TOWN OF CARMEL
PLANNING BOARD

60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 – Ext.190
www.ci.carmel.ny.us

PLANNING BOARD AGENDA
FEBRUARY 28, 2024 – 7:00 P.M.

		TAX MAP #	PUB. HEARING	MAP DATE	COMMENTS
SITE PLAN					
1.	P & R Estate Corp – 122 Gleneida Ave, Carmel	44.13-2-68		5/16/23	Residential Site Plan
2.	TTSHR, LLC – 25 & 27 Seminary Hill Road	55.6-1-69 & 70		12/19/23	Residential Site Plan
3.	Diamond Point Development – 4 Baldwin Place Rd	86.10-1-2 & 3		2/2/24	Site Plan
4.	Union Energy Center, LLC – 24 Miller Rd	86.11-1-14		2/16/24	Site Plan/Subdivision
5.	Crecco – DAG Route 6, LLC – 395 Route 6	75.19-1-8 & 75.20-2-5		2/19/24	Site Plan
MISCELLANEOUS					
6.	MK Realty - Route 6 & Old Route 6, Carmel	55.6-1-44 & 45			Extension of Final Site Plan Approval
7.	Jordano/Gervasi Subdivision – 182 Bullet Hole Rd	63.-1-16			Bond Return
8.	Yankee Land Development – Bayberry Hill Rd & Owen Drive	76.15-1-12			Extension of Preliminary Subdivision (14 Lots)
9.	Minutes – 01/11/24 & 01/24/24				

ROBERT SHERWOOD
LANDSCAPE ARCHITECT LLC

February 16, 2024

Mr Craig Paeprer
Planning Board Chair
60 McAlpin Avenue
Mahopac NY 10541

RE: Site Plan P&R Estate Corp.
44.13-2-68

Dear Mr. Paeprer,

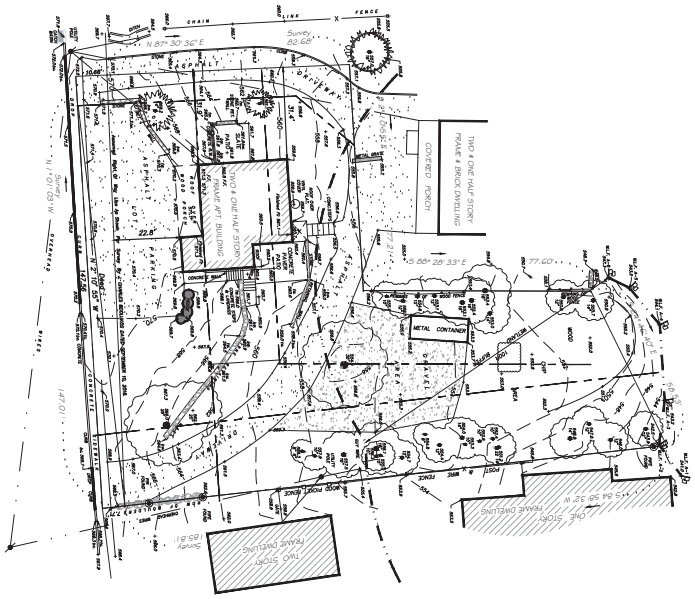
As per our application to legalize a non conforming apartment building we would like to be placed on the next available agenda. Since the lsat meeting we have received Zoning Board of Appeals approval for the various variances we needed, including the Use Variance and multiple area variances. At this time again we would like to present the application for Planning Board Approval

I hope that these responses and enclosed plans clarify any questions you may have, Thank you I look forward to any comments you may have.

Best Regards,

Robert M. Sherwood, RLA

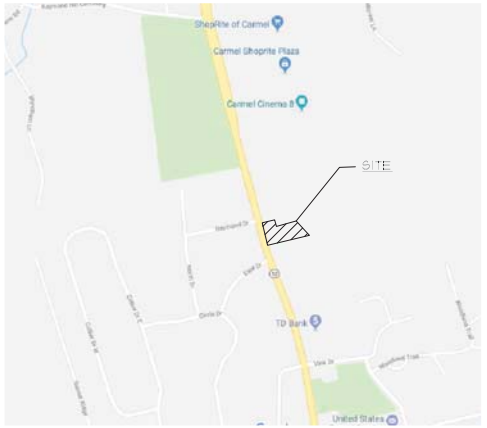
P.O. Box 564 • Brookfield, CT 06804 C: 203.994.5337 www.robertmsherwood.com



SURVEY EXISTING CONDITIONS

LEGEND

- PROPERTY LINE
- SETBACK LINE
- 100' WETLAND SETBACK
- CENTER LINE
- FENCE
- WETLAND BOUNDARY
- 100 EXISTING CONTOUR
- EXISTING TREE TO REMAIN
- TREE TO BE REMOVED
- DRAINAGE DESIGNED BY OTHERS
- EXISTING UTILITY POLE



SITE LOCATION MAP

ZONING DATA

TAX MAP DESIGNATION SECTION 44.13, BLOCK 2, LOT 168			
ZONING DISTRICT	COMMERCIAL		
ITEM	REQUIRED	PROPOSED	VARIANCE REQ.
LOT AREA	40,000 SF	17,360	22,640 SF.
LOT COVERAGE	30%	7%	NA
LOT WIDTH	200	147'	53'
LOT DEPTH	200	185	15'
FRONT YARD	40	22.8'	17.2'
SIDE YARD	25	29.7'	NA
REAR YARD	30	23.1	6.9'
HEIGHT	35	33'4"	NA
OFF STREET PARKING	8	8 SPACES	0
AREA OF DISTURBANCE		9,085 SF	NA
MIN. BUILDING AREA	5,000SF	3,200	NA

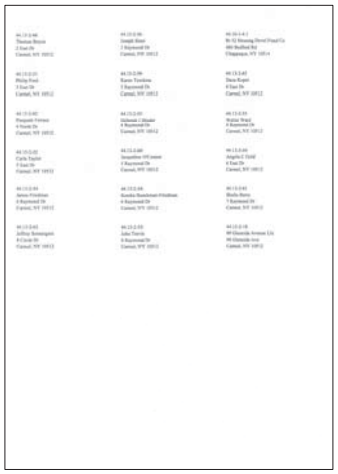
PARKING REQUIRED 2 PER APARTMENT= 8 REQUIRED

NOTES:

1. Survey information taken from a SURVEY PREPARED BY Link Land Surveying refer to this survey for information.
2. Location of existing utilities not performed by this office, confirm location of all utilities prior to construction. CALL Call DIG SAFELY NY
3. Contractor to verify all grades and dimensions prior to construction, contractor to inform Landscape Architect with any discrepancies.

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

NEIGHBORS



tax map and radius

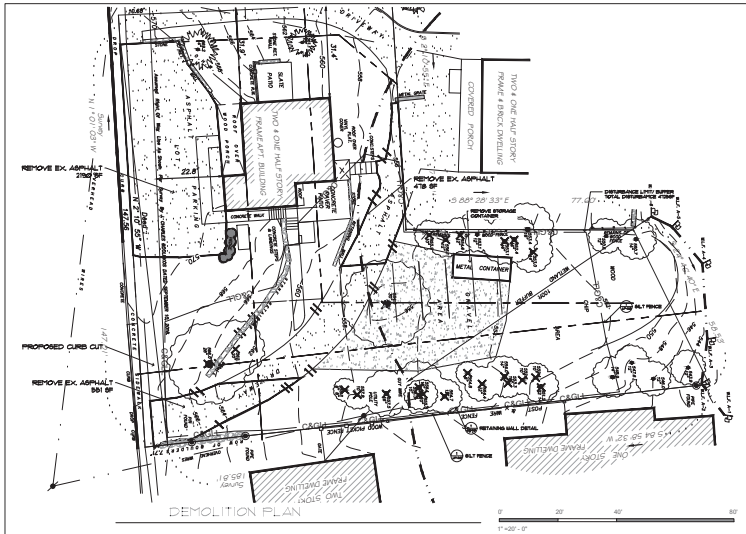
NORTH:

ROBERT SHERWOOD
LANDSCAPE ARCHITECT LLC
P.O. BOX 564, BROOKFIELD CT 06804
p/f 203.798.1547 c 203.994.5337 e robertsherwood@me.com

PROJECT: SITE CONFORMITY PLAN

CLIENT: P&R EstateCorp.
122 Glenside
Carmel NY

#6 STATE DOT	5.16.23
#5 COMMENTS	2.27.23
#4 COMMENTS	4.12.22
#3	2.4.22
#2	3.30.21
#1 comments	12.15.18
REVISIONS:	
SCALE:	AS NOTED
DATE:	6.4.18
JOB NO:	18.14
DRAWING NO:	LP-1.0



SEDIMENT AND EROSION CONTROL NOTES:

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT EDITION OF THE WESTCHESTER COUNTY BEST MANAGEMENT PRACTICES MANUAL FOR EROSION AND SEDIMENT CONTROL.
2. SILT FENCE SHALL BE INSTALLED AS SHOWN ON THIS DRAWING PRIOR TO BEGINNING ANY CLEARING AND GRUBBING OR EARTHWORK.
3. GRASS SEED MIX MAY BE APPLIED BY EITHER MECHANICAL OR HYDROSEEDING METHODS. HYDROSEEDING SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF THE N.Y.S.D.O.T. STANDARD SPECIFICATION, CONSTRUCTION AND MATERIALS, SECTION 610-3.02, METHOD NO. 1.
4. CUT OR FILL SLOPES STEEPER THAN A 3:1 SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
5. PAVED ROADWAYS SHALL BE KEPT CLEAN AT ALL TIMES.
6. THE SITE AT ALL TIMES SHALL BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
7. ALL STORM DRAINAGE OUTLETS SHALL BE STABILIZED, AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
8. CUT AND FILL SHALL NOT ENDANGER ADJOINING PROPERTY, NOR DIVERT WATER ONTO THE PROPERTY OF OTHERS.
9. SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A DAILY BASIS BY OWNER'S FIELD REPRESENTATIVE (OFR.) TO INSURE THAT CHANNEL, TEMPORARY AND PERMANENT DITCHES AND PIPES ARE CLEAR OF DEBRIS, THAT EMBANKMENTS AND BERMS HAVE NOT BEEN BREACHED AND THAT ALL STRAW BALES ARE INTACT. ANY FAILURE OF SEDIMENT AND EROSION CONTROL MEASURES SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR AND INSPECTED FOR APPROVAL BY THE OFR. AND/OR SITE ENGINEER.
10. DUST SHALL BE CONTROLLED BY SPRINKLING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE OFR.
11. ALL FILLS SHALL BE COMPACTED TO PROVIDE STABILITY OF MATERIAL AND TO PREVENT SETTLEMENT.
12. EXCAVATIONS AND FILLS TO BE ROLLED, SEALED AND STABILIZED AT COMPLETION OF EACH CONSTRUCTION DAY.
13. CONSTRUCTION OF A TEMPORARY STABILIZED GRAVEL CONSTRUCTION ENTRANCE AS INDICATED ON THIS PLAN SHALL CONSIST OF A 6" THICK GRAVEL BASE, 24 FEET WIDE WITH A MINIMUM LENGTH OF 50 FEET FOR THE PURPOSE OF CLEANING TIRE TREADS PRIOR TO VEHICLES ENTERING WEST RED OAK LANE.
14. CONTRACTOR RESPONSIBLE FOR MAINTAINING SEDIMENTATION AND EROSION CONTROL MEASURES UNTIL FINAL GRADING, AND SEEDING STABILIZATION TAKE PLACE.

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DRAINAGE

DRAINAGE CALCULATIONS:

PROPOSED INCREASE IN IMPERVIOUS SURFACE 1338 SF INCLUDING new driveway and parking

25 YEAR STORM EVENT = 6" OF RAINFALL MITIGATED FOR THE IMPERVIOUS SURFACE.

PRE DEVELOPMENT MIXED (.7) COEFFICIENT SUBURBAN:
Q=.7x.5x1338 OR 468.3 CF

POST DEVELOPMENT DRIVEWAY (.9) COEFFICIENT:
Q=.9x.5x1338 OR 602.1 CF

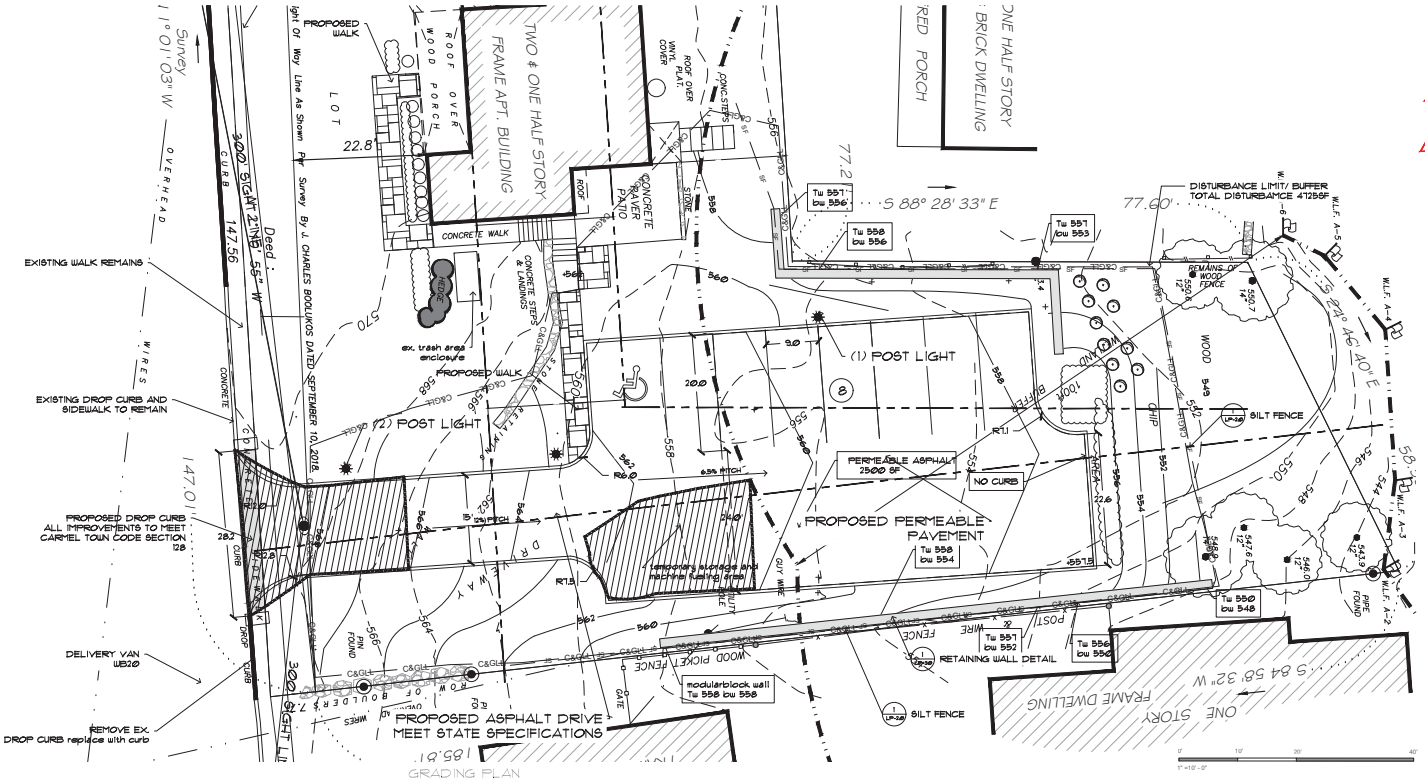
POST DEVELOPMENT MINUS PRE DEVELOPMENT = STORAGE REQUIRED 267.8-602.1=134 CF

2 PERMEABLE ASPHALT UTILIZED WITH 24" DEEP GRAVEL RESEVOIR, 15F1=0.66 CF WATER STORAGE

TOTAL WATER STORAGE OF AREA= AREA X.66 2500X.66= 1,650 CF WATER STORAGE AVAILABLE AS 134 CF ARE NEEDED

2 SITE SPECIFIC NOTES

1. PERMEABLE ASPHALT
   1. ASPHALT DRIVEWAY AREA TO BE VACUMED TWICE PER YEAR TO PREVENT CLOGGING
   2. NO ABRASIVES USED DURING WINTER MAINTENANCE, EX. SAND
   3. DEICER MAY BE USED SALT
   4. NO STORAGE OD DIRT OR MULCH MATERIALS/ CLEAN AREA IMEDIATELY AND VACUM
2. WETLAND BUFFER NOTES
   1. DURING CONSTRUCTION NO MACHINES PARKED STORED IN WETLAND BUFFER
   2. IF EQUIPMENT STORED OVERNITE, TO BE STORED OVER 6 MIL. POLY PLASTIC
   3. MACHINE NEEDING FUEL TO BE ACCOMPLISHED OUTSIDE OF BUFFER AREA
   4. ALL AREAS TO BE SEEDED WITH CONSERVATION MIX TO PREVENT EROSION.
3. SILT FENCE TO BE INSTALLED PRIOR TO TREE REMOVAL
4. SITE CONTRACTOR TO HAVE EMERGENCY SPILL KIT ON SITE TO FACILITATE CLEANUP OF ANY SPILLS DURING CONSTRUCTION.
5. APPLICANT TO INSTAL 4 FOUR SIGNS ALONG BACK OF PARKING AREA INDICATING THE PROPERTY IS WITHIN A TOWN WETLAND BUFFER
6. ALL FILL BROUGHT TO THE SITE MUST BE CERTIFIED PER NYSDEC REGULATIONS AND MANIFESTS/CERTIFICATION OF FILL MATERIAL BEING DELIVERED SHOULD BE PROVIDED.
7. ALL PLANTINGS TO BE VERIFIED BY THE TOWN OF CARMEL WETLANDS INSPECTO AND ALL PLANTINGS TO BE SINSTALLE PER SECTION 142 OF THE CARMEL TOWN CODE.



3 CONSTRUCTION SEQUENCE:

1) ESTABLISH DISTURBANCE LIMITS, AND DENOTE RESOURCES TO BE PROTECTED.
2) IF EXISTING CONSTRUCTION ENTRANCE IS NOT ADEQUATE, CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AT ROADWAY.
3) INSTALL SILT FENCING AND SEDIMENT CONTROLS.
4) MAINTAIN ALL E/C CONTROLS, AS NECESSARY, THROUGHOUT COURSE OF CONSTRUCTION.
5) CONSTRUCT SHRUB AND TREE PROTECTION MEASURES
6) ACCOMPLISH THE REQUIRED CLEARING/ GRUBBING OF SITE.
7) TOPSOIL REMOVAL AND STOCKPILING PERFORMED WHERE SPECIFIED.
8) STAGED PARKING AREA DURING CONSTRUCTION AND STABILIZE GRADING AS WORK PERFORMED.
9) VEGETATION REMOVALS PER SITE PLAN.
10) DRIVEWAY AND PARKING AREAS TO BE DEVELOPED AS PER PLAN
11) REMOVE STAGING AREAS UPON COMPLETION OF CONSTRUCTION.
12) SOIL RESTORATION OF DISTURBED AREAS
13) REMOVE EROSION AND SEDIMENT CONTROL PRACTICES.

GENERAL NOTES:

1. BASE PLAN TAKEN FROM SURVEY PREPARED BY LINK LAND SURVEYORS
2. THE OWNER, CONTRACTOR, AND/OR HIS AGENTS OR ASSIGNS MUST NOTIFY THE APPROPRIATE UTILITY COMPANIES AND/OR AGENCIES AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION, EXCAVATION OR DEMOLITION AT OR NEAR UNDERGROUND FACILITIES IN ACCORDANCE WITH INDUSTRIAL CODE 53.
3. ALL CONTRACTORS SHALL VERIFY EXISTING ELEVATIONS PRIOR TO CONSTRUCTION OF STORM-WATER MANAGEMENT SYSTEM. SHOULD INCONSISTENCIES IN EXISTING ELEVATIONS BE DETERMINED, CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER, PRIOR TO COMPENCING CONSTRUCTION OF THE STORMWATER MANAGEMENT SYSTEM.

NORTH:

ROBERT SHERWOOD
LANDSCAPE ARCHITECT LLC
P.O. BOX 564, BROOKFIELD CT 06804
p/f 203.798.1547 c 203.994.5337 e robertsherwood@me.com

PROJECT: GRADING AND DEMOLITION PLAN

CLIENT: P&R EstateCorp.
122 Glenside
Carmel NY

#5 STATE DOT	5.16.23
#4 COMMENTS	2.27.23
#3 COMMENTS	5.23.22
#2 COMMENTS	5.4.22
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REVISIONS:	
SCALE:	AS NOTED
DATE:	2.4.22
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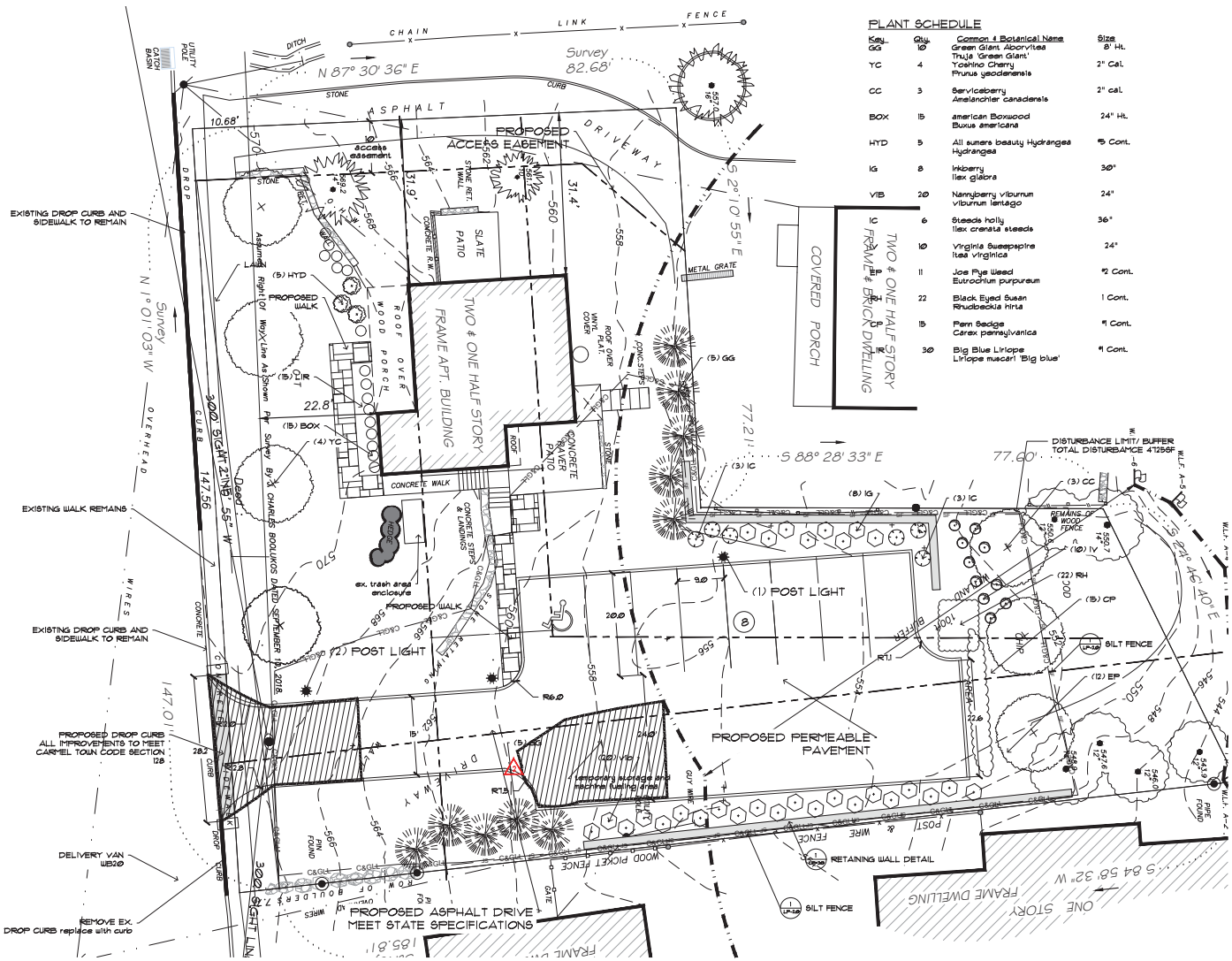

PLANT SCHEDULE

Key	Qty.	Common & Botanical Name	Size
GG	10	Green Giant Abcrvitea Thuja 'Green Giant'	8' Ht.
YC	4	Yoshino Cherry Prunus yeodensis	2" Cal.
CC	3	Serviceberry Amelanchier canadensis	2" cal.
BOX	15	american Boxwood Buxus americana	24" Ht.
HYD	5	All sumers beauty Hydranges Hydrangea	#5 Cont.
IG	8	Inkberry Ilex glabra	30"
VIB	20	Nannyberry viburnum viburnum lantago	24"
IC	6	Steeds holly Ilex cranata steeds	36"
IV	10	Virginia Sweapspire Itea virginica	24"
EP	11	Joe Pye Weed Eutrochium purpureum	#2 Cont.
RH	22	Black Eyed Susan Rhudbeckia hirta	1 Cont.
CP	15	Penn Sedge Carex pennsylvanica	#1 Cont.
IR	30	Big Blue Liriope Liriope muscari 'Big blue'	#1 Cont.

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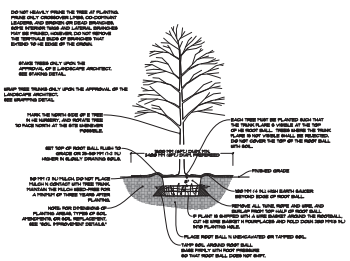

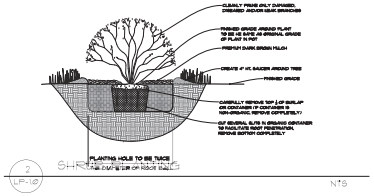

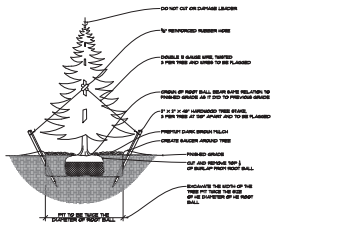

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16. ALL PLANTINGS TO BE VERIFIED BY THE TOWN OF CARMEL WETLANDS INSPECTO AND ALL PLANTINGS TO BE INSTALLE PER SECTION 142 OF THE CARMEL TOWN CODE.

SEEDING NOTES:

NEW ENGLAND EROSION CONTROL/RESTORATION MIX DRY SITES
NEW ENGLAND WETLAND PLANTS, INC. 820 WEST ST. AMHERST, MA 01002

1. FINE GRADING AND SEED AREAS DISTURBED BY CONSTRUCTION OPERATIONS AND AREAS NOT COVERED BY BUILDINGS, STRUCTURES, PAVING OR PLANTING AREAS.
2. SPREAD STOCKPILED TOPSOIL. PROVIDE CLEAN FILL AND TOPSOIL AS REQUIRED TO MEET FINISH GRADES AS CALLED FOR.
3. THE RATE OF SEEDING SHALL BE 1 POUND PER 1200 SF. EROSION MIX SHALL BE SOWN BY HAND OR BY APPROVED MACHINE IN SUCH A MANNER THAT A UNIFORM STAND WILL RESULT AFTER SEEDING, THE SURFACE SHALL BE EVENLY RAKED WITH A FINE TOOTHED RAKE.
4. GRASS SEED SHALL BE SOWN ONLY BETWEEN APRIL AND JUNE 1, AND BETWEEN AUGUST 15 AND OCTOBER 1 AND DURING APPROVED PERIODS WHEN WEATHER CONDITIONS ARE SUITABLE AS DETERMINED BY THE LANDSCAPE ARCHITECT.
5. LOOSELY APPLY STRAW MULCH TO ALL SEEDED AREAS.
6. APPLY EROSION CONTROL BURLAP TO ALL SLOPED OVER 1 FOOT VERTICAL TO 2 FEET HORIZONTAL.
7. RESEED ALL AREAS THAT DO NOT SHOW A SATISFACTORY STAND OF GRASS AFTER 30 DAYS AND CONTINUE TO DO SO UNTIL A SATISFACTORY STAND OF GRASS HAS BEEN ESTABLISHED.

GENERAL NOTES:

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NORTH:

ROBERT SHERWOOD
LANDSCAPE ARCHITECT LLC
P.O. BOX 564, BROOKFIELD CT 06804
p/f 203.798.1547 c 203.994.5337 e robertsherwood@me.com

PROJECT: LAYOUT & LANADSCAPE PLAN

CLIENT: P&R EstateCorp.
122 Gleneida
Carmel NY

#5 STATE DOT	5.16.23
#4 COMMENTS	2.27.23
#3 COMMENTS	5.23.22
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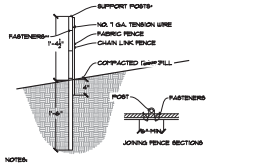
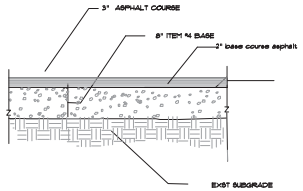
3 OF 5



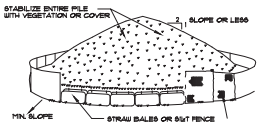
SILT FENCE DETAIL

NTS



NEW ASPHALT PAVEMENT DETAIL

NTS

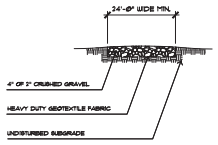


INSTALLATION NOTES

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAW BALES, THEN STABILIZED AS NOTED.
4. TEMPORARILY STABILIZE AS NOTED IN SPECIFICATIONS.

SOIL STOCKPILING

NTS



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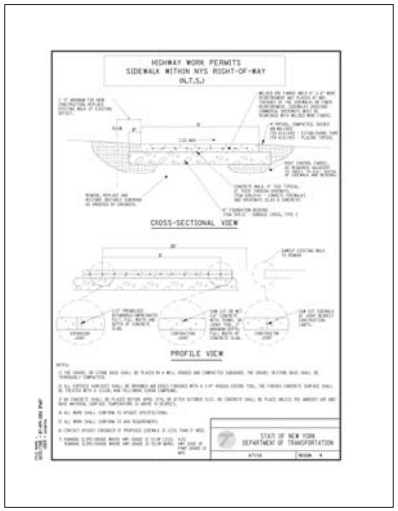
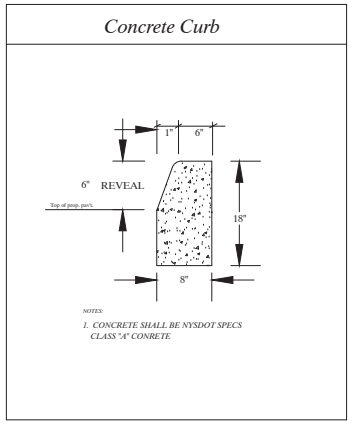
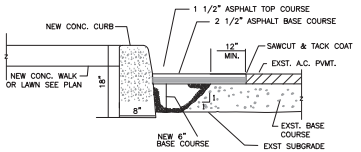




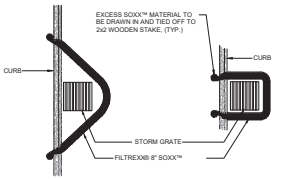


3

4 LP-5 CONCRETE WALK & CURB DETAIL

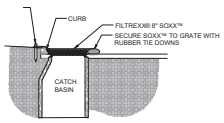
NOTE: ALL SIDEWALK PAVEMENT SHALL COMPLY WITH ALL STATE AND LOCAL CODES.

NTS



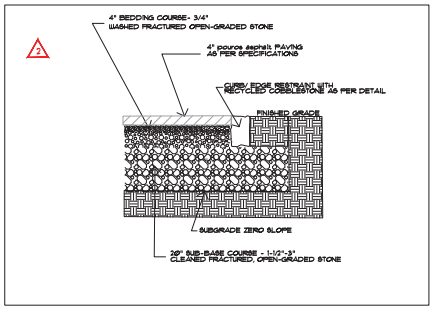
CURBSIDE OPTION "A" PLAN

CURBSIDE OPTION "B" PLAN



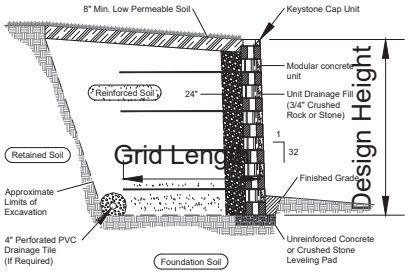
CURBSIDE SECTION

NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. FILTER MEDIA™ FILL TO MEET APPLICATIONREQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.



1 PERMEABLE ASPHALT DETAIL

SCALE: NTS



Typical Reinforced Wall Section

Compac Unit - Near Vertical Setback

1 LP-1.0 MODULAR BLOCK RETAINING WALL

NTS

0' 10' 20' 40'

1" =10' - 0"

GENERAL NOTES:

1. BASE PLAN TAKEN FROM SURVEY PREPARED BY LINK LAND SURVEYORS

2. THE OWNER, CONTRACTOR, AND/OR HIS AGENTS OR ASSIGNS MUST NOTIFY THE APPROPRIATE UTILITY COMPANIES AND/OR AGENCIES AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION, EXCAVATION OR DEMOLITION AT OR NEAR UNDERGROUND FACILITIES IN ACCORDANCE WITH INDUSTRIAL CODE 53.

3. ALL CONTRACTORS SHALL VERIFY EXISTING ELEVATIONS PRIOR TO CONSTRUCTION OF STORM-WATER MANAGEMENT SYSTEM. SHOULD INCONSISTENCIES IN EXISTING ELEVATIONS BE DETERMINED, CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER, PRIOR TO COMMENCING CONSTRUCTION OF THE STORMWATER MANAGEMENT SYSTEM.

NORTH:

ROBERT SHERWOOD
LANDSCAPE ARCHITECT LLC
P.O. BOX 564, BROOKFIELD CT 06804
p/f 203.798.1547 c 203.994.5337 e robertsherwood@me.com

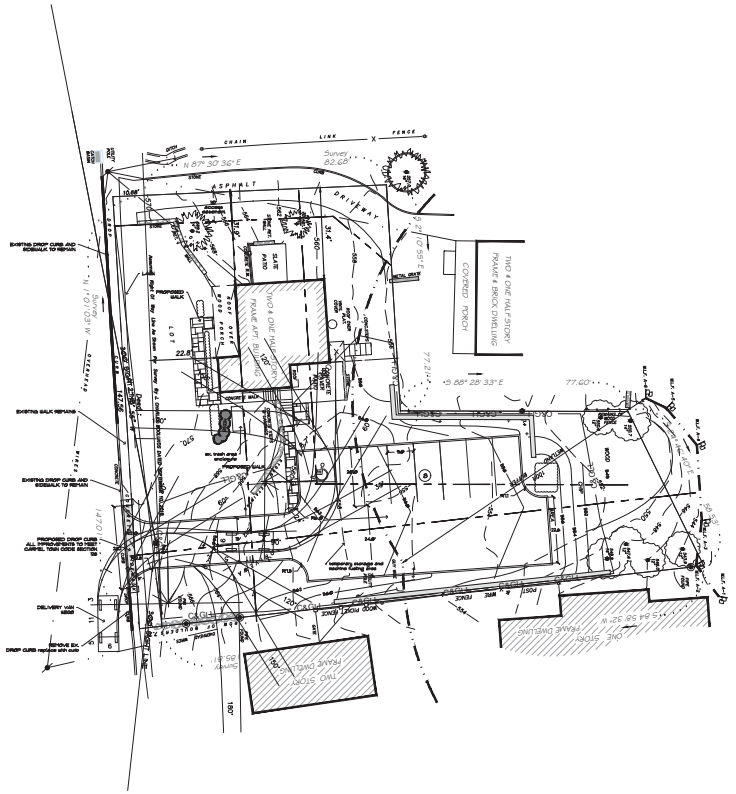
PROJECT: DETAILS PLAN

CLIENT: P&R EstateCorp.
122 Gleneida
Carmel NY

#4 STATE DOT	5.16.23
#3 comments	5.8.23
#2 comments	5.4.22
#1 comments	4.12.22
REVISIONS:	
SCALE:	AS NOTED
DATE:	2.4.22
JOB NO:	18.14
DRAWING NO:	LP-4.0

4 OF 5

SITE DISTANCE PLAN



LEGEND

- PROPERTY LINE
- SETBACK LINE
- 100' WETLAND SETBACK
- CENTER LINE
- FENCE
- WETLAND BOUNDARY
- 100 EXISTING CONTOUR
- EXISTING TREE TO REMAIN
- TREE TO BE REMOVED
- DRAINAGE DESIGNED BY OTHERS
- EXISTING UTILITY POLE

GENERAL NOTES:

1. BASE PLAN TAKEN FROM SURVEY PREPARED BY LINK LAND SURVEYORS
2. THE OWNER, CONTRACTOR, AND/OR HIS AGENTS OR ASSIGNS MUST NOTIFY THE APPROPRIATE UTILITY COMPANIES AND/OR AGENCIES AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION, EXCAVATION OR DEMOLITION AT OR NEAR UNDERGROUND FACILITIES IN ACCORDANCE WITH INDUSTRIAL CODE 53.
3. ALL CONTRACTORS SHALL VERIFY EXISTING ELEVATIONS PRIOR TO CONSTRUCTION OF STORM-WATER MANAGEMENT SYSTEM. SHOULD INCONSISTENCIES IN EXISTING ELEVATIONS BE DETERMINED, CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER, PRIOR TO COMMENCING CONSTRUCTION OF THE STORMWATER MANAGEMENT SYSTEM.

NORTH:

ROBERT SHERWOOD
LANDSCAPE ARCHITECT LLC
P.O. BOX 564, BROOKFIELD CT 06804
p/f 203.798.1547 c 203.994.5337 e robertsherwood@me.com

PROJECT: SITE DISTANCE PLAN

CLIENT: P&R EstateCorp.
122 Gleneida
Carmel NY

#1 comments	3.31.23
REVISIONS:	
SCALE:	AS NOTED
DATE:	4.12.22
JOB NO:	18.14
DRAWING NO:	LP-5.0

5 OF 5

1 **FRONT ELEVATION**
SCALE: 1/4" = 1'-0"

2 **RIGHT SIDE ELEVATION**
SCALE: 1/4" = 1'-0"

3 **REAR ELEVATION**
SCALE: 1/4" = 1'-0"

4 **LEFT SIDE ELEVATION**
SCALE: 1/4" = 1'-0"

BBS DESIGN, LLC

17 Buckboard Lane
New Milford, CT 06776
Tel: 203.798.0066
E-mail: bbsdesign@sbcglobal.net

AS BUILT CONDITIONS
EXISTING BUILDING
122 GLENEIDA AVENUE
CARMEL, NY

SCHEMATIC DESIGN

EXTERIOR ELEVATIONS

Drawn by	CB
Checked by	CB
Date	10-09-23
Scale	As noted
Job No.	955

Drawing No.

SD-1

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

February 19, 2024

Town of Carmel Planning Board
60 McAlpin Avenue
Mahopac, New York 10541

RE: Diamond Point Development
4 Baldwin Place Road
Town of Carmel
TM#'s: 86.10-1-2&3

Dear Chairman Paeprer and Members of the Board:

Please find enclosed the following plans and documents in support of an application for site plan approval for the above referenced project:

- Notice of Complete Application from NYCDEP, dated January 19, 2024. (5 copies)
- Dimension Plan, by Colliers Engineering & Design, February 2, 2024. (5 copies)

In our previous correspondence our office has documented the progress made with respect to the outside agencies' review status of the proposed project. For this specific application it is our understanding the NYSDOT and NYCDEP represent the two outside agencies the Board is most concerned with impacting the overall layout for the project. As such we understand the Board is looking for these to agencies to commence with their review of the project.

Since last before the Board we have received the NYCDEP Notice of Complete Application. This is the first step in the NYCDEP process and comes after the initial review of the project. The NYCDEP is currently performing their technical review, but at this time we believe any remaining comments will be detailed in nature. A copy of the Notice of Complete Application has been enclosed for your records.

In addition, since we last appeared before the Board our team has continued to dialogue with the NYSDOT. As the Board may be aware, the NYSDOT has required the driveway be constructed as a right turn entrance only. The revised plans and updated Traffic Impact Report have been forwarded to Creighton Manning Engineering and the Board's consultants for review. With these changes Colliers has indicated that the application is ready to move forward, pending provision contractor information and other clerical information required by the NYSDOT just prior to the issuance of a permit.

It is understood that the Board must direct the Town Planner to provide a draft resolution for conditional Site Plan Approval. Based on the progress made with these two agencies we are requesting an appearance before the Board at your February 28, 2024 meeting to request that the draft resolution be provided for the Board's consideration at the March 14, 2024 meeting.

Should you have any questions or comments regarding this information, please feel free to contact our office.

Very truly yours,

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

By: _____
Richard D. Williams, PE
Senior Principal Engineer

RDW/adt

Enclosures
cc: (All via email only)
Aaron Sommer
Jason Sommer
Jennifer Grey, Esq
Insite File No. 22242.100

Environmental Protection

Rohit T. Aggarwala
Commissioner

Paul V. Rush, P.E.
Deputy Commissioner
prush@dep.nyc.gov

465 Columbus Ave.
Valhalla, New York
10595

Tel. (845) 340-7800
Fax (845) 334-7175

January 19, 2024

Mr. Richard D. Williams, Jr., P.E.
Senior Principal Engineer
lnsite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place, Carmel
New York -10512

Via Email: RWilliams@insite-eng.com

Re: Diamond Point Development Stormwater Pollution Prevention Plan
4 Baldwin Place Road
(T) Carmel, Putnam County
Tax Map# 86.10-1-2 & 3
Amawalk Reservoir Basin
Log # 2023-AM-0284-SP.1

Dear Mr. Williams:

The above-referenced project received by this department was deemed complete on January 19, 2024. The department has commenced review and will notify you by March 4, 2024 of its determination.

If the department fails to notify you within the above referenced time frame, you may notify the Department of its failure by certified mail, return receipt requested. The notice should be sent to my attention at the address below. This notice must include your name, the location of the project, the office with which you filed the application originally, and a statement that a decision is sought in accordance with §18-23(d) (6) of the Rules and Regulations. If the Department fails to notify you within 10 days of the receipt of the notice, your application will be deemed approved, subject to standard terms and conditions as set forth in the regulations.

Should you have any questions regarding this letter, please call the undersigned at (914)749-5357.

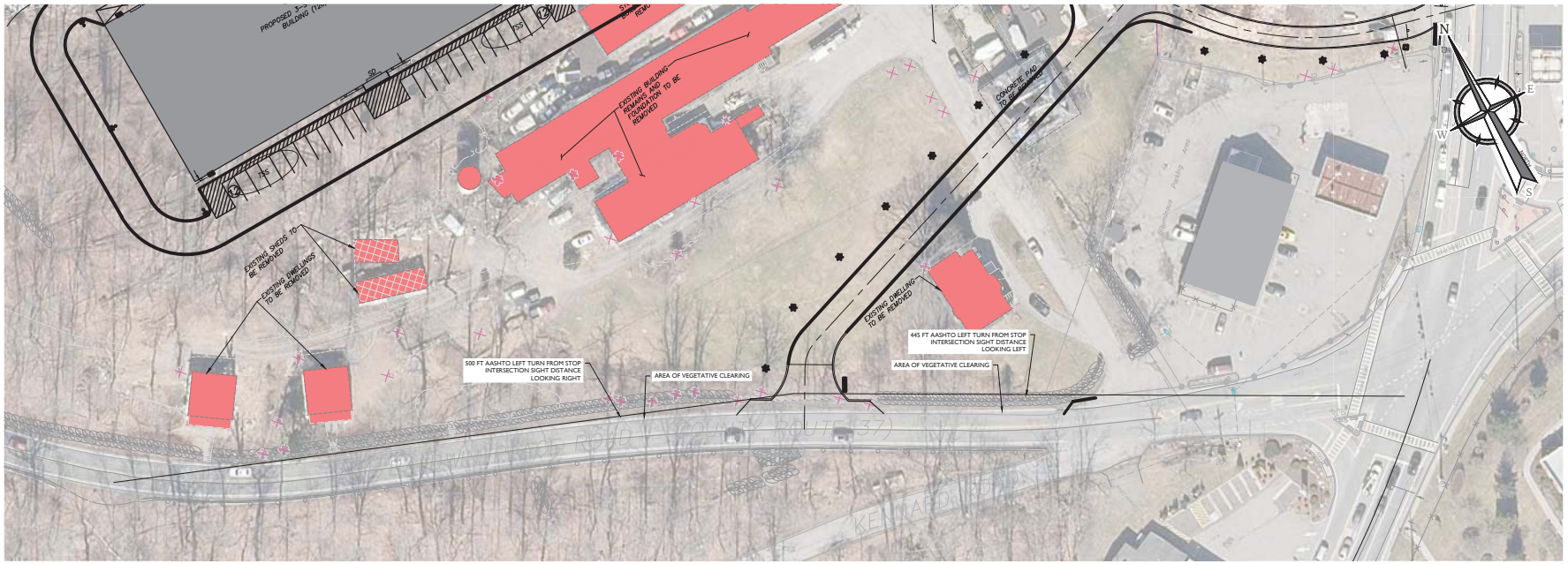
Sincerely,

Mariyam Zachariah

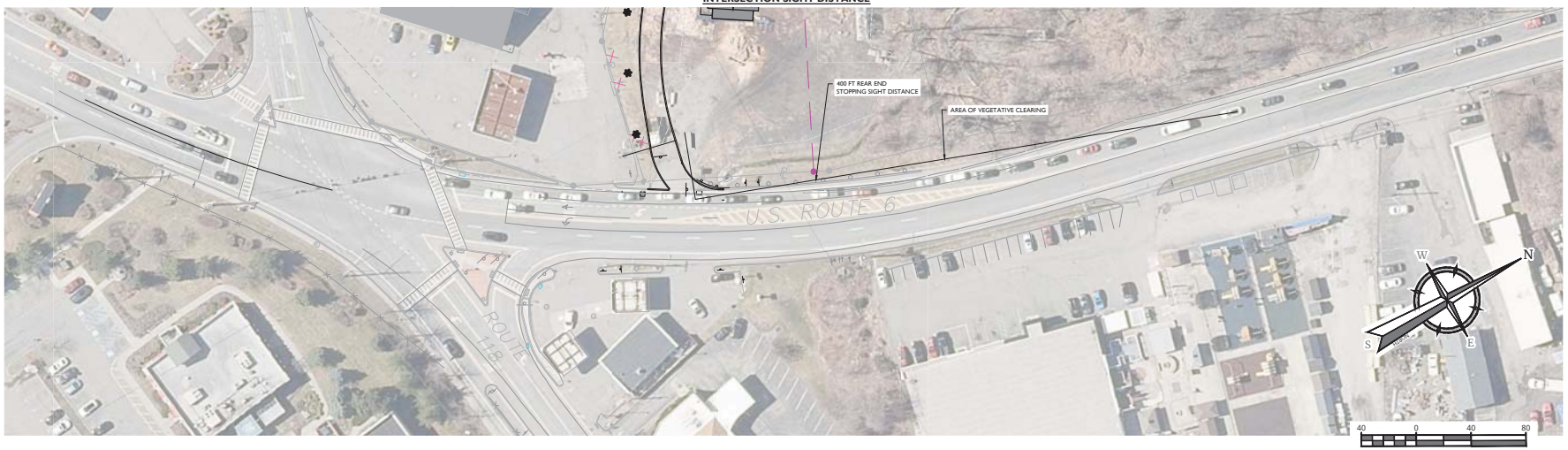
Mariyam Zachariah
Associate Project Manager II
EOH Project Review Group
Regulatory & Engineering Programs

Cc: Sommer Aaron, Owner, asommer@diamondpointdevelopment.com
Browne Natalie, DEC, natalie.browne@dec.ny.gov
Palmer, Patrick M, NYSDOH, patrick.palmer@health.ny.gov
Joseph Paravati, P.E., PCDOH, Joseph.Paravati@putnamcountyny.gov
Richard Franzetti, P.E., Town of Carmel Engineering, rjf@ci.carmel.ny.us
Rose Trombetta, Town of Carmel Planning, rtrombetta@ci.carmel.ny.us

MAIN SITE ACCESS INTERSECTION SIGHT DISTANCE



RIGHT TURN ENTRY ONLY SITE ACCESS INTERSECTION SIGHT DISTANCE



Colliers Engineering & Design

www.colliersengineering.com

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
Know what's below. Call before you dig.
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION
1	2/2024	RED	MODIFIED ROUTE 6 DRIVEWAY - RIGHT IN ONLY

SIGHT DISTANCE PLAN

FOR

DPD SELF-STORAGE

U.S. ROUTE 6 (S.H. 569) AND BALDWIN PLACE ROAD (CR 37)

TOWN OF CARMEL
PUTNAM COUNTY
NEW YORK STATE

Colliers Engineering & Design
WESTCHESTER
400 Columbus Avenue, Suite 180E
Valhalla, NY 10595
Phone: 914.347.7500
COLLIERS ENGINEERING & DESIGN, ARCHITECTURE, LANDSCAPE ARCHITECTURE, SURVEYING CT, P.C.

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	9/12/23	M.J.A.	R.G.D.

PROJECT NUMBER: 23003348A
DRAWING NAME: R-PL01-EXBT

SHEET TITLE: DIMENSION PLAN

SHEET NUMBER: SGHT-01

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

February 19, 2024

Town of Carmel Planning Board
60 McAlpin Avenue
Mahopac, New York 10541

RE: Union Energy Center, LLC Site Plan
24 Miller Road
Mahopac, NY 10541
TM#'s: 86.11-1-14

Dear Chairman Paeprer and Members of the Board:

Please find enclosed the following plans and documents in support of an application for site plan approval for the above referenced project:

- Site Plan Set, last revised February 16, 2024.
- Preliminary SWPPP, dated February 16, 2024.
- NYS Governor Hochul Initial Findings from Inter-Agency Fire Safety Working Group on Emergency Response, released December 21, 2023.

In response to open comments received from Director of Code Enforcement, Michael Carnazza, dated December 11, 2023, we offer the below responses:

2. The project was introduced to the Environmental Conservation Board on January 18, 2024. It was generally well received and the members acknowledged the advantages of the battery energy storage system (BESS) technology that is proposed for the site, noting its potential to stabilize the grid and improve the viability renewable energy sources. Additional information about the operation and details of the mitigation and erosion controls were requested. Dialogue will be maintained with the ECB as the applicant pursues permits with NYSDEC and AOCE.

3. The applicant was recently asked by the Fire Department to reduce the driveway slope to 8%. Previously the driveway was shown at 12%. The fire code requires that the driveway be a maximum of 10%, but this maximum can be varied by the fire code official. The plans have been revised to show the driveway at the Fire Code prescribed 10%. Further reduction of the slope would cause the driveway to be further lengthened, which would create additional disturbance, including in the wetland buffer/adjacent area. The applicant is seeking approval of the 10% driveway as permitted by the code.

In response to open comments received from Town Engineer Richard Franzetti, PE, dated December 5, 2023, we offer the following responses:

General Comments

1. A revised Wetland Function, Value and Impact report will be provided with a future submission addressing these concerns.

2. The required permits are acknowledged with the exception of the NYSDOT, and PCDHF as there is no frontage or proposed work within a state or county right of way.

3. A Preliminary SWPPP is enclosed herewith.

Detailed Comments

1. Sight distance calculations and a driveway profile will be provided with a future submission.

2. A Preliminary SWPPP is enclosed herewith. Rims and inverts, hydraulic calculations and pipe sizing will be provided with a future submission.

3. A Preliminary SWPPP is enclosed herewith. Rims and inverts, hydraulic calculations and pipe sizing will be provided with a future submission.

In response to open comments received from Town Planner, Patrick Cleary, dated December 14, 2023, we offer the below responses:

3. To clarify, the there is proposed tree clearing for the project. As has been discussed the site is wooded, and a proposed tree line is indicated on the plans. The limited tree pruning and brush removal along the frontage is in reference to the sight distance at the proposed driveway on Miller Road.

In response to comments received from the Board, we offer the below responses:

1. The enclosed findings report on the governor's inter-agency fire safety working group on emergency response was released on December 21, 2023. The report concludes that, "Based on available analyses of air quality, soil, or water data collected in the days following the incidents, the Working Group concluded that there were no reported injuries and no harmful levels of toxins detected…Based on the information available to date, there is no evidence of significant off-site migration of contaminants associated with the fires."

2. The applicant has inquired with the town assessor about when final assessment values are assigned to new construction and it was indicated that this is typically done after construction has begun.

We respectfully request to be placed on the February 28, 2024, Planning Board agenda for discussion of the project with the Board. Should you have any questions or comments regarding this information, please feel free to contact our office.

Very truly yours,

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

By: _____
Richard D. Williams, Jr., PE
Senior Principal Engineer

RDW/adt

Enclosures
cc: (All via email only)
Scott Connuck
Compton Donohue
Frank Smith, Esq
William Shilling, Esq
Mahopac Volunteer Fire Dept
Insite Project#: 21120.100

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

February 19, 2024

Town of Carmel Planning Board
60 McAlpin Avenue
Mahopac, New York 10541

RE: Union Energy Center, LLC Subdivision
24 Miller Road
Mahopac, NY 10541
TM#'s: 86.11-1-14

Dear Chairman Paeprer and Members of the Board:

In response to open comments received from Director of Code Enforcement, Michael Carnazza, dated December 11, 2023, we offer the below responses:

3. The project was introduced to the Environmental Conservation Board on January 18, 2024. It was generally well received, and the members acknowledged the advantages of the battery energy storage system (BESS) technology that is proposed for the site, noting its potential to stabilize the grid and improve the viability of renewable energy sources. Additional information about the operation and details of the mitigation and erosion controls were requested. Dialogue will be maintained with the ECB as the applicant pursues permits with NYSDEC and AOCE.

Please place the project on the February 28, 2024 Planning Board agenda for discussion of the project with the Board. Should you have any questions or comments regarding this information, please feel free to contact our office.

Very truly yours,

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

By: _____
Richard D. Williams, Jr., PE
Senior Principal Engineer

RDW/adt

Enclosures
cc: (All via email only)
Scott Connuck
Compton Donohue
Frank Smith, Esq
William Shilling, Esq
Mahopac Volunteer Fire Dept

Insite Project#: 21120.100

For Immediate Release: 12/21/2023 **GOVERNOR KATHY HOCHUL**

GOVERNOR HOCHUL ANNOUNCES RELEASE OF INITIAL FINDINGS FROM INTER-AGENCY FIRE SAFETY WORKING GROUP ON EMERGENCY RESPONSE

Available Analyses Find No Reported Injuries, No Harmful Levels of Toxins Detected at Sites of Battery Storage Fires

Draft Fire Code Reviews Recommendations Expected to be Released for Public Comment in First Quarter 2024

Statewide Battery Storage System Inspections Expected to Conclude by the Second Quarter 2024

Governor Kathy Hochul today released initial findings from the Inter-Agency Fire Safety Working Group, which was convened following fires at battery energy storage systems at facilities in Jefferson, Orange and Suffolk Counties this summer. The Working Group has made significant progress in evaluating both preventive and reactive standards and practices for battery system fire safety, in addition to analyzing the impacts of the fires. Based on available analyses of air quality, soil, or water data collected in the days following the incidents, the Working Group concluded that there were no reported injuries and no harmful levels of toxins detected. Additionally, statewide battery system project assessments and fire code reviews are currently underway with draft recommendations expected to be released for public comment in the first quarter of 2024.

“New York State is grateful to the first responders who were on the scene at these fires, and we are taking this opportunity to ensure they can continue to do their jobs safely and effectively,” **Governor Hochul said.** “As we continue to advance New York’s clean energy transition, maintaining this safety is of the utmost importance. Thankfully, the Working Group’s analysis shows no notable lasting impacts on the health or safety of the first responders or the communities they serve.”

The Working Group includes representatives from the Division of Homeland Security and Emergency Services (DHSES) Office of Fire Prevention and Control (OFPC)New York State Energy Research and Development Authority (NYSERDA), New York State Department of Environmental Conservation (DEC), Department of Public Service (DPS), and the Department of State (DOS). The group was convened in August 2023 and has gathered data and worked diligently with project developers, equipment manufacturers, and government officials to learn as much as possible about the fires at the three battery system sites.

The data assembled and analyzed by the Working Group includes:

- An air monitoring report from the OFPC, and soil and water sampling data received from DEC from the Chaumont site.
- On-site air monitoring results collected from the Warwick sites and relayed to the Working Group by local officials.

- On-site soil sampling results from the East Hampton site relayed to the Working Group by a project developer.
- An independent third-party site inspection report consisting of air monitoring and surface sampling at school buildings in the vicinity of the June 27, 2023, fire at the Warwick site.

Based on the information available to date, there is no evidence of significant off-site migration of contaminants associated with the fires.

New York State Energy Research and Development Authority President and CEO Doreen M. Harris said, “NYSERDA remains committed to working with our state agency partners, project developers and local communities to ensure a responsible transition to a zero-emissions grid and making available the data and resources needed to facilitate that transition in a safe and responsible manner.”

New York State Division of Homeland Security and Emergency Services Commissioner Jackie Bray said, “Battery energy storage sites are essential to securing our climate future. As these technologies continue to be implemented throughout the state, we will work closely with our partners to ensure they are operated safely.”

Department of Public Service CEO Rory M. Christian said, “The Department is pleased that the Working Group has made significant progress in evaluating both preventive and reactive standards and practices for battery system fire safety, in addition to analyzing the impacts of recent battery storage fires. Kudos to Governor Hochul for creating the working group. The Department will continue working to ensure safety comes first as more and more batteries come into service.”

New York State Department of Environmental Conservation Commissioner Basil Seggos said, “DEC applauds Governor Hochul for prioritizing New Yorkers’ safety and taking the lead to ensure energy storage deployment projects continue to be protective of our communities and the environment. DEC experts assisted the Fire Safety Working Group by analyzing current practices, assisting in site testing, enhancing emergency response measures, and identifying improvements in operations at facilities with vital roles in building a safe and responsible clean energy future for our state. We look forward to working with our partner agencies in continuing to advance this important work.”

In addition to the air, soil, and water quality analysis described above, the Working Group has partnered with subject matter experts to inspect all operational battery systems above 300 kW in New York, which accounts for the majority of commercial battery systems in service across the state. Inspections are currently underway and are slated to be complete by the second quarter of 2024. The goal of these inspections is to revise the current evaluation checklists and best-practices available for use by NYSERDA and others prior to energizing the systems, and to incorporate lessons learned from the battery fires while enhancing emergency response measures.

Battery energy storage systems are a critical component to achieving a reliable, zero-emissions grid. New York is taking the lead in addressing the incidents head on by forming the inter-agency fire and safety working group. The conclusions and recommendations will improve the way energy storage projects are deployed in New York and across the country. New York's Working Group has drawn national attention from other states as the industry is strongly invested in improving energy storage deployment best practices on a broader scale.

The Working Group is concluding negotiations with the impacted facilities’ battery manufacturers and utility companies to secure Root Cause Analysis (RCA) reports for the Warwick, East Hampton, and Chaumont fires. Subject matter experts will review and analyze the reports once they are made available.

Additionally, the Working Group has been collaborating with national labs and other nation-leading subject matter experts to review all existing codes and testing procedures pertinent to the development and electrification of battery energy storage systems. The Working Group is actively assessing all relevant codes and standards and will make recommendations to ensure building and fire codes are adequate and appropriate. Draft recommendations will be available for public comment in the first quarter of 2024.

Following the fires, the OFPC has made a Lithium-Ion Battery Awareness training course available on the DHSES E-Learning Management System for all first responders. According to the OFPC over 2,000 participants have taken the course to date.

New York State's nation-leading climate agenda calls for an orderly and just transition that creates family-sustaining jobs, continues to foster a green economy across all sectors and ensures that at least 35 percent, with a goal of 40 percent, of the benefits of clean energy investments are directed to disadvantaged communities. Guided by some of the nation's most aggressive climate and clean energy initiatives, New York is on a path to achieving a zero-emission electricity sector by 2040, including 70 percent renewable energy generation by 2030, and economywide carbon neutrality by mid-century. A cornerstone of this transition is New York's unprecedented clean energy investments, including more than $52 billion in 118 large-scale renewable and transmission projects across the state, $6.8 billion to reduce building emissions, $3.3 billion to scale up solar, nearly $3 billion for clean transportation initiatives, and over $2 billion in NY Green Bank commitments. These and other investments are supporting more than 165,000 jobs in New York's clean energy sector in 2021 and over 3,000 percent growth in the distributed solar sector since 2011. To reduce greenhouse gas emissions and improve air quality, New York also adopted zero-emission vehicle regulations, including requiring all new passenger cars and light-duty trucks sold in the State be zero emission by 2035. Partnerships are continuing to advance New York's climate action with nearly 400 registered and more than 100 certified Climate Smart Communities, nearly 500 Clean Energy Communities, and the State's largest community air monitoring initiative in 10 disadvantaged communities across the state to help target air pollution and combat climate change.

###

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

PRELIMINARY STORMWATER POLLUTION PREVENTION PLAN

For

Union Energy Center
Miller Road
Town of Carmel, New York

February 16, 2024

Applicant Information:

East Point Energy, LLC
310 4th Street NE, 3rd Floor
Charlottesville, VA 22902

Note: This report in conjunction with the project plans make up the complete Stormwater Pollution Prevention Plan.

Prepared by:
Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512

CONTENTS

1.0 INTRODUCTION

1.1 Project Description

The subject project is located on three adjacent parcels totaling 95.5± acres on Miller Road and Union Valley Road in the Town of Carmel. The parcel and its surroundings are delineated on the attached Location Map (Figure 1). The property is designated as Tax Map Number 86.11-1-14, 86.11-1-15, and 86.8-2-85 and is located in the Commerce/Business Park (C/BP) zoning district. Tax map number 86.11-1-14 consisting of 0.4± acres is currently developed as a commercial facility known as The Teal Door Counseling Center. Tax map number 86.8-2-85 is currently developed as a New York State Electric and Gas (NYSEG) substation and consists of 1.6± acres. Tax map number 86.11-1-14 consists of 93.5± acres and is currently undeveloped woods. The NYSDEC Regulated Wetland F-26 is located across a large part of the project site. The subject project proposes a lot line adjustment between the three parcels whereas the proposed lots will consist of the following:

- Proposed Lot 1 (78.9± acres) is proposed to be developed as an energy storage facility and substation to connect to the adjacent NYSEG transmission lines that currently traverse an easement on the site.
- Proposed Lot 2 (12.3± acres) will contain the existing NYSEG substation and be further developed with a second utility substation to function as the connection between the project substation and NYSEG transmission lines.
- Proposed Lot 3 (4.3± acres) will contain the existing Teal Door Counseling Center development. There is no improvements proposed to this lot.

The project proposes to develop 9.2 acres of new impervious surfaces on the site consisting of gravel driveways and storage pads and battery enclosures. Approximately 18.7 acres of soil disturbance is proposed for the subject project. It is proposed to capture and treat the stormwater runoff associated with the proposed improvements. The project site is located in the Amawalk and Muscoot Watershed.

The following permits are required for the project:

PERMIT	STATUS
TOWN OF CARMEL	
Planning Board Site Plan & Subdivision Approval	Pending
Wetland Permit	Pending
NEW YORK CITY DEPARTMENT OF ENVIROMENTAL PROTECTION	
SWPPP Approval	Pending
U.S. ARMY CORP. OF ENGINEERS	
Wetland Fill Permit	Not Submitted Yet
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION	
SWPPP General Permit Coverage (GP-0-20-001)	Not Submitted Yet
Freshwater Wetlands Permit	Not Submitted Yet
Public Service Commission Section 68 Certificate of Public Convenience and Need	Not Submitted Yet

There are no known enforcement actions, and no lawsuits or administrative proceedings, commenced against the applicant, or any principle affiliate of the applicant, for any alleged violations of law related to the applicant of the site, in the five years preceding this application.

1.2 Existing Site Conditions (Pre-Development)

The subject property is located in the Town of Carmel, between Miller Road and Silver Gate Road and just north of the border between Town of Carmel, Putnam County and Town of Somers, Westchester County. The project site has frontage along Miller Road to the west and Union Valley Road to the north. The project site is consists of three properties, two of which are currently developed as discussed above and one is currently undeveloped, and the ground cover consists of mostly wooded areas. There is an

existing NYSDEC Regulated Wetland F-26 across a large portion of the property. The NYSDEC Wetland is divided on the property by a ridge that runs north to south through the center of the site.

Stormwater runoff from the west side of the site flows overland to the NYSDEC Wetland and discharges off the property through a stream that is ultimately tributary to the Amawalk Reservoir. Stormwater runoff from the east side of the site flows overland to the NYSDEC Wetland which discharges off the property and is ultimately tributary to the Muscoot Reservoir.

The stormwater analysis included in the subject SWPPP utilizes two design points. The design points can be seen on Figure 2 and 3 and are identified as Design Point 1 and Design Point 2. Design Point 1, tributary to the Amawalk Reservoir, is located in the southwest corner of the site where the NYSDEC Regulated Wetland discharges offsite. Design Point 2, tributary to the Muscoot Reservoir, is located in the southeast corner of the site where the NYSDEC Regulated Wetland discharges offsite. The design points are used to assess the stormwater runoff from the property and any potential impacts from the proposed development to the existing natural resources and stormwater conveyance systems downstream of the project site. The pre-development contributing areas to the Design Points are identified as subcatchment PRE 1 and PRE 2.

The hydrologic soils groups for the project consists of “C”, “D”, “A/D”, “B/D”, and “C/D”. The designations of the onsite soils located within the proposed limits of disturbance consist of Fluvaquents-Udiflivents complex (Ff), Natchaug muck (NcA), Paxton Fine Sandy Loam (PnB, PnC and PnD), Ridgebury Complex (RdA, RdB and RgB), and Sun Loam (Sh) as identified on the Soil Conservation Service Web Soil Survey. The soils boundaries are shown on Figure 2 and 3 of this report. The following soil group descriptions are as defined by Soil Conservation Service Web Soil Survey.

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.

When soils are assigned to a dual hydrologic group (A/D, B/D and 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, therefore the soils with dual hydrologic groups were modeled as a “D” soil in Appendix B and C.

1.3 Proposed Site Conditions (Post Development)

The proposed project includes the construction of an energy storage facility and substation consisting of gravel driveways and storage pads for the battery storage and substations. Mitigation for the newly created impervious surfaces will be provided in the form of proposed stormwater management practices (SMP's) discussed further in later sections of this report. The proposed SMP's will be designed to capture and treat runoff from the impervious surfaces associated with the proposed improvements including the battery storage enclosures, gravel driveways and storage pads.

It is proposed to maintain the existing drainage patterns on the site to the maximum extent practical in the proposed condition to minimize the impact to the existing downstream wetland, watercourse and stormwater conveyance systems.

Stormwater treatment for the subject development will be accomplished with several different practices including dry pretreatment basins, I-2 Infiltration Basins, and P-1 Micropool Extended Detention Ponds prior to the discharge to the existing downstream NYSDEC Regulated Wetlands. The proposed standard stormwater management practices have been sized to capture and treat the Water Quality Volume from the proposed improvements.

As shown in the following sections of this report, the stormwater quality and quantity for the proposed development have been mitigated in accordance with the NYSDEC design standards. Additionally, an erosion and sediment control plan has been prepared in accordance with the New York State Standards and Specifications for Erosion and Sediment Control to protect the existing waterbodies and drainage features during construction activities and in the post development condition.

2.0 STORMWATER MANAGEMENT

The proposed stormwater management system for the Union Energy Center project has been designed to meet the requirements of local, regional, and state stormwater ordinances and guidelines, including but not limited to the Town of Carmel, NYCDEP and the NYSDEC. Specifically, the following codes / regulations have been used to design this SWPPP:

- *NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, General Permit GP-0-20-001* (GP-0-20-001).
- *NYCDEP Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its Sources* (Rules and Regulations).

Since the subject project proposes the disturbance of more than 1 acre, coverage under the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-20-001) is required.

In order to meet the requirements set forth by GP-0-20-001, and the latest edition of the NYSDEC *New York State Stormwater Management Design Manual* (Design Manual), including the requirements listed in Chapter 10: *Enhanced Phosphorus Removal Standards* (Chapter 10) was referenced for the design of the proposed stormwater collection, conveyance and treatment system. The Design Manual specifies five design criteria that are discussed in detail below. They are Runoff Reduction Volume (RR_v), Water Quality Volume (WQ_v), Stream Channel Protection Volume (CP_v), Overbank Flood Control (Q_f), and Extreme Storm Control (Q_p). The first two requirements relate to treating water quality, while the latter pertain to stormwater quantity (peak flow) attenuation.

With regard to NYCDEP requirements, per Section 18-39(b)(4) of the Rules and Regulations, the project meets three (3) of the thresholds that require SWPPP approval from the NYCDEP. For further discussion on NYCDEP requirements, refer to Section 2.6 below. However, it should be noted that in addition to the Design Manual requirements, two different SMP's are required to be placed in series when drainage areas to an SMP is over 20% impervious and infiltration cannot be provided.

Where WQv/RRv treatment is required, the following post construction green infrastructure and stormwater management practices are proposed for the project:

Table 2.0.1 – Proposed GIP/SMP Design Criteria Summary Table

GIP/SMP ID	Proposed Subcatchment	NYSSMDM Ch. 6 Design Designation	NYSDEC Uniform Stormwater Sizing Criteria Satisfied	NYCDEP Requirement Satisfied
1.1P	1.1S	P-1 Micropool Extended Detention	WQ_v, CP_v, Q_p, Q_f	Only Practice Required to be Provided
2.2P	2.2S			
2.3P	2.3S			
1.2P	1.2S	I-2 Infiltration Basin	WQ_v, RR_v, CPv, Qp, Q_f	Only Practice Required to be Provided
1.3P	1.3S			
2.1P	2.1S			

To address stormwater quantity requirements of the NYSDEC, the "HydroCAD" Stormwater Modeling System," by HydroCAD Software Solutions LLC in Tamworth, New Hampshire, was used to model and assess the peak stormwater flows for the subject project. HydroCAD is a computer aided design program for modeling the hydrology and hydraulics of stormwater runoff. It is based primarily on hydrology techniques developed by the United States Department of Agriculture, Soil Conservation Service (USDA, SCS) TR-20 method combined with standard hydraulic calculations. For details on the input data for the subcatchments and design storms, refer to Appendices A through C and for the supporting data relative to the soil breakdown within the overall contributing area shown in the HydroCAD analysis, see Appendix B and C of this report:

The input requirements for the HydroCAD computer program are as follows:

Subcatchments (contributing watershed/sub-watersheds)

- Design storm rainfall in inches
- CN (runoff curve number) values which are based on soil type and land use/ground cover
- Tc (time of concentration) flow path information

Flow Splitters / Stormwater Management Practices

- Surface area at appropriate elevations
- Flood elevation
- Outlet structure information

The following is a general description of the input data used to calculate the pre- and post-development stormwater runoff values. For detailed information for each subcatchment and pond, see Appendices B & C. The precipitation values for the 1-Year, 10-Year, 100-Year 24-hour design storm events and rainfall distribution curves utilized for this report were obtained from the information provided by Northeast Regional Climate Center (NRCC) and the Natural Resources Conservation Service(NRCS) which is available online at *www.precip.eas.cornell.edu*. The values provided for all design storms analyzed are listed below.

Design Storm	**24-Hour Rainfall**
1-Year	2.76"
10-Year	5.03"
100-Year	9.05"

The CN (runoff curve number) values utilized in this report were referenced from the USDA, SCS publication *Urban Hydrology for Small Watersheds*.

2.1 Chapter 10: Enhanced Phosphorus Removal Standards

As noted above, the New York City East of Hudson Watershed has been identified in the SPDES General Permit GP-0-20-001 as a watershed requiring compliance with the Enhanced Phosphorus Removal Standards when post-construction stormwater management practices are proposed. Chapter 10 establishes four goals to meet sizing performance standards:

- Goal 1: Reducing Runoff Volumes
- Goal 2: Effective Bypass Treatment
- Goal 3: Achieving Effluent Concentrations for Particulate Phosphorus
- Goal 4: Achieving Effluent Concentrations for Dissolved Phosphorus

In order to achieve the first goal, the site design shall," assess the feasibility of hydrological source controls and reduce the total water quality volume by source control, implementation of green infrastructure, or standard SMP's with RR_v capacity, according to the process defined in Chapters 3 and 4 of the Design Manual. Each plan must include a rationale for acceptance and rejection of the various controls." A discussion on RR_v can be found in section 2.2 below. Based upon the results of onsite soil testing, the soils onsite in select areas are suitable for infiltration. Therefore, the use an infiltration practice (classified as Standard SMP's with RRv capacity) has been maximized, specifically infiltration

basins were selected to treat the stormwater runoff from a portion of the proposed impervious surfaces and satisfy RRv minimum requirements. As such, Goal 1 has been achieved in this SWPPP.

Goal 2 cites that proposed stormwater management practices should achieve less than 15% effective treatment bypass of the long-term runoff volume. Chapter 10 further notes this goal is satisfied by capturing and treating the 1-year 24-hour design storm. The NYSDEC stormwater quality treatment practices proposed for this have been designed in accordance with Chapter 10 by utilizing the 1-yr, 24-hour design storm to generate the WQ_v / RR_v. As such, Goal 2 has been achieved in this SWPPP.

Achieving effluent concentrations for particulate phosphorus, Goal 3, is satisfied by achieving an 80% net removal of particulate phosphorus for a median influent concentration of 0.5mg/l. Chapter 10 states that through designing proposed SMP's in accordance with Section 10.4 this goal will be achieved. The proposed I-2 infiltration basins and P-1 micropool extended detention ponds have been designed in accordance with Section 10.4 of Chapter 10 thus satisfying the requirements of this goal.

Goal 4, achieving effluent concentration for dissolved phosphorus, is achieved by obtaining a 60% net removal of dissolved phosphorus given a median influent concentration of 0.15mg/l. As with Goal 3, Goal 4 is achieved by designing the proposed SMP's in accordance with Section 10.4 of Chapter 10. As noted above the proposed I-2 infiltration basins and P-1 micropool extended detention ponds have been designed in accordance with section 10.4 of Chapter 10 thus satisfying the requirements of this goal.

2.2 NYSDEC Runoff Reduction Volume (RR_v)

The Runoff Reduction Volume (RR_v) criterion is intended to replicate pre-development hydrology by maintaining preconstruction infiltration, peak flow runoff, discharge volume, as well as minimizing concentrated stormwater flow. As stated in Chapter 4 of the Design Manual, RR_v may be treated with standard stormwater management practices (SMP's) sized in accordance with the Chapter 4/6 requirements, or with green infrastructure practices (GIP's) sized in accordance with the requirements set forth for each practice in Chapter 5. Runoff reduction is achieved when runoff from a percentage of the impervious area on the site is captured, routed through a SMP or a GIP, infiltrated to the ground, reused, reduced by evapotranspiration, and eventually removed from the stormwater discharge from the site. However, if 100% of the WQ_v cannot be reduced by applying a combination of green infrastructure techniques and standard SMP's with RR_v capacity, "they must, at a minimum, reduce runoff from a percentage of the impervious area constructed as part of the project using the green infrastructure techniques and standard SMPs with RR_v capacity. In addition, the designer must provide justification in the SWPPP that evaluates each of the green infrastructure techniques listed in Table 3.2 and identify the specific site limitations that make application of the technique(s) infeasible."

Although infiltration practices designed as SMPs with the runoff reduction capacity equal to 100% of the WQ_v have been implemented to the maximum extend practical, the project SWPPP cannot provide 100% of the WQ_v through the implementation of GIP's or standard SMP's with RR_v capacity upstream of Design Point 1 and Design Point 2. This is due to the existing onsite soil conditions and topography in the area of the proposed improvements, thus minimizing the area where infiltration practices for treatment of the RR_v / WQ_v is possible.

Section 4.3 of the Design Manual states for sites that do not achieve runoff reduction to pre-construction condition must, at a minimum reduce a percentage of the runoff from impervious areas to be constructed on the site a minimum RR_v. The following equation can be used to determine the minimum runoff reduction volume:

The minimum runoff reduction volume shall be $RRv_{minimum} = \frac{(P)(R_v)(A_i)}{12}$

Where,

S = Hydrologic Soil Group (HSG) Specific Reduction Factor
A*ic* = Total Area of New Impervious Cover
A*i* = Impervious cover targeted for Runoff Reduction
= (S)(A*ic*)
Rv = 0.95

Although 100% of the WQ_v can not be treated through the implementation of GIP's or standard SMP's with RR_v capacity upstream of Design Point 1 and Design Point 2, the project SWPPP addresses and satisfies the RR_V requirements of the Design Manual. In order to meet these requirements to the maximum extent practicable, the project SWPPP has minimized the creation of impervious surfaces to the maximum extent practicable. The types of GIP's and standard SMP's with RR_v capacity that can be employed onsite are limited. The project SWPPP as required by the Design Manual meets and exceeds the RR_v minimum required upstream of Design Point 1 and Design Point 2. For this project infiltration practices have been employed upstream of Design Point 1 and Design Point 2 to the maximum extent practical in order to meet the RR_v requirements.

For a calculation of the Initial WQ_v / RR_v, the RR_v minimum, the RR_v / WQ_v required, and the RR_v provided, refer to Appendix A. In calculating the RR_v minimum, onsite soils belong to the Hydrologic Soil Groups C and D. These soil groups have a specific reduction factor of 0.30 and 0.20, respectively. Listed in Table 2.2.1 below is a summary of the NYSDEC compliant practices, and their satisfaction of the NYSDEC RRv requirements:

Table 2.2.1 Runoff Reduction Volume Summary

Design Point	Subcatchment	RR_v *Required* = WQ_v (c.f.) From Appendix C	RR_v *Minimum* (c.f.) Calculated in Appendix A	GIP/ SMP ID	NYSDEC Practice Designation	Allowable % of WQv provided to be applied towards RRv	Storage Volume Provided below System Outlet (c.f.) (From Appendix C)	RRv *Provided* (c.f.)
1	1.1S	10,106	10,850	1.1P	P-1 Pond	0%	-	29,621
	1.2S	12,720		1.2P	I-2 Infiltration Basin	100%	13,625	
	1.3S	16,901		1.3P			17,219	
2	2.1S	18,905	12,335	2.1P	I-2 Infiltration Basin	100%	19,500	18,905
	2.2S	18,339		2.2P	P-1 Pond	0%	-	
	2.3S	12,632		2.3P				

As previously stated, 100% of the $RRv_{Required}$ could not be provided upstream of Design Point 1 and Design Point 2 due to existing onsite soil conditions and topography which limited the area where infiltration is feasible. Although 100% of the $RRv_{Required}$ was not provided for Design Point 1 and 2, the project satisfies the RRv criteria by providing greater than the $RRv_{minimum}$ through the implementation of infiltration practices to the maximum extent practical.

2.3 NYSDEC Water Quality Volume (WQ_v)

The proposed stormwater management practices have been sized in accordance with Chapter 4 and 6 of the Design Manual in order to treat the entire WQv from the contributing area. The I-2 Infiltration Basins have been sized to provide storage of the entire WQv between the bottom of the practice and the

outlet condition, as verified in Appendix C. The P-1 Micropool Extended Detention Ponds have been designed to provide the required WQ_v storage volume within the permanent pool and in extended detention. The subject project is located in the New York City Watershed, which is listed as a phosphorus-limited watershed per the NYSDEC regulations. Therefore, the stormwater management practices have been designed in general accordance with the Enhanced Phosphorus Removal Supplement (Chapter 10) of the Design Manual. As outlined in Chapter 10, the treatment volume for the WQv is the runoff volume produced during the 1-year 24-hour design storm. See table 2.6.1 for a summary of the WQv generated by the proposed improvements during the 1-year, 24-hour storm.

Three P-1 Micropool Extended Detention Ponds are proposed to treat the water quality volume from subcatchments 1.1S, 2.2S and 2.3S. The P-1 Ponds have been sized in accordance with Chapter 6 and Chapter 10 of the Design Manual as shown in the table below.

Table 2.3.2 P-1 Micropool Extended Detention Pond Summary

Design Elements	Required			Provided			Remarks
	1.1P	2.2P	2.3P	1.1P	2.2P	2.3P	
Pond Location	Not within Jurisdictional Waters			Outside of Jurisdictional Waters			See Project Plans
Forebay Volume	10% of WQv			3,500 cf	2,300 cf	1,400 cf	See Appendix C
	1,011 cf	1,834 cf	1,263 cf				
Forebay Depth	4' Min. – 6' Max.			4' Provided			See Project Plans
WQv Storage	20% Min. within Permanent Pool			7,050 cf	7,200 cf	2,700 cf	See Appendix C
	2,021 cf	3,668 cf	2,526 cf				
Minimum Length to Width Ratio	1.5 : 1			Greater than 1.5 : 1			See Project Plans
Minimum Surface Area to Drainage Area Ratio	1 : 100			1 : 8	1 : 10	1 : 10	See Project Plans
Benches at Water Level	Aquatic Bench			Aquatic Bench			See Project Plans
Landscaping	Pond and Buffer Plantings Required			Pond and Buffer Plantings Provided			See Project Plans

In accordance with the Design Manual, pretreatment basin are proposed upstream of the infiltration basins to provide pretreatment greater than 25% of the water quality volume from the contributing area. The basin has been sized to provide a storage volume greater than 25% of the WQv below the weir in the outlet structure as shown in Appendix C. The table below provide a summary of the pretreatment requirements for the pretreatment basins.

Table 2.3.4 – Pretreatment Basin Sizing Summary

Subcatchment	Pretreatment Basin	WQv[1] (c.f.)	Required Pretreatment Volume (25% of WQv) (c.f.)	Storage Volume Provided in Pretreatment Basin[1] (c.f.)
1.2S	1.2PT	12,720	3,180	5,625
1.3S	1.3PT	16,901	4,225	8,118
2.1S	2.1PT	18,905	4,726	12,609

[1] For detailed calculations see Appendix C.

By sizing the proposed stormwater management practices to treat 100% of the WQv from the contributing area in accordance with the Design Manual, the WQv criteria has been met.

2.4 NYSDEC Stream Channel Protection Volume (CP_v)

The Stream Channel Protection (CP_v) criterion is intended to protect stream channels from erosion and is accomplished by the 24-hour extended detention of the one-year, 24-hour storm event. As shown in Appendix C, the stormwater infiltration basins have been designed with a storage volume greater than

the volume of stormwater runoff from the 1-year storm, and therefore fully infiltrate the runoff from the 1-year, 24-hour storm event. The P-1 Micropool Extended Detention Ponds have been designed to provide 24-hour extended detention of the 1-year, 24-hour design storm. By providing a stormwater infiltration practice to fully infiltrate the volume of stormwater runoff from the 1-year, 24-hour design storm and ponds to provide 24-hour extended detention of the 1-year, 24-hour design storm, the CP_v has been met for the project. Soil and infiltration testing will be performed and witnessed by the NYCDEP in the locations of the proposed stormwater management practices to verify the design criteria of including infiltration rate for the infiltration basins. Preliminary testing was performed across the project site and the stormwater management practices were designed based on the preliminary test results. Conservatively, an infiltration rate of 1 inch per hour was used in the HydroCAD modeling in Appendix C for the infiltration basins based on the observed soils.

2.5 NYSDEC Overbank Flood Control (Q_p), and Extreme Flood Control (Q_f)

The Overbank Flood Control (Q_p) requirement is intended to prevent an increase in the frequency and magnitude of out-of-bank flooding events generated by urban development. Overbank control requires storage to attenuate the post-development 10-year, 24-hour peak discharge to pre-development rates. The Extreme Flood Control (Q_f) requirement is intended to prevent the increased risk of flood damage from large storm events, maintain the boundaries of the pre-development 100-year flood plain, and protect the physical integrity of stormwater management practice. Extreme flood control requires storage to attenuate the post-development 100-year, 24-hour peak discharge to pre-development rates. As shown in Table 2.5.1, attenuation for both the 10-year and 100-year 24-hour storms has been provided thus satisfying the Q_p and Q_f requirements.

Table 2.5.1– Existing and Proposed Conditions Peak Flows

24-HOUR DESIGN STORM PEAK FLOWS (c.f.s.)				
	10-YEAR (Overbank Flood Control)		100-YEAR (Extreme Flood Control)	
	Pre	Post	Pre	Post
Design Point 1	25.95	25.92	61.35	60.55
Design Point 2	50.80	48.08	115.75	108.86

As shown in the above table the peak flows from the contributing areas to the design points in the post development condition has been mitigated to below the existing condition levels, thus meeting the general requirements of the NYSDEC.

A summary of the runoff volumes in the pre and post-development condition to each Design Point is provided in the table below for the 1-year, 10-year, and 100-year, 24-hour storm event.

Table 2.5.2– Existing and Proposed Conditions Runoff Volumes

24-HOUR DESIGN STORM RUNOFF VOLUME (a.f.)						
	1-YEAR		10-YEAR		100-YEAR	
	Pre	Post	Pre	Post	Pre	Post
Design Point 1	1.143	1.023	3.794	3.693	9.613	9.775
Design Point 2	3.674	3.786	11.255	11.389	27.292	27.383

2.6 NYCDEP Requirements

As previously discussed the proposed project requires a NYCDEP SWPPP approval from the NYCDEP per Section 18-39(b)(4) of the Rules and Regulations which state:

(i) Plans for development or sale of land that will result in the disturbance of five (5) or more acres of total land area.

(iii) Construction of a new industrial, institutional, municipal, commercial, or multi-family residential project that will result in the creation of an impervious surface totaling over 40,000 square feet in size.

(iv) A land clearing project, involving two or more acres, located at least in part within the limiting distance of 100 feet of a watercourse or wetland, or within the limiting distance of 300 feet of a reservoir, reservoir stem or controlled lake or on a slope exceeding 15 percent.

There are no proposed stormwater discharge from industrial activities for the proposed development. The proposed project does not include any new solid waste management facilities or alterations / modifications to existing facilities.

The Rules and Regulations parallel the requirements of the NYSDEC and the Town of Carmel, with the exception that two different NYSDEC standard SMP's are required in series when the drainage area to a SMP is greater than 20% impervious and an infiltration practice is not provided. Subcatchment 1.2S, 1.3S and 2.1S do not require two different practices in series as an infiltration practice is proposed. The remaining subcatchments propose less than 20% impervious and therefore do not require two different practices in series.

Per the Rules and Regulations, the stormwater treatment volume used shall be the greater of the runoff volume from the 1-year, 24-hour storm event or the volume generated by the 90% storm. The initial WQ_v from the 1-year storm event was discussed above. The following equation, per Chapter 4, was used to determine the water quality volume for the 90% storm event for the subcatchments.

The water quality volume shall be $WQ_v = \frac{(P)(R_v n)(An)}{12}$

Where,

WQ_{v90} = water quality volume (in a.f.)

P = 90% Rainfall Event Number (1.4 in)

R_v = 0.05 + 0.009(I), where I is percent impervious cover

A = site area in acres

Table 2.6.1 - Water Quality Volume Calculation Summary 90% Storm vs. 1-Year Storm Comparison

Subcatchments	P (in.)	R_v[3,4]	A[1] (ac.)	WQ_{v90} (a.f.)	WQ_v[2] 1-year (a.f.)
1.1S	1.4	0.22	2.6	0.067	0.232
1.2S		0.58	2.4	0.162	0.292
1.3S		0.64	2.9	0.217	0.388
2.1S		0.61	3.4	0.242	0.434
2.2S		0.62	3.0	0.217	0.421
2.3S		0.75	1.8	0.158	0.290

[1] Information regarding contributing areas for each subcatchment is shown in Appendix C.
[2] Refer to Appendix C for 1-year 24-hour water quality volume calculation.
[3] A minimum R_v of 0.20 is used.
[4] The R_v was calculated with gravel surfaces included as impervious.

As shown in Table 2.6.1 above, the volume produced by the 1-year, 24-hour design storm for all subcatchments is larger than the volume produced by the 90% storm. Therefore, the 1-year, 24-hour design storm volumes shall be used for the WQv sizing for all of the proposed stormwater management practices.

The following table summarizes the amount of proposed impervious surfaces for each subcatchment and shows the proposed stormwater management practice that will treat each sub-watershed:

Table 2.6.2 – Imperviousness of Tributary Areas & Stormwater Management Practice

Sub-Catchments	Total Area (acres)	Existing Impervious Surface Within Subcatchment	Proposed Impervious Surface Within Subcatchment[2]	% Impervious Surface of Total Subcatchment Area	Proposed Stormwater Management Practice (SMP) Treatment Train[1]	
					RR_v/SMP 1	SMP 2 (A second practice in series is only provided when % impervious is greater than 20% and infiltration is not provided)
1.2S	2.4	0.0	0.3	13%	I-2, Infiltration Basin	Not Required
1.3S	2.9	0.0	0.5	17%		
2.1S	3.4	0.0	0.5	15%		
1.1S	2.6	0.0	0.0	0%	P-1 Micropool Extended Detention Pond	Not Required
2.2S	3.0	0.0	0.0	0%		
2.3S	1.8	0.0	0.0	0%		

[1] This table lists the standard SMP's used to treat the balance of the WQ_v / RR_v after the application of GIP's.
[2] Per the NYCDEP regulations, the gravel surfaces are considered to be pervious for these calculations, but are accounted for per NYSDEC regulations in the WQv and RRv calculations.

As shown in the above table, since gravel surfaces are considered to be pervious in accordance with the NYCDEP regulations, all the subcatchments include less than 20% impervious, therefore two practices in series is not required.

3.0 STORMWATER CONVEYANCE SYSTEM

The stormwater conveyance system for the project consists of grass swales, precast concrete drainage structures and HDPE drainage piping. In the locations of proposed stormwater conveyance system, the system has been sized utilizing the Rational Method and is a standard method used by engineers to develop flow rates for sizing collection systems. The Rational Method calculates flows based on a one-hour design storm. The collection system has been sized to convey, at a minimum, the 10-year design storm. Sizing calculations for the stormwater conveyance piping and grass swales will be provided in future reports.

4.0 EROSION AND SEDIMENT CONTROL

Erosion and sediment control should be accomplished by four basic principles: diversion of clean water, containment of sediment, treatment of dirty water, and stabilization of disturbed areas. Diversion of clean water should be accomplished with swales. This diverted water should be safely conveyed around the construction area as necessary and discharged downstream of the disturbed areas. Sediment should be contained with the use of silt fence at the toe of disturbed slopes. Disturbed areas should be permanently stabilized within 7 days of final grading to limit the required length of time that the temporary facilities must be utilized. The owner will be

responsible for the maintenance of the temporary erosion control facilities. Refer to the Project Drawings for further information implementation of the Erosion Control Plan and Construction Sequence.

4.1 Temporary Erosion and Sediment Control Facilities

Temporary erosion and sediment control facilities should be installed and maintained as required to reduce the impacts to off-site properties. The owner will be required to provide maintenance for the temporary erosion and sediment control facilities. In general, the following temporary methods and materials should be used to control erosion and sedimentation from the project site:

- Stabilized Construction Entrance
- Dust Control
- Silt Fence Barriers
- Storm Drain Inlet Protection
- Temporary Soil Stabilization
- Temporary Sediment Trap
- Site Pollution Prevention
- Stone Check Dams
- Geotextile Anchoring

All temporary erosion control measures will be designed, installed and maintained in accordance with the November 2016 New York State Standards and Specifications for Erosion and Sediment Control as well as the Erosion & Sediment Control Maintenance Schedule contained on the Project Drawings, and as discussed below.

A stabilized construction entraance should be installed at the site entrance as shown on the project plans. The design drawings will include details to guide the contractor in the construction of this access. The intent of the stabilized construction access is to prevent the “tracking” of soil from the site.

Dust control should be accomplished with water sprinkling trucks if required. During dry periods, sprinkler trucks should wet all exposed earth surfaces as required to prevent the transport of air-borne particles to adjoining areas.

Siltation barriers constructed of geosynthetic filter cloth should be installed at the toe of all disturbed slopes. The intent of these barriers is to contain silt and sediment at the source and inhibit its transport by stormwater runoff. The siltation barriers will also help reduce the rate of runoff by creating filters through which the stormwater must pass. During construction, the siltation barriers shall be inspected weekly and after a rainfall event and shall be cleaned/replaced when needed.

Storm drain inlet protection in the form of excavated drop inlet protection will be constructed around all proposed inlets. The excavated drop inlet protection will serve to filter stormwater runoff before it enters the collection system. Throughout construction the concrete drainage structures, associated piping and inlet protections shall be inspected weekly and after a rainfall event. These items shall be cleaned, repaired and/or replaced when needed.

The P-1 Micropool Extended Detention Ponds and pretreatment basins will act as temporary sediment traps during construction of the site. The stormwater runoff from disturbed areas will be directed to the sediment traps. The sediment traps will be sized in accordance with the New York State Standards and Specifications for Erosion and Sediment Control. Sizing calculations for the temporary sediment traps will be provided in future reports.

When land is exposed during development, the exposure shall be kept to the shortest practical period, but in no case more than 7 days. Temporary grass seed and mulch shall be applied to any construction area idle for two weeks. The temporary seeding and mulching shall be performed in accordance with the seeding notes illustrated on the project drawings. Disturbance shall be minimized in the areas required to perform construction. Upon completion of final grading topsoil, permanent seeding and mulch shall be applied in accordance with the project drawings.

Site Pollution Prevention shall be performed for non-sediment pollutants during construction. Care shall be taken during construction to prevent the generation of pollutants due to the improper handling, storage, and spills and prevent the movement of toxic substances from the site into surface waters. Site pollution prevention details are discussed further in Section 5.1 below.

Stone Check Dams are proposed to be installed across the proposed grassed swales to reduce erosion by slowing down the velocity of flow in the channel. The stone check dams are also proposed to provide a form of pretreatment for the O-2 Wet Swals, and as such the check dams shall be installed during construction and shall remain as a permanent structure. The check dams shall be installed in accordance with the notes and details on the project plans. Maintenance of the check dams including removal of sediment, repairs and replacement shall be performed during and after construction.

Geotextile anchoring is proposed on all disturbed slopes steeper than 3H:1V. Erosion control blankets are proposed to aid in soil stabilization on steep slopes and promote germination. Disturbed areas should be topsoiled, racked and seeded prior to installing erosion control blankets. Blankets shall be inspected weekly and after each rainfall event until final stabilization is achieved for that area. See project plans for additional notes and details.

The stormwater runoff will be managed by the temporary erosion and sediment control facilities during construction. As discussed in the construction sequences provided the project plans the stabilized construction entrance shall be installed at the site entrance and silt fence shall be installed along the down hill perimeter of where soil disturbing activities will occur containing sediment laden stormwater runoff on-site.

4.2 Permanent Erosion and Sediment Control Facilities

Permanent erosion and sediment control will be accomplished by diverting stormwater runoff from steep slopes, controlling/reducing stormwater runoff velocities and volumes, and vegetative and structural surface stabilization. All of the permanent facilities are relatively maintenance free and only require periodic inspections. The owner will provide maintenance for all the permanent erosion and sediment control facilities.

Rock outlet protection or a level spreader will be provided at the discharge end of all piped drainage systems, and will be sized in accordance with the Blue Book. The purpose of the rock outlet protection is to reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving downstream reach. The rock outlet protection shall be inspected for evidence of scour beneath the riprap and/or for any dislodged stones. Inspections of the rock outlet protection and level spreader shall be performed during the inspections of the post-construction SMP's for the project.

Other than the paved or gravel surfaces, disturbed surfaces will be stabilized with vegetation within 7 days of final grading. Permanent seed mix and mulch shall be applied to idle areas to minimize the amount of exposed soil. Permanent seed mixtures are proposed for the project and illustrated on project drawings. Application rates for the seed and mulch are provided on the project drawings. The vegetation will control stormwater runoff by preventing soil erosion, reducing runoff volume and velocities, and providing a filter medium. Permanent seeding should optimally be undertaken in the spring from March 21st through May 20th and in late summer from August 15th to October 15th.

5.0 IMPLEMENTATION AND MAINTENANCE

5.1 Construction Phase

Details associated with the implementation and maintenance of the proposed stormwater facilities and erosion control measures during construction are shown on the project drawings. Soil disturbance for the subject project shall not exceed five acres at any given time. The erosion control plan will include associated details and notes to aid the contractor in implementing the plan. Construction is anticipated to begin in the summer of 2024 and anticipated to be completed by the fall of 2025.

During construction, a Site Log Book, Appendix D, is required to be kept per NYSDEC SPDES General Permit GP-0-20-001. Erosion and sediment control inspections are required to be conducted as necessary under coverage of the permit (minimum twice a week) and an updated logbook and a copy of the SWPPP is required to be kept on site for the duration of the construction activities. The Construction Site Log Book is an appendix taken from the *New York Standards and Specifications for Erosion and Sediment Control* (Blue Book).

In addition to the proposed erosion and sediment control facilities, the following good housekeeping best management practices shall be implemented to mitigate potential pollution during the construction phase of the project. The general contractor overseeing the day-to-day site operation shall be responsible for the good housekeeping best management practices included in the following general categories:

- Material Handling and Waste Management
- Establishment of Building Material Staging Areas
- Establishment of Washout Areas
- Proper Equipment Fueling and Maintenance Practices
- Spill Prevention and Control Plan

All construction waste materials shall be collected and removed from the site regularly by the general contractor. The general contractor shall supply waste barrels for proper disposal of waste materials. All personnel working on the site shall be instructed of the proper procedures for construction waste disposal.

Although it is not anticipated any hazardous waste materials will be utilized during construction, any hazardous waste materials shall be disposed of in accordance with federal, state, and local regulations. No hazardous waste shall be disposed of on-site. Hazardous waste materials shall be stored in appropriate and clearly marked containers and segregated from the other non-waste materials. All hazardous waste shall be stored in a structurally sound and sealed shipping containers located in the staging areas. Material safety data sheets, material inventory, and emergency contact numbers will be maintained in the office trailer. All personnel working on the site shall be instructed of the proper procedures for hazardous waste disposal.

Temporary sanitary facilities (portable toilets) shall be provided on site during the entire length of construction. The sanitary facilities shall be located in the project staging area, or in an alternate area away from the construction activities on the site. The portable toilets shall be inspected weekly for evidence of leaking holding tanks.

All recyclables, including wood pallets, cardboard boxes, and all other recyclable construction scraps shall be disposed of in a designated recycling barrel provided by the contractor and removed from the site regularly. All personnel working on the site shall be instructed of the proper procedures for construction waste recycling.

All construction equipment and maintenance materials shall be stored in a construction staging area. Silt fence shall be installed down gradient of the construction staging area. Shipping containers shall be utilized to store hand tools, small parts, and other construction materials, not taken off site daily. Construction waste barrels, recycling barrels and if necessary hazardous waste containers shall be located within the limits of the construction staging area.

Throughout the construction of the project, several types of vehicles and equipment will be used on-site. Fueling of the equipment shall occur within the limits of the construction staging area. Fuel will be delivered to the site as needed, by the general contractor, or a party chosen by the general contractor. Only minor vehicle equipment maintenance shall occur on-site, all major maintenance shall be performed off-site. All equipment fluids generated from minor maintenance activities shall be disposed of into designated drums and stored in accordance with the hazardous waste storage as previously discussed.

The designated temporary concrete washout areas shall be constructed in accordance with the detail in the general locations as shown on the project plans. The temporary concrete washout areas shall be lined with plastic sheeting as specified on the detail free of holes or tears. Should the liner rip or tear at any time it shall be replaced immediately. All concrete mixer trucks and chutes shall be washed in the designated concrete wash

areas. All personnel working on the site including concrete equipment operators shall be instructed of the locations and proper procedures for concrete washout. When the temporary concrete washout areas are no longer needed the hardened concrete and materials used to construct the washout area shall be broken up and removed from the site and disposed of in a landfill.

Vehicles and equipment shall be inspected on each day of use. Any leak discovered shall be repaired immediately. All leaking equipment unable to be repaired shall be removed from the site. Ample supplies of absorbent, spill-cleanup materials, and spill kits shall be located in the construction staging area. All spills shall be cleaned up immediately upon discovery. Spent absorbent materials and rags shall be hauled off-site immediately after the spill is cleaned for disposal at a local landfill. All personnel working on the site shall be instructed of the proper procedures for spill prevention and control. Petroleum spills (if applicable) and hazardous material spills must be reported to the NYSDEC Spill Hotline (1-800-457-7362). For spills not deemed reportable, it is strongly recommended that the facts concerning the incident be documented by the spiller and record maintained for one year. Any spill large enough to discharge to surface water will be immediately reported to the local fire / police departments, NYCDEP, and the National Response Center 1-800-424-8802. The contractor shall contain, recover all spills/contaminants as soon as possible to minimize any damages to the environment. Cleanup and corrective actions of releases shall be performed by a qualified contractor in accordance with all pertinent regulations.

Vegetation should be inspected every 30 days and after every major storm event until established, after which inspections should take place on a quarterly basis and after every large storm event. Damaged areas should be immediately re-seeded and re-mulched.

5.2 Soil Restoration

Soil Restoration is required to be applied across areas of the development site where soils have been disturbed and will be vegetated. The purpose is to recover the original properties and porosity of the soil compacted during construction activity. Soil Restoration is applied in the cleanup, restoration, and landscaping phase of construction followed by the permanent establishment of an appropriate, deep-rooted groundcover to help maintain the restored soil structure. Soil restoration includes mechanical decompaction and compost amendment. The table below describes various soil disturbance activities related to land development, soil types and the requirements for soil restoration for each activity as identified in the Design Manual. Restoration is applied across areas of a development site where soils have been compacted and will be vegetated according to the criteria defined in the table below:

<table>
<tr><th colspan="4">Soil Restoration Requirements[1, 2,4]
(Onsite soils within the limit of disturbance belong to Hydrologic Soil Groups (HSG) B, C & D)</th></tr>
<tr><th>Type of Soil Disturbance</th><th colspan="2">Soil Restoration Requirement</th><th>Comments/Examples</th></tr>
<tr><td>No soil disturbance</td><td colspan="2">Restoration not permitted</td><td>Preservation of Natural Features</td></tr>
<tr><td>Minimal soil disturbance</td><td colspan="2">Restoration not required</td><td>Clearing and grubbing</td></tr>
<tr><td rowspan="2">Areas where topsoil is stripped only - no change in grade</td><td>HSG A & B</td><td>HSG C&D</td><td rowspan="2">Protect area from any ongoing construction activities.</td></tr>
<tr><td>Apply 6 inches of topsoil</td><td>Aerate[3] and apply 6 inches of topsoil</td></tr>
<tr><td rowspan="2">Areas of cut or fill</td><td>HSG A &B</td><td>HSG C&D</td><td rowspan="2"></td></tr>
<tr><td>Aerate[1] and apply 6 inches of topsoil</td><td>Apply full Soil Restoration [2]</td></tr>
<tr><td>Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5-foot perimeter around foundation walls)</td><td colspan="2">Apply full Soil Restoration (decompaction and compost Enhancement[6])</td><td></td></tr>
<tr><td>Areas where Runoff Reduction and/or Infiltration practices are applied</td><td colspan="2">Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.</td><td>Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area</td></tr>
<tr><td>Redevelopment projects</td><td colspan="2">Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.</td><td></td></tr>
</table>

1. Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.
2. Per “Deep Ripping and De-compaction, DEC 2008”.
3. Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which functions like a mini-subsoiler.
4. During periods of relatively low to moderate subsoil moisture, the disturbed soils are returned to rough grade and the following Soil Restoration steps applied:
   - 5.1. Apply 3 inches of compost over subsoil.
   - 5.2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor-mounted disc, or tiller, mixing, and circulating air and compost into subsoils.
   - 5.3. Rock-pick until uplifted stone/rock materials of four inches and larger size area cleaned off the site.
   - 5.4. Apply topsoil to a depth of 6 inches.
   - 5.5. Vegetate as required by seeding notes located on the project drawings.
   - 5.6. Tilling should not be performed within the drip line of any existing trees or over any utility installations that are within 24 inches of the surface.
6. Compost shall be aged, from plant derived materials, free of viable weed seeds, have no visible free water or dust produced when handling, pass through a half inch screen and have a pH suitable to grow desired plants.

After soil restoration is completed an inspector should be able to push a 3/8" metal bar twelve inches into the soil with just body weight. Following decompaction/soil restoration activities, the following maintenance is anticipated during the first year:

- Initial inspections for the first six months (once after each storm greater than a half-inch).
- Reseeding to repair bare or eroding areas to assure grass stabilization.

- Water once every three days for first month, and then provide a half inch of water per week during first year. Irrigation plan may be adjusted according to the rain event.
- Fertilization may be needed in the fall after the first growing season to increase plant vigor.

In order to ensure the soil remains decompacted the following ongoing maintenance is recommended:

- Planting the appropriate ground cover with deep roots to maintain the soil structure.
- Keeping the site free of vehicular and foot traffic or other weight loads. Consider pedestrian footpaths (sometimes it may be necessary to de-thatch the turf every few years).

5.3 Long Term Maintenance Plan

The stormwater facilities for the subject project have been designed to minimize the required maintenance. This section discusses the minimum maintenance requirements to insure long-term performance of the stormwater facilities. Initially the stormwater facilities will require an increased maintenance and inspection schedule until all portions of the site are stable. Generally the stormwater facilities consist of either collection and conveyance components or treatment components.

The stormwater collection and conveyance system is composed of grass swales, HDPE drainage pipe and precast concrete drainage structures. The owner will assume the maintenance responsibilities for the drainage system. Minimal maintenance is typically required for these facilities. All pipes should be checked for debris and blockages and cleaned as required. All drain inlet sumps shall be cleaned to removed deposited sediment. During the cleaning process, the pipes should be inspected for structural integrity and overall condition; repairs and/or replacement should be made as required.

Additionally, the stormwater management practices including the infiltration basins, pretreatment basins, and stormwater ponds shall be checked for deposited sediment as well. Inspection and maintenance requirements for the proposed stormwater management practices per the Design Manual are provided in Appendix F of this report.

APPENDIX A
RR_v Calculations

RRv Calculation Worksheet - Design Point 1

Project: Union Energy Center
Project #: 21120.100
Date: 2/16/2024

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *0.912 ac-ft* = *39,727 c.f.*
(refer to HydroCAD Subcatchments 1.1S, 1.2S and 1.3S for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	2.76	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.30	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	3.8	Acres
RRv Minimum	=	*10,850*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendix)	= 39,727	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	0
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	0
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	0
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	29621	100%	29,621
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	0
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*29,621*

5. Summary

RRv Initial	=	39,727 c.f.	
RRv Required	=	39,727 c.f.	
RRv Minimum	=	10,850 c.f.	
RRv Provided	=	29,621 c.f.	
WQv Required for Downstream SMP	=	10,106 c.f.	(= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

RRv Calculation Worksheet - Design Point 2

Project: Union Energy Center
Project #: 21120.100
Date: 2/16/2024

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *1.145 ac-ft* = *49,876 c.f.*
(refer to HydroCAD Subcatchments 2.1S, 2.2S, 2.3S and 2.4S for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	2.76	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.24	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	5.4	Acres
RRv Minimum	=	*12,335*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendix)	= 49,876	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	0
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	0
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	0
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	18905	100%	18,905
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	0
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*18,905*

5. Summary

RRv Initial	=	49,876 c.f.	
RRv Required	=	49,876 c.f.	
RRv Minimum	=	12,335 c.f.	
RRv Provided	=	18,905 c.f.	
WQv Required for Downstream SMP	=	30,971 c.f.	(= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

APPENDIX B
Pre-Development Computer Data

Subcat Reach Pond Link

Routing Diagram for East Point Energy - Pre Development

Prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., Printed 2/14/2024

Summary for Subcatchment PRE 1:

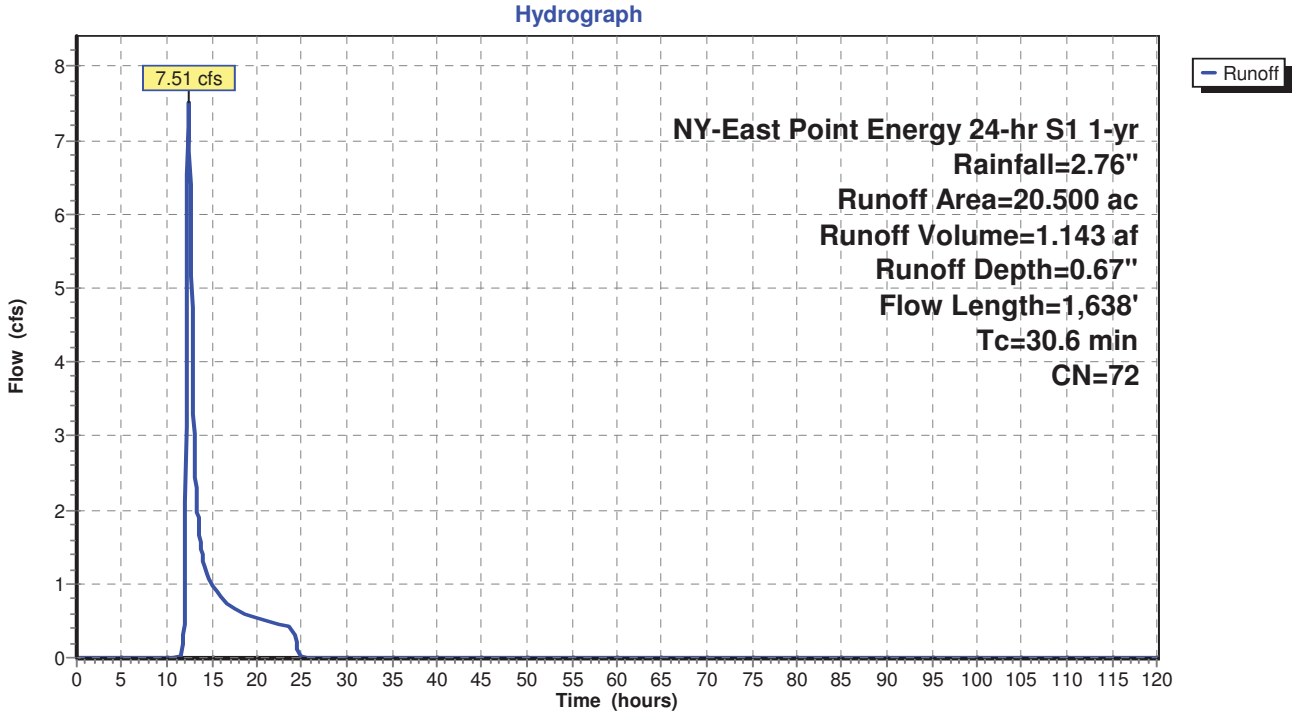
Runoff = 7.51 cfs @ 12.43 hrs, Volume= 1.143 af, Depth= 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 1-yr Rainfall=2.76"

Area (ac)	CN	Description
6.200	77	Woods, Good, HSG D
14.300	70	Woods, Good, HSG C
20.500	72	Weighted Average
20.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
4.5	425	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.1	1,113	0.0270	3.63	9.80	**Channel Flow,** Area= 2.7 sf Perim= 7.2' r= 0.38' n= 0.035 Earth, dense weeds
30.6	1,638	Total			

Subcatchment PRE 1:



Summary for Subcatchment PRE 2:

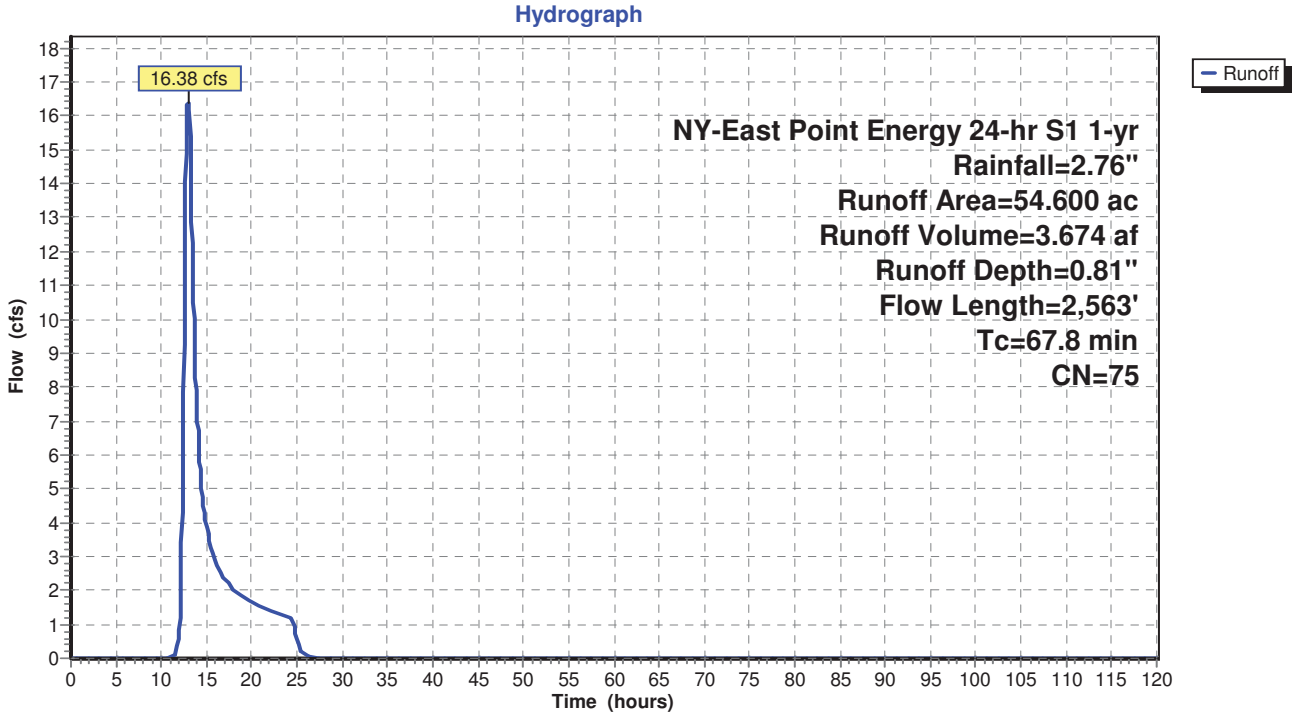
Runoff = 16.38 cfs @ 12.96 hrs, Volume= 3.674 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 1-yr Rainfall=2.76"

Area (ac)	CN	Description
37.600	77	Woods, Good, HSG D
17.000	70	Woods, Good, HSG C
54.600	75	Weighted Average
54.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.7	100	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
40.1	2,463	0.0420	1.02		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
67.8	2,563	Total			

Subcatchment PRE 2:



Summary for Subcatchment PRE 1:

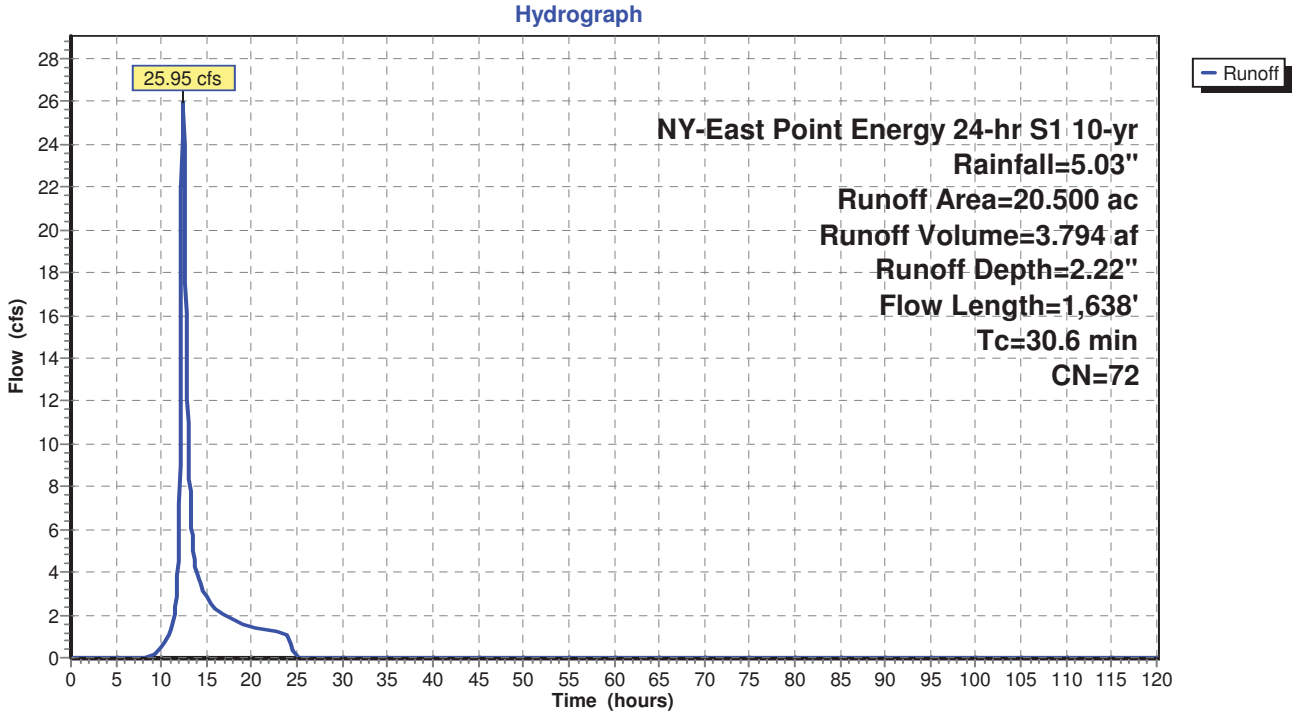
Runoff = 25.95 cfs @ 12.39 hrs, Volume= 3.794 af, Depth= 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 10-yr Rainfall=5.03"

Area (ac)	CN	Description
6.200	77	Woods, Good, HSG D
14.300	70	Woods, Good, HSG C
20.500	72	Weighted Average
20.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
4.5	425	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.1	1,113	0.0270	3.63	9.80	**Channel Flow,** Area= 2.7 sf Perim= 7.2' r= 0.38' n= 0.035 Earth, dense weeds
30.6	1,638	Total			

Subcatchment PRE 1:



Summary for Subcatchment PRE 2:

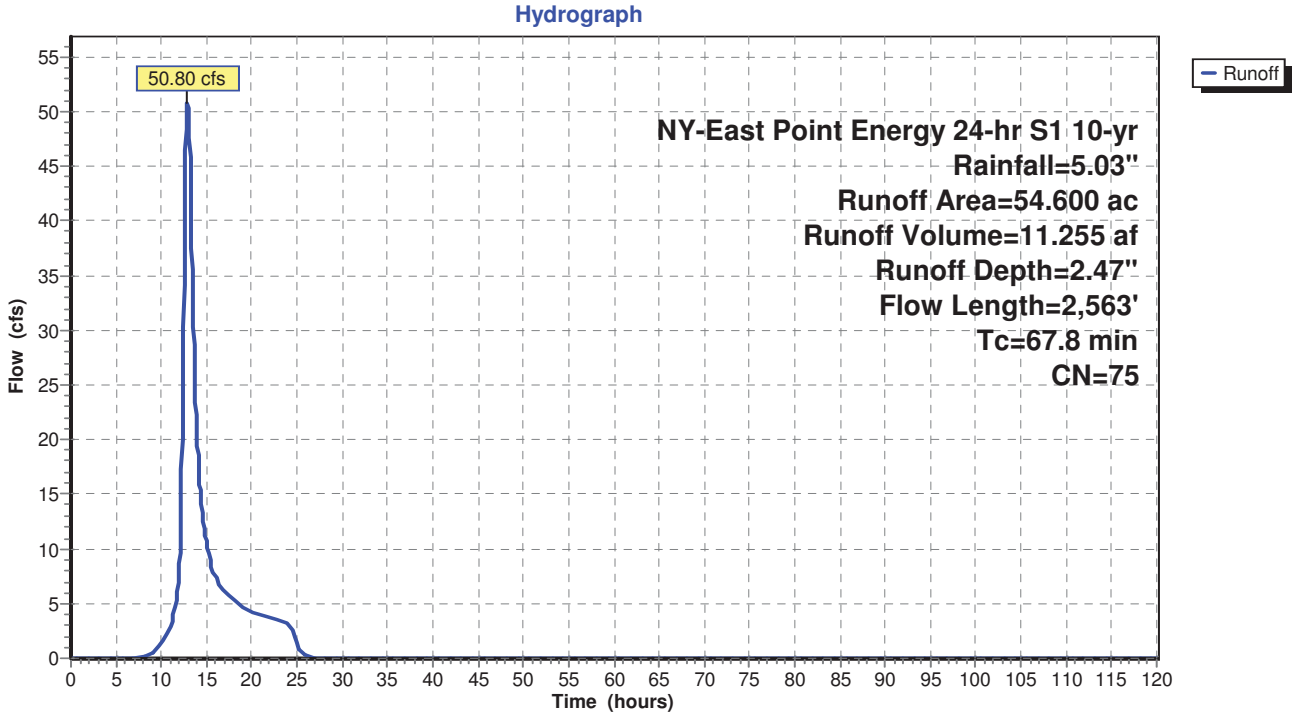
Runoff = 50.80 cfs @ 12.90 hrs, Volume= 11.255 af, Depth= 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 10-yr Rainfall=5.03"

Area (ac)	CN	Description
37.600	77	Woods, Good, HSG D
17.000	70	Woods, Good, HSG C
54.600	75	Weighted Average
54.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.7	100	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
40.1	2,463	0.0420	1.02		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
67.8	2,563	Total			

Subcatchment PRE 2:



Summary for Subcatchment PRE 1:

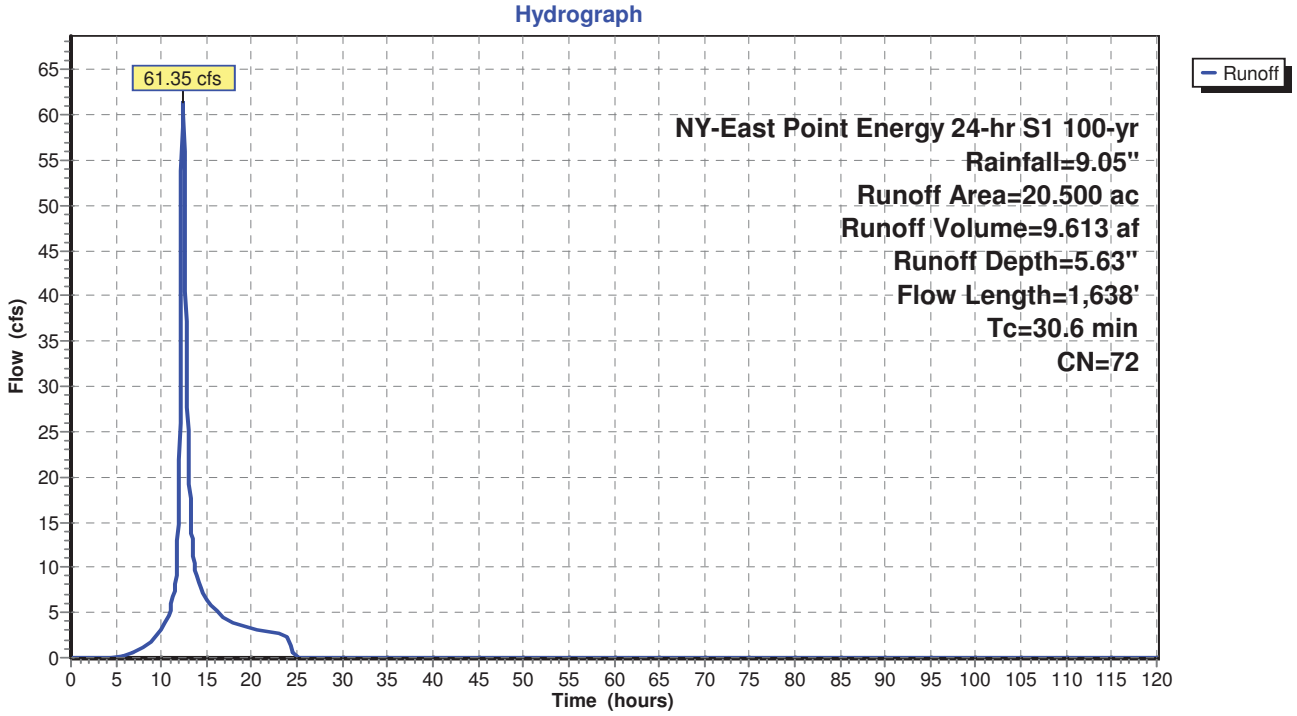
Runoff = 61.35 cfs @ 12.37 hrs, Volume= 9.613 af, Depth= 5.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 100-yr Rainfall=9.05"

Area (ac)	CN	Description
6.200	77	Woods, Good, HSG D
14.300	70	Woods, Good, HSG C
20.500	72	Weighted Average
20.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
4.5	425	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.1	1,113	0.0270	3.63	9.80	**Channel Flow,** Area= 2.7 sf Perim= 7.2' r= 0.38' n= 0.035 Earth, dense weeds
30.6	1,638	Total			

Subcatchment PRE 1:



Summary for Subcatchment PRE 2:

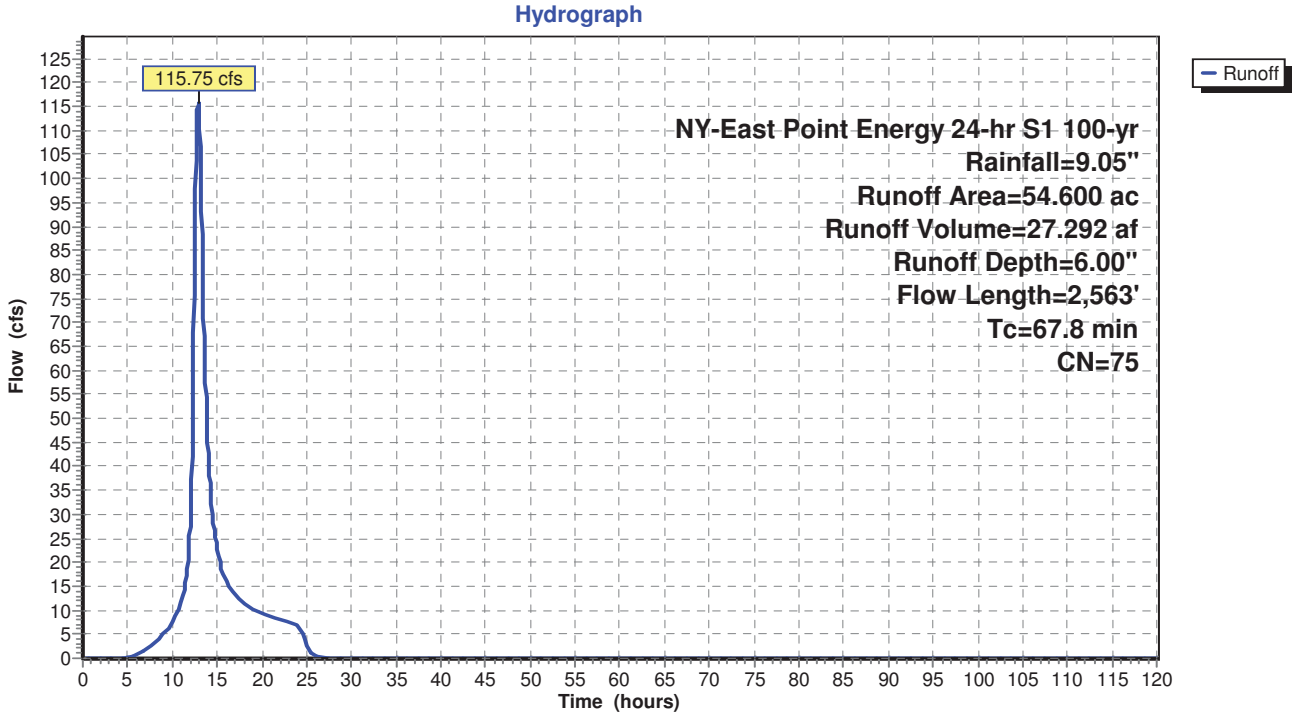
Runoff = 115.75 cfs @ 12.88 hrs, Volume= 27.292 af, Depth= 6.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 100-yr Rainfall=9.05"

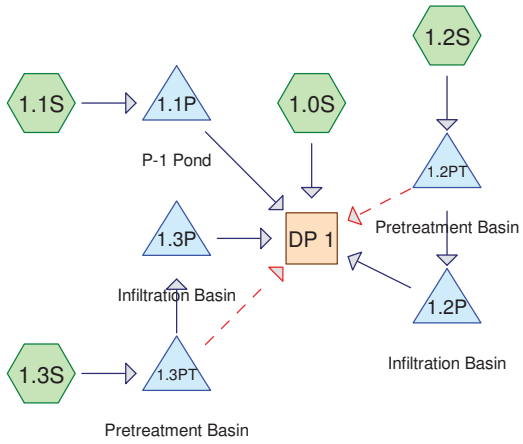
Area (ac)	CN	Description
37.600	77	Woods, Good, HSG D
17.000	70	Woods, Good, HSG C
54.600	75	Weighted Average
54.600		100.00% Pervious Area

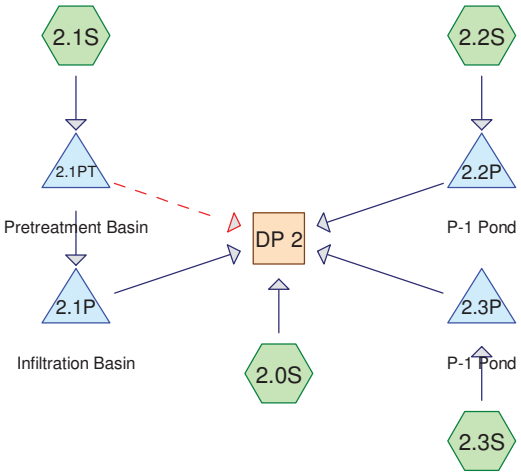
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.7	100	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
40.1	2,463	0.0420	1.02		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
67.8	2,563	Total			

Subcatchment PRE 2:



APPENDIX C
Post-Development Computer Data





Subcat Reach Pond Link

Routing Diagram for East Point Energy - Post Development

Prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., Printed 2/16/2024

Summary for Subcatchment 1.0S:

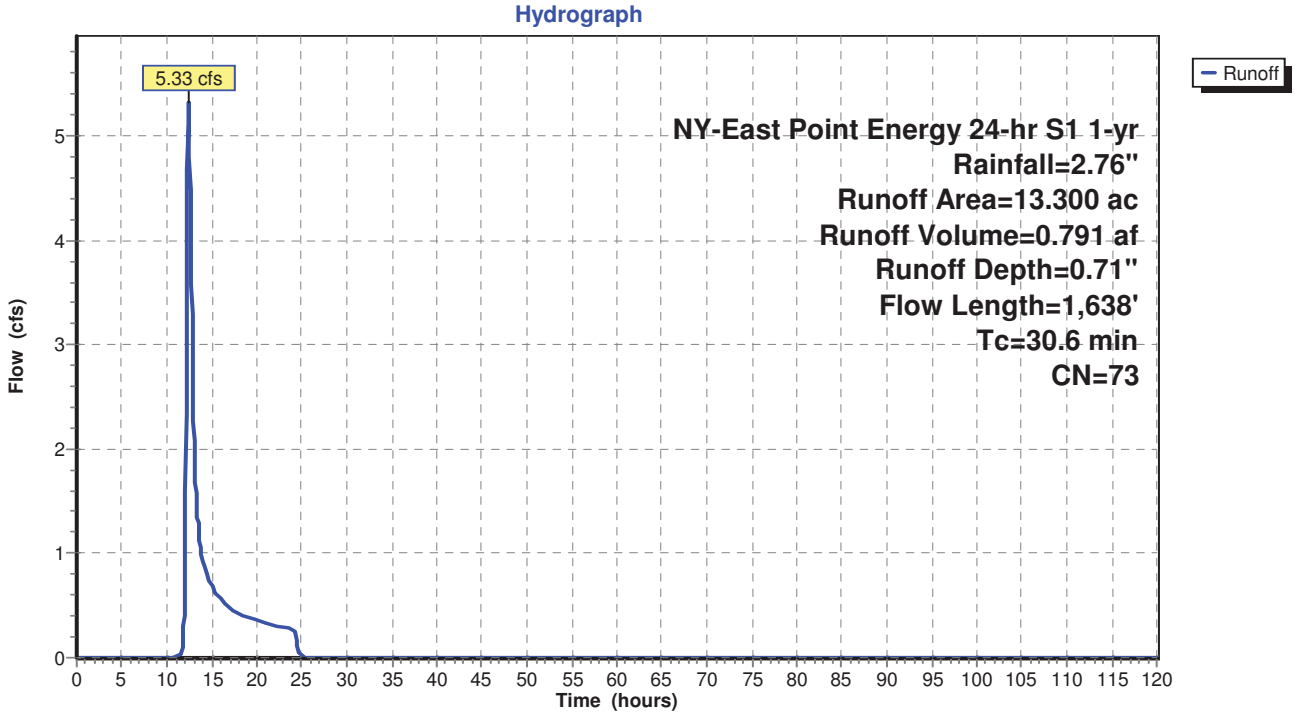
Runoff = 5.33 cfs @ 12.42 hrs, Volume= 0.791 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 1-yr Rainfall=2.76"

Area (ac)	CN	Description
5.400	77	Woods, Good, HSG D
7.900	70	Woods, Good, HSG C
13.300	73	Weighted Average
13.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
4.5	425	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.1	1,113	0.0270	3.63	9.80	**Channel Flow,** Area= 2.7 sf Perim= 7.2' r= 0.38' n= 0.035 Earth, dense weeds
30.6	1,638	Total			

Subcatchment 1.0S:



Summary for Subcatchment 1.1S:

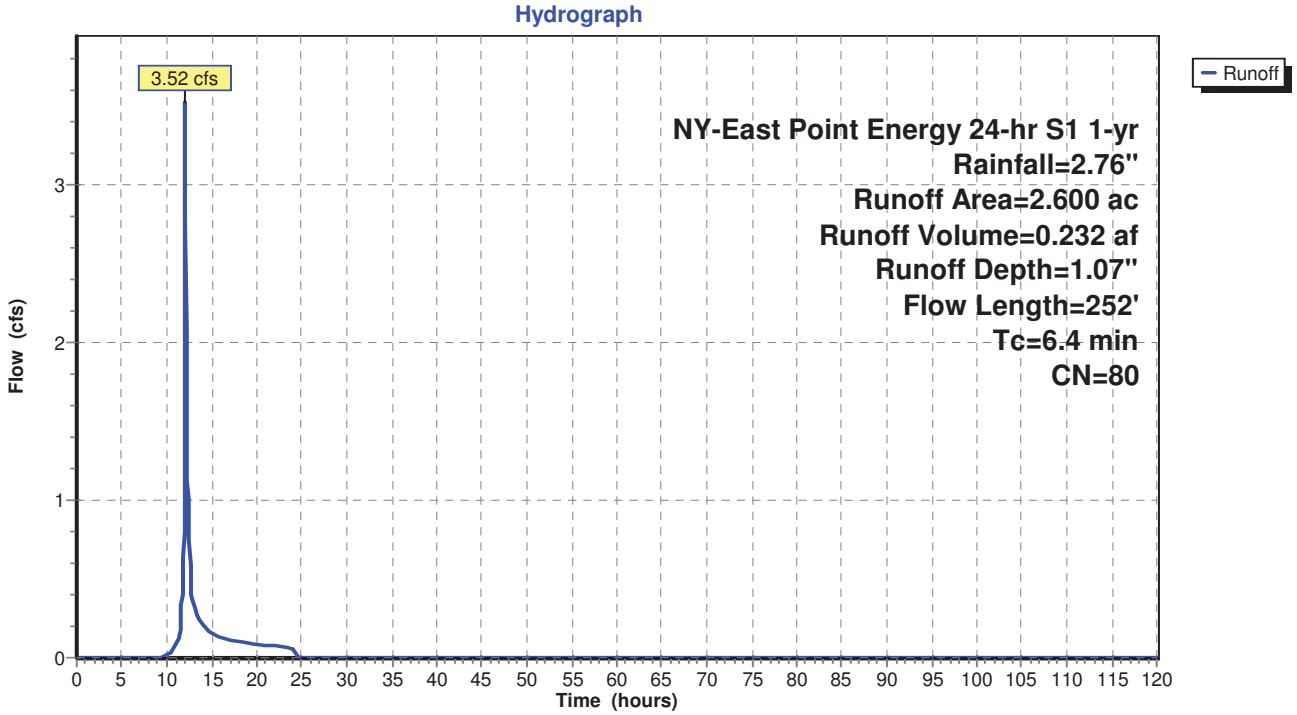
Runoff = 3.52 cfs @ 12.05 hrs, Volume= 0.232 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 1-yr Rainfall=2.76"

Area (ac)	CN	Description
0.500	96	Gravel surface, HSG D
0.900	78	Meadow, non-grazed, HSG D
0.300	71	Meadow, non-grazed, HSG C
0.600	77	Woods, Good, HSG D
0.300	70	Woods, Good, HSG C
2.600	80	Weighted Average
2.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	100	0.2000	0.30		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
0.8	152	0.2300	3.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.4	252	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

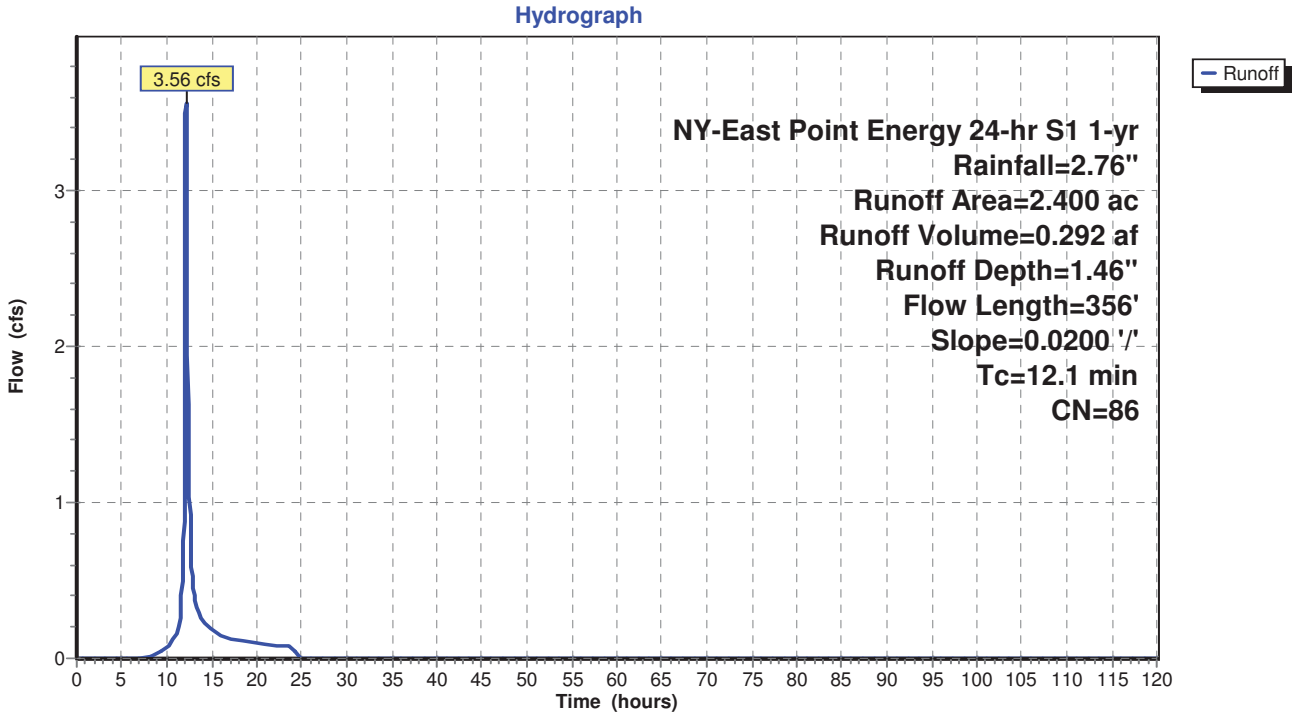
Runoff = 3.56 cfs @ 12.12 hrs, Volume= 0.292 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 1-yr Rainfall=2.76"

Area (ac)	CN	Description
1.100	96	Gravel surface, HSG C
0.300	98	Paved parking, HSG C
1.000	71	Meadow, non-grazed, HSG C
2.400	86	Weighted Average
2.100		87.50% Pervious Area
0.300		12.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	70	0.0200	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
0.5	30	0.0200	1.10		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.34"
0.3	50	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	206	0.0200	4.28	5.35	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=0.50' Z= 3.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
12.1	356	Total			

Subcatchment 1.2S:



Summary for Subcatchment 1.3S:

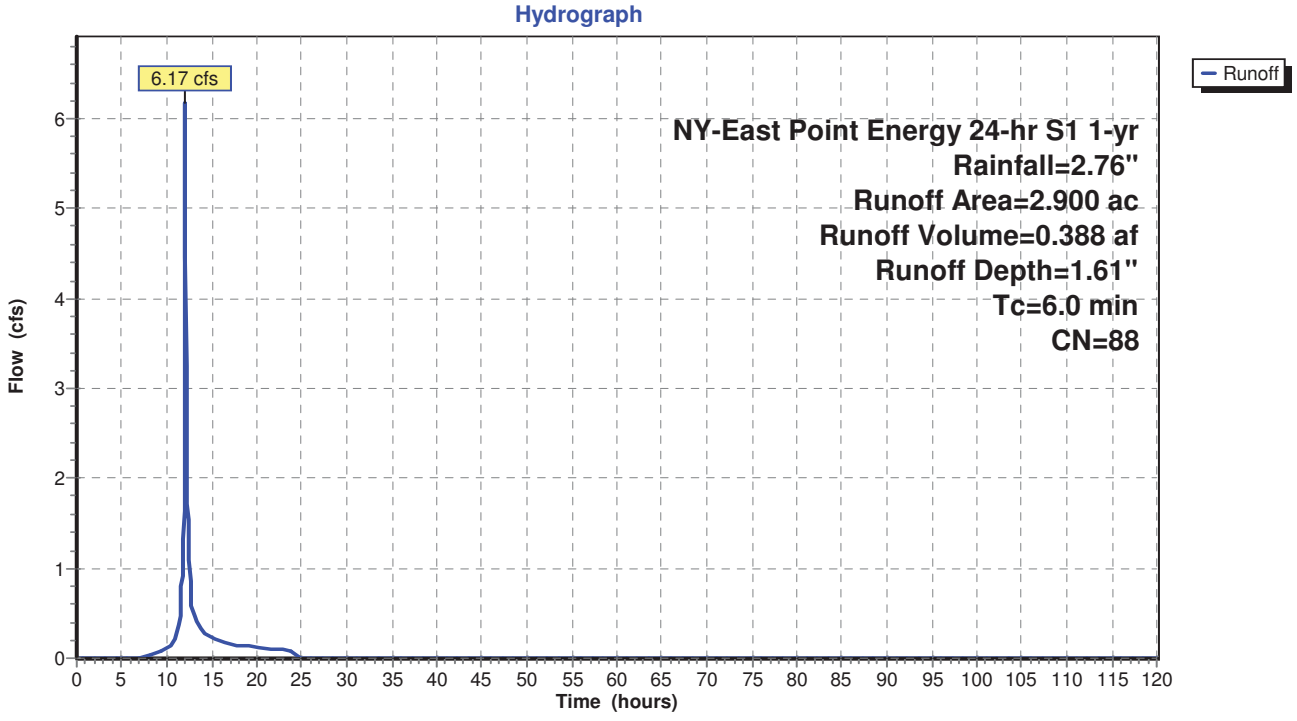
Runoff = 6.17 cfs @ 12.04 hrs, Volume= 0.388 af, Depth= 1.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 1-yr Rainfall=2.76"

Area (ac)	CN	Description
1.400	96	Gravel surface, HSG C
0.500	98	Paved parking, HSG C
1.000	71	Meadow, non-grazed, HSG C
2.900	88	Weighted Average
2.400		82.76% Pervious Area
0.500		17.24% Impervious Area

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

Subcatchment 1.3S:



Summary for Subcatchment 2.0S:

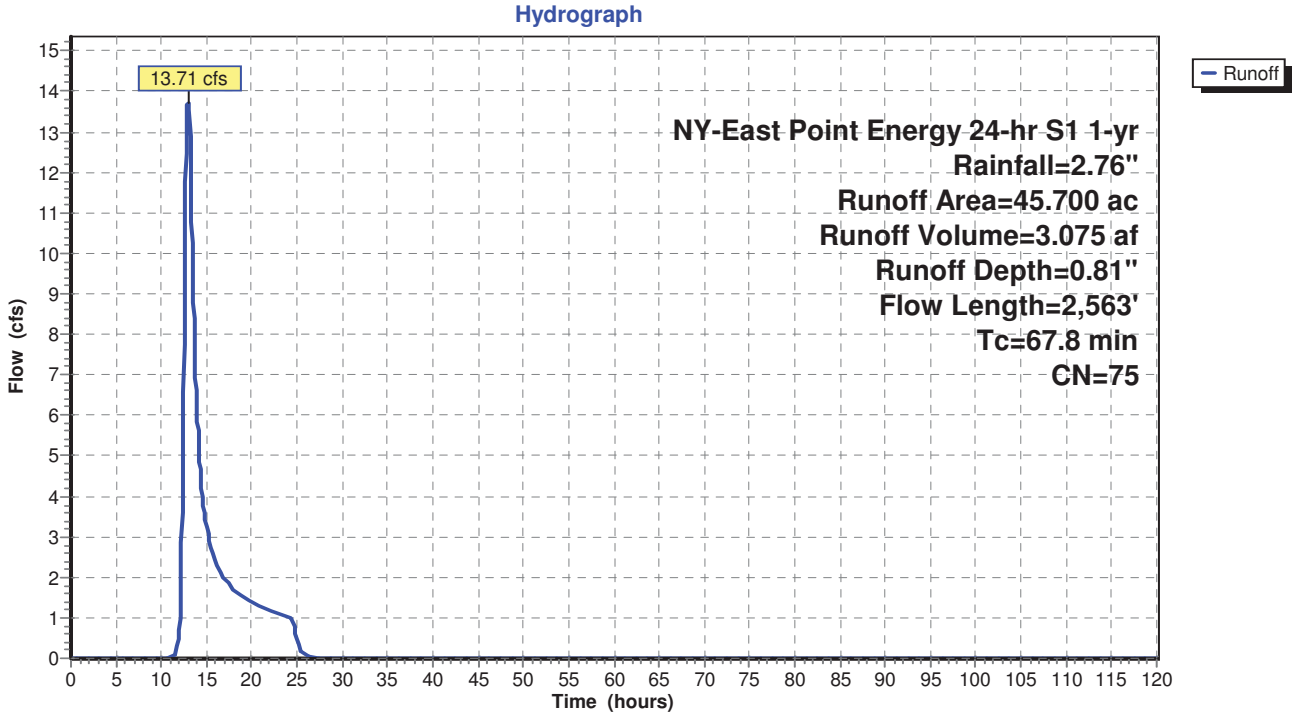
Runoff = 13.71 cfs @ 12.96 hrs, Volume= 3.075 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 1-yr Rainfall=2.76"

Area (ac)	CN	Description
31.900	77	Woods, Good, HSG D
13.800	70	Woods, Good, HSG C
45.700	75	Weighted Average
45.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.7	100	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
40.1	2,463	0.0420	1.02		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
67.8	2,563	Total			

Subcatchment 2.0S:



Summary for Subcatchment 2.1S:

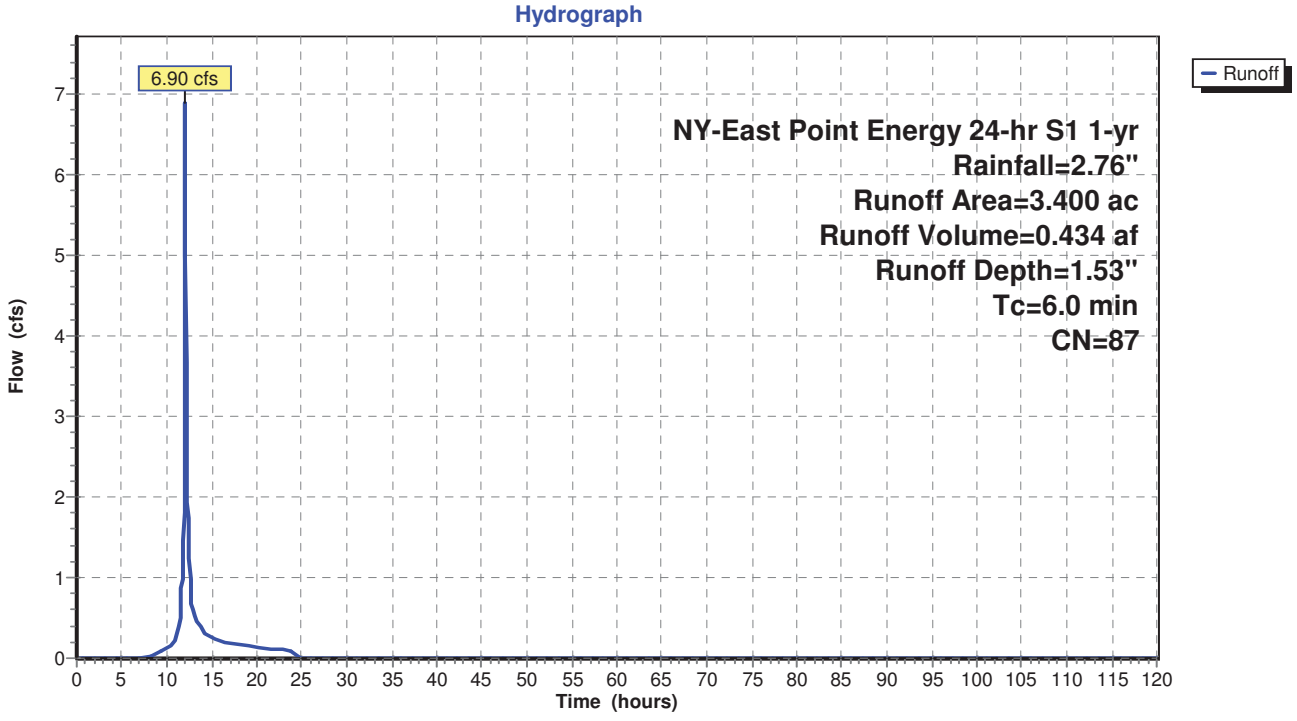
Runoff = 6.90 cfs @ 12.04 hrs, Volume= 0.434 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 1-yr Rainfall=2.76"

Area (ac)	CN	Description
1.600	96	Gravel surface, HSG C
0.500	98	Paved parking, HSG C
1.300	71	Meadow, non-grazed, HSG C
3.400	87	Weighted Average
2.900		85.29% Pervious Area
0.500		14.71% Impervious Area

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

Subcatchment 2.1S:



Summary for Subcatchment 2.2S:

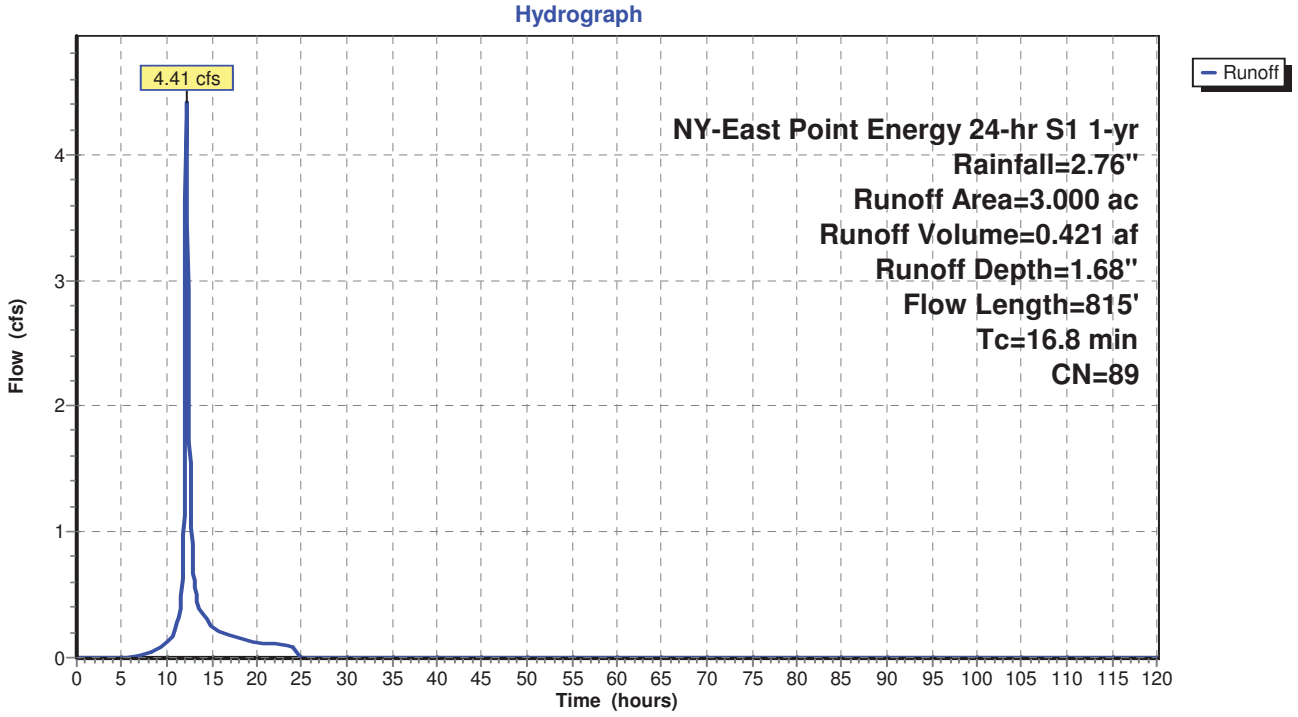
Runoff = 4.41 cfs @ 12.18 hrs, Volume= 0.421 af, Depth= 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 1-yr Rainfall=2.76"

Area (ac)	CN	Description
1.900	96	Gravel surface, HSG D
0.800	78	Meadow, non-grazed, HSG D
0.300	71	Meadow, non-grazed, HSG C
3.000	89	Weighted Average
3.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	100	0.0200	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
1.0	230	0.0200	3.79	1.90	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=0.50' n= 0.022 Earth, clean & straight
1.8	485	0.0100	4.54	3.56	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
16.8	815	Total			

Subcatchment 2.2S:



Summary for Subcatchment 2.3S:

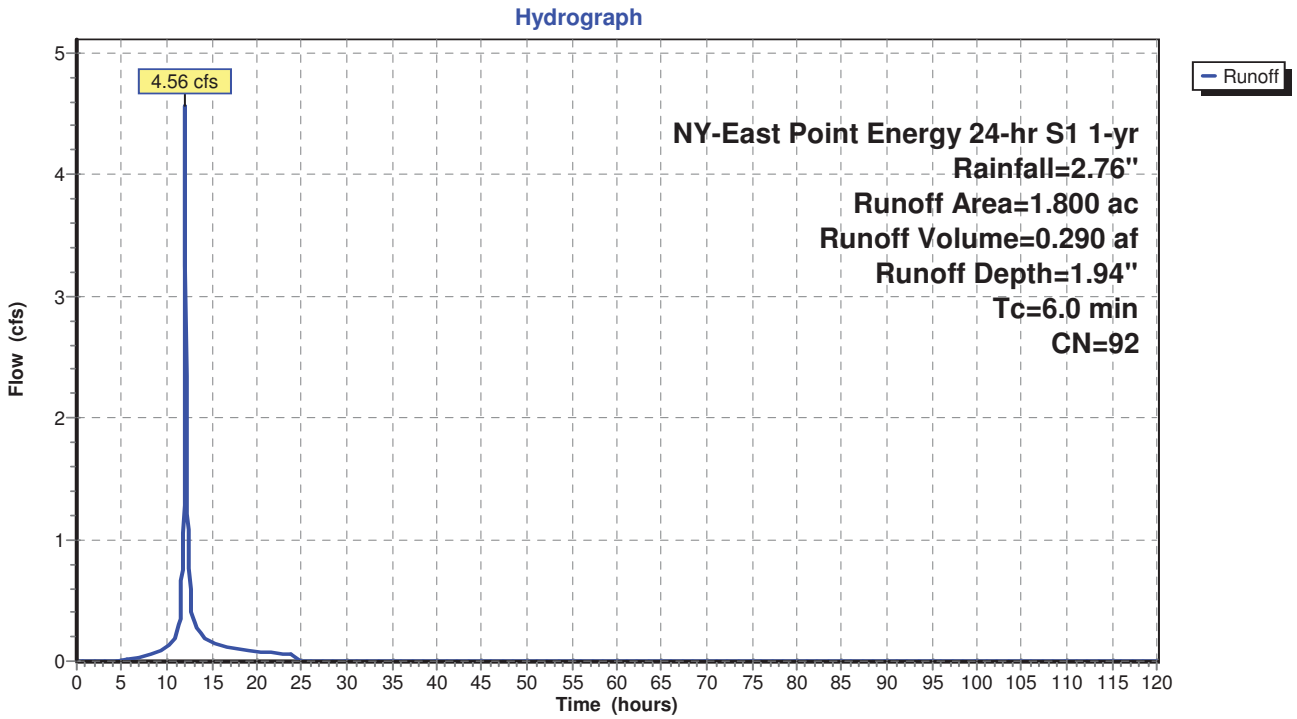
Runoff = 4.56 cfs @ 12.04 hrs, Volume= 0.290 af, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 1-yr Rainfall=2.76"

Area (ac)	CN	Description
1.400	96	Gravel surface, HSG D
0.400	78	Meadow, non-grazed, HSG D
1.800	92	Weighted Average
1.800		100.00% Pervious Area

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

Subcatchment 2.3S:

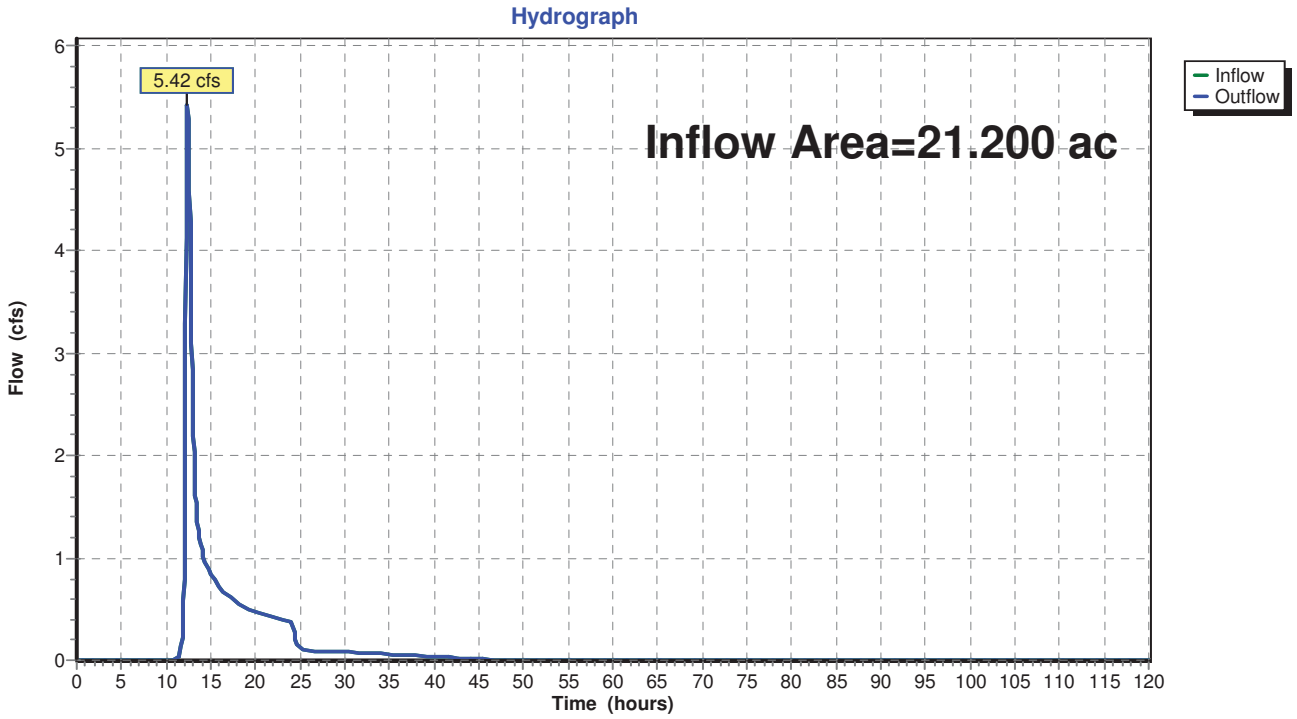


Summary for Reach DP 1:

Inflow Area = 21.200 ac, 3.77% Impervious, Inflow Depth = 0.58" for 1-yr event
Inflow = 5.42 cfs @ 12.42 hrs, Volume= 1.023 af
Outflow = 5.42 cfs @ 12.42 hrs, Volume= 1.023 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs

Reach DP 1:

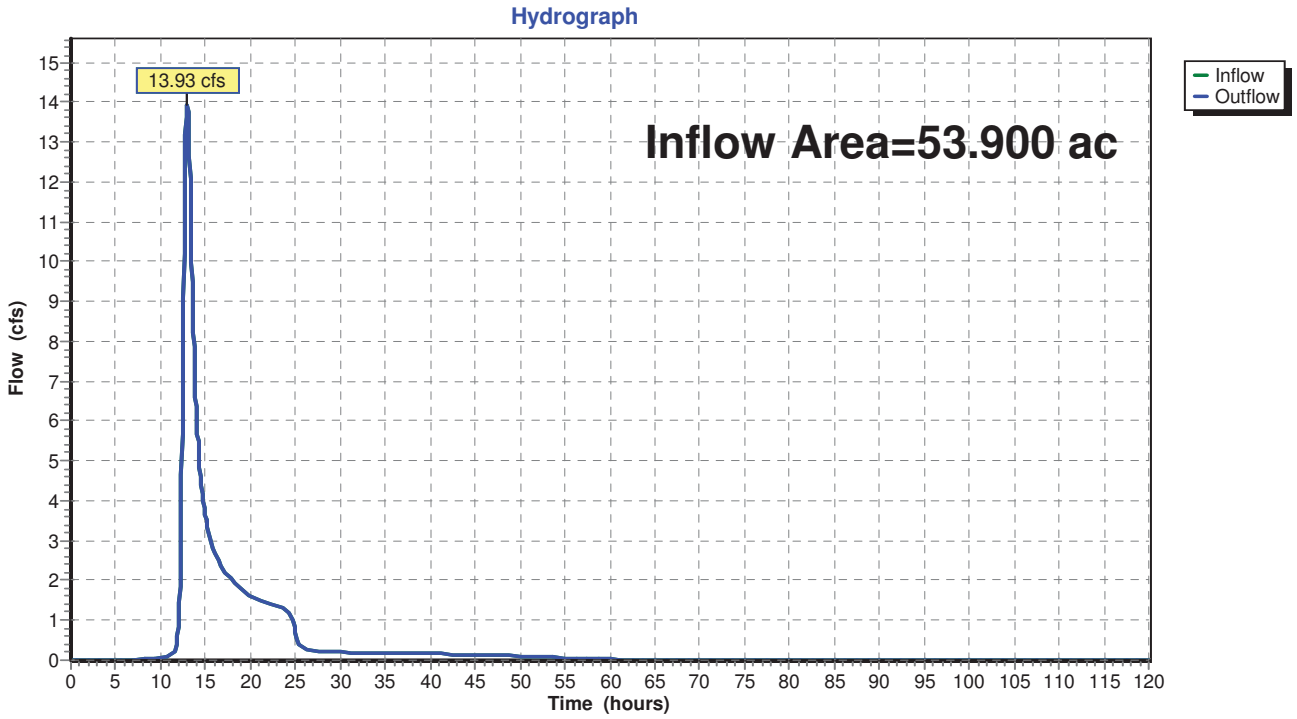


Summary for Reach DP 2:

Inflow Area = 53.900 ac, 0.93% Impervious, Inflow Depth = 0.84" for 1-yr event
Inflow = 13.93 cfs @ 12.96 hrs, Volume= 3.786 af
Outflow = 13.93 cfs @ 12.96 hrs, Volume= 3.786 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs

Reach DP 2:



Summary for Pond 1.1P: P-1 Pond

Inflow Area = 2.600 ac, 0.00% Impervious, Inflow Depth = 1.07" for 1-yr event
Inflow = 3.52 cfs @ 12.05 hrs, Volume= 0.232 af
Outflow = 0.16 cfs @ 15.15 hrs, Volume= 0.232 af, Atten= 96%, Lag= 186.0 min
Primary = 0.16 cfs @ 15.15 hrs, Volume= 0.232 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 625.00' Surf.Area= 6,400 sf Storage= 7,050 cf
Peak Elev= 626.11' @ 15.15 hrs Surf.Area= 10,634 sf Storage= 12,639 cf (5,589 cf above start)

Plug-Flow detention time= 1,480.8 min calculated for 0.070 af (30% of inflow)
Center-of-Mass det. time= 620.8 min (1,490.1 - 869.3)

Volume	Invert	Avail.Storage	Storage Description
#1	620.00'	3,500 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	620.00'	41,950 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		45,450 cf	Total Available Storage

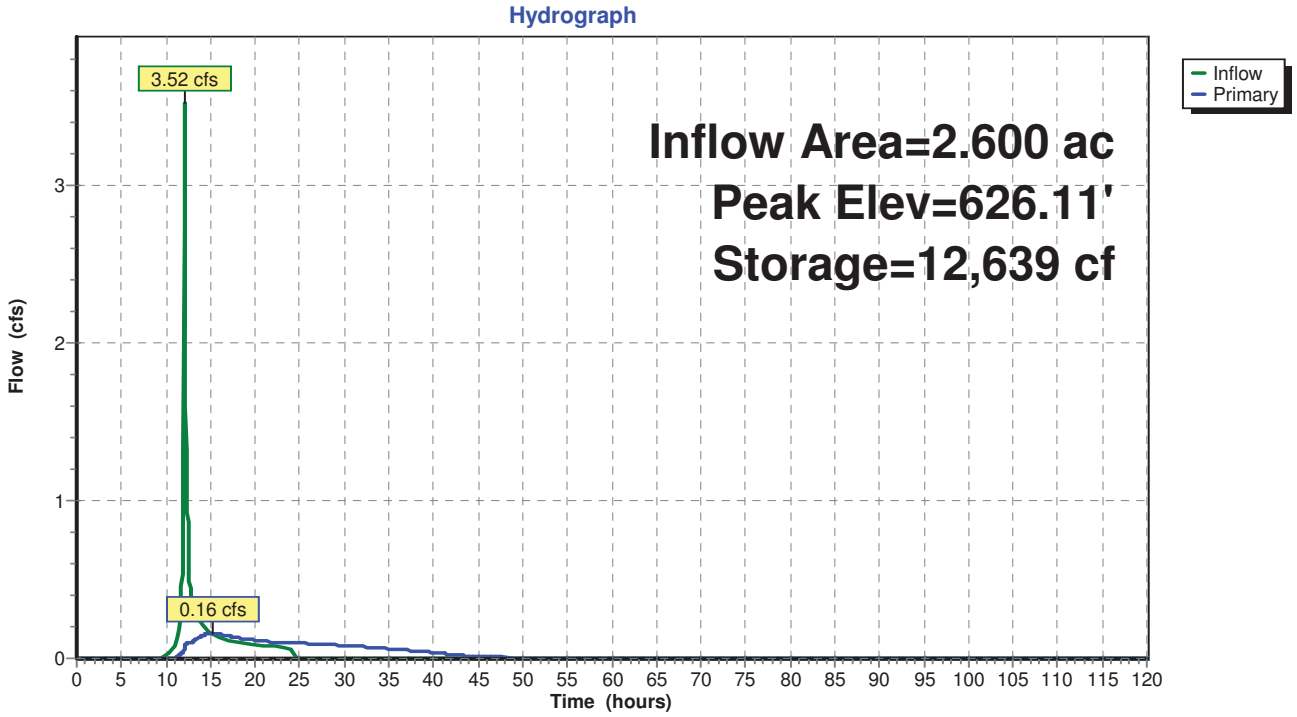
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
620.00	100	0	0
622.00	300	400	400
624.00	700	1,000	1,400
625.00	3,500	2,100	3,500

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
620.00	100	0	0
622.00	400	500	500
624.00	800	1,200	1,700
625.00	2,900	1,850	3,550
627.00	10,500	13,400	16,950
629.00	14,500	25,000	41,950

Device	Routing	Invert	Outlet Devices
#1	Primary	625.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	626.00'	**9.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.16 cfs @ 15.15 hrs HW=626.11' TW=0.00' (Dynamic Tailwater)
↑ **1=Orifice/Grate** (Orifice Controls 0.11 cfs @ 4.89 fps)
└ **2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 1.15 fps)

Pond 1.1P: P-1 Pond



Summary for Pond 1.2P: Infiltration Basin

Inflow Area = 2.400 ac, 12.50% Impervious, Inflow Depth = 1.46" for 1-yr event
Inflow = 0.45 cfs @ 12.76 hrs, Volume= 0.292 af
Outflow = 0.11 cfs @ 21.75 hrs, Volume= 0.292 af, Atten= 77%, Lag= 539.8 min
Discarded = 0.11 cfs @ 21.75 hrs, Volume= 0.292 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 667.58' @ 21.75 hrs Surf.Area= 4,580 sf Storage= 5,989 cf

Plug-Flow detention time= 635.8 min calculated for 0.291 af (100% of inflow)
Center-of-Mass det. time= 635.5 min (1,755.4 - 1,119.9)

Volume	Invert	Avail.Storage	Storage Description
#1	666.00'	20,500 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

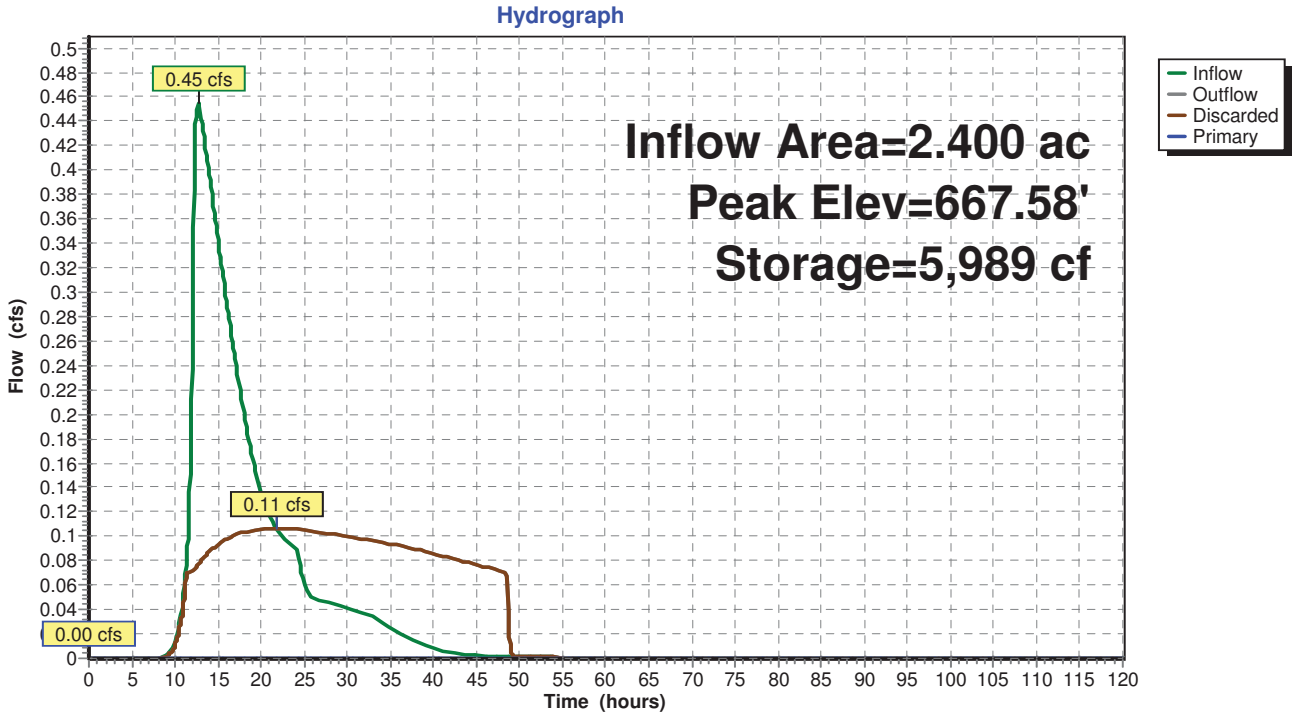
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
666.00	3,000	0	0
668.00	5,000	8,000	8,000
670.00	7,500	12,500	20,500

Device	Routing	Invert	Outlet Devices
#1	Discarded	666.00'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	669.00'	**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

Discarded OutFlow Max=0.11 cfs @ 21.75 hrs HW=667.58' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=666.00' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.2P: Infiltration Basin



Summary for Pond 1.2PT: Pretreatment Basin

Inflow Area = 2.400 ac, 12.50% Impervious, Inflow Depth = 1.46" for 1-yr event
Inflow = 3.56 cfs @ 12.12 hrs, Volume= 0.292 af
Outflow = 0.45 cfs @ 12.76 hrs, Volume= 0.292 af, Atten= 87%, Lag= 38.1 min
Primary = 0.45 cfs @ 12.76 hrs, Volume= 0.292 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 668.44' @ 12.92 hrs Surf.Area= 4,438 sf Storage= 5,348 cf

Plug-Flow detention time= 271.0 min calculated for 0.292 af (100% of inflow)
Center-of-Mass det. time= 270.4 min (1,119.9 - 849.4)

Volume	Invert	Avail.Storage	Storage Description
#1	667.00'	20,250 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

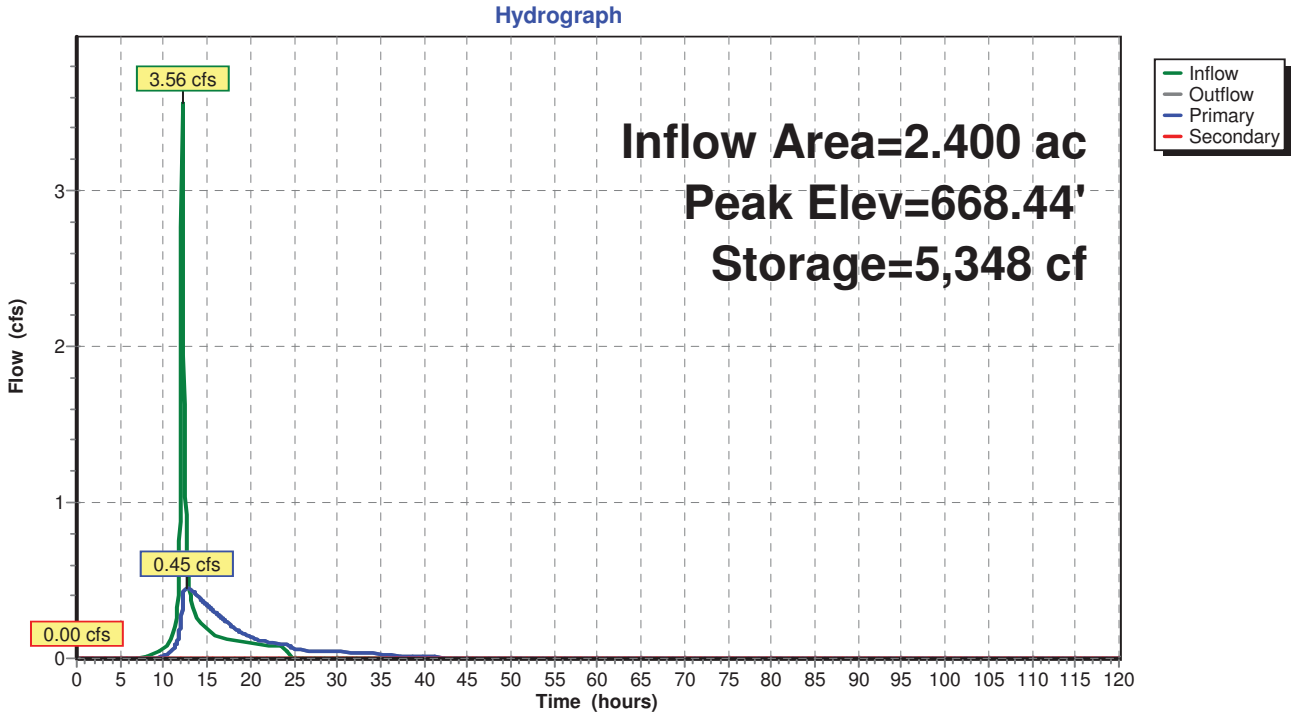
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
667.00	3,000	0	0
668.00	4,000	3,500	3,500
670.00	6,000	10,000	13,500
671.00	7,500	6,750	20,250

Device	Routing	Invert	Outlet Devices
#1	Primary	667.00'	**4.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 667.00' / 666.00' S= 0.0333 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	668.50'	**2.0' 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=0.45 cfs @ 12.76 hrs HW=668.43' TW=666.34' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.45 cfs @ 5.20 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=667.00' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.2PT: Pretreatment Basin



Summary for Pond 1.3P: Infiltration Basin

Inflow Area = 2.900 ac, 17.24% Impervious, Inflow Depth = 1.61" for 1-yr event
Inflow = 0.51 cfs @ 12.95 hrs, Volume= 0.388 af
Outflow = 0.17 cfs @ 22.94 hrs, Volume= 0.388 af, Atten= 67%, Lag= 599.4 min
Discarded = 0.17 cfs @ 22.94 hrs, Volume= 0.388 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 663.44' @ 22.94 hrs Surf.Area= 7,155 sf Storage= 8,731 cf

Plug-Flow detention time= 551.3 min calculated for 0.388 af (100% of inflow)
Center-of-Mass det. time= 551.0 min (1,584.4 - 1,033.4)

Volume	Invert	Avail.Storage	Storage Description
#1	662.00'	32,500 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

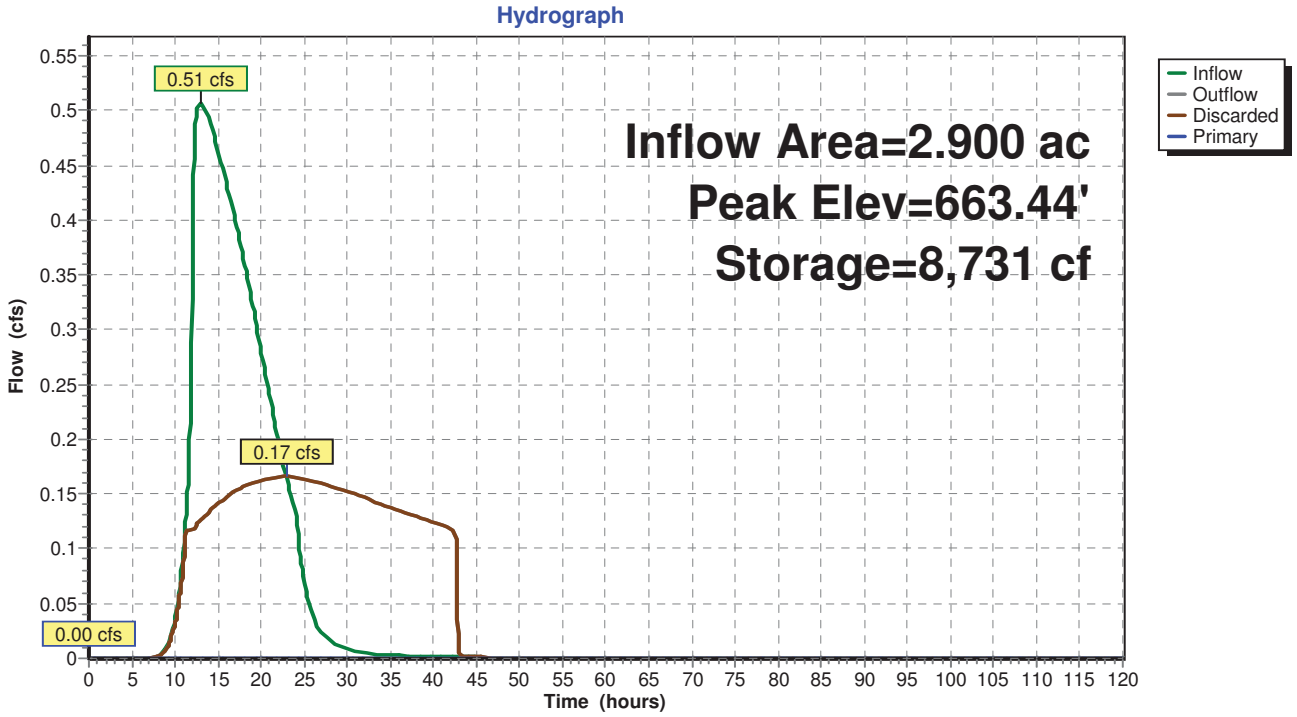
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
662.00	5,000	0	0
664.00	8,000	13,000	13,000
666.00	11,500	19,500	32,500

Device	Routing	Invert	Outlet Devices
#1	Discarded	662.00'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	664.50'	**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

Discarded OutFlow Max=0.17 cfs @ 22.94 hrs HW=663.44' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=662.00' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.3P: Infiltration Basin



Summary for Pond 1.3PT: Pretreatment Basin

Inflow Area = 2.900 ac, 17.24% Impervious, Inflow Depth = 1.61" for 1-yr event
Inflow = 6.17 cfs @ 12.04 hrs, Volume= 0.388 af
Outflow = 0.51 cfs @ 12.95 hrs, Volume= 0.388 af, Atten= 92%, Lag= 54.6 min
Primary = 0.51 cfs @ 12.95 hrs, Volume= 0.388 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 665.62' @ 12.95 hrs Surf.Area= 5,933 sf Storage= 7,649 cf

Plug-Flow detention time= 199.4 min calculated for 0.388 af (100% of inflow)
Center-of-Mass det. time= 198.9 min (1,033.4 - 834.5)

Volume	Invert	Avail.Storage	Storage Description
#1	664.00'	26,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

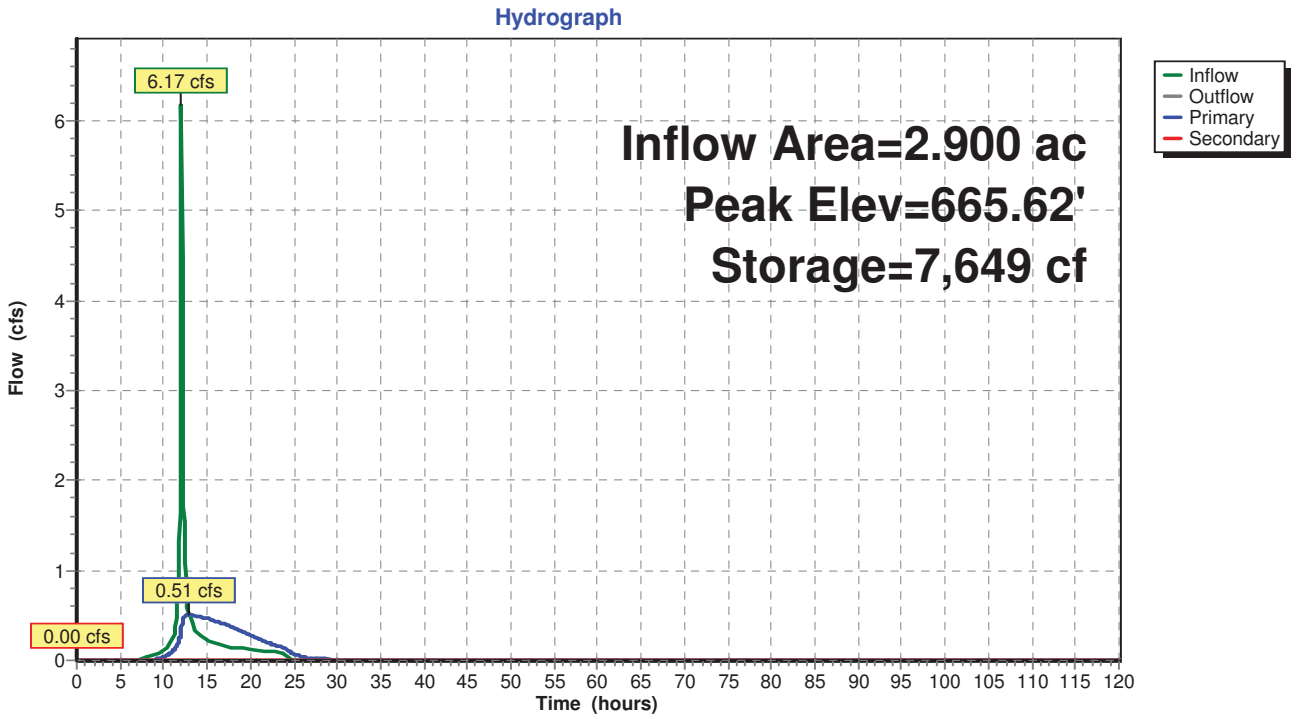
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
664.00	3,500	0	0
666.00	6,500	10,000	10,000
668.00	9,500	16,000	26,000

Device	Routing	Invert	Outlet Devices
#1	Primary	664.00'	**4.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 664.00' / 662.00' S= 0.0500 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	665.70'	**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=0.51 cfs @ 12.95 hrs HW=665.62' TW=662.28' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.51 cfs @ 5.81 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=664.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.3PT: Pretreatment Basin



Summary for Pond 2.1P: Infiltration Basin

Inflow Area = 3.400 ac, 14.71% Impervious, Inflow Depth > 1.52" for 1-yr event
Inflow = 0.33 cfs @ 14.14 hrs, Volume= 0.431 af
Outflow = 0.20 cfs @ 25.98 hrs, Volume= 0.431 af, Atten= 38%, Lag= 710.4 min
Discarded = 0.20 cfs @ 25.98 hrs, Volume= 0.431 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 665.70' @ 25.98 hrs Surf.Area= 8,781 sf Storage= 5,138 cf

Plug-Flow detention time= 278.1 min calculated for 0.431 af (100% of inflow)
Center-of-Mass det. time= 277.9 min (1,602.0 - 1,324.1)

Volume	Invert	Avail.Storage	Storage Description
#1	665.00'	34,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

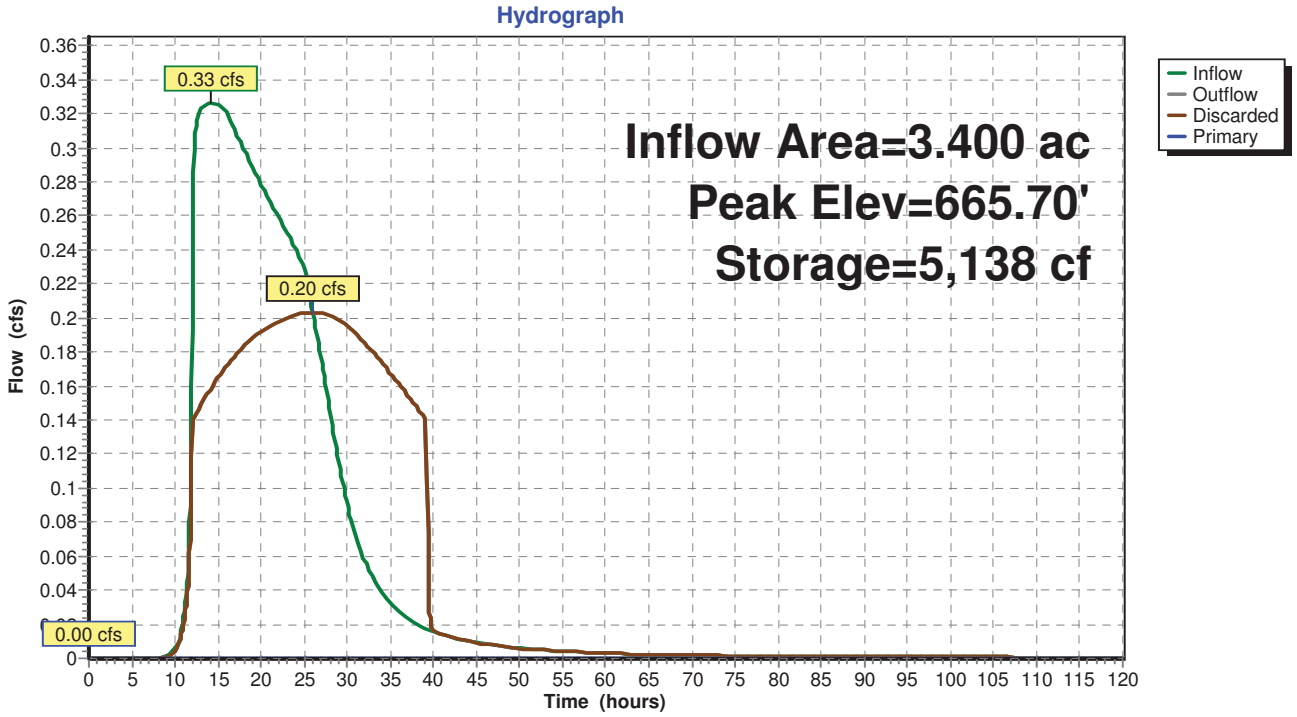
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
665.00	6,000	0	0
666.00	10,000	8,000	8,000
668.00	16,000	26,000	34,000

Device	Routing	Invert	Outlet Devices
#1	Discarded	665.00'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	667.00'	**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

Discarded OutFlow Max=0.20 cfs @ 25.98 hrs HW=665.70' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=665.00' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2.1P: Infiltration Basin



Summary for Pond 2.1PT: Pretreatment Basin

Inflow Area = 3.400 ac, 14.71% Impervious, Inflow Depth = 1.53" for 1-yr event
Inflow = 6.90 cfs @ 12.04 hrs, Volume= 0.434 af
Outflow = 0.33 cfs @ 14.14 hrs, Volume= 0.431 af, Atten= 95%, Lag= 125.9 min
Primary = 0.33 cfs @ 14.14 hrs, Volume= 0.431 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 666.91' @ 14.14 hrs Surf.Area= 12,100 sf Storage= 10,333 cf

Plug-Flow detention time= 488.9 min calculated for 0.431 af (99% of inflow)
Center-of-Mass det. time= 484.9 min (1,324.1 - 839.2)

Volume	Invert	Avail.Storage	Storage Description
#1	666.00'	39,250 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

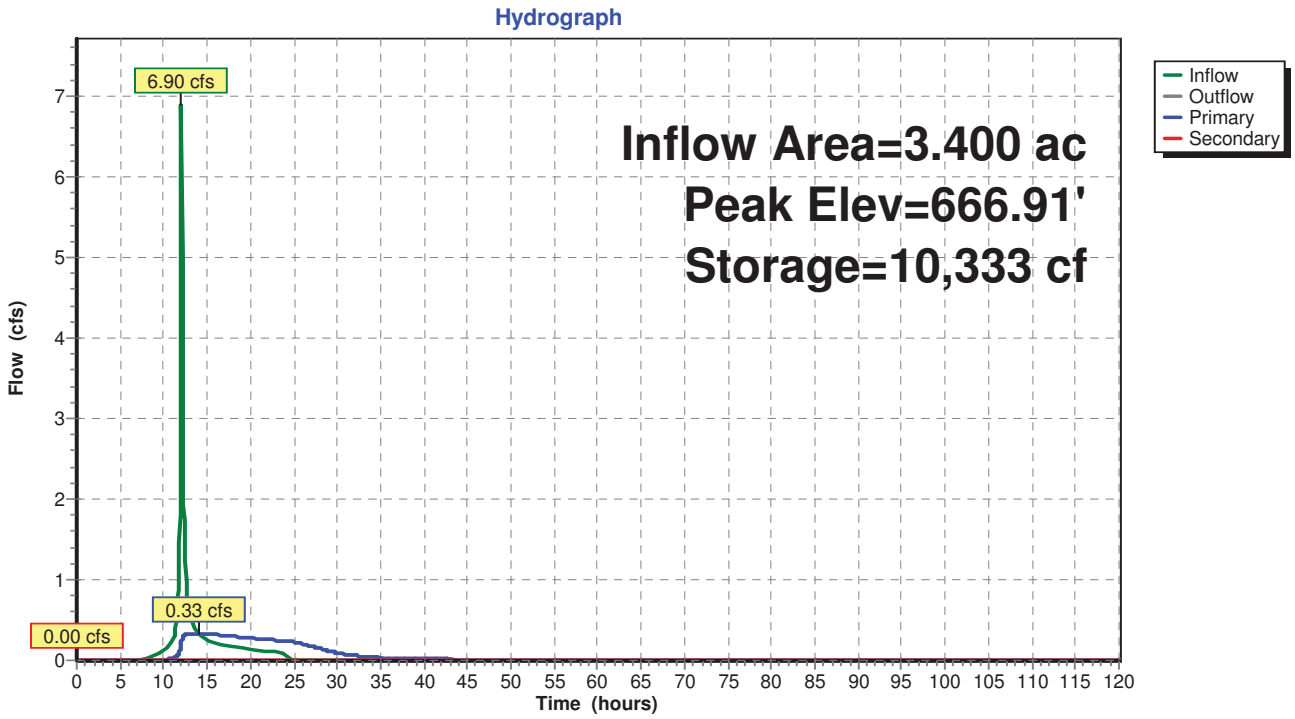
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
666.00	10,500	0	0
668.00	14,000	24,500	24,500
669.00	15,500	14,750	39,250

Device	Routing	Invert	Outlet Devices
#1	Primary	666.00'	**4.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 666.00' / 665.00' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	667.00'	**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=0.33 cfs @ 14.14 hrs HW=666.91' TW=665.21' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 0.33 cfs @ 3.74 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=666.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2.1PT: Pretreatment Basin



Summary for Pond 2.2P: P-1 Pond

Inflow Area = 3.000 ac, 0.00% Impervious, Inflow Depth = 1.68" for 1-yr event
Inflow = 4.41 cfs @ 12.18 hrs, Volume= 0.421 af
Outflow = 0.23 cfs @ 15.32 hrs, Volume= 0.421 af, Atten= 95%, Lag= 188.0 min
Primary = 0.23 cfs @ 15.32 hrs, Volume= 0.421 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 653.00' Surf.Area= 2,800 sf Storage= 7,200 cf
Peak Elev= 654.90' @ 15.32 hrs Surf.Area= 9,353 sf Storage= 18,523 cf (11,323 cf above start)

Plug-Flow detention time= 1,446.2 min calculated for 0.256 af (61% of inflow)
Center-of-Mass det. time= 865.1 min (1,704.7 - 839.6)

Volume	Invert	Avail.Storage	Storage Description
#1	649.00'	2,300 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	649.00'	49,300 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		51,600 cf	Total Available Storage

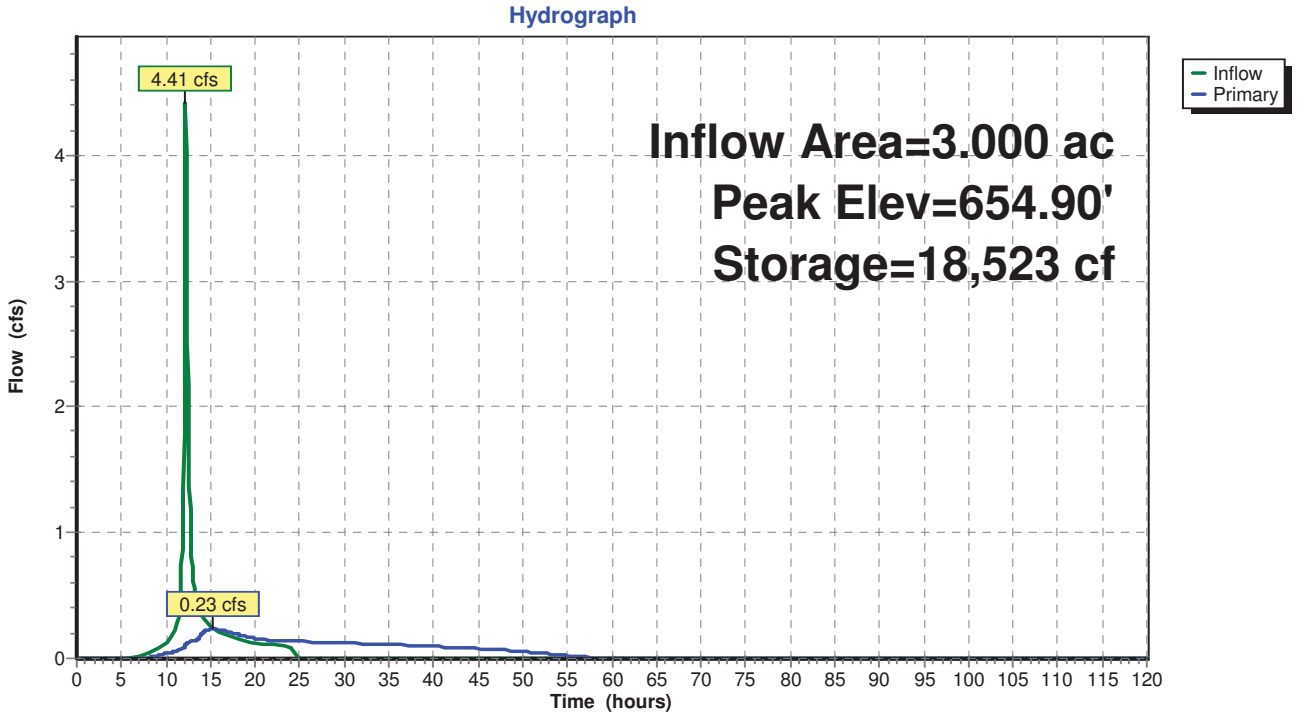
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
649.00	300	0	0
651.00	500	800	800
653.00	1,000	1,500	2,300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
649.00	700	0	0
651.00	1,200	1,900	1,900
653.00	1,800	3,000	4,900
654.00	7,000	4,400	9,300
656.00	10,000	17,000	26,300
658.00	13,000	23,000	49,300

Device	Routing	Invert	Outlet Devices
#1	Primary	653.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	654.80'	**1.0' 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=0.23 cfs @ 15.32 hrs HW=654.90' TW=0.00' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.14 cfs @ 6.49 fps)
└—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.09 cfs @ 0.89 fps)

Pond 2.2P: P-1 Pond



Summary for Pond 2.3P: P-1 Pond

Inflow Area = 1.800 ac, 0.00% Impervious, Inflow Depth = 1.94" for 1-yr event
Inflow = 4.56 cfs @ 12.04 hrs, Volume= 0.290 af
Outflow = 0.12 cfs @ 16.48 hrs, Volume= 0.290 af, Atten= 97%, Lag= 266.4 min
Primary = 0.12 cfs @ 16.48 hrs, Volume= 0.290 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 646.00' Surf.Area= 1,300 sf Storage= 2,700 cf
Peak Elev= 648.22' @ 16.48 hrs Surf.Area= 6,407 sf Storage= 11,117 cf (8,417 cf above start)

Plug-Flow detention time= 1,452.5 min calculated for 0.228 af (79% of inflow)
Center-of-Mass det. time= 1,077.6 min (1,890.6 - 813.0)

Volume	Invert	Avail.Storage	Storage Description
#1	642.00'	1,400 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	642.00'	22,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		23,500 cf	Total Available Storage

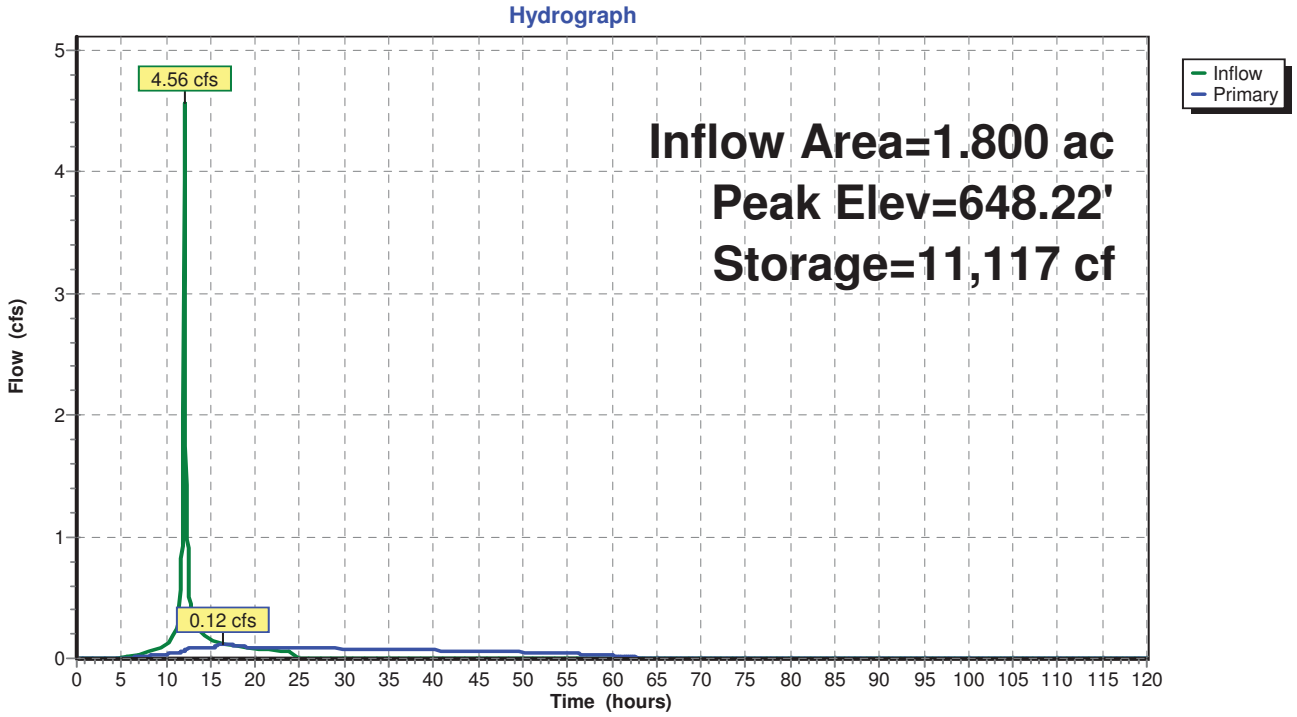
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
642.00	100	0	0
644.00	300	400	400
646.00	700	1,000	1,400

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
642.00	100	0	0
644.00	300	400	400
646.00	600	900	1,300
647.00	4,200	2,400	3,700
648.00	5,400	4,800	8,500
650.00	8,200	13,600	22,100

Device	Routing	Invert	Outlet Devices
#1	Primary	646.00'	**1.5" Vert. Orifice/Grate** C= 0.600
#2	Primary	648.20'	**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=0.12 cfs @ 16.48 hrs HW=648.22' TW=0.00' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.09 cfs @ 7.07 fps)
└—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.03 cfs @ 0.39 fps)

Pond 2.3P: P-1 Pond



Summary for Subcatchment 1.0S:

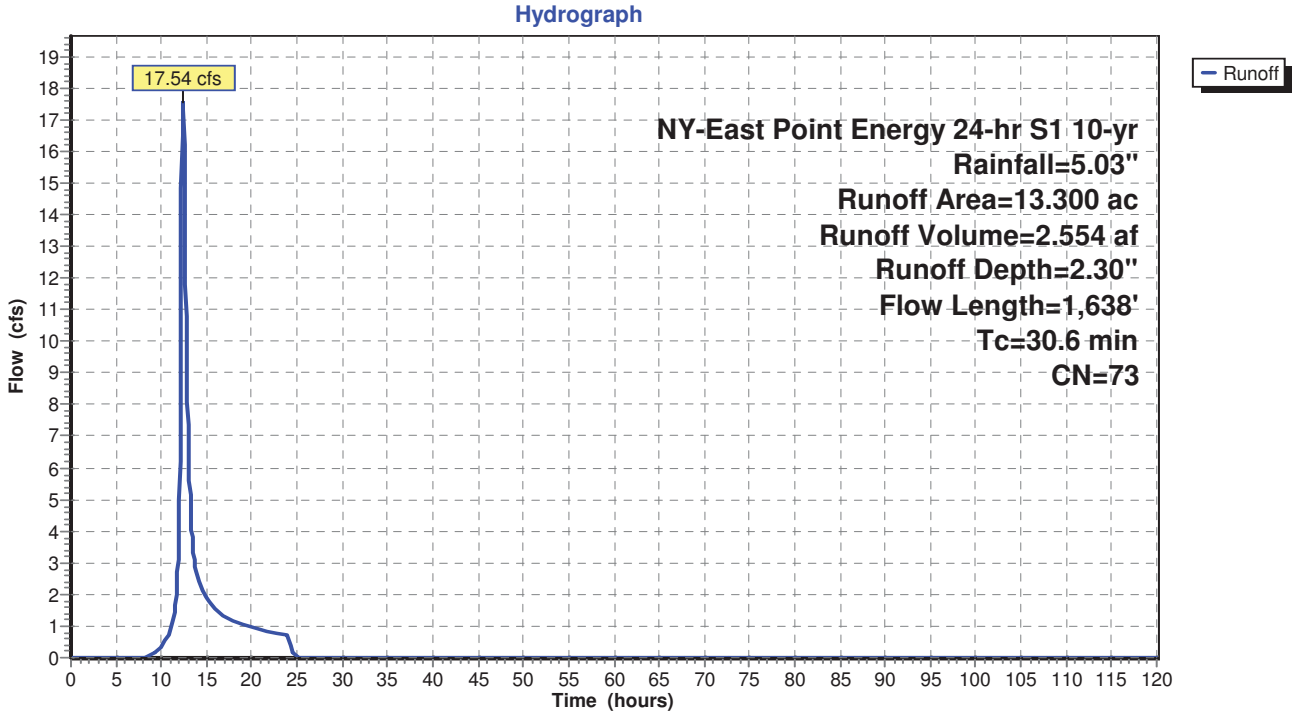
Runoff = 17.54 cfs @ 12.39 hrs, Volume= 2.554 af, Depth= 2.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 10-yr Rainfall=5.03"

Area (ac)	CN	Description
5.400	77	Woods, Good, HSG D
7.900	70	Woods, Good, HSG C
13.300	73	Weighted Average
13.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
4.5	425	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.1	1,113	0.0270	3.63	9.80	**Channel Flow,** Area= 2.7 sf Perim= 7.2' r= 0.38' n= 0.035 Earth, dense weeds
30.6	1,638	Total			

Subcatchment 1.0S:



Summary for Subcatchment 1.1S:

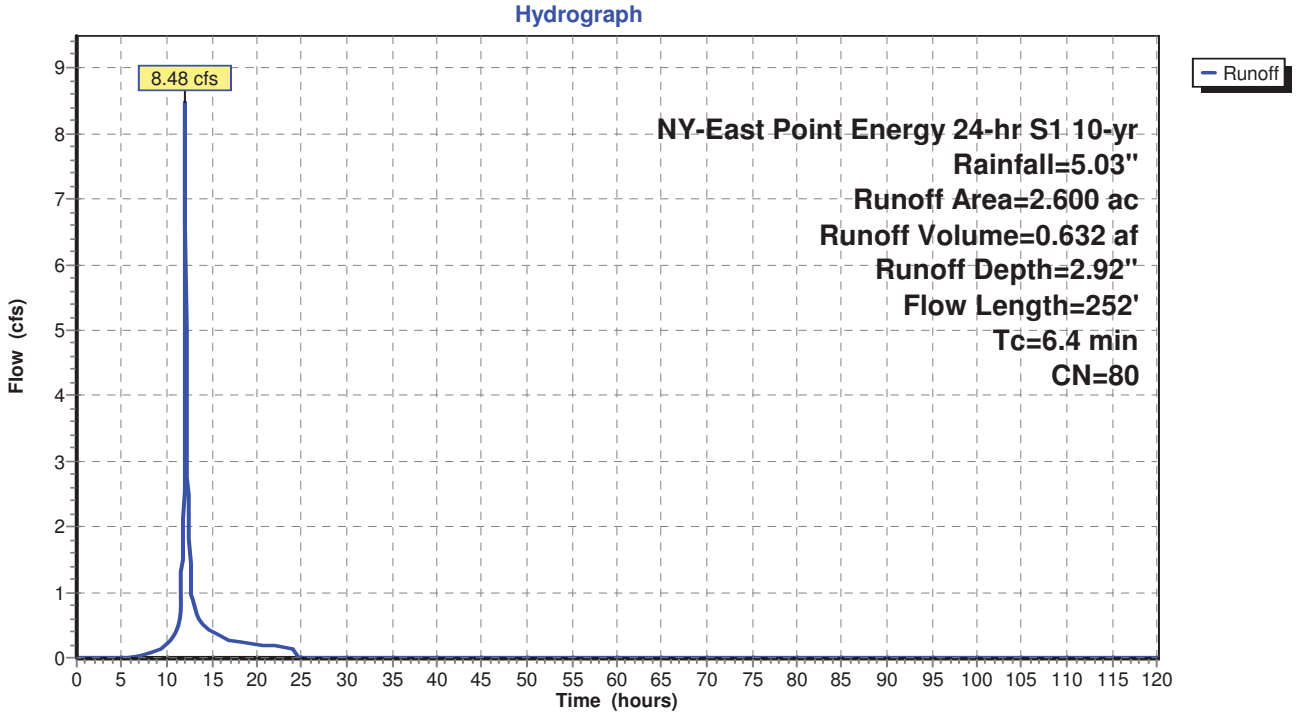
Runoff = 8.48 cfs @ 12.05 hrs, Volume= 0.632 af, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 10-yr Rainfall=5.03"

Area (ac)	CN	Description
0.500	96	Gravel surface, HSG D
0.900	78	Meadow, non-grazed, HSG D
0.300	71	Meadow, non-grazed, HSG C
0.600	77	Woods, Good, HSG D
0.300	70	Woods, Good, HSG C
2.600	80	Weighted Average
2.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	100	0.2000	0.30		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
0.8	152	0.2300	3.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.4	252	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

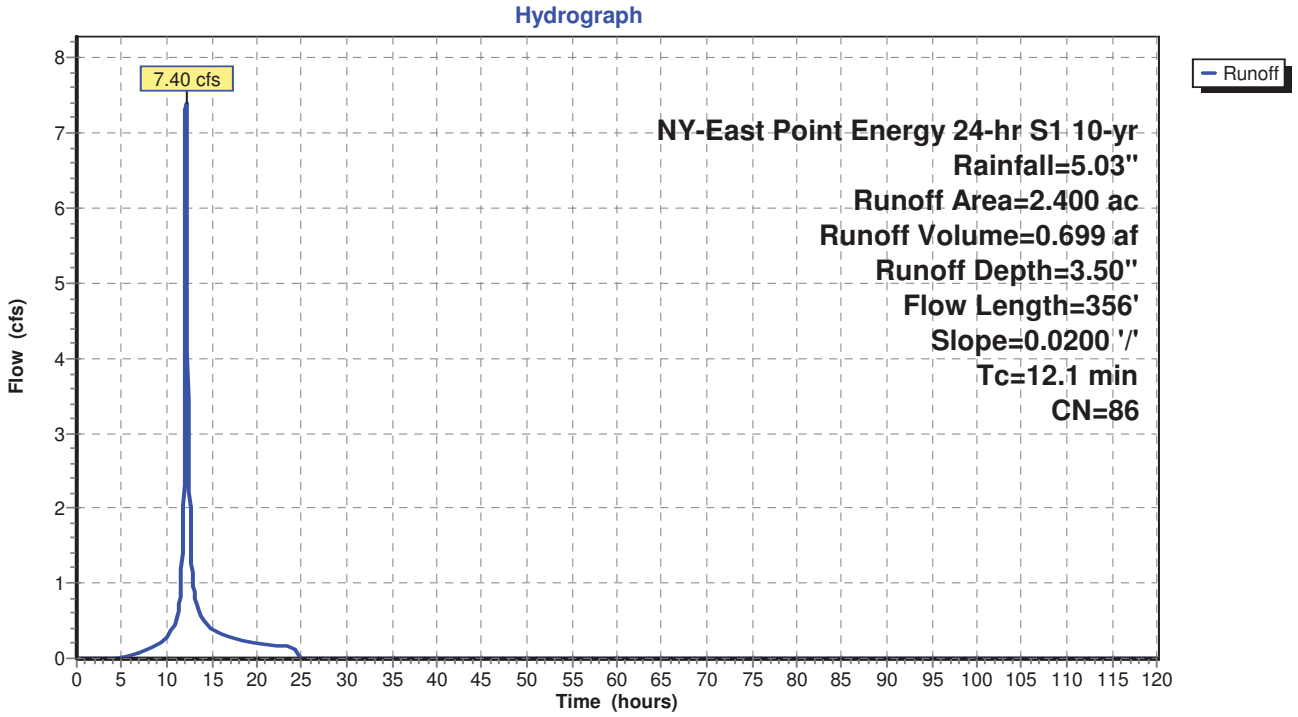
Runoff = 7.40 cfs @ 12.12 hrs, Volume= 0.699 af, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 10-yr Rainfall=5.03"

Area (ac)	CN	Description
1.100	96	Gravel surface, HSG C
0.300	98	Paved parking, HSG C
1.000	71	Meadow, non-grazed, HSG C
2.400	86	Weighted Average
2.100		87.50% Pervious Area
0.300		12.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	70	0.0200	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
0.5	30	0.0200	1.10		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.34"
0.3	50	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	206	0.0200	4.28	5.35	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=0.50' Z= 3.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
12.1	356	Total			

Subcatchment 1.2S:



Summary for Subcatchment 1.3S:

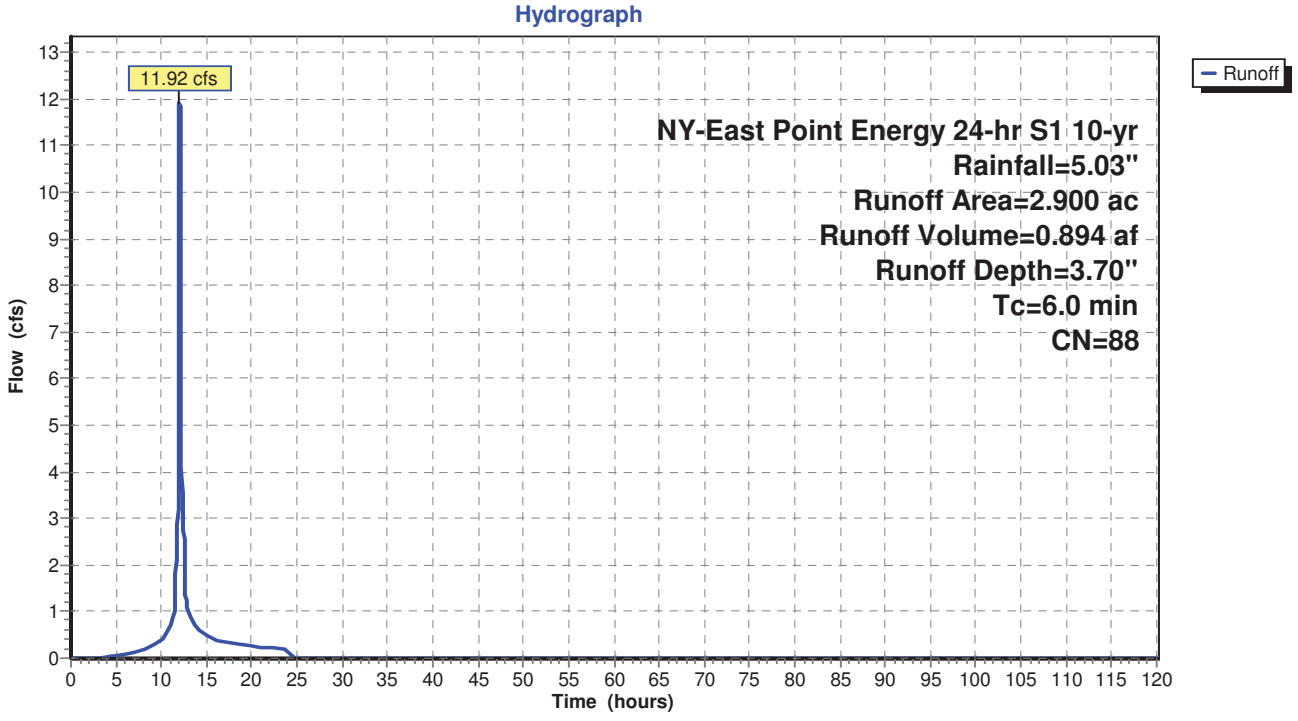
Runoff = 11.92 cfs @ 12.04 hrs, Volume= 0.894 af, Depth= 3.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 10-yr Rainfall=5.03"

Area (ac)	CN	Description
1.400	96	Gravel surface, HSG C
0.500	98	Paved parking, HSG C
1.000	71	Meadow, non-grazed, HSG C
2.900	88	Weighted Average
2.400		82.76% Pervious Area
0.500		17.24% Impervious Area

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

Subcatchment 1.3S:



Summary for Subcatchment 2.0S:

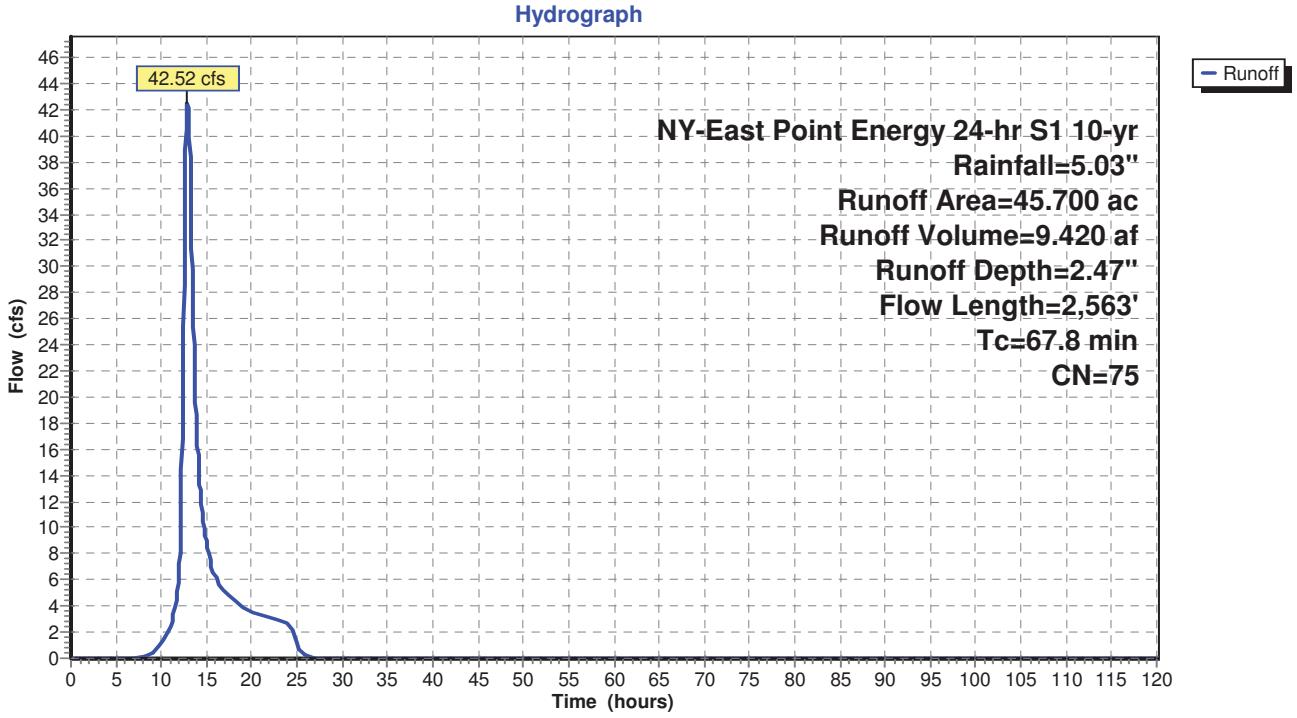
Runoff = 42.52 cfs @ 12.90 hrs, Volume= 9.420 af, Depth= 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 10-yr Rainfall=5.03"

Area (ac)	CN	Description
31.900	77	Woods, Good, HSG D
13.800	70	Woods, Good, HSG C
45.700	75	Weighted Average
45.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.7	100	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
40.1	2,463	0.0420	1.02		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
67.8	2,563	Total			

Subcatchment 2.0S:



Summary for Subcatchment 2.1S:

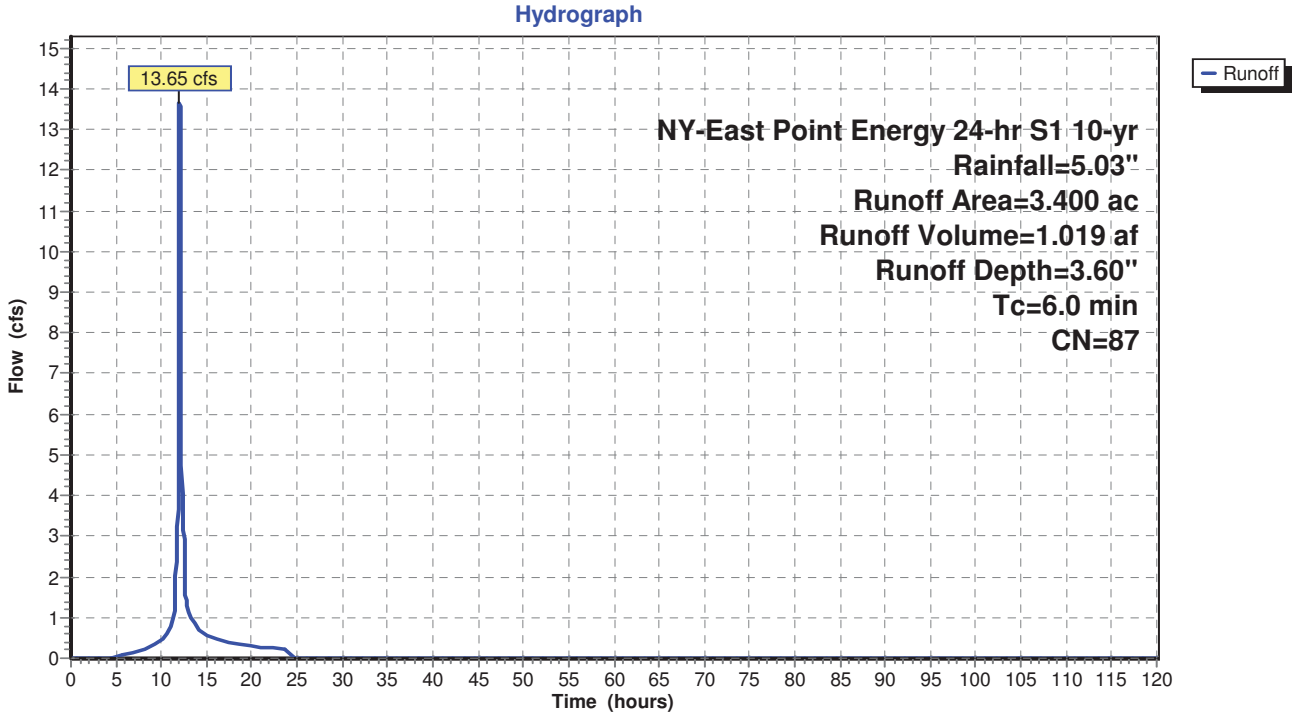
Runoff = 13.65 cfs @ 12.04 hrs, Volume= 1.019 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 10-yr Rainfall=5.03"

Area (ac)	CN	Description
1.600	96	Gravel surface, HSG C
0.500	98	Paved parking, HSG C
1.300	71	Meadow, non-grazed, HSG C
3.400	87	Weighted Average
2.900		85.29% Pervious Area
0.500		14.71% Impervious Area

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

Subcatchment 2.1S:



Summary for Subcatchment 2.2S:

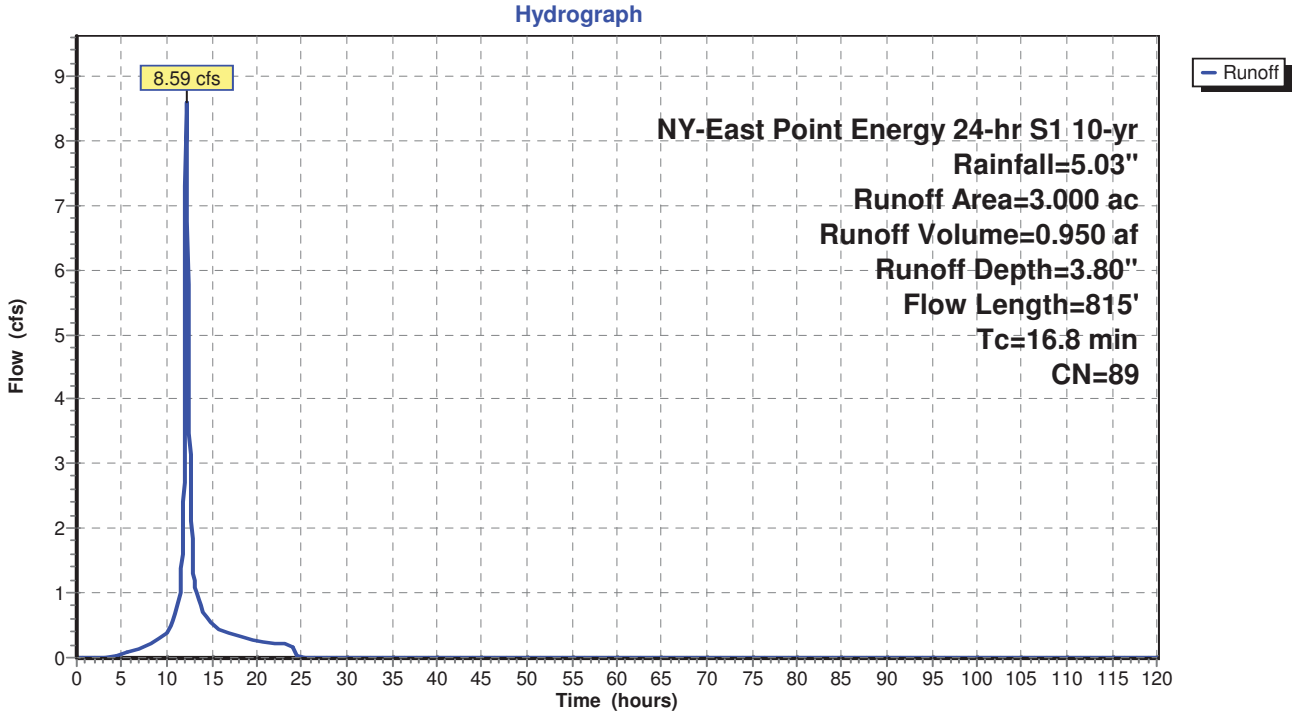
Runoff = 8.59 cfs @ 12.18 hrs, Volume= 0.950 af, Depth= 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 10-yr Rainfall=5.03"

Area (ac)	CN	Description
1.900	96	Gravel surface, HSG D
0.800	78	Meadow, non-grazed, HSG D
0.300	71	Meadow, non-grazed, HSG C
3.000	89	Weighted Average
3.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	100	0.0200	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
1.0	230	0.0200	3.79	1.90	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=0.50' n= 0.022 Earth, clean & straight
1.8	485	0.0100	4.54	3.56	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
16.8	815	Total			

Subcatchment 2.2S:



Summary for Subcatchment 2.3S:

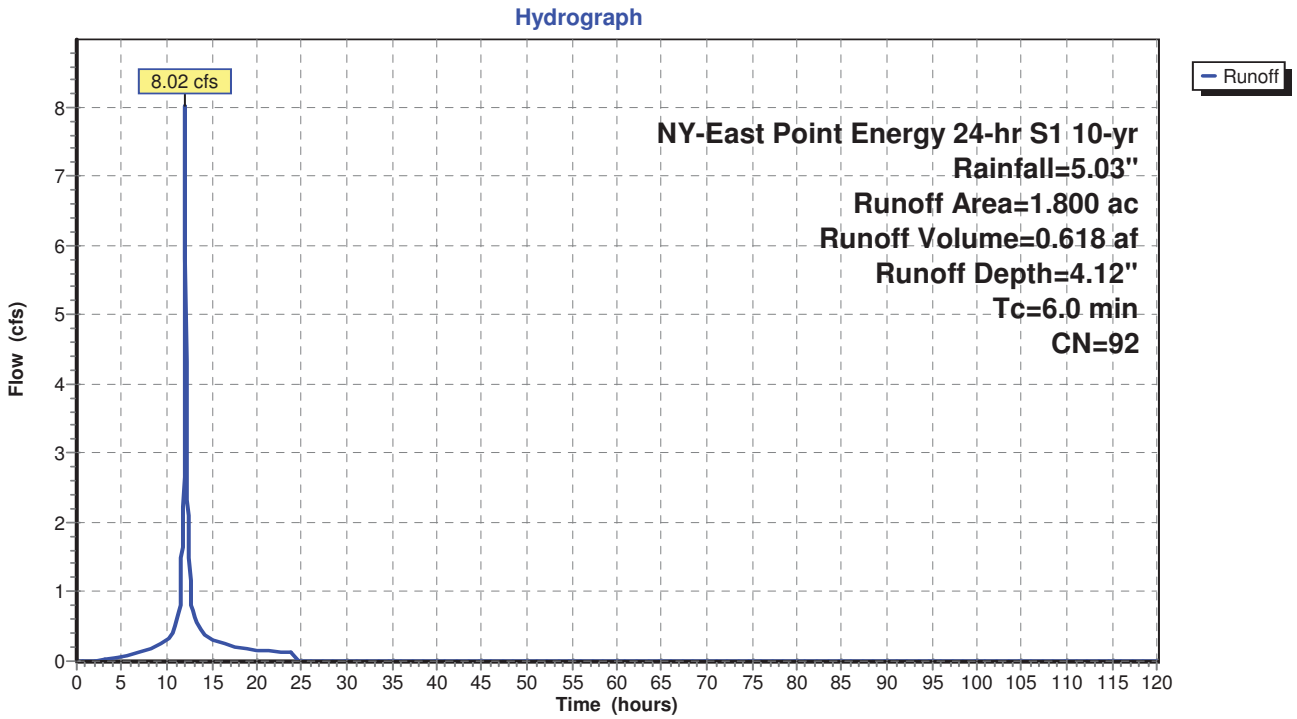
Runoff = 8.02 cfs @ 12.04 hrs, Volume= 0.618 af, Depth= 4.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 10-yr Rainfall=5.03"

Area (ac)	CN	Description
1.400	96	Gravel surface, HSG D
0.400	78	Meadow, non-grazed, HSG D
1.800	92	Weighted Average
1.800		100.00% Pervious Area

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

Subcatchment 2.3S:

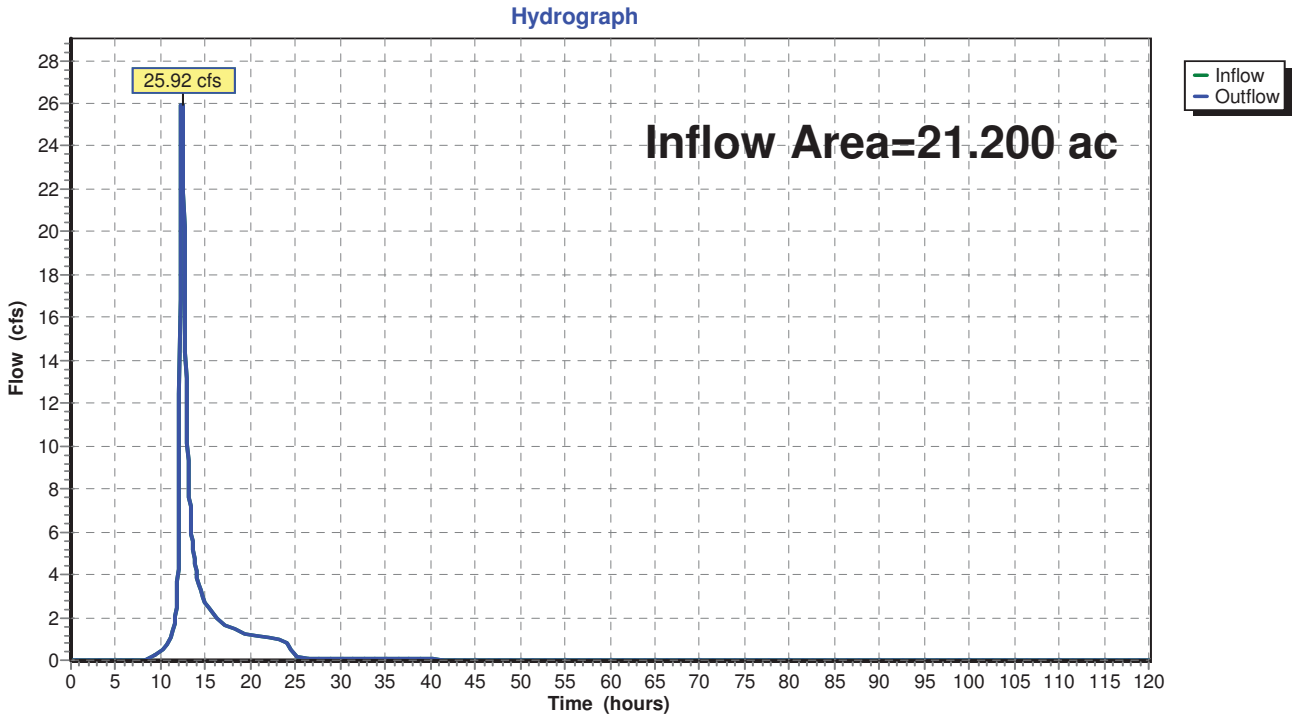


Summary for Reach DP 1:

Inflow Area = 21.200 ac, 3.77% Impervious, Inflow Depth = 2.09" for 10-yr event
Inflow = 25.92 cfs @ 12.36 hrs, Volume= 3.693 af
Outflow = 25.92 cfs @ 12.36 hrs, Volume= 3.693 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs

Reach DP 1:

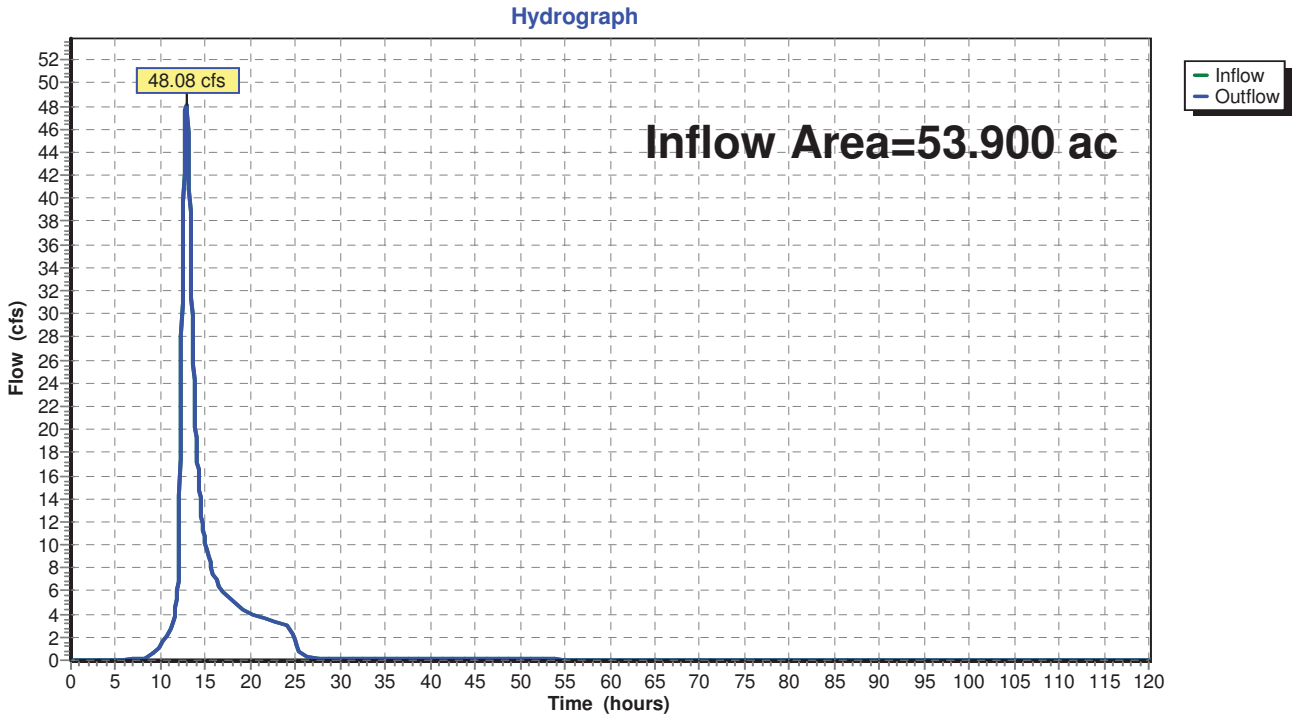


Summary for Reach DP 2:

Inflow Area = 53.900 ac, 0.93% Impervious, Inflow Depth = 2.54" for 10-yr event
Inflow = 48.08 cfs @ 12.87 hrs, Volume= 11.389 af
Outflow = 48.08 cfs @ 12.87 hrs, Volume= 11.389 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs

Reach DP 2:



Summary for Pond 1.1P: P-1 Pond

Inflow Area = 2.600 ac, 0.00% Impervious, Inflow Depth = 2.92" for 10-yr event
Inflow = 8.48 cfs @ 12.05 hrs, Volume= 0.632 af
Outflow = 1.53 cfs @ 12.59 hrs, Volume= 0.632 af, Atten= 82%, Lag= 32.5 min
Primary = 1.53 cfs @ 12.59 hrs, Volume= 0.632 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 625.00' Surf.Area= 6,400 sf Storage= 7,050 cf
Peak Elev= 626.81' @ 12.59 hrs Surf.Area= 13,263 sf Storage= 18,485 cf (11,435 cf above start)

Plug-Flow detention time= 562.5 min calculated for 0.470 af (74% of inflow)
Center-of-Mass det. time= 316.5 min (1,157.0 - 840.4)

Volume	Invert	Avail.Storage	Storage Description
#1	620.00'	3,500 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	620.00'	41,950 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		45,450 cf	Total Available Storage

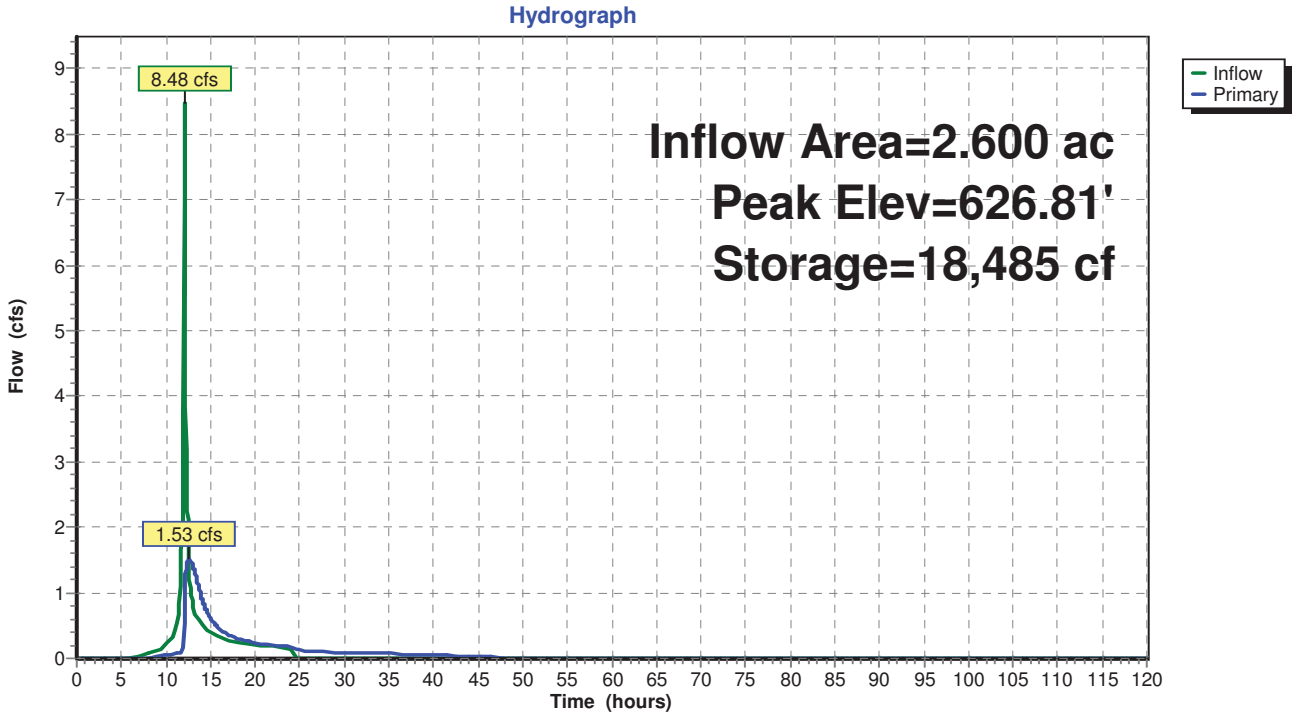
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
620.00	100	0	0
622.00	300	400	400
624.00	700	1,000	1,400
625.00	3,500	2,100	3,500

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
620.00	100	0	0
622.00	400	500	500
624.00	800	1,200	1,700
625.00	2,900	1,850	3,550
627.00	10,500	13,400	16,950
629.00	14,500	25,000	41,950

Device	Routing	Invert	Outlet Devices
#1	Primary	625.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	626.00'	**9.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=1.53 cfs @ 12.59 hrs HW=626.81' TW=0.00' (Dynamic Tailwater)
↑
└─**1=Orifice/Grate** (Orifice Controls 0.14 cfs @ 6.32 fps)
└─**2=Orifice/Grate** (Orifice Controls 1.40 cfs @ 3.16 fps)

Pond 1.1P: P-1 Pond



Summary for Pond 1.2P: Infiltration Basin

Inflow Area = 2.400 ac, 12.50% Impervious, Inflow Depth > 2.35" for 10-yr event
Inflow = 0.50 cfs @ 12.28 hrs, Volume= 0.470 af
Outflow = 0.12 cfs @ 25.00 hrs, Volume= 0.470 af, Atten= 76%, Lag= 763.4 min
Discarded = 0.12 cfs @ 25.00 hrs, Volume= 0.470 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 668.21' @ 25.00 hrs Surf.Area= 5,267 sf Storage= 9,095 cf

Plug-Flow detention time= 824.5 min calculated for 0.470 af (100% of inflow)
Center-of-Mass det. time= 824.5 min (2,103.6 - 1,279.1)

Volume	Invert	Avail.Storage	Storage Description
#1	666.00'	20,500 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

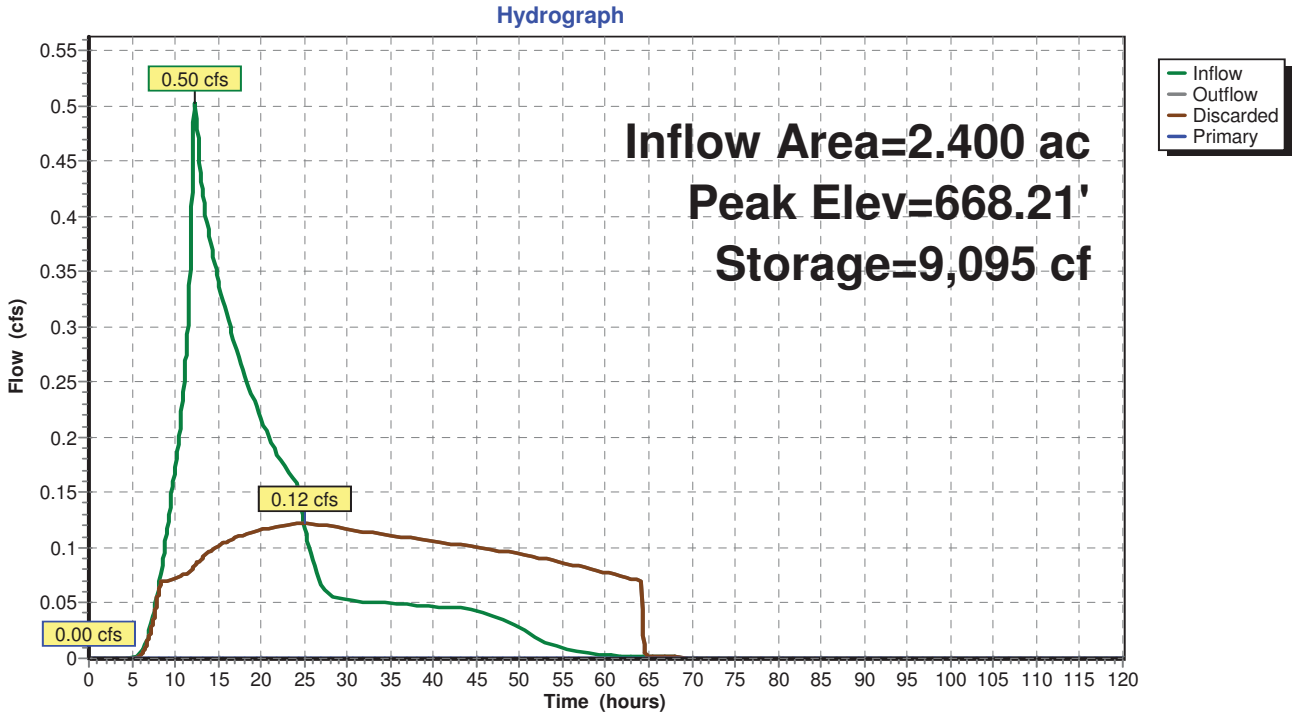
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
666.00	3,000	0	0
668.00	5,000	8,000	8,000
670.00	7,500	12,500	20,500

Device	Routing	Invert	Outlet Devices
#1	Discarded	666.00'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	669.00'	**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

Discarded OutFlow Max=0.12 cfs @ 25.00 hrs HW=668.21' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=666.00' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.2P: Infiltration Basin



Summary for Pond 1.2PT: Pretreatment Basin

Inflow Area = 2.400 ac, 12.50% Impervious, Inflow Depth = 3.50" for 10-yr event
Inflow = 7.40 cfs @ 12.12 hrs, Volume= 0.699 af
Outflow = 3.95 cfs @ 12.32 hrs, Volume= 0.699 af, Atten= 47%, Lag= 11.9 min
Primary = 0.50 cfs @ 12.28 hrs, Volume= 0.470 af
Secondary = 3.44 cfs @ 12.32 hrs, Volume= 0.229 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 669.17' @ 12.32 hrs Surf.Area= 5,168 sf Storage= 8,853 cf

Plug-Flow detention time= 288.2 min calculated for 0.698 af (100% of inflow)
Center-of-Mass det. time= 289.7 min (1,113.4 - 823.7)

Volume	Invert	Avail.Storage	Storage Description
#1	667.00'	20,250 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

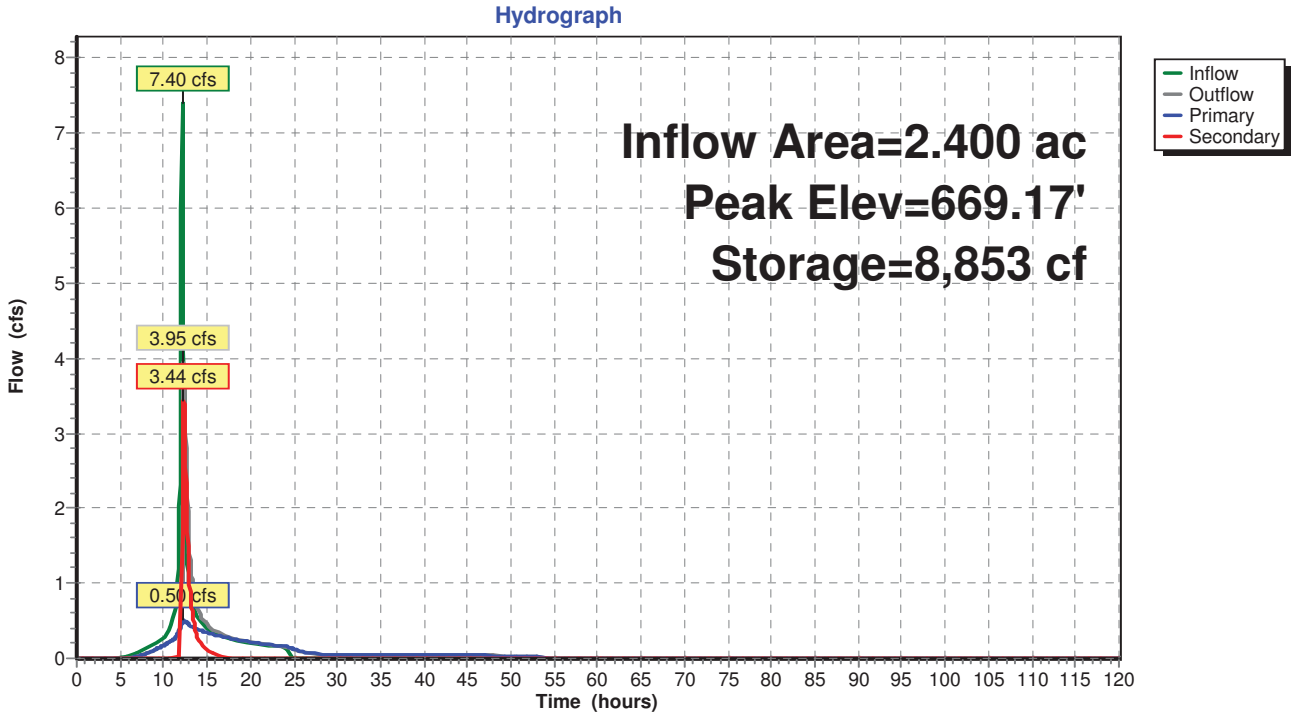
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
667.00	3,000	0	0
668.00	4,000	3,500	3,500
670.00	6,000	10,000	13,500
671.00	7,500	6,750	20,250

Device	Routing	Invert	Outlet Devices
#1	Primary	667.00'	**4.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 667.00' / 666.00' S= 0.0333 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	668.50'	**2.0' 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=0.50 cfs @ 12.28 hrs HW=669.16' TW=666.62' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.50 cfs @ 5.73 fps)

Secondary OutFlow Max=3.42 cfs @ 12.32 hrs HW=669.16' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 3.42 cfs @ 2.57 fps)

Pond 1.2PT: Pretreatment Basin



Summary for Pond 1.3P: Infiltration Basin

Inflow Area = 2.900 ac, 17.24% Impervious, Inflow Depth = 2.55" for 10-yr event
Inflow = 0.57 cfs @ 12.19 hrs, Volume= 0.615 af
Outflow = 0.19 cfs @ 27.37 hrs, Volume= 0.615 af, Atten= 67%, Lag= 910.4 min
Discarded = 0.19 cfs @ 27.37 hrs, Volume= 0.615 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 664.06' @ 27.37 hrs Surf.Area= 8,107 sf Storage= 13,491 cf

Plug-Flow detention time= 751.0 min calculated for 0.615 af (100% of inflow)
Center-of-Mass det. time= 750.6 min (1,848.1 - 1,097.5)

Volume	Invert	Avail.Storage	Storage Description
#1	662.00'	32,500 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

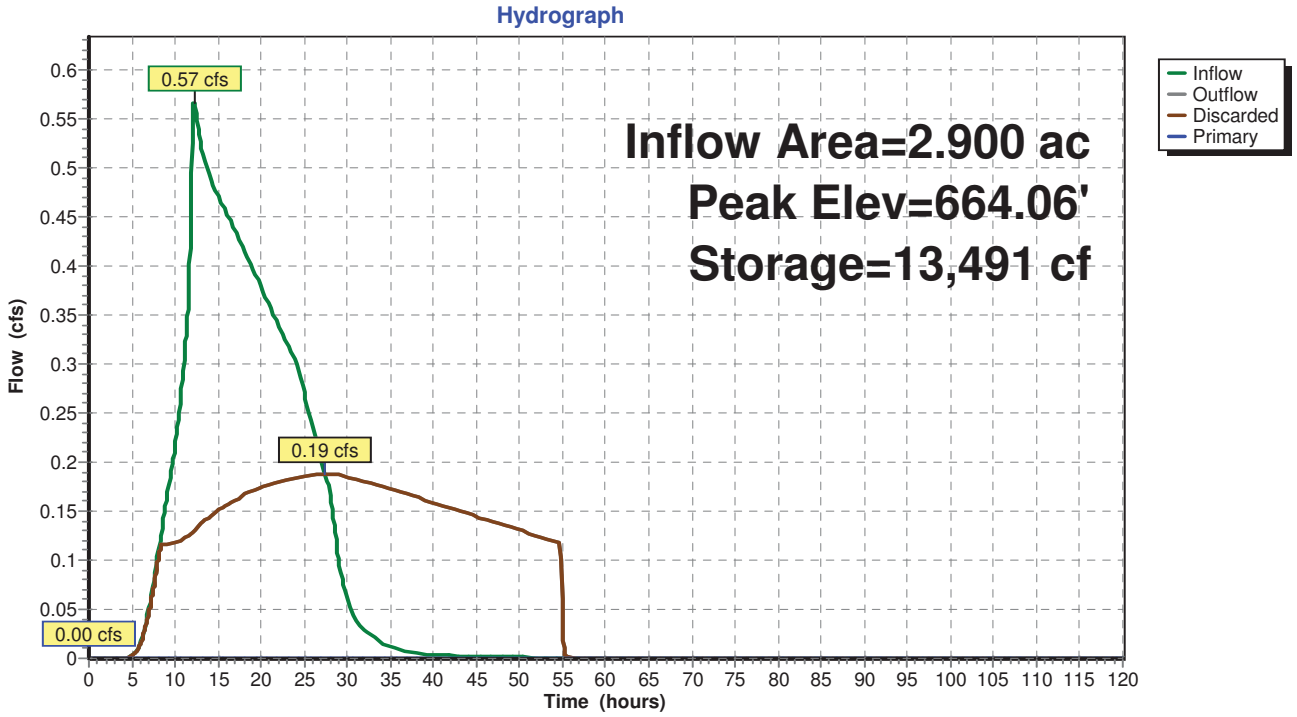
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
662.00	5,000	0	0
664.00	8,000	13,000	13,000
666.00	11,500	19,500	32,500

Device	Routing	Invert	Outlet Devices
#1	Discarded	662.00'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	664.50'	**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

Discarded OutFlow Max=0.19 cfs @ 27.37 hrs HW=664.06' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.19 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=662.00' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.3P: Infiltration Basin



Summary for Pond 1.3PT: Pretreatment Basin

Inflow Area = 2.900 ac, 17.24% Impervious, Inflow Depth = 3.70" for 10-yr event
Inflow = 11.92 cfs @ 12.04 hrs, Volume= 0.894 af
Outflow = 4.86 cfs @ 12.21 hrs, Volume= 0.893 af, Atten= 59%, Lag= 10.4 min
Primary = 0.57 cfs @ 12.19 hrs, Volume= 0.615 af
Secondary = 4.30 cfs @ 12.21 hrs, Volume= 0.278 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 666.37' @ 12.21 hrs Surf.Area= 7,051 sf Storage= 12,488 cf

Plug-Flow detention time= 184.5 min calculated for 0.893 af (100% of inflow)
Center-of-Mass det. time= 184.1 min (993.8 - 809.8)

Volume	Invert	Avail.Storage	Storage Description
#1	664.00'	26,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

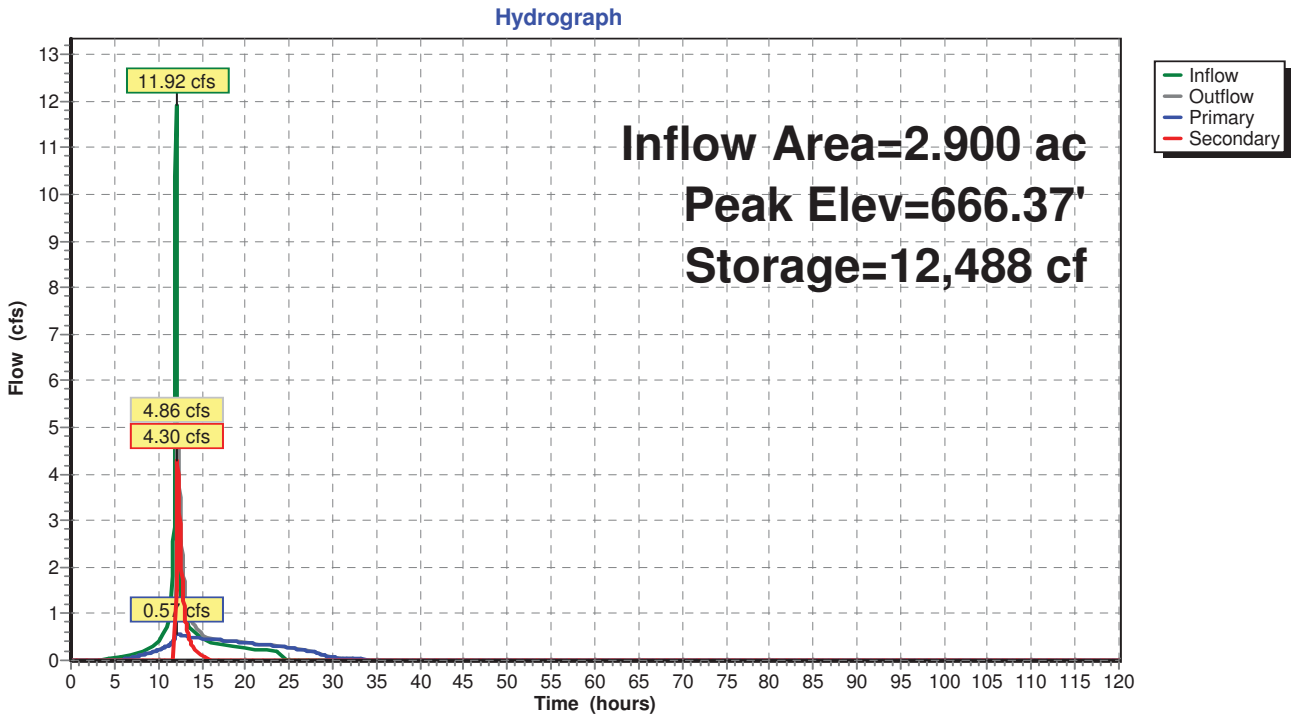
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
664.00	3,500	0	0
666.00	6,500	10,000	10,000
668.00	9,500	16,000	26,000

Device	Routing	Invert	Outlet Devices
#1	Primary	664.00'	**4.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 664.00' / 662.00' S= 0.0500 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	665.70'	**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=0.56 cfs @ 12.19 hrs HW=666.36' TW=662.39' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.56 cfs @ 6.46 fps)

Secondary OutFlow Max=4.26 cfs @ 12.21 hrs HW=666.36' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 4.26 cfs @ 2.57 fps)

Pond 1.3PT: Pretreatment Basin



Summary for Pond 2.1P: Infiltration Basin

Inflow Area = 3.400 ac, 14.71% Impervious, Inflow Depth > 2.17" for 10-yr event
Inflow = 0.38 cfs @ 12.29 hrs, Volume= 0.614 af
Outflow = 0.22 cfs @ 29.15 hrs, Volume= 0.614 af, Atten= 42%, Lag= 1,011.2 min
Discarded = 0.22 cfs @ 29.15 hrs, Volume= 0.614 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 665.87' @ 29.15 hrs Surf.Area= 9,475 sf Storage= 6,722 cf

Plug-Flow detention time= 348.3 min calculated for 0.614 af (100% of inflow)
Center-of-Mass det. time= 348.2 min (1,745.2 - 1,397.0)

Volume	Invert	Avail.Storage	Storage Description
#1	665.00'	34,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

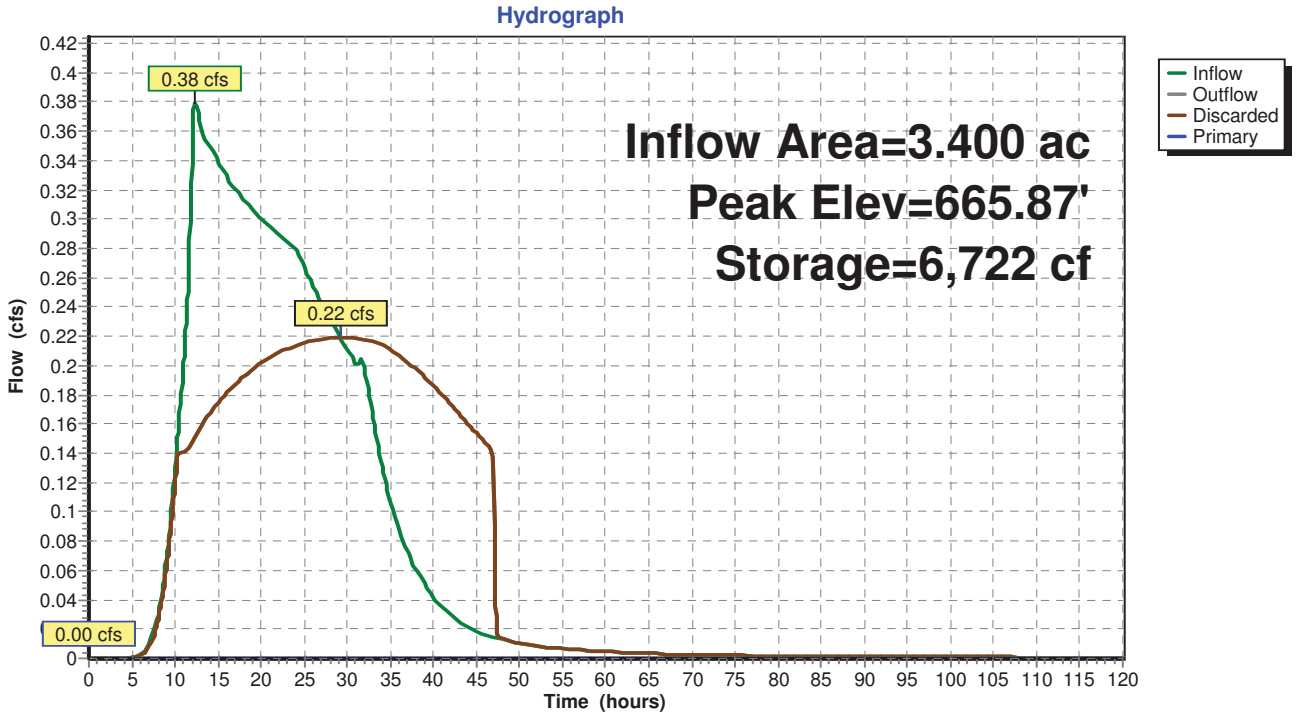
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
665.00	6,000	0	0
666.00	10,000	8,000	8,000
668.00	16,000	26,000	34,000

Device	Routing	Invert	Outlet Devices
#1	Discarded	665.00'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	667.00'	**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

Discarded OutFlow Max=0.22 cfs @ 29.15 hrs HW=665.87' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.22 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=665.00' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2.1P: Infiltration Basin



Summary for Pond 2.1PT: Pretreatment Basin

Inflow Area = 3.400 ac, 14.71% Impervious, Inflow Depth = 3.60" for 10-yr event
Inflow = 13.65 cfs @ 12.04 hrs, Volume= 1.019 af
Outflow = 4.22 cfs @ 12.29 hrs, Volume= 1.016 af, Atten= 69%, Lag= 15.2 min
Primary = 0.38 cfs @ 12.29 hrs, Volume= 0.614 af
Secondary = 3.84 cfs @ 12.29 hrs, Volume= 0.401 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 667.47' @ 12.29 hrs Surf.Area= 13,073 sf Storage= 17,332 cf

Plug-Flow detention time= 350.9 min calculated for 1.016 af (100% of inflow)
Center-of-Mass det. time= 349.0 min (1,163.0 - 814.0)

Volume	Invert	Avail.Storage	Storage Description
#1	666.00'	39,250 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

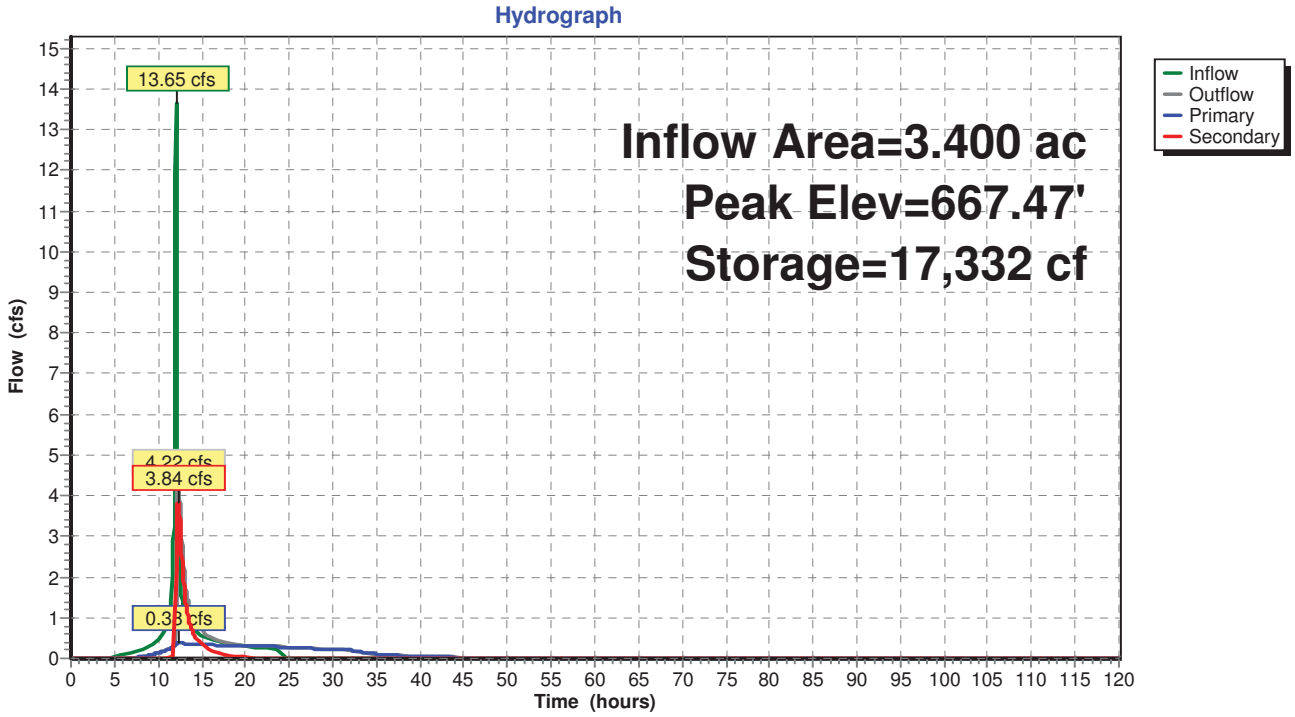
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
666.00	10,500	0	0
668.00	14,000	24,500	24,500
669.00	15,500	14,750	39,250

Device	Routing	Invert	Outlet Devices
#1	Primary	666.00'	**4.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 666.00' / 665.00' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	667.00'	**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=0.38 cfs @ 12.29 hrs HW=667.47' TW=665.13' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 0.38 cfs @ 4.35 fps)

Secondary OutFlow Max=3.84 cfs @ 12.29 hrs HW=667.47' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 3.84 cfs @ 2.04 fps)

Pond 2.1PT: Pretreatment Basin



Summary for Pond 2.2P: P-1 Pond

Inflow Area = 3.000 ac, 0.00% Impervious, Inflow Depth = 3.80" for 10-yr event
Inflow = 8.59 cfs @ 12.18 hrs, Volume= 0.950 af
Outflow = 2.87 cfs @ 12.64 hrs, Volume= 0.950 af, Atten= 67%, Lag= 27.5 min
Primary = 2.87 cfs @ 12.64 hrs, Volume= 0.950 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 653.00' Surf.Area= 2,800 sf Storage= 7,200 cf
Peak Elev= 655.67' @ 12.64 hrs Surf.Area= 10,509 sf Storage= 25,410 cf (18,210 cf above start)

Plug-Flow detention time= 666.4 min calculated for 0.784 af (83% of inflow)
Center-of-Mass det. time= 465.7 min (1,281.1 - 815.4)

Volume	Invert	Avail.Storage	Storage Description
#1	649.00'	2,300 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	649.00'	49,300 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		51,600 cf	Total Available Storage

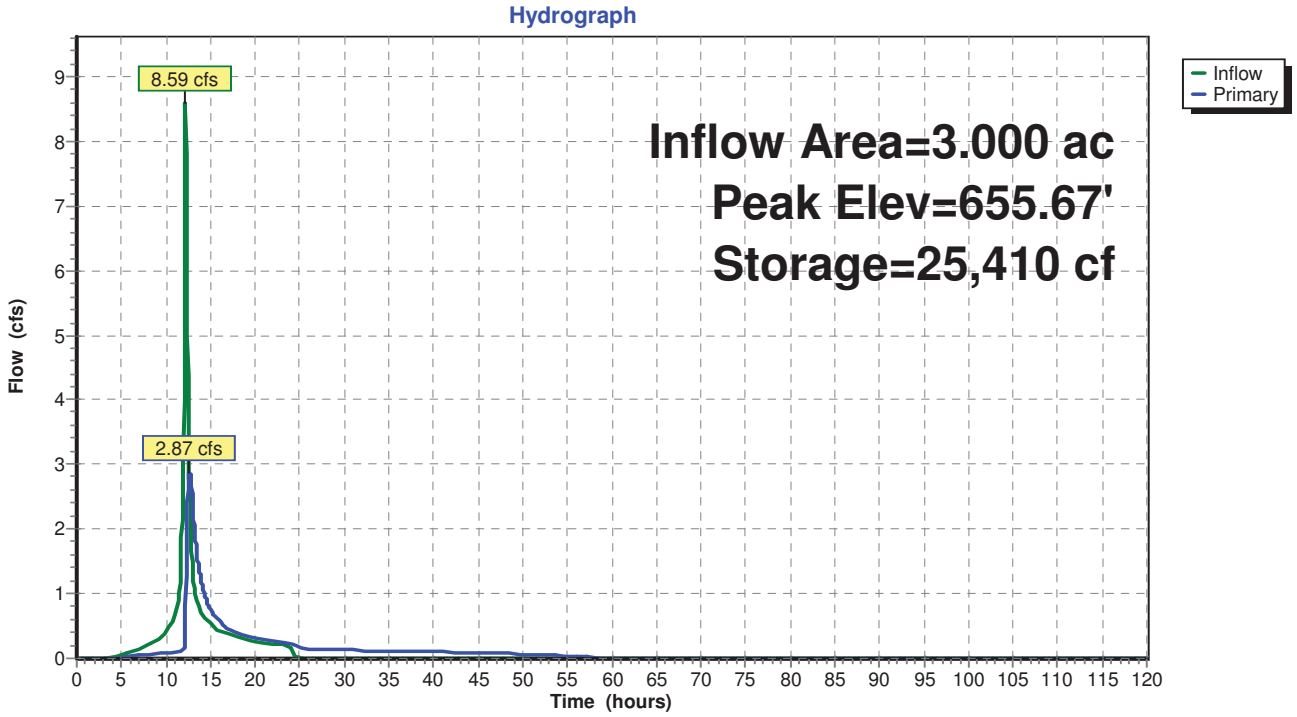
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
649.00	300	0	0
651.00	500	800	800
653.00	1,000	1,500	2,300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
649.00	700	0	0
651.00	1,200	1,900	1,900
653.00	1,800	3,000	4,900
654.00	7,000	4,400	9,300
656.00	10,000	17,000	26,300
658.00	13,000	23,000	49,300

Device	Routing	Invert	Outlet Devices
#1	Primary	653.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	654.80'	**1.0' 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=2.86 cfs @ 12.64 hrs HW=655.67' TW=0.00' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.17 cfs @ 7.75 fps)
└—**2=Broad-Crested Rectangular Weir** (Weir Controls 2.70 cfs @ 3.09 fps)

Pond 2.2P: P-1 Pond



Summary for Pond 2.3P: P-1 Pond

Inflow Area = 1.800 ac, 0.00% Impervious, Inflow Depth = 4.12" for 10-yr event
Inflow = 8.02 cfs @ 12.04 hrs, Volume= 0.618 af
Outflow = 3.48 cfs @ 12.20 hrs, Volume= 0.618 af, Atten= 57%, Lag= 9.6 min
Primary = 3.48 cfs @ 12.20 hrs, Volume= 0.618 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 646.00' Surf.Area= 1,300 sf Storage= 2,700 cf
Peak Elev= 648.63' @ 12.20 hrs Surf.Area= 6,989 sf Storage= 13,611 cf (10,911 cf above start)

Plug-Flow detention time= 703.1 min calculated for 0.556 af (90% of inflow)
Center-of-Mass det. time= 568.6 min (1,359.4 - 790.7)

Volume	Invert	Avail.Storage	Storage Description
#1	642.00'	1,400 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	642.00'	22,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		23,500 cf	Total Available Storage

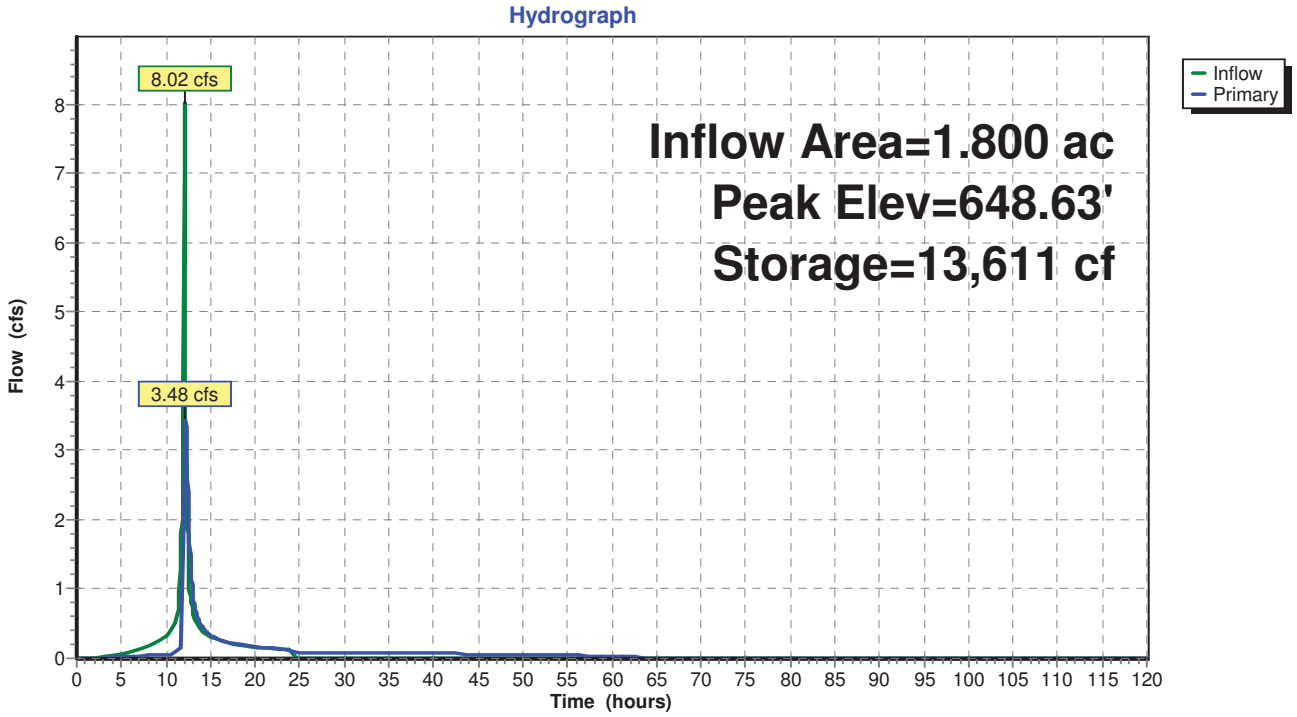
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
642.00	100	0	0
644.00	300	400	400
646.00	700	1,000	1,400

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
642.00	100	0	0
644.00	300	400	400
646.00	600	900	1,300
647.00	4,200	2,400	3,700
648.00	5,400	4,800	8,500
650.00	8,200	13,600	22,100

Device	Routing	Invert	Outlet Devices
#1	Primary	646.00'	**1.5" Vert. Orifice/Grate** C= 0.600
#2	Primary	648.20'	**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=3.48 cfs @ 12.20 hrs HW=648.63' TW=0.00' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.09 cfs @ 7.72 fps)
└—**2=Broad-Crested Rectangular Weir** (Weir Controls 3.38 cfs @ 1.94 fps)

Pond 2.3P: P-1 Pond



Summary for Subcatchment 1.0S:

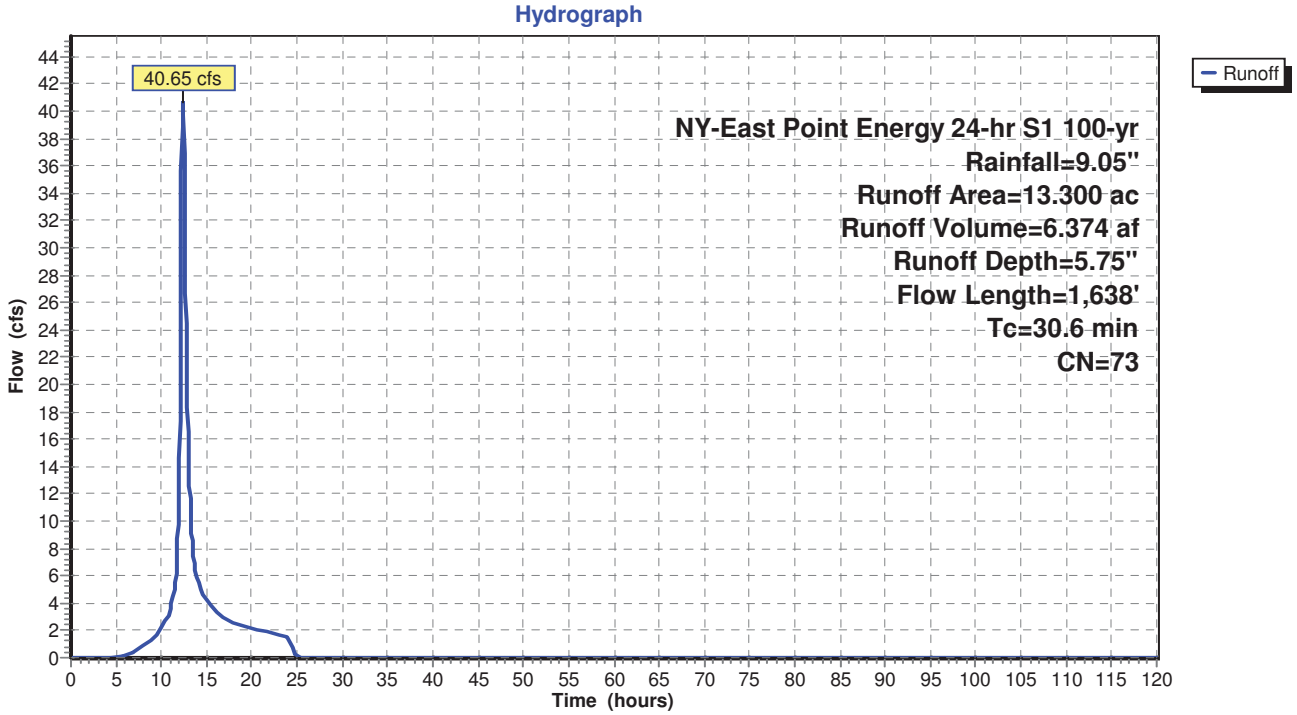
Runoff = 40.65 cfs @ 12.37 hrs, Volume= 6.374 af, Depth= 5.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 100-yr Rainfall=9.05"

Area (ac)	CN	Description
5.400	77	Woods, Good, HSG D
7.900	70	Woods, Good, HSG C
13.300	73	Weighted Average
13.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
4.5	425	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.1	1,113	0.0270	3.63	9.80	**Channel Flow,** Area= 2.7 sf Perim= 7.2' r= 0.38' n= 0.035 Earth, dense weeds
30.6	1,638	Total			

Subcatchment 1.0S:



Summary for Subcatchment 1.1S:

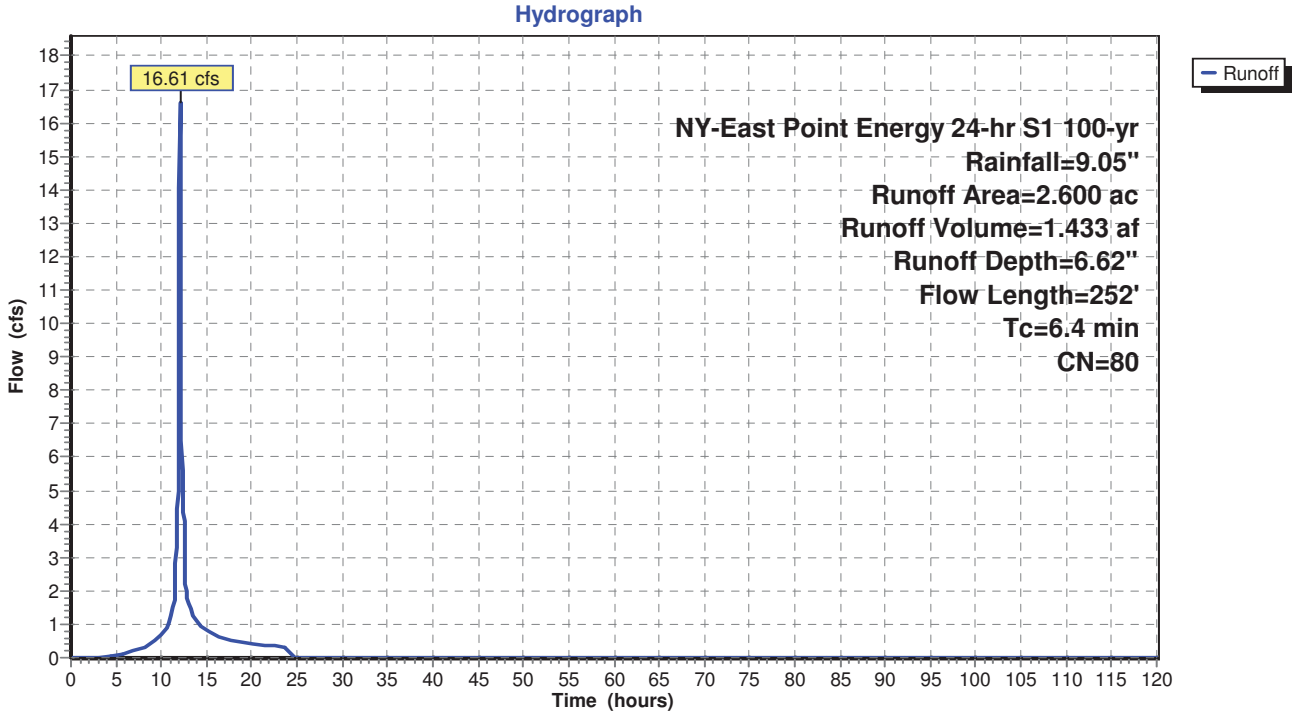
Runoff = 16.61 cfs @ 12.05 hrs, Volume= 1.433 af, Depth= 6.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 100-yr Rainfall=9.05"

Area (ac)	CN	Description
0.500	96	Gravel surface, HSG D
0.900	78	Meadow, non-grazed, HSG D
0.300	71	Meadow, non-grazed, HSG C
0.600	77	Woods, Good, HSG D
0.300	70	Woods, Good, HSG C
2.600	80	Weighted Average
2.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	100	0.2000	0.30		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
0.8	152	0.2300	3.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.4	252	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

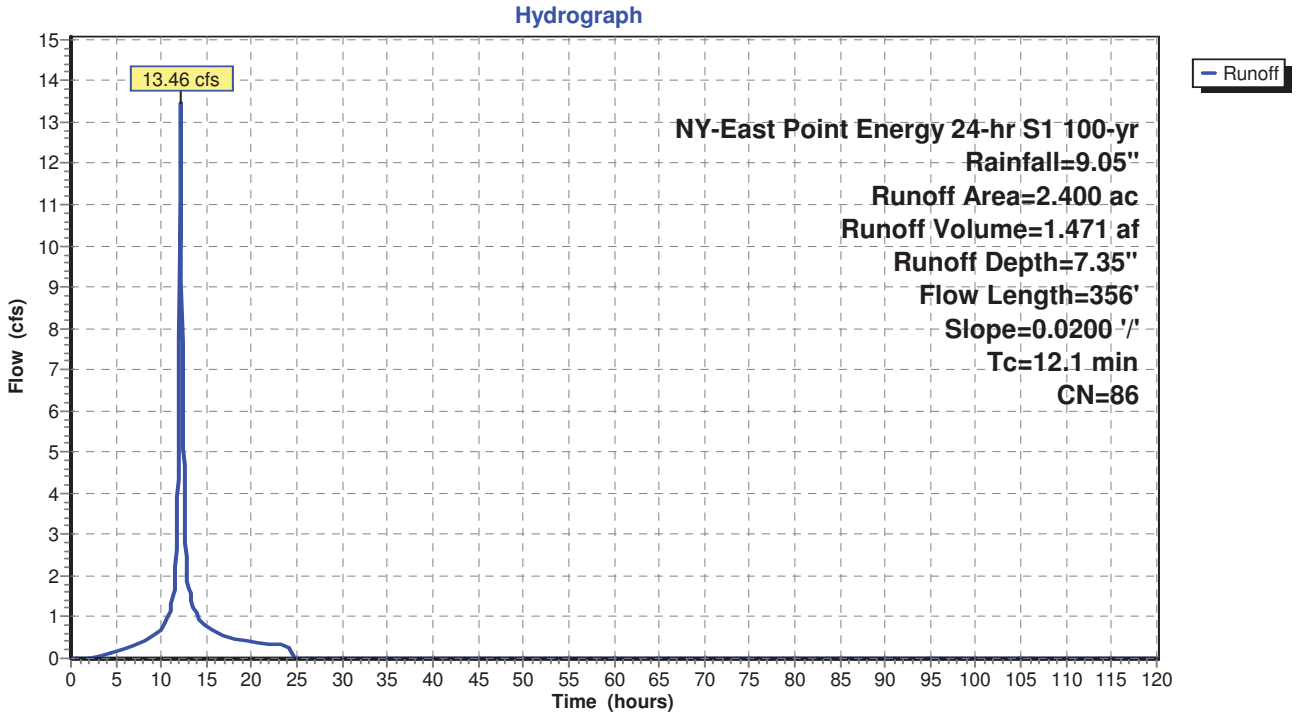
Runoff = 13.46 cfs @ 12.12 hrs, Volume= 1.471 af, Depth= 7.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 100-yr Rainfall=9.05"

Area (ac)	CN	Description
1.100	96	Gravel surface, HSG C
0.300	98	Paved parking, HSG C
1.000	71	Meadow, non-grazed, HSG C
2.400	86	Weighted Average
2.100		87.50% Pervious Area
0.300		12.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	70	0.0200	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
0.5	30	0.0200	1.10		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.34"
0.3	50	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	206	0.0200	4.28	5.35	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=0.50' Z= 3.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
12.1	356	Total			

Subcatchment 1.2S:



Summary for Subcatchment 1.3S:

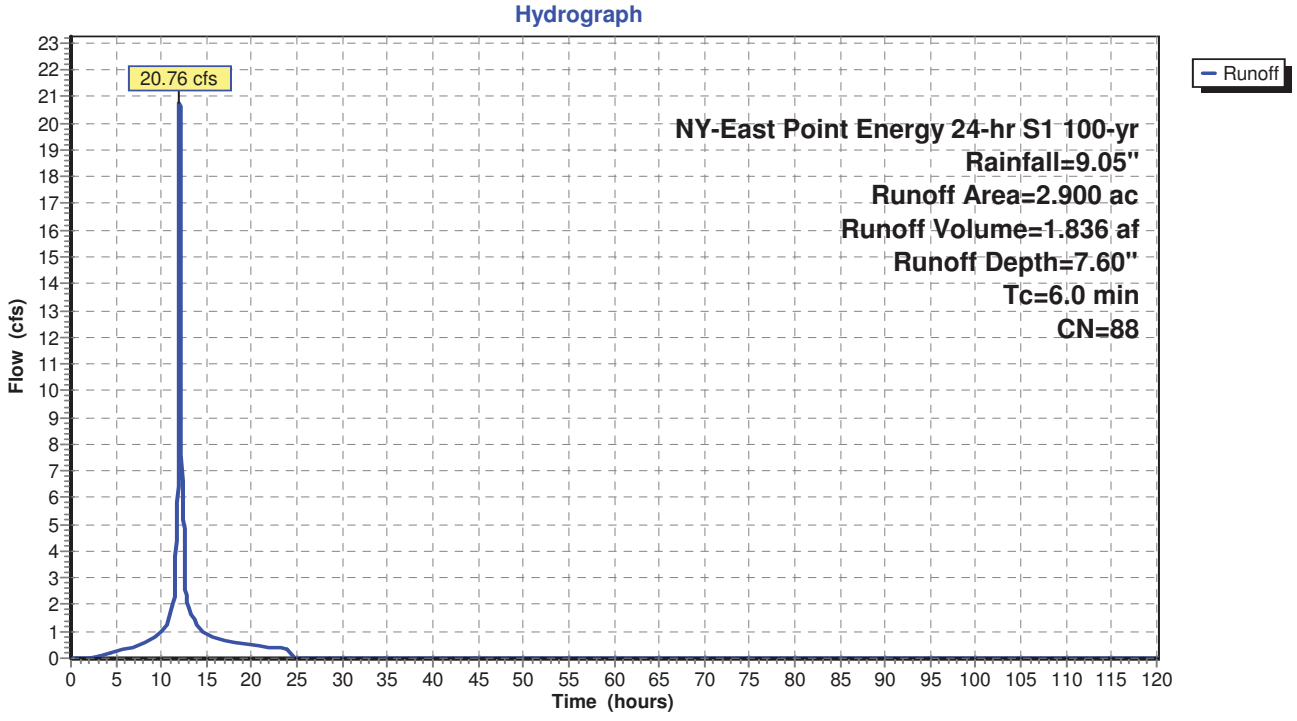
Runoff = 20.76 cfs @ 12.04 hrs, Volume= 1.836 af, Depth= 7.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 100-yr Rainfall=9.05"

Area (ac)	CN	Description
1.400	96	Gravel surface, HSG C
0.500	98	Paved parking, HSG C
1.000	71	Meadow, non-grazed, HSG C
2.900	88	Weighted Average
2.400		82.76% Pervious Area
0.500		17.24% Impervious Area

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

Subcatchment 1.3S:



Summary for Subcatchment 2.0S:

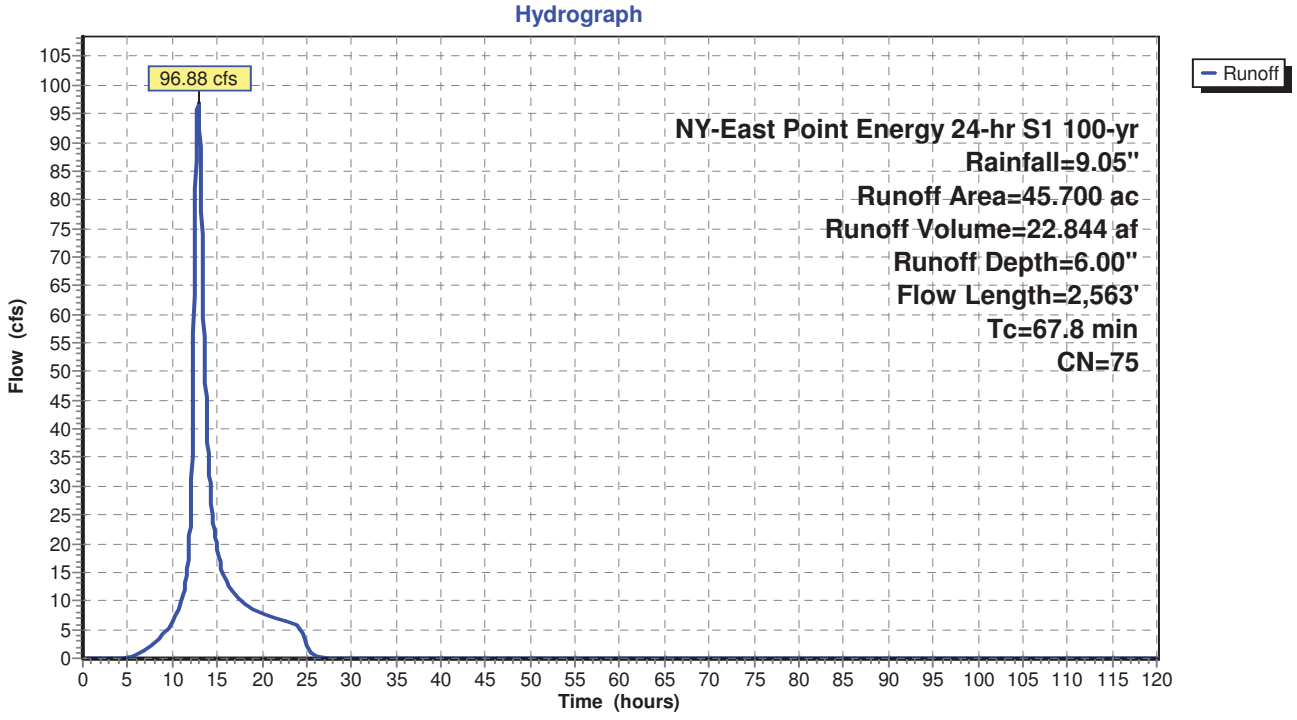
Runoff = 96.88 cfs @ 12.88 hrs, Volume= 22.844 af, Depth= 6.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 100-yr Rainfall=9.05"

Area (ac)	CN	Description
31.900	77	Woods, Good, HSG D
13.800	70	Woods, Good, HSG C
45.700	75	Weighted Average
45.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.7	100	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.34"
40.1	2,463	0.0420	1.02		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
67.8	2,563	Total			

Subcatchment 2.0S:



Summary for Subcatchment 2.1S:

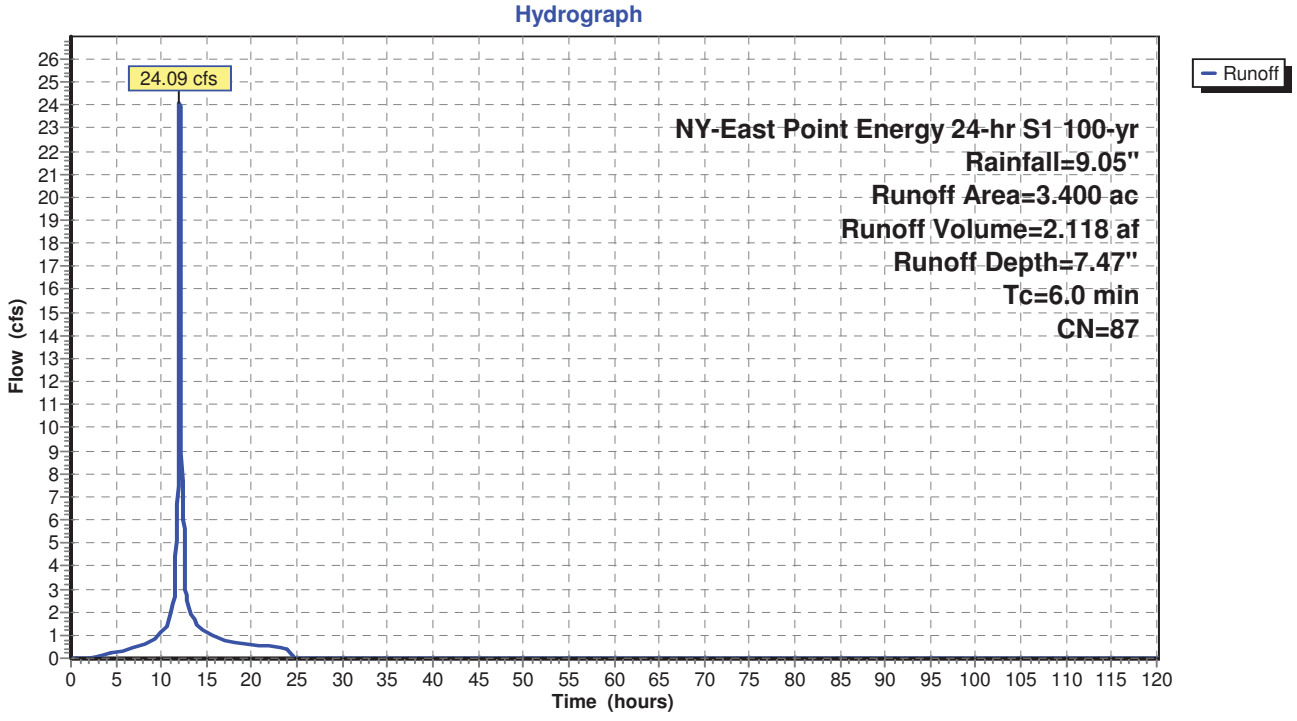
Runoff = 24.09 cfs @ 12.04 hrs, Volume= 2.118 af, Depth= 7.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 100-yr Rainfall=9.05"

Area (ac)	CN	Description
1.600	96	Gravel surface, HSG C
0.500	98	Paved parking, HSG C
1.300	71	Meadow, non-grazed, HSG C
3.400	87	Weighted Average
2.900		85.29% Pervious Area
0.500		14.71% Impervious Area

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

Subcatchment 2.1S:



Summary for Subcatchment 2.2S:

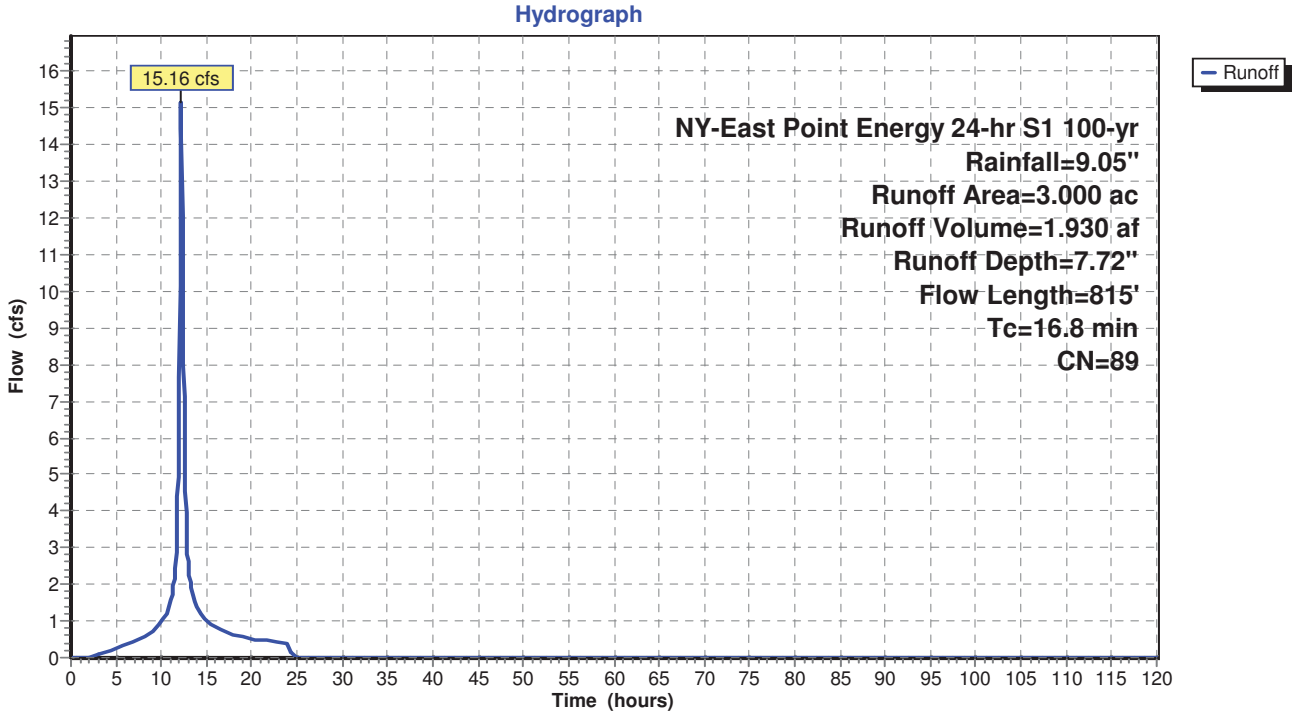
Runoff = 15.16 cfs @ 12.18 hrs, Volume= 1.930 af, Depth= 7.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 100-yr Rainfall=9.05"

Area (ac)	CN	Description
1.900	96	Gravel surface, HSG D
0.800	78	Meadow, non-grazed, HSG D
0.300	71	Meadow, non-grazed, HSG C
3.000	89	Weighted Average
3.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	100	0.0200	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
1.0	230	0.0200	3.79	1.90	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=0.50' n= 0.022 Earth, clean & straight
1.8	485	0.0100	4.54	3.56	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
16.8	815	Total			

Subcatchment 2.2S:



Summary for Subcatchment 2.3S:

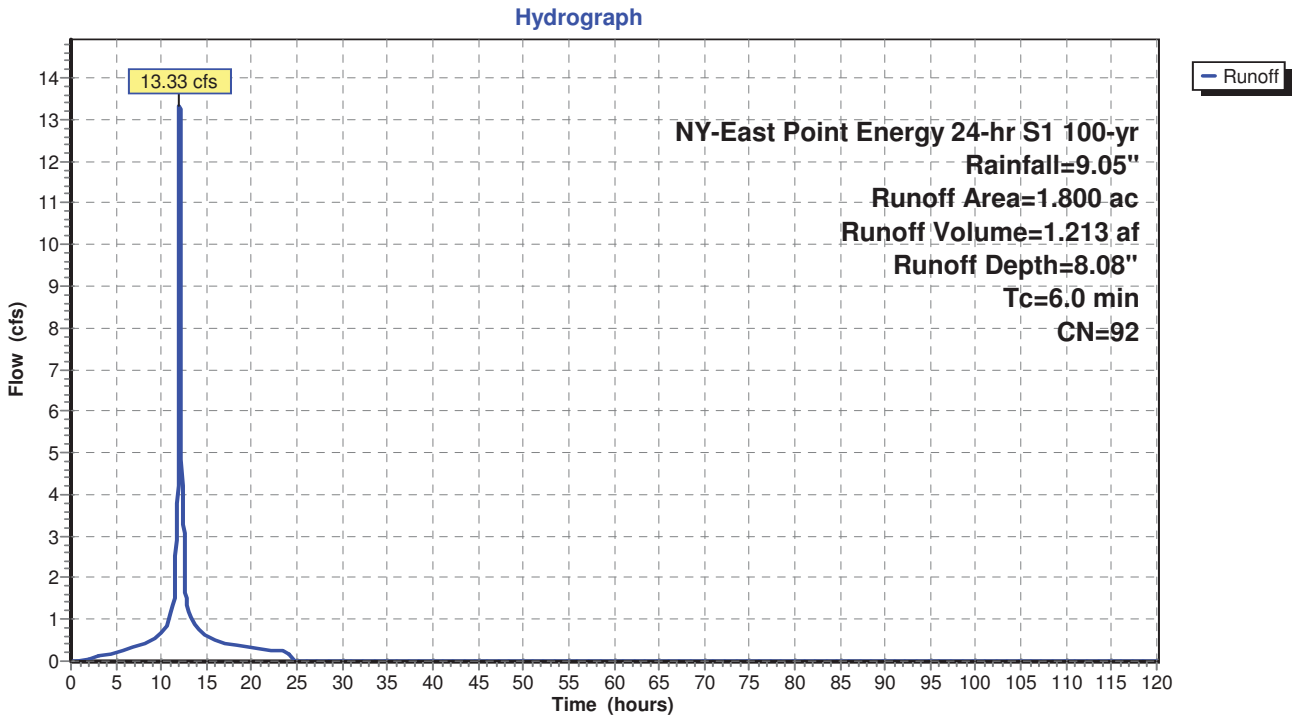
Runoff = 13.33 cfs @ 12.04 hrs, Volume= 1.213 af, Depth= 8.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
NY-East Point Energy 24-hr S1 100-yr Rainfall=9.05"

Area (ac)	CN	Description
1.400	96	Gravel surface, HSG D
0.400	78	Meadow, non-grazed, HSG D
1.800	92	Weighted Average
1.800		100.00% Pervious Area

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

Subcatchment 2.3S:

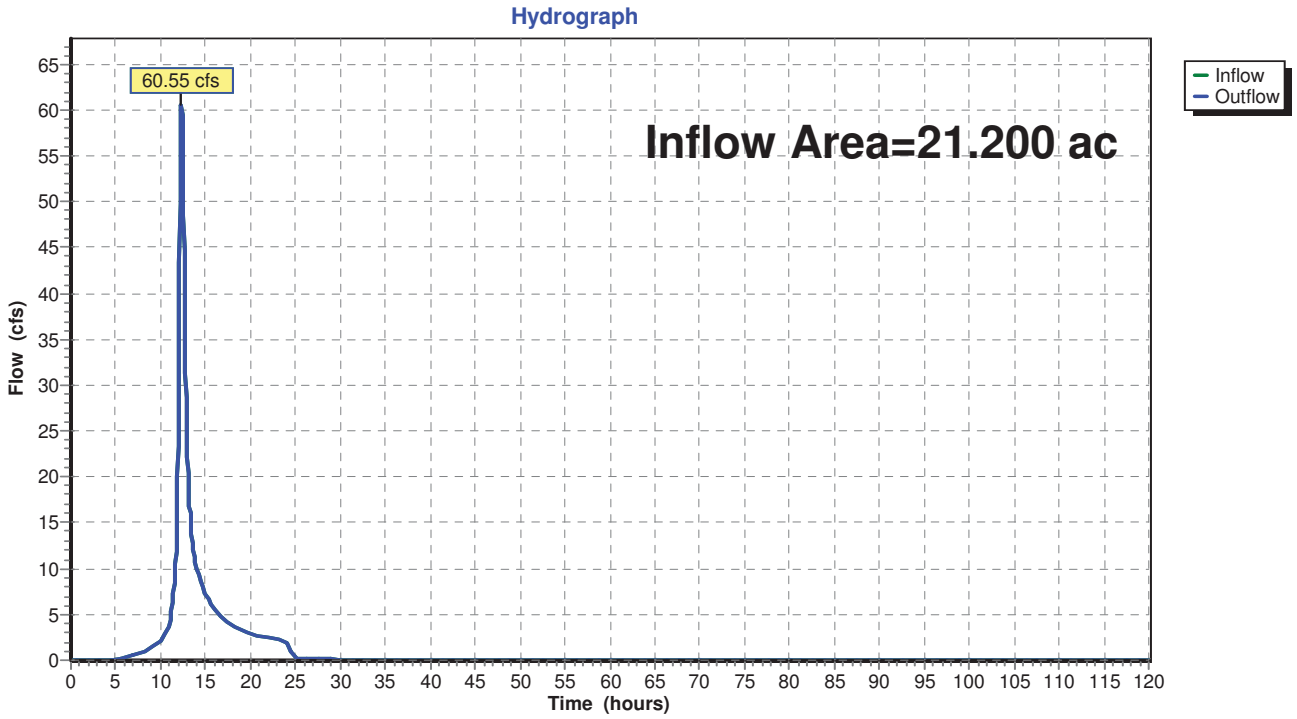


Summary for Reach DP 1:

Inflow Area = 21.200 ac, 3.77% Impervious, Inflow Depth = 5.53" for 100-yr event
Inflow = 60.55 cfs @ 12.32 hrs, Volume= 9.775 af
Outflow = 60.55 cfs @ 12.32 hrs, Volume= 9.775 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs

Reach DP 1:

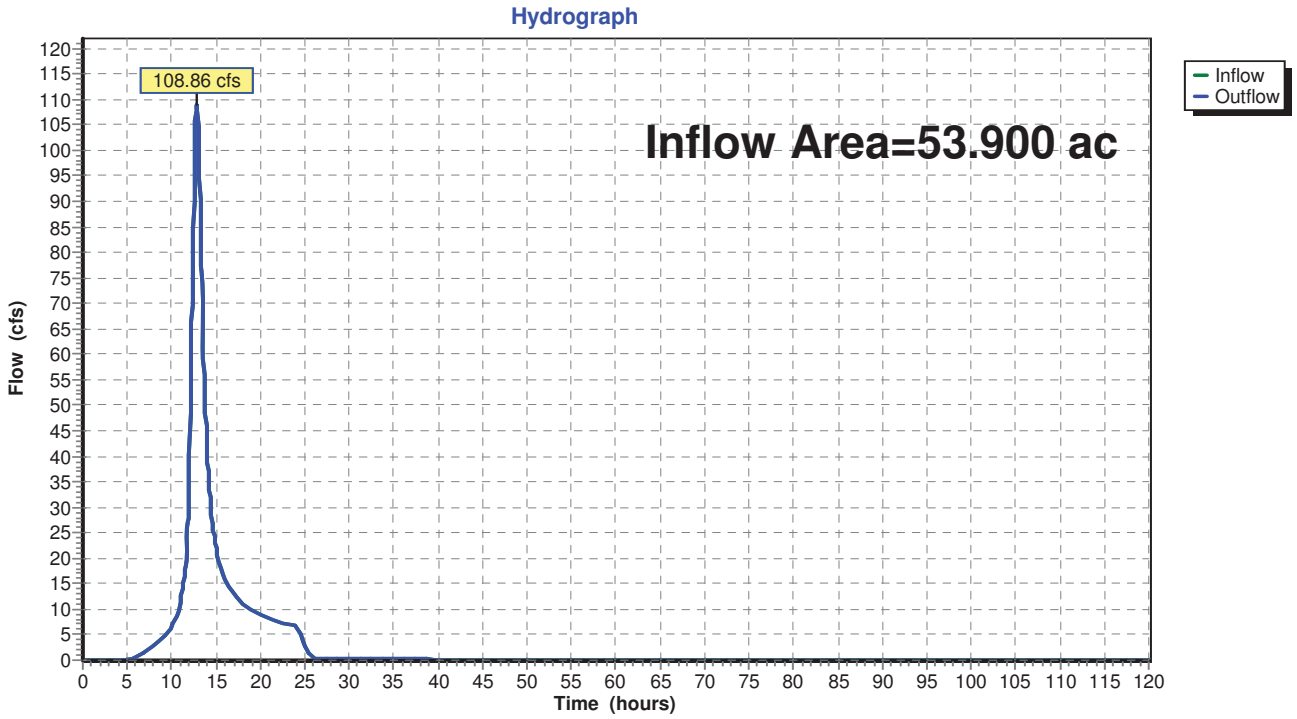


Summary for Reach DP 2:

Inflow Area = 53.900 ac, 0.93% Impervious, Inflow Depth = 6.10" for 100-yr event
Inflow = 108.86 cfs @ 12.84 hrs, Volume= 27.383 af
Outflow = 108.86 cfs @ 12.84 hrs, Volume= 27.383 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs

Reach DP 2:



Summary for Pond 1.1P: P-1 Pond

Inflow Area = 2.600 ac, 0.00% Impervious, Inflow Depth = 6.62" for 100-yr event
Inflow = 16.61 cfs @ 12.05 hrs, Volume= 1.433 af
Outflow = 2.90 cfs @ 12.61 hrs, Volume= 1.433 af, Atten= 83%, Lag= 33.8 min
Primary = 2.90 cfs @ 12.61 hrs, Volume= 1.433 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 625.00' Surf.Area= 6,400 sf Storage= 7,050 cf
Peak Elev= 628.01' @ 12.61 hrs Surf.Area= 16,018 sf Storage= 32,061 cf (25,011 cf above start)

Plug-Flow detention time= 314.3 min calculated for 1.271 af (89% of inflow)
Center-of-Mass det. time= 210.7 min (1,024.3 - 813.7)

Volume	Invert	Avail.Storage	Storage Description
#1	620.00'	3,500 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	620.00'	41,950 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		45,450 cf	Total Available Storage

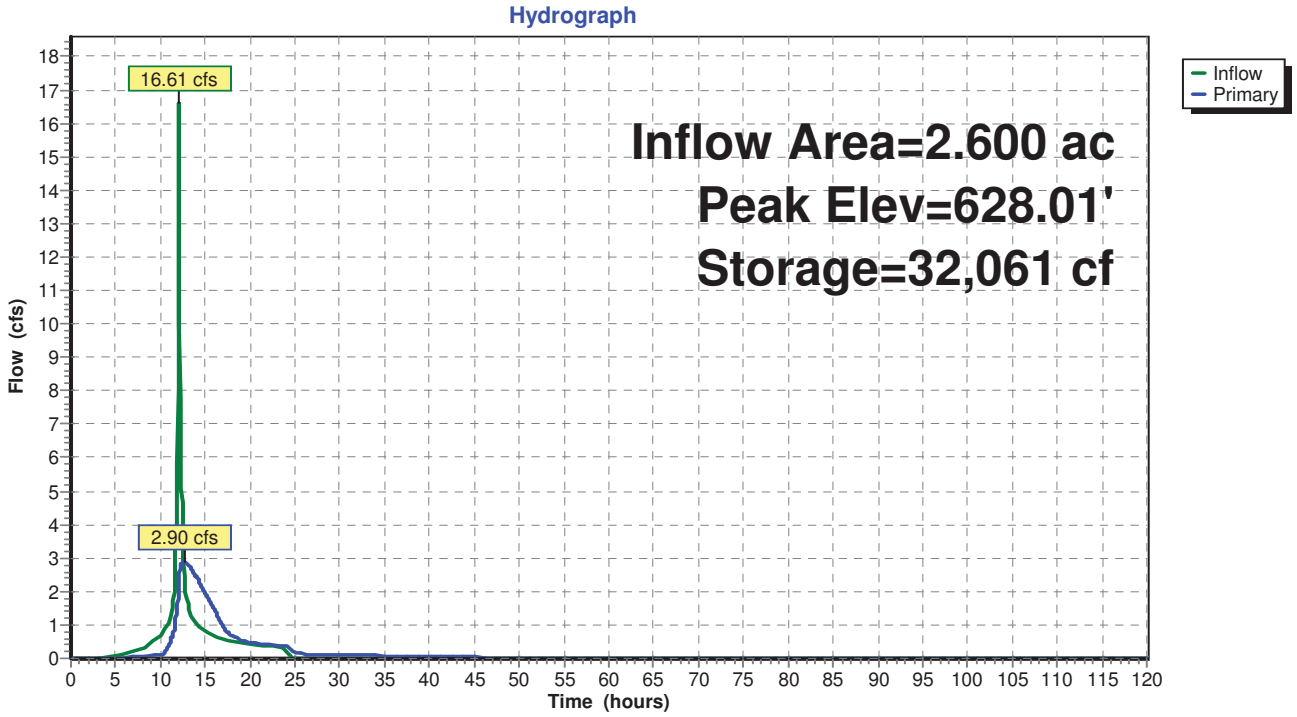
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
620.00	100	0	0
622.00	300	400	400
624.00	700	1,000	1,400
625.00	3,500	2,100	3,500

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
620.00	100	0	0
622.00	400	500	500
624.00	800	1,200	1,700
625.00	2,900	1,850	3,550
627.00	10,500	13,400	16,950
629.00	14,500	25,000	41,950

Device	Routing	Invert	Outlet Devices
#1	Primary	625.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	626.00'	**9.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=2.90 cfs @ 12.61 hrs HW=628.01' TW=0.00' (Dynamic Tailwater)
↑
└─**1=Orifice/Grate** (Orifice Controls 0.18 cfs @ 8.23 fps)
└─**2=Orifice/Grate** (Orifice Controls 2.72 cfs @ 6.15 fps)

Pond 1.1P: P-1 Pond



Summary for Pond 1.2P: Infiltration Basin

Inflow Area = 2.400 ac, 12.50% Impervious, Inflow Depth > 2.67" for 100-yr event
Inflow = 0.49 cfs @ 12.21 hrs, Volume= 0.535 af
Outflow = 0.13 cfs @ 24.47 hrs, Volume= 0.535 af, Atten= 74%, Lag= 735.7 min
Discarded = 0.13 cfs @ 24.47 hrs, Volume= 0.535 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 668.38' @ 24.47 hrs Surf.Area= 5,477 sf Storage= 9,997 cf

Plug-Flow detention time= 888.5 min calculated for 0.535 af (100% of inflow)
Center-of-Mass det. time= 888.5 min (2,097.8 - 1,209.3)

Volume	Invert	Avail.Storage	Storage Description
#1	666.00'	20,500 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

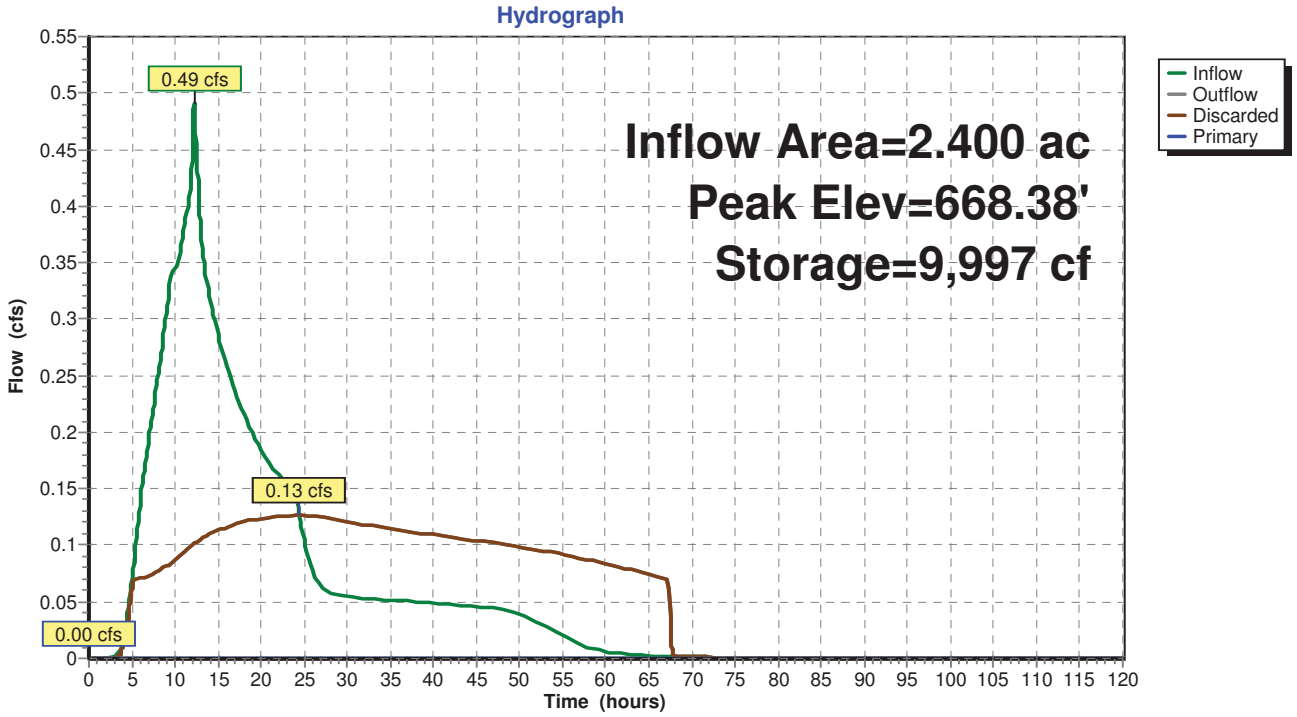
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
666.00	3,000	0	0
668.00	5,000	8,000	8,000
670.00	7,500	12,500	20,500

Device	Routing	Invert	Outlet Devices
#1	Discarded	666.00'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	669.00'	**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

Discarded OutFlow Max=0.13 cfs @ 24.47 hrs HW=668.38' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=666.00' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.2P: Infiltration Basin



Summary for Pond 1.2PT: Pretreatment Basin

Inflow Area = 2.400 ac, 12.50% Impervious, Inflow Depth = 7.35" for 100-yr event
Inflow = 13.46 cfs @ 12.12 hrs, Volume= 1.471 af
Outflow = 10.20 cfs @ 12.22 hrs, Volume= 1.470 af, Atten= 24%, Lag= 6.5 min
Primary = 0.49 cfs @ 12.21 hrs, Volume= 0.535 af
Secondary = 9.71 cfs @ 12.22 hrs, Volume= 0.936 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 669.79' @ 12.22 hrs Surf.Area= 5,788 sf Storage= 12,252 cf

Plug-Flow detention time= 175.1 min calculated for 1.470 af (100% of inflow)
Center-of-Mass det. time= 174.8 min (974.6 - 799.8)

Volume	Invert	Avail.Storage	Storage Description
#1	667.00'	20,250 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

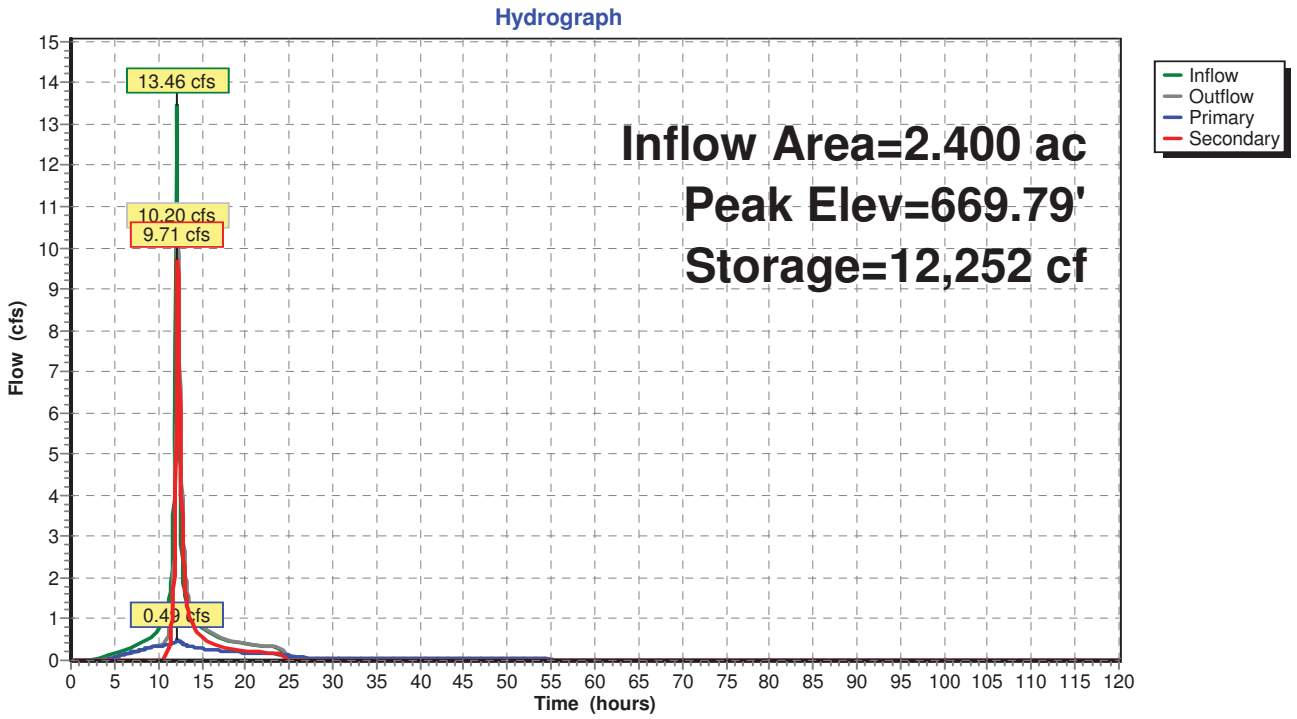
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
667.00	3,000	0	0
668.00	4,000	3,500	3,500
670.00	6,000	10,000	13,500
671.00	7,500	6,750	20,250

Device	Routing	Invert	Outlet Devices
#1	Primary	667.00'	**4.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 667.00' / 666.00' S= 0.0333 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	668.50'	**2.0' 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=0.49 cfs @ 12.21 hrs HW=669.78' TW=667.36' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 0.49 cfs @ 5.60 fps)

Secondary OutFlow Max=9.61 cfs @ 12.22 hrs HW=669.78' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 9.61 cfs @ 3.76 fps)

Pond 1.2PT: Pretreatment Basin



Summary for Pond 1.3P: Infiltration Basin

Inflow Area = 2.900 ac, 17.24% Impervious, Inflow Depth = 3.32" for 100-yr event
Inflow = 0.57 cfs @ 12.12 hrs, Volume= 0.803 af
Outflow = 0.20 cfs @ 28.59 hrs, Volume= 0.803 af, Atten= 65%, Lag= 987.9 min
Discarded = 0.20 cfs @ 28.59 hrs, Volume= 0.803 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 664.43' @ 28.59 hrs Surf.Area= 8,744 sf Storage= 16,560 cf

Plug-Flow detention time= 897.2 min calculated for 0.802 af (100% of inflow)
Center-of-Mass det. time= 896.8 min (1,997.9 - 1,101.0)

Volume	Invert	Avail.Storage	Storage Description
#1	662.00'	32,500 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

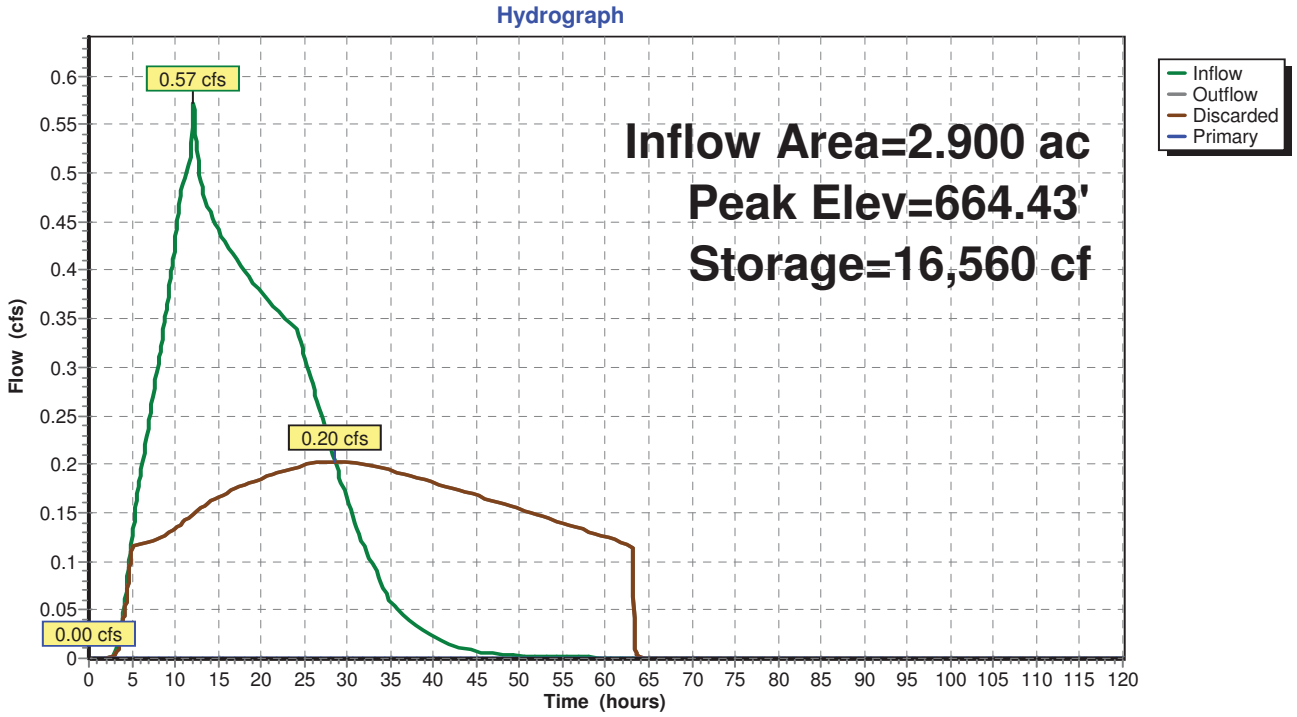
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
662.00	5,000	0	0
664.00	8,000	13,000	13,000
666.00	11,500	19,500	32,500

Device	Routing	Invert	Outlet Devices
#1	Discarded	662.00'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	664.50'	**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

Discarded OutFlow Max=0.20 cfs @ 28.59 hrs HW=664.43' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=662.00' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.3P: Infiltration Basin



Summary for Pond 1.3PT: Pretreatment Basin

Inflow Area = 2.900 ac, 17.24% Impervious, Inflow Depth = 7.60" for 100-yr event
Inflow = 20.76 cfs @ 12.04 hrs, Volume= 1.836 af
Outflow = 13.28 cfs @ 12.13 hrs, Volume= 1.836 af, Atten= 36%, Lag= 5.5 min
Primary = 0.57 cfs @ 12.12 hrs, Volume= 0.803 af
Secondary = 12.71 cfs @ 12.13 hrs, Volume= 1.033 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 667.03' @ 12.13 hrs Surf.Area= 8,043 sf Storage= 17,478 cf

Plug-Flow detention time= 143.5 min calculated for 1.836 af (100% of inflow)
Center-of-Mass det. time= 143.1 min (930.2 - 787.0)

Volume	Invert	Avail.Storage	Storage Description
#1	664.00'	26,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

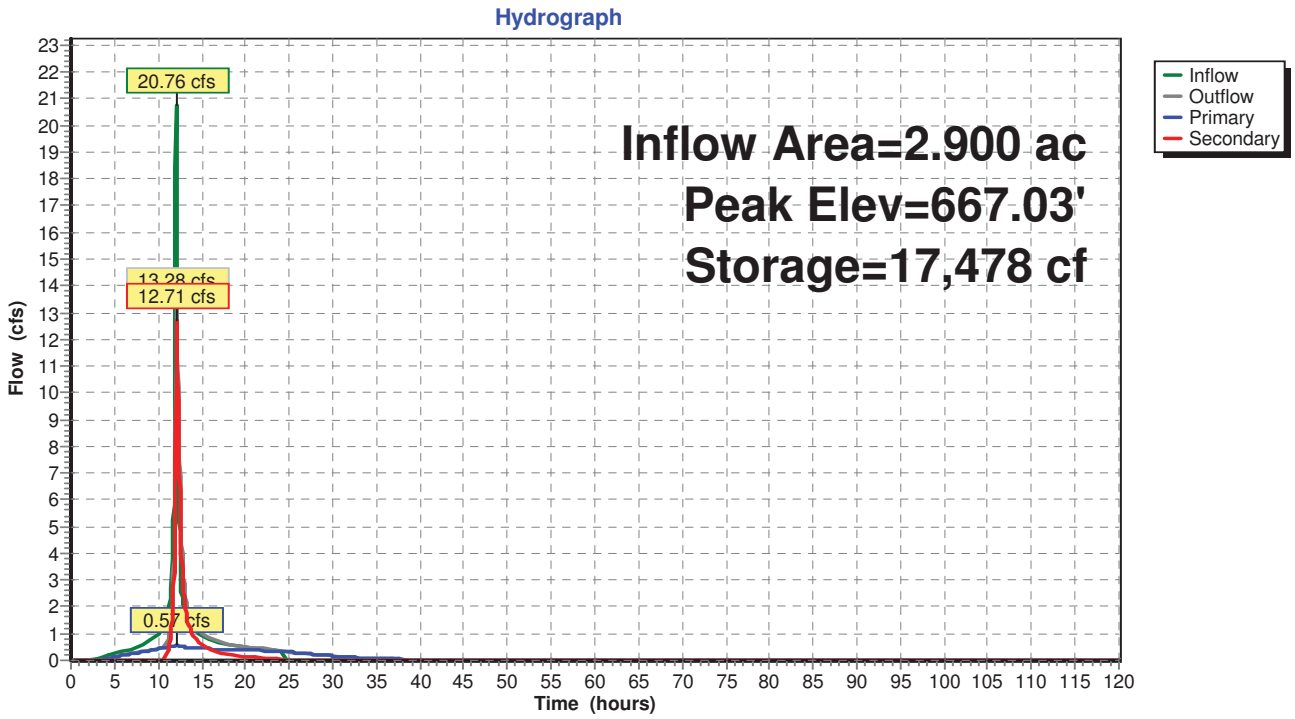
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
664.00	3,500	0	0
666.00	6,500	10,000	10,000
668.00	9,500	16,000	26,000

Device	Routing	Invert	Outlet Devices
#1	Primary	664.00'	**4.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 664.00' / 662.00' S= 0.0500 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	665.70'	**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=0.57 cfs @ 12.12 hrs HW=667.02' TW=662.96' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.57 cfs @ 6.54 fps)

Secondary OutFlow Max=12.60 cfs @ 12.13 hrs HW=667.02' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 12.60 cfs @ 3.82 fps)

Pond 1.3PT: Pretreatment Basin



Summary for Pond 2.1P: Infiltration Basin

Inflow Area = 3.400 ac, 14.71% Impervious, Inflow Depth > 2.53" for 100-yr event
Inflow = 0.42 cfs @ 12.14 hrs, Volume= 0.717 af
Outflow = 0.23 cfs @ 28.52 hrs, Volume= 0.717 af, Atten= 46%, Lag= 982.6 min
Discarded = 0.23 cfs @ 28.52 hrs, Volume= 0.717 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 665.95' @ 28.52 hrs Surf.Area= 9,810 sf Storage= 7,529 cf

Plug-Flow detention time= 382.9 min calculated for 0.717 af (100% of inflow)
Center-of-Mass det. time= 382.9 min (1,713.0 - 1,330.1)

Volume	Invert	Avail.Storage	Storage Description
#1	665.00'	34,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

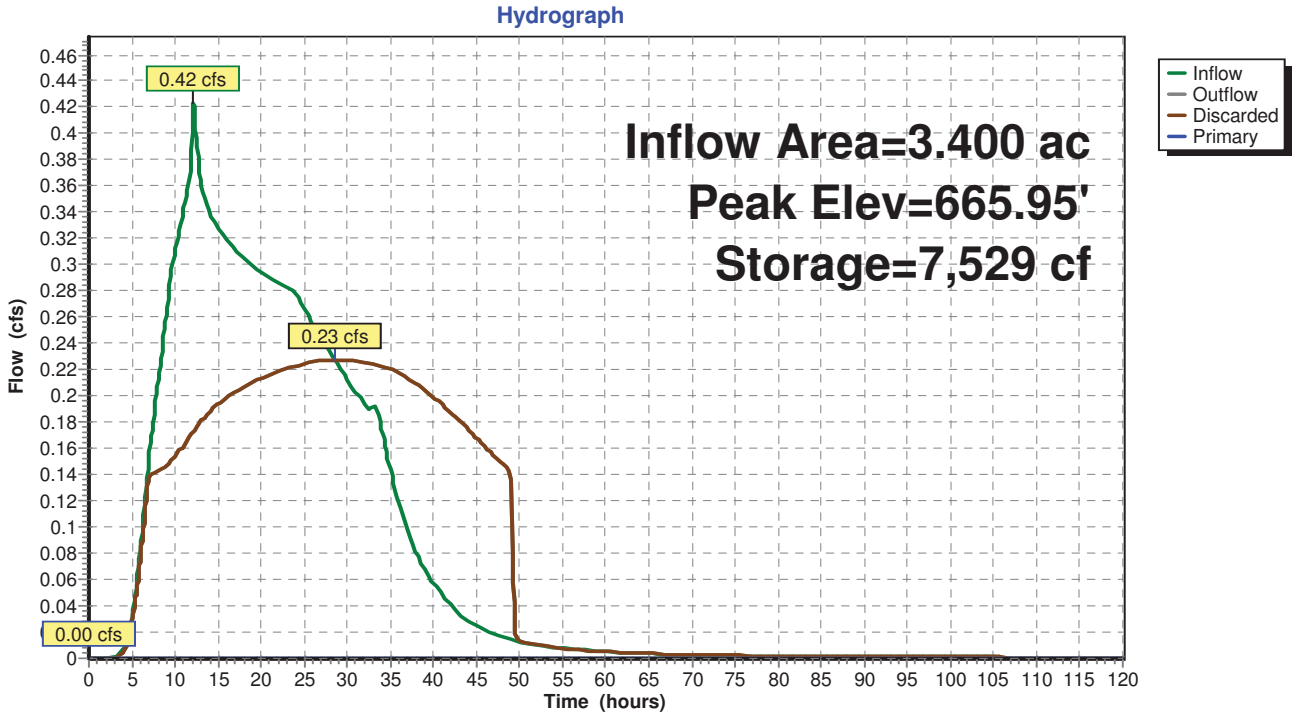
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
665.00	6,000	0	0
666.00	10,000	8,000	8,000
668.00	16,000	26,000	34,000

Device	Routing	Invert	Outlet Devices
#1	Discarded	665.00'	**1.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	667.00'	**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

Discarded OutFlow Max=0.23 cfs @ 28.52 hrs HW=665.95' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=665.00' TW=0.00' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2.1P: Infiltration Basin



Summary for Pond 2.1PT: Pretreatment Basin

Inflow Area = 3.400 ac, 14.71% Impervious, Inflow Depth = 7.47" for 100-yr event
Inflow = 24.09 cfs @ 12.04 hrs, Volume= 2.118 af
Outflow = 14.16 cfs @ 12.15 hrs, Volume= 2.115 af, Atten= 41%, Lag= 6.6 min
Primary = 0.42 cfs @ 12.14 hrs, Volume= 0.717 af
Secondary = 13.74 cfs @ 12.15 hrs, Volume= 1.397 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Peak Elev= 668.02' @ 12.15 hrs Surf.Area= 14,034 sf Storage= 24,819 cf

Plug-Flow detention time= 210.6 min calculated for 2.115 af (100% of inflow)
Center-of-Mass det. time= 209.6 min (1,000.2 - 790.6)

Volume	Invert	Avail.Storage	Storage Description
#1	666.00'	39,250 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

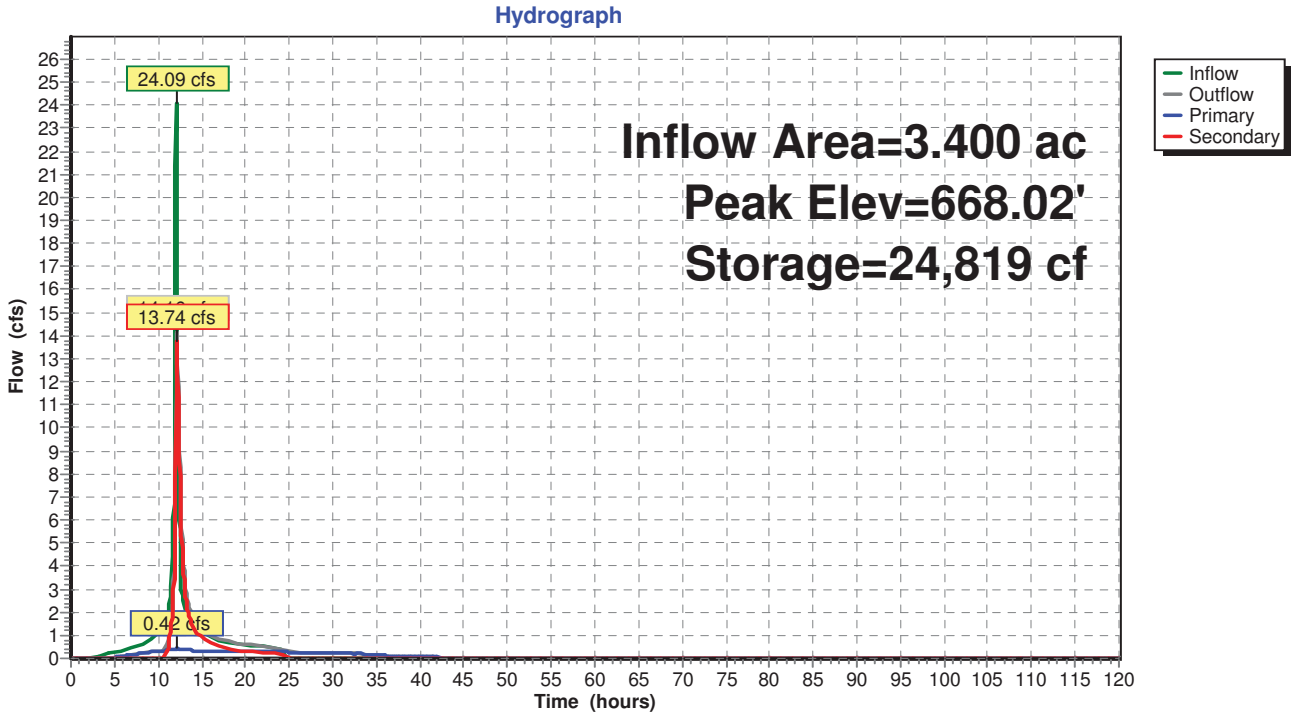
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
666.00	10,500	0	0
668.00	14,000	24,500	24,500
669.00	15,500	14,750	39,250

Device	Routing	Invert	Outlet Devices
#1	Primary	666.00'	**4.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 666.00' / 665.00' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf
#2	Secondary	667.00'	**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=0.42 cfs @ 12.14 hrs HW=668.02' TW=665.37' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.42 cfs @ 4.84 fps)

Secondary OutFlow Max=13.73 cfs @ 12.15 hrs HW=668.02' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 13.73 cfs @ 3.36 fps)

Pond 2.1PT: Pretreatment Basin



Summary for Pond 2.2P: P-1 Pond

Inflow Area = 3.000 ac, 0.00% Impervious, Inflow Depth = 7.72" for 100-yr event
Inflow = 15.16 cfs @ 12.18 hrs, Volume= 1.930 af
Outflow = 8.22 cfs @ 12.44 hrs, Volume= 1.930 af, Atten= 46%, Lag= 15.7 min
Primary = 8.22 cfs @ 12.44 hrs, Volume= 1.930 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 653.00' Surf.Area= 2,800 sf Storage= 7,200 cf
Peak Elev= 656.60' @ 12.44 hrs Surf.Area= 11,902 sf Storage= 34,881 cf (27,681 cf above start)

Plug-Flow detention time= 369.1 min calculated for 1.764 af (91% of inflow)
Center-of-Mass det. time= 279.0 min (1,072.3 - 793.3)

Volume	Invert	Avail.Storage	Storage Description
#1	649.00'	2,300 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	649.00'	49,300 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		51,600 cf	Total Available Storage

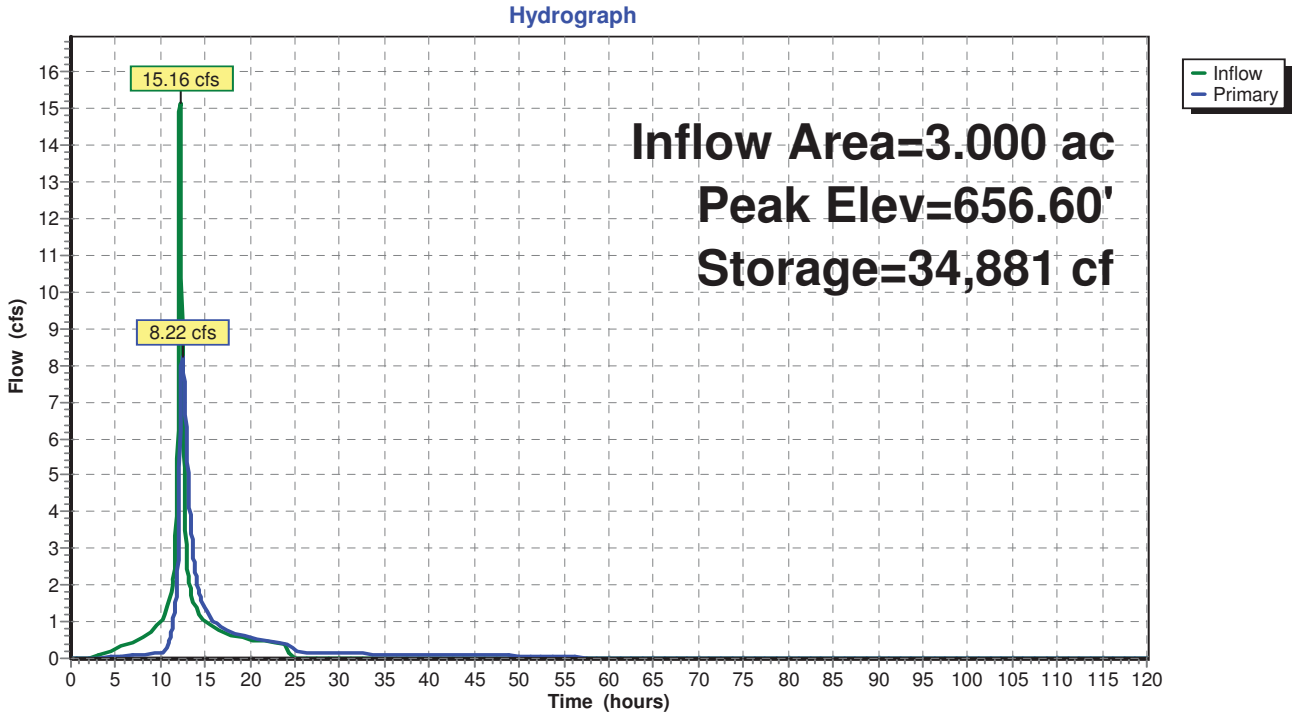
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
649.00	300	0	0
651.00	500	800	800
653.00	1,000	1,500	2,300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
649.00	700	0	0
651.00	1,200	1,900	1,900
653.00	1,800	3,000	4,900
654.00	7,000	4,400	9,300
656.00	10,000	17,000	26,300
658.00	13,000	23,000	49,300

Device	Routing	Invert	Outlet Devices
#1	Primary	653.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	654.80'	**1.0' 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=8.21 cfs @ 12.44 hrs HW=656.60' TW=0.00' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.20 cfs @ 9.03 fps)
└—**2=Broad-Crested Rectangular Weir** (Weir Controls 8.02 cfs @ 4.45 fps)

Pond 2.2P: P-1 Pond



Summary for Pond 2.3P: P-1 Pond

Inflow Area = 1.800 ac, 0.00% Impervious, Inflow Depth = 8.08" for 100-yr event
Inflow = 13.33 cfs @ 12.04 hrs, Volume= 1.213 af
Outflow = 9.89 cfs @ 12.11 hrs, Volume= 1.213 af, Atten= 26%, Lag= 4.3 min
Primary = 9.89 cfs @ 12.11 hrs, Volume= 1.213 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.05 hrs
Starting Elev= 646.00' Surf.Area= 1,300 sf Storage= 2,700 cf
Peak Elev= 649.02' @ 12.11 hrs Surf.Area= 7,526 sf Storage= 16,126 cf (13,426 cf above start)

Plug-Flow detention time= 388.1 min calculated for 1.151 af (95% of inflow)
Center-of-Mass det. time= 325.1 min (1,096.3 - 771.2)

Volume	Invert	Avail.Storage	Storage Description
#1	642.00'	1,400 cf	**Forebay (Prismatic)** Listed below (Recalc)
#2	642.00'	22,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		23,500 cf	Total Available Storage

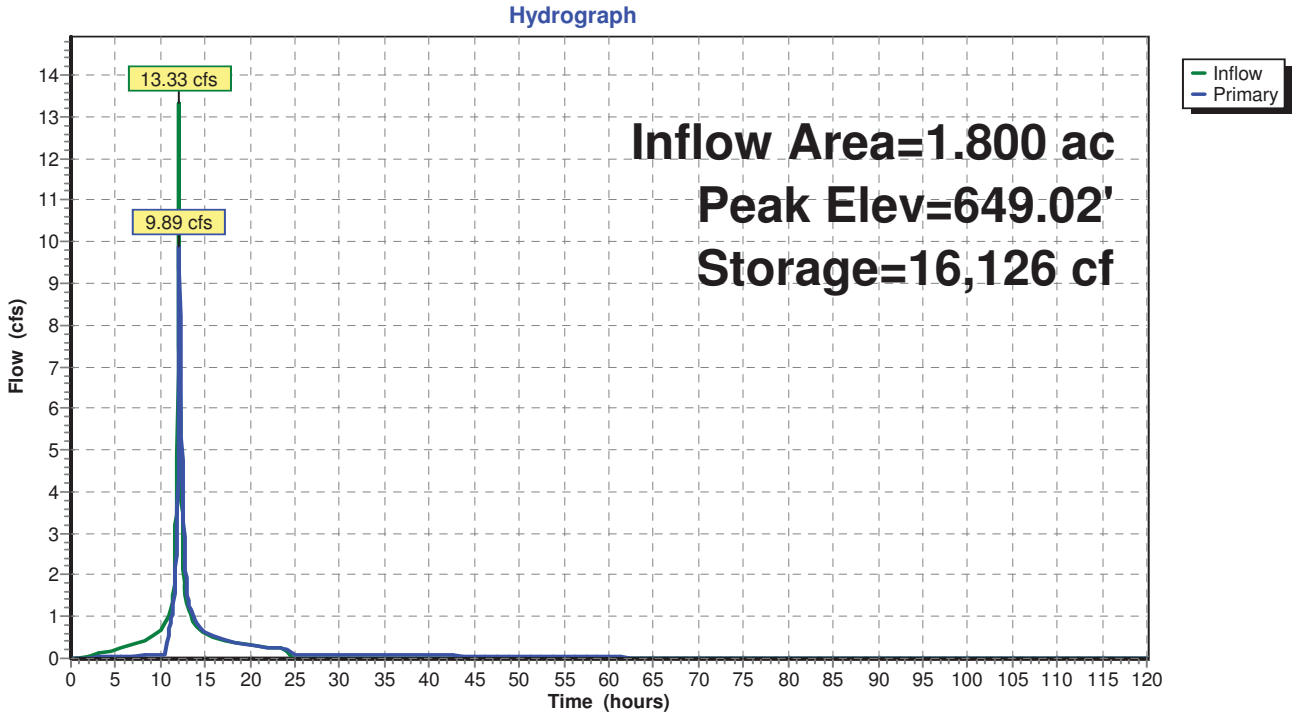
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
642.00	100	0	0
644.00	300	400	400
646.00	700	1,000	1,400

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
642.00	100	0	0
644.00	300	400	400
646.00	600	900	1,300
647.00	4,200	2,400	3,700
648.00	5,400	4,800	8,500
650.00	8,200	13,600	22,100

Device	Routing	Invert	Outlet Devices
#1	Primary	646.00'	**1.5" Vert. Orifice/Grate** C= 0.600
#2	Primary	648.20'	**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=9.75 cfs @ 12.11 hrs HW=649.01' TW=0.00' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.10 cfs @ 8.27 fps)
└—**2=Broad-Crested Rectangular Weir** (Weir Controls 9.64 cfs @ 2.97 fps)

Pond 2.3P: P-1 Pond



APPENDIX D

NYSDEC SPDES for Construction Activities Construction Site Log Book

APPENDIX F
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. **Preamble to Site Assessment and Inspections**

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

_____ _____

Inspector (print name) **Date of Inspection**

_____ _____

Qualified Inspector (print name) **Qualified Inspector Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA
[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA
[ ] [ ] [ ] Is construction site litter, debris and spoils appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA
[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

Yes No NA
[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA
[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Manufactured insert fabric is free of tears and punctures.
[ ] [ ] [ ] Filter Sock is not torn or flattened and fill material is contained within the mesh sock.

Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
[ ] [ ] [ ] Sediment trap slopes and disturbed areas are stabilized.

Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
[ ] [ ] [ ] Sediment basin dewatering pool is dewatering at appropriate rate.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

APPENDIX E

Project and Owner Information

Site Data:

24 Miller Road
Mahopac, New York 10541
Tax Map No.: 86.11-1-14 & 86.8-2-85
Area: 95.1 acres ±

Owner/Operator Information:

East Point Energy, LLC
24 Miller Road
Mahopac, New York 10541
434-465-6211
sconnuck@eastpointenergy.com

Parties Responsible for Implementation of the Short and Long Term Maintenance Plan:

East Point Energy, LLC
24 Miller Road
Mahopac, New York 10541
434-465-6211
sconnuck@eastpointenergy.com

and or the current owner(s) of the subject property.

Qualified Professional Responsible for Inspection of the Stormwater Pollution Prevention Plan:

Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512
845-225-9690

APPENDIX F

NYSDEC Stormwater Management Practice Construction and Maintenance Checklists

Open Channel System Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Pre-construction meeting		
Runoff diverted		
Facility location staked out		
2. Excavation		
Size and location		
Side slope stable		
Soil permeability		
Groundwater / bedrock		
Lateral slopes completely level		
Longitudinal slopes within design range		
Excavation does not compact subsoils		
3. Check dams		
Dimensions		
Spacing		
Materials		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
4. Structural Components		
Underdrain installed correctly		
Inflow installed correctly		
Pretreatment devices installed		
5. Vegetation		
Complies with planting specifications		
Topsoil adequate in composition and placement		
Adequate erosion control measures in place		
6. Final inspection		
Dimensions		
Check dams		
Proper outlet		
Effective stand of vegetation and stabilization		
Contributing watershed stabilized before flow is routed to the factility		

Comments:

Actions to be Taken:

Infiltration Basin Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Runoff diverted		
Soil permeability tested		
Groundwater / bedrock depth		
2. Excavation		
Size and location		
Side slopes stable		
Excavation does not compact subsoils		
3. Embankment		
Barrel		
Anti-seep collar or Filter diaphragm		
Fill material		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Final Excavation		
Drainage area stabilized		
Sediment removed from facility		
Basin floor tilled		
Facility stabilized		
5. Final Inspection		
Pretreatment facility in place		
Inlets / outlets		
Contributing watershed stabilized before flow is routed to the factility		

Comments:

Actions to be Taken:

Stormwater/Wetland Pond Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
Pre-Construction/Materials and Equipment		
Pre-construction meeting		
Pipe and appurtenances on-site prior to construction and dimensions checked		
1. Material (including protective coating, if specified)		
2. Diameter		
3. Dimensions of metal riser or pre-cast concrete outlet structure		
4. Required dimensions between water control structures (orifices, weirs, etc.) are in accordance with approved plans		
5. Barrel stub for prefabricated pipe structures at proper angle for design barrel slope		
6. Number and dimensions of prefabricated anti-seep collars		
7. Watertight connectors and gaskets		
8. Outlet drain valve		
Project benchmark near pond site		
Equipment for temporary de-watering		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
2. Subgrade Preparation		
Area beneath embankment stripped of all vegetation, topsoil, and organic matter		
3. Pipe Spillway Installation		
Method of installation detailed on plans		
A. Bed preparation		
Installation trench excavated with specified side slopes		
Stable, uniform, dry subgrade of relatively impervious material (If subgrade is wet, contractor shall have defined steps before proceeding with installation)		
Invert at proper elevation and grade		
B. Pipe placement		
Metal / plastic pipe		
1. Watertight connectors and gaskets properly installed		
2. Anti-seep collars properly spaced and having watertight connections to pipe		
3. Backfill placed and tamped by hand under “haunches” of pipe		
4. Remaining backfill placed in max. 8 inch lifts using small power tamping equipment until 2 feet cover over pipe is reached		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
3. Pipe Spillway Installation		
Concrete pipe		
1. Pipe set on blocks or concrete slab for pouring of low cradle		
2. Pipe installed with rubber gasket joints with no spalling in gasket interface area		
3. Excavation for lower half of anti-seep collar(s) with reinforcing steel set		
4. Entire area where anti-seep collar(s) will come in contact with pipe coated with mastic or other approved waterproof sealant		
5. Low cradle and bottom half of anti-seep collar installed as monolithic pour and of an approved mix		
6. Upper half of anti-seep collar(s) formed with reinforcing steel set		
7. Concrete for collar of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
8. Forms stripped and collar inspected for honeycomb prior to backfilling. Parge if necessary.		
C. Backfilling		
Fill placed in maximum 8 inch lifts		
Backfill taken minimum 2 feet above top of anti-seep collar elevation before traversing with heavy equipment		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Riser / Outlet Structure Installation		
Riser located within embankment		
A. Metal riser		
Riser base excavated or formed on stable subgrade to design dimensions		
Set on blocks to design elevations and plumbed		
Reinforcing bars placed at right angles and projecting into sides of riser		
Concrete poured so as to fill inside of riser to invert of barrel		
B. Pre-cast concrete structure		
Dry and stable subgrade		
Riser base set to design elevation		
If more than one section, no spalling in gasket interface area; gasket or approved caulking material placed securely		
Watertight and structurally sound collar or gasket joint where structure connects to pipe spillway		
C. Poured concrete structure		
Footing excavated or formed on stable subgrade, to design dimensions with reinforcing steel set		
Structure formed to design dimensions, with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
Forms stripped & inspected for “honeycomb” prior to backfilling; parge if necessary		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
5. Embankment Construction		
Fill material		
Compaction		
Embankment		
1. Fill placed in specified lifts and compacted with appropriate equipment		
2. Constructed to design cross-section, side slopes and top width		
3. Constructed to design elevation plus allowance for settlement		
6. Impounded Area Construction		
Excavated / graded to design contours and side slopes		
Inlet pipes have adequate outfall protection		
Forebay(s)		
Pond benches		
7. Earth Emergency Spillway Construction		
Spillway located in cut or structurally stabilized with riprap, gabions, concrete, etc.		
Excavated to proper cross-section, side slopes and bottom width		
Entrance channel, crest, and exit channel constructed to design grades and elevations		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
8. Outlet Protection		
A. End section		
Securely in place and properly backfilled		
B. Endwall		
Footing excavated or formed on stable subgrade, to design dimensions and reinforcing steel set, if specified		
Endwall formed to design dimensions with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing, if necessary)		
Forms stripped and structure inspected for "honeycomb" prior to backfilling; parge if necessary		
C. Riprap apron / channel		
Apron / channel excavated to design cross-section with proper transition to existing ground		
Filter fabric in place		
Stone sized as per plan and uniformly place at the thickness specified		
9. Vegetative Stabilization		
Approved seed mixture or sod		
Proper surface preparation and required soil amendments		
Excelsior mat or other stabilization, as per plan		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
10. Miscellaneous		
Drain for ponds having a permanent pool		
Trash rack / anti-vortex device secured to outlet structure		
Trash protection for low flow pipes, orifices, etc.		
Fencing (when required)		
Access road		
Set aside for clean-out maintenance		
11. Stormwater Wetlands		
Adequate water balance		
Variety of depth zones present		
Approved pondscaping plan in place Reinforcement budget for additional plantings		
Plants and materials ordered 6 months prior to construction		
Construction planned to allow for adequate planting and establishment of plant community (April-June planting window)		
Wetland buffer area preserved to maximum extent possible		

Comments:

Actions to be Taken:

Open Channel Operation, Maintenance, and Management Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Contributing areas clean of debris		
2. Check Dams or Energy Dissipators (Annual, After Major Storms)		
No evidence of flow going around structures		
No evidence of erosion at downstream toe		
Soil permeability		
Groundwater / bedrock		
3. Vegetation (Monthly)		
Mowing done when needed		
Minimum mowing depth not exceeded		
No evidence of erosion		
Fertilized per specification		
4. Dewatering (Monthly)		
Dewaters between storms		

MAINTENANCE ITEM	SATISFACTORY/ UNSATISFACTORY	COMMENTS
5. Sediment deposition (Annual)		
Clean of sediment		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repairs		
No evidence of erosion		

Comments:

Actions to be Taken:

Stormwater Pond/Wetland Operation, Maintenance and Management Inspection Checklist

Project _____
Location: _____
Site Status: _____

Date: _____
Time: _____

Inspector: _____

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
1. Embankment and emergency spillway (Annual, After Major Storms)		
1. Vegetation and ground cover adequate		
2. Embankment erosion		
3. Animal burrows		
4. Unauthorized planting		
5. Cracking, bulging, or sliding of dam		
a. Upstream face		
b. Downstream face		
c. At or beyond toe		
downstream		
upstream		
d. Emergency spillway		
6.Pond, toe & chimney drains clear and functioning		
7.Seeps/leaks on downstream face		
8.Slope protection or riprap failure		
9. Vertical/horizontal alignment of top of dam “As-Built”		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
10. Emergency spillway clear of obstructions and debris		
11. Other (specify)		
2. Riser and principal spillway (Annual)		
Type: Reinforced concrete _____ Corrugated pipe _____ Masonry _____ 1. Low flow orifice obstructed		
2. Low flow trash rack. a. Debris removal necessary		
b. Corrosion control		
3. Weir trash rack maintenance a. Debris removal necessary		
b. corrosion control		
4. Excessive sediment accumulation insider riser		
5. Concrete/masonry condition riser and barrels a. cracks or displacement		
b. Minor spalling (<1")		
c. Major spalling (rebars exposed)		
d. Joint failures		
e. Water tightness		
6. Metal pipe condition		
7. Control valve a. Operational/exercised		
b. Chained and locked		
8. Pond drain valve a. Operational/exercised		
b. Chained and locked		
9. Outfall channels functioning		
10. Other (specify)		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
3. Permanent Pool (Wet Ponds) (monthly)		
1. Undesirable vegetative growth		
2. Floating or floatable debris removal required		
3. Visible pollution		
4. Shoreline problem		
5. Other (specify)		
4. Sediment Forebays		
1.Sedimentation noted		
2. Sediment cleanout when depth < 50% design depth		
5. Dry Pond Areas		
1. Vegetation adequate		
2. Undesirable vegetative growth		
3. Undesirable woody vegetation		
4. Low flow channels clear of obstructions		
5. Standing water or wet spots		
6. Sediment and / or trash accumulation		
7. Other (specify)		
6. Condition of Outfalls (Annual , After Major Storms)		
1. Riprap failures		
2. Slope erosion		
3. Storm drain pipes		
4.Endwalls / Headwalls		
5. Other (specify)		
7. Other (Monthly)		
1. Encroachment on pond, wetland or easement area		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
2. Complaints from residents		
3.Aesthetics a. Grass growing required		
b. Graffiti removal needed		
c. Other (specify)		
4. Conditions of maintenance access routes.		
5. Signs of hydrocarbon build-up		
6. Any public hazards (specify)		
8. Wetland Vegetation (Annual)		
1. Vegetation healthy and growing Wetland maintaining 50% surface area coverage of wetland plants after the second growing season. (If unsatisfactory, reinforcement plantings needed)		
2. Dominant wetland plants: Survival of desired wetland plant species Distribution according to landscaping plan?		
3. Evidence of invasive species		
4. Maintenance of adequate water depths for desired wetland plant species		
5. Harvesting of emergent plantings needed		
6. Have sediment accumulations reduced pool volume significantly or are plants “choked” with sediment		
7. Eutrophication level of the wetland.		
8. Other (specify)		

Comments:

Actions to be Taken:

APPENDIX G

Draft NYSDEC Notice of Intent and MS4 SWPPP Acceptance Form

0644089821

DRAFT

NOTICE OF INTENT

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

NYR _____ (for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-

RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
East Point Energy, LLC

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

Owner/Operator Contact Person First Name
Scott

Owner/Operator Mailing Address
310 4th Street NE, 3rd Floor

City
Charlottesville

State: VA
Zip: 22902-

Phone (Owner/Operator): 434-465-6211
Fax (Owner/Operator): ---

Email (Owner/Operator)
sconnuck@eastpointenergy.com

FED TAX ID
- (not required for individuals)

Project Site Information

Project/Site Name
Union Energy Center

Street Address (NOT P.O. BOX)
24 Miller Road

Side of Street
○ **North** ○ **South** ☑ **East** ○ **West**

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

State: NY
Zip: 10512-
County: Putnam
DEC Region: 3

Name of Nearest Cross Street
Tomahawk Street

Distance to Nearest Cross Street (Feet)
580

Project In Relation to Cross Street
☑ **North** ○ **South** ○ **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel
86.11-1-14

Tax Map Numbers
86.8-2-85

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting): 604699

Y Coordinates (Northing): 4578144

2. What is the nature of this construction project?

☑ **New Construction**

○ **Redevelopment with increase in impervious area**

○ **Redevelopment with no increase in impervious area**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use	Post-Development Future Land Use
✔ FOREST	○ SINGLE FAMILY HOME
○ PASTURE/OPEN LAND	○ SINGLE FAMILY SUBDIVISION
○ CULTIVATED LAND	○ TOWN HOME RESIDENTIAL
○ SINGLE FAMILY HOME	○ MULTIFAMILY RESIDENTIAL
○ SINGLE FAMILY SUBDIVISION	○ INSTITUTIONAL/SCHOOL
○ TOWN HOME RESIDENTIAL	○ INDUSTRIAL
○ MULTIFAMILY RESIDENTIAL	✔ COMMERCIAL
○ INSTITUTIONAL/SCHOOL	○ MUNICIPAL
○ INDUSTRIAL	○ ROAD/HIGHWAY
○ COMMERCIAL	○ RECREATIONAL/SPORTS FIELD
○ ROAD/HIGHWAY	○ BIKE PATH/TRAIL
○ RECREATIONAL/SPORTS FIELD	○ LINEAR UTILITY (water, sewer, gas, etc.)
○ BIKE PATH/TRAIL	○ PARKING LOT
○ LINEAR UTILITY	○ CLEARING/GRADING ONLY
○ PARKING LOT	○ DEMOLITION, NO REDEVELOPMENT
○ OTHER	○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
	○ OTHER

Number of Lots

***Note:** for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
95.1	18.7	0.0	9.2

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

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

A	B	C	D
0 %	0 %	30 %	70 %

7. Is this a phased project? **✔ Yes** **○ No**

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

Start Date	End Date
06/01/2024	09/01/2025

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

Name

NYSDEC Wetland F-26

9a. Type of waterbody identified in Question 9?

- [x] Wetland / State Jurisdiction On Site (Answer 9b)
- [ ] Wetland / State Jurisdiction Off Site
- [ ] Wetland / Federal Jurisdiction On Site (Answer 9b)
- [ ] Wetland / Federal Jurisdiction Off Site
- [ ] Stream / Creek On Site
- [ ] Stream / Creek Off Site
- [ ] River On Site
- [ ] River Off Site
- [ ] Lake On Site
- [ ] Lake Off Site
- [ ] Other Type On Site
- [ ] Other Type Off Site

9b. How was the wetland identified?

- [ ] Regulatory Map
- [x] Delineated by Consultant
- [ ] Delineated by Army Corps of Engineers
- [ ] Other (identify)

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

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

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ☑ **Yes** ○ **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ **Yes** ☑ **No**
If Yes, what is the acreage to be disturbed?

0.2

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

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ○ **Yes** ◉ **No** ○ **Unknown**

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

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ **Yes** ◉ **No** ○ **Unknown**

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

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

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

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ◉ **Yes** ○ **No**

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ● **Yes** ○ **No**
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ● **Yes** ○ **No**

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- [x] **Professional Engineer (P.E.)**
- [ ] **Soil and Water Conservation District (SWCD)**
- [ ] **Registered Landscape Architect (R.L.A)**
- [ ] **Certified Professional in Erosion and Sediment Control (CPESC)**
- [ ] **Owner/Operator**
- [ ] **Other**

SWPPP Preparer
Insite Engineering

Contact Name (Last, Space, First)
Williams, Jr., Richard D.

Mailing Address
3 Garrett Place

City
Carmel

State Zip
NY 10512-

Phone
845-225-9690

Fax
845-225-9717

Email
rwilliams@insite-eng.com

SWPPP Preparer Certification

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

First Name
Richard

MI
D

Last Name
Williams, Jr., PE

Signature

Date
/ /

25. Has a construction sequence schedule for the planned management practices been prepared? ☑ Yes ○ No

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

Temporary Structural

- ✔ Check Dams
- Construction Road Stabilization
- ✔ Dust Control
- Earth Dike
- ✔ Level Spreader
- Perimeter Dike/Swale
- Pipe Slope Drain
- Portable Sediment Tank
- Rock Dam
- Sediment Basin
- ✔ Sediment Traps
- ✔ Silt Fence
- ✔ Stabilized Construction Entrance
- ✔ Storm Drain Inlet Protection
- Straw/Hay Bale Dike
- Temporary Access Waterway Crossing
- Temporary Stormdrain Diversion
- Temporary Swale
- Turbidity Curtain
- Water bars

Biotechnical

- Brush Matting
- Wattling

Vegetative Measures

- Brush Matting
- Dune Stabilization
- ✔ Grassed Waterway
- ✔ Mulching
- Protecting Vegetation
- Recreation Area Improvement
- ✔ Seeding
- Sodding
- Straw/Hay Bale Dike
- Streambank Protection
- Temporary Swale
- ✔ Topsoiling
- Vegetating Waterways

Permanent Structural

- Debris Basin
- Diversion
- Grade Stabilization Structure
- ✔ Land Grading
- Lined Waterway (Rock)
- Paved Channel (Concrete)
- Paved Flume
- Retaining Wall
- Riprap Slope Protection
- ✔ Rock Outlet Protection
- Streambank Protection

Other

Post-construction Stormwater Management Practice (SMP) Requirements

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

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- [ ] **Preservation of Undisturbed Areas**
- [ ] **Preservation of Buffers**
- [ ] **Reduction of Clearing and Grading**
- [ ] **Locating Development in Less Sensitive Areas**
- [ ] **Roadway Reduction**
- [ ] **Sidewalk Reduction**
- [x] **Driveway Reduction**
- [ ] **Cul-de-sac Reduction**
- [ ] **Building Footprint Reduction**
- [ ] **Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- (✓) All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

- ( ) Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

2.057 **acre-feet**

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area(acres)
RR Techniques (Area Reduction)			
Conservation of Natural Areas (RR-1)		and/or	
Sheetflow to Riparian Buffers/Filters Strips (RR-2)		and/or	
Tree Planting/Tree Pit (RR-3)		and/or	
Disconnection of Rooftop Runoff (RR-4)		and/or	
RR Techniques (Volume Reduction)			
Vegetated Swale (RR-5)			
Rain Garden (RR-6)			
Stormwater Planter (RR-7)			
Rain Barrel/Cistern (RR-8)			
Porous Pavement (RR-9)			
Green Roof (RR-10)			
Standard SMPs with RRv Capacity			
Infiltration Trench (I-1)			
✔ Infiltration Basin (I-2)			5.4
Dry Well (I-3)			
Underground Infiltration System (I-4)			
Bioretention (F-5)			
Dry Swale (O-1)			
Standard SMPs			
✔ Micropool Extended Detention (P-1)			3.8
Wet Pond (P-2)			
Wet Extended Detention (P-3)			
Multiple Pond System (P-4)			
Pocket Pond (P-5)			
Surface Sand Filter (F-1)			
Underground Sand Filter (F-2)			
Perimeter Sand Filter (F-3)			
Organic Filter (F-4)			
Shallow Wetland (W-1)			
Extended Detention Wetland (W-2)			
Pond/Wetland System (W-3)			
Pocket Wetland (W-4)			
Wet Swale (O-2)			

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area(acres)
○ **Hydrodynamic**	
○ **Wet Vault**	
○ **Media Filter**	
○ **Other**	

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

Name

Manufacturer

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

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

1.114 **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

○ **Yes** ✓ **No**

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

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

0.532 **acre-feet**

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

✓ **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

0.943 **acre-feet**

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

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).

2.057

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ☑ **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

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

CPv Required

2.057 **acre-feet**

CPv Provided

2.057 **acre-feet**

36a. The need to provide channel protection has been waived because:

○ Site discharges directly to tidal waters or a fifth order or larger stream.

○ Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

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

Total Overbank Flood Control Criteria (Qp)

Pre-Development

76.75 **CFS**

Post-development

74.00 **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

177.10 **CFS**

Post-development

169.41 **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ○ Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ● **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

East Point Energy, LLC

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- [ ] Air Pollution Control
- [ ] Coastal Erosion
- [ ] Hazardous Waste
- [ ] Long Island Wells
- [ ] Mined Land Reclamation
- [ ] Solid Waste
- [ ] Navigable Waters Protection / Article 15
- [ ] Water Quality Certificate
- [ ] Dam Safety
- [ ] Water Supply
- [x] Freshwater Wetlands/Article 24
- [ ] Tidal Wetlands
- [ ] Wild, Scenic and Recreational Rivers
- [ ] Stream Bed or Bank Protection / Article 15
- [ ] Endangered or Threatened Species(Incidental Take Permit)
- [ ] Individual SPDES
- [ ] SPDES Multi-Sector GP NYR
- [ ] Other
- [ ] None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ◉ **Yes** ○ **No**
If Yes, Indicate Size of Impact. .

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ◉ **Yes** ○ **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ◉ **Yes** ○ **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. NYR

Owner/Operator Certification

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

Print First Name: Scott

MI:

Print Last Name: Connuck

Owner/Operator Signature:

Date: / /

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

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

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

I. Project Owner/Operator Information
1. Owner/Operator Name: East Point Energy, LLC
2. Contact Person: Scott Connuck
3. Street Address: 310 4th Street NE, 3rd Floor
4. City/State/Zip: Charlottesville, VA 22902
II. Project Site Information
5. Project/Site Name: Union Energy Center
6. Street Address: 24 Miller Road
7. City/State/Zip: Mahopac, NY 10541
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4:
12. MS4 SPDES Permit Identification Number: NYR20A _____
13. Contact Person:
14. Street Address:
15. City/State/Zip:
16. Telephone Number:

MS4 SWPPP Acceptance Form - continued

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

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

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

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

APPENDIX H

Draft Stormwater Maintenance and Access Agreement

Town of Carmel
Stormwater Facility Maintenance Agreement

Whereas, the Town of Carmel, County of Putnam, State of New York ("Municipality") and East Point Energy, LLC ("facility owner") want to enter into an agreement to provide for the long term maintenance and continuation of stormwater control measures approved by the Municipality for the below named project, and

Whereas, the Municipality and the facility owner desire that the stormwater control measures be built in accordance with the approved project plans and thereafter be maintained, cleaned, repaired, replaced and continued in perpetuity in order to ensure optimum performance of the components.

Therefore, the Municipality and the facility owner agree as follows:

1. This agreement inures to the benefit of the Municipality and binds the facility owner, its successors and assigns, to the maintenance provisions depicted in the approved project plans which are attached as Schedule A of this agreement.
2. The facility owner shall maintain, clean, repair, replace and continue the stormwater control measures depicted in Schedule A as necessary to ensure optimum performance of the measures to design specifications. The stormwater control measures shall include, but shall not be limited to, the following: swales, drainage structures, pipes, culverts, and stormwater management practices including pretreatment basins, infiltration basins and ponds.
3. The facility owner shall be responsible for all expenses related to the maintenance of the stormwater control measures and shall establish a means for the collection and distribution of expenses among parties for any commonly owned facilities.
4. The facility owner shall provide for the periodic inspection of the stormwater control measures, not less than once in every five-year period, to determine the condition and integrity of the measures. Such inspection shall be performed by a professional engineer licensed by the State of New York. The inspecting engineer shall prepare and submit to the Municipality, within 30 days of the inspection, a written report of the findings, including recommendations for those actions necessary for the continuation of the stormwater control measures.
5. The facility owner shall not authorize, undertake or permit alteration, abandonment, modification or discontinuation of the stormwater control measures except in accordance with written approval of the Municipality.

6. The facility owner shall undertake necessary repairs and replacement of the stormwater control measures at the direction of the Municipality or in accordance with the recommendations of the inspecting engineer.
7. The facility owner shall provide to the Municipality, within 30 days of the date of this agreement, a security for the maintenance and continuation of the stormwater control measures in the form of a bond, letter of credit or escrow account in the amount not to exceed $_____ (***if applicable***).
8. This agreement shall be recorded in the Office of the County Clerk, County of Putnam together with the deed for the subject premises.
9. In the event that the Municipality determines that the facility owner has failed to construct or maintain the stormwater control measures in accordance with the project plan or has failed to undertake corrective action specified by the Municipality or by the inspecting engineer, the Municipality is authorized to undertake such steps as reasonably necessary for the preservation, continuation or maintenance of the stormwater control measures and to affix the expenses thereof as a lien against the property.
10. Nothing within this agreement shall be construed to impose any affirmative obligation or covenant of performance on the Municipality.
11. This agreement is effective _____.

Facility Owner: _____.

Owner's Representative: _____.

Representative Signature: _____.

ACKNOWLEDGEMENTS

STATE OF NEW YORK)
) ss.:
TOWN OF _____)

On this ____ day of _____, 20___, before me personally came _____ to me known and known to me to be the person described in and who executed the foregoing instrument and he acknowledged to me that he executed the same.

_____
Notary Public

Town of Carmel: _____.

Representative Signature: _____.

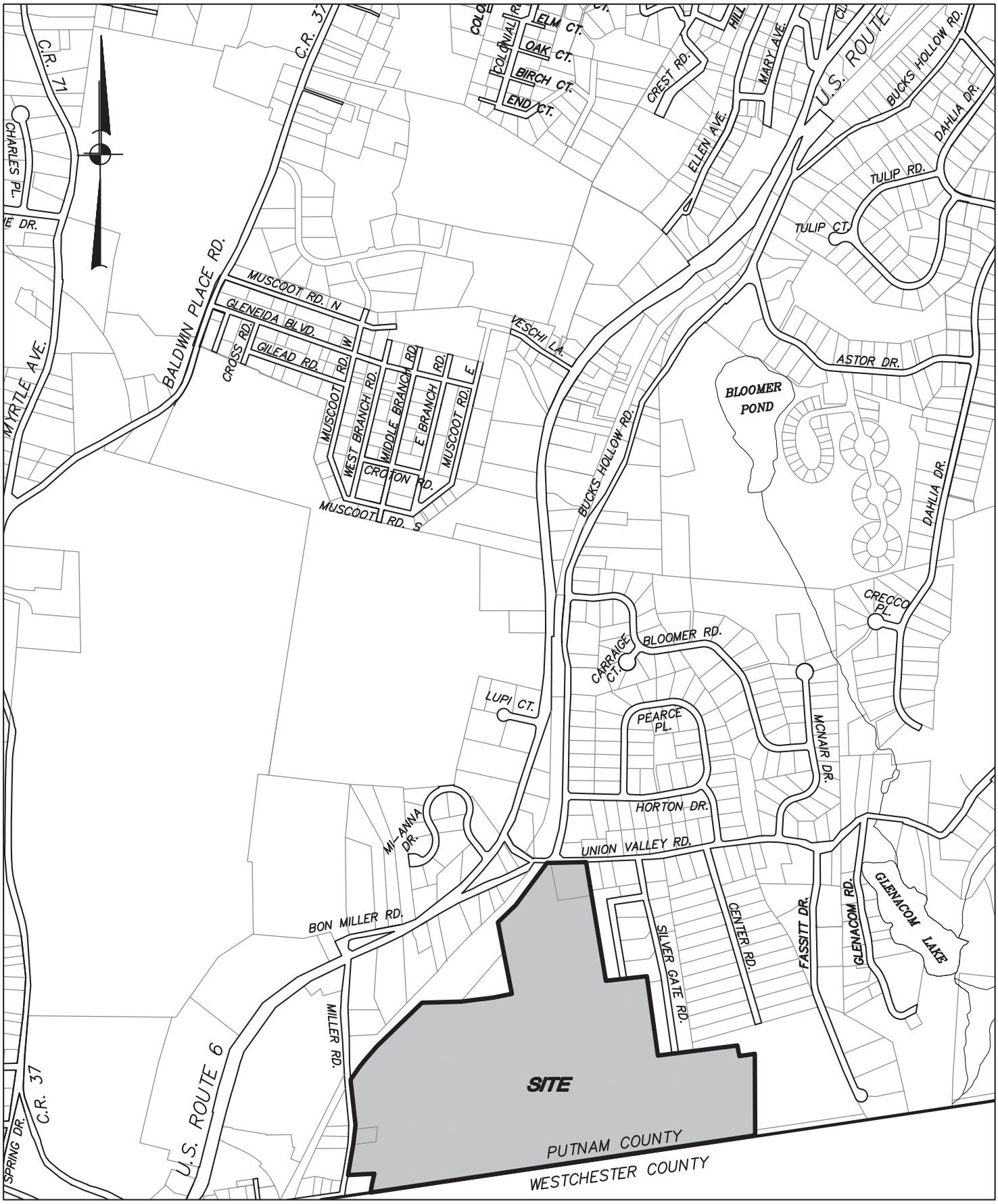
ACKNOWLEDGEMENTS

STATE OF NEW YORK)
) ss.:
TOWN OF _____)

On this ____ day of _____, 20___, before me personally came _____ to me known and known to me to be the person described in and who executed the foregoing instrument and he acknowledged to me that he executed the same.

_____
Notary Public

FIGURES



PROJECT: UNION ENERGY CENTER

MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

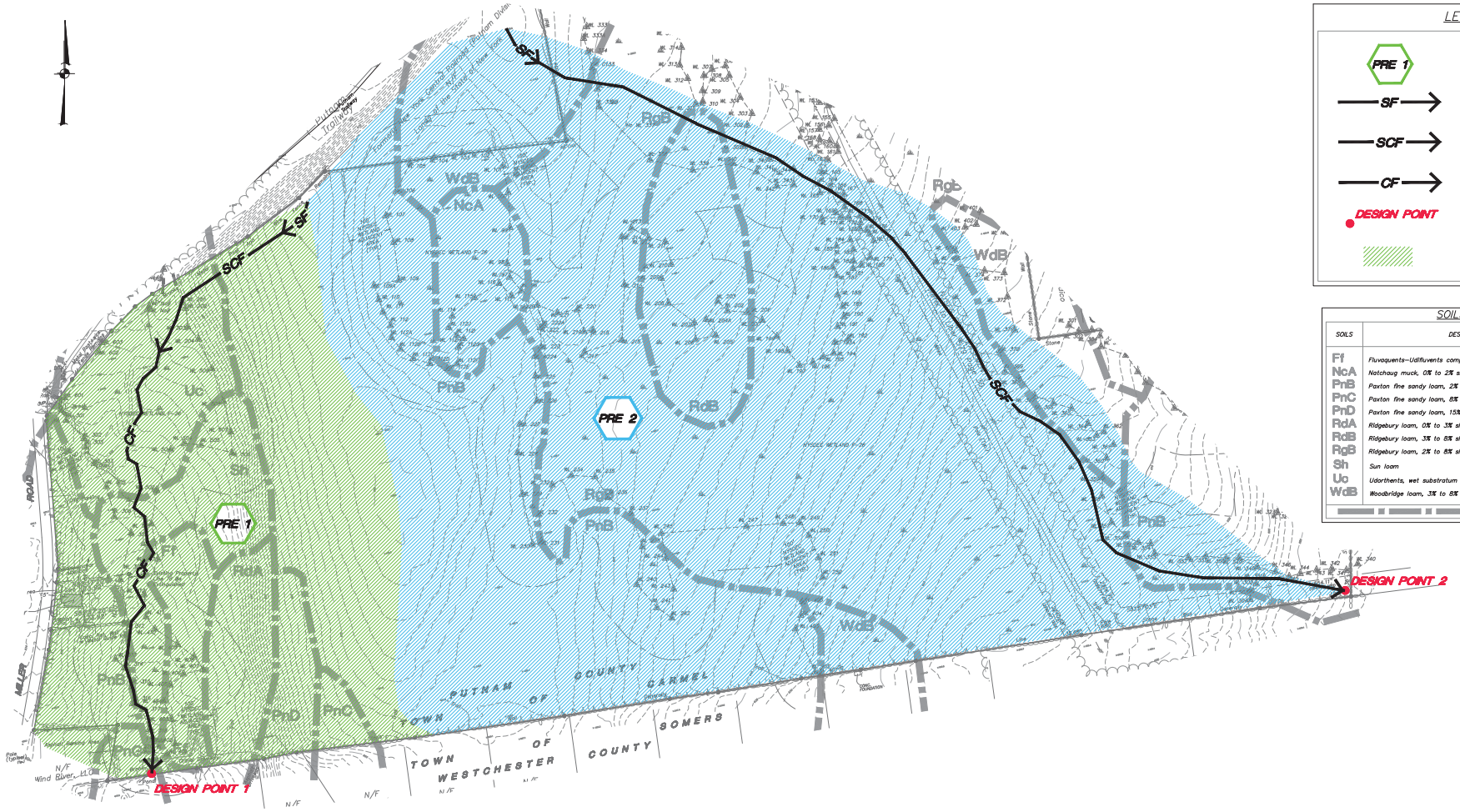
DRAWING: LOCATION MAP

PREPARED BY:

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place • Carmel, New York 10512
Phone (845) 225-9690 • Fax (845) 225-9717
www.insite-eng.com

DATE:	2-16-24
SCALE:	1"=1000'
PROJECT NO.:	21120.100
FIGURE:	1

Z:\E\21120100 East Point Energy, Union Valley Road\Stormwater\Figures\Figure 1.dwg, 2/16/2024 7:16:35 AM, ependleton, 1:1



LEGEND

PRE 1	SUBCATCHMENT
SF →	TIME OF CONCENTRATION SHEET FLOW
SCF →	TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW
CF →	TIME OF CONCENTRATION CHANNEL FLOW
DESIGN POINT	DESIGN POINT
	SUBCATCHMENT CONTRIBUTING AREA

SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
Ff	Fluvaquents–Udifluvents complex, frequently flooded	A/D
NcA	Natchaug muck, 0% to 2% slopes	B/D
PnB	Paxton fine sandy loam, 2% to 8% slopes	C
PnC	Paxton fine sandy loam, 8% to 15% slopes	C
PnD	Paxton fine sandy loam, 15% to 25% slopes	C
RdA	Ridgebury loam, 0% to 3% slopes	D
RdB	Ridgebury loam, 3% to 8% slopes	D
RgB	Ridgebury loam, 2% to 8% slopes, very stony	D
Sh	Sun loam	C/D
Uc	Udorthents, wet substratum	A/D
WdB	Woodbridge loam, 3% to 8% slopes	C/D
	NRCS Soil Boundary Line	

GRAPHIC SCALE
0 50 100 200
(IN FEET)
1 inch = 100 ft.

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY

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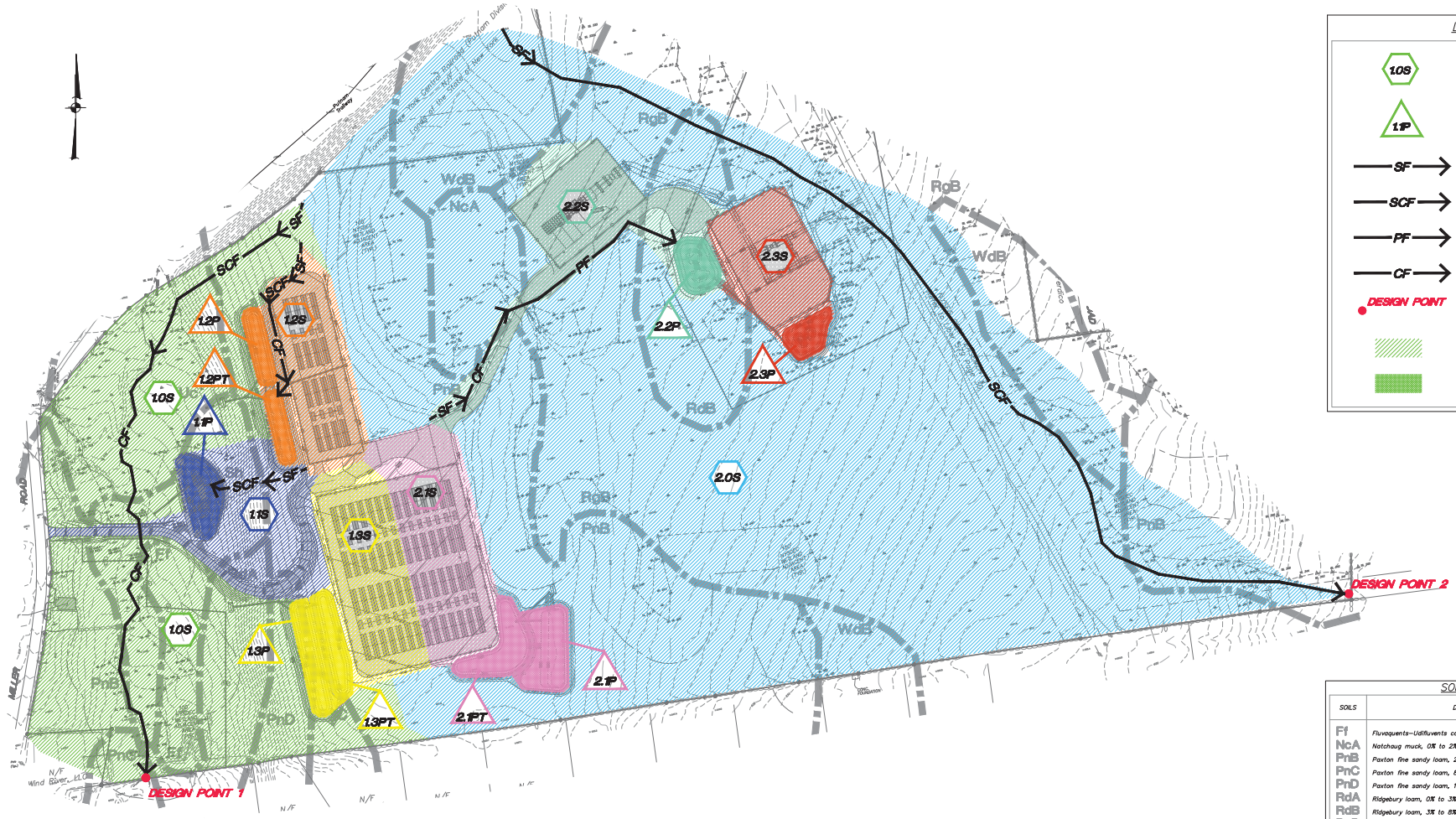
3 Garrett Place
Carmel, NY 10512
(845) 225-9090
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
PRE–DEVELOPMENT DRAINAGE MAP

PROJECT NUMBER	21120.100	PROJECT MANAGER	R.D.W.
DATE	2–16–24	DRAWN BY	I.B.
SCALE	1" = 100'	CHECKED BY	E.J.P.

DRAWING NO.
FIG–2



LEGEND

- 1.0S — SUBCATCHMENT
- 1.1P — STORMWATER MANAGEMENT PRACTICE
- SF — TIME OF CONCENTRATION SHEET FLOW
- SCF — TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW
- PF — TIME OF CONCENTRATION PIPE FLOW
- CF — TIME OF CONCENTRATION CHANNEL FLOW
- DESIGN POINT — DESIGN POINT
- SUBCATCHMENT CONTRIBUTING AREA
- STORMWATER MANAGEMENT / GREEN INFRASTRUCTURE PRACTICE AREA

SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
Ft	Fluvaquents–Udifluvents complex, frequently flooded	A/D
NcA	Natchaug muck, 0% to 2% slopes	B/D
PnB	Paxton fine sandy loam, 2% to 8% slopes	C
PnC	Paxton fine sandy loam, 8% to 15% slopes	C
PnD	Paxton fine sandy loam, 15% to 25% slopes	C
RdA	Ridgebury loam, 0% to 3% slopes	D
RdB	Ridgebury loam, 3% to 8% slopes	D
RgB	Ridgebury loam, 2% to 8% slopes, very stony	D
Sh	Sun loam	C/D
Uc	Udorthents, wet substratum	A/D
WdB	Woodbridge loam, 3% to 8% slopes	C/D

NRCS Soil Boundary Line

GRAPHIC SCALE
0 50 100 200
(IN FEET)
1 inch = 100 ft.

NO.	DATE	REVISION	BY

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Carmel, NY 10512
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(845) 225-9717 fax
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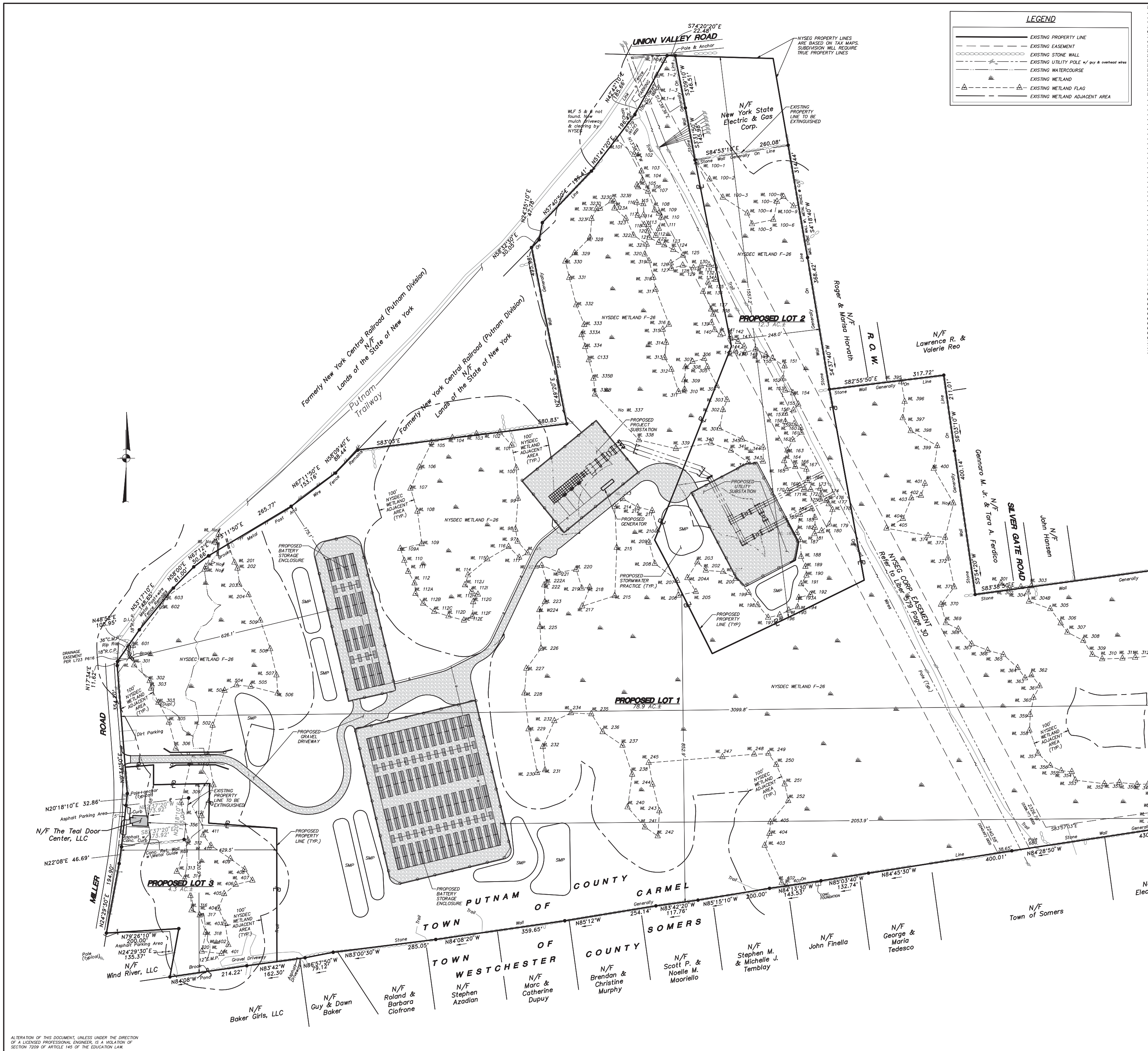
PROJECT:
UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
POST-DEVELOPMENT DRAINAGE MAP

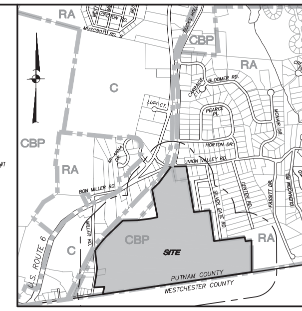
PROJECT NUMBER	21120.100	PROJECT MANAGER	R.D.W.	DRAWING NO.
DATE	2-16-24	DRAWN BY	I.B.	FIG-3
SCALE	1" = 100'	CHECKED BY	E.J.P.	



LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING STONE WALL
- EXISTING UTILITY POLE w/ guy & overhead wires
- EXISTING WATERCOURSE
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING WETLAND ADJACENT AREA

1. NYS Elec & Gas Corp
2. NYS Elec & Gas Corp
3. Mari Hawkins
4. Rafael Vargas
5. Mahopac Terminals, LLC
6. Gabriel Lamanna
7. Roger Horvath
8. Phyllis Mantovi
9. JAS Palushaj, LLC
10. Iris Gorodess Irrev Trust
11. Rooney Properties LLC
12. The Teal Door Center, LLC
13. Nicole Jimenez
14. John Phillip Gkanios
15. Peter Cirino
16. Christopher Horan
17. Lake Mahopac Motel Inc
18. Anthony Michael Realty, Inc
19. David Nicholas
20. Sigurbjorn Sigurjonsson
21. Sigurbjorn Sigurjonsson
22. Sigurbjorn Sigurjonsson
23. S Sigurjonsson
24. Carbonara Family Irrev Trst #1
25. Videl Realty Corp.
26. Videl Realty Corp.
27. Park Ford Of Mahopac Inc
28. RCTA Realty LLC
29. 287 Route 6, LLC
30. John Henning
31. John Glynn Trust
32. Lawrence Reo
33. George Johnson
34. Lormat Construction Corp
35. Kerril Hynes
36. 12th Street Realty, LLC
37. Marco Chuchuca
38. Francesco Pulice
39. Cherian Family Trust
40. James Brady
41. Gennaro Ferdico
42. Dea Wolfert
43. James Hennessey
44. Ferone Automotive, LLC
45. Irene Cassetta
46. Michael Nicotina
47. Michael Montgomery
48. James Crowley
49. Kathleen D'Ottavio
50. Florence Janet Faulkner
51. Benedetto Salerno
52. Chris Scheedel
53. Thomas Longhitano
54. Mahopac Improvement Owner LLC
55. Mahopac Improvement Owner LLC
56. Amerino D'onofrio
57. Matthew Rosolen
58. Christopher Vennard
59. Samantha Dodge
60. Wind River, LLC
61. Ralph D'alisa
62. Miller Road LLC
63. Michael Barile
64. Nicole Barile Stern
65. Emerson Cargain
66. Union Valley Plaza Inc
67. AAK Realty LLC
68. P P Co Limited Liability
69. Mahopac Volunteer Fire Dept
70. 46 Tomahawk LLC
71. Empire State Assoc Holding Co
72. ALOU Corporation



LOCATION MAP SCALE: 1" = 1000'±

OWNER:

MILLER RD LLC
888 ROUTE 6
MAHOPAC NY 10541

NYS ELEC & GAS CORP.
39 UNION VALLEY ROAD
MAHOPAC NY 10541

THE TEAL DOOR CENTER, LLC
18 MILLER ROAD
MAHOPAC NY 10541

SITE DATA:

Zone: C/BP
Total Acreage 95.5 AC.±
Tax Map Nos.:
1. 86.11-1-14 (93.5 AC.±)
2. 86.8-2-85 (1.6 AC.±)
3. 86.11-1-15 (0.4 AC.±)

APPLICANT:

EAST POINT ENERGY, LLC
310 4th STREET NE, 3rd FLOOR
CHARLOTTESVILLE, VA 22902

GENERAL NOTES:

1. The boundaries, topography, and wetland flags shown hereon are taken from a survey by Insite Engineering, Surveying & Landscape Architecture, P.C., entitled "Survey of Property Prepared for East Point Energy", last revised on March 29, 2023.
2. There will be no full time employees on site. The site will be occasionally visited by 1-2 employees.
3. There are no proposed clubhouses, pools, designated open space, parks or recreation areas.
4. No refuse is to be generated on site. Anything to be removed from the site during operations will be removed by truck. Therefore no refuse enclosure is proposed.
5. Site conditions on Now or Formerly The Teal Door Center, LLC area approximated from aerial orthoimagery.
6. All driveways are to be constructed in accordance with the Town of Carmel Code.

C/BP ZONE REQUIREMENTS:

	Required/Permitted:	Lot 1 Provided:	Lot 2 Provided:	Lot 3 Provided:
Minimum Lot Area:	3 Acres (130,680 SF)	78.9 AC.±	12.3 AC.±	4.3 AC.±
Minimum Lot Width:	200'	853'±	248'±	521'±
Minimum Lot Depth:	200'	3,100'±	1,557'±	430'±
Minimum Road Frontage:	100'	640.27'	267.14'	462'±
Minimum Yard Setbacks:				
Front:	50'	626.1'	N/A	16'± *
Side:	40'	175.1'	N/A	88'±
Rear:	40'	2,053.9'	N/A	356'±
Maximum Building Height:	40'	N/A	N/A	<40'
Minimum Building Floor Area	5,000 SF	0 SF	N/A	<5,000SF *
Maximum Building Coverage:	40%	1.54%	N/A	0.6%

* Pre-existing non-conforming condition.

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY
4	2-16-24	REVISED FOR NYCDEP SUBMISSION	JWM
3	1-29-24	GENERAL REVISION	TSM
2	12-4-23	REVISED PER PLANNING BOARD COMMENTS	KJK
1	10-30-23	RESUBMISSION TO PLANNING BOARD	MEU

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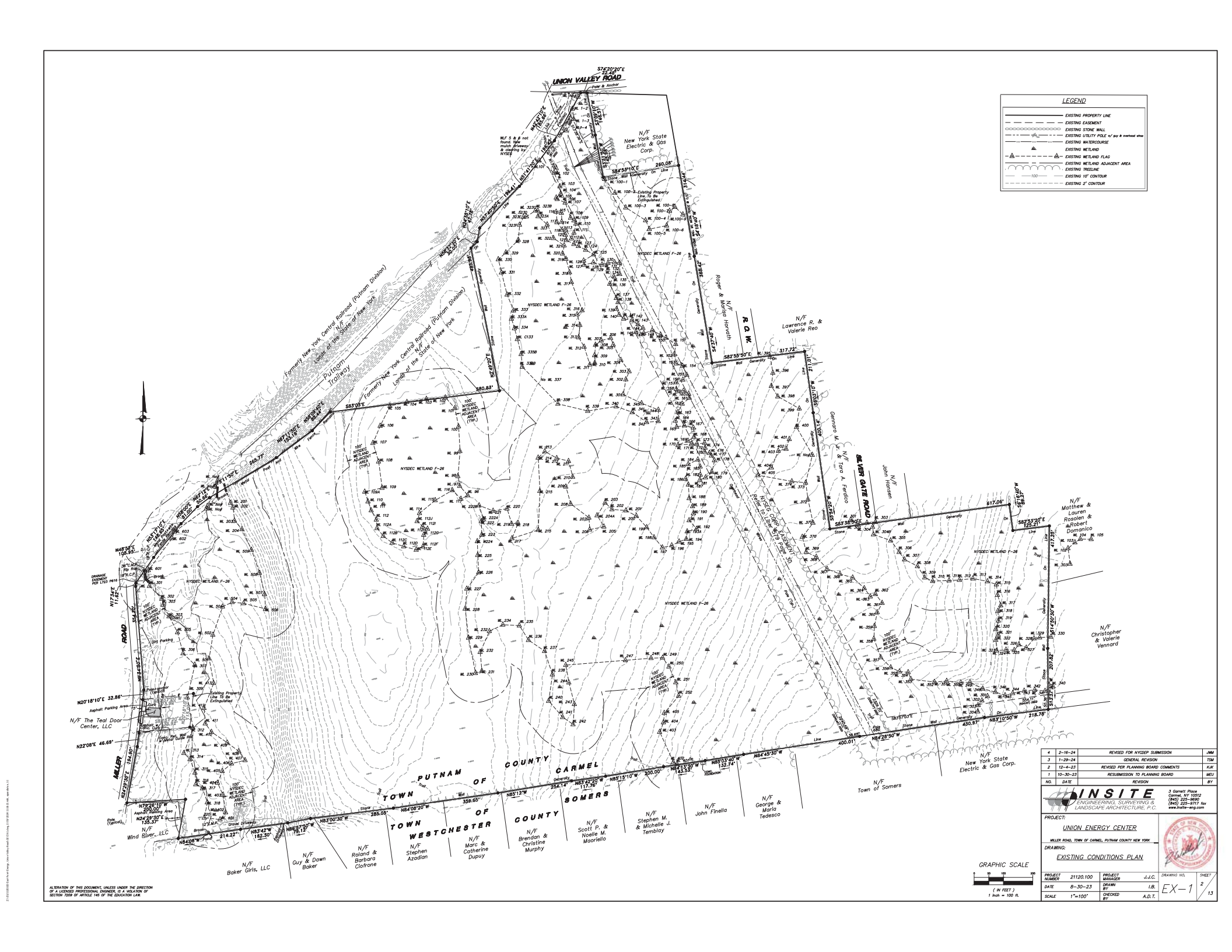
PROJECT:
UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
OVERALL PLAN

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.
DATE	8-30-23	DRAWN BY	I.B.
SCALE	1"=100'	CHECKED BY	A.D.T.

DRAWING NO. OP-1
SHEET 1 / 13



NO.	DATE	REVISION	BY
4	2-16-24	REVISED FOR NYCDEP SUBMISSION	JMM
3	1-29-24	GENERAL REVISION	TSM
2	12-4-23	REVISED PER PLANNING BOARD COMMENTS	KJK
1	10-30-23	RESUBMISSION TO PLANNING BOARD	MEU

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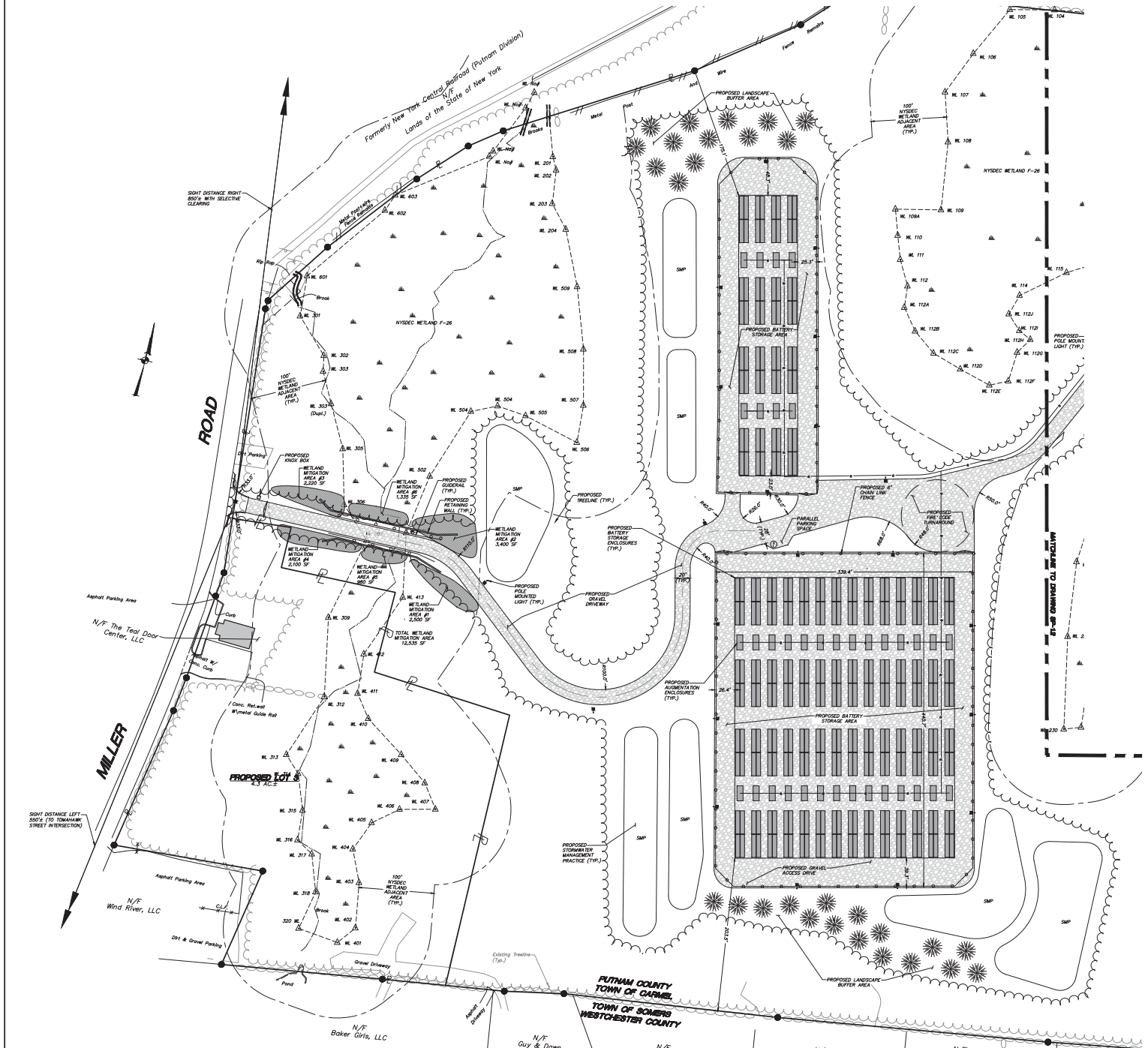
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
EXISTING CONDITIONS PLAN

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.
DATE	8-30-23	DRAWN BY	I.B.
SCALE	1"=100'	CHECKED BY	A.D.T.

DRAWING NO. EX-1 SHEET 2 / 13



LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING STONE WALL
- EXISTING UTILITY POLE w/ guy & overhead wires
- EXISTING WATERCOURSE
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING 100 YR. FLOODPLAIN BOUNDARY
- EXISTING WETLAND BUFFER
- EXISTING TREELINE
- PROPOSED OVERHEAD WIRES
- PROPOSED SINGLE POLE SIGN
- PROPOSED DOUBLE POLE SIGN
- PROPOSED DOUBLE SIDED SIGN
- PROPOSED BOLLARD
- PROPOSED GUIDE RAIL
- PROPOSED POLE MOUNTED LIGHT
- PROPOSED POST MOUNTED LIGHT
- PROPOSED LOADING SPACE
- PROPOSED LANDSCAPING

SCHEMATIC PLANT LIST

KEY	BOTANICAL/COMMON NAME	SIZE	ROOT
	EVERGREEN TREES		
JV	Juniperus virginia / Eastern Redcedar	8'-10' HT.	B&B
PG	Picea glauca / White Spruce	8'-10' HT.	B&B
TO	Relocated Thuja occidentalis / Arborvitae	6'-8' HT.	B&B
	SHRUBS		
JC	Juniperus chinensis "Sea Green" / Sea Green Juniper		#3 CONT./8' O.C.
VD	Viburnum dentatum / Leatherleaf Viburnum		#3 CONT./8' O.C.
	PERENNIALS/GROUND COVERS		
AC	Aquilegia canadensis / Columbine		#1 CONT./18" O.C.
EP	Echinacea purpurea / Purple Coneflower		#1 CONT./18" O.C.
MV	Mertensia virginica / Virginia Bluebells		#1 CONT./18" O.C.

WETLAND MITIGATION PLANT LIST

QTY	BOTANICAL/COMMON NAME	SIZE	SPACING
35	Amelanchier canadensis / Shadblow	2"-3'	10' O.C.
36	Cornus foemina / Gray Dogwood	2"-3'	10' O.C.
37	Lindera benzoin / Spicebush	2"-3'	10' O.C.
35	Sambucus canadensis / Elderberry	2"-3'	10' O.C.
36	Viburnum dentatum / Arrowood viburnum	2"-3'	10' O.C.
35	Viburnum lentago / Nannyberry	2"-3'	10' O.C.

NOTES:

1. All plantings to be verified by the Town of Carmel Wetland Inspector.
2. All plantings shall be installed per size of the Town of Carmel Town Code.
3. Wetland mitigation areas and plant lists provided by VHB, Inc.

GRAPHIC SCALE

0 50 100

(IN FEET)
1 inch = 50 ft.

NO.	DATE	REVISION	BY
4	2-16-24	REVISED FOR NYCDEP SUBMISSION	JMM
3	1-29-24	GENERAL REVISION	TSM
2	12-4-23	REVISED PER PLANNING BOARD COMMENTS	K.K.
1	10-30-23	RESUBMISSION TO PLANNING BOARD	MEU

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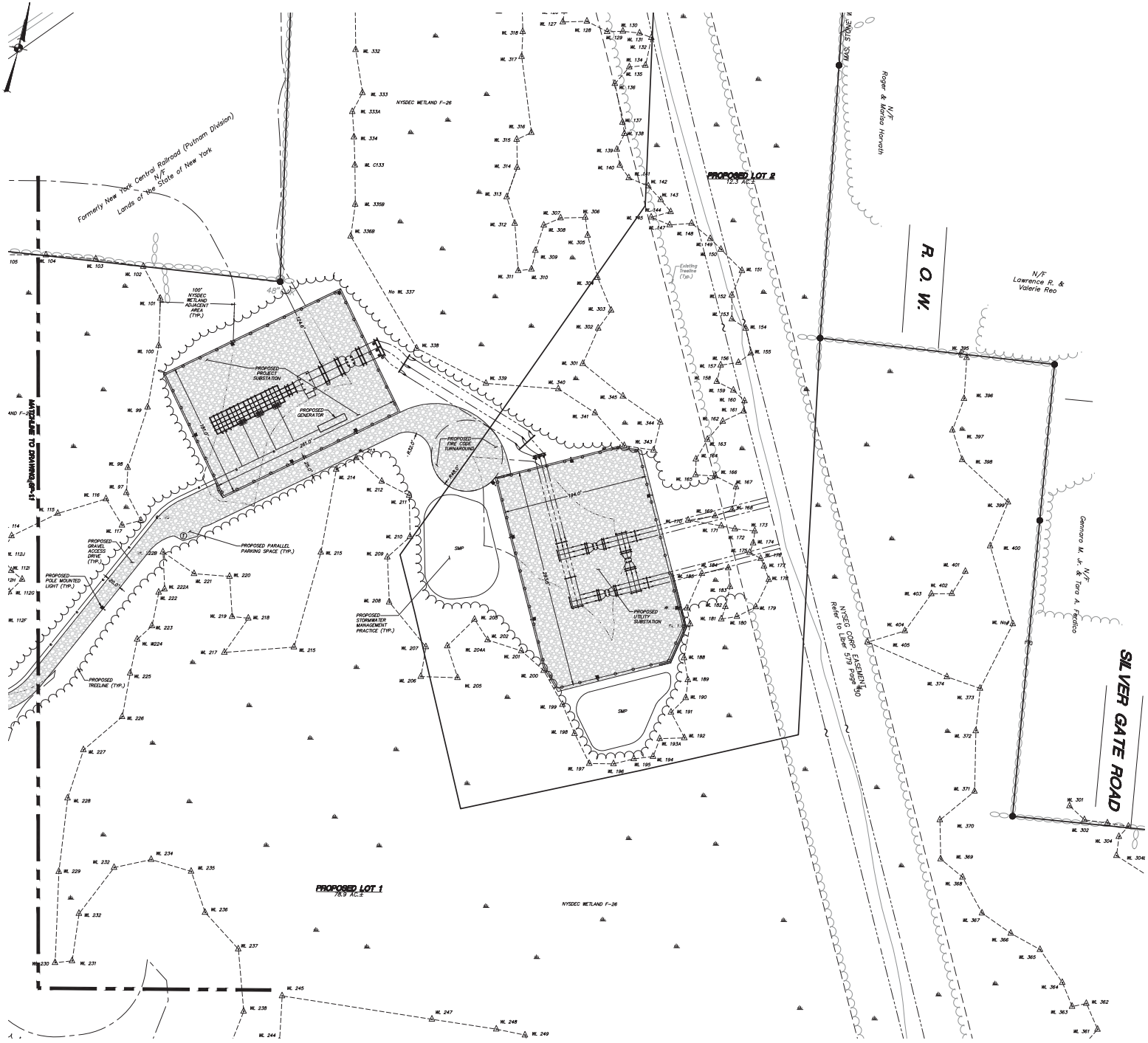
PROJECT:
UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
LAYOUT & LANDSCAPE PLAN

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.
DATE	8-30-23	DRAWN BY	I.B.
SCALE	1"=50'	CHECKED BY	A.D.T.

DRAWING NO. SP-1.1 SHEET 3 / 13



LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING STONE WALL
- EXISTING UTILITY POLE w/ guy & overhead wires
- EXISTING WATERCOURSE
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING 100 YR. FLOODPLAIN BOUNDARY
- EXISTING WETLAND BUFFER
- EXISTING TREELINE
- PROPOSED OVERHEAD WIRES
- PROPOSED SINGLE POLE SIGN
- PROPOSED DOUBLE POLE SIGN
- PROPOSED DOUBLE SIDED SIGN
- PROPOSED BOLLARD
- PROPOSED GUIDE RAIL
- PROPOSED POLE MOUNTED LIGHT
- PROPOSED POST MOUNTED LIGHT
- PROPOSED LOADING SPACE
- PROPOSED LANDSCAPING

SCHEMATIC PLANT LIST

KEY	BOTANICAL/COMMON NAME	SIZE	ROOT
	EVERGREEN TREES		
JV	Juniperus virginia / Eastern Redcedar	8'-10' HT.	B&B
PG	Picea glauca / White Spruce	8'-10' HT.	B&B
TO	Relocated Thuja occidentalis / Arborvitae	6'-8' HT.	B&B
	SHRUBS		
JC	Juniperus chinensis "Sea Green" / Sea Green Juniper		#3 CONT./6' O.C.
VD	Viburnum dentatum / Leatherleaf Viburnum		#3 CONT./6' O.C.
	PERENNIALS/GROUND COVERS		
AC	Aquilegia canadensis / Columbine		#1 CONT./18" O.C.
EP	Echinacea purpurea / Purple Coneflower		#1 CONT./18" O.C.
MV	Mertensia virginica / Virginia Bluebells		#1 CONT./18" O.C.

GRAPHIC SCALE
0 50 100
(IN FEET)
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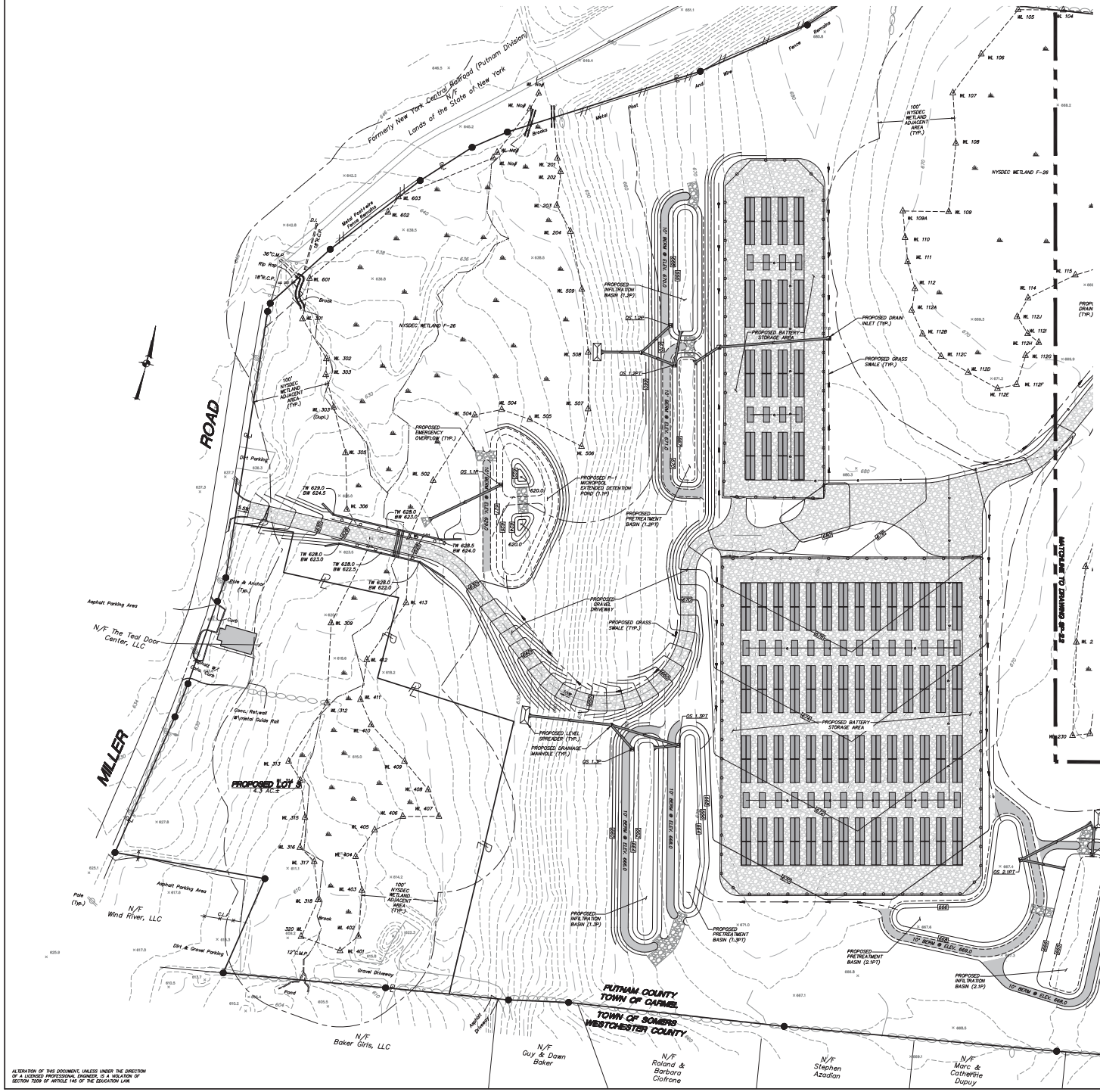
DRAWING:
LAYOUT & LANDSCAPE PLAN

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	8-30-23	DRAWN BY	I.B.	SP-1.2	4 / 13
SCALE	1"=50'	CHECKED BY	A.D.T.		



LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING STONE WALL
- EXISTING UTILITY POLES/ guy & overhead wire
- EXISTING WATERCOURSE
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING WETLAND BUFFER
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED OVERHEAD WIRES
- PROPOSED DRAINAGE MANHOLE
- PROPOSED DRAINAGE INLET
- PROPOSED OUTLET STRUCTURE
- PROPOSED END SECTION
- PROPOSED GRASS SWALE
- PITCH TO DRAIN
- PROPOSED LEVEL SPREADER

UTILITIES NOTES:

1. All utilities except for overhead wires associated with the substations and Battery Energy Storage Systems (BESS) will be buried.

GRAPHIC SCALE

0 50 100

(IN FEET)
1 inch = 50 ft.

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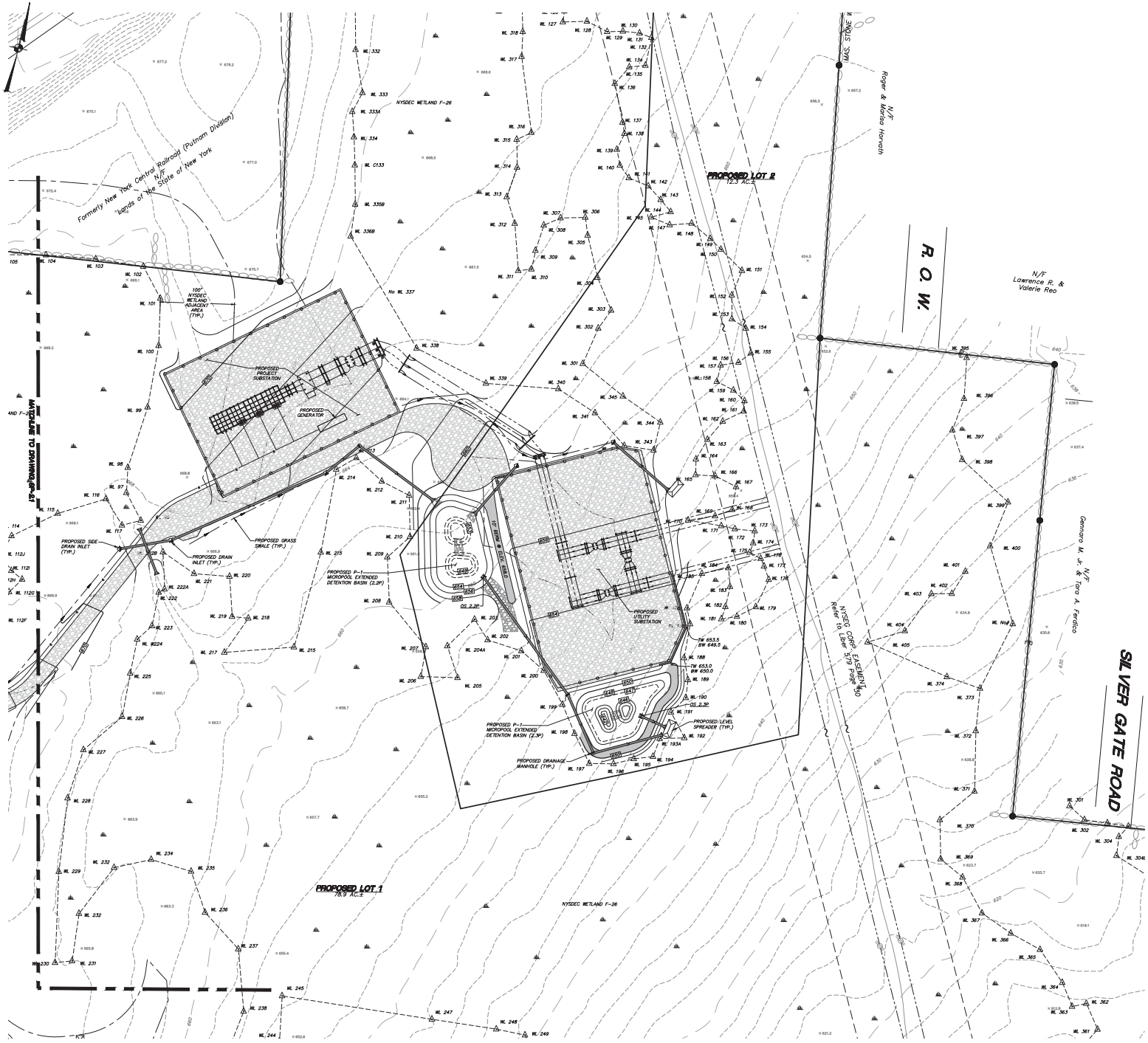
PROJECT:
UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
GRADING & UTILITIES PLAN

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	8-30-23	DRAWN BY	I.B.	SP-2.1	5 of 13
SCALE	1"=50'	CHECKED BY	A.D.T.		



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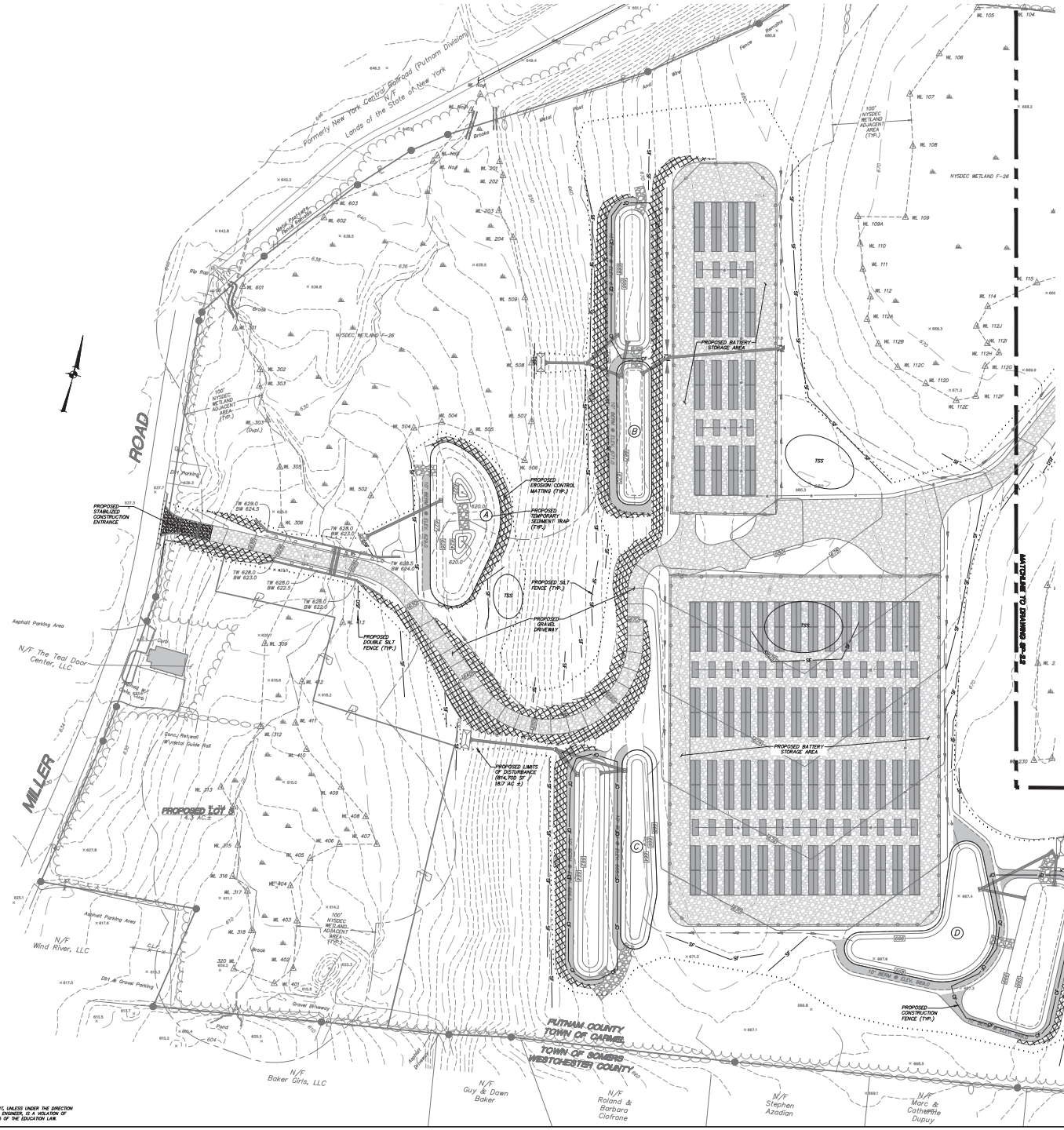
DRAWING:
GRADING & UTILITIES PLAN

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.
DATE	8-30-23	DRAWN BY	I.B.
SCALE	1"=50'	CHECKED BY	A.D.T.

DRAWING NO. SP-2.2
SHEET 6 / 13



LEGEND

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- EXISTING EASEMENT
- EXISTING STONE WALL
- EXISTING UTILITY POLE w/ guy & overhead wires
- EXISTING WATERCOURSE
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING WETLAND BUFFER
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- SF — PROPOSED SILT FENCE
- DSF — PROPOSED DOUBLE SILT FENCE
- CF — PROPOSED CONSTRUCTION FENCE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED STONE CHECK DAM
- PROPOSED TEMPORARY DIVERSION SWALE
- TSS — PROPOSED TEMPORARY SOIL STOCKPILE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED EROSION CONTROL BLANKET
- PROPOSED DRAINAGE STRUCTURE W/ INLET PROTECTION
- PROPOSED PHASING LINE

GRAPHIC SCALE
0 25 50 100
(IN FEET)
1 inch = 50 ft.

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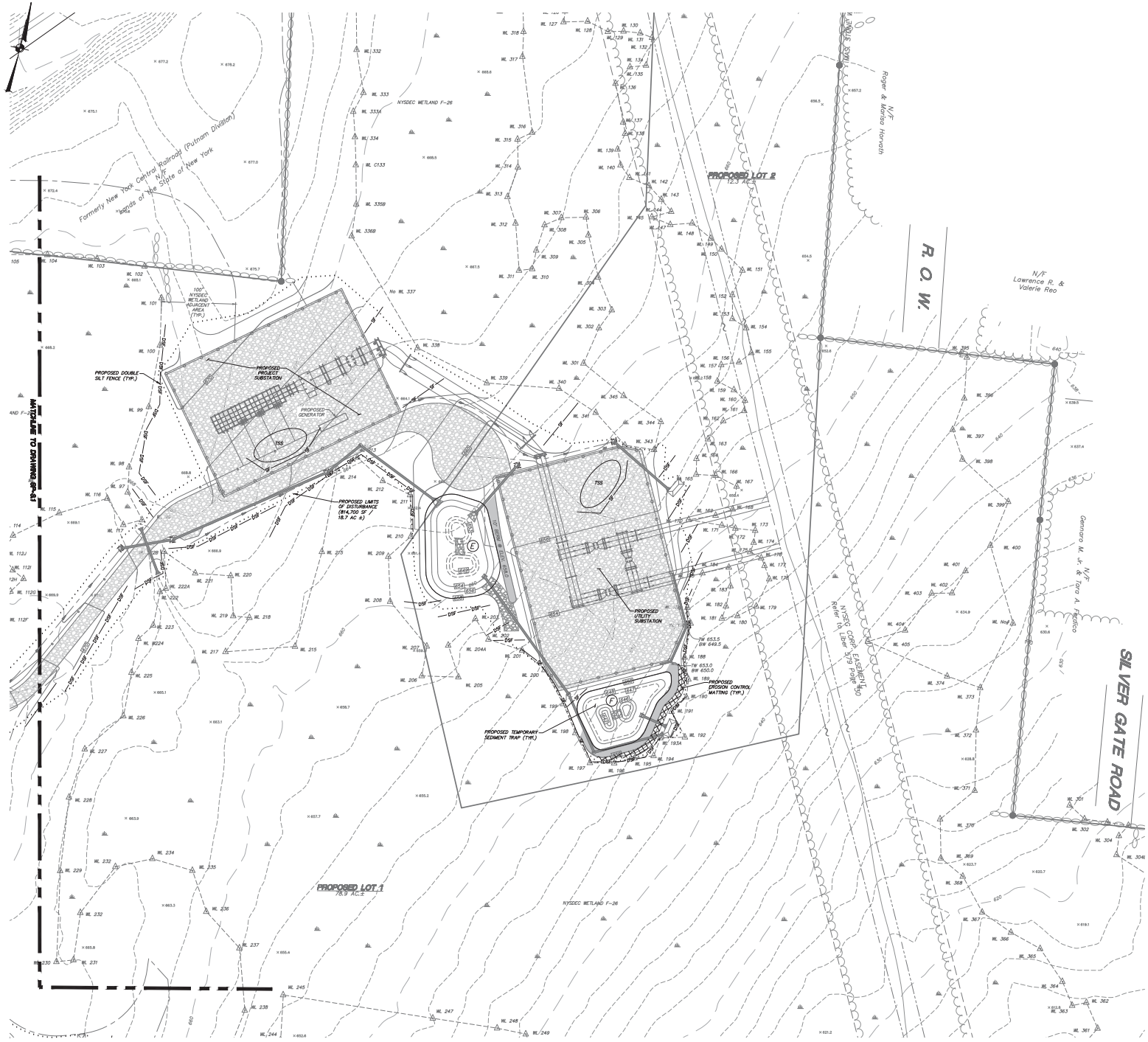
PROJECT:
UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
EROSION & SEDIMENT CONTROL PLAN

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	8-30-23	DRAWN BY	I.B.	SP-3.1	7 / 13
SCALE	1"=50'	CHECKED BY	A.D.T.		



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- EXISTING EASEMENT
- EXISTING STONE WALL
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- EXISTING WATERCOURSE
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING WETLAND BUFFER
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
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- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED EROSION CONTROL BLANKET
- PROPOSED DRAINAGE STRUCTURE W/ INLET PROTECTION
- PROPOSED PHASING LINE

GRAPHIC SCALE
0 50 100
(IN FEET)
1 inch = 50 ft.

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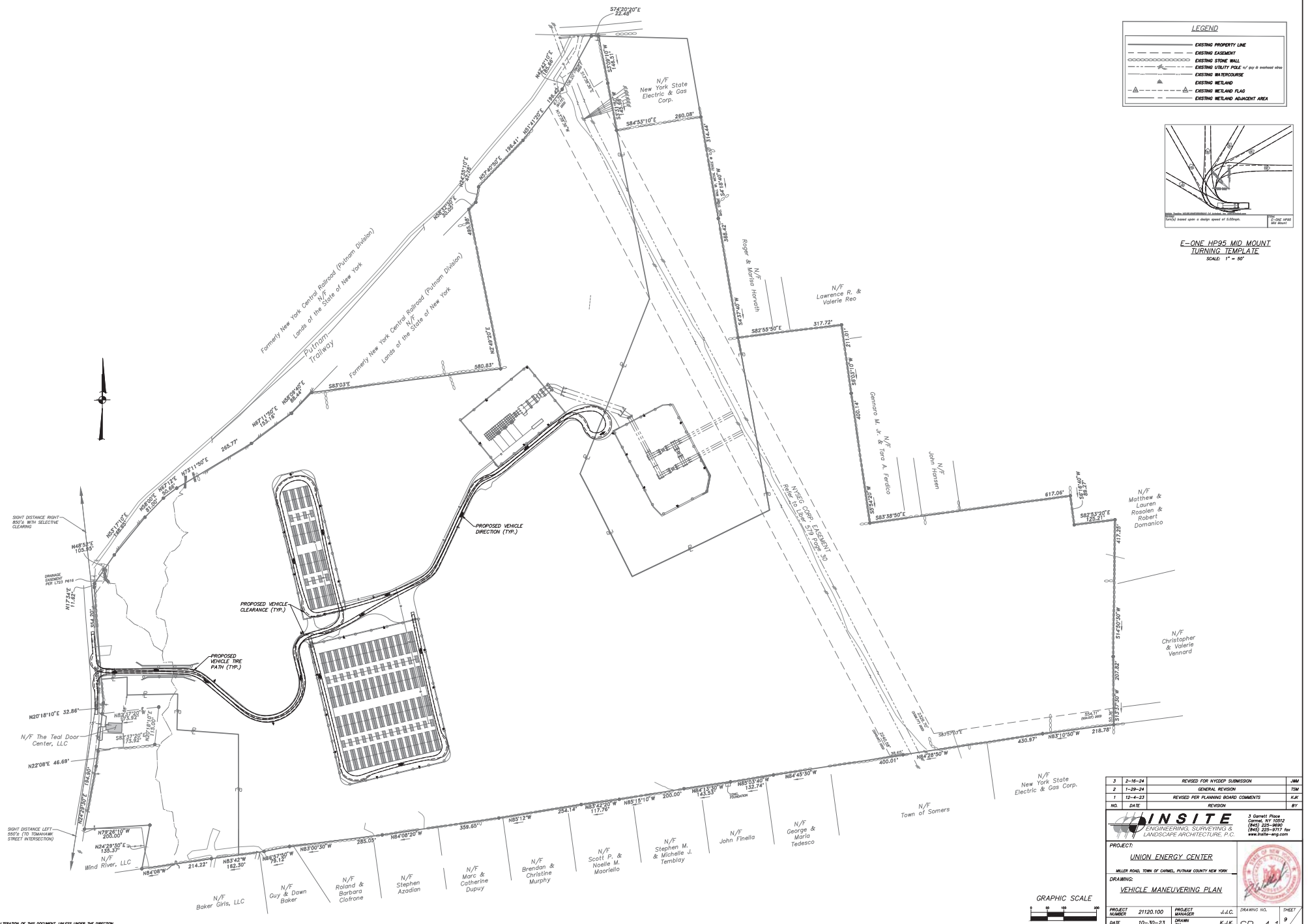
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
EROSION & SEDIMENT CONTROL PLAN

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	8-30-23	DRAWN BY	I.B.	SP-3.2	8 / 13
SCALE	1"=50'	CHECKED BY	A.D.T.		



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PROJECT:
UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
VEHICLE MANEUVERING PLAN

PROJECT NUMBER	211.20.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	10-30-23	DRAWN BY	K.J.K.	SP-4.1	9 / 13
SCALE	1"=100'	CHECKED BY	A.D.T.		

LUMINAIRE SCHEDULE

Sym	Qty	Catalog Number	Description	Lamp	Mounting Height	Watts
	34	RSX2 LED P1 30K R3 EGFV	LITHONIA LIGHTING LED POLE MOUNTED LIGHT TYPE 3M DISTRIBUTION	LED	20'-0"	72.1

LIGHTING NOTES:

1. All lighting shall be as noted on the plan or approved equal.
2. Style and finish of all luminaires to be selected by owner.
3. Proposed lights will run on motion sensors after hours for security only.
4. Type, location, and shading of all proposed lighting shall prevent the spillover of light onto all adjacent residential properties.
5. All light fixtures to be full cutoff to comply with dark sky guidelines.

LIGHT CONTOUR LEGEND

0.1 — 0.10 Foot Candles
1 — 1.00 Foot Candles

* Photometric calculations shown on plan are in foot candles.

LEGEND

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- EXISTING STONE WALL
- EXISTING UTILITY POLE w/ guy & overhead wires
- EXISTING WATERCOURSE
- EXISTING WETLAND
- EXISTING WETLAND FLAG
- EXISTING WETLAND ADJACENT AREA
- PROPOSED POLE MOUNTED LIGHT

GRAPHIC SCALE
0 30 60 120
(IN FEET)
1 inch = 60 ft.

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY
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1	12-4-23	REVISED PER PLANNING BOARD COMMENTS	K.M.

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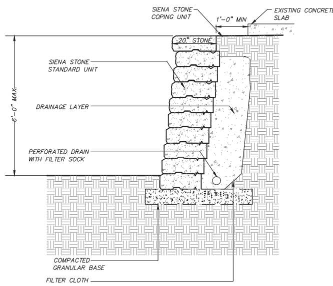
PROJECT:
UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
LIGHTING PLAN

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	10-30-23	DRAWN BY	K.J.K.	SP-4.2	10 / 13
SCALE	1"=60'	CHECKED BY	A.D.T.		

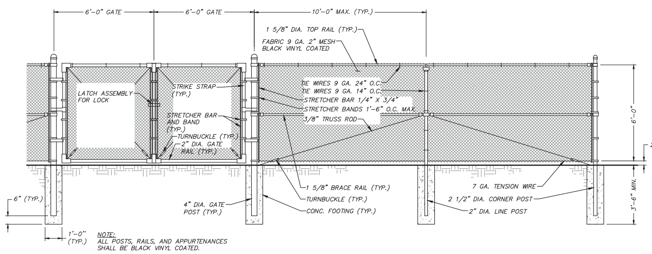


NOTES:

1. STRIP VEGETATION AND ORGANIC SOIL FROM WALL AREA.
2. BENCH CUT ALL EXCAVATED SLOPES.
3. DO NOT OVER EXCAVATE UNLESS DIRECTED BY SITE ENGINEER TO REMOVE UNSUITABLE SOIL.
4. SITE ENGINEER SHALL VERIFY FOUNDATION SOILS AS BEING COMPETENT PER THE DESIGN STANDARDS AND PARAMETERS.
5. LEVELING PAD SHALL CONSIST OF COMPACTED COARSE SAND OR CRUSHED GRAVEL, 6" THICK MIN.
6. CONTRACTOR MAY OPT FOR A LEAN CONCRETE PAD. CONCRETE PAD SHALL BE UNREINFORCED, 3" THICK MAXIMUM.
7. MINIMUM EMBEDMENT OF WALL BELOW FINISH GRADE SHALL BE 6".
8. FOR UNITS TO BE EMBEDDED, COMPACT FILL IN FRONT OF UNITS AT THE SAME TIME FILL BEHIND UNITS IS COMPACTED.
9. DRAINAGE AGGREGATE SHALL BE INSTALLED DIRECTLY BEHIND THE WALL WITHIN 12" OF THE TOP OF THE WALL. DRAINAGE AGGREGATE SHALL NOT EXTEND BELOW FINAL GRADE IN FRONT OF WALL.
10. COMPACTION SHALL BE TO 95% OF MAXIMUM STANDARD PROCTOR DENSITY.(ASTM D-698)
11. COMPACTION TESTS SHALL BE TAKEN AS THE WALL IS INSTALLED. THE MINIMUM NUMBER OF TESTS SHALL BE DETERMINED BY THE SITE SOILS ENGINEER.
12. COMPACTION WITHIN 3 FT. OF WALL SHALL BE LIMITED TO HAND OPERATED EQUIPMENT.
13. CONTRACTOR SHALL DIRECT SURFACE RUNOFF TO AVOID DAMAGING WALL WHILE UNDER CONSTRUCTION.
14. ANY SURFACE DRAINAGE FEATURES, FINISH GRADING, PAVEMENT, OR TURF SHALL BE INSTALLED IMMEDIATELY AFTER WALL IS COMPLETED.
15. FOLLOW APPLICABLE PROVISIONS OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS.

RETAINING WALL DETAIL

(N.T.S.)



6'-0" GATE
6'-0" GATE
10'-0" MAX. (TYP.)
1 5/8" DIA. TOP RAIL (TYP.)
FABRIC 9 GA. 2" MESH BLACK VINYL COATED
LATCH ASSEMBLY FOR LOCK
STRIKE STRAP (TYP.)
STRETCHER BAR AND BAND (TYP.)
TURNBUCKLE (TYP.)
2" DIA. GATE RAIL (TYP.)
TIE WIRES 9 GA. 24" O.C.
TIE WIRES 9 GA. 14" O.C.
STRETCHER BAR 1/4" X 3/4"
STRETCHER BANDS 1'-6" O.C. MAX.
3/8" TRUSS ROD
6'-0"
2"
3'-6" MIN.
6" (TYP.)
4" DIA. GATE POST (TYP.)
1 5/8" BRACE RAIL (TYP.)
TURNBUCKLE (TYP.)
CONC. FOOTING (TYP.)
7 GA. TENSION WIRE
2 1/2" DIA. CORNER POST
2" DIA. LINE POST
1'-0" (TYP.)

NOTE:
ALL POSTS, RAILS, AND APPURTENANCES SHALL BE BLACK VINYL COATED.

CHAIN LINK FENCE DETAIL

(N.T.S.)

GENERAL PLANTING NOTES:

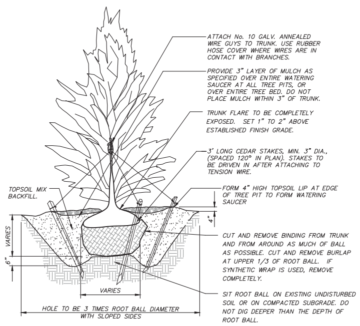
1. All proposed planting beds to receive a 12" min. depth of topsoil. Soil amendments and fertilizer application rates shall be determined based on specific testing of topsoil material.
2. Any new soils added will be amended as required by results of soil testing and placed using a method that will not cause compaction.
3. No fertilizer shall be added in stormwater basin plantings. Nutrient requirements to be met by incorporation of acceptable organic matter.
4. All plant material to be nursery grown.
5. Plants shall conform with ANSI Z60.1 American Standard for Nursery Stock in all ways including dimensions.
6. Plant material shall be taken from healthy nursery stock.
7. All plants shall be grown under climate conditions similar to those in the locality of the project.
8. Plants shall be planted in all locations designed on the plan or as staked in the field by the Landscape Architect.
9. The location and layout of landscape plants shown on the site plan shall take precedence in any discrepancies between the quantities of plants shown on the plans and the quantity of plants in the Plant List.
10. Provide a 3" layer of shredded pine bark mulch (or as specified) over entire watering saucer at all tree pits or over entire planting bed. Do not place mulch within 3" of tree or shrub trunks.
11. All landscape plantings shall be maintained in a healthy condition at all times. Any dead or diseased plants shall immediately be replaced "in kind" by the contractor (during warranty period) or project owner.

GENERAL SITE SEEDING NOTES:

1. All proposed seeded areas to receive 4" min. depth of topsoil. Soil amendments and fertilizer application rates shall be determined based on specific testing of topsoil material.
2. For temporary stabilization, apply annual ryegrass (Lolium perenne ssp.) at 30 lbs/ acre.
3. Upon final grading and placement of topsoil and any required soil amendments, areas to receive permanent vegetation cover in combination with suitable mulch as follows:
   - select seed mixture per drawings and seeding notes.
   - fertilizer applied at the manufacturer's recommended rate using Lesco 10-0-18 (no phosphorous) fertilizer or equivalent.
   - mulch: salt hay or small grain straw applied at a rate of 90 lbs./1000s.f. or 2 tons/acre, to be applied and anchored according to New York State Standards and Specifications for Erosion and Sediment Control, August 2005.
   - if the season prevents the establishment of a permanent vegetation cover, the disturbed areas will be mulched with straw or equivalent.
4. Seed Mix #1 for areas as shown on the drawings, including tops of berms, backslopes of embankments of stormwater basins, & any area to be seeded within the NYSDEC Wetland Adjacent Area, at a rate of 30 lbs. per acre: 30% annual ryegrass (Lolium perenne ssp.), and 70% New England Conservation/Wildlife Mix from New England Wetland Plants, Inc. of Amherst, MA.
5. Seed Mix #2 for areas as shown on the drawings in stormwater basins with no standing water at a rate of 18 lbs per acre: Erosion Control/ Restoration Mix for Detention Basins and Moist Sites from New England Wetland Plants, Inc. of Amherst MA.
6. Seed Mix #3 for all other disturbed areas not specified as seed mix #1 or #2. Primarily for lawn areas and mow strip along roads at a rate of 100 lbs. per acre:

Kentucky Bluegrass	20%
Creeping Red Fescue	40%
Perennial Ryegrass	20%
Annual Ryegrass	20%

7. Seed mixes to be planted between March 21 and May 20, or between August 15 and October 15 or as directed by project representative.
8. Mulch: Salt hay or small grain straw applied at a rate of 90 lbs./1000 S.F. or 2 tons/acre, to be applied and anchored according to "New York Standards and Specification For Erosion and Sediment Control," latest edition.
9. Grass seed mix may be applied by either mechanical or hydroseeding methods. Seeding shall be performed in accordance with the current edition of the "NYSDOT Standard Specification, Construction and Materials, Section 610-3.02, Method No. 1". Hydroseeding shall be performed using materials and methods as approved by the site engineer.



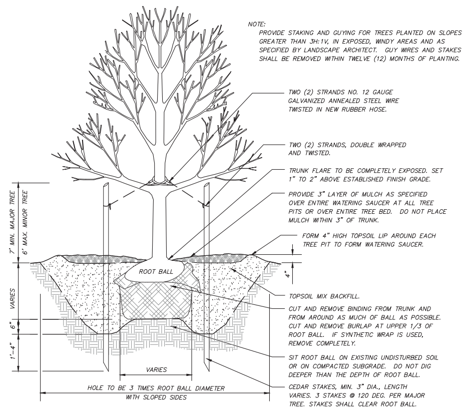
ATTACH No. 10 GALV. ANNEALED WIRE GUYS TO TRUNK. USE RUBBER HOSE COVER WHERE WIRES ARE IN CONTACT WITH BRANCHES.
PROVIDE 3" LAYER OF MULCH AS SPECIFIED OVER ENTIRE WATERING SAUCER AT ALL TREE PITS, OR OVER ENTIRE TREE BED. DO NOT PLACE MULCH WITHIN 3" OF TRUNK.
TRUNK FLARE TO BE COMPLETELY EXPOSED. SET 1" TO 2" ABOVE ESTABLISHED FINISH GRADE.
3' LONG CEDAR STAKES, MIN. 3" DIA., (SPACED 120° IN PLAN). STAKES TO BE DRIVEN IN AFTER ATTACHING TO TENSION WIRE.
TOPSOIL MIX BACKFILL.
FORM 4" HIGH TOPSOIL LIP AT EDGE OF TREE PIT TO FORM WATERING SAUCER
4"
VARIES
6"
CUT AND REMOVE BINDING FROM TRUNK AND FROM AROUND AS MUCH OF BALL AS POSSIBLE. CUT AND REMOVE BURLAP AT UPPER 1/3 OF ROOT BALL. IF SYNTHETIC WRAP IS USED, REMOVE COMPLETELY.
VARIES
SIT ROOT BALL ON EXISTING UNDISTURBED SOIL OR ON COMPACTED SUBGRADE. DO NOT DIG DEEPER THAN THE DEPTH OF ROOT BALL.
HOLE TO BE 3 TIMES ROOT BALL DIAMETER WITH SLOPED SIDES

NOTE:
PROVIDE STAKING AND GUYING FOR TREES PLANTED ON SLOPES GREATER THAN 3H:1V, IN EXPOSED, WINDY AREAS AND AS SPECIFIED BY LANDSCAPE ARCHITECT. GUY WIRES AND STAKES SHALL BE REMOVED WITHIN TWELVE MONTHS OF PLANTING.

EVERGREEN TREE PLANTING DETAIL

(N.T.S.)

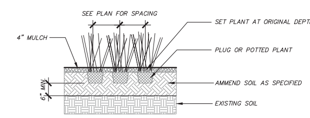
NOTE:
PROVIDE STAKING AND GUYING FOR TREES PLANTED ON SLOPES GREATER THAN 3H:1V, IN EXPOSED, WINDY AREAS AND AS SPECIFIED BY LANDSCAPE ARCHITECT. GUY WIRES AND STAKES SHALL BE REMOVED WITHIN TWELVE (12) MONTHS OF PLANTING.



TWO (2) STRANDS NO. 12 GAUGE GALVANIZED ANNEALED STEEL WIRE TWISTED IN NEW RUBBER HOSE.
TWO (2) STRANDS, DOUBLE WRAPPED AND TWISTED.
TRUNK FLARE TO BE COMPLETELY EXPOSED. SET 1" TO 2" ABOVE ESTABLISHED FINISH GRADE.
PROVIDE 3" LAYER OF MULCH AS SPECIFIED OVER ENTIRE WATERING SAUCER AT ALL TREE PITS OR OVER ENTIRE TREE BED. DO NOT PLACE MULCH WITHIN 3" OF TRUNK.
FORM 4" HIGH TOPSOIL LIP AROUND EACH TREE PIT TO FORM WATERING SAUCER.
7' MIN. MAJOR TREE
6' MAX. MINOR TREE
ROOT BALL
4"
VARIES
6"
1'-4"
TOPSOIL MIX BACKFILL.
CUT AND REMOVE BINDING FROM TRUNK AND FROM AROUND AS MUCH OF BALL AS POSSIBLE. CUT AND REMOVE BURLAP AT UPPER 1/3 OF ROOT BALL. IF SYNTHETIC WRAP IS USED, REMOVE COMPLETELY.
SIT ROOT BALL ON EXISTING UNDISTURBED SOIL OR ON COMPACTED SUBGRADE. DO NOT DIG DEEPER THAN THE DEPTH OF ROOT BALL.
VARIES
HOLE TO BE 3 TIMES ROOT BALL DIAMETER WITH SLOPED SIDES
CEDAR STAKES, MIN. 3" DIA., LENGTH VARIES. 3 STAKES @ 120 DEG. PER MAJOR TREE. STAKES SHALL CLEAR ROOT BALL.

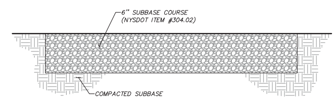
TREE PLANTING DETAIL

(N.T.S.)



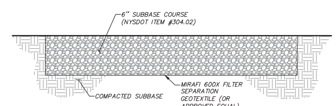
PERENNIAL / ORNAMENTAL GRASS PLANTING DETAIL

(N.T.S.)



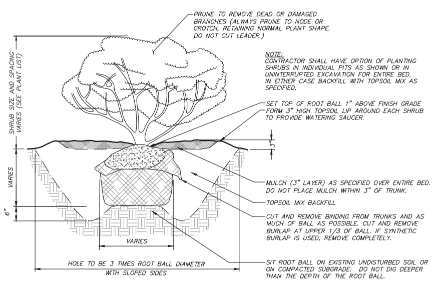
GRAVEL PAVEMENT DETAIL FOR ENCLOSURES

(N.T.S.)



GRAVEL PAVEMENT DETAIL FOR DRIVEWAYS

(N.T.S.)

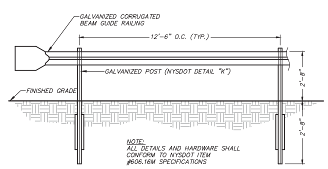


PRUNE TO REMOVE DEAD OR DAMAGED BRANCHES (ALWAYS PRUNE TO NODE OR CROTCH, RETAINING NORMAL PLANT SHAPE. DO NOT CUT LEADER.)
SHRUB SIZE AND SPACING VARIES (SEE PLANT LIST)
SET TOP OF ROOT BALL 1" ABOVE FINISH GRADE
FORM 3" HIGH TOPSOIL LIP AROUND EACH SHRUB TO PROVIDE WATERING SAUCER.
3"
VARIES
6"
MULCH (3" LAYER) AS SPECIFIED OVER ENTIRE BED. DO NOT PLACE MULCH WITHIN 3" OF TRUNK.
TOPSOIL MIX BACKFILL
CUT AND REMOVE BINDING FROM TRUNKS AND AS MUCH OF BALL AS POSSIBLE. CUT AND REMOVE BURLAP AT UPPER 1/3 OF BALL. IF SYNTHETIC BURLAP IS USED, REMOVE COMPLETELY.
VARIES
HOLE TO BE 3 TIMES ROOT BALL DIAMETER WITH SLOPED SIDES
SIT ROOT BALL ON EXISTING UNDISTURBED SOIL OR ON COMPACTED SUBGRADE. DO NOT DIG DEEPER THAN THE DEPTH OF THE ROOT BALL.

NOTE:
CONTRACTOR SHALL HAVE OPTION OF PLANTING SHRUBS IN INDIVIDUAL PITS AS SHOWN OR IN UNINTERRUPTED EXCAVATION FOR ENTIRE BED. IN EITHER CASE BACKFILL WITH TOPSOIL MIX AS SPECIFIED.

SHRUB PLANTING DETAIL

(N.T.S.)



NOTE:
ALL DETAILS AND HARDWARE SHALL CONFORM TO NYSDOT ITEM #606.16M SPECIFICATIONS

GUIDERAIL DETAIL

(N.T.S.)

NO.	DATE	REVISION	BY
4	2-16-24	REVISED FOR NYCDEP SUBMISSION	JWM
3	1-29-24	GENERAL REVISION	TSM
2	12-4-23	REVISED PER PLANNING BOARD COMMENTS	KJK
1	10-30-23	RESUBMISSION TO PLANNING BOARD	MEU

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
DETAILS & NOTES

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.
DATE	8-30-23	DRAWN BY	I.B.
SCALE	AS SHOWN	CHECKED BY	A.D.T.

DRAWING NO. D-1

SHEET 11 / 13

CONSTRUCTION NOTES:

1. The contractor is advised that additional notes will be found on subsequent drawings and such notes, while pertaining to the specific drawings they are placed in, also supplement the construction notes listed hereon.
2. All work and materials shall be in accordance with these plans and project specifications.
3. The contractor shall notify the Engineer 72 hours prior to start of work.
4. The subject project has coverage under the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity, permit No. GP-0-20-001. As required by the permit, all contractors and subcontractors will be required to sign a certification statement that they understand and agree to comply with the requirements of GP-0-20-001.
5. The contractor shall have a representative onsite that is a NYSDEC Trained Contractor at all times site work is being performed under this contract. The contractor shall provide a contractor's certification as contained in the NYSDEC Construction Site Logbook to the project engineer prior to start of construction.
6. The contractor shall coordinate the layout of the work with the owner, and the project engineer, and eliminate all conflicts including but not limited to utility location conflicts, prior to commencement of any proposed work.
7. The contractor shall coordinate their construction operations with the project engineer and any other contractors/subcontractors and construction activities occurring simultaneously on the property.
8. It shall be the contractor's/subcontractor's responsibility to provide sanitary facilities (i.e. porta-john (and other necessary temporary facilities) throughout the duration of construction.
9. The contractor shall be responsible for providing all power, water, and other resources necessary to complete the project work.
10. Minimum OSHA site standards must be maintained including personal protective equipment and vests. The contractor shall be responsible for guarding and protecting all open excavations in accordance with the latest edition and current OSHA requirements.
11. The contractor shall field verify all dimensions relative to the scope of work.
12. The contractor shall stake out the limits of clearing and it shall be reviewed with the project engineer prior to the start of clearing operations. Existing trees to remain outside the limits of clearing shall be protected per the detail.
13. It shall be the contractor's responsibility to identify and protect all underground utilities. The contractor shall contact Dig Safely New York at 811 or 1-800-962-7962 and any other required utility locators prior to the start of construction.
14. The exact location, size, and type of the existing utilities may differ from what is shown hereon. The contractor shall field verify the location, size and type of the existing utilities by performing a test pit ahead of construction as necessary to permit revisions to meet existing utilities or relocate proposed utilities as required. Horizontal location and elevation of the existing utility as determined by test pit shall be provided to the project engineer.
15. The contractor shall field verify the existing grades / utility locations prior to commencement of any work. Any discrepancy shall be reported to the project engineer when identified.
16. The contractor shall perform all work with care so that any materials which are to remain in place, or which are to remain on the property, shall not be damaged. The contractor will be held responsible for all damage caused to existing utilities / features / facilities / vegetation during execution of the work not proposed to be modified or removed by these plans. All damage to any existing utilities / features / facilities / vegetation not proposed to be modified by the contract shall be repaired or replaced by the contractor to the satisfaction of the owner at no additional cost.
17. Original condition shall mean the condition in which the feature was found (or better) at the start of construction.
18. The contractor shall be responsible for the implementation and maintenance of erosion and sediment controls (shown or not) as necessary to prevent erosion and migration of sediment outside of the contract limit line or into the stormwater collection system. Erosion and sediment controls may include but are not limited to silt fence, stabilized construction entrance, berms and inlet protection. All erosion and sediment controls shall be installed in accordance with the New York State Standards and Specifications for Erosion and Sediment Control. Additional erosion and sediment controls may be required during construction by the project engineer. All disturbed areas shall be stabilized in accordance with the Erosion & Sediment Control Notes and details.
19. Silt fence shall be installed parallel to the contours.
20. Contractor is responsible for protecting soil stockpiles, trenches, and building excavations against weather. No additional fee will be paid to the contractor for removal and replacement of suitable soils due to degradation from weather related events.
21. During execution of the work, the contractor shall be responsible for dewatering and control of surface water in accordance with the New York State Standards and Specifications for Erosion and Sediment Control. The New York State Standards and Specifications for Erosion and Sediment Control can be found at http://www.dec.ny.gov/chemical/29066.html.
22. All existing pavement shall be cleaned and swept prior to the end of each work day.
23. The contractor shall provide temporary construction fence for all work areas including the material storage/staging areas.
24. All personal vehicles, materials, and construction equipment must be kept within the construction staging area. Use of additional onsite storage areas must be pre-authorized by the owner of the property.
25. Tree clearing can only be performed between October 1st and March 31st.
26. Topsoil and subsoil shall be stripped, screened, and stockpiled in locations shown for future use. The contractor must keep enough topsoil onsite for final restoration. Four inches of screened topsoil shall be placed and raked to finish grade over all disturbed areas not covered by pavement, concrete and/or gravel surfaces, unless otherwise noted.
27. The contractor shall maintain existing grades unless otherwise noted.
28. Contractor shall be responsible for removal of all excess rock, topsoil, subsoil, and construction debris from the site.
29. There shall be no burying of construction and demolition (C&D) debris or stumps on site. All C&D debris and stumps must be removed by the contractor, and disposed of in accordance with all pertinent regulations.
30. All pre-cast concrete drainage structures, frames, and grates are to meet H-20 loading requirements.
31. Design Engineer to approve locations and elevations of all structures prior to placement.
32. Temporary asphalt wedges shall be placed in all areas open to vehicular access. The wedges shall be installed between any sudden abrupt grade changes in excess of 1" as a result of construction. All temporary wedges shall be removed prior to placement of asphalt course.
33. The contractor will be responsible for the implementation of all maintenance and protection of traffic (MP&T) measures if necessary. MP&T shall include but not be limited to placement of traffic cones and warning signs around work zone. Safe and adequate pedestrian vehicular traffic flow shall be maintained at all times to the existing buildings, while the work is in progress. The contractor shall submit for approval of the Engineer, a construction sequence schedule and plan for pedestrian and vehicular traffic flow.

EROSION AND SEDIMENT CONTROL MAINTENANCE SCHEDULE

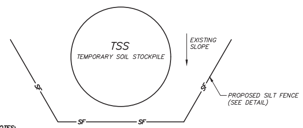
MONITORING REQUIREMENTS				MAINTENANCE REQUIREMENTS	
PRACTICE	DAILY	WEEKLY	AFTER RAINFALL	DURING CONSTRUCTION	AFTER CONSTRUCTION
SILT FENCE BARRIER	–	Inspect	Inspect	Clean/Replace	Remove
STABILIZED CONSTRUCTION ENTRANCE	Inspect	–	Inspect	Clean/Replace Stone and Fabric	Remove
DUST CONTROL	Inspect	–	Inspect	Mulching/ Spraying Water	N/A
*VEGETATIVE ESTABLISHMENT	–	Inspect	Inspect	Water/Reseed/ Remulch	Reseed to 80% Coverage
INLET PROTECTION	–	Inspect	Inspect	Clean/Repair/ Replace	Remove
SOIL STOCKPILES	–	Inspect	Inspect	Mulching/ Silt Fence Repair	Remove
SWALES	–	Inspect	Inspect	Clean/Mulch/ Repair	Mow Permanent Grass/Replace/ Repair Rip Rap
CHECK DAMS	–	Inspect	Inspect	Clean/Replace Stones/Repair	Clean/Replace Stones/Repair
CONCRETE DRAINAGE STRUCTURES	–	Inspect	Inspect	Clean Sumps/ Remove Debris/ Repair/Replace	Clean Sumps/ Remove Debris/ Repair/Replace
DRAINAGE PIPES	–	Inspect	Inspect	Clean/Repair	Clean/Repair
ROAD & PAVEMENT	–	Inspect	Inspect	Clean	Clean
*STORMWATER TRAP/BASIN	–	Inspect	Inspect	Clean/Mulch/ Repair/Reseed	See Permanent Stormwater Facilities Maintenance Schedule on project plans

* Permanent vegetation is considered stabilized when 80% of the plant density is established. Erosion control measures shall remain in place until all disturbed areas area permanently stabilized.

Note: The party responsible for implementation of the maintenance schedule during and after construction is:

East Point Energy, LLC
310 4th Street NE 3rd Floor
Charlottesville, VA 22902

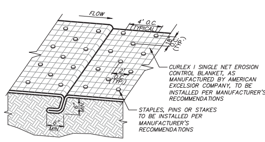
and/or the current owner(s) of the subject property.



NOTES:

1. AREA CHOSEN FOR STOCKPILE LOCATION SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE IMMEDIATELY SEEDED WITH K31 PERENNIAL TALL FESCUE.
4. ALL STOCKPILES SHALL BE PROTECTED WITH SILT FENCING INSTALLED ON THE DOWNGRADIENT SIDE.

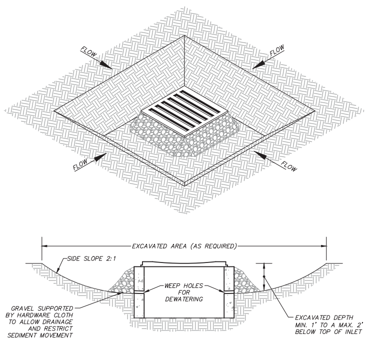
TEMPORARY SOIL STOCKPILE DETAIL
(N.T.S.)



NOTES:

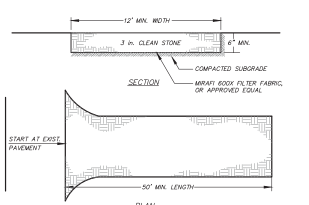
1. BLANKET TO BE INSTALLED ON ALL SLOPE 3H:1V OR GREATER.
2. BLANKETS SHALL OVERLAP 6" MIN. END OVER END (SHINGLE STYLE) AND STAPLED TOGETHER BY TWO STAGGERED ROWS OF STAPLES SPACED 4" APART.
3. BLANKETS TO BE SECURELY ANCHORED IN A 6" X 6" TRENCH AT THE TOP AND BOTTOM OF THE SLOPE.
4. BLANKET TO BE INSTALLED VERTICALLY DOWN SLOPE.

GEOTEXTILE ANCHORING DETAIL
(N.T.S.)



1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL EXCAVATION WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY, AND STABILIZE WITH PERMANENT SEEDING
5. MAXIMUM DRAINAGE AREA = 1 ACRE

EXCAVATED DROP INLET PROTECTION DETAIL
(N.T.S.)



INSTALLATION NOTES

1. STONE SIZE – USE 3" STONE
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY)
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCUR. TWENTY FOUR (24) FOOT IF SINGLE ACCESS TO SITE.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ACCESS DETAIL
(N.T.S.)

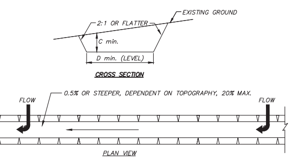
REQUIRED POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICE COMPONENTS:

1. Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP-0-20-001), all construction projects needing post-construction stormwater management practices shall prepare a SWPPP that also includes practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual ("Design Manual"). Where post-construction stormwater management practices are not designed in conformance with this technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of SWPPP components is provided in accordance with Part III.B.2a-f and III.B.3:
   a. Identification of all post-construction stormwater management practices to be constructed as part of the project; This plan, and details/notes shown hereon serve to satisfy this SWPPP requirement.
   b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice; This plan, and details/notes shown hereon serve to satisfy this SWPPP requirement.
   c. A Stormwater Modeling and Analysis Report including pre-development conditions, post-development conditions, the results of the stormwater modeling, a summary table demonstrating that each practice has been designed in conformance with the sizing criteria, identification of and justification for any deviations from the Design Manual, and identification of any design criteria that are not required. The required analysis is provided in the report titled Stormwater Pollution Prevention Plan for Union Energy Center.
   d. Soil testing results and locations. This SWPPP requirement is provided in the report titled Amended Stormwater Pollution Prevention Plan for Union Energy Center.
   e. Infiltration testing results. This SWPPP requirement is provided in the report titled Amended Stormwater Pollution Prevention Plan for Union Energy Center.
   f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice. The Permanent Stormwater Facilities Maintenance Schedule provided on these plans serves to satisfy this requirement.
2. Enhanced Phosphorus Removal Standards – Beginning on September 30, 2008, all construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the most current version of the technical standard, New York Stormwater Management Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a – 2.f above. The permanent stormwater practices for this project have been sized according to chapter 10 of the Design Manual Enhanced Phosphorus Removal Standards. Please see 2.a – 2.f above.

GENERAL CONSTRUCTION SEQUENCE NOTES:

1. Schedule a pre-construction meeting with the Town Engineer, Design Engineer, and NYCDEP.
2. Each phase of work implies that all sediment and erosion controls measures will be installed in accordance with best management practices and prior to any grubbing operations.
3. Trees shall be cleared for the entire project site prior to beginning Phase 1. Minimal soil disturbance is proposed as part of the tree clearing. Grubbing shall take place during each associated phase.
4. All topsoil is to be stripped and stockpiled in appropriate locations for future use on the site. All stockpiled soil areas are to be appropriately stabilized and protected.
5. Each phase implies that all site improvements from the previous phase will be installed and all soil disturbance is stabilized prior to continuing to the next phase of work.
6. All finished slopes 3H:1V or steeper are to be immediately stabilized and covered with erosion control blanked curlex 1 by American Excelsior Co. or approved equal.
7. No more than 5 acres of disturbance shall be permitted at any one time without prior written approval from the Town of Carmel, NYCDEP, and NYSDEC.
8. Should groundwater be encountered during excavation, the contractor shall contact the project's certified erosion control specialist immediately to assess the situation. If groundwater is encountered, a sump pit shall be constructed as directed by the engineer or erosion control specialist. Dewatering, should groundwater be encountered, shall be discharged from the sump to a splash pad or energy dissipator with silt fence down gradient. Final location as directed by the engineer or erosion control specialist.
9. All excess soil material not needed for grading/fill activities shall be removed from the site.
10. Prior to performing any mass earthwork in each phase, the associated downstream temporary sediment trap shall be constructed and stabilized.
11. The areas for all stormwater infiltration practices shall be cordoned off with construction fence prior to any work to minimize soil compaction.
12. All stormwater runoff from areas of soil disturbance shall be diverted towards the downstream temporary sediment trap and away from the infiltration practices until all tributary areas have achieved final stabilization.
13. Upon final stabilization of all contributing areas, convert the temporary sediment traps to the proposed stormwater management practices, including removing any deposited sediment, excavate bottom of basin to final grade and stabilize all soil disturbance.
14. Remove all temporary erosion and sediment control facilities once final stabilization is achieved.

	DITCH A (< 5 AC.)	DITCH B (5–10 AC.)
C	1'	1'
D	4'	6'



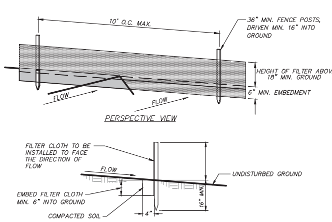
CONSTRUCTION SPECIFICATIONS

1. ALL CONSTRUCTION DITCHES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE DITCH SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE DITCH.
8. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.
9. STABILIZATION SHALL BE AS PER THE CHART BELOW:

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	A (5 AC. OR LESS)	B (5–10 AC.)
1	0.5–3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1–5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1–8.0%	SEED WITH JUTE OR EXCELSIOR; SOD	LINED RIP-RAP 4–8" RECYCLED CONCRETE EQUIVALENT
4	8.1–20%	LINED 4–8" RIP-RAP	ENGINEERED DESIGN

CONSTRUCTION DITCH DETAIL
(N.T.S.)



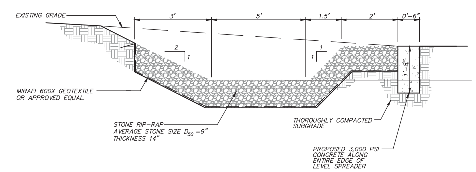
CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

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

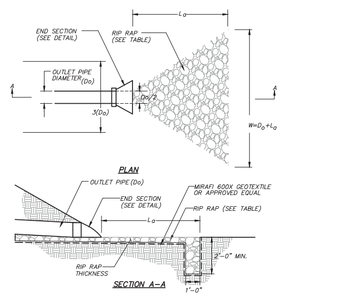
STANDARD SILT FENCE DETAIL
(N.T.S.)

EROSION & SEDIMENT CONTROL NOTES:

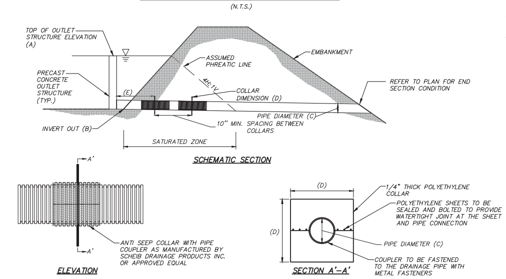
1. The owner's field representative (O.F.R.) will be responsible for the implementation and maintenance of erosion and sediment control measures on this site prior to and during construction.
2. All construction activities involving the removal or disposition of soil are to be provided with appropriate protective measures to minimize erosion and contain sediment disposition within. Minimum soil erosion and sediment control measures shall be implemented as shown on the plans and shall be installed in accordance with "New York Standards and Specifications For Erosion and Sediment Control," latest edition.
3. Wherever feasible, natural vegetation should be retained and protected. Disturbance shall be minimized in the areas required to perform construction. No more than 5 acres of unprotected soil shall be exposed at any one time.
4. When land is exposed during development, the exposure shall be kept to the shortest practical period of time. In the areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. Disturbance shall be minimized to the areas required to perform construction.
5. Silt fence shall be installed as shown on the plans prior to beginning any clearing, grubbing or earthwork.
6. All topsoil to be stripped from the area being developed shall be stockpiled and immediately seeded for temporary stabilization. Ryegrass (annual or perennial) at a rate of 30 lbs. per acre shall be used for temporary seeding in spring, summer or early fall. 'Aristook' Winter Rye (cereal rye) shall be used for temporary seeding in late fall and winter.
7. Any disturbed areas not subject to further disturbance or construction traffic, permanent or temporary, shall have soil stabilization measures initiated for permanent vegetation cover in combination with a suitable mulch within 1 business day of final grading. All seeded areas to receive a minimum 4" screened topsoil from stockpile area. Seed mixes as noted in General Site Seeding Notes on drawing SP-1 are to be planted between March 21 and May 20, or between August 15 and October 15 or as directed by project representative.
8. Cut or fill slopes 3:1 and steeper shall be stabilized immediately after grading with Curlex I Single Net Erosion Control Blanket, or approved equal.
9. Paved roadways shall be kept clean at all times.
10. The site shall at all times be graded and maintained such that all stormwater runoff is diverted to soil erosion and sediment control facilities.
11. All storm drainage outlets shall be stabilized, as required, before the discharge points become operational.
12. Stormwater from disturbed areas must be passed through erosion control barriers before discharge beyond disturbed areas or discharged into other drainage systems.
13. Erosion and sediment control measures shall be inspected and maintained on a daily basis by the O.F.R. to insure that channels, temporary and permanent ditches and pipes are clear of debris, that embankments and berms have not been breached and that all straw bales and silt fences are intact. Any failure of erosion and sediment control measures shall be immediately repaired by the contractor and inspected for approval by the O.F.R. and/or site engineer.
14. Dust shall be controlled by sprinkling or other approved methods as necessary, or as directed by the O.F.R.
15. Cut and fills shall not endanger adjoining property, nor divert water onto the property of others.
16. All fills shall be placed and compacted in 6" lifts to provide stability of material and to prevent settlement.
17. The O.F.R. shall inspect downstream conditions for evidence of sedimentation on a weekly basis and after rainstorms.
18. As warranted by field conditions, special additional erosion and sediment control measures, as specified by the site engineer and/or the Town Engineer shall be installed by the contractor.
19. Erosion and sediment control measures shall remain in place until all disturbed areas are suitably stabilized.



LEVEL SPREADER DETAIL
(N.T.S.)



ROCK OUTLET PROTECTION DETAIL
(N.T.S.)

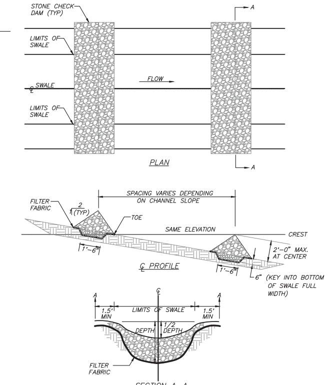


ANTI-SEEP COLLAR DETAIL
(N.T.S.)

REQUIRED EROSION CONTROL SWPPP CONTENTS:

Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP-0-20-001), all Stormwater Pollution Prevention Plan's (SWPPP) shall include erosion and sediment control practices designed in conformance with the most current version of the technical standard, "New York Standards and Specifications for Erosion and Sediment Control." Where erosion and sediment control practices are not designed in conformance with this technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of required SWPPP components is provided in accordance with Part III.B.1a-l of General Permit GP-0-20-001:

a. Background Information: The subject project consists of the construction of a battery electric storage facility and two electrical substations
b. Site map / construction drawing: These plans serve to satisfy this SWPPP requirement.
c. Description of the soils present at the site: Onsite soils located within the proposed limits of disturbance consist of Paxton Fine Sandy Loam (PnB, PnC, and PnD), Ridgebury Complex (RdA, RdB, and RgB), and Sun Loam (Sh), as identified on the Soil Conservation Service Web Soil Survey. These soil types belong to the Hydrologic Soil Groups "C", "D", "A/D", "B/D", and "C/D".
d. Construction phasing plan / sequence of operations: The Construction Sequence and phasing found on these plans provide the required phasing. A Construction Sequence and Erosion and Sediment Control Maintenance Schedule has been provided. The Sedimentation and Erosion Control Notes contained hereon outline a general sequence of operations for the proposed project. In general all erosion and sediment control facilities shall be installed prior to commencement with land disturbing activities, and areas of disturbance shall be limited to the shortest period of time as practicable.
e. Description of erosion and sediment control practices: This plan, and details / notes shown hereon serve to satisfy this SWPPP requirement.
f. Temporary and permanent soil stabilization plan: The Sedimentation and Erosion Control Notes and Details provided heron identify temporary and permanent stabilization measures to be employed with respect to specific elements of the project, and at the various stages of development.
g. Site map / construction drawing: This plan serves to satisfy this SWPPP requirement.
h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices: The details, Erosion and Sediment Control Notes, and Erosion and Sediment Control Maintenance Schedule serve to satisfy this SWPPP requirement.
i. An inspection schedule: Inspections are to be performed twice weekly and by a qualified professional as required by the General Permit GP-0-20-001. In addition the NYSDEC Trained Contractor shall perform additional inspections as cited in the Sedimentation and Erosion Control Notes.
j. A description of pollution prevention measures that will be used to control litter, construction chemicals and construction debris: In general, all construction litter / debris shall be collected and removed from the site. The general contractor shall supply either waste barrels or dumpster for proper waste disposal. Any construction chemicals utilized during construction shall either be removed from site daily by the contractor or stored in a structurally sound and weatherproof building. No hazardous waste shall be disposed of onsite, and shall ultimately be disposed of in accordance with all federal, state and local regulations. Material Safety Data Sheets (MSDS), material inventory, and emergency contact numbers shall be maintained by the general contractor for all construction chemicals utilized onsite. Finally, temporary sanitary facilities (portable toilets) shall be provided onsite during the entire length of construction, and inspected weekly for evidence of leaking holding tanks.
k. A description and location of any stormwater discharges associated with industrial activity other than construction at the site: There are no known industrial stormwater discharges present or proposed at the site.
l. Identification of any elements of the design that are not in conformance with the technical standard, "New York Standards and Specifications for Erosion and Sediment Control." All proposed elements of this SWPPP have been designed in accordance with the "New York Standards and Specifications for Erosion and Sediment Control."



NOTES:

1. STONE SHALL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. SET SPACING OF CHECK DAMS SO THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
6. MAXIMUM DRAINAGE AREA 2 ACRES.

STONE CHECK DAM DETAIL
(N.T.S.)

NO.	DATE	REVISION	BY
4	2-16-24	REVISED FOR NYCDEP SUBMISSION	JWM
3	1-29-24	GENERAL REVISION	TSM
2	12-4-23	REVISED PER PLANNING BOARD COMMENTS	KJK
1	10-30-23	RESUBMISSION TO PLANNING BOARD	MEU

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT: UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING: DETAILS AND NOTES

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.
DATE	8-30-23	DRAWN BY	I.B.
SCALE	NTS	CHECKED BY	A.D.T.

DRAWING NO. D-2

SHEET 12 / 13

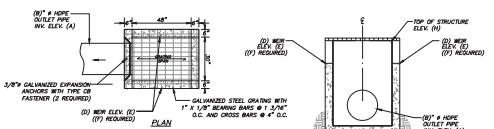
PERMANENT STORMWATER FACILITIES MAINTENANCE SCHEDULE

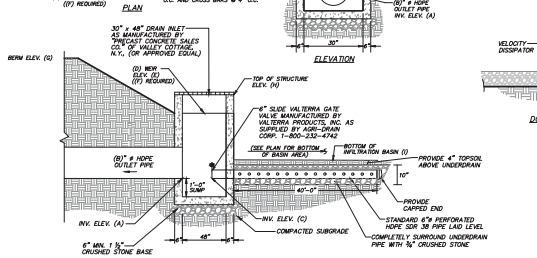
PRACTICE/FACILITY	MONTHLY	AFTER MAJOR STORM EVENTS	BI-ANNUALLY	YEARLY	EVERY 5 TO 10 YEARS
GRASS SWALES	Ensure contributing areas clean of debris, no evidence of erosion, & mowing performed.	Inspect for erosion, soil permeability & evidence of flow going around structures.	Inspect & clean Mow & remove debris & litter. Revegetate as needed.	Inspect & clean accumulated sediment.	Inspect for & remove accumulated sediment
INFILTRATION BASINS AND PRETREATMENT BASINS	Inspect first few months after construction for eroding soils & slumpage & repair immediately. Inspect for ponding and dewater time after all rainfall events. Remediate as needed to ensure proper functionality.	Inspect orifices, inlets & outlets for clogging, eroding soils on the basin berm & embankments, & sources of erosion; & stabilize and/or repair immediately	Mow berms and exterior embankments Remove debris & litter from inside & outlet structures. Remove sediment if accumulated greater than an 1"	–	Inspect for & remove accumulated sediment
SUBSURFACE STORMWATER COLLECTION SYSTEMS	–	–	Inspect & clean	Inspect, clean, repair and/or replace structures. Remove debris.	–
STORMWATER POND	Inspect first few months after construction for eroding soils & slumpage & repair immediately	Inspect orifices, inlets & outlets for clogging, eroding soils on the basin berm & embankments, & sources of erosion; & stabilize and/or repair immediately	Mow berm and exterior embankments Remove debris & litter from basin & outlet structures	Inspect orifices, inlets & outlets for clogging, eroding soils on the basin berm & embankments, & sources of erosion; & stabilize and/or repair immediately.	Inspect for & remove accumulated sediment when forebay is 50% full from original volume
CATCH BASIN SUMPS		–	Inspect for damage to frame and grate, and pipe inlets/outlets. Clean accumulated sediment in sump.	–	–

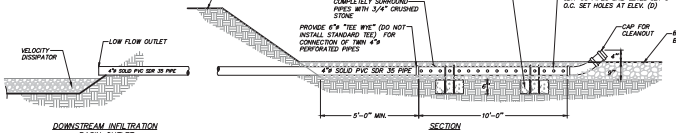
Note: The party responsible for implementation and maintenance of the stormwater management facilities during and after construction is:

East Point Energy, LLC
310 4th Street NE 3rd Floor
Charlottesville, VA 22902

and/or the current owner(s) of the subject property.



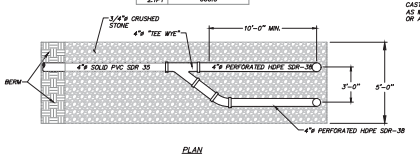




DOWNSTREAM INFILTRATION BASIN OUTLET

BASIN	BOTTOM OF BASIN ELEV. (A)
1.2PT	667.0
1.3PT	664.0
2.1PT	666.0

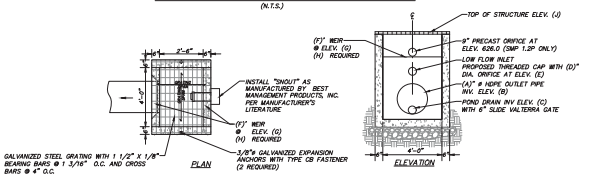
NOTES:
1. THE PRETREATMENT BASIN IS PROPOSED TO BE UTILIZED AS A TEMPORARY SEDIMENT TRAP DURING CONSTRUCTION.
2. AFTER THE CONTRIBUTING AREAS TO THE BASIN HAVE BEEN PERMANENTLY STABILIZED, THE BASIN AND OUTLET STRUCTURE SHALL BE CLEANED, THE CRUSHED STONE REPLACED, AND THE FINAL VEGETATION ESTABLISHED IN THE BASIN.

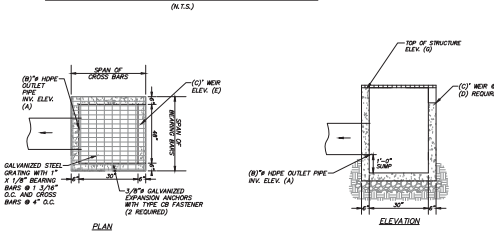


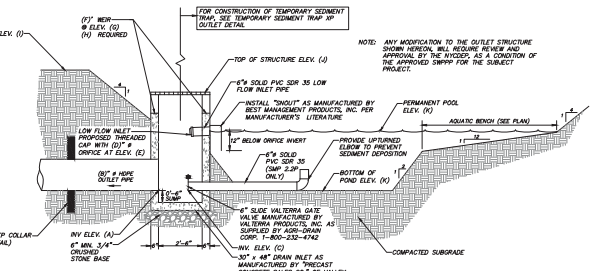
STORMWATER MANAGEMENT PRACTICE	OUTLET PIPE ELEVATION (A)	OUTLET PIPE DIAMETER ø" (B)	UNDER DRAIN INVERT ELEV. (C)	WEIR LENGTH (ft.)/each (D)	WEIR ELEVATION (E)	NUMBER OF WEIRS REQUIRED (F)	TOP OF BERM ELEVATION (G)	TOP OF OUTLET STRUCTURE ELEVATION (H)	BOTTOM OF BASIN ELEVATION (I)
1.2P	665.0	12"	665.0	–	–	0	670.0	669.0	666.0
1.3P	664.0	12"	664.0	4'-0"	664.5	1	666.0	665.0	662.0
2.1P	661.0	12"	661.0	–	–	0	668.0	667.0	665.0

INFILTRATION BASIN OUTLET STRUCTURE DETAIL
(N.T.S.)

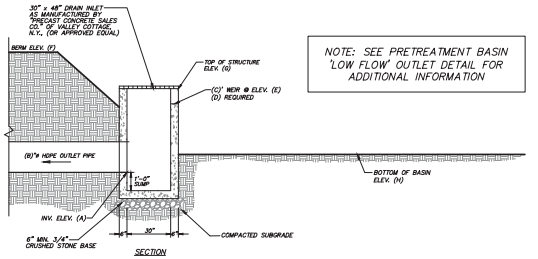
PRETREATMENT BASIN 'LOW FLOW' OUTLET DETAIL
(N.T.S.)







NOTE: ANY MODIFICATION TO THE OUTLET STRUCTURE SHOWN HEREON, WILL REQUIRE REVIEW AND APPROVAL BY THE NYCDEP, AS A CONDITION OF THE APPROVED SWPPP FOR THE SUBJECT PROJECT.



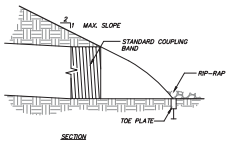
NOTE: SEE PRETREATMENT BASIN 'LOW FLOW' OUTLET DETAIL FOR ADDITIONAL INFORMATION

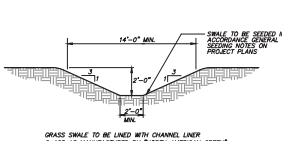
STORMWATER MANAGEMENT PRACTICE	OUTLET PIPE ELEVATION (A)	OUTLET PIPE DIAMETER ø" (B)	POND DRAIN INVERT ELEV. (C)	LOW FLOW ORIFICE DIAMETER ø" (D)	LOW FLOW INVERT ELEV. (E)	WEIR LENGTH (ft.) (F)	WEIR ELEVATION (G)	NUMBER OF WEIRS REQUIRED (H)	TOP OF BERM ELEVATION (I)	TOP OF OUTLET STRUCTURE ELEVATION (J)	BOTTOM OF POND ELEVATION (K)
1.1P	624.0	18"	–	2.0	625.0	–	–	0	629.0	628.0	620.0
2.2P	648.0	18"	649.0	2.0	653.0	1'-0"	654.8	1	658.0	657.0	649.0
2.3P	644.5	18"	–	1.5	646.0	4'-0"	648.2	1	650.0	649.0	642.0

MICROPOOL EXTENDED DETENTION POND (NYSDEC DESIGN P-1) PERMANENT OUTLET STRUCTURE DETAIL
(N.T.S.)

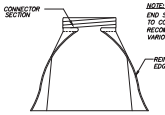
STORMWATER MANAGEMENT PRACTICE	OUTLET PIPE ELEVATION (A)	OUTLET PIPE DIAMETER ø" (B)	WEIR LENGTH (ft.) (C)	NUMBER OF WEIRS REQUIRED (D)	WEIR ELEVATION (E)	TOP OF BERM ELEVATION (I)	TOP OF OUTLET STRUCTURE ELEVATION (J)	BOTTOM OF BASIN ELEVATION (K)
1.2PT	667.0	18"	2'-0"	1	668.5	671.0	670.0	667.0
1.3PT	664.0	18"	2'-6"	1	665.7	668.0	667.0	664.0
2.1PT	666.0	18"	4'-0"	1	667.0	669.0	668.0	666.0

PRETREATMENT BASIN OUTLET STRUCTURE DETAIL
(N.T.S.)



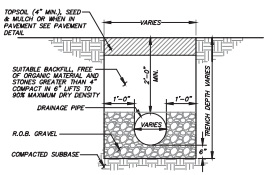


GRASS SWALE DETAIL
(N.T.S.)

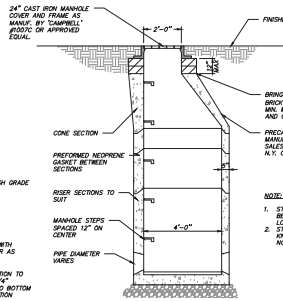


NOTE:
END SECTION CONNECTIONS TO CONFORM TO MANUFACTURERS RECOMMENDATIONS FOR VARIOUS PIPE MATERIAL & SIZES

HDPE END SECTION DETAIL
(N.T.S.)

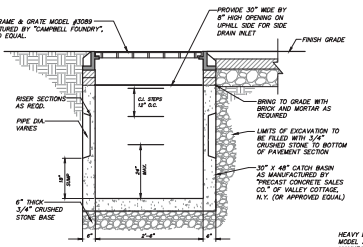


DRAINAGE LINE TRENCH DETAIL
(N.T.S.)

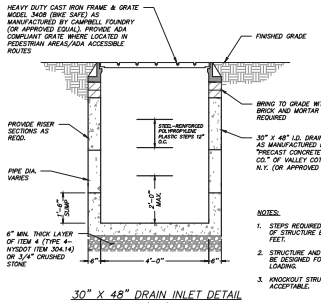


NOTE:
1. STRUCTURE AND COVER TO BE DESIGNED FOR H-20 LOADING.
2. STRUCTURE TO BE PRECAST, KNOCKOUT STRUCTURE WILL NOT BE ACCEPTED

DRAINAGE MANHOLE DETAIL
(N.T.S.)

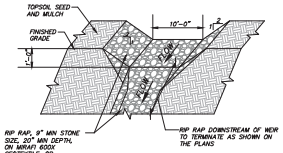


SIDE DRAIN INLET DETAIL
(N.T.S.)
(STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING)



NOTES:
1. STEPS REQUIRED IF DEPTH OF STRUCTURE EXCEEDS 4 FEET.
2. STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING.
3. KNOCKOUT STRUCTURES ACCEPTABLE.

30" X 48" DRAIN INLET DETAIL
(N.T.S.)



EMERGENCY OVERFLOW SPILLWAY DETAIL
(N.T.S.)

NO.	DATE	REVISION	BY
4	2-16-24	REVISED FOR NYCDEP SUBMISSION	JMM
3	1-29-24	GENERAL REVISION	TSM
2	12-4-23	REVISED PER PLANNING BOARD COMMENTS	K.W.
1	10-30-23	RESUBMISSION TO PLANNING BOARD	MEU

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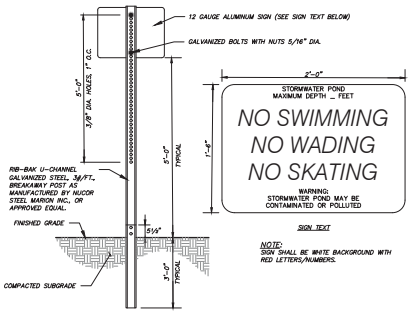
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
UNION ENERGY CENTER
MILLER ROAD, TOWN OF CARMEL, PUTNAM COUNTY NEW YORK

DRAWING:
DETAILS AND NOTES

PROJECT NUMBER	21120.100	PROJECT MANAGER	J.J.C.
DATE	8-30-23	DRAWN BY	I.B.
SCALE	NTS	CHECKED BY	A.D.T.

DRAWING NO. D-3
SHEET 13 / 13



NOTE:
SIGN SHALL BE WHITE BACKGROUND WITH RED LETTERS/NUMBERS.

STORMWATER POND WARNING SIGN DETAIL
N.T.S.

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

February 19, 2024

Town of Carmel Planning Board
60 McAlpin Avenue
Mahopac, New York 10541

RE: DAG Route 6 LLC
395 US Route 6
Town of Carmel
TM# 75.19-1-8 & 75.20-2-5

Dear Chairman Paeprer and Members of the Board:

Please find enclosed the following plans and documents in support of an application for site plan approval for the above referenced project:

- Site plan set, revised February 19, 2024.
- Site Profile, by William Bersharat, dated February 19, 2024.

In response to open comments received from Code Enforcement Director, Michael Carnazza, dated January 23, 2024, we offer the following responses:

1. This accurately describes the proposed project, but for clarity the existing building that houses the dog daycare business will remain.

2. This comment is acknowledged.

3. The required side yard variance is acknowledged.

In response to open comments received from Town Engineer Richard Franzetti, PE, dated January 19, 2024, we offer the following responses:

General Comments

1. The required referrals are acknowledged. Though the property fronts on US Route 6 on the north side, it also has frontage on Bucks Hollow Road. There are no proposed improvements to the Route 6 driveway and it is anticipated that traffic related to the proposed buildings will gain access from their driveway to Bucks Hollow Road. No highway work permit is anticipated, but the applicant will coordinate with the NYDOT on the proposed NYSDOT drainage improvements on site.

2. The required permitting is acknowledged with the exception of NYSDOT as discussed above.

3. The requirement for SWPPP coverage under GP-0-20-001, for erosion control only, is acknowledged.

4. The requirement for a stormwater maintenance bond is acknowledged.

5. The requirement for a site work performance bond is acknowledged.

Detailed Comments

1. Drawing SP-3 has been added to the site plan set, which includes vehicle movements. Sight distances are shown on drawing SP-1. The driveway to Bucks Hollow Road exists and is proposed to remain as the primary access for the proposed project. Sight distances have been added to drawing SP-1.

2. No work is proposed in the Route 6 right of way.

3. Based on discussion with the owner, the onsite population is not anticipated to exceed thresholds requiring a public water supply. As such, the existing on site well will continue to be used, and the new buildings will be supplied with a service line connecting to the existing building. Details of the proposed septic will be provided with a future submission following testing with the PCDOH.

4. A note has been added to the Planting Notes on drawing D-1 that all plantings shall be verified by the Town of Carmel Wetland Inspector.

5. A note has been added to the Planting Notes on drawing D-1 that all plantings shall be installed per the town code.

6. A light spill plan is provided on drawing SP-3.

7. Rim elevations are shown on drawing SP-2. Inverts will be added with a future submission.

8. Hydraulic calculations and pipe sizing will be provided with a future submission.

9. Additional details on the proposed septic system will be provided with a future submission following testing with the PCDOH.

10. A note has been added to drawing SP-2 indicating that all utilities are to be buried.

13. A construction sequence has been added to drawing D-1.

14. Proposed site driveways will meet the code requirements.

15. The site pavement detail has been updated to meet the required specifications.

In response to open comments received from Town Planner, Patrick Cleary, dated January 24, 2024, we offer the following responses:

1. The proposed 10,000 sf building is proposed to house contractors and light manufacturers for storage, office, and general work use. Such contractors could include carpenters, plumbers, electricians, and contractors of other similar fields. Other potential tenants could be artisans/ light manufacturers such as cabinet makers, wood workers and other similar fields. The applicant does not intend to rent to automotive repair tenants. A summary of these uses and their potential number of daily users and vehicle trips is included in a table on drawing SP-1.

2. The required side yard variance is acknowledged.

3. This comment is acknowledged. The applicant has decided that they may provide mezzanine spaces in the 10,000 sf building upon tenant request. Given the possibility of these mezzanines being installed, we have included them in our revised parking summary on drawing SP-1.

4. The primary access for the proposed project will be from Bucks Hollow Road. Vehicle maneuvers are shown on drawing SP-3. The existing fencing through the proposed easement is now shown to be removed. The access easement would only be secondary access to the project location.

5. This comment is acknowledged.

6. A use table has been added to the site plan indicating the proposed user population and anticipated vehicle trips.

7. There is very little grading proposed as part of the project, as the site is relatively flat and already developed to some degree. There are no basements proposed for the two buildings.

8. As the project will create less than one acre of disturbance, there is no requirement to provide stormwater management practices. The applicant is proposing improvements to the existing drainage system that runs through the site to mitigate occasional flooding issues at the southern end of the property.

9. As discussed above, water service lines are shown on drawing SP-2. Based on discussion with the owner, the onsite population is not anticipated to exceed thresholds requiring a public water supply. As such, the existing on site well will continue to be used, and the new buildings will be supplied with a service line connecting to the existing building. Details of the proposed septic will be provided in a future submission following testing with PCDOH.

   Currently electrical service is provided to existing dog daycare building by an overhead service wire that connects at the southeast corner of the building. That service will be reconnected to serve the three buildings underground. The applicant will coordinate the connections with the utility. The buildings will be heated and cooled by a heat pump system. Currently there is no plan for back up generators.

10. As discussed, the applicant plans to infill the existing hedge at the property line to fill in areas that have died back, to provide a continuous hedge along the trailway frontage.

11. The main driver of the project is the construction of the two new buildings, but an additional benefit will be a significant improvement in the appearance of the south side of the site. As mentioned above, the applicant intends to fill in the existing hedge along the trailway frontage. The enclosed Site Profile is intended to clarify the visual impact of the project. The applicant is open to discussing the building façade.

12. A light spill plan and lighting specifications are provided on drawing SP-3.

13. The proposed lighting will run on photocells during business hours and will run on motion sensors after hours for security purposes.

We respectfully request to be placed on the February 28, 2024, Planning Board agenda for discussion of the project with the Board. Should you have any questions or comments regarding this information, please feel free to contact our office.

Very truly yours,

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

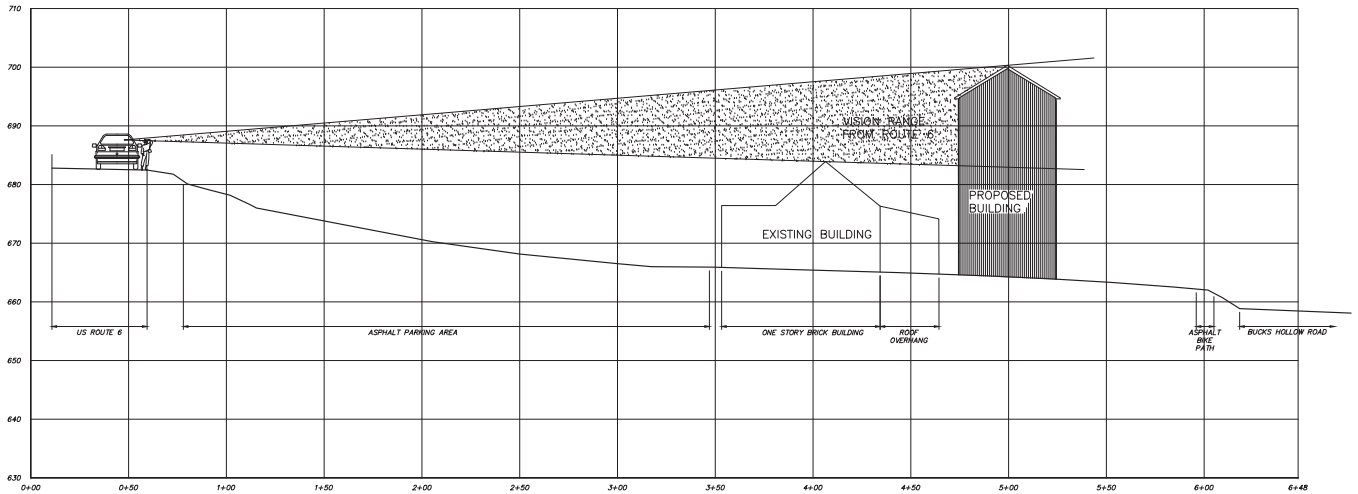
By: _____
Richard D. Williams Jr., PE
Senior Principal Engineer

RDW/adt

Enclosures

cc: (All via email only) Nick Crecco

Insite File No. 16230.100



CRECCO DAG RT 6

SCALE: HORIZ. 1" = 30'
VER. 1" = 10'

RAYEX
DESIGN PLANNING CONSTRUCTION

ROY A. FREDRIKSEN, PE
DESIGN•PLANNING•CONSULTING ENGINEERING
266 SHEAR HILL RD.•MAHOPAC, NY 10541•845-621-4000
RAYEXDESIGN@GMAIL.COM

OWNER: DAG ROUTE SIX, LLC

JOB #

DRN BY:

CHKD BY:

PROJECT: NEW INDUSTRIAL BUILDING TO BE BUILT ON 395 ROUTE 6 IN MAHOPAC, TOWN OF CARMEL NY.

TAX MAP #:

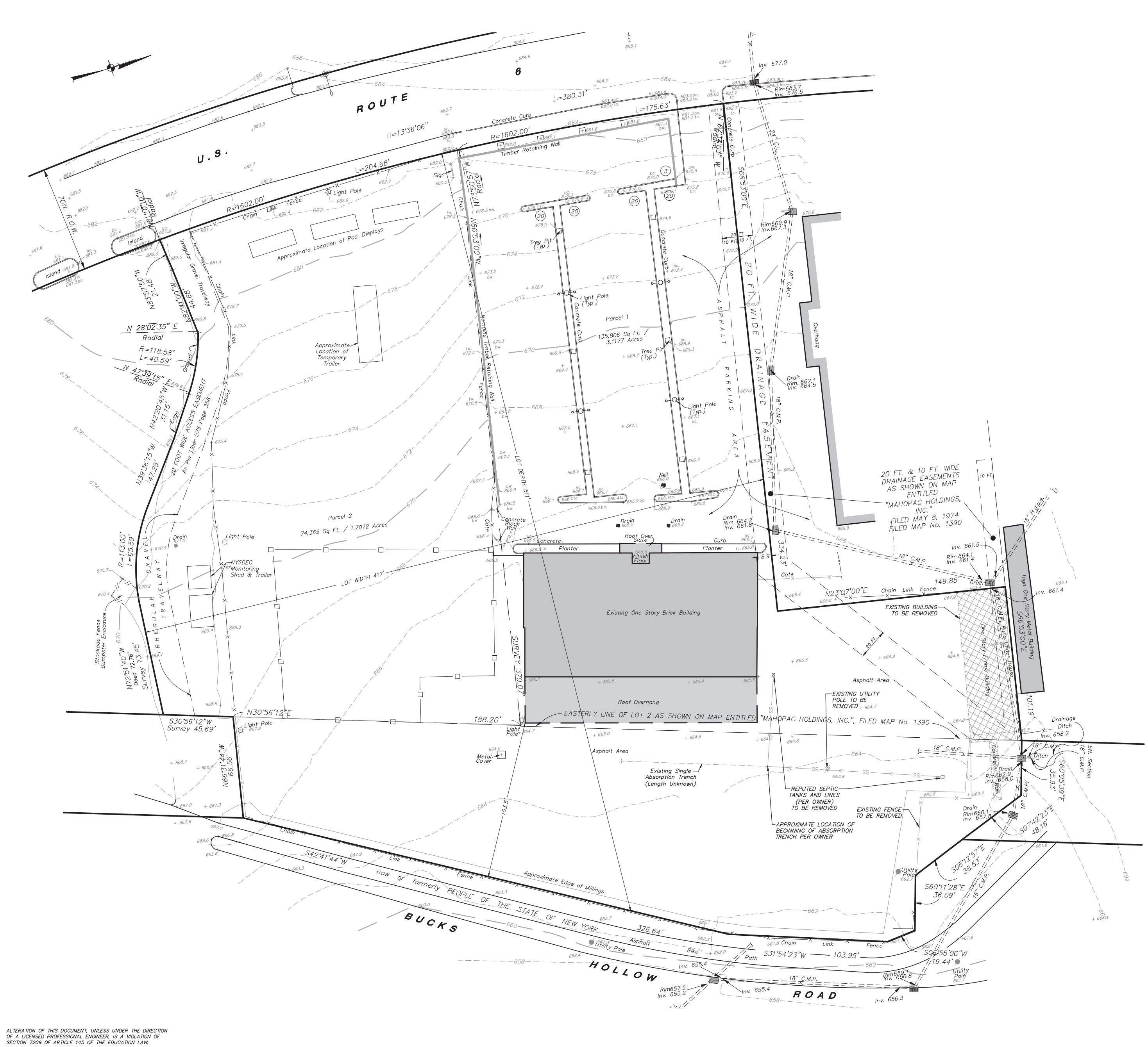
SHEET TITLE: VISION RANGE DIAGRAM

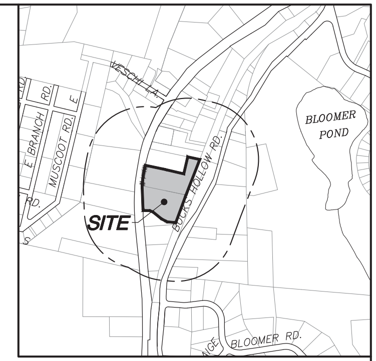
1OF 1

STATE OF NEW YORK ROY A. FREDRIKSEN 22125 LICENSED PROFESSIONAL ENGINEER

REVISIONS:

DATE: 2/16/2024





LOCATION MAP SCALE: 1" = 500'±

OWNER/APPLICANT:

DAG ROUTE SIX, LLC
PO BOX 636
MAHOPAC, NY 10541

SITE DATA:

Zone: C
Total Acreage 4.84 AC ±
Tax Map No.: 75.19–1–8
75.20–2–5

GENERAL NOTES:

1. Boundary and topographic info shown hereon are taken from a survey entitled, "Topographic Survey of Property". prepared by Link Land Surveyors, P.C., dated January 2, 2015.
2. The approximate locations of the pool displays and temporary trailer are taken from aerial orthoimagery.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING CHAIN LINK FENCE
- EXISTING CONCRETE CURB
- EXISTING DROP IN CONCRETE CURB
- EXISTING UTILITY PAD & RISERS
- EXISTING SIGN
- EXISTING UNDERGROUND DRAINAGE PIPE
- CB EXISTING CATCH BASIN
- EXISTING POST MOUNTED LIGHT
- EXISTING LIGHT POLE
- EXISTING WELL
- 670 EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- 665.7 × EXISTING SPOT GRADE

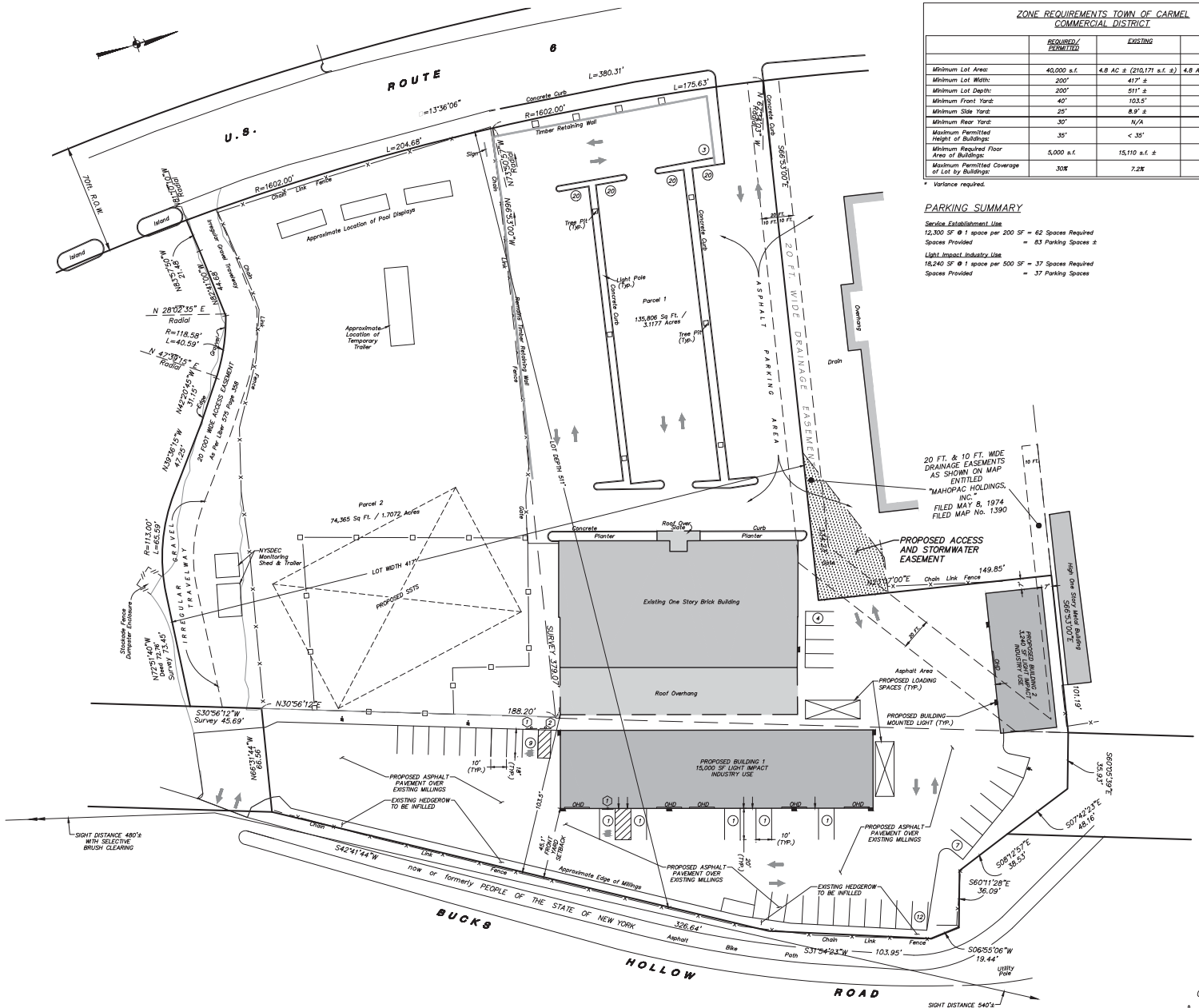
NO.	DATE	REVISION	BY
1	2–19–24	REVISED PER TOWN COMMENTS	KJK

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225–9690
(845) 225–9717 fax
www.insite–eng.com

PROJECT:
CRECCO DAG RT 6
395 US ROUTE 6, TOWN OF CARMEL, PUTNAM COUNTY, NY

DRAWING:
EXISTING CONDITIONS AND REMOVALS PLAN

PROJECT NUMBER	16230.100	PROJECT MANAGER	R.D.W.	DRAWING NO.	SHEET
DATE	1–17–24	DRAWN BY	K.J.K.	EX–1	1 / 5
SCALE	1" = 30'	CHECKED BY	A.D.T.		



ZONE REQUIREMENTS TOWN OF CARMEL COMMERCIAL DISTRICT

	REQUIRED/ PERMITTED	EXISTING	PROPOSED
Minimum Lot Area:	40,000 s.f.	4.8 AC ± (210,171 s.f. ±)	4.8 AC ± (95,973 s.f. ±)
Minimum Lot Width:	200'	417' ±	417' ±
Minimum Lot Depth:	200'	511' ±	511' ±
Minimum Front Yard:	40'	103.5'	45.1'
Minimum Side Yard:	25'	8.9' ±	7' ±*
Minimum Rear Yard:	30'	N/A	N/A
Maximum Permitted Height of Buildings:	35'	< 35'	< 35'
Minimum Required Floor Area of Buildings:	5,000 s.f.	15,110 s.f. ±	30,540 s.f. ±
Maximum Permitted Coverage of Lot by Buildings:	30%	7.2%	12.2%

* Variance required.

PARKING SUMMARY

Service Establishment Use
12,300 SF @ 1 space per 200 SF = 62 Spaces Required
Spaces Provided = 83 Parking Spaces ±

Light Impact Industry Use
18,240 SF @ 1 space per 500 SF = 37 Spaces Required
Spaces Provided = 37 Parking Spaces

LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING CHAIN LINK FENCE
- EXISTING CONCRETE CURB
- EXISTING DROP IN CONCRETE CURB
- EXISTING SIGN
- PROPOSED # OF STALLS TO BE STRIPED
- PROPOSED CONCRETE CURB
- PROPOSED DROP CURB & RAMP
- PROPOSED PAINTED STOPBAR
- PROPOSED PAINTED HANDICAP PARKING SYMBOL
- PROPOSED STRIPED ISLAND
- PROPOSED LOADING SPACE
- PROPOSED SINGLE POLE SIGN
- PROPOSED BUILDING MOUNTED LIGHT
- PROPOSED DOOR LOCATION
- PROPOSED OVERHEAD DOOR LOCATION

SIGN DATA TABLE

LOCATION NO.	TEXT	M.U.T.C.D. NUMBER	SIZE OF SIGN (s.f.)	DESCRIPTION
1	NO PARKING ANY TIME	R7-1	12" x 18"	Red on White
2	RESERVED PARKING	R7-8	12" x 18"	Blue on White

USE TABLE TOWN OF CARMEL COMMERCIAL ZONE

	USE	AREA	TENANTS/ EMPLOYEES	ANTICIPATED TRIPS
Building 1:	Office Warehouse	5,000 SF± 10,000 SF± 15,000 SF± TOTAL	5 Units Fulltime 1-2/Unit 5-10 Total	0-10 Service / Day 5-10 Employee / Day
Building 2:	Warehouse	3,240± SF	0-2 Intermittent	0-2 / Day

GRAPHIC SCALE
0 15 30 60
(IN FEET)
1 inch = 30 ft.

NO.	DATE	REVISION	BY
1	2-19-24	REVISED PER TOWN COMMENTS	K.K.

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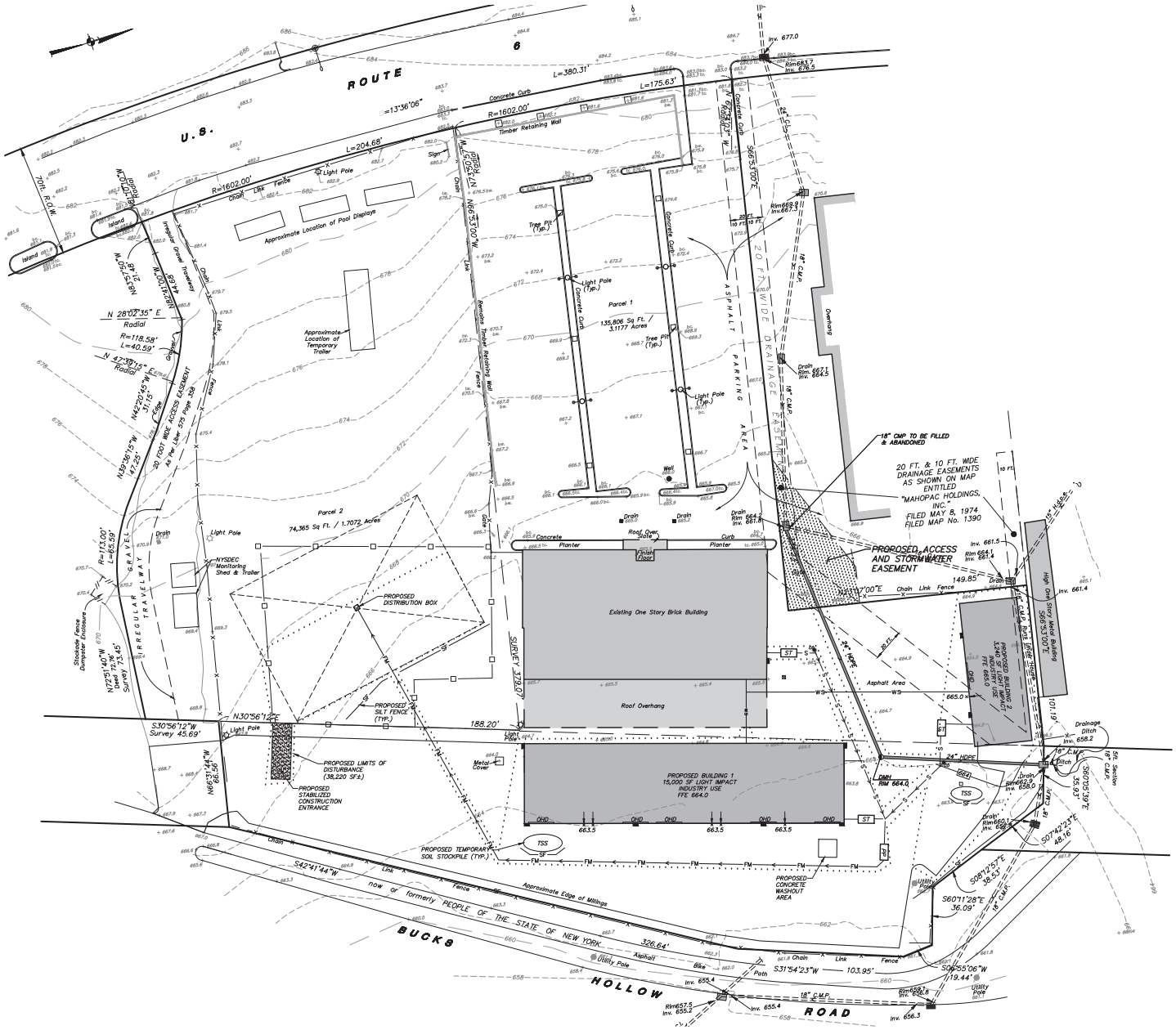
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
CRECCO DAG RT 6
395 US ROUTE 6, TOWN OF CARMEL, PUTNAM COUNTY, NY

DRAWING:
LAYOUT & LANDSCAPE PLAN

PROJECT NUMBER	16230.100	PROJECT MANAGER	R.D.W.
DATE	1-17-24	DRAWN BY	K.J.K.
SCALE	1" = 30'	CHECKED BY	A.D.T.

DRAWING NO. SP-1
SHEET 2 / 5



UTILITY NOTES:

1. All proposed utilities are to be buried.

GRAPHIC SCALE

0 15 30 60

(IN FEET)
1 inch = 30 ft.

NO.	DATE	REVISION	BY
1	2-19-24	REVISED PER TOWN COMMENTS	K.JK

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(845) 225-9717 fax
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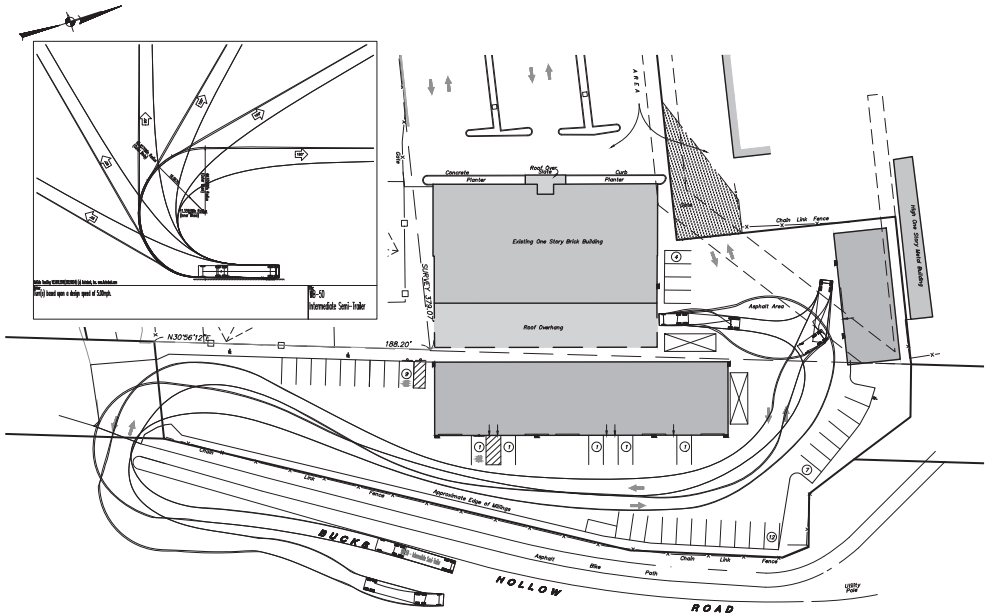
PROJECT:
CRECCO DAG RT 6
395 US ROUTE 6, TOWN OF CARMEL, PUTNAM COUNTY, NY

DRAWING:
GRADING, UTILITIES, & EROSION CONTROL PLAN

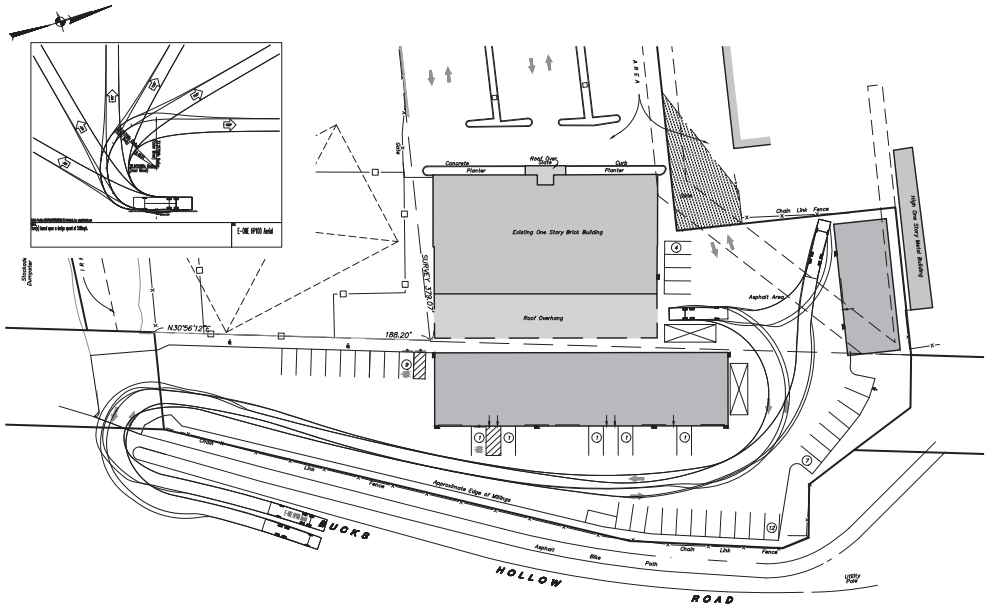
PROJECT NUMBER	16230.100	PROJECT MANAGER	R.D.W.
DATE	1-17-24	DRAWN BY	K.J.K.
SCALE	1" = 30'	CHECKED BY	A.D.T.

DRAWING NO. SP-2
SHEET 3 / 5



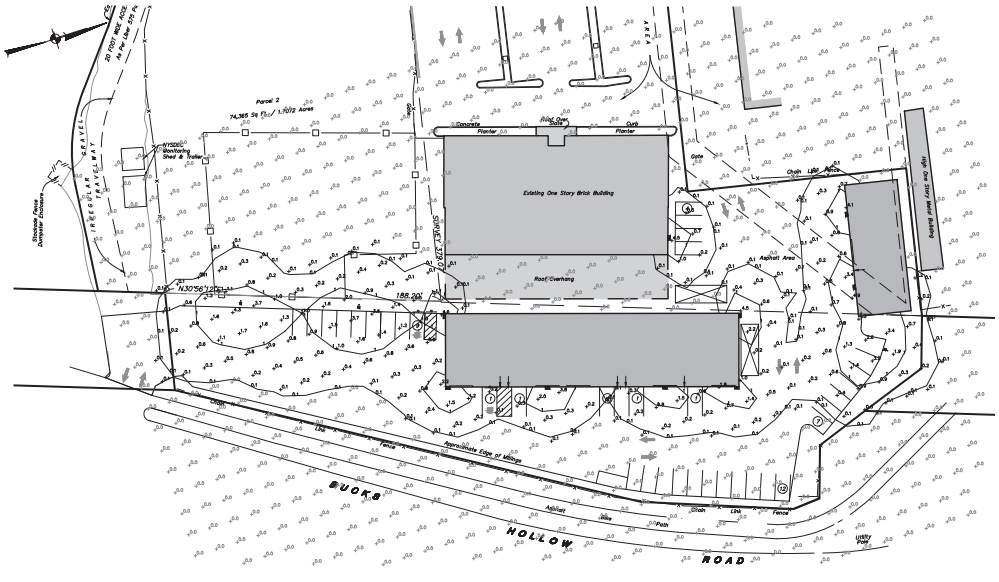
WB-50 INTERMEDIATE SEMI-TRAILER - VEHICLE MANEUVERING PLAN

SCALE: 1" = 40'



E-ONE HP100 AERIAL FIRE ENGINE - VEHICLE MANEUVERING PLAN

SCALE: 1" = 40'



PHOTOMETRIC LIGHTING PLAN

SCALE: 1" = 40'

LIGHTING NOTES:

1. All lighting shall be as noted on the plan or approved equal.
2. Style and finish of all luminaires to be selected by owner.
3. Proposed lights will run on photocells during regular business hours, and will run on motion sensors after hours.
4. Type, location, and shading of all proposed lighting shall prevent the spillover of light onto all adjacent properties.
5. All light fixtures to be full cutoff to comply with dark sky guidelines.

LIGHT CONTOUR LEGEND

0.1	0.10 Foot Candles
1	1.00 Foot Candles

* Photometric calculations shown on plan are in foot candles.

LUMINAIRE SCHEDULE

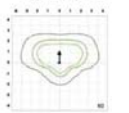
Sym	Qty	Catalog Number	Description	Lamp	Mounting Height	Watts
■	9	LDWP-FC-3B-ED-7040	LUMARK WALPAK CUTOFF 2LED 4000K	LED	12'-0"	27.2
-■	3	RSX1_LED_P1_30K_R4	RSX POLE MOUNTED AREA LUMINAIRE	LED	16'-0"	51.3

RSX2 LED
Area Luminaire

Specifications

EPA (ft²@0°):	0.69 ft² (0.06 m²)
Length:	29.3" (74.4 cm) (SPA mount)
Width:	13.4" (34.0 cm)
Height:	3.0" (7.6 cm) Main Body 7.2" (18.3 cm) Arm
Weight: (SPA mount)	30.0 lbs (13.6 kg)

House Side Shield



LITHONIA LIGHTING One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.acuitybrands.com
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SPECIFICATION FEATURES

Housing
Rugged one-piece die-cast aluminum housing and hinged, removable die-cast aluminum door. One-piece silicone gasket seals the optical chamber. UL 1598 wet location listed and IP66 ingress protection rated.

Electrical
Ballasts, LED driver and related electrical components are hard mounted to the die-cast housing for optimal heat sinking and operating efficiency. Wiring is extended through a silicone gasket at the back of the housing. Three 1/2" threaded conduit entry points allow for thru-branch wiring. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from LED source. Integral LED electronic driver incorporates internal fusing designed to withstand a 6kV surge test and is Class 2 rated for 120-277V with an operating temperature of -40° to 55°C. Wall Pak LED systems maintain greater than 93% of the initial light output after 72,000 hours of operation. UL listed HID high power factor ballasts are Class M insulation rated (high pressure sodium: 250, 400W (-40°C / -40°F). High efficiency HID ballasts are available in 120, 208, 240, 277, 347 and 480V.

Optical
Highly reflective anodized aluminum reflectors provide high efficiency illumination. Optical assemblies include impact resistant borosilicate refractive glass, and full cutoff IESNA cornuliant configurations. Patented, solid state LED luminaires are thermally optimized with three lumen packages. HID models are offered in horizontal medium or mogul-based metal halide (MP) or high pressure sodium (HP) lamps.

Door Assembly
Single point, captive stainless steel hardware secures the removable hinged door allowing for ease of installation and maintenance. Door assembly is hinged at the bottom for easy removal, installation and re-lamping.

Finish
Finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard color is bronze. Additional colors available in white, grey, bronze, black, dark platinum and graphite metallic. Consult your lighting representative at Cooper Lighting Solutions for a complete selection of standard colors. Options to meet Buy American and other domestic preference requirements.

Efficiency Standards Notice
Select luminaires are manufactured to USA and California efficiency regulations.

WP WAL-PAK

NO.	DATE	REVISION	BY
1	2-19-24	REVISED PER TOWN COMMENTS	K.JK

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ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
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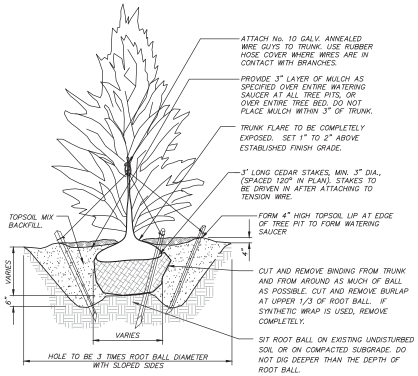
PROJECT:
CRECCO DAG RT 6
395 US ROUTE 6, TOWN OF CARMEL, PUTNAM COUNTY, NY

DRAWING:
VEHICLE MANEUVERING & LIGHTING PLAN

GRAPHIC SCALE
0 20 40 80
(IN FEET)
1 inch = 40 ft.

PROJECT NUMBER	16230.100	PROJECT MANAGER	R.D.W.
DATE	1-17-24	DRAWN BY	K.J.K.
SCALE	1" = 40'	CHECKED BY	A.D.T.

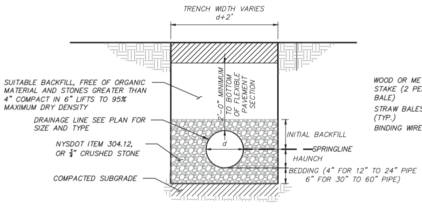
DRAWING NO. SP-3 SHEET 4 / 5



NOTE:
PROVIDE STAKING AND GUYING FOR TREES PLANTED ON SLOPES GREATER THAN 3H:1V, IN EXPOSED, WINDY AREAS AND AS SPECIFIED BY LANDSCAPE ARCHITECT. GUY WIRES AND STAKES SHALL BE REMOVED WITHIN TWELVE MONTHS OF PLANTING.

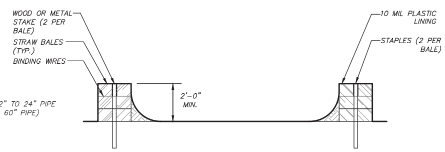
EVERGREEN TREE PLANTING DETAIL

(N.T.S.)

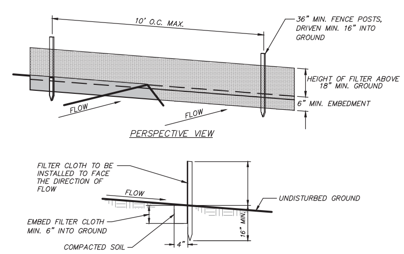


DRAINAGE LINE TRENCH DETAIL

(N.T.S.)



SECTION



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

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

STANDARD SILT FENCE DETAIL

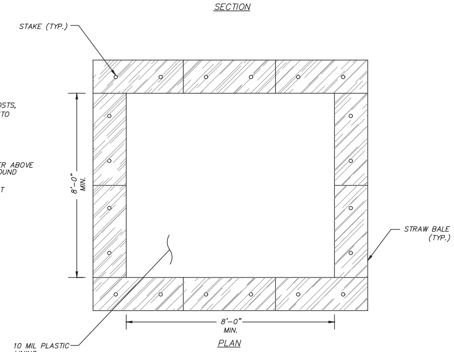
(N.T.S.)

GENERAL PLANTING NOTES:

1. All plantings shall be verified by the Town of Carmel Wetland Inspector.
2. All plantings shall be installed per §142 of the Town of Carmel code.
3. All proposed planting beds to receive a 12" min. depth of topsoil. Soil amendments and fertilizer application rates shall be determined based on specific testing of topsoil material.
4. Any new soils added will be amended as required by results of soil testing and placed using a method that will not cause compaction.
5. No fertilizer shall be added in stormwater basin plantings. Nutrient requirements to be met by incorporation of acceptable organic matter.
6. All plant material to be nursery grown.
7. Plants shall conform with ANSI Z60.1 American Standard for Nursery Stock in all ways including dimensions.
8. Plant material shall be taken from healthy nursery stock.
9. All plants shall be grown under climate conditions similar to those in the locality of the project.
10. Plants shall be planted in all locations designed on the plan or as staked in the field by the Landscape Architect.
11. The location and layout of landscape plants shown on the site plan shall take precedence in any discrepancies between the quantities of plants shown on the plans and the quantity of plants in the Plant List.
12. Provide a 3" layer of shredded pine bark mulch (or as specified) over entire watering saucer at all tree pits or over entire planting bed. Do not place mulch within 3" of tree or shrub trunks.
13. All landscape plantings shall be maintained in a healthy condition at all times. Any dead or diseased plants shall immediately be replaced "in kind" by the contractor (during warranty period) or project owner.

CONSTRUCTION SEQUENCE:

1. Install stabilized construction entrance/anti-tracking pad at driveway entrance.
2. Install silt fence in general locations indicated on the plan.
3. Begin clearing and grubbing operations, and remove existing dwelling.
4. Strip and stockpile topsoil on site for later use in lawn and landscape areas.
5. Begin excavation for foundation and rough site grading.
6. Begin building construction and installation of SSTS and water connections.
7. Install site drainage and connect Roof Leader Drains.
8. Upon completion of grading operations, install finished driveway surfaces.
9. Install landscaping.
10. Topsoil, seed, and mulch all disturbed areas as soon as practical in accordance with the Erosion and Sediment Control Notes contained on this page.



CONCRETE TRUCK WASHOUT DETAIL

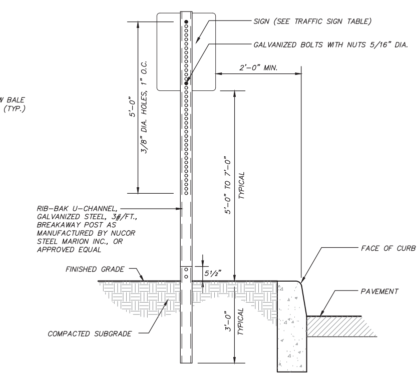
(N.T.S.)

NOTES

1. TEMPORARY CONCRETE WASHOUT TYPE ABOVE GRADE WILL BE CONSTRUCTED AS SHOWN ABOVE, WITH RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 8 FT.
2. THE WASHOUT WILL BE MINIMUM OF 100 FT FROM DRAINAGE SWALES, STORM DRAIN INLETS, WETLANDS, STREAMS AND OTHER SURFACE WATERS.
3. PLASTIC LINING WILL BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
4. IF THE CONCRETE WASHOUT AREA IS NOT SHOWN ON THE SITE PLANS, THE CONTRACTOR SHALL CHOOSE THE LOCATION OF THE WASHOUT AREA.

EROSION & SEDIMENT CONTROL NOTES:

1. The owner's field representative (O.F.R.) will be responsible for the implementation and maintenance of erosion and sediment control measures on this site prior to and during construction.
2. All construction activities involving the removal or disposition of soil are to be provided with appropriate protective measures to minimize erosion and contain sediment disposition within. Minimum soil erosion and sediment control measures shall be implemented as shown on the plans and shall be installed in accordance with "New York Standards and Specifications For Erosion and Sediment Control," latest edition.
3. Wherever feasible, natural vegetation should be retained and protected. Disturbance shall be minimized in the areas required to perform construction. No more than 5 acres of unprotected soil shall be exposed at any one time.
4. When land is exposed during development, the exposure shall be kept to the shortest practical period of time. In the areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. Disturbance shall be minimized to the areas required to perform construction.
5. Silt fence shall be installed as shown on the plans prior to beginning any clearing, grubbing or earthwork.
6. All topsoil to be stripped from the area being developed shall be stockpiled and immediately seeded for temporary stabilization. Ryegrass (annual or perennial) at a rate of 30 lbs. per acre shall be used for temporary seeding in spring, summer or early fall. 'Aristook' Winter Rye (cereal rye) shall be used for temporary seeding in late fall and winter.
7. Any disturbed areas not subject to further disturbance or construction traffic, permanent or temporary, shall have soil stabilization measures initiated for permanent vegetation cover in combination with a suitable mulch within 1 business day of final grading. All seeded areas to receive a minimum 4" topsoil (from stockpile area) and be seeded and mulched as follows:
   - Seed mixture to be planted between March 21 and May 20, or between August 15 and October 15 or as directed by project representative at a rate of 100 pounds per acre in the following proportions:
     Kentucky Bluegrass 20%
     Creeping Red Fescue 40%
     Perennial Ryegrass 20%
     Annual Ryegrass 20%
   - Mulch: Salt hay or small grain straw applied at a rate of 90 lbs./1000 S.F. or 2 tons/acre, to be applied and anchored according to "New York Standards and Specification For Erosion and Sediment Control," latest edition.
8. Grass seed mix may be applied by either mechanical or hydroseeding methods.Seeding shall be performed in accordance with the current edition of the "NYSDOT Standard Specification, Construction and Materials, Section 610-3.02, Method No. 1". Hydroseeding shall be performed using materials and methods as approved by the site engineer.
9. Cut or fill slopes steeper than 3:1 shall be stabilized immediately after grading with Curlex I Single Net Erosion Control Blanket, or approved equal.
10. Paved roadways shall be kept clean at all times.
11. The site shall at all times be graded and maintained such that all stormwater runoff is diverted to soil erosion and sediment control facilities.
12. All storm drainage outlets shall be stabilized, as required, before the discharge points become operational.
13. Stormwater from disturbed areas must be passed through erosion control barriers before discharge beyond disturbed areas or discharged into other drainage systems.
14. Erosion and sediment control measures shall be inspected and maintained on a daily basis by the O.F.R. to insure that channels, temporary and permanent ditches and pipes are clear of debris, that embankments and berms have not been breached and that all straw bales and silt fences are intact. Any failure of erosion and sediment control measures shall be immediately repaired by the contractor and inspected for approval by the O.F.R. and/or site engineer.
15. Dust shall be controlled by sprinkling or other approved methods as necessary, or as directed by the O.F.R.
16. Cut and fills shall not endanger adjoining property, nor divert water onto the property of others.
17. All fills shall be placed and compacted in 6" lifts to provide stability of material and to prevent settlement.
18. The O.F.R. shall inspect downstream conditions for evidence of sedimentation on a weekly basis and after rainstorms.
19. As warranted by field conditions, special additional erosion and sediment control measures, as specified by the site engineer and/or the Town Engineer shall be installed by the contractor.
20. Erosion and sediment control measures shall remain in place until all disturbed areas are suitably stabilized.



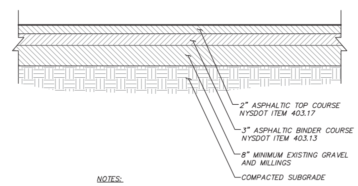
NOTE: FOR HANDICAP PARKING SIGNAGE, SIGNS SHALL BE INSTALLED AT A CLEAR HEIGHT OF BETWEEN 5'-0" AND 7'-0" ABOVE GRADE OF PARKING SPACE AND SUCH THAT SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.

TRAFFIC SIGN DETAIL

(N.T.S.)

REQUIRED SWPPP CONTENTS PER GP-0-20-001:

1. Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP-0-20-001), all Stormwater Pollution Prevention Plan's (SWPPP) shall include erosion and sediment control practices designed in conformance with the most current version of the technical standard, "New York Standards and Specifications for Erosion and Sediment Control." Where erosion and sediment control practices are not designed in conformance with this technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of required SWPPP components is provided in accordance with Part III.B.1a-l of General Permit GP-0-20-001:
   a. Background Information: The subject project consists of removal of an existing building and the construction of two new buildings totalling 13,240 SF, and the associated pavement, parking and utilities, including a new septic system.
   b. Site map / construction drawing: These plans serve to satisfy this SWPPP requirement.
   c. Description of the soils present at the site: Onsite soils located within the proposed limits of disturbance consist of Urban Land (Uf) and Woodbridge loam (WbD), which is rated in the C/D hydrologic group.
   d. Construction phasing plan / sequence of operations: The Construction Sequence and phasing found on these plans provide the required phasing. A Construction Sequence and Erosion and Sediment Control Maintenance Schedule has been provided. The Sedimentation and Erosion Control Notes contained hereon outline a general sequence of operations for the proposed project. In general all erosion and sediment control facilities shall be installed prior to commencement with land disturbing activities, and areas of disturbance shall be limited to the shortest period of time as practicable.
   e. Description of erosion and sediment control practices: This plan, and details / notes shown hereon serve to satisfy this SWPPP requirement.
   f. Temporary and permanent soil stabilization plan: The Sedimentation and Erosion Control Notes and Details provided heron identify temporary and permanent stabilization measures to be employed with respect to specific elements of the project, and at the various stages of development.
   g. Site map / construction drawing: This plan serves to satisfy this SWPPP requirement.
   h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices: The details, Erosion and Sediment Control Notes, and Erosion and Sediment Control Maintenance Schedule serve to satisfy this SWPPP requirement.
   i. An inspection schedule: Inspections are to be performed once weekly and by a qualified professional as required by the General Permit GP-0-20-001. In addition the NYSDEC Trained Contractor shall perform additional inspections as cited in the Sedimentation and Erosion Control Notes.
   j. A description of pollution prevention measures that will be used to control litter, construction chemicals and construction debris: In general, all construction litter / debris shall be collected and removed from the site. The general contractor shall supply either waste barrels or dumpster for proper waste disposal. Any construction chemicals utilized during construction shall either be removed from site daily by the contractor or stored in a structurally sound and weatherproof building. No hazardous waste shall be disposed of onsite, and shall ultimately be disposed of in accordance with all federal, state and local regulations. Material Safety Data Sheets (MSDS), material inventory, and emergency contact numbers shall be maintained by the general contractor for all construction chemicals utilized onsite. Finally, temporary sanitary facilities (portable toilets) shall be provided onsite during the entire length of construction, and inspected weekly for evidence of leaking holding tanks.
   k. A description and location of any stormwater discharges associated with industrial activity other than construction at the site: There are no known industrial stormwater discharges present or proposed at the site.
   l. Identification of any elements of the design that are not in conformance with the technical standard, "New York Standards and Specifications for Erosion and Sediment Control." All proposed elements of this SWPPP have been designed in accordance with the "New York Standards and Specifications for Erosion and Sediment Control."

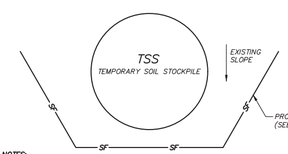


NOTES:

1. Min. slope shall be 1.00% for parking lot.
2. Crowned roadways shall maintain a 2.00% crown in direction shown on plan.

SITE PAVEMENT DETAIL

(N.T.S.)

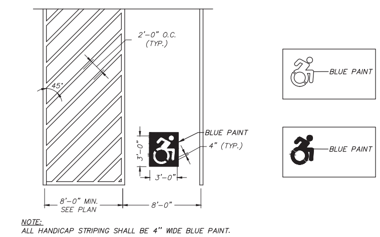


NOTES:

1. AREA CHOSEN FOR STOCKPILE LOCATION SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE IMMEDIATELY SEEDED WITH K31 PERENNIAL TALL FESCUE.
4. ALL STOCKPILES SHALL BE PROTECTED WITH SILT FENCING INSTALLED ON THE DOWNGRADIENT SIDE.

TEMPORARY SOIL STOCKPILE DETAIL

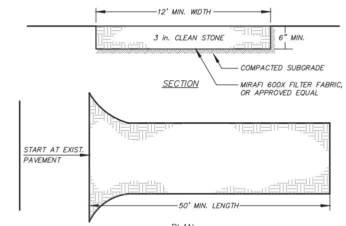
(N.T.S.)



NOTE:
ALL HANDICAP STRIPING SHALL BE 4" WIDE BLUE PAINT.

PAINTED NYS ACCESSIBLE PARKING DETAIL

(N.T.S.)



INSTALLATION NOTES

1. STONE SIZE - USE 3" STONE
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLLY
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCUR. TWENTY FOUR (24) FOOT IF SINGLE ACCESS TO SITE.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY . THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ACCESS DETAIL

(N.T.S.)

NO.	DATE	REVISION	BY
1	2-19-24	REVISED PER TOWN COMMENTS	KJK

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
CRECCO DAG RT 6
395 US ROUTE 6, TOWN OF CARMEL, PUTNAM COUNTY, NY

DRAWING:
DETAILS

PROJECT NUMBER	16230.100	PROJECT MANAGER	R.D.W.
DATE	1-17-24	DRAWN BY	K.J.K.
SCALE	N.T.S.	CHECKED BY	A.D.T.

DRAWING NO. D-1
SHEET 5 / 5

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

February 14, 2024

Town of Carmel Planning Board
Carmel Town Hall
60 McAlpin Avenue
Mahopac, New York 10541
Via Email: Rose Trombetta - rtrombetta@ci.carmel.ny.us

RE: MK Realty Site Plan
U.S. Route 6 and Old Route 6
Tax Map No. 55.06-1-44 & 45

Dear Chairman Paeprer and Members of the Board:

The above referenced Site Plan was re-granted Site Plan Approval at the March 11, 2023 Planning Board meeting. Since the project was originally approved in 2006, the Bond amount was reviewed by the Board's consultants in 2015 and increased to reflect the current construction costs for with the project. It should be noted that the applicant has kept all of the regulatory permits associated with the subject project current.

It is respectfully requested that this project be placed on the Planning Board's next available agenda for consideration of a one-year extension of Site Plan Approval. The $2,000.00 approval extension fee will be forwarded under separate cover.

Should you have any questions or comments regarding this information, please do not hesitate to contact our office.

Very truly yours,

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

By: _____
Zachary M. Pearson
Principal Engineer

ZMP

Enclosure(s)

cc: Kevin Dwyer, Via Email: kevinbdwyer@msn.com

Insite File No. 04235.100

From: michelle gervasi
To: Trombetta,Rose
Subject: Jordano/Gervasi Subdivision Bond Return
Date: Wednesday, January 31, 2024 11:45:43 AM

Hello Rose
I am requesting to be placed on the planning board agenda for February 28,2024 to request a release of the remainder of the subdivision bond associated with 182 Bullethole Rd.

Thank you
Michelle Gervasi

BIBBO ASSOCIATES, L.L.P.
Consulting Engineers

Timothy S. Allen, P.E.
Nicholas Gaboury, P.E.
Matthew J. Gironda, P.E.

February 9, 2024

Town of Carmel Planning Board
60 McAlpin Avenue
Mahopac, NY 10541-2340

Attn: Mr. Craig Paeprer, Chairman

Re: Proposed 14-Lot Subdivision
Yankee Land Development Subdivision
Bayberry Hill Road & Owen Drive
TM # 76.15-1-12

Dear Chairman and Members of the Board:

On behalf of the owners of the above captioned property we are hereby requesting an additional 180-day extension of Preliminary Subdivision Approval. This project was granted a 180 day extension until February 15, 2024. Check # 114 in the amount of $ 2,500 for the renewal fee is enclosed.

We respectfully request to be placed on your next available agenda. Should you require any additional information, please feel free to contact me.

Very truly yours,

Timothy S. Allen, P.E.
Senior Partner

TSA/mme
Enclosure
cc: Angelo Luppino
Michael Sirignano
File