHARLES, P.E.
PROJECT: VERIZON TOWER ANTENNA
ADDRESS: 907 FAIRVIEW STREET
EXTENSION - SUITE 311
EAST HARTFORD, CT 06103
DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARTFORD STREET
DANBURY, CT 06810

NOTE:
IF A VIOLATION OF NEW YORK STATE
LAW OR ANY OTHER LAW IS
DISCOVERED BY THE DESIGNER
LOCATED PROFESSIONAL ENGINEER OR
ARCHITECT, THE DESIGNER SHALL
IN ANY WAY, IF ANY, BE RESPONSIBLE
FOR THE VIOLATION. THE DESIGNER
SHALL BE RESPONSIBLE FOR THE
"ALTERED BY FOLLOWED BY THE
DESIGNER, AND A SPECIFIC
DESCRIPTION OF THE ALTERATION."

HOMELAND TOWERS
PROJECT: SCOTT M. CHARLES, P.E.
ADDRESS: 907 FAIRVIEW STREET
EXTENSION - SUITE 311
EAST HARTFORD, CT 06103
DATE: 01/15/2019
DRAWN BY: CEM
CHECKED BY: RCB

SHEET TITLE:
ALTERNATE
MONOPOLE
ELEVATIONS

SHEET NUMBER:
A-3

verizon
4 CENTERCROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
100 NATIONAL STREET, SUITE 111
NEW CANAAN, CT 06840
TEL: 860.845.1887
WWW.APT-ENGINEERING.COM

DESIGN PROFESSIONAL'S SEAL
PROF. SCOTT M. CHILDS, P.E.
ADDRESS: 81 AVALON STREET
BETHESDA, MD 20814
TEL: 301.279.1111
FAX: 301.279.1112
E-MAIL: SCOTT@APT-ENGINEERING.COM

CLIENT
HOMELAND TOWERS, LLC
9 HANCOCK STREET
CAMDEN, CT 06020
TEL: 860.399.1234

PROJECT INFORMATION
PROJECT NO.: 100-00000000
SHEET NO.: EC-2
DATE: 08/20/2010
DRAWN BY: CM
CHECKED BY: JMB

PROJECT DESCRIPTION
HOMELAND TOWERS
MOUNT NESCO
ADDRESS: 81 AVALON STREET
BETHESDA, MD 20814
TEL: 301.279.1111
FAX: 301.279.1112
E-MAIL: SCOTT@APT-ENGINEERING.COM

NOTES:

- PERFORM WASHOUT OF CONCRETE WASHOUT AREA OF 10' x 10'.
- DO NOT ALLOW EXCESS CONCRETE TO REMAIN ON CONCRETE WASHOUT AREA.
- CONCRETE WASHOUT AREA.

NOTES:

- CONCRETE WASHOUT AREA.
- DO NOT ALLOW EXCESS CONCRETE TO REMAIN ON CONCRETE WASHOUT AREA.
- CONCRETE WASHOUT AREA.

NOTES:

- CONCRETE WASHOUT AREA.
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- CONCRETE WASHOUT AREA.

NOTES:

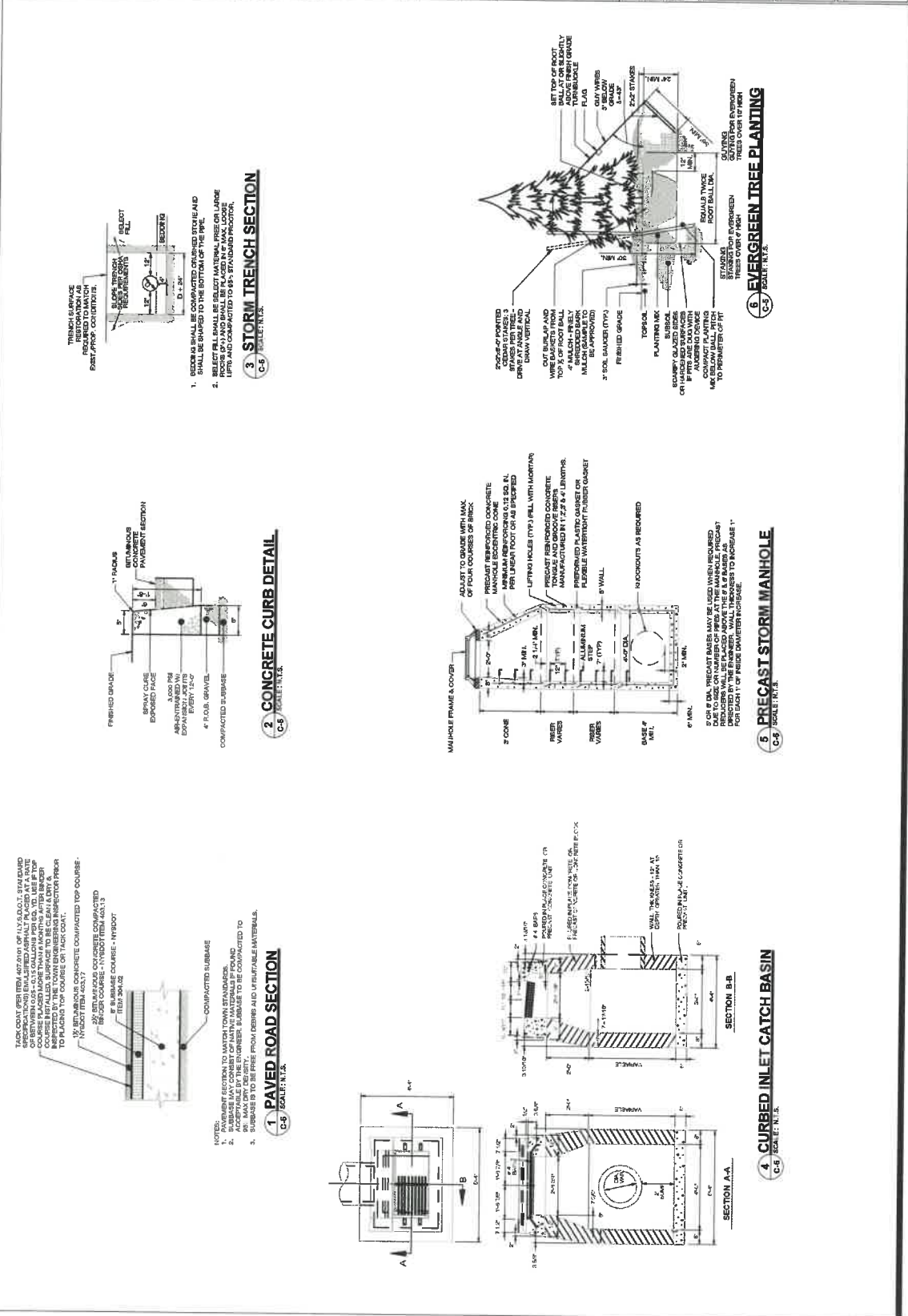
- CONCRETE WASHOUT AREA.
- DO NOT ALLOW EXCESS CONCRETE TO REMAIN ON CONCRETE WASHOUT AREA.
- CONCRETE WASHOUT AREA.

NOTES:

- CONCRETE WASHOUT AREA.
- DO NOT ALLOW EXCESS CONCRETE TO REMAIN ON CONCRETE WASHOUT AREA.
- CONCRETE WASHOUT AREA.

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HOLLAND TOWERS, LLC
4 CENTERCROK ROAD
WEST HAVEN, CT 06615
TEL: 203.267.4343

verizon
4 CENTERCROK ROAD
WEST HAVEN, CT 06615

APT ENGINEERING
NEW HAVEN OFFICE: 370 STATE STREET, SUITE 200
NEW HAVEN, CT 06510
TEL: 203.267.4343

PERMIT TIME DOCUMENTS

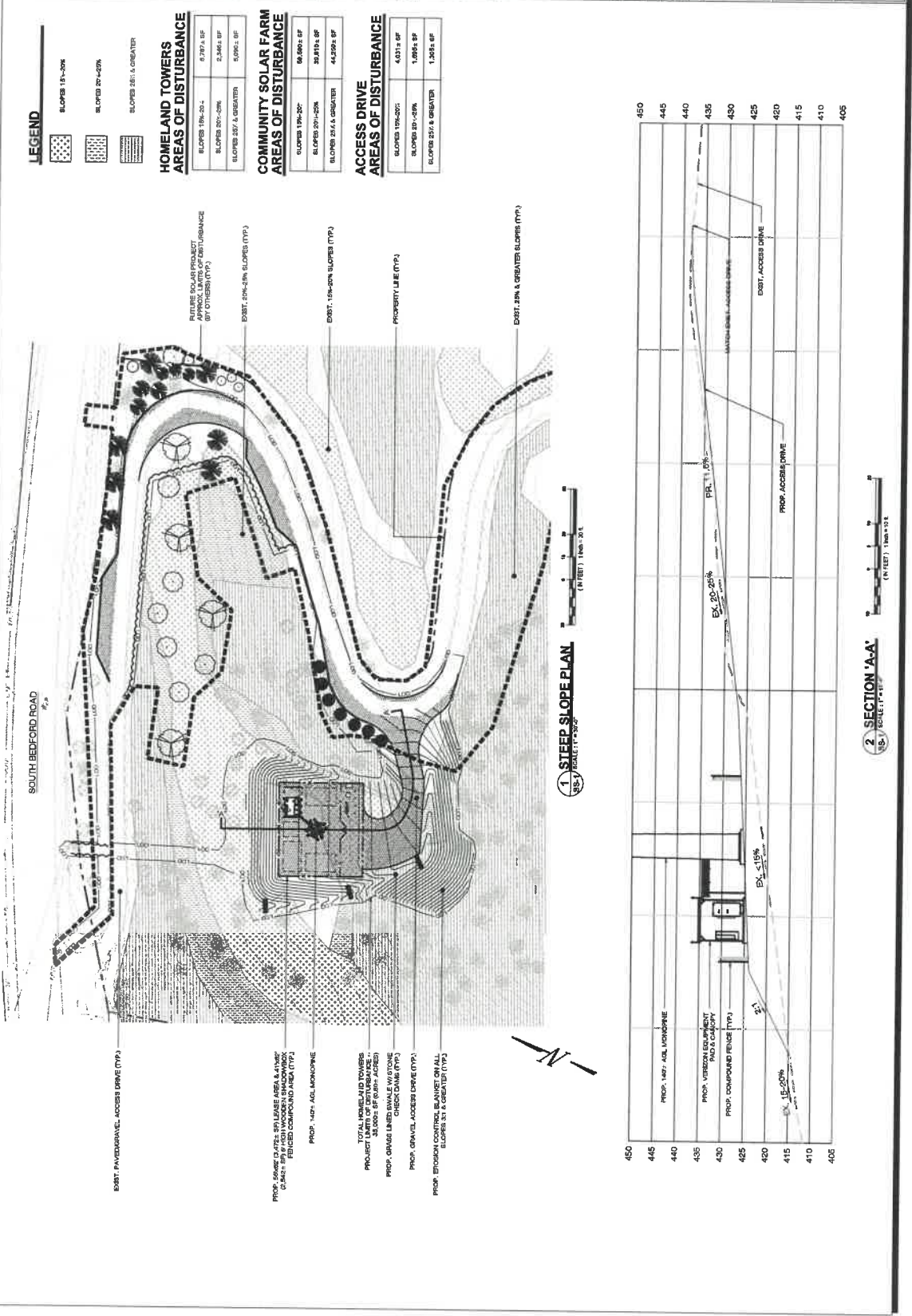
NO.	DATE	REVISION
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3	01/15/20	FOR REVIEW ONLY
4	01/15/20	FOR REVIEW ONLY
5	01/15/20	FOR REVIEW ONLY
6	01/15/20	FOR REVIEW ONLY

PROJ: SCOTT M. CHASE, P.E.
COMP: APT ENGINEERING
ADD: WEST HAVEN, CT 06615
ADDRESS: 370 STATE STREET, SUITE 200
NEW HAVEN, CT 06510

DATE: 01/15/20
DRAWN BY: CHM
CHECKED BY: POC

STEEP SLOPE PLAN

SHEET NUMBER: **SS-1**



[illegible]