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TOWN OF LEWISBORO
Westchester County, New York

Planning Board
PO Box 725
Cross River, New York 10518

Tel: (914) 763-5592
Fax: (914) 763-3637
Email: planning@lewisborogov.com

AGENDA

Tuesday, February 23, 2016 **Cross River Plaza, Cross River**

Note: Meeting will start at 7:30 p.m. and end at or before 11:30 P.M.

I. WETLAND VIOLATIONS

Cal# 5-14WV, Cal# 6-16WP
Caban, 31 South Shore Road, South Salem, NY 10590, Sheet 33D, Block CAMP, Lot 13, (Ryan and Patricia Caban, owners of record) Application for Wetland Activity Permit and property restoration.

II. PUBLIC HEARING

Cal #8-15PB
Wild Oaks Storage Tank Replacement, Fairmount Road, Goldens Bridge, NY 10526, Sheet 7H, Block 11139, Lot 23 (New York American Water, owner of record) - Application for Site Plan Review for the proposed construction of a new water storage for the Wild Oaks Water System. The replacement tank would be placed on the same site as the existing tank, on a Wild Oaks Water System property located on Fairmount Road.

Cal# 50-09WP
Falcon Ridge, Waccabuc Road, Goldens Bridge, NY 10526, Sheet 00008, Block 11137, Lot 018 (Boniello Land & Realty, owner of record) – Request for bond reduction.

Cal#3-15PB
Orchard Square Site Restoration Plan – 20 North Salem Road, Cross River, NY 10518, Sheet 17, Block 10533, Lot 89 (EK Cross River, LLC, owner of record) – Application for Waiver of Site Development Plan Procedures for the restoration of the plaza area, including tree plantings and new lighting.

III. DECISION

Cal# 12-10PB
Hayes/Stein Subdivision, 124 North Salem Road, South Salem, NY, Sheet 15, Block 10533, Lots 7, 8 & 9 (Jocelyn Hayes and Janet Stein, owners of record) – Application for Preliminary and Final Subdivision Plat in connection with a three-lot subdivision.

IV. PROJECT REVIEW

Cal# 31-15WP
Fortune Home Builders – Duffy's Bridge Road, Goldens Bridge, NY, Sheet 2, Block 10516, Lot 1 (Glickenhaus Bedford Development, owner of record) – Application for Wetland Activity Permit for the construction of a single-family residence on an undeveloped lot.

V. SKETCH PLAN REVIEW

Cal #10-15 PB
Wilder Balter Partners, NY State Route 22, Goldens Bridge, NY 10526, Sheet 5, Block 10776, Lots 19, 20 & 21 (Property Group Partners, LLC, owner of record) – Application for a 46 unit MF development on a ±35.4 acre parcel.

Cal#1-16 SW, Cal#1-16 WP
Lichtman, 192 Kitchawan Road, South Salem, NY 10590, Sheet 45, Block 10300, Lot 012 (Cheryl Chess and Aaron Lichtman, owners of record) - Application for demolition and removal of existing five-bedroom house, cottage and pool house. Application for Wetland Activity Permit and Stormwater Permit for the construction of a new five-bedroom house, garage, pool house, courtyard and modified driveway.

VI. EXTENSION OF TIME

Cal # 39-14 WP and Cal#15-45SW
J-2 Boniello Builders, property fronting Bouton Road, South Salem, NY 10590 Sheet 26, Block 10803, Lot 18 (Gus Boniello, owner of record) – Request for Extension of Time to resolution granting Wetland Activity Permit approval and Town Stormwater Permit dated May 19, 2015.

Cal# 8-02PB

Popoli Subdivision, 1437 Route 35, South Salem, NY 10590 Sheet 0040, Block 10552, Lot 003 (Pasquale Popoli & Angelo Sicuranza, owners of record) - Request for extension of time to meet requirements of the Approving Resolution dated September 28, 2010.

Cal# 9-13PB

JT Farm 1125 Route 35, South Salem, NY 10590 Sheet 26, Block 10541, Lots 27 & 28 (Peace & Carrots, LLC, owner of record) Request for extension of time granting Final Subdivision Plat Approval – Lot Line Change – Resolution dated November 18, 2014.

Cal# PB 12-13PB and Cal# 13-14SW

Guillermo Arias, 411 Smith Ridge Road, South Salem, NY 10590 Sheet 0050, Block 09834, Lot 28, & Lexus Holding Company, LTD, Smith Ridge Road, South Salem, Sheet 0050, Block 09834, Lot 162 – Request for extension of time granting Final Subdivision Plat Approval and Stormwater Permit Approval for a two (2) lot subdivision.

VII. CORRESPONDENCE AND GENERAL BUSINESS

Reduced copies of plans to Planning Board members.

Attachments to Adopted Minutes on Town web site

VIII. MINUTES OF January 26, 2015

KELLARD SESSIONS
CONSULTING, P.C.

John Kellard, P.E.
David Sessions, RLA, AICP

MEMORANDUM

TO: Chairman Jerome Kerner, AIA and
Members of Lewisboro Planning Board

CC: Ciorsdan Conran
Judson Siebert, Esq.

FROM: David J. Sessions, RLA, AICP
Town Wetland Inspector

DATE: February 12, 2016

RE: Patricia & Ryan Caban
31 South Shore Drive
Sheet 33D, Block CAMP, Lot 13

Project Description

The subject property is located at 31 South Shore Drive, is developed with a single-family residence, driveway, walkways, and sheds, and has frontage on Lake Waccabuc. The application results from the issuance of a wetland violation and disturbance that took place on the subject property to remediate an oil spill. The applicant proposes to restore the property by removing onsite debris and brush and by filling areas that have been previously excavated and restoring these areas to lawn.

SEQRA

The proposed action is a Type II Action and is categorically exempt from the State Environmental Quality Review Act (SEQRA).

Plan Comments

1. This office is in general agreement with the plan, which focuses on site restoration and includes the backfilling of previously excavated areas and the removal of stumps, debris and brush. However, it is our recommendation that the applicant should add to the plan a 10' wide (min.) vegetated buffer strip along the majority of the lake's edge. An open access path to the lake can be maintained for walking/boat access. The vegetative buffer

strip can either be a combination of native low-growing shrubs, native groundcover or native wet meadow grasses, or any one of the above. Prior to purchasing the plant material, the applicant shall submit to the Town Wetland Consultant for approval, a list of the plant material that is being proposed for the buffer strip.

2. The limits of land disturbance shall be graphically illustrated and calculated on the plan. If the area of land disturbance equals or exceeds 5,000 s.f., a Town Stormwater Permit and coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002) will be required.

3. The wetland boundary line and corresponding 150-foot wetland buffer line shall be illustrated on the plan.

4. The note pertaining to stump removal should be expanded upon to identify that disturbed areas will be immediately treated with topsoil, seed and mulch.

5. A note shall be added to the plan specifying the minimum amount of topsoil to be applied to the restoration areas.

6. Water and sewage services shall be shown on the plan; it is our understanding that the house is served by a sewage holding tank which should be shown on the plan.

7. The tax parcel identification number as noted on the plan is incorrect and shall be revised.

8. The plan shall be signed and sealed by the preparer.

In order to expedite the review of subsequent submissions, the applicant should provide annotated responses to each of the comments outlined herein.

Plan Reviewed, prepared by Naderman Land Planning & Engineering, P.C. and dated January 26, 2016:

- Property Restoration Plan (Sheet R-1)

Documents Reviewed:

- Letter, prepared by Naderman Land Planning & Engineering, P.C., dated January 26, 2016
- Wetland Permit Application

DJS/dc
T:\Lewisboro\Correspondence\LW4097JJ-LWPB-Caban-Review-Memo-2-12-16.docx

TO: Town of Lewisboro Planning Board

FROM: Lewisboro Conservation Advisory Council

SUBJECT: Caban Wetland Permit
31 South Shore Drive, South Salem
Sheet 33.15, Block 5, Lot 12/A013
Cal#6-16WP

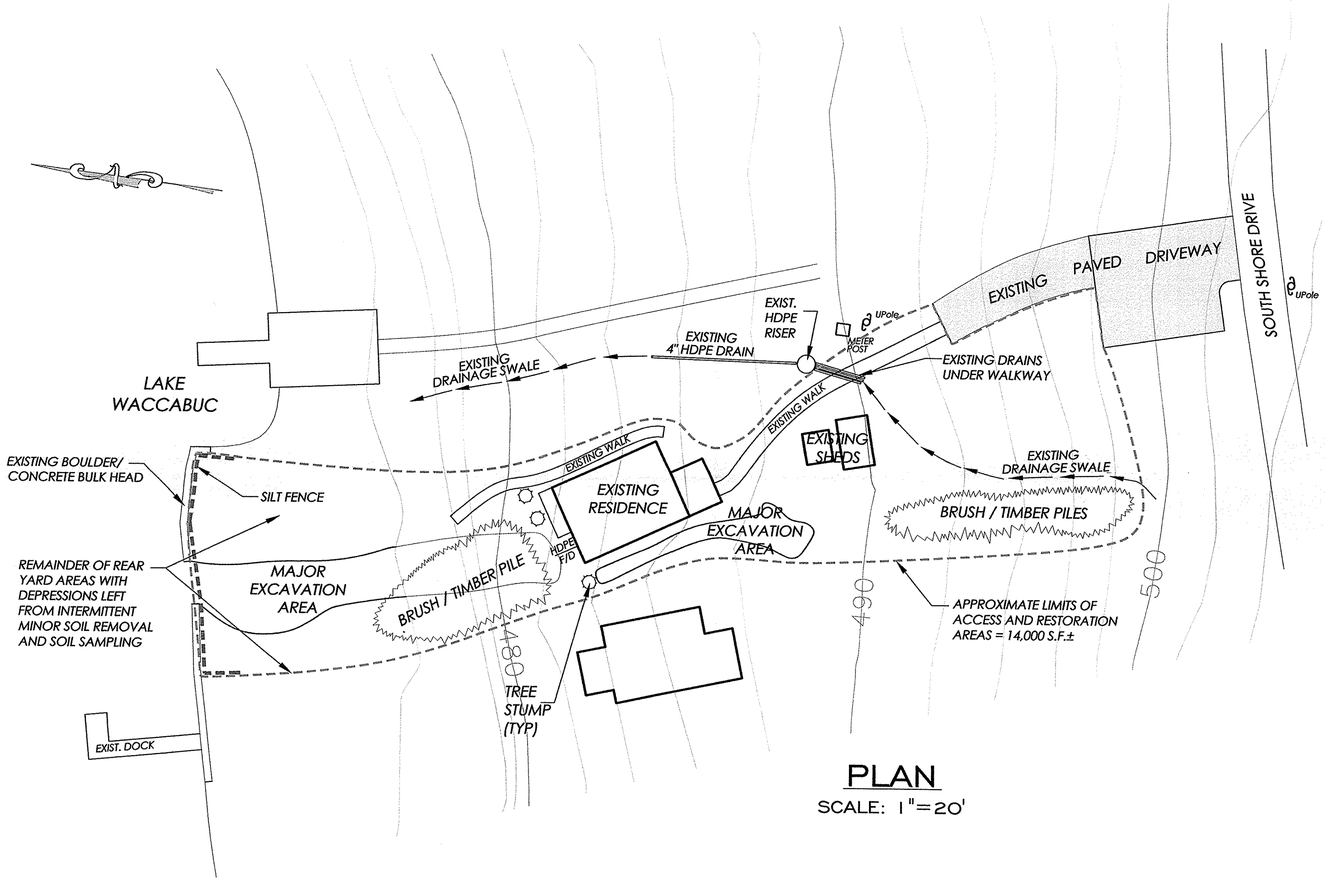
DATE: February 8, 2016

The Conservation Advisory Council (CAC) has received a pdf containing a property restoration plan and letter for this application, submitted in February 2016.

The plans do not show where the leaking oil tank and line were located and / or have been relocated. According to the Ledger, the leak was caused when a sidewalk shifted. The CAC would like to know what precautions have been taken to keep this situation from reoccurring. The CAC would like to know if the applicant has considered any containment system for the outside tank or for the line so that if similar site conditions exist in the future, the potential for another oil spill is reduced.

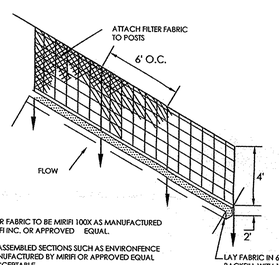
The NYSDEC estimated that 5 gallons were spilled into Lake Waccabuc (also from the Ledger article http://www.lewisboroledger.com/7450/small-oil-spill-leaks-into-lake-waccabuc/). It is generally stated that a gallon of oil can contaminate a million gallons of water, although some estimates of the amount of water contaminated are much higher.

Given this impact, the CAC feels that mitigation plans are appropriate as part of this restoration. For example, a mulched lakeside buffer of groundcover and shrubs might help protect the lake from runoff, both while the newly seeded lawn takes root and into the future.



PLAN

SCALE: 1"=20'



NOTE:

1. FILTER FABRIC TO BE MIRIFI 100X AS MANUFACTURED BY MIRIFI INC. OR APPROVED EQUAL.

2. PREASSEMBLED SECTIONS SUCH AS ENVIRONFENCE AS MANUFACTURED BY MIRIFI OR APPROVED EQUAL ARE ACCEPTABLE.

DETAIL: SILT FENCE

N.T.S.

INSTALLATION NOTES:

1. PLACE BALES OF STRAW WITH ENDS TIGHTLY ABUTTING OTHER BALES TO SURROUND THE INLET. WHERE SLOPE AND SPACE PERMIT, ESTABLISH THE LINE OF BALES 2 TO 10 FEET AWAY FROM THE INLET. ANCHOR BALES IN PLACE BY DRIVING REBARS OR 2" X 2" STAKES THROUGH THE BALES. SUPPLEMENT WITH GRAVEL, PILES AGAINST THE BALES.

2. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

3. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.

4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.

5. THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

MAJOR EXCAVATION ARE

The Major Excavation Areas from the soil clean-up shall be filled with clean fill material free of organic and any kink of construction debris or waste materials. The fill will be placed and compacted in 12" lifts to the prior natural subgrade. The areas will be immediately topsoiled, seeded and mulched.

STUMP REMOVAL

The significant stumps left shall be excavated and hauled off-site to an approved facility. The excavations left will be filled with clean fill material free of organic and any kink of construction debris or waste materials. The fill will be placed and compacted in 12" lifts to the prior natural subgrade.

REAR YARD AREA OF DEPRESSIONS

The smaller depressions and soil testing holes in the remainder of the rear yard will be top dressed with clean topsoil to smooth the depressions and immediately seeded and mulched.

BRUSH / TIMBER PILES

All cut brush and timber will be removed off-site and disposed off-site at an approved facility. Any bare areas will be immediately topsoiled, seeded and mulched.

GENERAL CLEAN-UP OF SITE DEBRIS

Miscellaneous debris found throughout the site will be cleaned up and hauled off-site to an approved facility. Any bare areas will be immediately topsoiled, seeded and mulched.

SITE DATA

Owner/Applicant:	Patricia and Ryan Caban 14 Old Pond Road South Salem, N.Y. 10590
Location:	31 South Shore Drive South Salem, New York (Town of Lewisboro)
Designation:	Sec: 33.13 Blk: 5 Lots: 12/A013
Site Area:	

GENERAL NOTES

This plan has been prepared to identify the damaged portions of the site as a result of an oil clean up operation under the direct supervision of the NYSDEC and to identify the work required to restore the prooperty to its prior condition.

Existing topography and site features based upon the Westchester County GIS mapping and on-site field observations.

Sediment & Erosion Control Notes

Silt fencing shall be placed where indicated and as directed by the ENgineer or Town Engineer in the field to completely isolate the work area and protect the lake.

The town may require additional erosion control measures if deemed appropriate to mitigate siltation or erosion of disturbed soils.

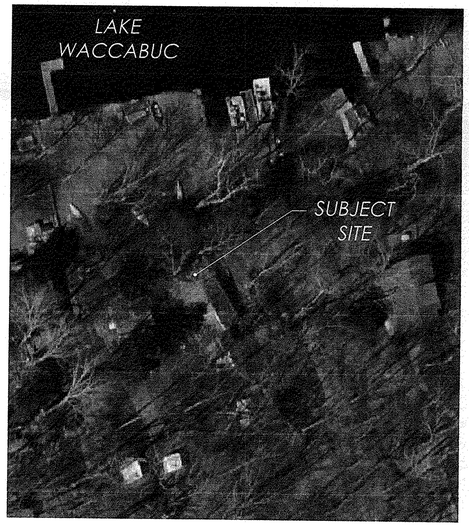
Erosion control measures shall be installed prior to the start of construction within a specific work area. The contractor shall be responsible for the maintenance and/or replacement of control measures as required throughout the duration of construction.

All erosion controls shall be inspected immediately after a rainfall event and on a weekly basis. Any damaged controls shall be immediately repaired or replaced as required.

If any disturbed areas are to remain idle for a period of seven (7) days or more, the area shall be temporarily stabilized with temporary seeding and mulching.

Once all areas have been filled and the clean up materials are removed from the site to the satisfaction of the Town Engineer, the disturbed areas shall be topsoiled and seeded with with an aggressive ecology seeding mix.

Once a healthy stand of vegetaion has stabilized the areas, the erosion controls shall be removed.



AERIAL PLAN

SCALE: 1"=40'

UNAUTHORIZED ALTERATIONS AND ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209(2) OF THE NEW YORK STATE EDUCATION LAW.

No.	Revision/Issue	Date

NADERMAN
LAND PLANNING AND ENGINEERING, P.C.
tel: 914.245.5403
fax: 914.962.5963
e: bgn@naderman.com
1 deans bridge road
2nd floor
somers, ny 10589

CABAN RESIDENCE

31 South Shore Drive

Town of Lewisboro Westchester Co., NY

PROPERTY RESTORATION PLAN

Project 5881	Sheet R-1
Date 1/26/16	
Scale 1" = 20'	

Application No.:_____
Fee:_____ Date:_____

TOWN OF LEWISBORO
WETLAND PERMIT APPLICATION

Town Offices @ Orchard Square, Suite L (Lower Level), 20 North Salem Road, Cross River, NY 10518
Phone: (914) 763-5592
Fax: (914) 763-3637
planning@lewisborogov.com

Project Information

Project Address: 31 SOUTH SHORE DRIVE

Sheet: 33.15 Block: 5 Lot(s): 12/A013

Project Description (identify the improvements proposed within the wetland/wetland buffer and the approximate amount of wetland/wetland buffer disturbance): RESTORATION OF PROPERTY EXCAVATED AND DAMAGED FROM OIL SPILL CLEANUP. RESTORATION AREA APPROX. 14,000± S.F.

Owner's Information

Owner's Name: PATRICIA & RYAN CABAN Phone: 914-815-1174

Owner's Address: 14 OLD POND RD. SOUTH SALEM, NY 10590 Email: PATRICIACABAN@GMAIL.COM

Applicant's Information (if different)

Applicant's Name: SAME Phone:_____

Applicant's Address:_____ Email:_____

Authorized Agent's Information (if applicable)

Agent's Name: BARRY G. NADERMAN, P.E. Phone: 914-760-6384 (c:)

Agent's Adress: 1 OCEANS BRIDGE RD., SOMERS NY 10589 Email: bgn@naderman.com

To Be Completed By Owner/Applicant

1. What type of Wetland Permit is required? (see §217-5C and §217-5D of the Town Code)

   ☐ Administrative ☐ Planning Board TO BE DETERMINED

2. Is the project located within the NYCDEP Watershed? ☒ Yes ☐ No

3. Total area of proposed disturbance: ☐ < 5,000 s.f. ☒ 5,000 s.f. - < 1 acre ☐ ≥1 acre

4. Does the proposed action require any other permits/approvals from other agencies/departments? (Planning Board, Town Board, Zoning Board of Appeals, Building Department, Town Highway, ACARC, NYSDEC, NYCDEP, WCDOH, NYSDOT, etc): Identify all other permits/approvals required: NONE

Note: Initially, all applications shall be submitted with a plan that illustrates the existing conditions and proposed improvements. Said plan must include a line which encircles the total area of proposed land disturbance and the approximate area of disturbance must be calculated (square feet). The Planning Board and/or Town Wetland Inspector may require additional materials, information, reports and plans, as determined necessary, to review and evaluate the proposed action. If the proposed action requires a Planning Board Wetland Permit, the application materials outlined under §217-7 of the Town Code must be submitted, unless waived by the Planning Board. The Planning Board may establish an initial escrow deposit to cover the cost of application/plan review and inspections conducted by the Town's consultants.

For administrative wetland permits, see attached Administrative Wetland Permit Fee Schedule.

Owner/Applicant Signature: Patricia B Caban Date: 1/26/16

NADERMAN
LAND PLANNING AND ENGINEERING, P.C. BARRY G. NADERMAN, P.E.

January 26, 2016 **VIA HAND DELIVER**

Planning Department
Town of Lewisboro
Cross River Shopping Center
@ Orchard Square
Suite L (Lower Level)
20 North Salem Road
Cross River, NY 10518

Attn: Ciorsdan Conran – Planning Administrator

Re: Caban Restoration
31 South Shore Drive
Town of Lewisboro
Tax ID: Sht 33.15; Blk 5; Lot 12/ A013

Dear Ms. Conran:

Enclosed find nine (9) copies of the following for the initial submission of an application for a Wetlands Permit for the property restoration at the above referenced property:

- Completed Wetland Permit Application
- Affidavit of Ownership
- Dwg R-1 "Property Restoration Plan" dated 1-26-16

Also enclosed find checks in the amount of $255.00 and $2,000.00 for the application fee and escrow respectively.

The property consists of an existing residence which was the subject of an extensive oil clean-up due to a leaking oil line. The current Owners purchased the property to renovate the residence for their own personal use. Subsequent to purchase, the property was deemed contaminated by an oil leak in the line from the above ground oil tank.

This resulted in an extensive investigation and cleanup throughout the property under the direction of the NYSDEC. The property was left devastated with excavation, test holes, soil borings and downed trees. The Owners have been directed to file an application for a wetlands permit in order to restore the property to the state that the property was purchased.

1 Deans Bridge Road
2nd Floor
Somers, NY 10589

tel: 914.245.5403
fax: 914.962.5963
e: bgn@naderman.com

As indicated on the plan, there are major excavated areas left open off the front left side of the residence as well as behind the residence through the rear yard to the lake. The remainder of the rear yard was left with many depressions form minor excavations and soil sampling.

The property was also left with major brush/ timber piles and several significant stumps left in place.

The restoration of the property would include the filling of the major excavated areas with clean fill to restore original sub-grades. The major stumps will also be removed and the excavations will be filled with clean fill. These filled areas as well as the remainder of the depressions within the rear yard will be top dressed with 4-6" of topsoil then seeded and mulched to stabilize the area and restore the former lawn.

The brush/ timber piles will also be removed and hauled off-site for disposal as well as the general clean-up of site debris throughout the property. Upon clean-up, any and all bare soils will be immediately topsoiled, seeded and mulch to establish a stabilized vegetation cover.

We request we be placed on the February 23rd agenda for initial consideration on this matter. At which time we will discuss the property in greater detail. We are hopeful the Board will be in a position to make a determination to allow the project to proceed with an Administrative Wetlands Permit.

In the meanwhile, upon review, should you require any additional information, or have any questions, please feel free to call.

Respectfully,

Barry G. Naderman, P.E.
Naderman Land Planning & Engineering, P.C.

cc: Patricia and Ryan Caban w/ enc.

5881PBsubm

TOWN OF LEWISBORO

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Planning Board of the Town of Lewisboro, Westchester County, New York will convene a Public Hearing on February 23, 2016 at 7:30 p.m., or soon thereafter, at the Town Offices @ Orchard Square Plaza, Lower Level, Cross River, New York, regarding the following:

Cal # 8-15PB

Application for Site Plan Approval for Fairmount Road, Goldens Bridge, NY, owner of record, New York American Water, to permit the installation of the new tank. The replacement tank would be placed on the same site as the existing tank, in the Wild Oaks Water development located on Fairmount Road. The property consists of approximately 1.017 acres of land, and is located within the Town's R-MF Zoning District. A copy of materials and proposed site documents may be inspected at the office of the Planning Board Secretary, 20 North Salem Road, Orchard Square, Suite L, Cross River, New York during regular Planning Board hours. Persons wishing to object to the application should file a notice of objection with the Planning Board together with a statement of the grounds of objection prior to the closing of the Public Hearing. All interested parties are encouraged to attend the Public Hearing and all will be provided an opportunity to be heard.

PLANNING BOARD
TOWN OF LEWISBORO
By: Jerome Kerner
Chairman

Dated February 3, 2015

The Town of Lewisboro is committed to equal access for all citizens. Anyone needing accommodations to attend or participate in this meeting is encouraged to notify the Secretary to the Planning Board in advance.

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City, State, ZIP+4: Goldens Bridge NY 10526

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Total Postage & Fees	$ 6.735

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Sent To: Adam & Jessica Masi
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Street, Apt. No.; or PO Box No.: 40 Fairmount Rd.
City, State, ZIP+4: Goldens Bridge, NY 10526

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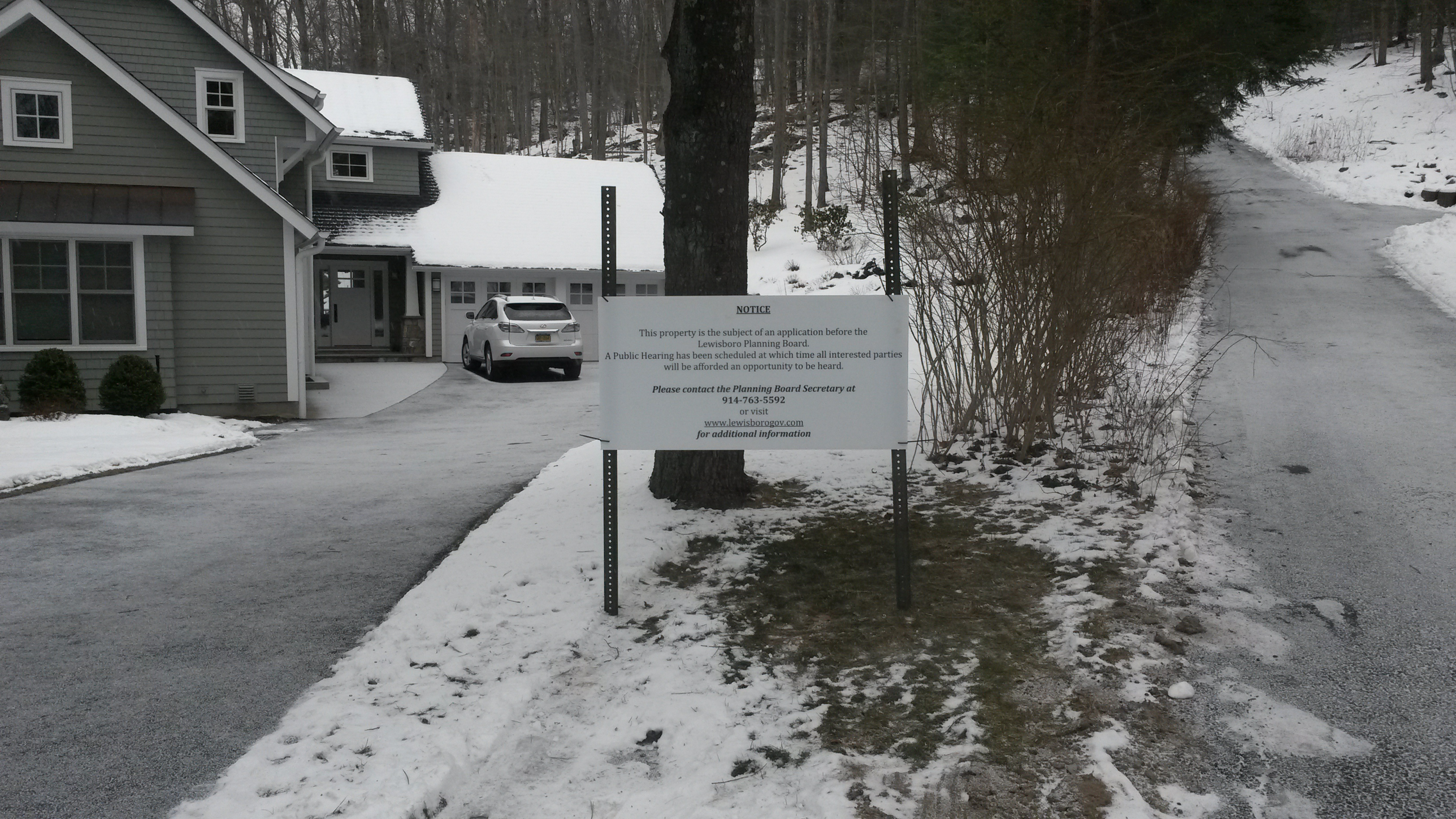

NOTICE
This property is the subject of an application before the
Lewisboro Planning Board.
A Public Hearing has been scheduled at which time all interested parties
will be afforded an opportunity to be heard.
Please contact the Planning Board Secretary at
914-763-5592
or visit
www.lewisborogov.com
for additional information

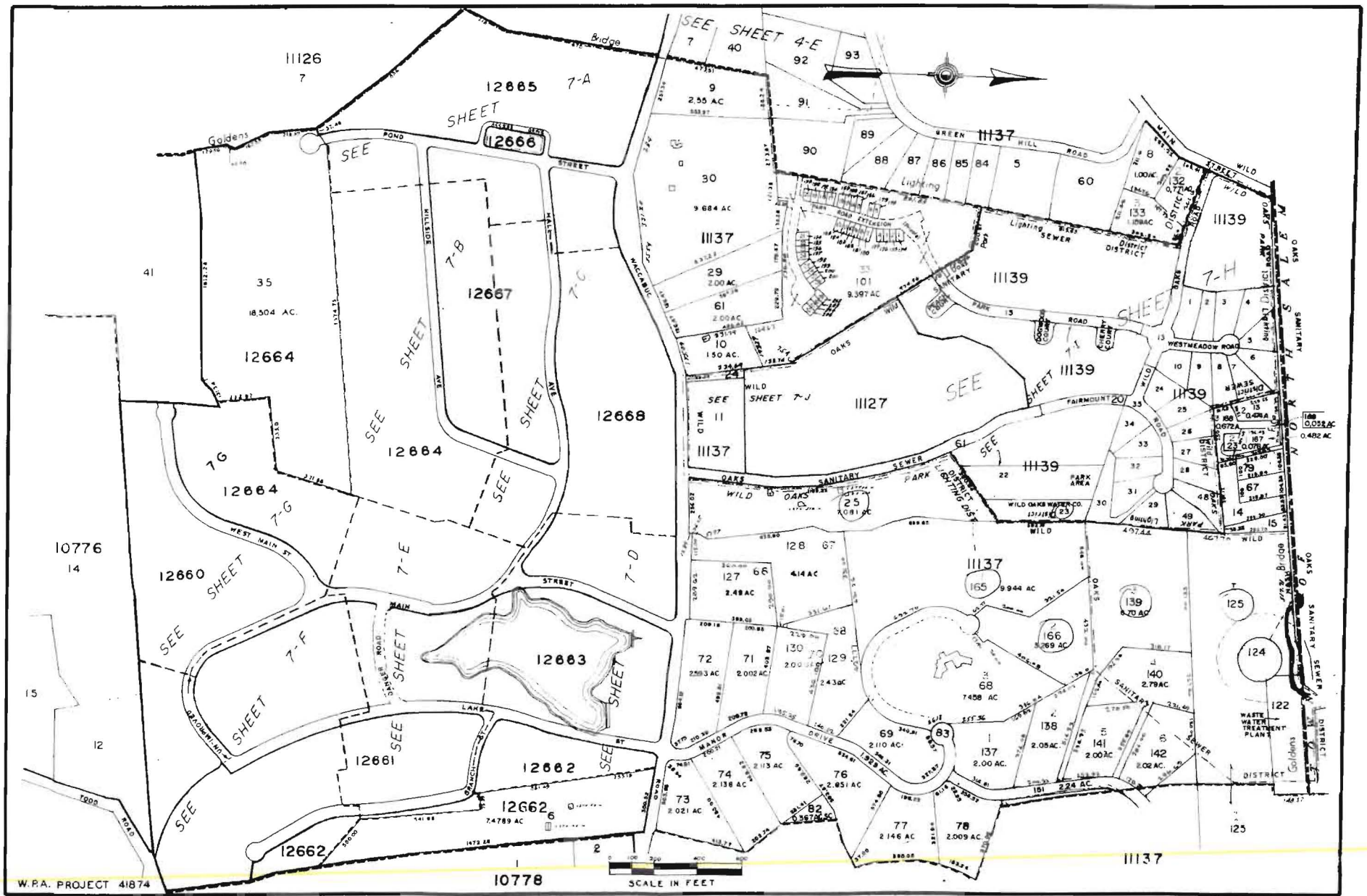
wild oaks

Block	Lot	Name & Address
11127	3	Douglas & Audra Emmerich 23 Fairmount Rd. Goldens Bridge, NY 10526
11127	4	Elinor Begun 21 Fairmount Rd. Goldens Bridge, NY 10526
11127	5	Claus & Florence Hattasch 19 Fairmount Rd. Goldens Bridge, NY 10526
11127	6	Mario & Maria Cabera 17 Fairmount Rd. Goldens Bridge, NY 10526
11127	7	Albert & Anne Lewis 15 Fairmount Rd. Goldens Bridge, NY 10526
11127	8	Patrick Saultz 11 Fairmount Rd. Goldens Bridge, NY 10526
11127	9	Suzan Jacobs 9 Fairmount Rd. Goldens Bridge, NY 10526
11127	10	Juan & Maria Reino 371 Rte. 22 Goldens Bridge, NY 10526
11127	11	Charity Alker 11 Quincy Ct. Goldens Bridge, NY 10526
11127	12	Robert & Barbara Wood 12 Quincy Ct. Goldens Bridge, NY 10526
11127	13	Jordan & Carlota Ellsworth P.O. Box 421 Goldens Bridge, NY 10526

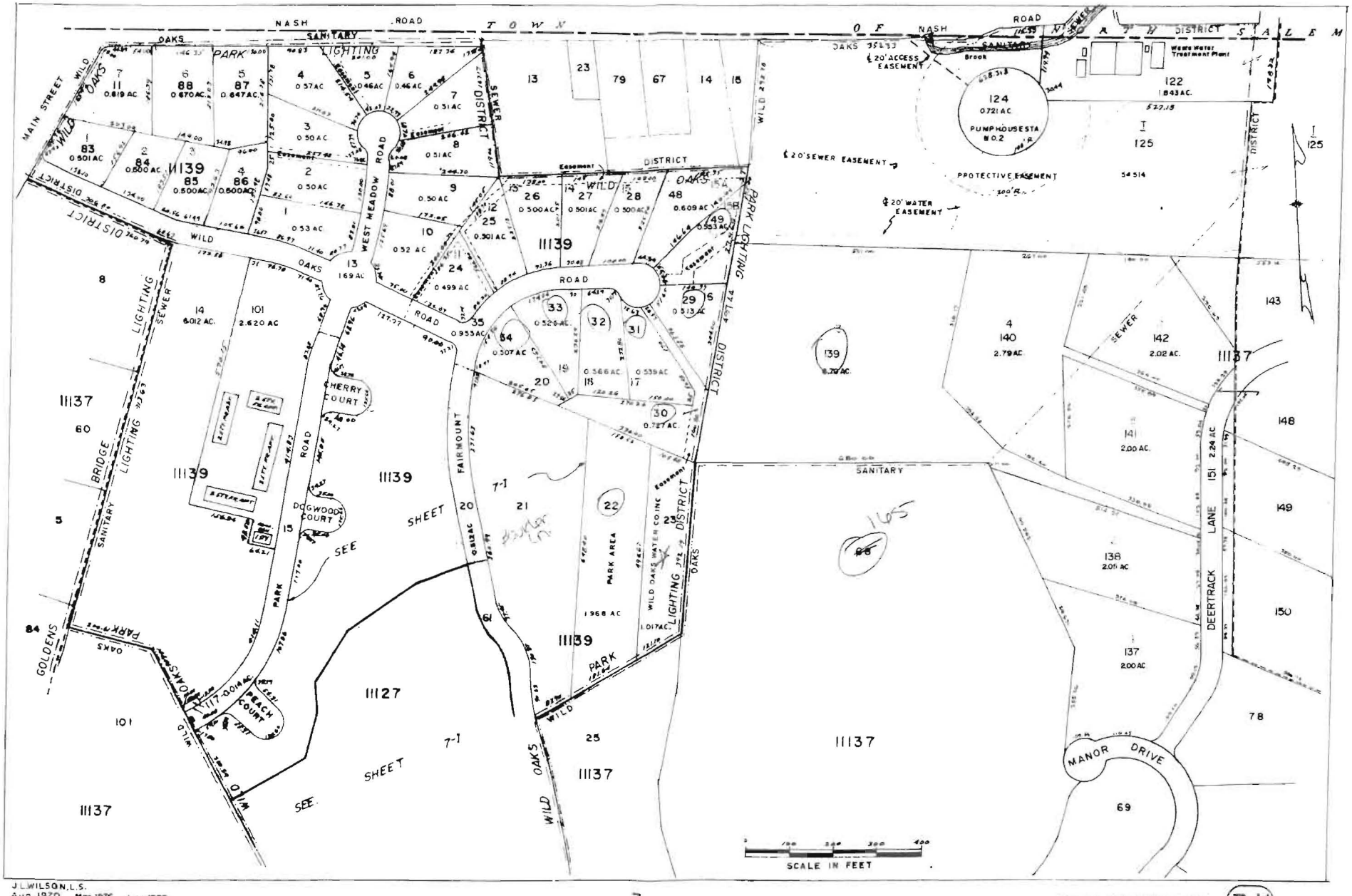
Block	Lot	Name & Address
11127	47	Pia Haas 8 Guilford Cr. Goldens Bridge, NY 10526
11127	48	Louis & Corrinne Tagliaferro 6 Guilford Cr. Goldens Bridge, NY 10526
11127	49	Gail Schlenger 2 Trailhead Ln. Tarrytown, NY 10591
11127	50	Donna Sorkin 2 Guilford Cr. Goldens Bridge, NY 10526
11127	51	James & Marianne Gardner 1 Guilford Cr. Goldens Bridge, NY 10526
11127	52	Marian Gassman 3 Guilford Cr. Goldens Bridge, NY 10526
11127	53	Mancini Family Trust 5 Guilford Cr. Goldens Bridge, NY 10526.
11127	54	William & Geraldine Vogel 340 East 64th St. New York, NY 10021
11137	25	Brian Stein 983 New Norwalk Rd. New Canaan, CT 06840
11137	125	Nash Road Holdings LLC c/o Marvin Schwartz 605 Third Ave. New York, NY 10158
11137	139	Gerald Prothro P.O. Box 145 Goldens Bridge, NY 10526

Block	Lot	Name & Address
11137	165	Anna Rudnicki P.O. Box 496 Goldens Bridge, NY 10526
11137	166	Anna Rudnicki
11139	22	Town of Lewisboro 11 Main St. South Salem, NY 10590
11139	29	Larry & Sarah Forsblad 44 Fairmount Rd. Goldens Bridge, NY 10526
11139	30	Robert & Erica Kasel 42 Fairmount Rd. Goldens Bridge, NY 10526
11139	31	J. Selby & Mary Kiffer 40 Fairmount Rd. Goldens Bridge, NY 10526
11139	32	Wayne & Karen Eadie 38 Fairmount Rd. Goldens Bridge, NY 10526
11139	33	Jack & Karyn Zitomer 36 Fairmount Rd. Goldens Bridge, NY 10526
11139	34	Timo & Joanna Van Ritbergen 34 Fairmount Rd. Goldens Bridge, NY 10526
11139	49	Jeffrey & Gwen Leibel 45 Fairmount Rd. Goldens Bridge, NY 10526
11139	71	Alexander Hersko 341 West 24th St. Apt.8D New York, NY 10011

Block	Lot	Name & Address
11139	75	Adrianna Hersko 14 Boulder Ln. Goldens Bridge, NY 10526
11139	98	Elie Weitsman & Tatyana Ratner 20 Boulder Ln. Goldens Bridge, NY 10526
11139	100	Carl Hoffman 22 Boulder Ln. Goldens Bridge, NY 10526
11139	102	Judith Scalfani 16 Boulder Ln. Goldens Bridge, NY 10526
11139	106	Avraam & Fanya Litvak 18 Boulder Ln. Goldens Bridge, NY 10526
11139	112	Innes Frey 24 Boulder Ln. Goldens Bridge, NY 10526
11139	113	Judith Schmidt 26 Boulder Ln. Goldens Bridge, NY 10526
11139	114	Erik & Margaret Stofsky 28 Boulder Ln. Goldens Bridge, NY 10526
11139	115	Douglas Malfer 30 Boulder Ln. Goldens Bridge, NY 10526
11139	116	Michael Piazza & Jennifer Farella 32 Boulder Ln. Goldens Bridge, NY 10526

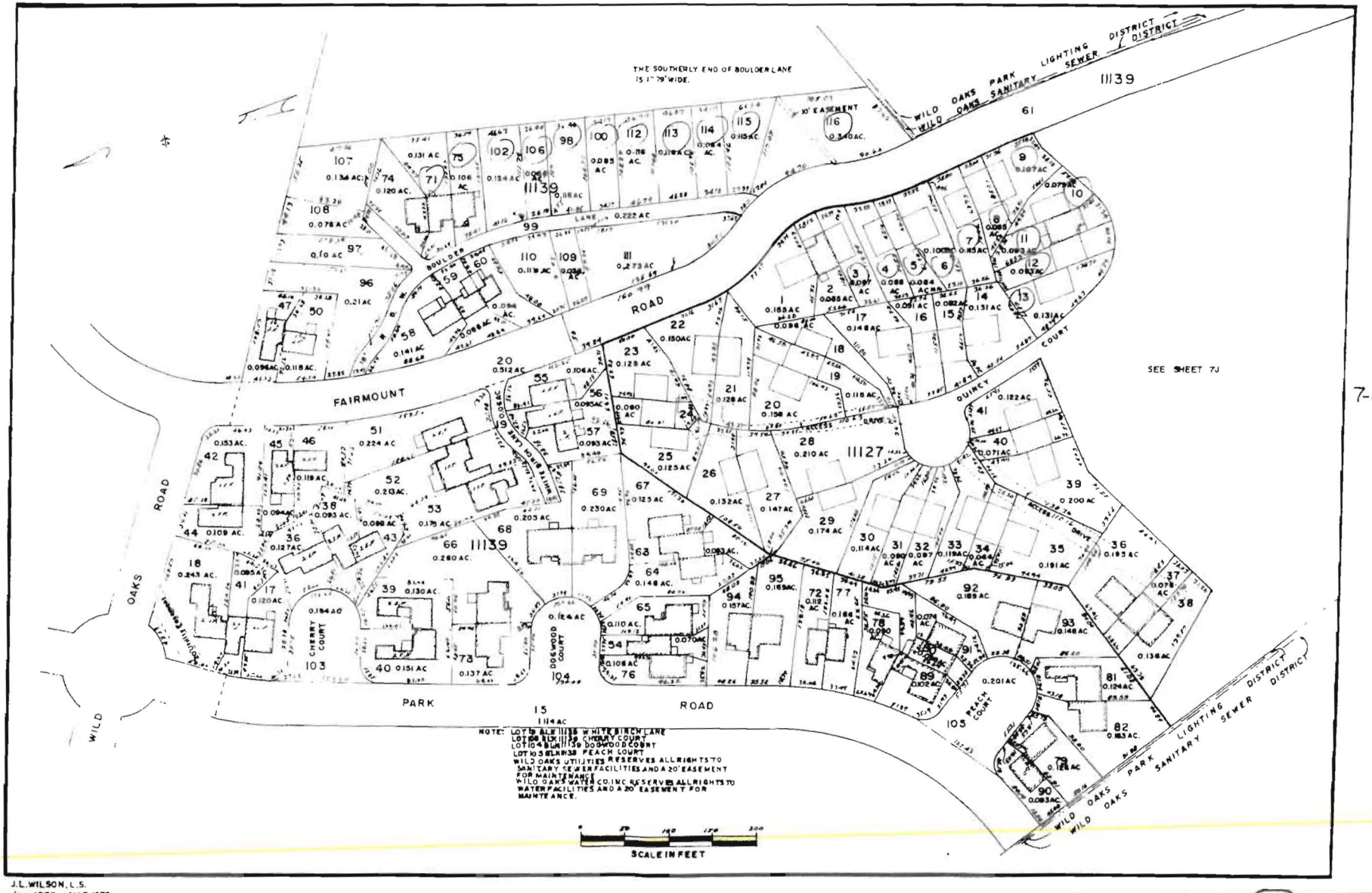


J.L. WILSON, L.S. Aug 1970 JAN 1980 Dec 1985 Mar 1991
South Salem, N.Y. Feb. 1972 Oct. 1981 Apr 1987 Aug. 1987
Feb 22, 1965 Apr 1973 June 1982 Oct 1987

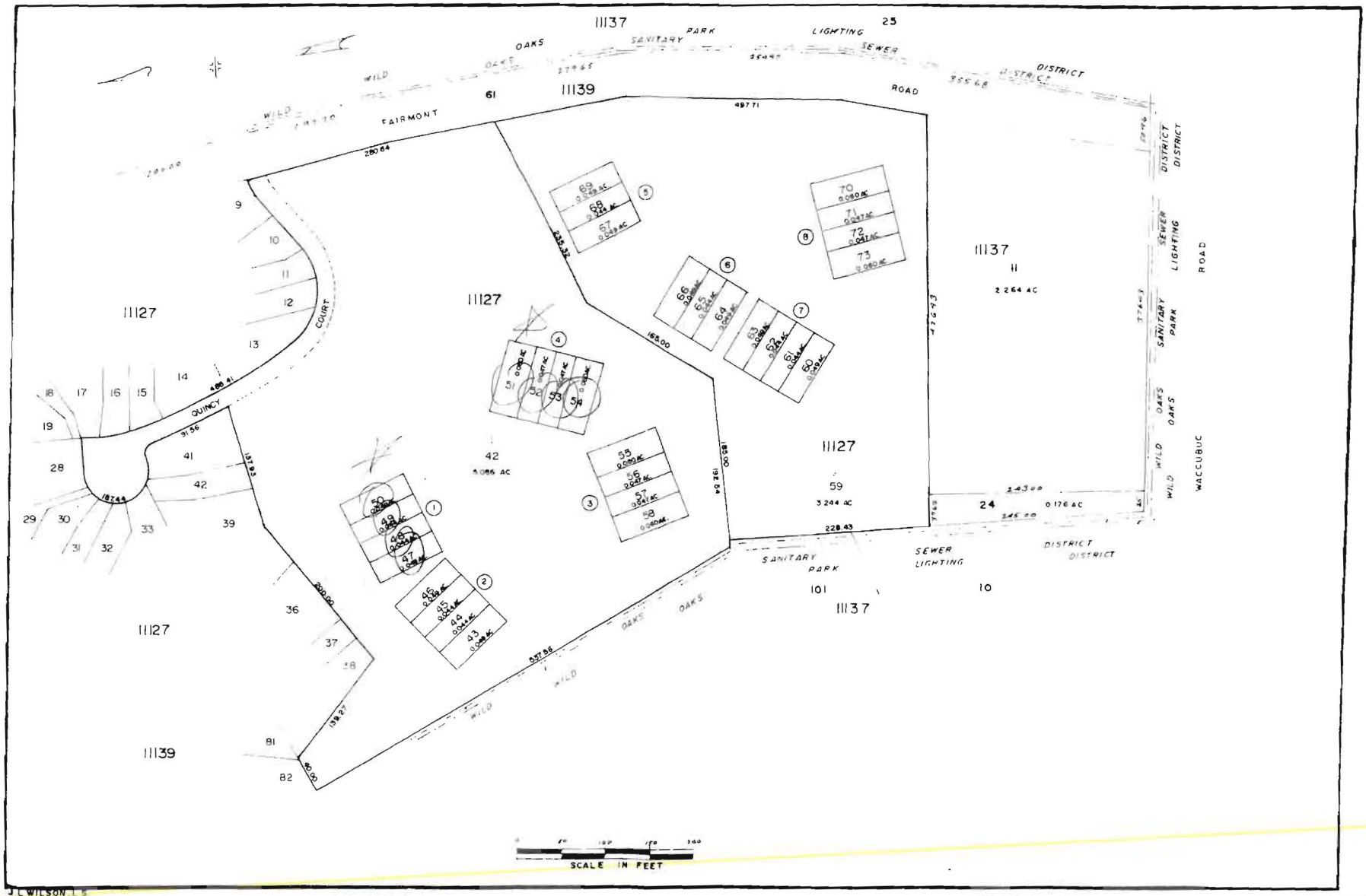


J.L.WILSON, L.S.
Aug 1970 Mar 1976 June 1982

TOWN OF LEWISBORO (7-H)



J.L. WILSON, L.S.
MAR 1978



J L WILSON L S
Feb 1975
Feb 1986

ARCHITECTURE AND COMMUNITY APPEARANCE REVIEW COUNCIL

TOWN OF LEWISBORO

RECEIVED
2016 FEB 17 REC'D
TOWN CLERK
TOWN OF LEWISBORO

CAL. NO. 03-16-ACARC

Applicant(s):		Wild Oaks Storage Tank Replacement
Owner(s) of Record:		NY American Water
Reason for Referral:		Planning Board
Tax Map I.D.:		Sheet 7H, Block 11139, Lot 23
Decision Date:		February 10, 2016
The Vote:	To Approve:	Virginia LoBosco, Chair Alan Kaufman Kenneth McGahren Craig Pillon
	To Deny:	None
	Abstain:	None
	Absent:	Rose Bonanno
Presentation by:		Kristen Barrett, P.E., Hazen and Sawyer Richard Ruge, New York American Water
Nature of Application:		Replacement water storage tank
Evidence Presented:		Design and specifications provided by applicant

Based on the foregoing, the members of ACARC resolved to approve the application for the requested 40' tall, 25' diameter, 150,000 gallon Aquastore-manufactured, green water storage tank surrounded by 10' black chain linked fence topped with angled, three-lined barbed wire.

By motion Alan Kaufman; seconded by Kenneth McGahren; In favor: Alan Kaufman, Kenneth McGahren, Virginia LoBosco and Craig Pillon. To deny: None.

Virginia LoBosco, Chair

Dated in South Salem, New York
This 10th day of February, 2016

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2015
DEC 23 REC'D
TOWN CLERK
TOWN OF LEWISBORO

RESOLUTION
TOWN OF LEWISBORO
ZONING BOARD OF APPEALS

IN THE MATTER OF THE APPLICATION OF
Richard Ruge
New York American Water Wild Oaks Storage Tank Replacement
FOR A VARIANCE OF
ARTICLE IV §220-23(E)
of the Lewisboro Zoning Ordinance
CAL. NO. 35-15-BZ

INTRODUCED BY: **Board Member Rendo**

SECONDED BY: **Board Member Casper**

DATE OF CONSIDERATION/ADOPTION: **November 18, 2015**

WHEREAS, Richard Ruge ("the applicant") (New York American Water (NYAW), owner of record) has made application to the Lewisboro Zoning Board of Appeals (the "ZBA") for an area variance of Article IV, Section 220-23(E) of the Lewisboro Town Code, seeking a side yard setback variance in the matter of water storage tank on the subject premises located at Fairmount Road, Goldens Bridge, New York, Tax Map Sheet 7H, Block 11139, Lot 23 ("the property"), where the Code requires a forty foot (40') side yard setback and the water storage tank is located (12.8') from the side yard lot line; and the applicant sought a variance of twenty-eight feet (28'); and

WHEREAS, this application for an area variance constitutes a Type II action under 6 NYCRR Part 617, and therefore, requires no further review under the State Environmental Quality Review Act (SEQRA), and

WHEREAS, a public hearing was held at the Town Offices at Orchard Square, 20 Cross River Shopping Plaza, Lower Level, 20 North Salem Road, Cross River, New York in this matter on November 18, 2015 and a site walk was conducted on November 14, 2015 to consider the application, after which a vote was taken with regard to the variance as forth above, and

WHEREAS, The Lewisboro Zoning Board of Appeals has given careful consideration to the facts presented in the application at the public hearing based upon the criteria set forth in Section 267-b(3)(b) of the Town Law of the State of New York, and finds as follows:

1. The property is an approximate 1.017 acre parcel in the RMF zoning district owned by New York American Water, the applicant, and is improved with an existing water storage tank.
2. The applicant wishes to construct a replacement water tank in an area that would be located closer than forty feet (40') from the side lot line as required by Article IV, Section 220-23(E) of the Lewisboro Town Code, in that the

applicant desires to erect a water storage tank (12.8') from the side property line, thereby requiring a side yard setback variance of twenty-eight feet (28').

3. There will be no undesirable change in the character of the neighborhood or detriment to nearby properties.
4. There is no practical alternative to the requested variance.
5. The requested area variance requested is relatively unsubstantial. This is merely the replacement of an existing water storage tank that serves a community of approximately 320 customers.
6. There is no adverse effect or impact to the physical or environmental conditions of the neighborhood.
7. The Board found that the difficulty was not self-created.

WHEREAS, pursuant to Section 267-b(3)(c), the ZBA hereby determines that the minimum area variance necessary in this application is a variance of twenty-eight feet (28') from the required forty foot (40') side property line thereby permitting the water storage tank to be located (12.8') from the side yard lot line.

NOW, THEREFORE BE IT RESOLVED, that the Lewisboro Zoning Board of Appeals hereby grants an area variance of twenty-eight feet (28') from the forty foot (40') side property line requirement of Article IV, Section 220-23(E) of the Lewisboro Town Code, in order to permit the erection of the replacement water storage tank (12.8') from the side yard lot line, which is located in the RMF zoning district conditions pursuant to Section 267-b(4) of the Town Law of the State of New York:

VOTE:

Board Member Krellenstein	-	In Favor
Board Member Rendo	-	In Favor
Chairman Price	-	In Favor
Board Member Mandelker	-	Absent
Board Member Casper	-	In Favor

VOTE: Resolution carried by a vote of 4 to 0.

Robin Price, Jr., Chairman

Dated in South Salem, New York
This 23rd day of December, 2015

Expiration: The variance shall deemed to authorize only the particular use or uses specified in the decision, and unless other provisions are set forth by the Zoning Board of Appeals in

connection with its decision, shall expire if work is not initiated pursuant thereto within one (1) year of the date said decision is filed with the Office of the Town Clerk or if said use or uses shall cease for more than one (1) year. Applicants wishing to seek an extension are advised to make application therefore to the Zoning Board of Appeals sufficiently in advance of expiration so as to allow their request for extension to be calendared and heard by the Zoning Board of Appeals prior to the date of expiration. Any such application must include a chronological listing of work (which may include efforts to obtain other regulatory approvals) initiated pursuant to the variance.

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

I, Aimee M. Hodges, Secretary of the Zoning Board of Appeals, do hereby certify that the above is an excerpt/summary/fair representation of the Resolution adopted by the Zoning Board of Appeals of the Town of Lewisboro at a meeting of said Board on November 18, 2015.

Dated: 12/23/2015

Aimee M. Hodges
Secretary Zoning Board of Appeals

Westchester gov.com

Robert P. Astorino
County Executive

Sherlita Amler, M.D.
Commissioner of Health

February 8, 2016

Hazen and Sawyer
498 Seventh Ave, 11th Fl
New York, NY 10018
Attn: Richard Edwards Peter, P.E.

RE: Log No: C015-43
Revised Approval of Water Storage Tank
Wild Oaks PWS
Lewisboro (T)
Westchester County

Dear Mr. Peters:

Enclosed is a permit issued this day and approved plans prepared by you for the above referenced project. This approval is issued pursuant to 10NYCRR Part 5, Subpart 5-1, Section 5-1.22 and Chapter 873, Article VII, Section 873.707.1, of the Laws of Westchester County.

The permit and approved plans should be filed in the appropriate office of the Town of Lewisboro. The permittee is obligated to comply with each of the conditions stipulated in this permit.

Supervision of the construction by a licensed professional engineer who will furnish a certificate of construction compliance to the Westchester County Department of Health is a responsibility of the permittee.

The certificate of construction compliance, including two (2) sets of As-Built plans and results of acceptable bacteriological analyses of water, must be forwarded promptly to this office after completion of construction. Please note that an Approval of Completed Works, issued by the Westchester County Department of Health, is required before this construction may be put into service.

The approved plans call for the installation of a one hundred forty three thousand (143,000) gallon glass lined fused to steel storage tank to replace the existing storage tank to serve Wild Oaks Public Water Supply.

Very truly yours,

Delroy Taylor, P.E.
Associate Engineer
Bureau of Environmental Quality

DT:RLF:plt
Enclosure
cc: Richard Ruge, NY American Water
Kristen Barrett, P.E., Hazen and Sawyer
Andy Tse, P.E., NYSDOH
File

Department of Health
25 Moore Avenue, 1st Floor
Mount Kisco, NY 10549 Telephone: (914) 864-7296 Fax: (914) 813-4691

REDUCE REUSE RECYCLE

NEW YORK STATE DEPARTMENT OF HEALTH
APPROVAL OF PLANS
FOR PUBLIC WATER SUPPLY IMPROVEMENT

THIS APPROVAL IS ISSUED UNDER THE PROVISIONS OF 10 NYCRR, PART 5, SUBPART 5-1, SECTION 5-1.22 AND CHAPTER 873, ARTICLE VII, SECTION 873.707.1 OF THE WESTCHESTER COUNTY SANITARY CODE

1.APPLICANT	2.LOCATION OF WORKS	3. COUNTY	4. WATER DISTRICT
Town of Lewisboro	Lewisboro (T)	Westchester	N/A

5. TYPE OF PROJECT:

( )1 Source ( )3 Pumping Units ( )5 Fluoridation ( )7 Distribution
( )2 Transmission ( )4 Chlorination ()6 Other Treatment (X)8 Storage
( )9 Other

REMARKS: the installation of a one hundred forty three thousand (143,000) gallon glass lined fused to steel storage tank to replace the existing storage tank to serve Wild Oaks Public Water Supply.

By initiating improvement of the approved supply, the applicant accepts and agrees to abide by and conform with the following:

a. THAT the proposed work be constructed in complete conformity with the plans and specifications approved this day or approved amendments thereto.

b. THAT the water storage tank not be placed into operation until such time as a Completed Works Approval is issued in accordance with Part 5 of the New York State Sanitary Code and Article VII, of the Westchester County Sanitary Code.

c. THAT the completion of the proposed work the tank isdisinfected in accordance with the AWWA Standard C652-02 except for Section 4.3.1.3, or the revision.

d. THAT two acceptable results of bacteriologicaland organics analyses, EPA method 524.2 of water samples of water collected from the new painted tank after disinfection and before use 24 hour intervals shall be submitted to the Westchester County Department of Health.

e. THAT supervision of construction beby a licensed and registered professional engineer in the State of New York who shall furnish a certificate of construction compliance and two (2) sets of As-Built plans after completion of construction.

f. THAT work shall cease in the event of a violationsof air quality opacity standards.

g. THAT this approval is valid for one (1) year.

ISSUED FOR THE STATE COMMISSIONER OF HEALTH

2/8/16
DATE

P.E.
DESIGNATED REPRESENTATIVE
Delroy Taylor, P.E.
Associate Engineer
Bureau of Environmental Quality

6. Type of Ownership:

( )Municipal ( ) Commercial ( )68 Private Other ( )1 Authority ( )30 Interstate

( )Industrial (x) Water Works Corp. ( )Private Institutional ( )9 Federal ( )40 International

( )26 Board of Education ( )20 State ( )18 Indian Reservation

7. Estimated Total Cost	8. Population Served	9. Drainage Basin
$300,000	610	Stamford

10. Federal Aid Involved?	11. WSA Project?
( ) YES (X) NO	( ) YES (X) NO

SOURCE

12.

SURFACE Name_____ Class _____

GROUND Name Well Class _____

13. Estimated Source Development Cost

14. Safe Yield: GPM	15. Description

TREATMENT

16. Type of Treatment

( )1 Alteration ( )5 Clarifiers ( )9 Fluoridation

( )2 Microstrainers ( )6 Filtration ( )10 Softening

( )3 Mixing ( )7 Iron Removal ( )11 Corrosion Control

( )4 Sedimentation ( )8 Chlorination)(12 Other

17. Name of Treatment Works	18. Max. Treat. Cap. gpm	19. Grade of Plant Operator Req.	20. Est. Cost $

21. Description:

DISTRIBUTION

22. Type of Project	23. Type of Storage	24. Est. Cost Distribution
( )1 Cross Connection ( )3 Transmission ( )2 Interconnection ( )4 Fire Pump Chl.	Elevated _____gal. Underground _____gal.	$

25. Anticipated Distribution System Demand: Avg. _____MGD Max. _____ MGD	26. Designed For Fire Flow ( ) YES (X) NO

27. Description:

SEE ITEM #5

TOWN OF LEWISBORO

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Planning Board of the Town of Lewisboro, Westchester County, New York will convene a Public Hearing on February 23, 2016 at 7:30 p.m., or soon thereafter, at the Town Offices @ Orchard Square Plaza, Lower Level, Cross River, New York, regarding the following:

Cal # 5-01PB

Request for Reduction of Performance Bond for Falcon Ridge Subdivision, Falcon Ridge Drive, Goldens Bridge, New York, owner of record, Boniello Land & Realty, LTD, to reduce $1,811,123.00 bond to $181,112.30 pursuant to Town Board authorization issued on January 25, 2016. The property is located at the intersection of NYS Route 138 and Falcon Ridge Drive, consists of approximately 95.6 acres of land, and is located within the Town's R2A Zoning District.

A copy of materials and proposed site documents may be inspected at the office of the Planning Board Secretary, 20 North Salem Road, Orchard Square, Suite L, Cross River, New York during regular Planning Board hours. Persons wishing to object to the application should file a notice of objection with the Planning Board together with a statement of the grounds of objection prior to the closing of the Public Hearing. All interested parties are encouraged to attend the Public Hearing and all will be provided an opportunity to be heard.

PLANNING BOARD
TOWN OF LEWISBORO
By: Jerome Kerner
Chairman

Dated February 4, 2016

The Town of Lewisboro is committed to equal access for all citizens. Anyone needing accommodations to attend or participate in this meeting is encouraged to notify the Secretary to the Planning Board in advance.

AFFIDAVIT OF SERVICE

IN THE MATTER OF AN APPLICATION BY GUS BONIELLO SEEKING APPROVAL FOR A BOND REDUCTION FOR FALCON RIDGE, WACCABUC ROAD, GOLDENS BRIDGE, NY 10526, SHEET 00008, BLOCK 11137, LOT 018 (BONIELLO LAND & REALTY, OWNER OF RECORD)

STATE OF NEW YORK)

) SS.:

COUNTY OF WESTCHESTER)

GUS BONIELLO, being duly sworn says: I am over 18 years of age and reside in Goldens Bridge, New York.

On February 8, 2016, I served a copy of the attached Public Notice by mailing same in a sealed envelope, via certified mail return receipt requested, in a post off or offical depository of the U.S. Postal service within the State of New York, addressed to the property owners on the 500' mailing and map annexed hereto.

Gus Boniello

Sworn to before me this

19th Day of February 2016

SAMANTHA L INCLEDON
Notary Public - State of New York
No. 01IN6304669
Qualified in Westchester County
My Commission Expires June 2, 2018

BLOCK	LOT	NAME & ADDRESS
11137	72	Peter & Gila Acker 2 Manor Dr. Goldens Bridge, NY 10526
11137	73	Michael & Louise Pascullo 1 Manor Dr. Goldens Bridge, NY 10526
11137	74	Kenneth & Myrna Plotzkin 3 Manor Dr. Goldens Brige, NY 10526
11137	75	Brian & Madeline Hegarty 5 Manor Dr. Goldens Bridge, NY 10526
11137	76	Daniel Petigrow 7 Manor Dr. Goldens Bridge, NY 10526
11137	77	Caron Pollak 9 Manor Dr. Goldens Bridge, NY 10526
11137	78	Nicholas Godio-Godevsky & Ruth Littman 11 Manor Dr. Goldens Bridge, NY 10526
11137	137	Grant & Meryl Greenspan 26 Deertrack Ln. Goldens Bridge, NY 10526
11137	138	Roger & Nilcelia Davidson 28 Deertrack Ln Goldens Bridge, NY 10526
11137	139	Gerald Prothro P.O. Box 145 Goldens Bridge, NY 10526
11137	140	Fred & Stacey Rosen 34 Deertrack Ln Goldens Bridge, NY 10526

11137	141	Kwong & Marion Shih 32 Deertrack Ln Goldens Bridge, NY 10526
11137	142	Paul & Patricia Markowski P.O. Box 399 Goldens Bridge, NY 10526
11137	125	Nash Road Holdings LLC 605 Third Ave New York, NY 10158
11137	123	Amercan Water Works Co. 260 Harrison Ave. Harrison, NY 10528
11137	163	Trent & Francesca Jones 73 Bash Rd. North Salem, NY 10560
11137	164	Edward & Perdita Burlingame 79 Nash Rd. North Salem, NY 10560
11137	33	Town or Lewisboro 11 Main St. South Salem, NY 10590
11137	65	Gus & Michele Boniello
11137	158	Caren Roth 183 Waccabuc Rd. Goldens Bridge, NY 10526
11137	159	Bernard Mindich 189 Waccabuc Rd. Goldens Bridge, NY 10526
11137	160	Taylor & Brigitte Sajous 193 Waccabuc Rd. Goldens Bridge, NY 10526
11137	120	Felicia Gross 41 Lake St. Goldens Bridge, NY 10526

11137	80	Waccabuc Farms LLC 25 Richmond Hill Rd. Greenwich, CT 06830
10778	5	Todd & Tamara Gates 57 Todd Hill Cr. Goldens Bridge, NY 10526
10778	6	Nizaralli & Roma Virani 1 Bradys Farm Rd. Goldens Bridge, NY 10526
10778	7	Jonathan Goldman 5 Bradys Farm Rd. Goldens Bridge, NY 10526
10778	8	Jinjun & Chen Yu Xiong 59 Todd Hill Cr. Goldens Bridge, NY 10526
10778	9	T.D. Bank & Corwin Trustee 9 Bradys Farm Rd. Goldens Bridge, NY 10526
10778	31	Goldens Bridge Fire District 254 Waccabuc Rd. Goldens Bridge, NY 10526
12662	6	Peter & Dina Giner 260 Waccabuc Rd. Goldens Bridge, NY 10526
12662	1	Kenneth & Wendy Gillman 3 Lake St. Goldens Bridge, NY 10526
11137	68	Marcel & Pia Goldberger P.O. Box0496 Goldens Bridge, NY 10526
11137	166	Anna Rudnicki P.o. Box 492 Goldens Bridge, NY 10526

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GOLDENS BRIDGE NY 10526

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☐ Adult Signature Required $	
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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee $	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	$2.80
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	
☐ Adult Signature Restricted Delivery $	N/A N/A
Postage $	$0.49
Total Postage and Fees $	$6.74

0036
02 Postmark Here
02/08/2016

Sent To GINER
Street and Apt. No., or PO Box No. 260 WACCABUCK RD.
City, State, ZIP+4® GB, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1520 0000 2031 8212

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Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	$2.80
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	
☐ Adult Signature Restricted Delivery $	N/A N/A
Postage $	$0.49
Total Postage and Fees $	$6.74

0036
02 Postmark Here
02/08/2016

Sent To GILLMAN
Street and Apt. No., or PO Box No. 3 LAKE ST
City, State, ZIP+4® GB NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction

7015 1520 0000 2031 8236

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Certified Mail Fee $	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	$2.80
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	N/A
☐ Adult Signature Restricted Delivery $	N/A
Postage $	$0.49
Total Postage and Fees $	$6.74

0036
02 Postmark Here
02/08/2016

Sent To GOLDMAN
Street and Apt. No., or PO Box No. 5 BRADYS FARM RD
City, State, ZIP+4® G.B, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1520 0000 2031 8205

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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee $	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	$2.80
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	N/A
☐ Adult Signature Restricted Delivery $	N/A
Postage $	$0.49
Total Postage and Fees $	$6.74

0036
02 Postmark Here
02/08/2016

Sent To T.D. BANK + CORWIN TRUS
Street and Apt. No., or PO Box No. 9 BRADYS FARM
City, State, ZIP+4® GB, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction

7015 1520 0000 2031 8267

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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$ $2.80
☐ Return Receipt (electronic)	$ $0.00
☐ Certified Mail Restricted Delivery	$ $0.00
☐ Adult Signature Required	$ N/A
☐ Adult Signature Restricted Delivery	$ N/A
Postage	$0.49
Total Postage and Fees	$6.74

0036 02 Postmark Here

02/08/2016

Sent To: Chen Yuxiong
Street and Apt. No., or PO Box No.: 59 TODD HILL CT.
City, State, ZIP+4®: G.B, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1520 0000 2031 8243

U.S. Postal Service
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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$ $2.80
☐ Return Receipt (electronic)	$ $0.00
☐ Certified Mail Restricted Delivery	$ $0.00
☐ Adult Signature Required	$ N/A
☐ Adult Signature Restricted Delivery	$ N/A
Postage	$0.49
Total Postage and Fees	$6.74

0036 02 Postmark Here

02/08/2016

Sent To: GATES
Street and Apt. No., or PO Box No.: 57 TODD HILL CT.
City, State, ZIP+4®: G.B, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1520 0000 2031 8298

U.S. Postal Service™
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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$ $2.80
☐ Return Receipt (electronic)	$ $0.00
☐ Certified Mail Restricted Delivery	$ $0.00
☐ Adult Signature Required	$ N/A
☐ Adult Signature Restricted Delivery	$ N/A
Postage	$0.49
Total Postage and Fees	$6.74

0036 02 Postmark Here

02/08/2016

Sent To: VIRANI
Street and Apt. No., or PO Box No.: 1 BRADYS FARM RD
City, State, ZIP+4®: GB, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1520 0000 2031 8274

U.S. Postal Service™
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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$ $2.80
☐ Return Receipt (electronic)	$ $0.00
☐ Certified Mail Restricted Delivery	$ $0.00
☐ Adult Signature Required	$ N/A
☐ Adult Signature Restricted Delivery	$ N/A
Postage	$0.49
Total Postage and Fees	$6.74

0036 02 Postmark Here

02/08/2016

Sent To: GROSS
Street and Apt. No., or PO Box No.: 41 LAKE ST.
City, State, ZIP+4®: G.B, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1520 0000 2031 8083

U.S. Postal Service™
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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$ $2.80
☐ Return Receipt (electronic)	$ $0.00
☐ Certified Mail Restricted Delivery	$ $0.00
☐ Adult Signature Required	$ N/A
☐ Adult Signature Restricted Delivery	$ N/A
Postage	$0.49
Total Postage and Fees	$6.74

0036 02 Postmark Here

02/08/2016

Sent To: MARKOWSKI
Street and Apt. No., or PO Box No.: P.O. BOX 399
City, State, ZIP+4®: GB, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1520 0000 2031 8281

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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$ $2.80
☐ Return Receipt (electronic)	$ $0.00
☐ Certified Mail Restricted Delivery	$ $0.00
☐ Adult Signature Required	$ N/A
☐ Adult Signature Restricted Delivery	$ N/A
Postage	$0.49
Total Postage and Fees	$6.74

0036 02 Postmark Here

02/08/2016

Sent To: SAJOUS
Street and Apt. No., or PO Box No.: 193 WACCABUC RD
City, State, ZIP+4®: G.B, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1520 0000 2031 8021

U.S. Postal Service
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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee $	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	$2.80
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	N/A
☐ Adult Signature Restricted Delivery $	N/A
Postage $	$0.49
Total Postage and Fees $	$6.74

0036
02 Postmark Here
02/08/2016

Sent To: POLLACK
Street and Apt. No., or PO Box No.: 9 MANOROR
City, State, ZIP+4®: GB, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1520 0000 2031 8104

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For delivery information, visit our website at www.usps.com®.

HARRISON NY 10528

OFFICIAL USE

Certified Mail Fee $	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	$2.80
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	N/A
☐ Adult Signature Restricted Delivery $	N/A
Postage $	$0.49
Total Postage and Fees $	$6.74

0036
02 Postmark Here
02/08/2016

Sent To: AMERICAN WATERWORKS
Street and Apt. No., or PO Box No.: 200 HARRISON AVE
City, State, ZIP+4®: HARRISON, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction

7015 1520 0000 2031 8045

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Certified Mail Fee $	GOLDENS BRIDGE NY 10526
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	
☐ Return Receipt (electronic) $	$3.45
☐ Certified Mail Restricted Delivery $	
☐ Adult Signature Required $	$2.80
☐ Adult Signature Restricted Delivery $	$0.00
Postage $	$0.00
Total Postage and Fees $	N/A
	N/A
	$0.49

Postmark Here
0036
02
02/08/2016

Sent To: GODEUSKY+LITMAN
Street and Apt. No., or PO Box No.: 11 MANOR DR
City, State, ZIP+4®: GB, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1520 0000 2031 8038

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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee $	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	$2.80
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	N/A
☐ Adult Signature Restricted Delivery $	N/A
Postage $	$0.49
Total Postage and Fees $	$6.74

0036
02 Postmark Here
02/08/2016

Sent To: GREENSPAN
Street and Apt. No., or PO Box No.: 26 DEERTRACK
City, State, ZIP+4®: GB, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction

7015 1520 0000 2031 8069

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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee $	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	$2.80
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	N/A
☐ Adult Signature Restricted Delivery $	N/A
Postage $	$0.49
Total Postage and Fees $	$6.74

0036
02 Postmark Here
02/08/2016

Sent To: ROSEN
Street and Apt. No., or PO Box No.: 34 Deertrack
City, State, ZIP+4®: GB, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 1520 0000 2031 8052

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GOLDENS BRIDGE NY 10526

OFFICIAL USE

Certified Mail Fee $	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy) $	$2.80
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	N/A
☐ Adult Signature Restricted Delivery $	N/A
Postage $	$0.49
Total Postage and Fees $	$6.74

0036
02 Postmark Here
02/08/2016

Sent To: PROTNRO
Street and Apt. No., or PO Box No.: P.O BOX 145
City, State, ZIP+4®: GB, NY

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction

TOWN OF LEWISBORO

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Planning Board of the Town of Lewisboro, Westchester County, New York will convene a Public Hearing on February 23, 2016 at 7:30 p.m., or soon thereafter, at the Town Offices @ Orchard Square Plaza, Lower Level, Cross River, New York, regarding the following:

Cal # 3-15PB

Application for Amended Site Development Plan Approval for Orchard Square, 20 North Salem Road, Cross River, New York, owner of record, EK Cross River, LLC, to permit the renovation of the plaza. The plan includes a new pedestrian plaza and sitting area and new shade trees and pole lights within the existing landscape islands; the general layout of the parking lot will remain. The property consists of approximately 5.39 acres of land, and is located within the Town's RB Zoning District. A copy of materials and proposed site documents may be inspected at the office of the Planning Board Secretary, 20 North Salem Road, Orchard Square, Suite L, Cross River, New York during regular Planning Board hours. Persons wishing to object to the application should file a notice of objection with the Planning Board together with a statement of the grounds of objection prior to the closing of the Public Hearing. All interested parties are encouraged to attend the Public Hearing and all will be provided an opportunity to be heard.

PLANNING BOARD
TOWN OF LEWISBORO
By: Jerome Kerner
Chairman

Dated February 3, 2015

The Town of Lewisboro is committed to equal access for all citizens. Anyone needing accommodations to attend or participate in this meeting is encouraged to notify the Secretary to the Planning Board in advance.

AFFIDAVIT OF SERVICE

IN THE MATTER OF AN APPLICATION BY
"EK CROSS RIVER, LLC", SEEKING A PERMIT FOR THE RENOVATION OF THE "ORCHARD SQUARE PLAZA", CROSS RIVER, NY. INCLUDING THE NEW PEDESTRIAN PLAZA, SITTING AREA, NEW SHADE TREES, PARKING LOT LIGHTING WITHIN THE EXISTING PARKING LOT ISLANDS. THE PROPERTY IS 5.39 ACRES AND IS IN THE TOWN'S RB ZONING DISTRICT.

STATE OF NEW YORK

ss.

COUNTY OF WESTCHESTER

FRANK GIULIANO, LANDSCAPE ARCHITECT, being duly sworn:
I am over the age of 18 years of age. And reside at 8 Pine Tree Drive, Katonah, NY. 10536.

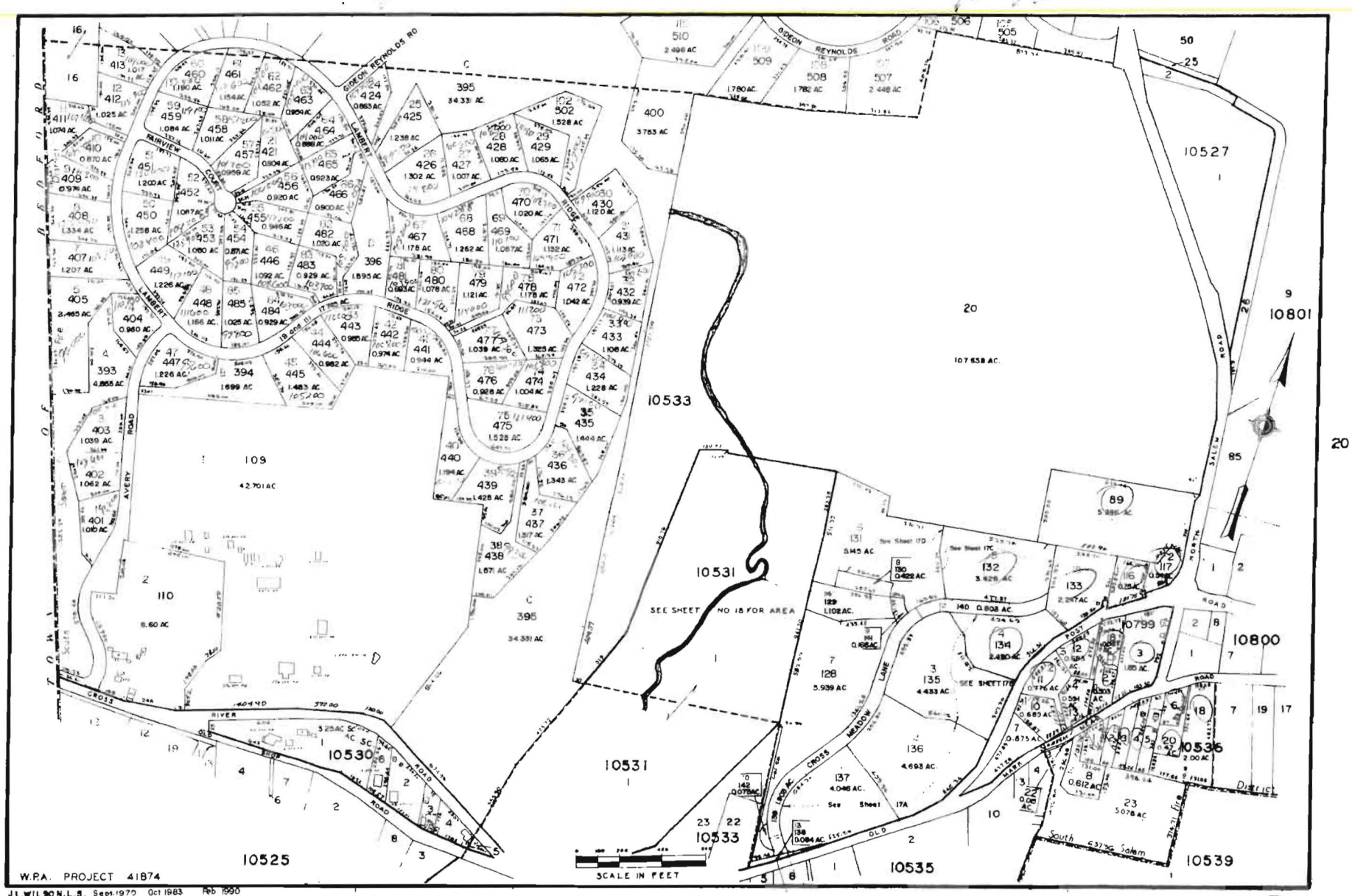
ON FEBRUARY 6 2016, I served a copy of the attached Public Notice by mailing same in a sealed envelope, via certified, return receipt requested, in the
Katonah, NY post office, addressed to the property owners on the attached list and map annexed hereto.

Frank Giuliano, RLA #000809

Sworn to before me this 18th day of February

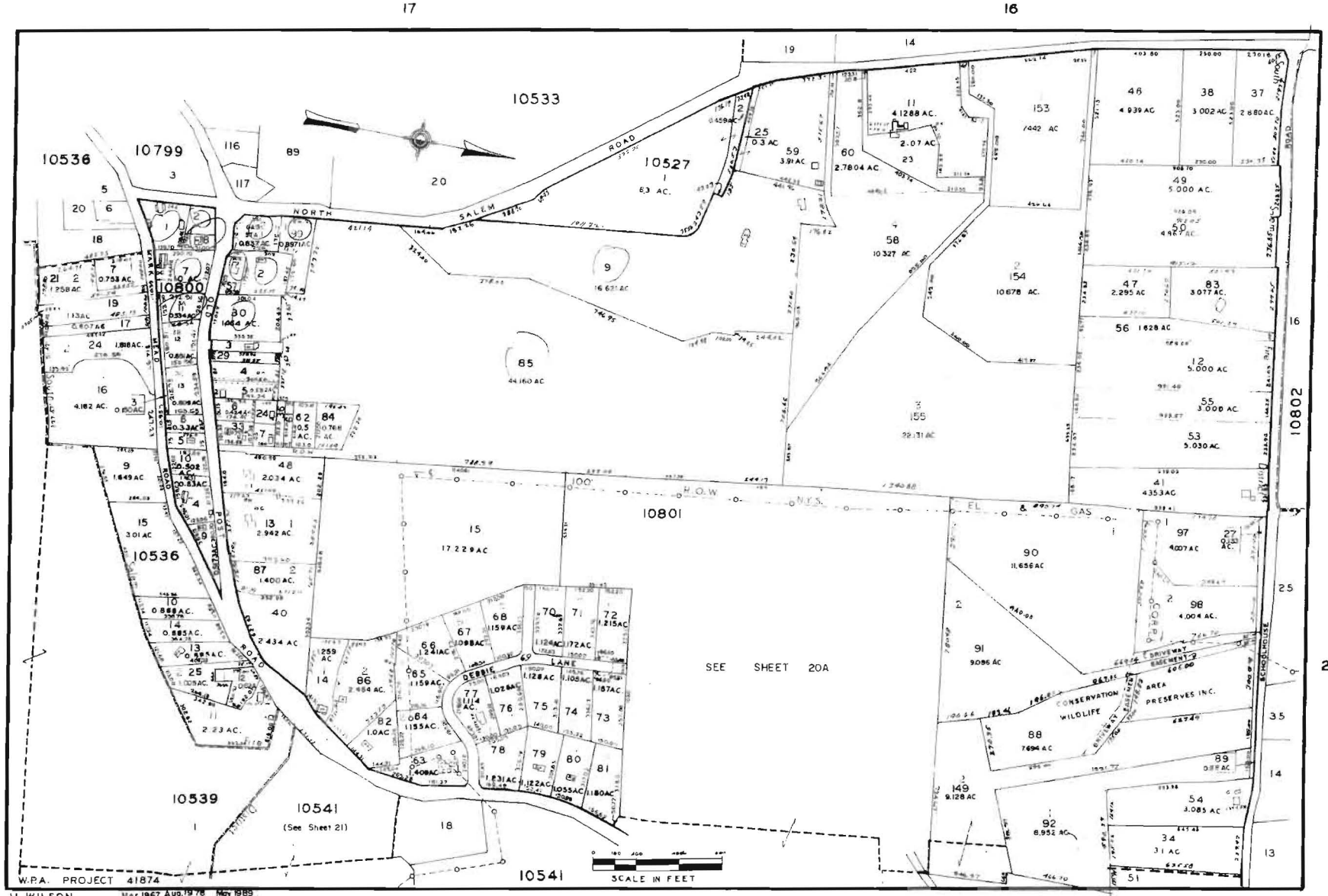
NOTARY PUBLIC

DAVID P. GRAY-SCHOFIELD
NOTARY
NO. 01GR6246751
QUALIFIED IN
WESTCHESTER COUNTY
COMM. EXP.
8/15/19
PUBLIC
STATE OF NEW YORK



W.P.A. PROJECT 41874

J.L.WILSON,L.S. Sept.1970 Oct 1983 Feb 1990
South Salem, N.Y. Feb 1971 Feb. 1986
Oct.3.1985. Mar 1978 Jan. 1988
Mar.1967 Aug 1978 Feb. 1989
Jan.1969 Jan. 1980 Dec. 1989



W.P.A. PROJECT 41874

J.L.WILSON
SOUTH SALEM, N.Y.
JAN.30.1962
Oct 3.1965
Jan. 1969

Mar. 1967 Aug. 1978 May 1989
Mar. 1970 May 1980 Oct. 1989
Feb. 1971 Oct 1980 Dec. 1989
Nov. 1972 Mar 1982 Aug 1992
Mar. 1976 June 1982 Oct 1992
Mar. 1978 Dec 1983

TOWN OF LEWISBORO

20

7015 3010 0002 3076 0568

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CROSS RIVER NY 10518

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.80
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	N/A
☐ Adult Signature Restricted Delivery	N/A
Postage	$0.49
Total Postage and Fees	$6.74

0052 04 Postmark Here FEB 8 2016 USPS 02/06/2016

Sent To: Lisa Marie Miller
Street: 23 Mark Mead Rd.
City: Cross River, NY 10518

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 3010 0002 3076 0544

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CROSS RIVER NY 10518

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Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.80
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	N/A
☐ Adult Signature Restricted Delivery	N/A
Postage	$0.49
Total Postage and Fees	$6.74

0052 04 Postmark Here FEB 8 2016 USPS KATONAH NY 10536 02/06/2016

Sent To: Marc & Joan Weiler
Street: P.O. Box 783
City, St: Cross River, NY 10518

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction

7015 3010 0002 3076 0551

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KATONAH NY 10536

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	N/A
☐ Adult Signature Restricted Delivery	N/A
Postage	$0.49
Total Postage and Fees	$3.94

0052 04 Postmark Here FEB 8 2016 USPS KATONAH NY 10536 02/06/2016

Sent To: GHI Real Estate Corp.
Street: 182 Allison Rd.
City: Katonah, NY 10536

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 3010 0002 3076 0575

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CROSS RIVER NY 10518

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.80
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	N/A
☐ Adult Signature Restricted Delivery	N/A
Postage	$0.49
Total Postage and Fees	$6.74

0052 04 Postmark Here FEB 8 2016 USPS KATONAH NY 10536 02/06/2016

Sent To: Maria Orellana
Street: 29 Mark Mead Rd.
City: Cross River, NY 10518

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructio

7015 3010 0002 3076 0582

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For delivery information, visit our website at *www.usps.com®*.

HOUSTON TX 77210

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.80
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	N/A
☐ Adult Signature Restricted Delivery	N/A
Postage	$0.49
Total Postage and Fees	$6.74

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Sent To: Robert K. Koch Inc.
Street: P.O. Box 4369
City, Sta: Houston, TX 77210

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction

7015 3010 0002 3076 0605

U.S. Postal Service
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For delivery information, visit our website at *www.usps.com®*.

SOUTH SALEM NY 10590

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.80
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	N/A
☐ Adult Signature Restricted Delivery	N/A
Postage	$0.49
Total Postage and Fees	$6.74

0052 04 Postmark Here FEB 9 - 2016 KATONAH NY 10536 USPS 02/06/2016

Sent To Tonni St. Louis Jr.
Street and Apt. No., or PO Box No. 11 MAIN ST.
City, State, ZIP+4® South Salem NY 10590

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 3010 0002 3076 0520

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For delivery information, visit our website at *www.usps.com®*.

SOUTH SALEM NY 10590

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.80
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	N/A
☐ Adult Signature Restricted Delivery	N/A
Postage	$0.49
Total Postage and Fees	$6.74

0052 04 Postmark Here FEB 9 - 2016 KATONAH NY 10536 USPS 02/06/2016

Sent To
Street
City, S

Trilex LLC
52 Lake Shore Dr.
South Salem, NY 10590

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction

7015 3010 0002 3076 0599

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CROSS RIVER NY 10518

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.80
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	N/A
☐ Adult Signature Restricted Delivery	N/A
Postage	$0.49
Total Postage and Fees	$6.74

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Sent To Marjorie Cooke
Street and Apt. No., or PO Box No. P.O. Box 341
City, State, ZIP+4® Cross River NY 10518

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 3010 0002 3076 0629

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SOUTH SALEM NY 10590

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.80
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	N/A
☐ Adult Signature Restricted Delivery	N/A
Postage	$0.49
Total Postage and Fees	$6.74

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Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction

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Katonah, NY 10536

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	
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☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	N/A
☐ Adult Signature Restricted Delivery	N/A
Postage	$0.49
Total P	$6.74

0052 04 Postmark Here FEB 9 - 2016 KATONAH NY 10536 USPS 02/06/2016

Sent T
Street
City, S

Meadows at Cross River
Homeowners Assn.
112 Nottingham Rd.
Bedford Hills, NY 10507

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction

ORCHARD SQUARE 10533-089-0017

Block	Lot	Name & Address
10533	20	Union Free School Dist. P.O. Box 387 Katonah, NY 10536
10533	116	EK Cross River LLC over -
10533	117	Trilex LLC 52 Lake Shore Dr. South Salem, NY 10590
10533	133	Meadows at Cross River Homeowners Assn. 112 Nottingham Rd. Bedford Hills, NY 10507

Cross River, NY 10518

10800	1	Marc & Joan Weiler P.O. Box 783 Cross River, NY 10518
10800	2	GHI Real Estate Corp. 182 Allison Rd. Katonah, NY 10536
10800	7	Lisa Marie Miller 23 Mark Mead Rd. Cross River, NY 10518
10800	8	GHI Real Estate Corp.
10800	11	Maria Orellana 29 Mark Mead Rd. Cross River, NY 10518
10801	1	Robert K. Koch Inc. P.O. Box 4369 Houston, TX 77210

10801	2	Marjorie Clark P.O. Box 341 Cross River, NY 10518
10801	85	Town Of Lewisboro 11 Main St. South Sale, NY 10590
10801	99	Cross River Realty Corp. 19 Bisbee Dr. South Salem, NY 10590

Orchard Square
AT CROSS RIVER
NOTICE

TO: Town of Lewisboro Planning Board

FROM: Lewisboro Conservation Advisory Council

SUBJECT: Orchard Square Restoration Plan
20 North Salem Road, Route 121, Cross River
Block 10533, Lot 89, Sheet 17
Cal # 3—15 PB, Application for Waiver of Site Plan Procedures

DATE: February 16, 2016

The Conservation Advisory Council (CAC) reviewed the restoration plan dated November 17, 2015 and the resubmissions that were emailed on February 2, 2016.

The CAC felt that the application could add a few items to improve the restoration plan. The CAC would like at least one additional waste can for recycled products. We feel that this would be an important statement to the community.

The CAC also encourages the applicant to consider the installation of a bike rack at an appropriate location in the shopping center area. This would support the Town's complete streets initiative and also complements the school districts plans to put a trail connecting Michelle Estates to the school and fields complex.

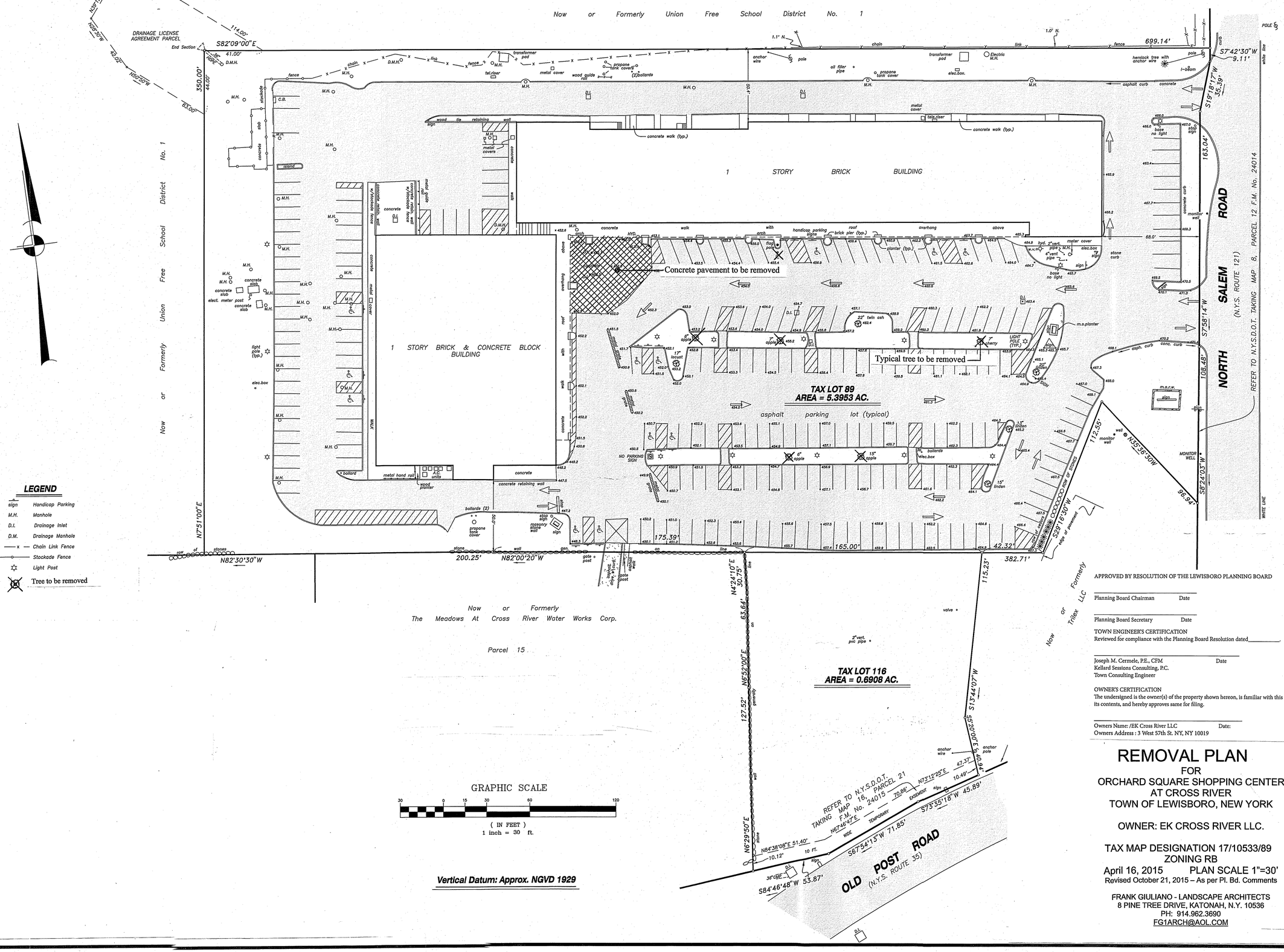
The new seating area has a border of paving stones, which may or may not be flush with the pavement. The CAC would like assurances that the new seating area will not restrict accessibility from the parking lot to the shops and restaurants for those in wheelchairs.

The CAC asks the applicant to take this opportunity to plan where an electric vehicle charging station could be installed in the shopping center. We would like to see the applicant add an electric recharging station to the plans. Even if the physical installation of the charging station is deferred until some future phase, if this feature is included on these plans, the applicant will not have to resubmit plans should they wish to provide this amenity in the future.

3. The application must be referred to the Westchester County Planning Board in accordance with Section 239-m of the General Municipal Law; the Planning Board Secretary will coordinate with referral.

Plan Comments

1. The site plan has been revised to include internal crosswalks/paver-walks running in a north-south direction throughout the parking lot. It is understood that where the crosswalk coincides with an accessible parking space aisle, the walkway will consist of striped and elsewhere it will consist of unilock pavers. The site plan shall be revised to identify this distinction and a cross-section detail of the paver installation and specifications of the paver to be used shall be provided on the site plan. See SH #3; ALL AISLES HAVE PAVERS; PAVER DETAIL ADDED. PAVER SPEC. ADDED
2. It is recommended that directional arrows be provided at the western and eastern ends of the middle and most southern driveway aisles, so they are clearly visible to motorists circulating through the parking lot; it is understood that the center row allows one-way traffic (in an easterly direction) and the southern driveway allows two-way traffic. It is further recommended that a stop sign, painted stop bar, and "Do Not Enter" sign be provided at the eastern end of the middle drive aisle and that a "Do Not Enter" sign be provided at the northern end of the smaller parking area located between the building and North Salem Road. NOTED ADDED TO SH. #3
3. It is understood that the "planting pockets" located adjacent to the building will be removed as they interfere with the parking spaces; please revise and clarify the applicable note to read: "All planting pockets to be removed and paved flush with asphalt."
   NOTE ADDED TO SHEET #3
4. A photometric plan shall be provided and shall clarify that all pole lights will be replaced with the proposed light pole and fixture identified on the site plan. Please include details for the proposed wall mounted sconces to be replaced on the building.
   SHEET SH. #4
5. Typical standard and accessible parking stall details and accessible signage details should be provided on the plan. ADDED TO SH. #3
6. A note should be added to the plan which makes reference to the approved site plan of record (plans prepared by Design Development consisting of four (4) sheets, dated (last revised) June 7, 2010 and signed by the Planning Board Chairman on October 25, 2010).
   See Note on SHEET #3



LEGEND

sign	Handicap Parking
M.H.	Manhole
D.I.	Drainage Inlet
D.M.	Drainage Manhole
—x—x—	Chain Link Fence
—o—o—	Stockade Fence
☼	Light Post
⊗	Tree to be removed

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

Vertical Datum: Approx. NGVD 1929

APPROVED BY RESOLUTION OF THE LEWISBORO PLANNING BOARD

Planning Board Chairman Date

Planning Board Secretary Date

TOWN ENGINEER'S CERTIFICATION
Reviewed for compliance with the Planning Board Resolution dated_____.

Joseph M. Cermele, P.E., CFM Date
Kellard Sessions Consulting, P.C.
Town Consulting Engineer

OWNER'S CERTIFICATION
The undersigned is the owner(s) of the property shown hereon, is familiar with this drawing and its contents, and hereby approves same for filing.

Owners Name: /EK Cross River LLC Date:
Owners Address : 3 West 57th St. NY, NY 10019

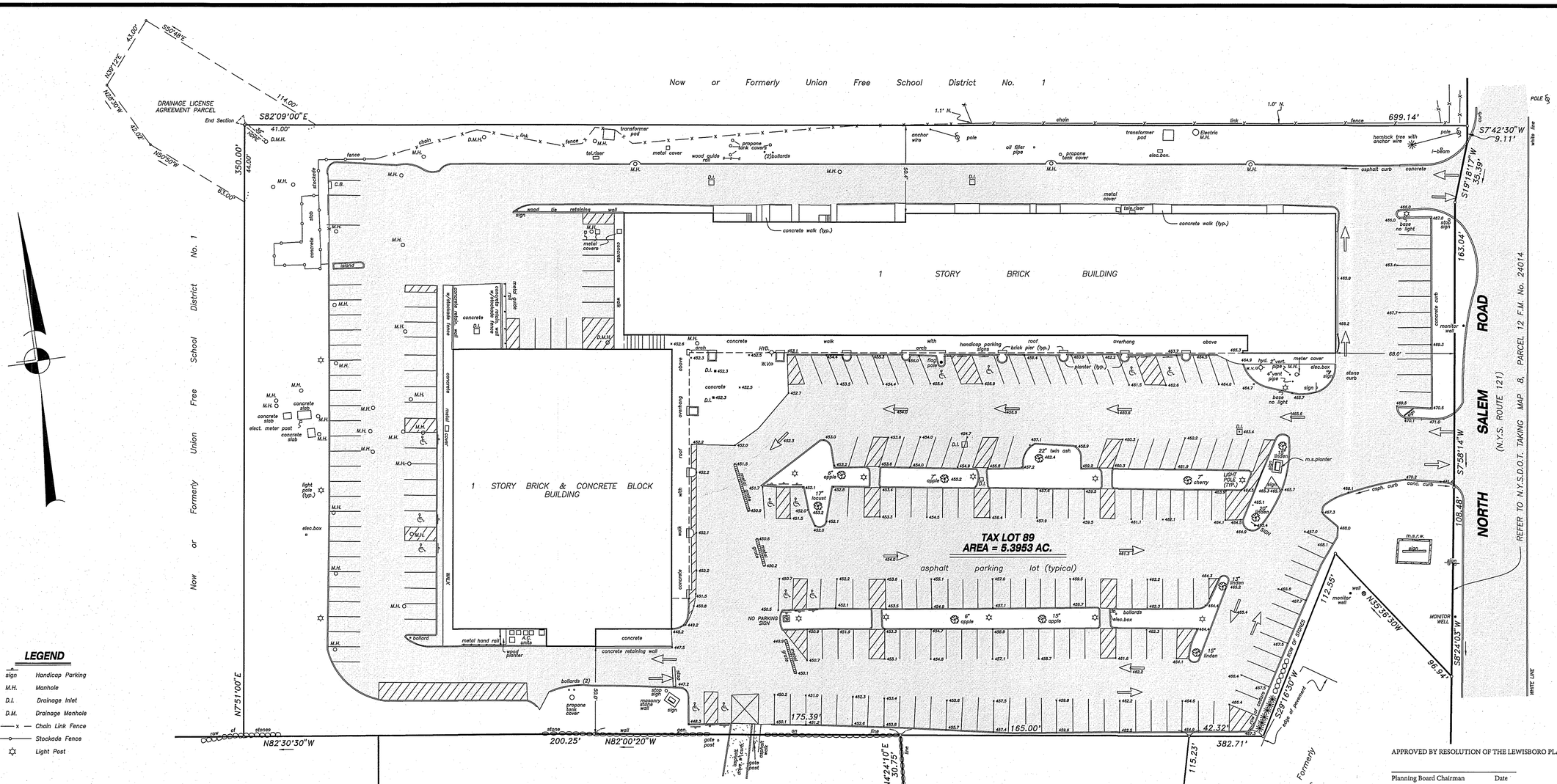
REMOVAL PLAN

FOR
ORCHARD SQUARE SHOPPING CENTER
AT CROSS RIVER
TOWN OF LEWISBORO, NEW YORK

OWNER: EK CROSS RIVER LLC.

TAX MAP DESIGNATION 17/10533/89
ZONING RB
April 16, 2015 PLAN SCALE 1"=30'
Revised October 21, 2015 – As per Pl. Bd. Comments

FRANK GIULIANO - LANDSCAPE ARCHITECTS
8 PINE TREE DRIVE, KATONAH, N.Y. 10536
PH: 914.962.3690
FG1ARCH@AOL.COM



LEGEND

sign	Handicap Parking
M.H.	Manhole
D.I.	Drainage Inlet
D.M.	Drainage Manhole
—x—x—	Chain Link Fence
—o—o—	Stockade Fence
☼	Light Post

FIELDWORK COMPLETED: JULY 17, 2015

MAP PREPARED: AUGUST 21, 2015

"Condominium Section Map The Meadows at Cross River" filed on October 3, 1983 as Map No. 21335

Subject Lot:

Property corner monuments were not placed as part of this survey.

This map may not be used in connection with a "Survey Affidavit" or similar document, statement or mechanism to obtain title insurance for any subsequent or future grantees.

Unauthorized alteration or addition to this survey is a violation of Section 7209, subdivision 2 of the New York State Education Law.

According to NYSAPLS policy adopted January 23, 1993, the alteration of survey maps by anyone other than the original preparer is misleading, confusing and not in the general welfare and benefit of the public. Licensed Land Surveyors shall not alter survey maps, survey plans, or survey plats prepared by others.

Refer To Map Entitled "Survey Of Property Lot 1, Subdivision Map Of Cary's Corner, Etc.," Said Map Filed In The Westchester County Clerks Office On March 13, 1978 As Map No. 19421

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

Vertical Datum: Approx. NGVD 1929

Underground structures, if any exist, not shown hereon, except as noted. The location of underground improvements or encroachments are not always known and often must be estimated. If any, underground improvements or encroachments are not covered by this certificate.

Only copies from the original of this survey marked with the surveyor's embossed seal are genuine, true and correct copies of the surveyor's original work and opinion. A copy of this document without a proper application of the surveyor's embossed seal should be assumed to be an unauthorized copy.

Jeffrey B. DeRosa
New York State License No. 049330

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

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APPROVED BY RESOLUTION OF THE LEWISBORO PLANNING BOARD

Planning Board Chairman Date

Planning Board Secretary Date

TOWN ENGINEER'S CERTIFICATION
Reviewed for compliance with the Planning Board Resolution dated_____.

Joseph M. Cermele, P.E., CFM Date
Kellard Sessions Consulting, P.C.
Town Consulting Engineer

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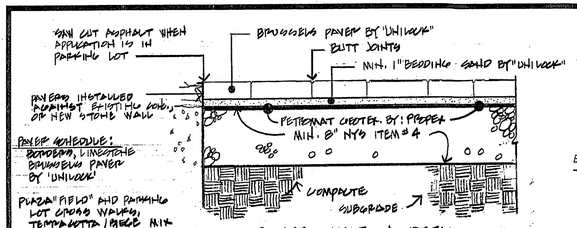
Owners Name: /EK Cross River LLC Date:
Owners Address : 3 West 57th St. NY, NY 10019

Survey of Property
Prepared for
EK Cross River LLC
Situate in the
Town of Lewisboro
Westchester County, New York

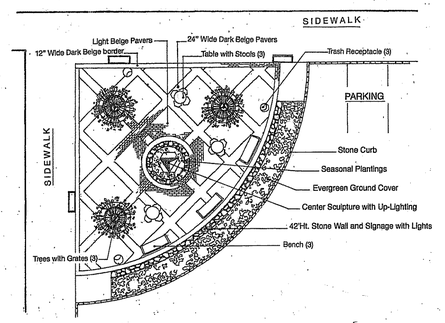
Scale 1" = 30' August 21, 2015

Sheet 2 of 4

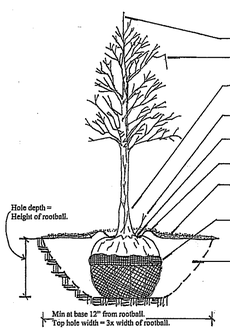
15223200 T628-3a
EK Cross River LLC.dwg



PAVER SECTION DETAIL



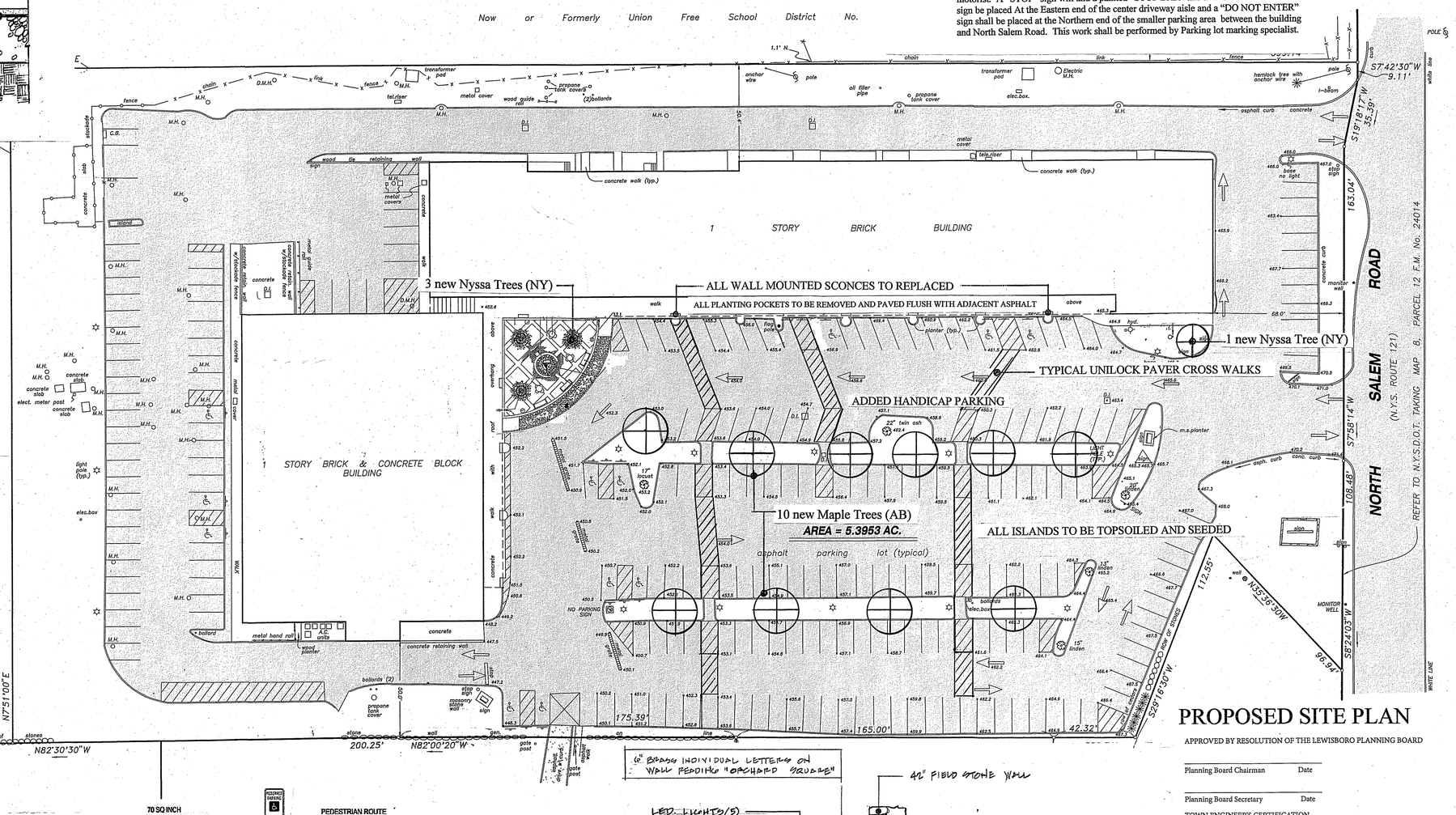
PLAZA DETAIL



Deciduous Tree Planting

PARKING LOT SIGNAGE:

Directional arrows will be provided at the Western and Eastern ends of the center and Southern most driveway aisles. They will be placed so that they are clearly visible to motorist. A "STOP" sign will and a painted "STOP BAR" and a "DO NOT ENTER" sign be placed At the Eastern end of the center driveway aisle and a "DO NOT ENTER" sign shall be placed at the Northern end of the smaller parking area between the building and North Salem Road. This work shall be performed by Parking lot marking specialist.



PROPOSED SITE PLAN

APPROVED BY RESOLUTION OF THE LEWISBORO PLANNING BOARD

Planning Board Chairman Date

Planning Board Secretary Date

TOWN ENGINEER'S CERTIFICATION
Reviewed for compliance with the Planning Board Resolution dated_____.

Joseph M. Cermele, P.E., CFM Date
Kellard Sessions Consulting, P.C.
Town Consulting Engineer

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The undersigned is the owner(s) of the property shown hereon, is familiar with this drawing and its contents, and hereby approves same for filing.

Owners Name: /EK Cross River LLC Date:
Owners Address : 3 West 57th St. NY, NY 10019

PLANT SCHEDULE

KEY	QUAN.	BOTANICAL / COMMON NAME	SIZE
TREES			
AB	10	Acer rubrum **"Red Sunset"**- Red Sunset Maple	41/2"-5" Cal
NY	4	Nyssa sylvatica – Tupelo	3"-31/2" Cal.
VIN	125	Vinca "bowles"	1 Gal.

The above trees are NATIVE to NYS.

PLANTING SPECIFICATIONS:

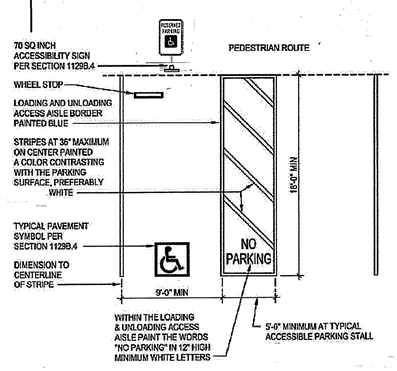
GENERAL: All plants shall meet the specifications for "plant material" as per the American Horticultural Society. The landscape architect reserves the right to inspect all plants prior to shipping. All plants shall be guaranteed for one full year from the time the landscaping is formally accepted by the owner. And the Town of Lewisboro, NY.

PLANTING: All plants shall be planted in planting pits two times the diameter of the plant ball or container, and 12" deeper than the plant ball or container. The plants shall be planted at the same grade as they were in the container or nursery. Backfill for all planting pits shall be as follows: Two parts native soil, one part screened topsoil and one part peat moss or humus. "Roots Plus" shall be added to all backfill, as per label directions.

MULCHING: All planting beds shall be mulched with three (3) inches of shredded bark. All trees shall be mulched with three (3) inches of shredded bark in a four (4) foot diameter circle around each existing tree.

WATERING: The contractor shall water all planted material, until formal acceptance of the landscaping from the owner.

SEEDED LAWN AREAS: All areas to be seeded shall have a minimum of four (4) inches of topsoil as a base. Seed bed shall be fine graded, with all stones and debris over 1" in diameter removed. Seed shall be spread at the rate of 10 pounds per 1000 square feet. Entire area shall be covered with "Penn-Mulch", at the rate of one bag per 700 S.F., and installed as per manufacturers specifications. An organic starter fertilizer shall be spread prior to installation of Penn Mulch, as per label directions.
SEED MIX shall be Native Northeast Mix by: Pennington.



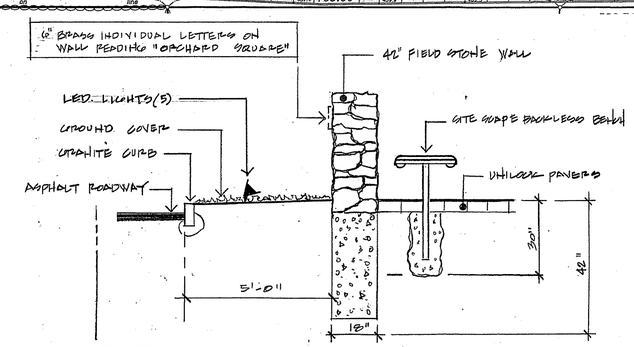
ACCESSIBLE PARKING DETAIL

ACCESSIBLE PARKING NOTE:

All accessible parking aisles shall be paved with the same unilock paving as the cross walks. However, the accessible parking aisles shall be striped as per the "accessible parking detail".

e parking law (ADA) and the detail

All accessible parking spaces shall meet the accessible.
on this sheet, INCLUDING STRIPING and SIGNAGE



WALL – BENCH SECTION OF PLAZA

SITE FURNITURE, PAVING AND LIGHTING SPECIFICATIONS:

BENCHES: VICTOR STANLEY, 5'9" STRAIGHT BACKLESS BENCH.
IN-GROUND MOUNT, FRB-6, TAVERN SQUARE GREEN.

TABLE AND ATTACHED SEATING: VICTOR STANLEY, 36" TABLE,
AND 3 BACKLESS SEATS, A-H-363, TAVERN SQUARE
GREEN. HANDICAP ACCESSIBLE.

TRASH / RECYCLABLE - RECEPTACLES: VICTOR STANLEY, RSDC-36 , TAVERN SQUARE GREEN.

PAVERS: "BRUSSELS" BY UNILOCK. BORDERS: LIMESTONE.
PLAZA FIELD AND PARKING LOT CROSS WALKS: TERRA COTTA/BEIGE MIX.

PARKING LOT LIGHTING: "NANTUCKET 1000" LED POST MOUNT
BY : PennGlobe. -12' high post. Black.

WALL SCONCE LIGHTING: "PHILADELPHIA" 500, LED SCONCE LIGHT
BY: PennGlobe – 34" total height. Black. (Philadelphia is the matching sconce Fixture to Nantucket.

SITE RESTORATION PLAN

FOR
ORCHARD SQUARE SHOPPING CENTER
AT CROSS RIVER
TOWN OF LEWISBORO, NEW YORK

OWNER: EK CROSS RIVER LLC.

TAX MAP DESIGNATION 17/10533/89
ZONING RB
April 16, 2015 PLAN SCALE 1"=30'
Revised October 21, 2015 – As per Pl. Bd. Comments

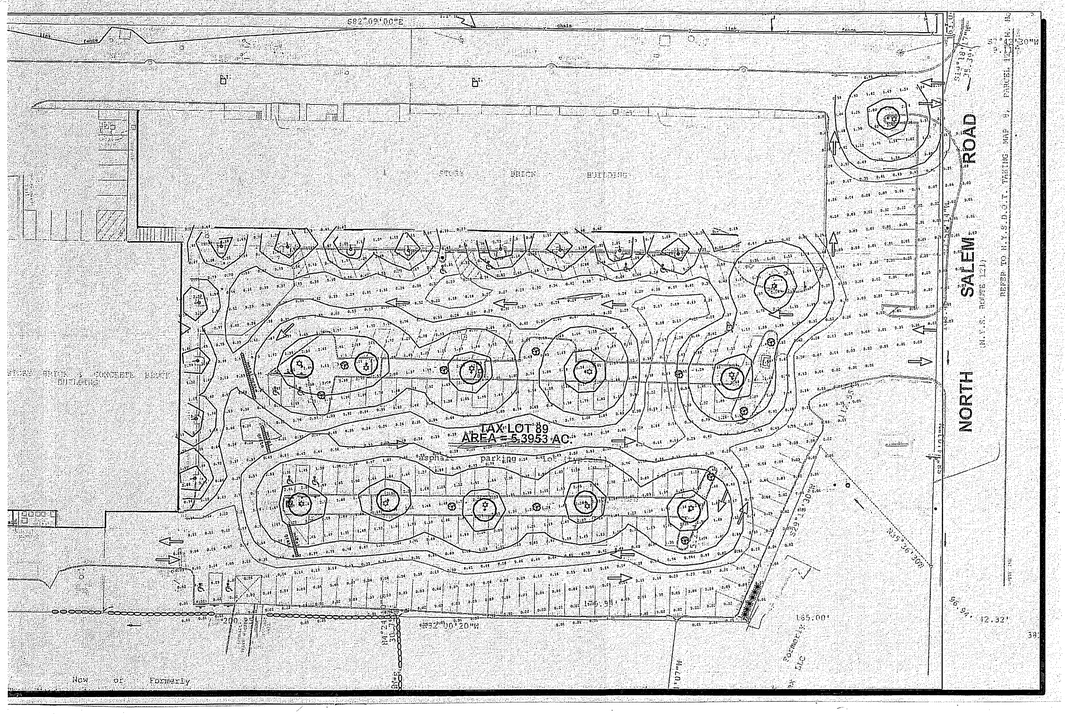
FRANK GIULIANO - LANDSCAPE ARCHITECTS
8 PINE TREE DRIVE, KATONAH, N.Y. 10536
PH: 914.962.3690
FG1ARCH@AOL.COM

Sheet 3 of 4

NOTE: The original approved Site Plans of record:
Plans prepared by Design Development consisting of four (4) sheets dated and last revised June 7, 2010, and signed by the Planning Board Chairman on October 25, 2010.

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	12	L3	SINGLE	4953.6	0.850	COR 40
	12	L4	SINGLE	6406	0.850	PLN-60

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
CalcPts	Illuminance	Fc	0.66	2.59	0.01	N.A.
Zone 2	Illuminance	Fc	0.82	3.45	0.00	N.A.

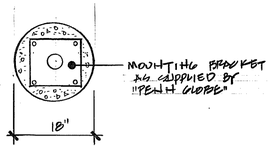


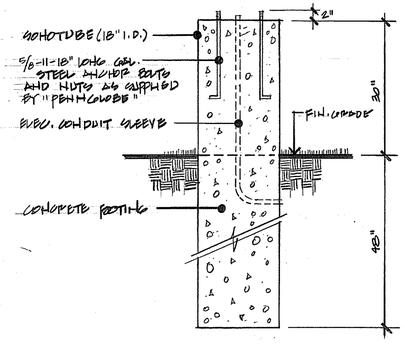
PHOTOMETRIC PLAN

LIGHTING SPECIFICATIONS:

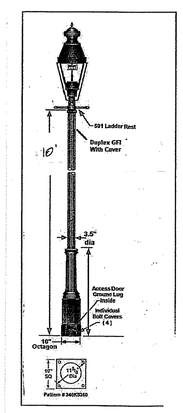
PARKING LOT LIGHTING: "NANTUCKET 1000" LED POST MOUNT
BY : PennGlobe. -10' high post. Black.

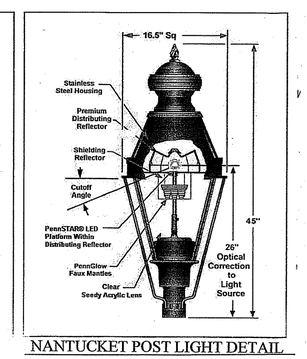
WALL SCONCE LIGHTING: "PHILADELPHIA" 500, LED SCONCE LIGHT
BY: PennGlobe – 34" total height. Black. (Philadelphia is the matching Sconce Fixture to Nantucket.



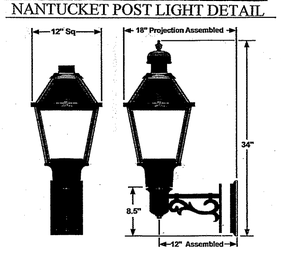


LIGHT POST FOUNDATION
N.T.S.





NANTUCKET POST LIGHT DETAIL



PHILADELPHIA SCONCE LIGHT DETAIL

APPROVED BY RESOLUTION OF THE LEWISBORO PLANNING BOARD

Planning Board Chairman Date

Planning Board Secretary Date

TOWN ENGINEER'S CERTIFICATION
Reviewed for compliance with the Planning Board Resolution dated_____.

Joseph M. Cermele, P.E., CFM Date
Kellard Sessions Consulting, P.C.
Town Consulting Engineer

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Owners Name: /EK Cross River LLC Date:
Owners Address : 3 West 57th St. NY, NY 10019

LIGHTING LAYOUT PLAN

FOR
ORCHARD SQUARE SHOPPING CENTER
AT CROSS RIVER
TOWN OF LEWISBORO, NEW YORK

OWNER: EK CROSS RIVER LLC.

TAX MAP DESIGNATION 17/10533/89
ZONING RB
April 16, 2015 PLAN SCALE 1"=30'
Revised October 21, 2015 – As per Pl. Bd. Comments

FRANK GIULIANO - LANDSCAPE ARCHITECTS
8 PINE TREE DRIVE, KATONAH, N.Y. 10536
PH: 914.962.3690
FG1ARCH@AOL.COM

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

MEMORANDUM

TO: Chairman Jerome Kerner, AIA and Members of the Lewisboro Planning Board

DATE: January 19, 2016

FROM: Richard D. Williams Jr., P.E.

JOB #: 15217.100

RE: Fortune Home Builders
Wetland / Stormwater Permit
Duffy's Bridge Road
Sheet 2, Block 10516 Lot 1

COMMENTS

Project Description:

The subject project consists of approximately 9.1 acres of land and is located at the end of Duffy's Bridge Road. Located in the R-2A zone the majority of the site is undeveloped, with the exception of an asphalt access driveway that connects the end of Duffy's Bridge Road to the Boulder Pines subdivision located to the south. Interstate 684 forms the eastern boundary to the site. The Town of Bedford Town Line forms the southern boundary to the site.

The applicant is proposing to construct a single family residence, driveway, drilled well, and subsurface sewage treatment system on the site. Two regulated wetlands exist on the site.

Wetland A is located on the western side of the emergency access road and is a Town of Lewisboro regulated wetland only. This wetland is relatively small in size with primary functions being storage during storm events, limited groundwater recharge, and wildlife habitat. Based on the size of the wetland and limited hydro-period that is available it appears that this wetland is not suitable to function as a viable vernal pool habitat. The existing emergency access road is located within the Wetland A wetland buffer. The existing emergency access road appears to divert runoff from the subject property away from Wetland A and towards Duffy's Bridge Road. A small portion of the proposed driveway entrance is located within the Wetland A buffer area.

Wetland B is a Town Regulated Wetland and a USACOE regulated wetland located in the southern portion of the site. Since the application does not propose any disturbance within Wetland B no permitting from USACOE is required. The majority of the driveway and approximately ½ of the house and lawn area are located within the Wetland B buffer area.

SEQRA:

The proposed action is listed as Type II action and thus can be exempt from the State Environmental Quality Review Act (SEQRA).

Required Approvals:

1. A Wetland Activity Permit for which a public hearing is required to be held.
2. A Town Stormwater Permit.
3. A Town Highway Permit.
4. A Town Building Permit.
5. Coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, General Permit GP-0-15-002.
6. Westchester County Department of Health Approval (Applicant has indicated approval received).
7. Town of Lewisboro Zoning Board of Appeals Variance for Steep Slopes (previously issued).

Project Review Comments:

The materials submitted appear to provide supplemental information in response to the Planning Board's Consulting Attorney's October 15, 2015 letter. In addition a Mitigation Plan was prepared. Relative to the Mitigation Plan we offer the following:

1. The wetland mitigation plan should quantify the amount of buffer disturbance and amount of mitigation provided.
2. The applicant should consider placing a permanent barrier such as a fence or stone wall in areas where further buffer encroachment is possible. This includes along the central portion of the driveway which is not in a cut or fill, as well as in front of and behind the proposed house.
3. The limit of disturbance should include all areas of disturbance including all areas to be planted and the proposed well site.

New engineering drawings were not provided and it does not appear the comments our October 14, 2015 memorandum (see attached) were addressed. As such a technical review relative to the engineering comments was not performed by this office.

Based on discussions with Mr. Mole, the Planning Board's Consulting Attorney, both the letter dated March 22, 2000, and the Declaration of Access Easement dated July 6, 2000 were previously provided. These items were discussed at the October 29, 2015 site meeting between the applicant, this office, Mr. Mole and the Highway Superintendent.

It is still recommended the applicant or applicant's attorney contact Mr. Mole to resolve the access/frontage concern raised in Mr. Mole's October 15, 2015 letter. In addition revised drawings and a response letter should be provided to our October 14, 2015 memorandum.

Documents Reviewed:

1. Cover letter prepared by Robert Sherwood Landscape Architect, LLC., dated December 20,2015.
2. Letter from Mr. Stephen Hill, Lewisboro Highway Superintendent dated March 22, 2000.
3. Declaration of Access Easement dated July 6, 2000.
4. Drawing Set prepared by Nathaniel J. Holt, P.E., revised September 3, 2015.
5. Mitigation Plan prepared by Robert Sherwood Landscape Architects, LLC.

cc: D. Cinguina, Kellard Sessions (via email)
A. Mole, Esq. (via email)

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

MEMORANDUM

TO: Chairman Jerome Kerner, AIA and Members of the Lewisboro Planning Board

DATE: October 14, 2015

FROM: Richard D. Williams Jr., P.E.

JOB #: 15217.100

RE: Fortune Home Builders
Wetland / Stormwater Permit
Duffy's Bridge Road
Sheet 2, Block 10516 Lot 1

COMMENTS

Project Description:

The subject project consists of approximately 9.1 acres of land and is located at the end of Duffy's Bridge Road. Located in the R-2A zone the majority of the site is undeveloped, with the exception of an asphalt access driveway that connects the end of Duffy's Bridge Road to the Boulder Pines subdivision located to the south. Interstate 684 forms the eastern boundary to the site. The Town of Bedford Town Line forms the southern boundary to the site.

The applicant is proposing to construct a single family residence, driveway, drilled well, and subsurface sewage treatment system on the site. Two regulated wetlands exist on the site.

Wetland A is located on the western side of the emergency access road and is a Town of Lewisboro regulated wetland only. This wetland is relatively small in size with primary functions being storage during storm events, limited groundwater recharge, and wildlife habitat. Based on the size of the wetland and limited hydro-period that is available it appears that this wetland is not suitable to function as a viable vernal pool habitat. The existing emergency access road is located within the Wetland A wetland buffer. The existing emergency access road appears to divert runoff from the subject property away from Wetland A and towards Duffy's Bridge Road. A small portion of the proposed driveway entrance is located within the Wetland A buffer area.

Wetland B is a Town Regulated Wetland and a USACOE regulated wetland located in the southern portion of the site. Since the application does not propose any disturbance within Wetland B no permitting from USACOE is required. The majority of the driveway and approximately ½ of the house and lawn area are located within the Wetland B buffer area.

SEQRA:

The proposed action is listed as Type II action and thus can be exempt from the State Environmental Quality Review Act (SEQRA).

Required Approvals:

1. A Wetland Activity Permit for which a public hearing is required to be held.
2. A Town Stormwater Permit.
3. A Town Highway Permit.
4. A Town Building Permit.
5. Coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, General Permit GP-0-15-002.
6. Westchester County Department of Health Approval (Applicant has indicated approval received).
7. Town of Lewisboro Zoning Board of Appeals Variance for Steep Slopes (previously issued).

Project Review Comments:

Many of the comments below remain from our previous comment memorandum. Based upon correspondence from the applicant's consultants, the applicant wishes to understand if the site layout as proposed is acceptable before they commence with detailed design reports. While the location of the house site and driveway are relatively limited based on the site's environmental constraints, there are certain pieces of information the Planning Board should understand as they may affect the size of disturbance. First, if the total limit of disturbance over one acre the applicant will be required to provide post-construction runoff control meeting the requirements of the NYSDEC *SPDES General Permit for Stormwater Discharges from Construction Activities, GP-0-15-002.* Second the applicant should meet with the Building Inspector to determine if the house site and sewage disposal area must be constructed in the contiguous buildable area. If so, the current site layout does not meet this code requirement. Third, and based on discussions at the last Planning Board meeting, it should be confirmed if a lot frontage variance is required. Finally, this office and the Highway Superintendent should meet with the applicant to discuss the conditions of the March 22, 2000 letter from the Town of Lewisboro Highway Superintendent.

The following comments should be addressed by the applicant:

1. A Town Stormwater Permit Application and the associated $155.00 fee should be provided.
2. A copy of the expired Westchester County Department of Health Approval was provided. It was explained at the last meeting that a new application was submitted to the WCDOH. A copy of that approval should be provided once obtained. The approved septic system location, 100% expansion area, gravity sewer line, associated grading, and erosion controls associated therewith should be shown on the drawing and included within the limit of disturbance.
3. The applicant's and Town's Wetland Consultant examined the property for Town regulated watercourses and wetlands. The NYCDEP has their own requirements, and as such the applicant should verify that no NYCDEP watercourses are located on the property.
4. Attached is a letter from the former Highway Superintendent dated March 22, 2000. This letter indicated the Town would maintain Duffy's Bridge Road for emergency vehicle access as it saw necessary, as well as outlined certain requirements of the applicant which may or may not have been addressed.

   It is our recommendation that our office and the applicant meet the Town Highway Superintendent and Town Attorney in the field to review the status, condition and maintenance of the existing road as they relate to access to the site. Specifically:

   a. Were the required trees removed from Duffy's Bridge road as required by the March 22, 2000 letter?

b. Was the required gate installed at Duffy's Bridge Road? Is it being maintained and closed as previously required?

c. The Town's obligation to maintain Duffy's Bridge Road beyond what is necessary for emergency access.

d. Since the proposed driveway is being constructed from the emergency access driveway, and not a Town road is a Town Highway Permit required?

5. The applicant should provide the easement language for the emergency access easement that crosses the subject property, and into which the new driveway is proposed to connect.
6. The applicant should meet with the Building Inspector to review the proposed application for zoning conformance. The applicant has indicated that since the lot is existing it does not need to meet the requirement of Section 220-10-E(2)(d), or "*The principal building and sewage disposal system (not including centralized sewer systems) shall be constructed in the contiguous buildable area.*" We would still recommend the applicant verify their interpretation of the code with the Building Inspector to determine if the site's non-conformance with above will require a zoning variance. At the same time the applicant should discuss the concern raised by the Planning Board Attorney, Mr. Anthony Mole', relative to frontage.
7. A narrative as required by Section 217-7 (6) (e) though (h) should be provided. The narrative should discuss possible alternatives for avoidance of wetland / buffer impacts (or document no alternative exists) and any proposed mitigation measures. A narrative specifically addressing the wetland / buffer impacts should be provided as required by the code.
8. The applicant should quantify the amount of Wetland A and Wetland B buffer disturbance on the drawings.
9. The Planning Board should determine if mitigation for disturbance associated with Wetland Buffer A is warranted beyond implementing standard erosion control measures during construction.
10. The Planning Board should discuss potential mitigation measures for Wetland B including but not limited to:

    a. Forming a permanent barrier to prevent further encroachment into the wetland buffer areas (i.e. boulders, walls, fences or vegetation).

    b. Mitigation Plantings.

11. The grading plan should illustrate the erosion controls proposed for the septic area.
12. An overflow for the roof leader drain cultic systems should be provided.
13. The site plan contains limited lawn area as shown. Approximately ½ of the development of the house and lawn area, and the majority of the driveway are located in the wetland buffer. As such the applicant should verify the limits of disturbance represent a realistic lawn area for the site.
14. It should be clarified if the pre-treatment tanks are also intended to act as flow splitters.
15. Safe conveyance and treatment of the stormwater runoff from the first 160 linear feet +/- of the driveway and surrounding tributary areas (including the emergency access driveway) should be provided.
16. The limit of disturbance (LOD) line is currently 0.8 acres +/- and does not include the septic area. The LOD line should be revised to include the septic area.
17. Results of the soil test pits verifying the design of the stormwater management system should be provided. The testing for the infiltration system should meet the requirements of the *New York State Stormwater Management Design Manual.*
18. Where rock cuts are proposed the applicant should verify the depths to rock to ensure the grading is depicted accurately.
19. The 1H:1V rip rap slope proposed for the proposed 13 foot driveway fill section should be regarded to a maximum of 2H:1V.

20. Guiderail should be installed along the fill slope for the driveway. The retaining walls provided by the applicant (and indicated to provide the necessary protection) should be located along the top of slope.
21. The grading along the south side of the house should be revised to show all of the proposed contours and / or top and bottom wall heights. It appears there is a conflict with the proposed grade lines and spot shots.
22. Several existing spot shots appear to be labeled incorrectly.
23. The applicant shall provide a stormwater management report detailing the proposed stormwater treatment on the site. The report should include a map of the NRCS soils and the watershed boundaries analyzed. The applicant has indicated that report will be provided once a site layout is endorsed by the Planning Board. The applicant should provide the necessary information to determine if over 1 acre of disturbance is proposed. If so the stormwater requirements for the project will change that may affect the overall limit of disturbance and wetland buffer impacts.
24. Question 2 of the Short Environmental Assessment Form (SEAF) should be revised to include all necessary permits. It was indicated a revised SEAF was attached, however, one was not contained in the application package.
25. Question 15 of the SEAF was manually checked yes (the NYSDEC environmental mapper automatically selected "no"). This question relates to the site containing species or associated habitats for state or federally listed threatened or endangered species. The applicant should provide additional information as to what threatened or endangered species may be present and what mitigation measures are proposed.
26. The applicant should submit a Notice of Intent for coverage under the *NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities.*

Documents Reviewed:

1. Cover letter prepared by Robert Sherwood Landscape Architect, LLC., dated September 28, 2015.
2. Letter prepared by Nathaniel J. Holt, P.E., dated September 28, 2015.
3. Letter from Kellard Engineering & Consulting, P.C. dated May 18, 2000.
4. Drawing Set revised September 3, 2015.

cc: D. Cinguina, Kellard Sessions (via email)
A. Mole, Esq. (via email)

TO: Town of Lewisboro Planning Board

FROM: Lewisboro Conservation Advisory Council

SUBJECT: Fortune Home Builders
Duffy's Bridge Road, Goldens Bridge
Sheet 0002 , Block 10516, Lot 001
Cal # 31-15-WP

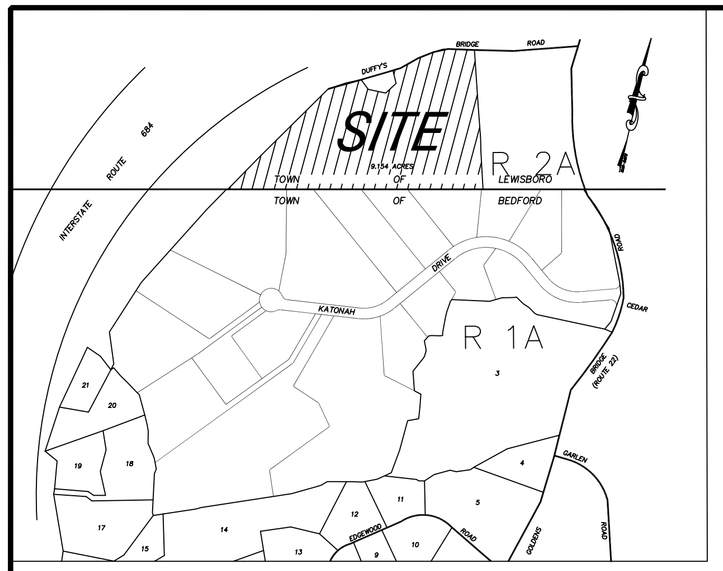
DATE: January 11, 2016

The Conservation Advisory Council (CAC) reviewed the applicant's plans and accompanying documents for a wetland activity permit at our January 4 meeting. We found the same issues that were identified in our October 2015 memo.

The CAC has consistently encouraged applicants to minimize disturbance to wetlands and wetland buffers. As the Town code states, the wetland buffer area is important for many reasons, including protecting the wetland and providing undisturbed habitat for life that is dependent upon wetlands. The Town code does not consider drainage patterns in the language regulating wetlands and buffers. The applicant has repeated their plan which places a large portion of the house within the wetland buffer. The applicant explains that a drainage divide would direct water which is adjacent to the house and the disturbed area away from the wetland. This explanation does not address any of the considerations included in the Town code. Further, the proposed infiltrators appear to make this argument moot, since they cross this divide and would direct the water towards the side of the divide that runs to the wetland.

We continue to suggest that the applicant should consider an alternate location for the house that does not intrude into the buffer. It appears that the house could be moved slightly to accommodate the buffer area. Any reasons to intrude into the buffer should address the considerations identified in the Town code's provisions.

The CAC would also like more information about any potential wetland mitigation.



LOCATION MAP N.T.S.

PROPERTY OWNER: FORTUNE HOMEBUILDERS, LLC
8 KENDAL AVENUE,
SLEEPY HOLLOW, NEW YORK 10591

SITE LOCATION: DUFFY'S BRIDGE ROAD,
LEWISBORO, NEW YORK

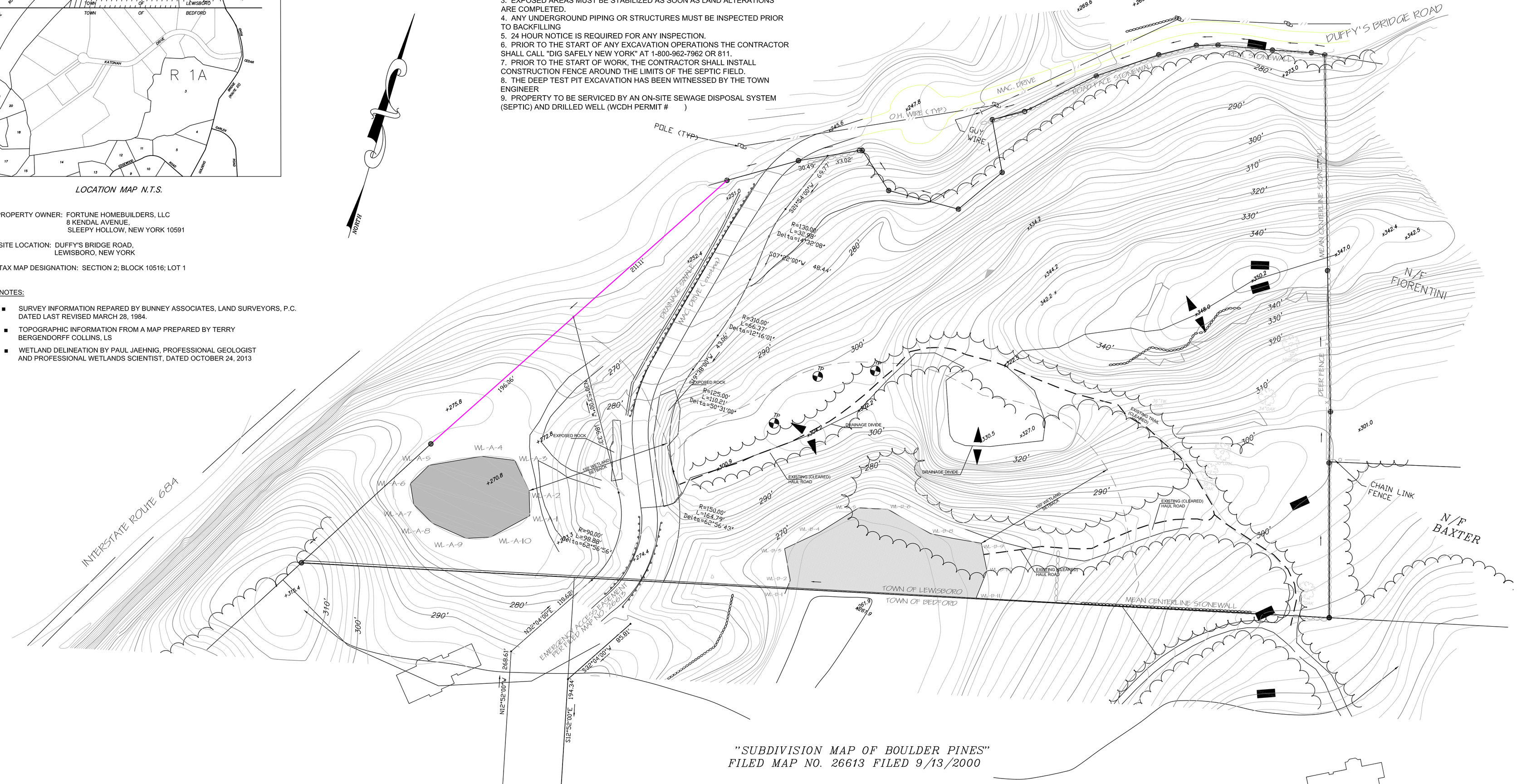
TAX MAP DESIGNATION: SECTION 2; BLOCK 10516; LOT 1

NOTES:

- SURVEY INFORMATION REPARED BY BUNNEY ASSOCIATES, LAND SURVEYORS, P.C. DATED LAST REVISED MARCH 28, 1984.
- TOPOGRAPHIC INFORMATION FROM A MAP PREPARED BY TERRY BERGENDORFF COLLINS, LS
- WETLAND DELINEATION BY PAUL JAEHNIG, PROFESSIONAL GEOLOGIST AND PROFESSIONAL WETLANDS SCIENTIST, DATED OCTOBER 24, 2013

GENERAL NOTES

1. EROSION CONTROLS MUST BE PROPERLY INSTALLED, MAINTAINED AND INSPECTED AROUND THE WORK SITE.
2. CONSTRUCTION ENTRANCES MUST BE PROPERLY MAINTAINED SO THAT NO DEBRIS OR DIRT IS DEPOSITED ON THE STREET.
3. EXPOSED AREAS MUST BE STABILIZED AS SOON AS LAND ALTERATIONS ARE COMPLETED.
4. ANY UNDERGROUND PIPING OR STRUCTURES MUST BE INSPECTED PRIOR TO BACKFILLING
5. 24 HOUR NOTICE IS REQUIRED FOR ANY INSPECTION.
6. PRIOR TO THE START OF ANY EXCAVATION OPERATIONS THE CONTRACTOR SHALL CALL "DIG SAFELY NEW YORK" AT 1-800-962-7962 OR 811.
7. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL INSTALL CONSTRUCTION FENCE AROUND THE LIMITS OF THE SEPTIC FIELD.
8. THE DEEP TEST PIT EXCAVATION HAS BEEN WITNESSED BY THE TOWN ENGINEER
9. PROPERTY TO BE SERVICED BY AN ON-SITE SEWAGE DISPOSAL SYSTEM (SEPTIC) AND DRILLED WELL (WCDH PERMIT #)



ZONING CONFORMANCE TABLE - R 2A ZONE			
MIN. LOT SIZE	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA	2 ACRES	9.154 AC	9.154 AC
FRONT YARD	50 ft	50 ft	144.11 ft
SIDE YARD	40 ft	40 ft	307.40/309.18 ft
REAR YARD	50 ft	170.9 ft	187.24 ft
MAX. HEIGHT (FEET)	35 ft	<35 ft	<35 ft
(STORIES)	2-1/2	2	2
MAX. BUILDING COVERAGE (%)	9%	0%	0.81%
LOT WIDTH/CIRCLE (FEET)	200 ft	395 ft	395 ft

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APPLICABLE LAWS

SHEET: 1 of 6

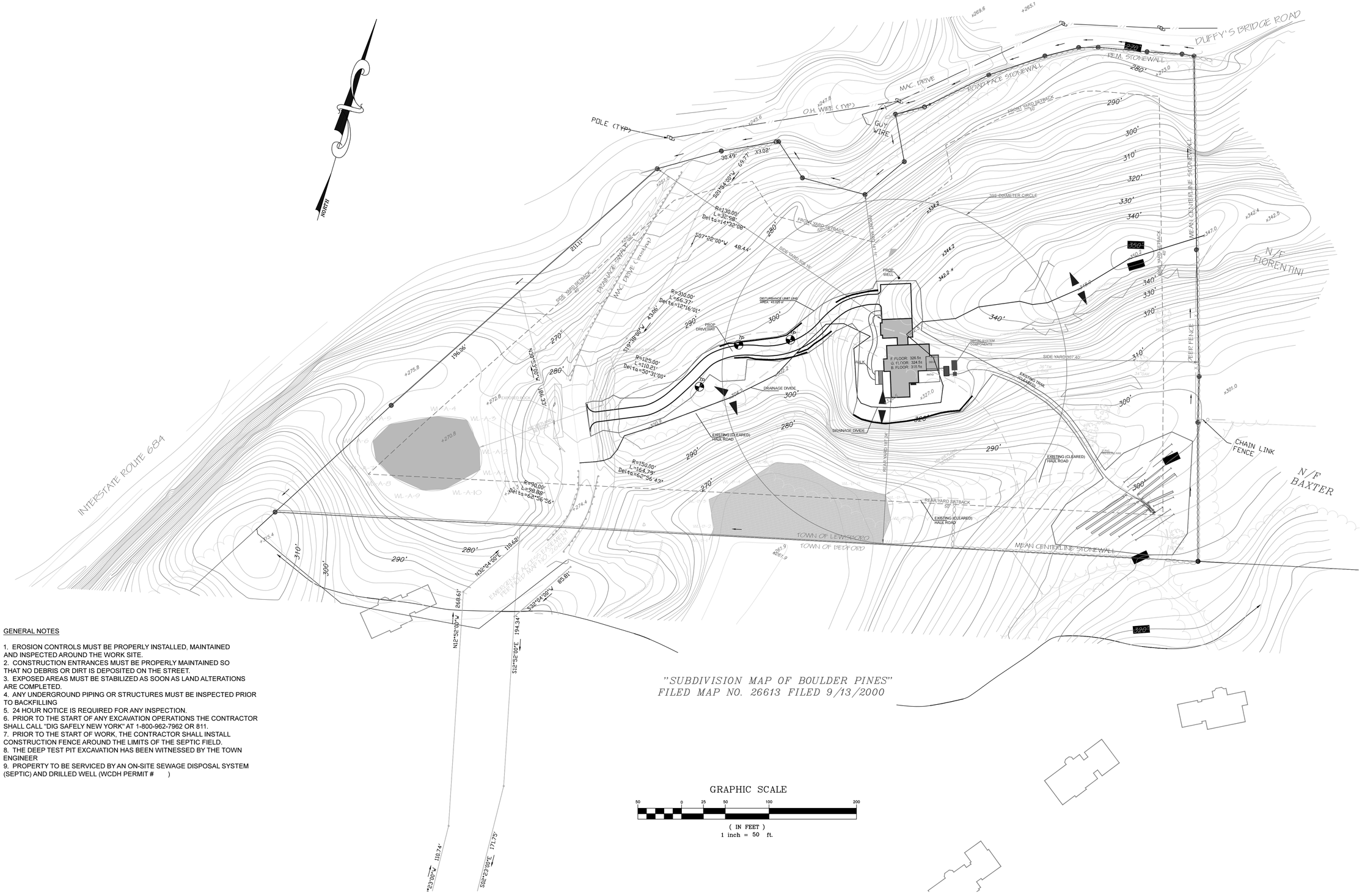
5	
4	
3	
2	September 3, 2015 Planning Board Comments
1	
Original Date: NOVEMBER 5, 2013	
Project Number: 13-FHB-2	

Nathaniel J. Holt, P.E.
Date:

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

EXISTING CONDITONS

PROPOSED RESIDENCE
DUFFY'S BRIDGE ROAD
TOWN OF LEWISBOR, WESTCHESTER COUNTY, NY



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SHEET: 2 of 6

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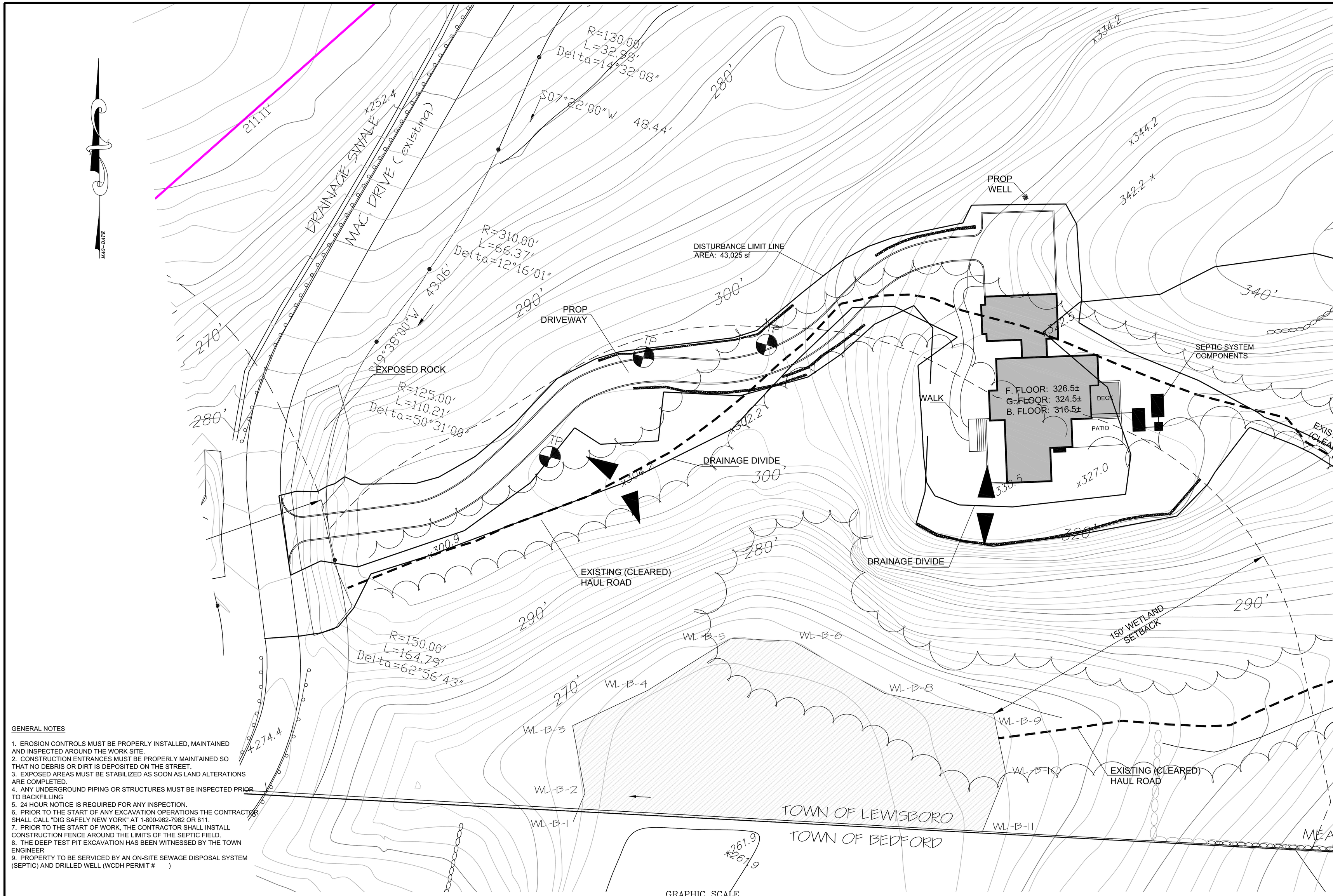
1-September 3, 2015	Planning Board Comments
Original Date: NOVEMBER 5, 2013	
Project Number: 13-FHB-2	

Nathaniel J. Holt, P.E.
STATE OF NEW YORK ★ NATHANIEL J. HOLT ★ 071878 ★ LICENSED PROFESSIONAL ENGINEER
Date:

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

OVERALL SITE PLAN
DUFFY'S BRIDGE ROAD
TOWN OF LEWISBORO, NY

PROPOSED RESIDENCE
DUFFY'S BRIDGE ROAD
TOWN OF LEWISBOR, WESTCHESTER COUNTY, NY



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GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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SHEET: 3 of 6

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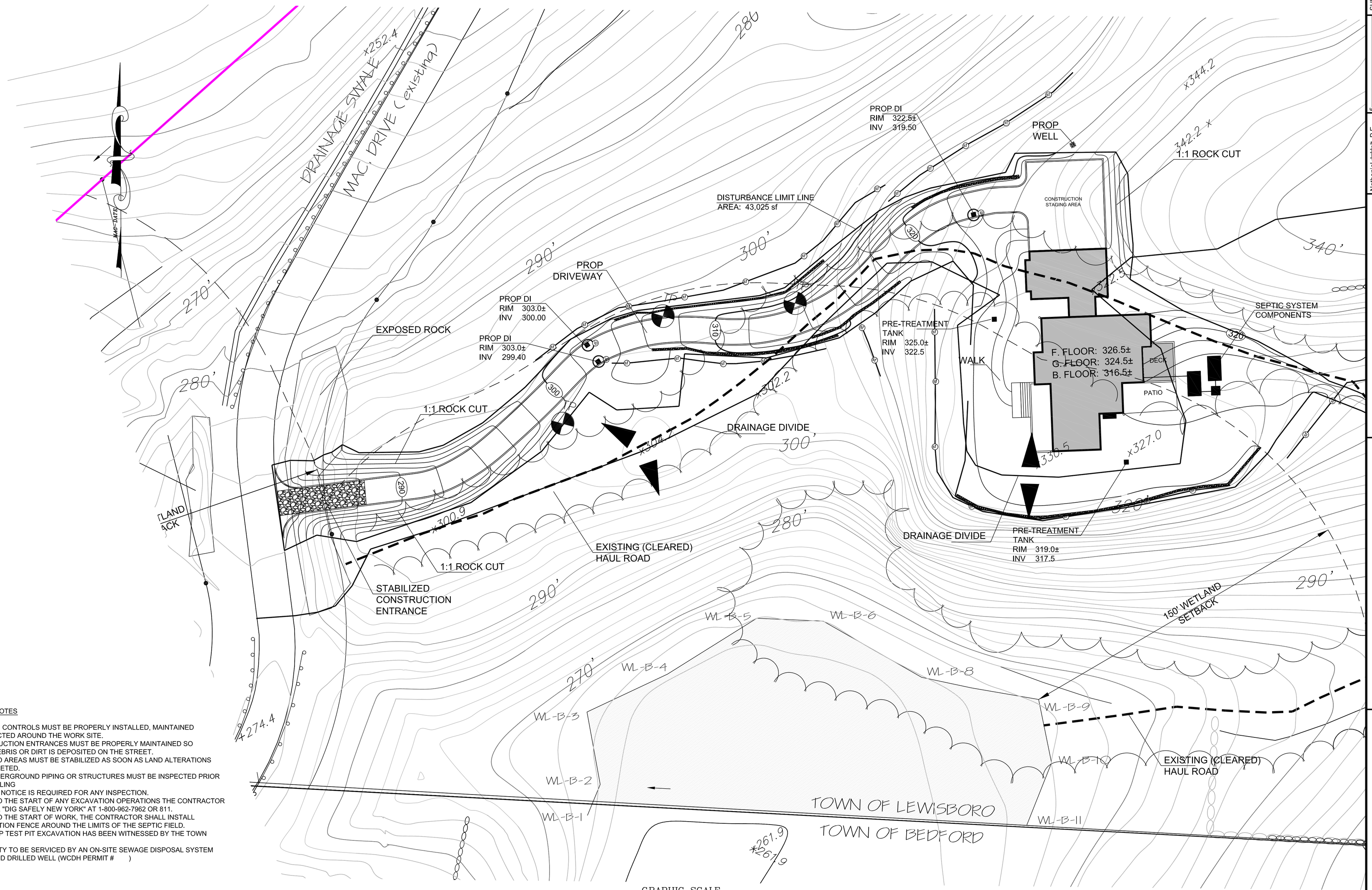
Nathaniel J. Holt, P.E.
Date:

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

ENLARGED SITE PLAN
DUFFY'S BRIDGE ROAD
TOWN OF LEWISBORO, NY

PROPOSED RESIDENCE
DUFFY'S BRIDGE ROAD
TOWN OF LEWISBOR, WESTCHESTER COUNTY, NY



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SHEET: 4 of 6

5.
4.
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2. September 3, 2015 Planning Board Comments
1.
Original Date: NOVEMBER 5, 2013
Project Number: 13-FHB-2

Nathaniel J. Holt, P.E.
Date:

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

GRADING PLAN

PROPOSED RESIDENCE
DUFFY'S BRIDGE ROAD
TOWN OF LEWISBOR, WESTCHESTER COUNTY, NY

STORMWATER ANALYSIS

REQUIRED: CAPTURE 25 YR STORM EVENT
OVER INCREASE IN IMPERVIOUS AREA

EXISTING CONDITIONS (TRIBUTARY TO PRACTICE

FUTURE HOUSE SITE

AREA: 3,522 SF = 0.081 AC
SOIL TYPE: C

WOODED OPEN SPACE LAWN ("C"-GOOD CONDITION)
RCN: 75

FUTURE DRIVEWAY ROUTE

AREA 5,550 SF = 0.127 AC
SOIL TYPE: C

WOODED OPEN SPACE (ROCK OUTCROP)
RCN 85

FUTURE CONDITIONS

FUTURE HOUSE SITE

AREA 3,522 SF = 0.081 AC

IMPERVIOUS SURFACE
RCN 98

FUTURE DRIVEWAY ROUTE

AREA 5,550 SF = 0.127 AC

IMPERVIOUS SURFACE
RCN 98

RUNOFF DEPTH

EXISTING CONDITIONS: CN = 75 ; RUNOFF DEPTH = 3.03" *
EXISTING CONDITIONS: CN = 85; RUNOFF DEPTH = 4.03"

PROPOSED CONDITIONS: CN = 98; RUNOFF DEPTH = 5.46"*

* FROM TABLE 2.1 OF THE SCS HANDBOOK

RUNOFF VOLUME

HOUSE SITE: (5.46" - 3.03")/12"/ft x 3,522 sf = 713 cf

DRIVEWAY: (5.46" - 4.03")/12"/ft x 5,550 sf = 661 cf

PROPOSED MITIGATION

ONE CULTEC UNIT (MODEL 3300 XLHD) HAS THE CAPACITY OF 11.32cf/ft THEREFORE:

HOUSE:

713 cf / 11.32 cf/ft = 63 ft; SAY 9 UNITS

DRIVEWAY:

661 cf / 11.32 cf/ft = 58 ft; SAY 9 UNITS

NO ALLOWANCE TAKEN FOR PERCOLATION

PRE-TREATMENT REQUIREMENTS

USE THE "90% RULE" AS PER NYSDEC DESIGN MANUAL

$WQv = \frac{(P)(Rv)(A)}{12}$; WHERE: P = 1.3"
Rv = 0.2
A = 3,522 sf or 0.081 acres

HOUSE:

$WQv = \frac{(1.3")(0.2)(0.081)}{12} \times 0.25 =$ 0.0004 acft or 19 CF = 142.7gal; SAY 150 gal

DRIVEWAY:

$WQv = \frac{(1.3)(0.2)(0.127)}{12} \times 0.25 =$ 0.00069 acft or 29.97 cf = 224.1 gal; SAY 225gal

RECOMMENDATION

PROVIDE A TOTAL OF 18 CULTEC 330 HDXL RECHARGERS AND PRE-TREATMENT AS DETAILED.

GENERAL NOTES

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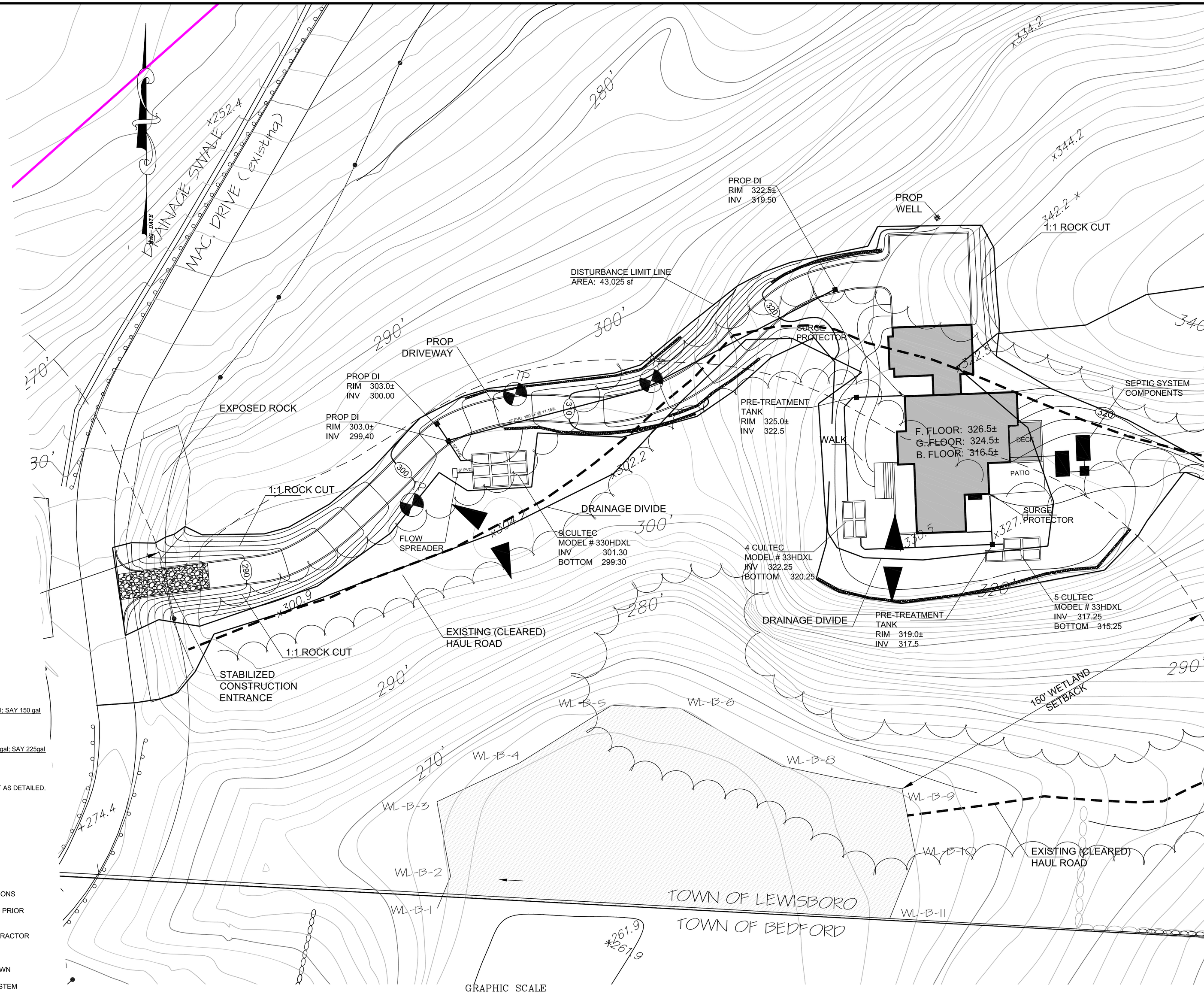


SHEET: 5 of 6

5	
4	
3	
2	7 September 3, 2015 Planning Board Comments

Original Date: NOVEMBER 5, 2013
Project Number: 13-FHB-2

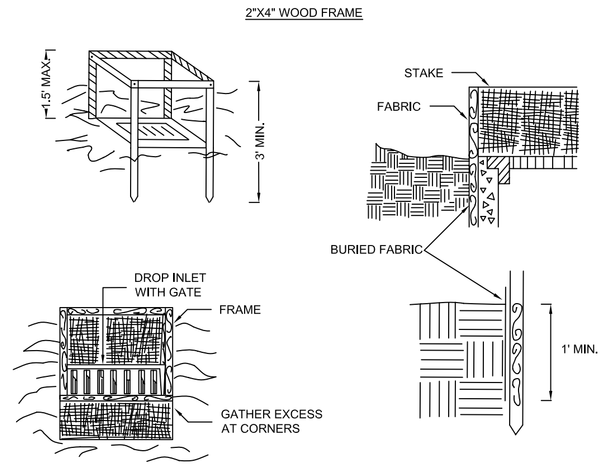
Nathaniel J. Holt, P.E.
Date:

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

STORMWATER PLAN

PROPOSED RESIDENCE
DUFFY'S BRIDGE ROAD
TOWN OF LEWISBOR, WESTCHESTER COUNTY, NY

FILTER FABRIC INLET PROTECTION DETAIL



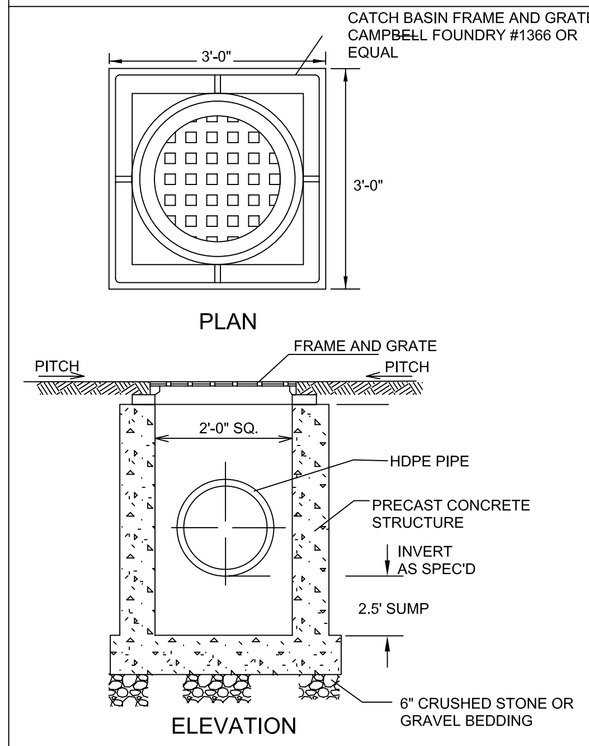
CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT, MINIMUM LENGTH 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVEN A MINIMUM OF 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH WIRE MESH BEHINDTHE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVERFLOW FOR STABILITY.

MAXIMUN DRAINAGE AREA 1 ACRE

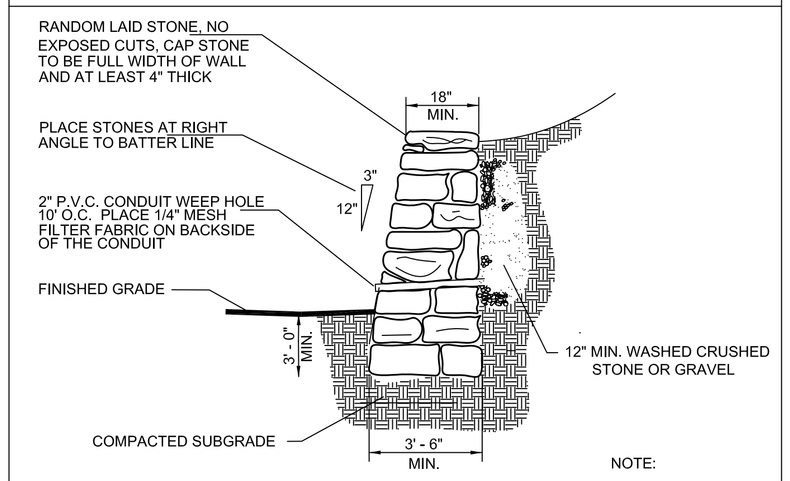
DRAIN INLET DETAIL

N.T.S.



RUBBLE STONE WALL

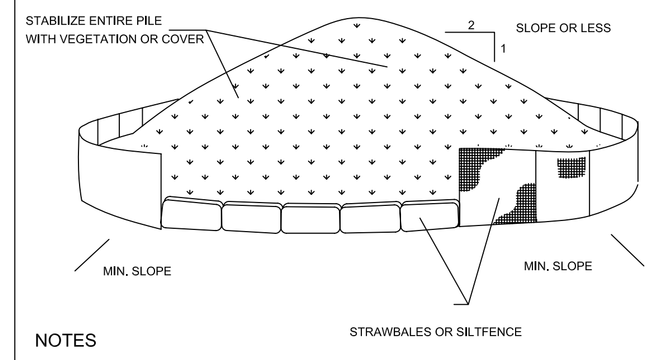
NTS



NOTE:
5' MAXIMUM HEIGHT

SOIL STOCKPILING DETAIL

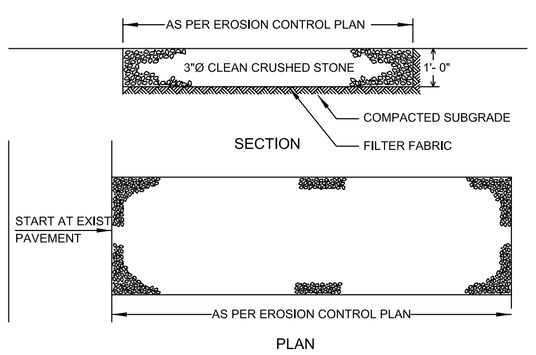
N.T.S.



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 STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 100' FROM WETLANDS AND WATERCOURSES.

STABILIZED CONSTRUCTION ENTRANCE

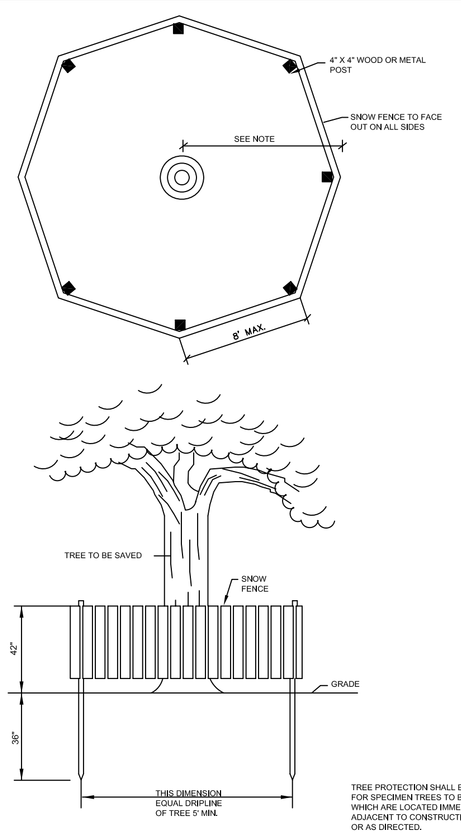


INSTALLATION NOTES

1. STONE SIZE - USE 3" CRUSHED STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - AS PER PLAN.
3. THICKNESS - AS DETAILED.
4. WIDTH - 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH OF DRIVEWAY.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE 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, THE REPAIR AND/OR REMOVAL OF ANY MEASURES MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO THE PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO THE PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE COMPLETED ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE COMPLETED AFTER EACH RAIN EVENT.

TREE PROTECTION DETAIL

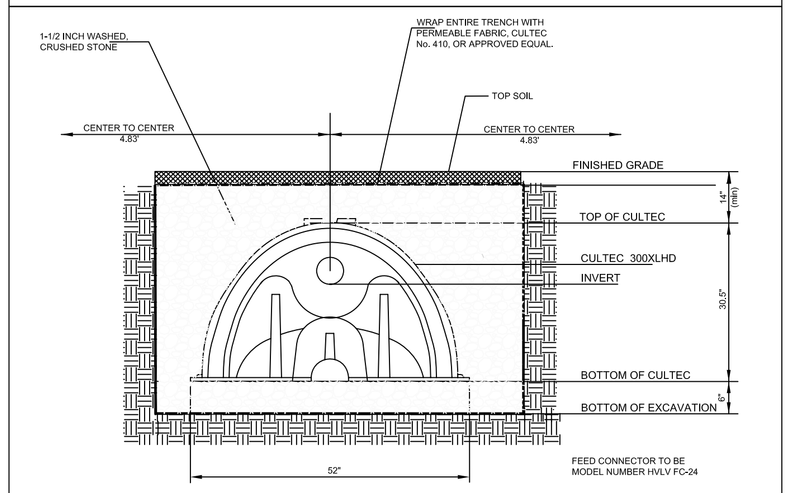
N.T.S.



TREE PROTECTION SHALL BE PROVIDED FOR SPECIMEN TREES TO BE SAVED WHICH ARE LOCATED IMMEDIATELY ADJACENT TO CONSTRUCTION AREAS OR AS DIRECTED.

INFILTRATION UNIT

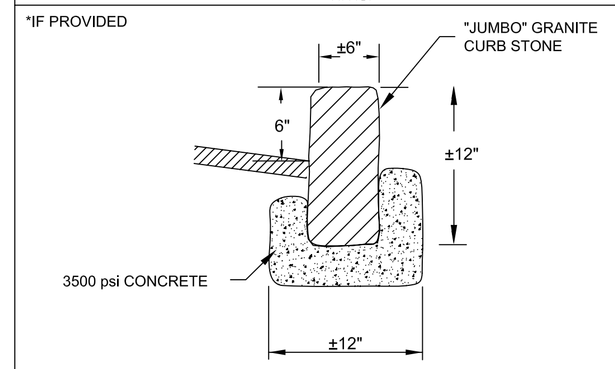
NTS



COBBLE STONE CURB DETAIL*

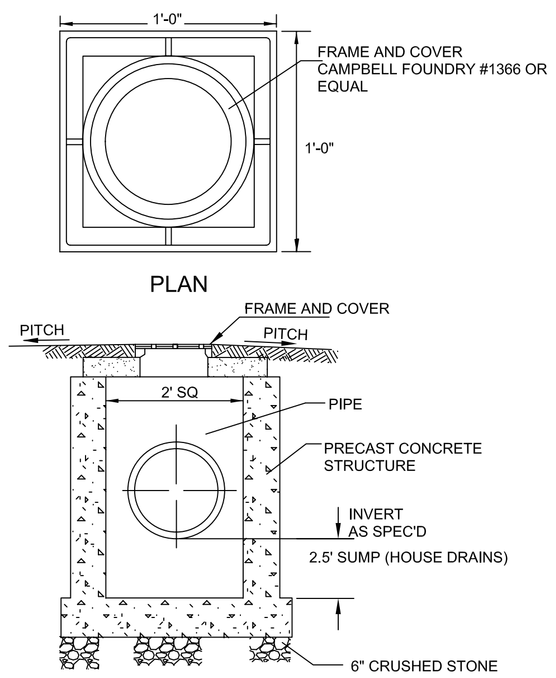
N.T.S.

*IF PROVIDED



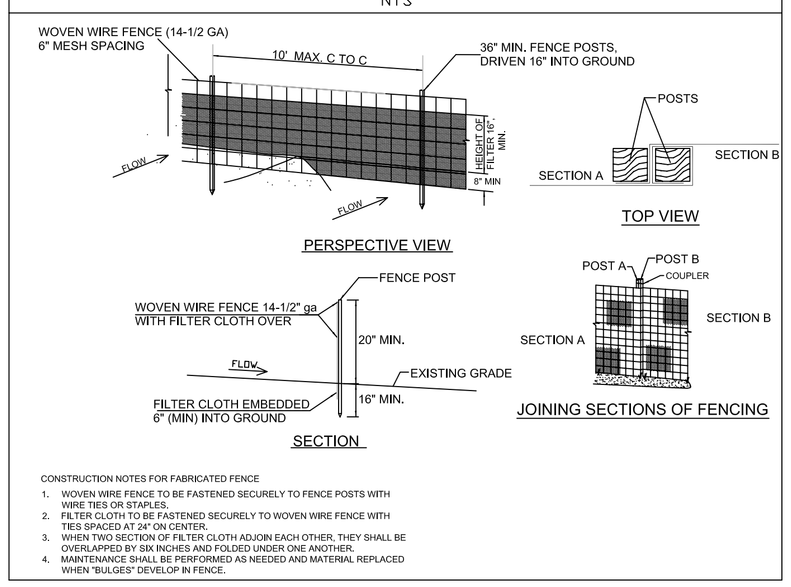
PRE-TREATMENT TANK DETAIL

N.T.S.



SILT FENCE

NTS

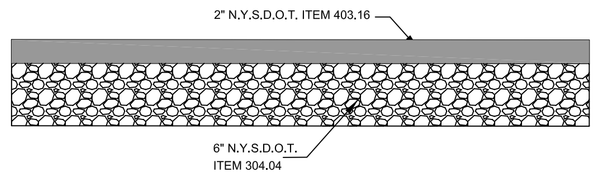


CONSTRUCTION NOTES FOR FABRICATED FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED AT 24" ON CENTER.
3. WHEN TWO SECTION OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED UNDER ONE ANOTHER.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REPLACED WHEN "BULGES" DEVELOP IN FENCE.

TYPICAL PAVEMENT SECTION

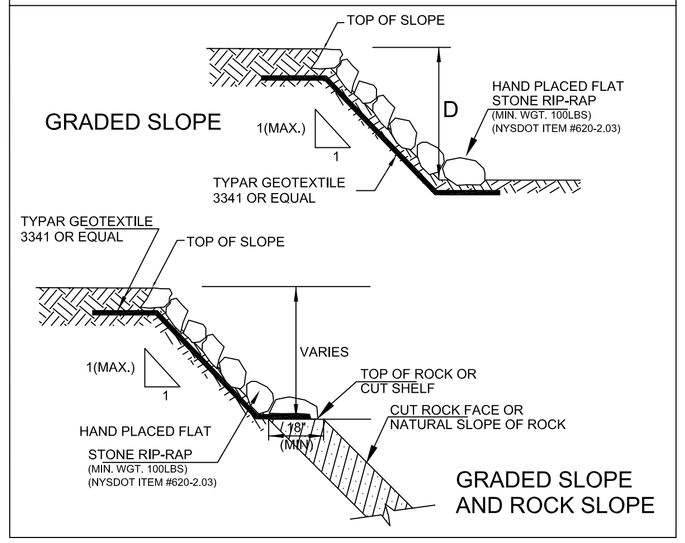
N.T.S.



NOTE: ALL DIMENSIONS ARE COMPACTED THICKNESS

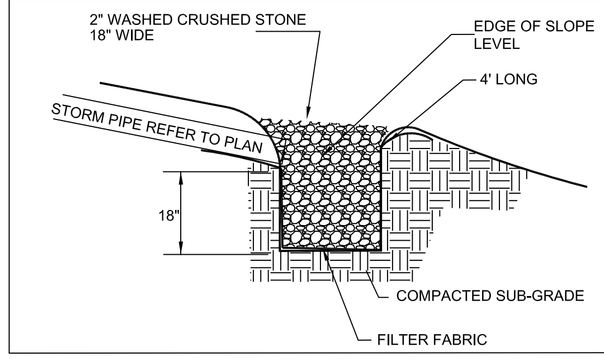
RIP RAP SLOPE DETAIL

N.T.S.



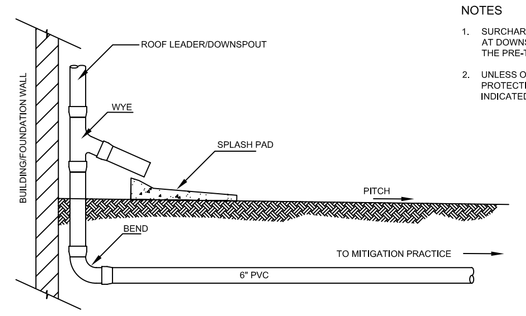
LEVEL SPREADER

NTS



SURCHARGE PROTECTION

NTS



NOTES

1. SURCHARGE PROTECTION TO BE INSTALLED AT DOWNSPOUT IMMEDIATELY UPGRADE OF THE PRE-TREATMENT TANK
2. UNLESS OTHERWISE DIRECTED, SURCHARGE PROTECTION TO BE INSTALLED AT LOCATION INDICATED ON THE PLANS

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ALL RIGHTS RESERVED, UNAUTHORIZED DUPLICATION IS A VIOLATION OF APPLICABLE LAWS

SHEET: 6 of 6

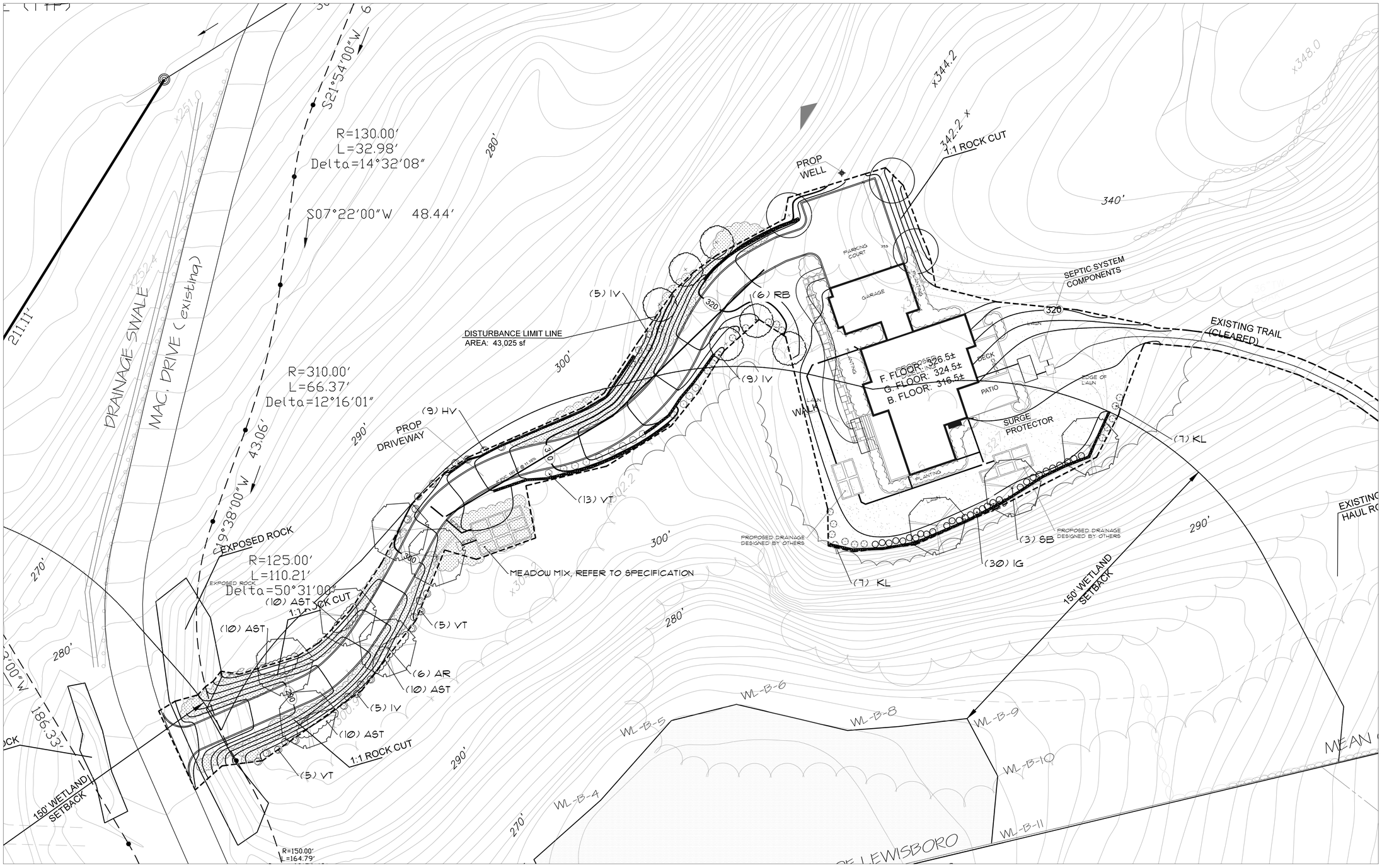
5	
4	
3	
2	September 3, 2015 Planning Board Comments
1	Original Date: NOVEMBER 5, 2013
	Project Number: 13-FHB-2

Nathaniel J. Holt, P.E.
Date:

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

DETAILS

PROPOSED RESIDENCE
DUFFY'S BRIDGE ROAD
TOWN OF LEWISBOR, WESTCHESTER COUNTY, NY



TREES AND SHRUBS

key	qty.	common & botanical name	size
AR	6	Red Maple Acer rubrum	3" Cal.
SB	6	Shadblow Amelanchier canadensis	3" Cal.
RB	6	Redbud Cercis canadensis	3" Cal.
HV	9	Witch Hazel Hamamelis virginiana	3' Ht.
VT	23	Northern Arrowwood Viburnum dentatum	24" Ht.
IV	19	Winterberry Ilex verticillata	245" Ht.

TREES AND SHRUBS

key	qty.	common & botanical name	size
KL	14	Mountain Laurel Kalmia latifolia	24" Ht.
IG	30	Inkberry Ilex glabra	24" Ht.
AST	40	Aster Aster novea-anglias	*1 Cont.

SEEDING NOTES:

MEADOW MIX:

INCLUDES CREEPING RED FESCUE 60%, COMMON EVENING PRIMROSE 10%, LITTLE BLUESTEM 25% PATRIDGE PEA AND GOLDEN ALEXANDER

1. SCARIFY THE EXISTING SEEDED AREAS BY HAND TO PREPARE SOILS FOR NEW SEED.
2. THE RATE OF SEEDING SHALL BE 1 POUND PER 2500 SF. 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.
3. 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.
4. LOOSELY APPLY STRAW MULCH TO ALL SEEDED AREAS.
5. 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.

NOTES:

1. Survey and Drainage information taken from a survey prepared by Nathaniel J. Holt, titled "Proposed Residence/ Duffy's Bridge Road/Existing Conditions," refer to this survey for more information.
2. Location of existing utilities not performed by this office, confirm location of all utilities prior to construction. CALL DIG SAFELY NEW YORK.
3. Contractor to verify all grades and dimensions prior to construction, contractor to inform Landscape Architect with any discrepancies.

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:
MITIGATION
Proposed Residence

CLIENT:
Boulder Pines
Duffys Bridge Road
Lewisborough, Westchester County, New York

REVISIONS:

SCALE:	AS NOTED
DATE:	12.18.25
JOB NO:	15-32

DRAWING NO:
LP-1.0
1 OF 1

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

February 4, 2016

Town of Lewisboro Planning Board
Cross River Shopping Center @ Orchard Square
20 North Salem Road, Suite L (Lower Level)
P. O. Box 725
Cross River, New York 10518

RE: Wilder Balter Partners, LLC
Housing Development
NYS Route 22

Dear Chairman Kerner and Members of the Board:

Enclosed please find twelve (12) copies of the following in support of an application for site plan review of the above referenced project:

- Seven (7) sheet site plan set, last revised February 4, 2016.
- Drawing CM-1 "Constraints & Net Lot Area Map", dated January 6, 2016.

The site plan set has been revised per comments from the Planning Board and the Planning Board's consultants. The plans have also been advanced to include a sidewalk connection to the entrance to the site, parking spaces near the entrance to the site, refined grading, preliminary drainage, additional site details, a preliminary erosion and sediment control plan, a profile for the access driveway, and site detail sheets.

In response to the specific Plan Comments in the comment memorandum from Kellard Sessions Consulting, P.C., the Planning Board's Consulting Professionals, dated January 20, 2016, we offer the following responses:

1. It is understood that multi-family dwellings are a permitted use within the underlying CC-20 zone, subject to the requirements of Section 220-26, Multi-family Residence District (R-MF), of the Zoning Code. The bulk zoning requirements provided on the site plans have been setup based on the R-MF Zone, based on discussions with the Planning Board's consulting Planner, subject to confirmation by the Planning Board Attorney and /or the Building Inspector.
2. The zoning table is provided on Drawing OP-1 which shows the overall site. The zoning setback lines have been added to Drawings OP-1 and SP-1, along with dimensions between the buildings and the property lines. This includes the expanded setbacks associated with the adjacent R-4A parcels, with appropriate labels.
3. The 250' Density Transition Area has been added to Drawings OP-1 and SP-1. The CC-20 Zone's 200' "Perimeter Buffer" has been removed from all plans.
4. A calculation for the overall site's Net Lot Area (not taking into consideration the Density Transition Area) has been derived without including the 150' wetland buffer as part of the wetland area to be deducted, as shown on Drawing CM-1. This Net Lot Area has been used to calculate the Permitted Density Units noted on Drawing OP-1. A separate Net Lot Area calculation has been provided for the Density Transition Area also based on this criteria.

5. The Density Unit Calculations provided on Drawing OP-1 have been revised to analyze the maximum permitted density, both site-wide and within the Density Transition Area. In addition, the maximum allowed and proposed number of density units have been provided for the overall site and within the Density Transition Area.
6. Drawing CM-1 has been revised to graphically shade all slopes greater than or equal to 15%. As previously noted, the Net Lot Area and density unit calculations have been revised.
7. It has been noted with the parking calculations on Drawing OP-1 that a variance will be required for number of parking spaces.
8. The area calculations for wetlands and steep slopes have been coordinated between the EAF and the site development plans.
9. General Note #5 on Drawing OP-1 notes that the project proposes to merge the (3) three tax parcels.
10. The clubhouse will include gathering space, library media room, computer stations, multi-purpose room, kitchenette and exercise room with equipment, intended to provide recreational opportunity for the residents. The current location of the sports court was sited based on site constraints and in order to minimize impacts on adjacent residences.

We look forward to continued discussion of the project with the Board at the February 23rd, 2016 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: _____
Jeffrey J. Contelmo, PE
Senior Principal Engineer

JJC/dlm

Enclosures

cc: John Bainlardi
Jon Dahlgren

Insite File No. 15246.100

TIM MILLER ASSOCIATES, INC.

10 North Street, Cold Spring, New York 10516 *Phone (845) 265-4400* *Fax (845) 265-4418*

February 3, 2016

Town of Lewisboro Planning Board
Attn: Chairman Jerome Kerner
20 North Salem Road, Suite L/Lower Level
PO Box 725
Cross River, New York 10518

Re: **Application for Site Development Plan**
Proposed AFFH Multifamily Development
NYS Route 22, Tax map: Sheet 5, Block 10776, Lots 19, 20 & 21
Town of Lewisboro, New York

Dear Chairman Kerner and Members of the Planning Board:

Attached, please find twelve (12) copies of an Expanded Environmental Assessment Form (EAF) in support of an application for site plan approval for the Wilder Balter Partners, Inc. proposed AFFH residential development. Insite Engineering has submitted updated site plans under separate cover.

This Expanded Environmental Assessment Form (EAF) evaluates a focused scope of potential environmental impacts for the Proposed Action, based upon the evaluation process and questions found in the Full Environmental Assessment Form, and "EAF Workbooks" prepared by the NYSDEC.

The following issues are evaluated in the enclosed document:

- *Soils, Topography and Geology*: On-site conditions are evaluated and potential impacts assessed.
- *Surface Water*: Existing conditions and potential impacts are assessed. A preliminary Stormwater Pollution Prevention Plan (SWPPP) prepared by Insite Engineering is provided.
- *Groundwater*: A hydrogeological assessment for the property has been completed by Leggette Brahears & Graham.
- *Ecology:* An on-site assessment has been conducted, potential impacts described and mitigation measures proposed.
- *Aesthetic Resources*: A visual resources assessment has been prepared.
- *Historic and Archeological Resources*: Phase 1A and Phase 1B Cultural Resource investigations were completed for the property.

- *Transportation:* A traffic study has been completed for the development by Maser Consulting, P.A.
- *Community Facilities and Services*: An evaluation of the development's potential impacts to community facilities and services, including the Lewisboro Central School District has been completed. Also provided is information regarding the potential population and demographics for the proposed development.
- *Consistency with Community Character*: Land use, setting and the proposed development's consistency with its setting and land use policies were evaluated.

In addition, the project engineer, Insite Engineering has developed preliminary reports for the proposed community water facilities and community wastewater treatment facilities. These reports are enclosed as Appendices.

We trust that the enclosed information will assist the Planning Board and its consultants in a thorough evaluation of this important development for the Town.

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

Sincerely,

Jon P. Dahlgren
Senior Geologist
TIM MILLER ASSOCIATES, INC.

Cc: J. Bainlardi, Wilder Balter Partners, Inc.
J. Contelmo, Insite Engineering
Enclosure

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

PRELIMINARY STORMWATER POLLUTION PREVENTION PLAN

For

Wilder Balter Partners

NYS Route 22

Town of Lewisboro, New York

February 2, 2016

Owner Information:

Property Group Partners, LLC
c/o Jeffrey Sussman, President
609 Fifth Avenue, 6th Floor
New York, NY 10017

Applicant Information:

Wilder Balter Partners, Inc.
570 Taxter Road
Elmsford, NY 10523

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

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

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- Appendix B Pre-Development Computer Data
- Appendix C Post-Development Computer Data
- Appendix D Project and Owner Information
- Appendix E NYSDEC SPDES for Construction Activities Construction Site Log Book
- Appendix F Analysis of Practices Listed on Pages 10-19 and 10-20 of Chapter 10
- Appendix G NYSDEC Infiltration System Calculations
- Appendix H NYSDEC Chapter 5 Analysis
- Appendix I Temporary Sediment Trap Sizing

FIGURES
- Figure 1: Location Map
- Figure 2: Pre-Development Drainage Map
- Figure 3: Post-Development Drainage Map

PROJECT PLANS
- OP-1 “Existing Conditions & Removals Plan”
- SP-1 “Layout Plan”
- SP-2 “Conceptual Grading Plan”

1.0 INTRODUCTION

1.1 Project Description

The project sponsor, Wilder Balter Partners, Inc. (the "Applicant"), proposes the development of a multi-family community consisting of 45 affordable (AFFH) residential units and a caretaker's unit (46 units total) on a 35.4-acre site located on NYS Route 22 in the Town of Lewisboro, Westchester County, New York. The development will include five (5) residential buildings, including a community meeting space in one building, recreational facilities, and supporting parking and stormwater management facilities. Access to the development will be provided by a private driveway onto NYS Route 22. The subject property is located in the Hamlet of Goldens Bridge approximately three-quarters of a mile south of Route 138 and the Goldens Bridge train station.

The development site is currently vacant wooded land and is not served by public water and sewer service. Water service will be provided by a new community water system supplied by on-site wells and wastewater will be treated by a new community on-site septic system. The community water and sewer systems will be designed and constructed in accordance with the standards and subject to the approval of the Westchester County Department of Health (WCDOH) and the New York State Department of Environmental Conservation (NYSDEC).

The development property is located in two zoning districts: the western portion of the site near Route 22 is in the CC-20 Campus Commercial District and the eastern portion of the site in the R4-A residential district. Multi-family housing is a permitted use in the CC-20 zoning district. Surrounding and nearby properties to the north, east and west are generally undeveloped and transportation uses (Interstate 684). Properties to the south are mostly developed low density residential lots.

The development will comply with Westchester County's fair and affordable housing programs and policies, including the Westchester County Fair and Affordable Implementation Plan. The proposed development will assist the County in meeting its court mandated obligation to complete 750 affordable AFFH units with financing and building permits in place by December 31, 2016. The proposed AFFH apartments will also count towards the Town of Lewisboro's substantially unmet "fair share obligation" to create 239 units of affordable housing as established by the County's Affordable Housing Allocation Plan (2000-2015). Funding for the development will include programs provided by Westchester County and NYSHCR.

There are no known enforcement actions, including 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.

The following permits are required for the subject project.

Agency	Approval Required	Status
Town of Lewisboro Planning Board,	Site Plan Approval Stormwater Permit Wetland Permit	All Pending
Town of Lewisboro Zoning Board	Parking Variance	Pending
New York City Department of Environmental Protection (NYCDEP)	Stormwater Pollution Prevention Plan (SPPP)	Pending
New York State Department of Conservation (NYSDEC)	Coverage Under General Permit GP-0-15-002. NYSDEC Freshwater Wetlands Permit	All Pending
New York State Department of Transportation (NYSDOT)	Highway Work Permit	Pending
Westchester County Department of Health	Water/Sewer	Pending

The anticipated start date of this project is the spring of 2017, with an estimated completion date of the spring of 2018.

1.2 Existing Site Conditions

The subject project is located on three tax parcels along the eastern side of Goldens Bridge Road (NYS Route 22). The existing ground covers on the site are characterized as mainly woods with some brush at the lower elevation of the property. There is an existing NYSDEC Wetland (F-29) located along the southern portion of the site. The wetland areas drain to a watercourse near the southwest corner of the property. The property generally drains from north to south towards the NYSDEC Wetland. Slopes on the site vary from steep in the forested northern portion of the site to flatter slopes in the brush and wetland areas in the southern portion of the property.

The hydrologic soils groups for the project consist of a mix of A, B and D soils. The designations of the onsite soils located within the proposed limits of disturbance consist of Chatfield-Hollis-Rock Outcrop Complex (CtC and CuD), Hollis-Rock Outcrop Complex (HrF), and Riverhead Loam (RhB) as identified on the Soil Conservation Service Web Soil Survey. The soils boundaries are shown on Figure 2 and 3.

The stormwater runoff from the existing properties generally drains from north to south towards the NYSDEC wetland. The peak flow analysis included in the project SWPPP analyzes one (1) design line to assess the stormwater runoff from the property and any potential impacts from development to the existing natural resources on the property. The Pre Development Drainage Map (Figure 2 of this report) identifies Design Line 1 which represents the northern wetland boundary located at the southern portion of the project site. The contributing area to design line 1 is identified as subcatchment 1.0S.

The project site is in the Muscoot Watershed Basin. This Reservoir is located in the New York City East-of-Hudson Croton Watershed, where the Environmental Protection Agency (EPA) has established a Total Maximum Daily Load (TMDLs) for phosphorus. The burden for reducing current phosphorous loading to achieve the TMDL presently lies with the applicant, Town of Lewisboro and its regional partners. The program for phosphorous reduction has been established in the NYSDEC document entitled *Croton Watershed Phase II Phosphorous TMDL Nonpoint Source Implementation Plan* (TMDL Implementation Plan) dated January 14, 2009. For further discussion on this program, refer to the following section.

1.3 Proposed Site Conditions

As previously stated the subject project proposes the development of a five (5) multi-family buildings containing eight to ten units per building, and necessary driveway access to each building. A total of forty-six (46) units are proposed on the project site. Mitigation for the proposed impervious surfaces located within the project site 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 buildings, parking areas and access drive.

It is proposed to maintain the existing drainage patterns on the site to the maximum extent practical in the proposed condition. Stormwater treatment for the subject project will be accomplished with a number of different practices including an extended detention dry stormwater basin, used as pretreatment practice prior to an infiltration basin. The infiltration basin and extended detention pretreatment dry stormwater basin will both be sized to capture and treat the Water Quality Volume from the contributing area of the proposed development.

The stormwater runoff from the proposed development will be captured in a collection system and conveyed to the extended detention dry stormwater basins for pretreatment of the stormwater runoff, prior to discharging to the infiltration basin for final treatment. The contributing area to the pretreatment basin is shown as subcatchment 1.1S. The immediate contributing area to the infiltration basin is shown as subcatchment 1.2S. The untreated / undeveloped area on the site is shown as subcatchments 1.3S, and drains directly to the NYSDEC wetland. The subcatchments are shown in Figure 3 of this report.

As shown in the following sections of this report, the stormwater quality and quantity for the proposed development have been mitigated to the maximum extent practicable. 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.

As noted above, the subject parcel is located within the Muscoot Watershed Basin for which a TMDL has been established. The TMDL Implementation Plan clearly states that for simplicity and ease of local government administration the plan is largely structured to use existing programs to achieve reductions. These programs include:

- Potential additional point source reductions.
- NYSDEC SPDES General Permit for Stormwater Discharges for Municipal Separate Stormwater Sewer Systems (MS4s) Permit No. GP-0-10-002.
- State and regional source control and agricultural programs.
- US EPA Filtration Avoidance Determination Program.
- Putnam County "Croton Plan".
- NYCDEP "Croton Strategy".
- NYCDEP EOH Water Quality Investment Funds.
- New York State non-point source programs.
- NYSDEC – NYCDEP Coordinated Stormwater Enforcement Protocol.

The proposed Stormwater Pollution Prevention Plan (SWPPP) for Wilder Balter Partners, Inc. is consistent with the TMDL Implementation Plan and applicable portions of the above-cited programs. Through compliance with this permit, which requires enhanced stormwater design in the NYC East of Hudson Watershed targeted at removing phosphorus, this SWPPP is consistent with TMDL Implementation Plan.

2.0 STORMWATER MANAGEMENT

The proposed stormwater management system for Wilder Balter Partners, Inc. has been designed to meet the requirements of local, city, and state stormwater ordinances and guidelines, including but not limited to those of the Town of Lewisboro, the NYSDEC, and the New York City Department of Environmental Protection (NYCDEP).

Since the subject project proposes the disturbance of more than one (1) acre, coverage under the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit No. GP-0-15-002 is required. In order to meet the requirements set forth by this permit, the latest edition of the NYSDEC *New York State Stormwater Management Design Manual* (NYSSMDM), including Chapter 10: *Enhanced Phosphorus Removal Standards* (Chapter 10), was referenced for the design of the proposed stormwater management system. A discussion of the requirements of Chapter 10 is included below including an analysis of Better Site Design techniques applied in the site design. The NYSSMDM specifies four design criteria that are discussed in detail below. They are Water Quality Volume, Stream Channel Protection Volume, Overbank Flood Control, and Extreme Flood Control. The first of the requirements relates to treating water quality, while the later pertain to stormwater quantity (peak flow) attenuation.

With regard to NYCDEP requirements, Section 18-39(b)(3)(iv) of the most current version of the *Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and Its Sources (Rules and Regulations)*, requires a SWPPP Approval for this project. The developed areas for the proposed development contain more than 20% impervious groundcover, and per the Rules and Regulations only one (1) stormwater management practice, designed in accordance with the NYSSMDM is required when the stormwater runoff is directed to an infiltration practice for treatment. Therefore the stormwater design for the subject project consisting of a dry pretreatment extended detention stormwater basin with a discharge to an infiltration area for all of the developed areas of the project meets the latest NYCDEP stormwater quality requirements.

To address stormwater quantity requirements of both the NYSDEC and NYCDEP, 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, please refer to Appendices B and C.

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
- Watershed Area in Acres

Stormwater Basins

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

The precipitation values and intensity duration frequency (IDF) curves 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 have been listed below.

Table 2.0.1 – Precipitation Values for Corresponding Design Storms

Design Storm	24-Hour Rainfall
1-Year	2.8”
10-Year	5.1”
100-Year	9.1”

The CN (runoff curve number) values utilized in this report were referenced from the USDA, SCS publication *Urban Hydrology for Small Watersheds*. The following is a summary of the various land uses/ground covers and their associated CN values utilized in this report.

Table 2.0.2 – Project Ground Cover and Associated Curve Numbers (CN)

Land Use/Ground Cover	CN Value
Brush, A Soil	30
Woods, B Soil / D Soil	55 / 77
>75% Grass Cover, A Soil / B Soil	39 / 61
Paved Parking, sidewalks and Roofs	98

The hydrologic soils groups for the project consist of a mix of A, B and D soils. The designations of the onsite soils located within the proposed limits of disturbance consist of Chatfield-Hollis-Rock Outcrop Complex (CtC and CuD), Hollis-Rock Outcrop Complex (HrF), and Riverhead Loam (RhB) as identified on the Soil Conservation Service Web Soil Survey. The soils boundaries are shown on Figure 2 and 3.

Table 2.0.3 – Land Cover Breakdown by Subcatchment

Subcatchment	Land Use / Ground Cover (Acres)				Total Area (Acres)	Time of Concentration (Tc)	Curve Number (CN)
	Woods	Grass	Brush	Paved Parking, Roofs, & Water Surface (Impervious)			
Pre Development							
PRE 1	12.0		2.7		14.7	21.6	54
Post Development							
1.1S	3.9	3.2	-	2.8	9.9	22.3	67
1.2S	0.1	0.5	-	-	0.6	8.2	49
1.3S	2.0	1.0	1.3	-	4.3	11.9	50

2.1 Enhanced Phosphorus Removal Standards

As noted above, the New York City East of Hudson Watershed has been identified in the SPDES General Permit GP-0-15-002 as a watershed requiring compliance with the Enhanced Phosphorus Removal Standards when post-construction stormwater management practices are proposed. Chapter 10 of the NYSSMDM 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

Goal 1 of reducing runoff volumes is achieved through source control. Source controls are implemented by Better Site Design (BSD) practices that are used to reduce the volume of runoff and thereby reduce pollutant loads to receiving waters. In order to achieve a reduction in runoff volume Chapter 4 specifies a percentage of the impervious area that shall be directed to a BSD practice or infiltrated for each hydrologic soil group. For the hydrologic group “B” as is present on the majority of subject site 40% of the impervious surfaces must be directed to a BSD practice. It should be noted that standard infiltration practice is to treat all the proposed development on the site. An analysis of the BSD practices incorporated into the site design is discussed in further detail below.

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 practice proposed for this project includes extended detention dry stormwater basins as pretreatment devices and infiltration basins as final treatment practices. Additional detail has been presented on the proposed practices in the following section addressing the Water Quality Volume requirement, however all practices will be designed in accordance with Chapter 10 by utilizing the 1-yr, 24 hour design storm to generate the Water Quality Volume. As such, Goal 2 will be achieved in the SWPPP for this project.

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 stormwater management practices in accordance with Section 10.4 this goal will be achieved. The proposed stormwater management practices previously discussed will be designed in accordance with Section 10.4.4 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 stormwater management practices in accordance with Section 10.4 of Chapter 10. As noted above the proposed stormwater practices will be designed in accordance with section 10.4.4 of Chapter 10 thus satisfying the requirements of this goal.

2.2 Better Site Design (BSD)

As noted above Goal 1 as identified in Chapter 10, requires an analysis of BSD Practices or standard infiltration practices, and directing 20% of the proposed impervious surfaces to a Better Site Design Practice or standard infiltration practice. The following list is all the BSD practices (as identified in NYSDEC's publication *Better Site Design*) incorporated in site design. In addition to the Better Site Design practices listed below, a table citing the practices listed on pages 10-19 and 10-20 of Chapter 10, and whether or not they have been included in the design has been provided in Appendix F.

- BSD Practice #1 Preservation of Undisturbed Areas: The site has been designed to preserve the undisturbed areas to the maximum extent practical.
- BSD Practice #2 Preservation of Buffers: The site has been designed to minimize disturbance within NYSDEC Wetland Buffer to preserve the maximum extent practical.
- BSD Practice #3 Reduction of Clearing and Grading: The site design has minimized the clearing and grading to the greatest extent practicable, and a Limits of Disturbance line has been established on the project drawings.
- BSD Practice #4 Locating Sites in Less Sensitive Areas: As previously stated, there are steep slopes that exist in the northwest property corner of the property. The current site design proposes minimize the disturbance within these areas of steep slopes. Disturbance has also been minimized within the limits of the NYSDEC wetland buffer. Therefore, the new site layout successfully addresses this BSD technique.
- BSD #14 \ 15 Infiltration: The runoff from <u>all</u> proposed impervious areas would discharge directly to the infiltration practice for treatment.

As noted above in order to satisfy Goal 1, 40% of the impervious surfaces must be directed to Better Site Design Practices. The proposed development will exceed this requirement by directing 100% of the stormwater runoff from the proposed impervious surfaces to an extended detention dry basin and infiltration basin. Thus, just by implementing BSD #14 Goal 1 has been achieved. As discussed above, many other BSD techniques have been incorporated into the site design for the subdivision in order to provide the optimum site design from an environmental and constructability standpoint.

2.3 NYSDEC Water Quality Volume, WQ_v

The subject project is located in the New York City East-of-Hudson Croton Watershed, which is listed as a phosphorus-limited watershed. Therefore, the stormwater management practices have been designed in accordance with the *Enhanced Phosphorus Removal Standards* (Chapter 10) of the NYSSMDM. As outlined in Chapter 10, the WQv is the runoff volume produced during the 1-year 24-hour design storm. The WQv treatment for the developed areas will be accomplished with an Infiltration Basin sized in accordance with the Infiltration Basin Design criteria (I-2) found in the NYSMDM.

Runoff volumes for each of the subcatchments for the 1-year 24-hour design storm, or the WQv volume produced by each subcatchment are found in Appendix C. It should be noted that per the requirements of the NYCDEP rules and regulations a comparison of the 1-year 24-hour design storm volume and the runoff produced during the 90% storm shall be used as the treatment volume within the NYC Watershed. The following equation, per Chapter 6, was used to determine the water quality volume for the 90% storm each of the contributing areas to the treatment practices:

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

Where,

WQ_v = water quality volume (in acre-feet)
P = 90% Rainfall Event Number = 1.45 inches
R_v = 0.05 + 0.009(I), where I is percent impervious cover
A = site area in acres

Table 2.3.1 - Water Quality Volume Calculation Summary (90% Storm)

Subcatchment	P (in.)	R_v	A* (ac.)	WQ_v (ac-ft)	WQ_v (c.f.)
1.1S / 1.2S	1.45	0.30	10.1	0.366	15,943

*Information regarding contributing areas (A) is shown in Appendix C

The following table is a summary of the WQv for each of the Subcatchments produced by the 1-year, 24-hour storm.

Table 2.3.2 - Water Quality Volume Calculation Summary (1-Year 24-Hour Design Storm)

Subcatchment	WQ_v * (ac-ft)	WQ_v (c.f.) (1-year, 24-hour Storm)
1.1S/1.2S	0.402	17,511

*Information regarding 1-year 24-hour Design Storm Volumes (WQv) is shown in Appendix C

As shown in tables 2.3.1 and 2.3.2 above the volume produced by the 1-year, 24-hour design storm for the contributing areas is larger than the volume produced by the 90% storm for Subcatchment 1.1S, and the volume produced by the 90% storm for the contributing areas is larger than the volume produced by the 1-year, 24-hour design storm for Subcatchments 1.2S and 1.3S. The 1-year, 24-hour design storm volumes shall be used for the WQv sizing for the proposed stormwater management practice since the only subcatchment with proposed development is within Subcatchment 1.1S. Listed in Tables 2.3.3 and 2.3.4 below, are a summaries of the water quality volume of the NYSDEC compliant practice, and its satisfaction of the NYSDEC WQv requirements: It should be noted the calculated WQv shown above for the subcatchment was used in the sizing calculation for the Infiltration Basin, and Pretreatment Dry Stormwater Basin summarized in the following tables.

Table 2.3.3 Infiltration Area Water Quality Volume Treatment Summary

Subcatchment	Treatment Practice	NYSDEC Design Practice Designation	Ap* (Required Infiltration Surface Area) (s.f.)	Proposed Surface Area of Infiltration System (s.f.)
1.1S/1.2S	1.2 IB	Infiltration Basin (I-2)	5,837	6,300

* Information regarding required infiltration surface area (Ap) is calculated and shown in Appendix G

It should be noted that the above table illustrates the water quality volume storage requirements set forth in the NYSSWDM have been met for the infiltration basin design. By meeting the Water Quality Volume requirements through employment of an infiltration basin, the water quality objectives of the NYSDEC and the NYCDEP to treat the water quality volume will be met.

2.4 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 NYSSMDM, 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. This requirement has been achieved on the subject project providing an infiltration practice, specifically an infiltration basin designed as an SMP in accordance with the latest design standards. Runoff reduction is achieved when runoff from a percentage of the impervious area on the site is captured, routed through an SMP or a GIP, infiltrated to the ground, reused, reduced by evapotranspiration, and eventually removed from the stormwater discharge from the site. Through the implementation, the design of the infiltration basin as an SMP with the runoff reduction capacity 100% of the WQ_v is to be reduced from the site.

Table 10.3 of the NYSSMDM notes the RR_v applies to the water quality volume from impervious surfaces resulting from the 1-year, 24-hour storm. Again, it shall be the intent to provide RR_v - equivalent to the entire WQ_v. Section 4.3 of the NYSSMDM 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 $RRv_{minimum} = \frac{(P)(R_v)(Ai)}{12}$

Where,

S	= Hydrologic Soil Group (HSG) Specific Reduction Factor = 0.40 (B Soils), 0.2 (D Soils)
A*i*c	= Total Area of New Impervious Cover
A*i*	= Impervious cover targeted for Runoff Reduction = (S)(A*i*c)
Rv	= 0.95

For detailed calculations of the runoff reduction for the proposed stormwater infiltration basin see Appendix A. Listed in Table 2.4.1 below is a summary of the NYSDEC compliant practice, and its satisfaction of the NYSDEC RRv requirements:

Table 2.4.1 Runoff Reduction Volume Summary

Subcatchment	**RR_v *Required* = WQ_v (c.f.)** From Table 2.3.2	**RR_v *Minimum* (c.f.)** Calculated in Appendix A	**NYSDEC Practice Designation**	**Allowable % of WQv provided to be applied towards RRv**	**Storage Volume Provided below Outlet Weir / System Overflow (c.f.)** (From Appendix C)	**RRv *Provided* (c.f.)**
1.1S/1.2S	17,511	4,396	I-2	100%*	18,250	18,250

* % are based on table 3.5 of the NYSSMDM.

As shown in the table above the RRv *provided* in each of the subcatchments is greater than the RRv *minimum* and RRv *required* , therefore the RRv requirement has been met for the subject project.

2.5 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 center-of-mass from the one-year, 24-hour storm event. The proposed stormwater management system has been designed to meet this requirement with the design of the dry pretreatment stormwater basin and the infiltration

basin. As designed, a center-of-mass detention time of 1,557 minutes (25.95 hours) has been achieved within the pond 1.1P. Additionally the 1-year 24-hour design storm will be directed from the extended detention dry basin to the infiltration basin for complete infiltration of the WQv. Therefore the requirement for stream channel protection has been met with the proposed stormwater design.

2.6 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 practices. Extreme flood control requires storage to attenuate the post-development 100-year, 24-hour peak discharge to pre-development rates. As shown in Table 2.7.1 attenuation for both the 10-year and 100-year 24-hour storms has been provided thus satisfying the Q_p and Q_f requirements.

2.7 NYCDEP Quantity Requirements

As required per the NYCDEP rules and regulations, the attenuation of post-development peak flows from the 1, 10, and 100-year storms to pre-development levels is accomplished with the proposed stormwater management practices. The following tables summarize the pre and post development peak flows expected for the proposed project.

Table 2.7.1– Pre and Post-Development Peak Flows

24-HOUR DESIGN STORM PEAK FLOWS (c.f.s.)						
	1-YEAR		10-YEAR (Overbank Flood Control)		100-YEAR (Extreme Flood Control)	
	Pre	Post	Pre	Post	Pre	Post
Design Line	0.30	0.04	8.29	2.79	36.90	33.49

As shown in the above table the peak flows discharging to the design point in the proposed condition have been mitigated to below the existing condition levels, therefore the receiving drainage system will see a reduction in peak flows during the storm events shown above.

3.0 STORMWATER CONVEYANCE SYSTEM

The stormwater collection and conveyance systems for the project will consist of catch basins and HDPE pipe. The system will be sized to collect and convey at minimum the 25-year, 1-hour design storm using the Rational Method. The Rational Method 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.

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 and excavation of the temporary sediment basin. Disturbed areas should be permanently stabilized within 14 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.

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
- Silt Fence Barriers
- Storm Drain Inlet Protection
- Sediment Traps with optional Dewatering Devices

A stabilized construction entrance should be installed at the entrance to the site as shown on the plan. The design drawings will include details to guide the contractor in the construction of this entrance. The intent of the stabilized construction entrance 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.

The stormwater ponds will also act as a sediment traps with optional dewatering devices during construction of the site. Stormwater runoff from disturbed areas will be directed to the sediment trap. The trap will be sized in accordance with the publication, *New York State Standards and Specifications for Erosion and Sediment Control* (Blue Book), the latest edition.

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.

The temporary sediment traps shall be cleaned of all sediment and debris, and converted to a extended detention dry stormwater basin per the final elevations and dimensions, and stabilized with the vegetation as indicated on the project drawings. Riprap aprons will be used at the discharge end of all piped drainage systems. Runoff velocities will be reduced to levels that are non-erosive to the receiving waterbodies through use of these aprons.

Other than the buildings and paved surfaces, disturbed surfaces will be stabilized with vegetation. 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, MAINTENANCE & GENERAL HOUSEKEEPING

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. A Construction Sequence has been provided to guide the contractor in the installation of the erosion control measures as well as the site plan features. In accordance with NYSDEC SPDES General Permit GP-0-15-002 no phase will exceed the maximum of 5 acres of disturbance at any given time as less than 5 acres of disturbance is proposed. The erosion control plan includes associated details and notes to aid the contractor in implementing the plan.

During construction, a Site Log Book, Appendix E, is required to be kept per NYSDEC SPDES General Permit GP-0-15-002. 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 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 designated 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.

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. 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.

Initially the stormwater basins and infiltration basins will require regular maintenance until the permanent vegetation is established. 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. The seed mixtures contain several plant species that vary slightly in their needs for survival. It is expected that not all of the species will survive within each basin due to variations within each basin such as water, nutrients, and light. During the initial year of planting, the plants may require watering to germinate and establish. Note that several seedings may be required during the first year to completely establish vegetation within the basin. After the initial year of establishment, the basin does not need to be fertilized or watered. A natural selection process will occur over the first few years, such that the species within the seed mixture most suitable to the conditions will survive.

5.2 Long Term Maintenance Plan

Each spring the paved areas should be cleaned to remove the winter's accumulation of traction sand. After this is completed, all drain inlets sumps and the stormwater basins should be cleaned. All pipes should be checked for debris and blockages and cleaned as required. During the cleaning process, the drain inlets, catch basins, and pipes should be inspected for structural integrity and overall condition; repairs and/or replacement will be made as required.

Once the desired vegetative cover is established in the basins, only limited maintenance is required. The ponds and outlet structures should be inspected after major storm events and semi-annually. During the inspections, the following should be checked:

- Evidence of clogging of outlet structure.
- Erosion of the flow path through the basins.
- Subsidence, erosion, cracking or tree growth on the embankment/berm.
- Condition of the emergency spillway.
- Accumulation of sediment around the outlet structures.
- Adequacy of upstream/downstream channel erosion control measures.
- Erosion of the basin bed and banks.
- Sources of erosion in the contributory drainage, which should be stabilized.

Access to the ponds will be through a stabilized basin access. The access is proposed to be graded to final grades and seeded and mulched in accordance with Plans. The graded basin accesses, and the side slopes and berms of the basins should be mowed annually as applicable to prevent the establishment of woody plants within the swales, access, or pond berms. During the mowing operations, debris and litter should be removed from all parts of the access, and basin. Accumulated sediment will need to be removed from the basins approximately every 10 to 20 years, or when 50 percent of their capacity has been reached. All drain inlets and catch basin sumps will be cleaned. All pipes will be checked for debris and blockages and cleaned as required. During the cleaning process, the drain inlet, catch basins and pipes should be inspected for structural integrity and overall condition; repairs and/or replacement will be made as required. In addition to guidelines discussed above all maintenance, requirements outlined in the NYSSMDM shall be followed.

APPENDIX A
NYSDEC Runoff Reduction Calculations

RRv Calculation Worksheet - Subcatchment 1.1S/1.2S

Project: Wilder Balter Partners, Inc.
Project #: 15246.100
Date: 1/29/2016

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

1. RRv Initial = Water Quality Volume (WQv) *0.402 ac-ft* = *17,511 c.f.*
(refer to HydroCAD Subcatchments 2.5S, The Mews at Baldwin Place subcatchment 1.5S (0.071ac.ft.) and The Mews at Baldwin Place Phase 2 subcatchment 1.8S (0.086 ac. ft.) for Water Quality Volume)

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

P = Rainfall (in.)	=	1.45	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor [HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]	=	0.31	
Aic = Total area of new impervious cover	=	2.8	Acres
RRv Minimum	=	*4,396*	*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 (4 trees at 100 s.f. per tree)	N/A	c.f.
5.3.5 Disconnection of Rooftop Runoff	N/A	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendix)	= 17,511	c.f.

4. *RRv Provided*

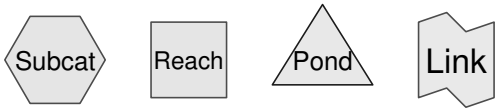
GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales [HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]			N/A
5.3.7 Rain Garden [No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]		40%	
5.3.8 Green Roof [RRv provided equals volume provided in Green Roof]		100%	N/A
5.3.9 Stormwater Planters [Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]		45%	N/A
5.3.10 Rain Tank / Cisterns		100%	N/A
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	18250	100%	N/A
Bioretention Practice (Standard SMP) [Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]		40%	N/A
Dry Swale (Open Channel Practice) (Standard SMP) [HSG A/B = 40%] [HSG C/D = 20%]		40%	0
RRv Provided =			*18,250*

5. Summary

RRv Initial	=	17,511	c.f.	
RRv Required	=	17,511	c.f.	
RRv Minimum	=	4,396	c.f.	
RRv Provided	=	18,250	c.f.	
WQv Required for Downstream SMP	=	0	c.f.	(= RRv Required - RRv Provided)

APPENDIX B

Pre-Development Computer Data



Routing Diagram for WB Lewisboro Pre Development
Prepared by Insite Engineering, Printed 1/29/2016
HydroCAD® 10.00-15 s/n 00891 © 2015 HydroCAD Software Solutions LLC

Summary for Subcatchment 1.0S:

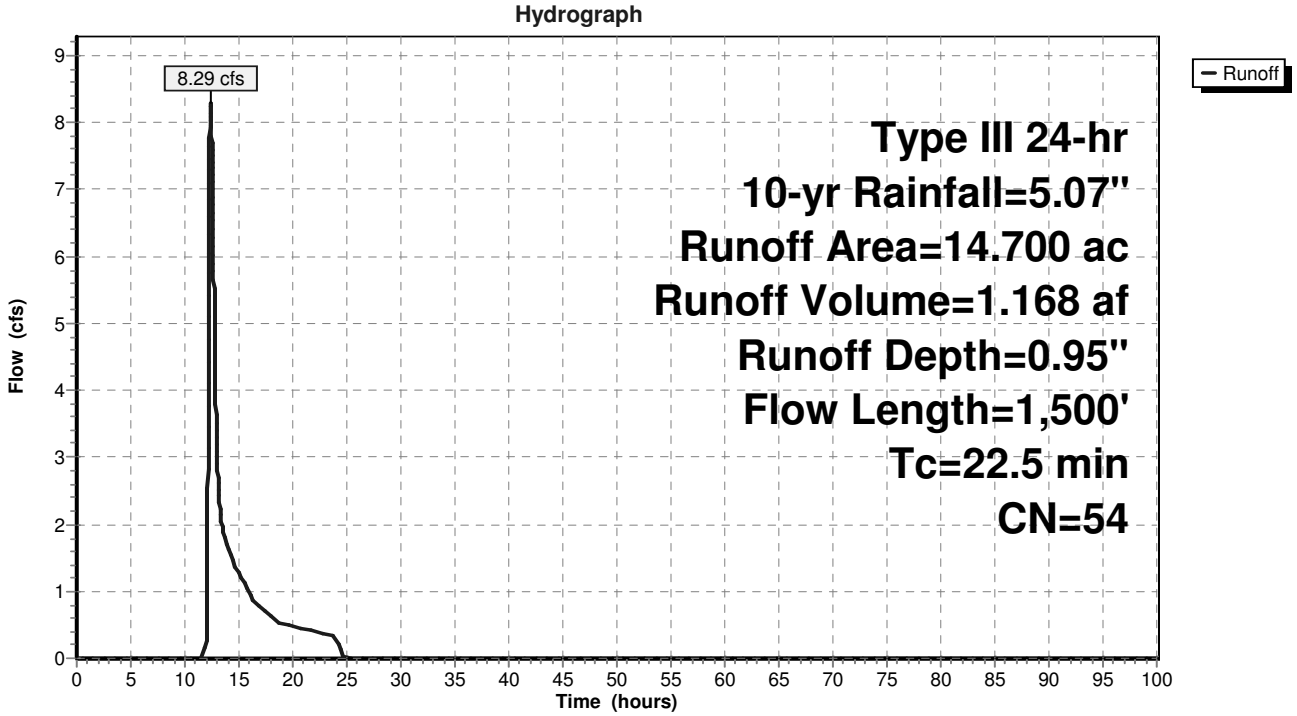
Runoff = 8.29 cfs @ 12.38 hrs, Volume= 1.168 af, Depth= 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.07"

Area (ac)	CN	Description
2.700	48	Brush, Good, HSG B
12.000	55	Woods, Good, HSG B
14.700	54	Weighted Average
14.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1200	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
12.5	1,400	0.1400	1.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.5	1,500	Total			

Subcatchment 1.0S:



Summary for Subcatchment 1.0S:

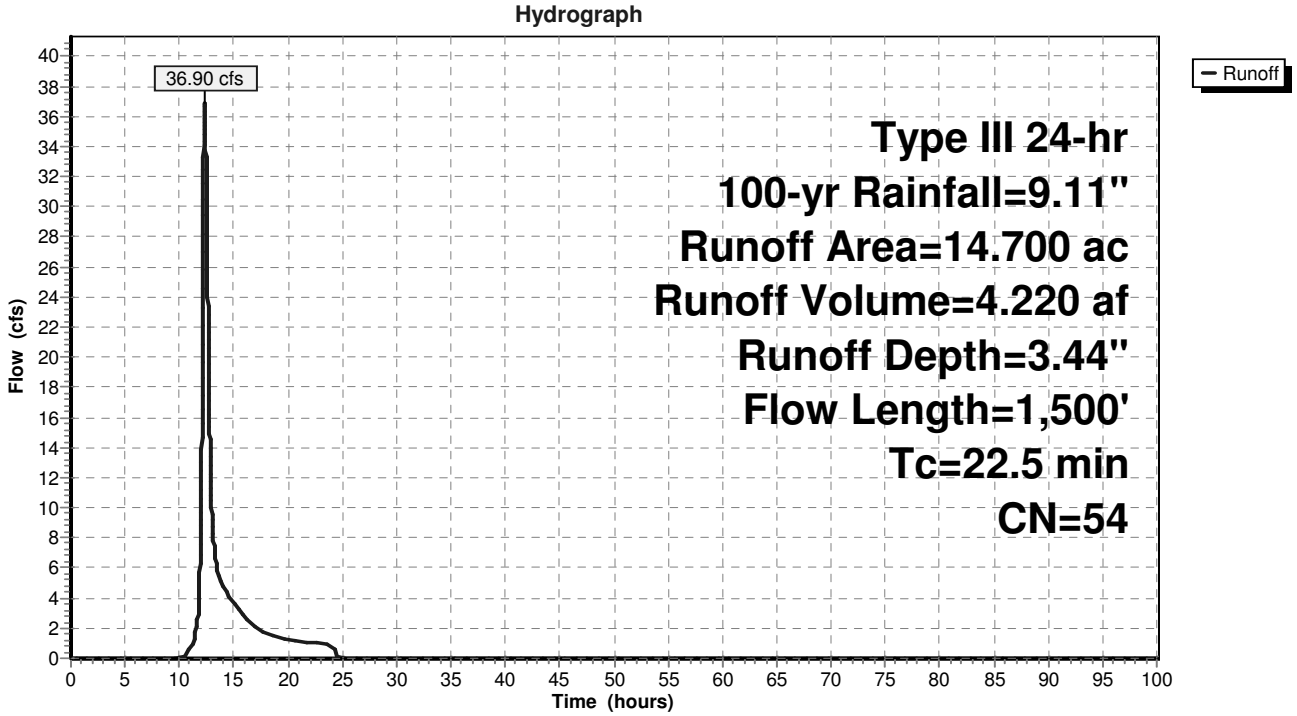
Runoff = 36.90 cfs @ 12.33 hrs, Volume= 4.220 af, Depth= 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=9.11"

Area (ac)	CN	Description
2.700	48	Brush, Good, HSG B
12.000	55	Woods, Good, HSG B
14.700	54	Weighted Average
14.700		100.00% Pervious Area

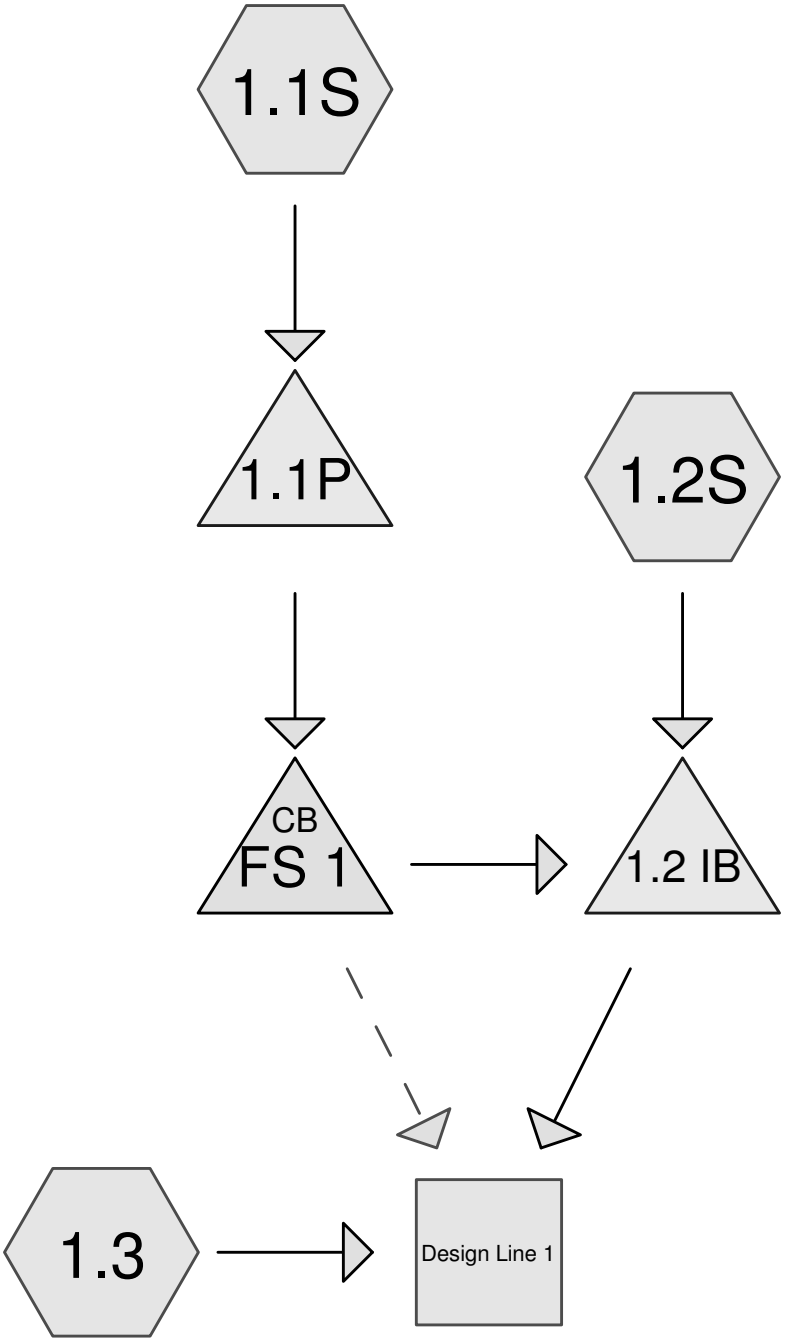
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1200	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
12.5	1,400	0.1400	1.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.5	1,500	Total			

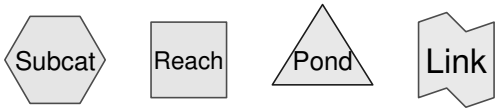
Subcatchment 1.0S:



APPENDIX C

Post-Development Computer Data





Routing Diagram for WB Lewisboro Post Development
Prepared by Insite Engineering, Printed 2/1/2016
HydroCAD® 10.00-15 s/n 00891 © 2015 HydroCAD Software Solutions LLC

Summary for Subcatchment 1.1S:

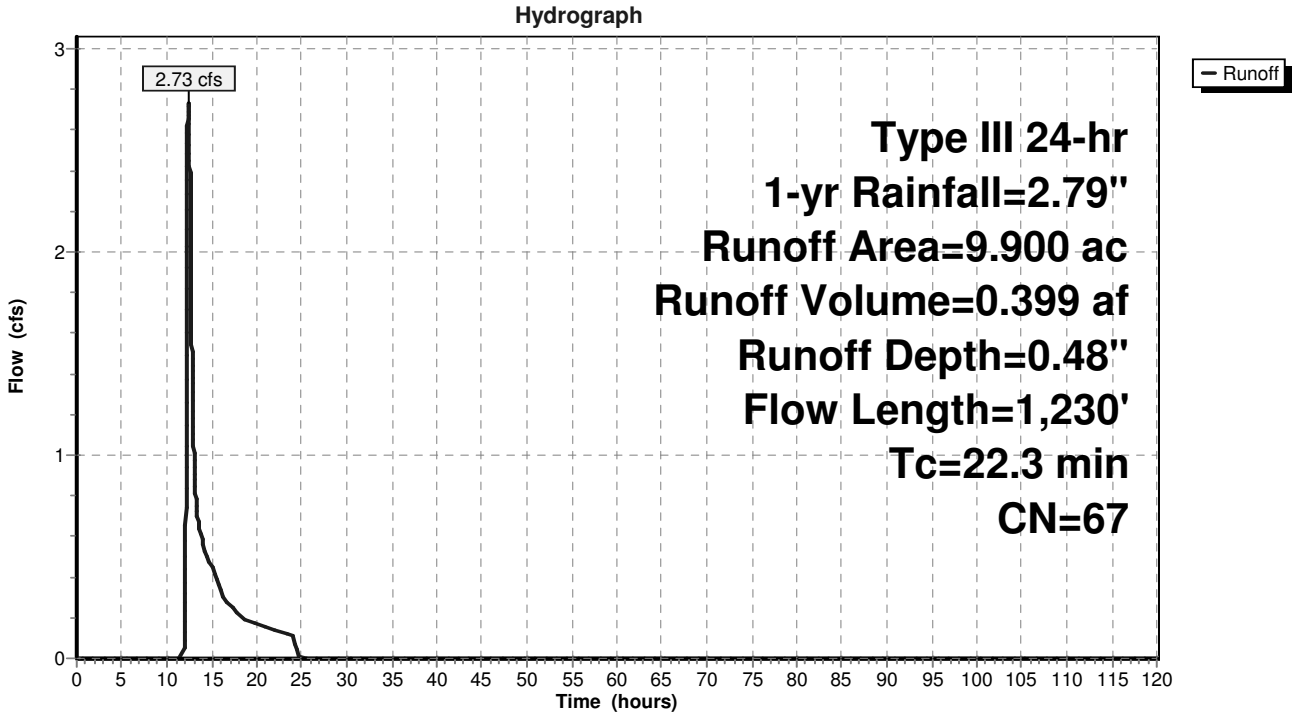
Runoff = 2.73 cfs @ 12.40 hrs, Volume= 0.399 af, Depth= 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.79"

Area (ac)	CN	Description
2.800	98	Paved parking, HSG B
1.900	61	>75% Grass cover, Good, HSG B
3.400	55	Woods, Good, HSG B
1.300	39	>75% Grass cover, Good, HSG A
0.500	77	Woods, Good, HSG D
9.900	67	Weighted Average
7.100		71.72% Pervious Area
2.800		28.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
1.3	150	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	250	0.0400	1.40		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	200	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	530	0.1000	18.03	22.13	**Pipe Channel, CMP_Round 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
22.3	1,230	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

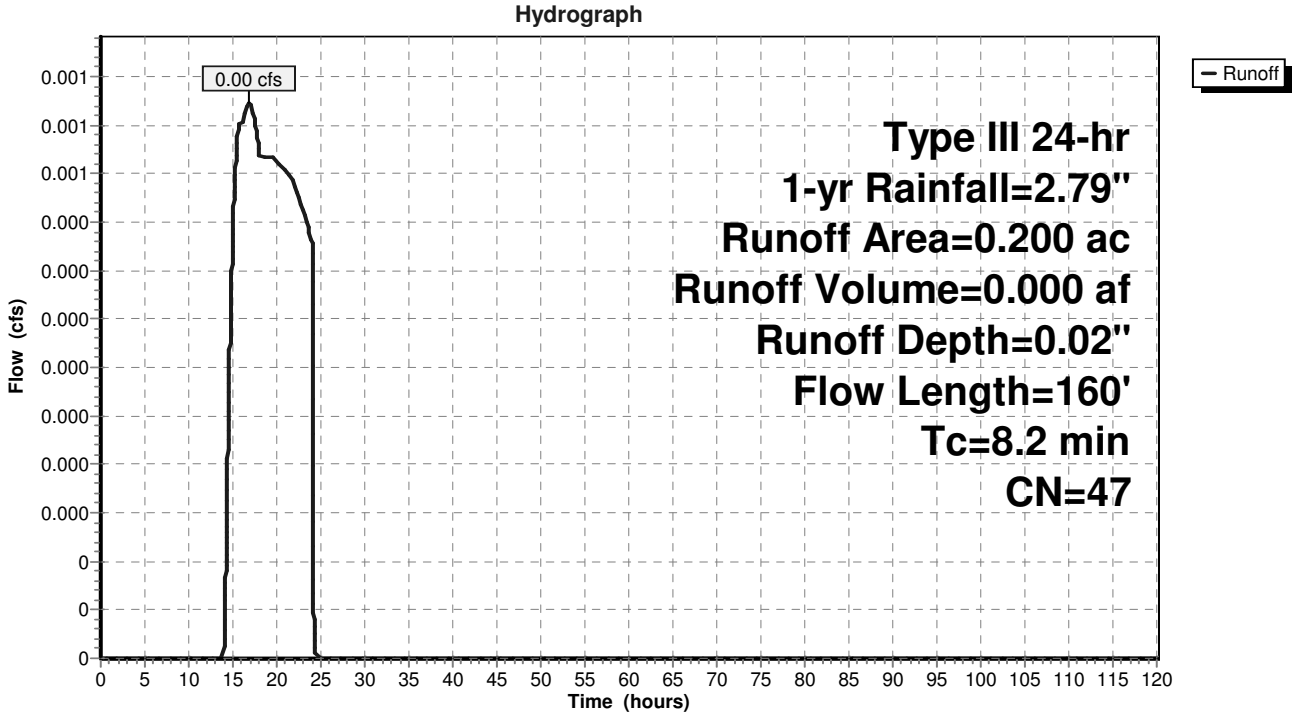
Runoff = 0.00 cfs @ 16.90 hrs, Volume= 0.000 af, Depth= 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.100	39	>75% Grass cover, Good, HSG A
0.100	55	Woods, Good, HSG B
0.200	47	Weighted Average
0.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	20	0.2000	0.32		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
6.8	80	0.2000	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	60	0.2500	2.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	160	Total			

Subcatchment 1.2S:



Summary for Subcatchment 1.3:

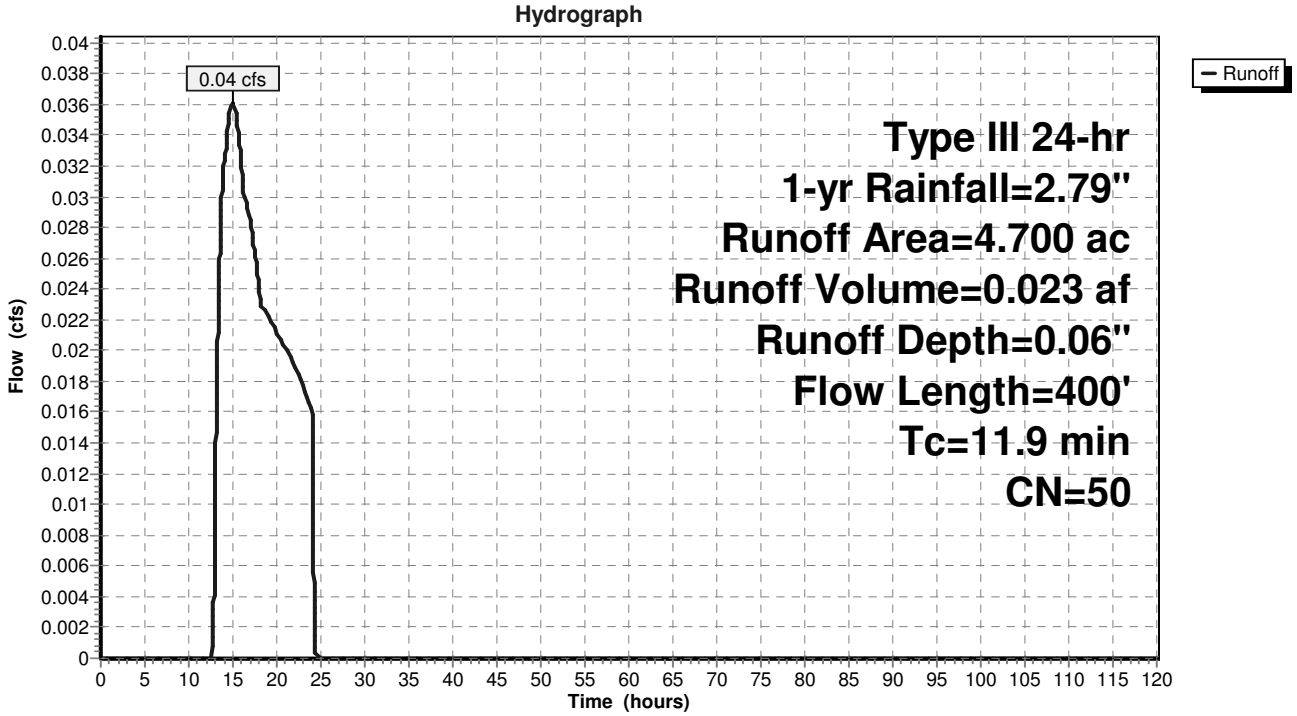
Runoff = 0.04 cfs @ 14.98 hrs, Volume= 0.023 af, Depth= 0.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.79"

Area (ac)	CN	Description
1.200	39	>75% Grass cover, Good, HSG A
1.300	77	Woods, Good, HSG D
0.900	55	Woods, Good, HSG B
1.300	30	Brush, Good, HSG A
4.700	50	Weighted Average
4.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.1100	0.24		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
5.0	300	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.9	400	Total			

Subcatchment 1.3:

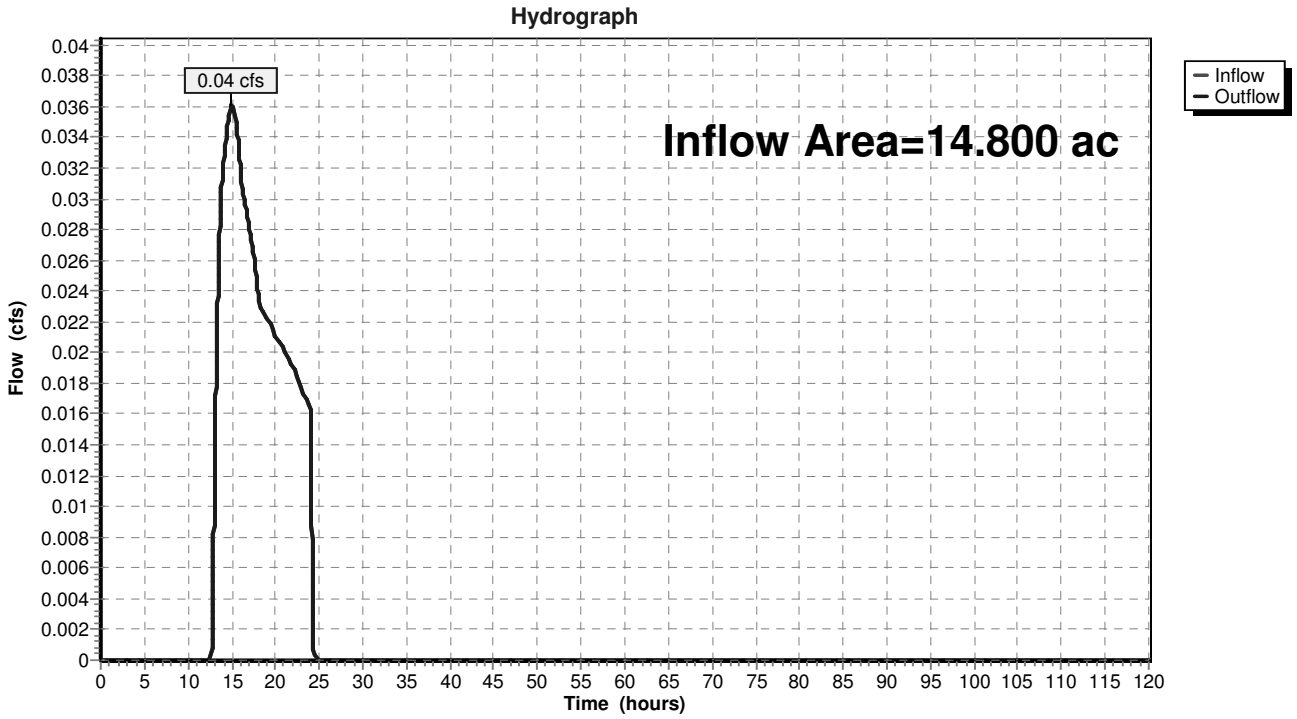


Summary for Reach Design Line 1:

Inflow Area = 14.800 ac, 18.92% Impervious, Inflow Depth = 0.02" for 1-yr event
Inflow = 0.04 cfs @ 14.98 hrs, Volume= 0.023 af
Outflow = 0.04 cfs @ 14.98 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs

Reach Design Line 1:



Summary for Pond 1.1P:

Inflow Area = 9.900 ac, 28.28% Impervious, Inflow Depth = 0.48" for 1-yr event
Inflow = 2.73 cfs @ 12.40 hrs, Volume= 0.399 af
Outflow = 0.10 cfs @ 24.19 hrs, Volume= 0.399 af, Atten= 97%, Lag= 707.8 min
Primary = 0.10 cfs @ 24.19 hrs, Volume= 0.399 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Peak Elev= 224.99' @ 24.19 hrs Surf.Area= 5,888 sf Storage= 13,473 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1,556.5 min (2,471.9 - 915.4)

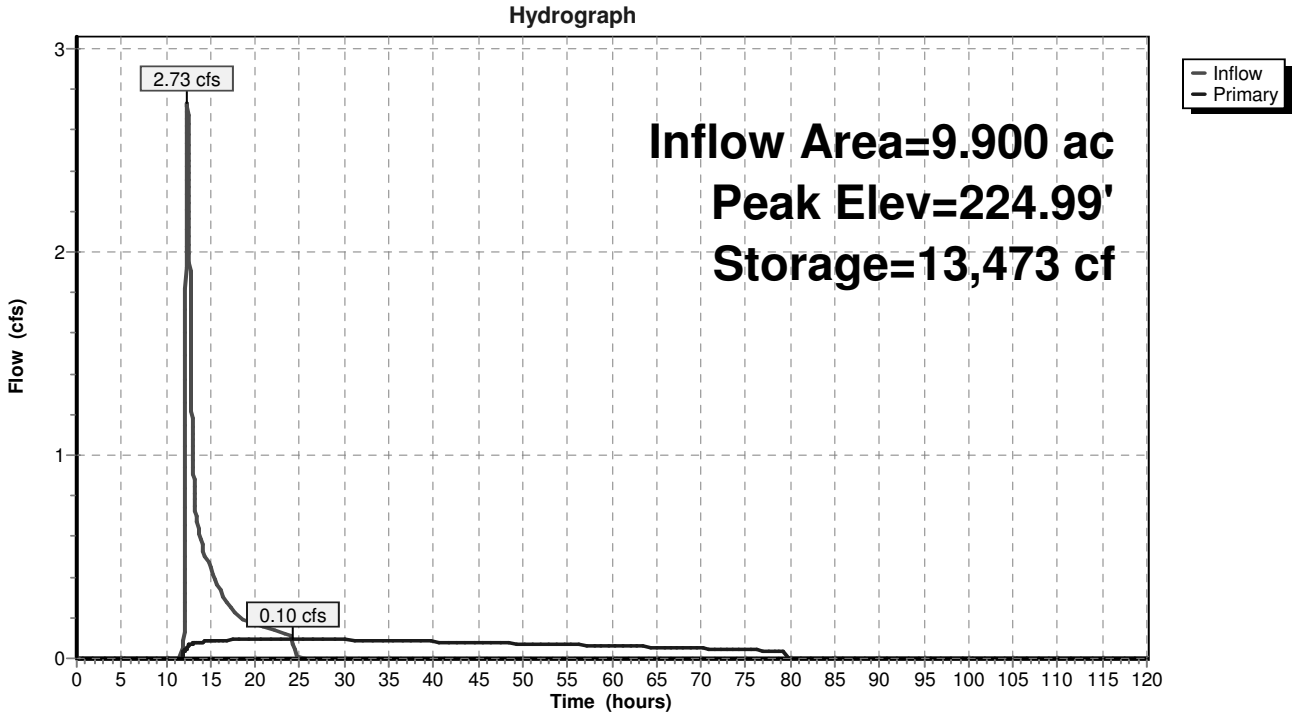
Volume	Invert	Avail.Storage	Storage Description
#1	222.00'	56,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
222.00	3,100	0	0
224.00	5,000	8,100	8,100
226.00	6,800	11,800	19,900
228.00	9,000	15,800	35,700
230.00	11,500	20,500	56,200

Device	Routing	Invert	Outlet Devices
#1	Device 3	221.50'	**1.4" Vert. Orifice/Grate** C= 0.600
#2	Device 3	227.00'	**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
#3	Primary	221.50'	**36.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 221.50' / 221.20' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=0.10 cfs @ 24.19 hrs HW=224.99' TW=221.42' (Dynamic Tailwater)
└─**3=Culvert** (Passes 0.10 cfs of 43.96 cfs potential flow)
  ├─**1=Orifice/Grate** (Orifice Controls 0.10 cfs @ 8.92 fps)
  └─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.1P:


Hydrograph
Inflow
Primary
2.73 cfs
0.10 cfs
Inflow Area=9.900 ac
Peak Elev=224.99'
Storage=13,473 cf
Flow (cfs)
Time (hours)
0
1
2
3
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120

Summary for Pond 1.2 IB:

Inflow Area =	10.100 ac, 27.72% Impervious, Inflow Depth = 0.47" for 1-yr event				
Inflow =	0.10 cfs @	24.02 hrs,	Volume=	0.400 af	
Outflow =	0.10 cfs @	24.04 hrs,	Volume=	0.400 af,	Atten= 0%, Lag= 1.4 min
Discarded =	0.10 cfs @	24.04 hrs,	Volume=	0.400 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= 0.01 hrs
Peak Elev= 218.00' @ 24.04 hrs Surf.Area= 6,303 sf Storage= 28 cf

Plug-Flow detention time= 4.8 min calculated for 0.400 af (100% of inflow)
Center-of-Mass det. time= 4.8 min (2,475.4 - 2,470.6)

Volume	Invert	Avail.Storage	Storage Description
#1	218.00'	42,300 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

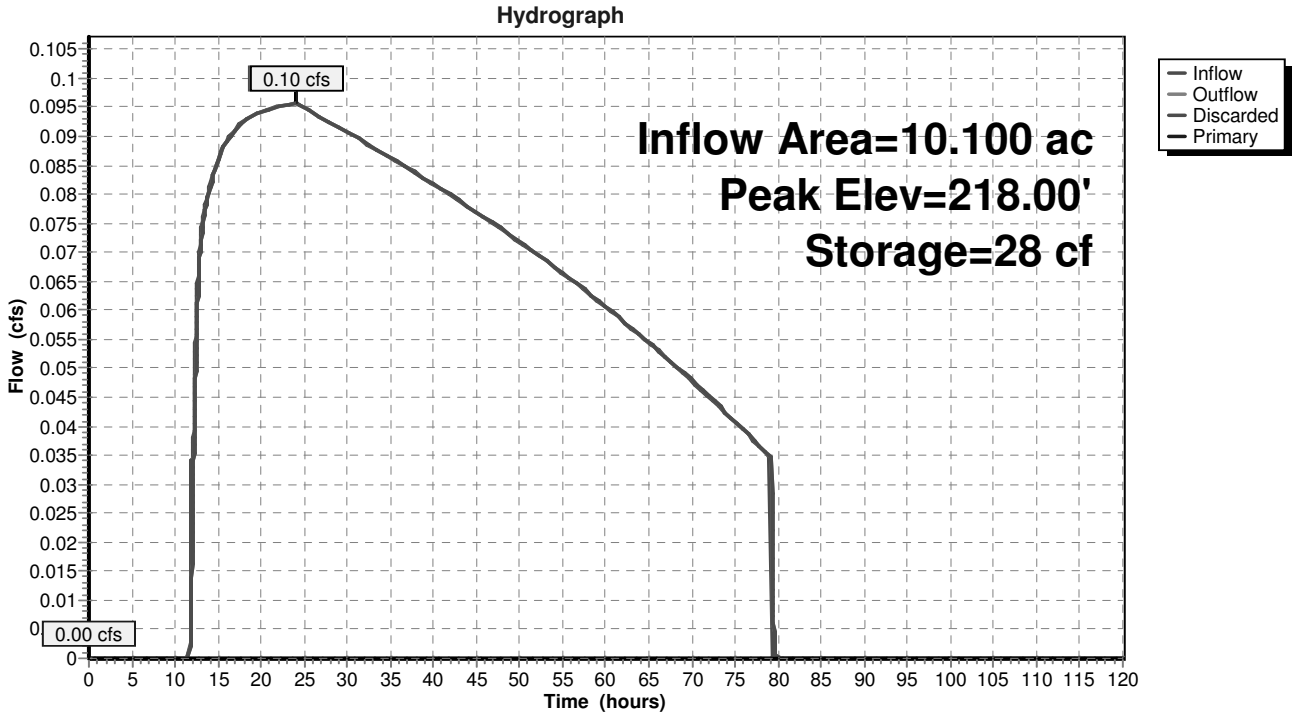
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
218.00	6,300	0	0
220.00	7,900	14,200	14,200
222.00	9,500	17,400	31,600
223.00	11,900	10,700	42,300

Device	Routing	Invert	Outlet Devices
#1	Device 2	220.50'	**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
#2	Primary	217.50'	**15.0" Round Culvert** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 217.50' / 214.00' S= 0.1029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#3	Discarded	218.00'	**1.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00' Phase-In= 0.01'

Discarded OutFlow Max=0.10 cfs @ 24.04 hrs HW=218.00' (Free Discharge)
└─**3=Exfiltration** (Controls 0.10 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=218.00' TW=0.00' (Dynamic Tailwater)
└─**2=Culvert** (Passes 0.00 cfs of 1.10 cfs potential flow)
  └─**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.2 IB:


Hydrograph
0.10 cfs
0.00 cfs
Inflow Area=10.100 ac
Peak Elev=218.00'
Storage=28 cf
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)

Summary for Pond FS 1:

Inflow Area =	9.900 ac, 28.28% Impervious, Inflow Depth = 0.48" for 1-yr event				
Inflow =	0.10 cfs @	24.19 hrs,	Volume=	0.399 af	
Outflow =	0.10 cfs @	24.19 hrs,	Volume=	0.399 af,	Atten= 0%, Lag= 0.1 min
Primary =	0.10 cfs @	24.19 hrs,	Volume=	0.399 af	
Secondary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

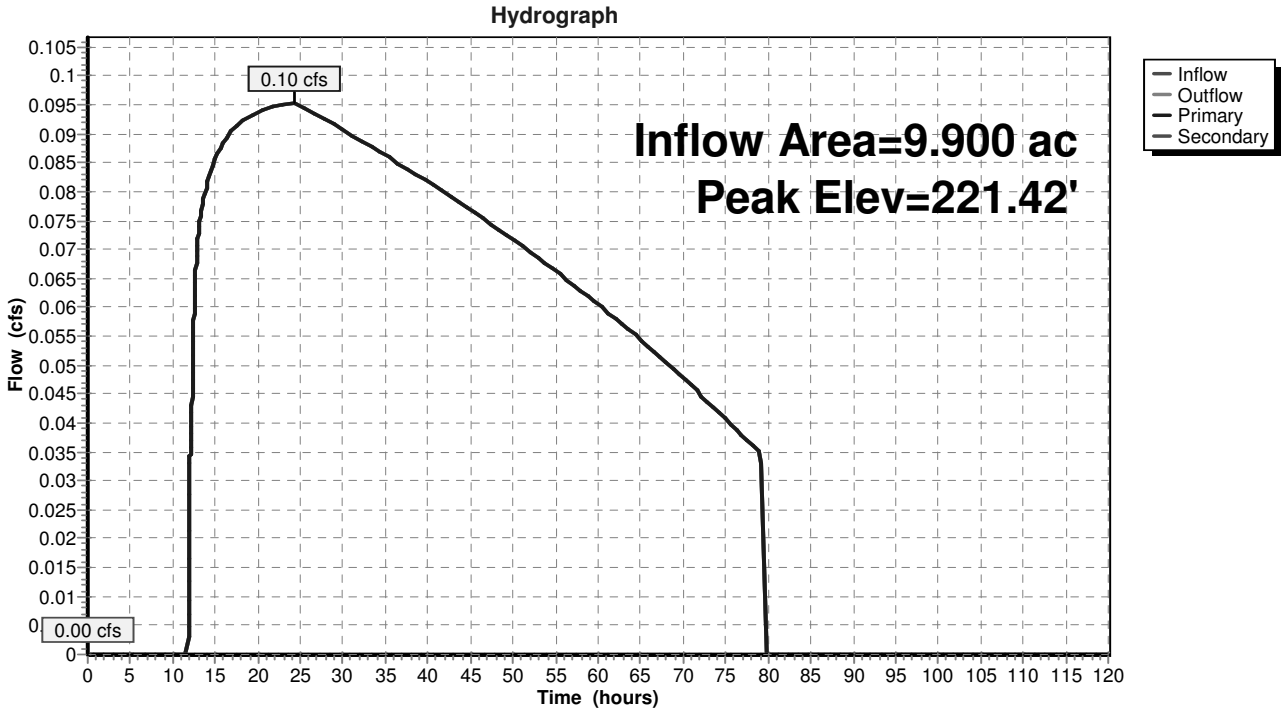
Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Peak Elev= 221.42' @ 24.19 hrs
Flood Elev= 226.00'

Device	Routing	Invert	Outlet Devices
#1	Secondary	221.50'	**36.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 221.50' / 218.00' S= 0.0583 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Primary	221.20'	**4.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 221.20' / 221.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.10 cfs @ 24.19 hrs HW=221.42' TW=218.00' (Dynamic Tailwater)
└─**2=Culvert** (Barrel Controls 0.10 cfs @ 2.16 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=221.20' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond FS 1:



Summary for Subcatchment 1.1S:

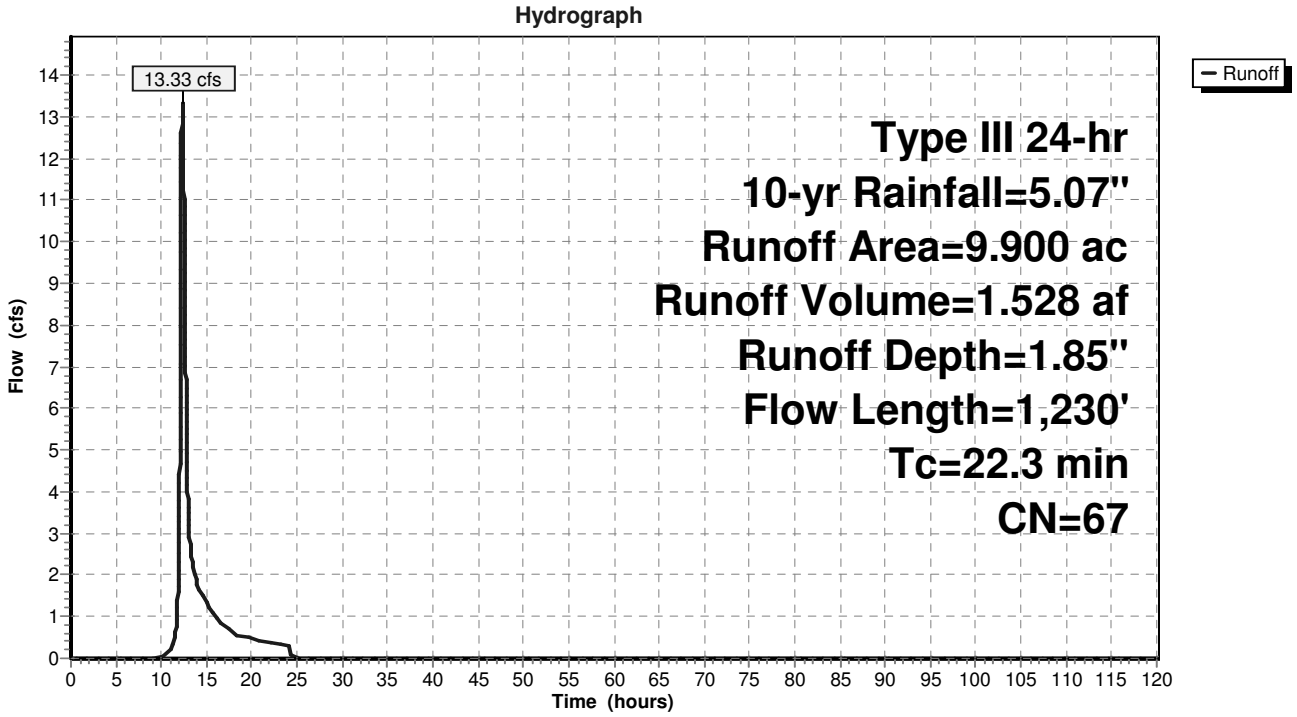
Runoff = 13.33 cfs @ 12.32 hrs, Volume= 1.528 af, Depth= 1.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.07"

Area (ac)	CN	Description
2.800	98	Paved parking, HSG B
1.900	61	>75% Grass cover, Good, HSG B
3.400	55	Woods, Good, HSG B
1.300	39	>75% Grass cover, Good, HSG A
0.500	77	Woods, Good, HSG D
9.900	67	Weighted Average
7.100		71.72% Pervious Area
2.800		28.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
1.3	150	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	250	0.0400	1.40		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	200	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	530	0.1000	18.03	22.13	**Pipe Channel, CMP_Round 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
22.3	1,230	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

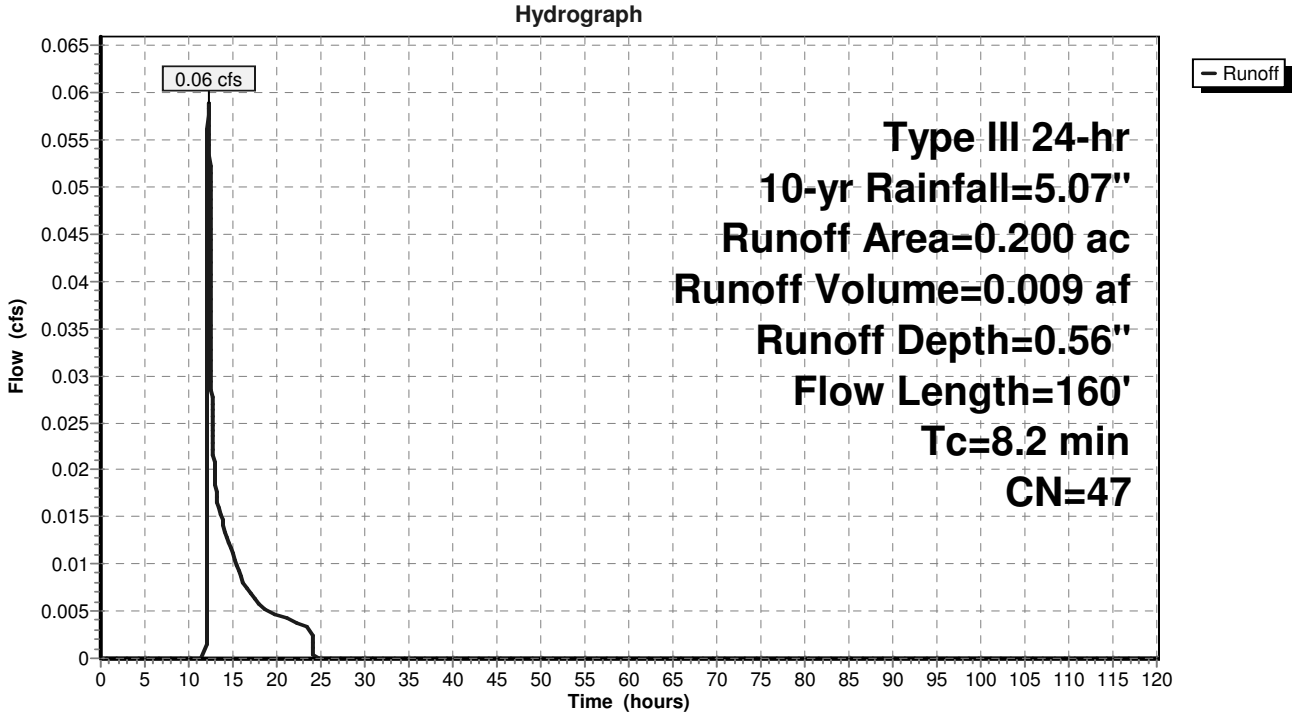
Runoff = 0.06 cfs @ 12.19 hrs, Volume= 0.009 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.07"

Area (ac)	CN	Description
0.100	39	>75% Grass cover, Good, HSG A
0.100	55	Woods, Good, HSG B
0.200	47	Weighted Average
0.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	20	0.2000	0.32		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
6.8	80	0.2000	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	60	0.2500	2.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	160	Total			

Subcatchment 1.2S:



Summary for Subcatchment 1.3:

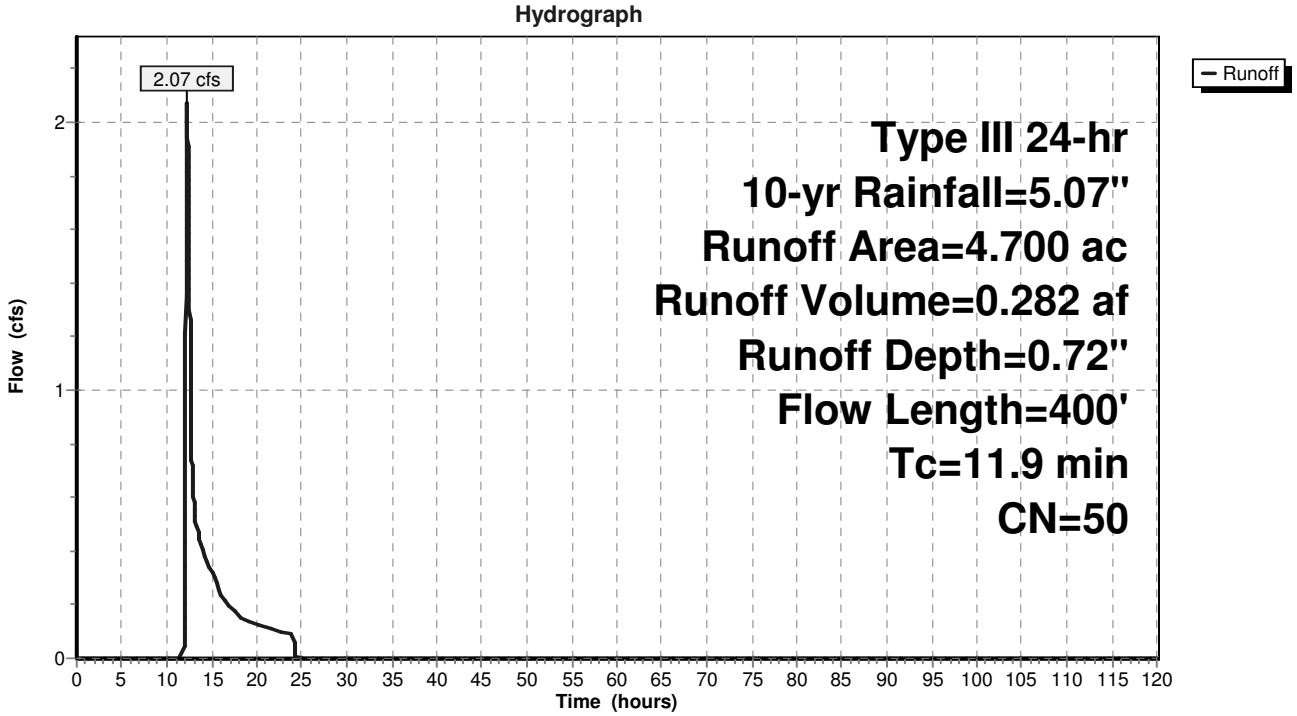
Runoff = 2.07 cfs @ 12.23 hrs, Volume= 0.282 af, Depth= 0.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.07"

Area (ac)	CN	Description
1.200	39	>75% Grass cover, Good, HSG A
1.300	77	Woods, Good, HSG D
0.900	55	Woods, Good, HSG B
1.300	30	Brush, Good, HSG A
4.700	50	Weighted Average
4.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.1100	0.24		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
5.0	300	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.9	400	Total			

Subcatchment 1.3:

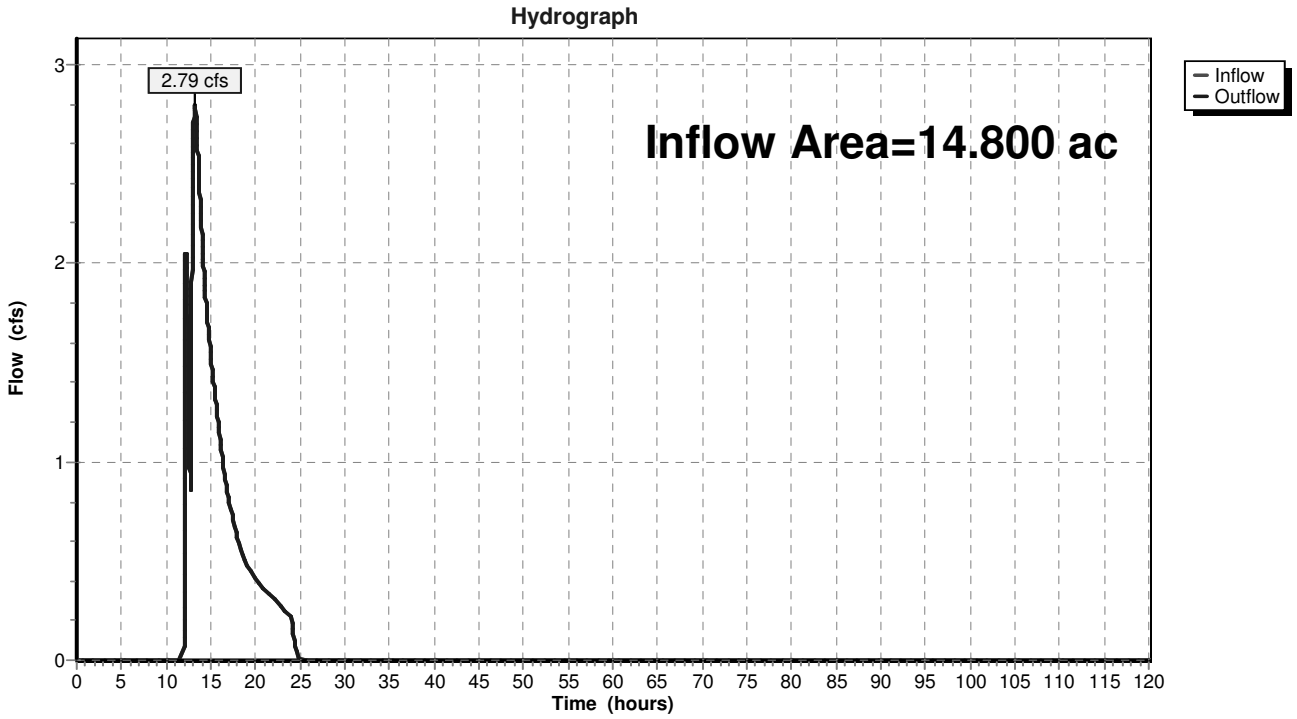


Summary for Reach Design Line 1:

Inflow Area = 14.800 ac, 18.92% Impervious, Inflow Depth = 0.75" for 10-yr event
Inflow = 2.79 cfs @ 13.21 hrs, Volume= 0.921 af
Outflow = 2.79 cfs @ 13.21 hrs, Volume= 0.921 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs

Reach Design Line 1:



Summary for Pond 1.1P:

Inflow Area = 9.900 ac, 28.28% Impervious, Inflow Depth = 1.85" for 10-yr event
Inflow = 13.33 cfs @ 12.32 hrs, Volume= 1.528 af
Outflow = 2.61 cfs @ 13.23 hrs, Volume= 1.528 af, Atten= 80%, Lag= 54.5 min
Primary = 2.61 cfs @ 13.23 hrs, Volume= 1.528 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Peak Elev= 227.55' @ 13.23 hrs Surf.Area= 8,506 sf Storage= 31,772 cf

Plug-Flow detention time= 1,275.4 min calculated for 1.528 af (100% of inflow)
Center-of-Mass det. time= 1,275.8 min (2,145.5 - 869.8)

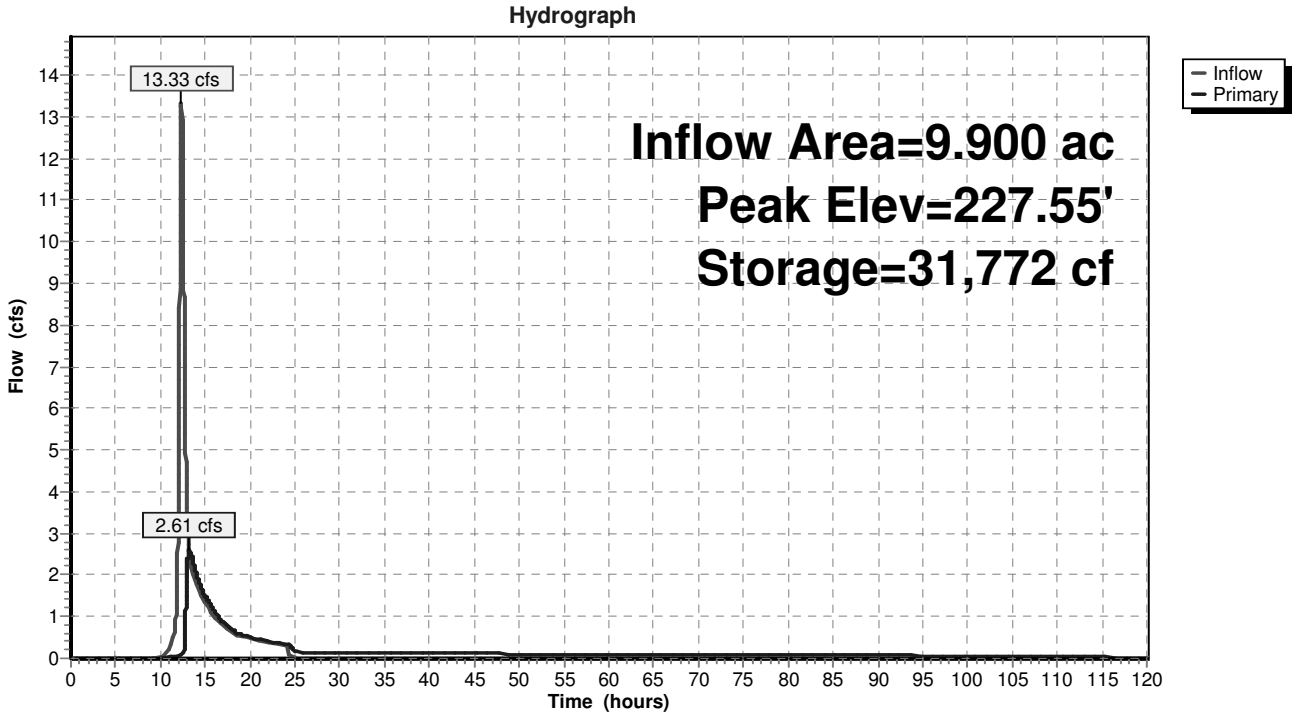
Volume	Invert	Avail.Storage	Storage Description
#1	222.00'	56,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
222.00	3,100	0	0
224.00	5,000	8,100	8,100
226.00	6,800	11,800	19,900
228.00	9,000	15,800	35,700
230.00	11,500	20,500	56,200

Device	Routing	Invert	Outlet Devices
#1	Device 3	221.50'	**1.4" Vert. Orifice/Grate** C= 0.600
#2	Device 3	227.00'	**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
#3	Primary	221.50'	**36.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 221.50' / 221.20' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=2.61 cfs @ 13.23 hrs HW=227.55' TW=222.06' (Dynamic Tailwater)
└─**3=Culvert** (Passes 2.61 cfs of 72.61 cfs potential flow)
  ├─**1=Orifice/Grate** (Orifice Controls 0.12 cfs @ 11.29 fps)
  └─**2=Broad-Crested Rectangular Weir** (Weir Controls 2.49 cfs @ 2.26 fps)

Pond 1.1P:


Hydrograph
13.33 cfs
2.61 cfs
Inflow Area=9.900 ac
Peak Elev=227.55'
Storage=31,772 cf
Inflow
Primary
Flow (cfs)
Time (hours)
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120

Summary for Pond 1.2 IB:

Inflow Area =	10.100 ac, 27.72% Impervious, Inflow Depth = 1.07" for 10-yr event				
Inflow =	0.33 cfs @	13.22 hrs,	Volume=	0.899 af	
Outflow =	0.22 cfs @	20.46 hrs,	Volume=	0.899 af,	Atten= 33%, Lag= 434.3 min
Discarded =	0.22 cfs @	20.46 hrs,	Volume=	0.899 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= 0.01 hrs
Peak Elev= 218.21' @ 20.46 hrs Surf.Area= 6,466 sf Storage= 1,327 cf

Plug-Flow detention time= 26.5 min calculated for 0.899 af (100% of inflow)
Center-of-Mass det. time= 26.5 min (3,003.7 - 2,977.3)

Volume	Invert	Avail.Storage	Storage Description
#1	218.00'	42,300 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

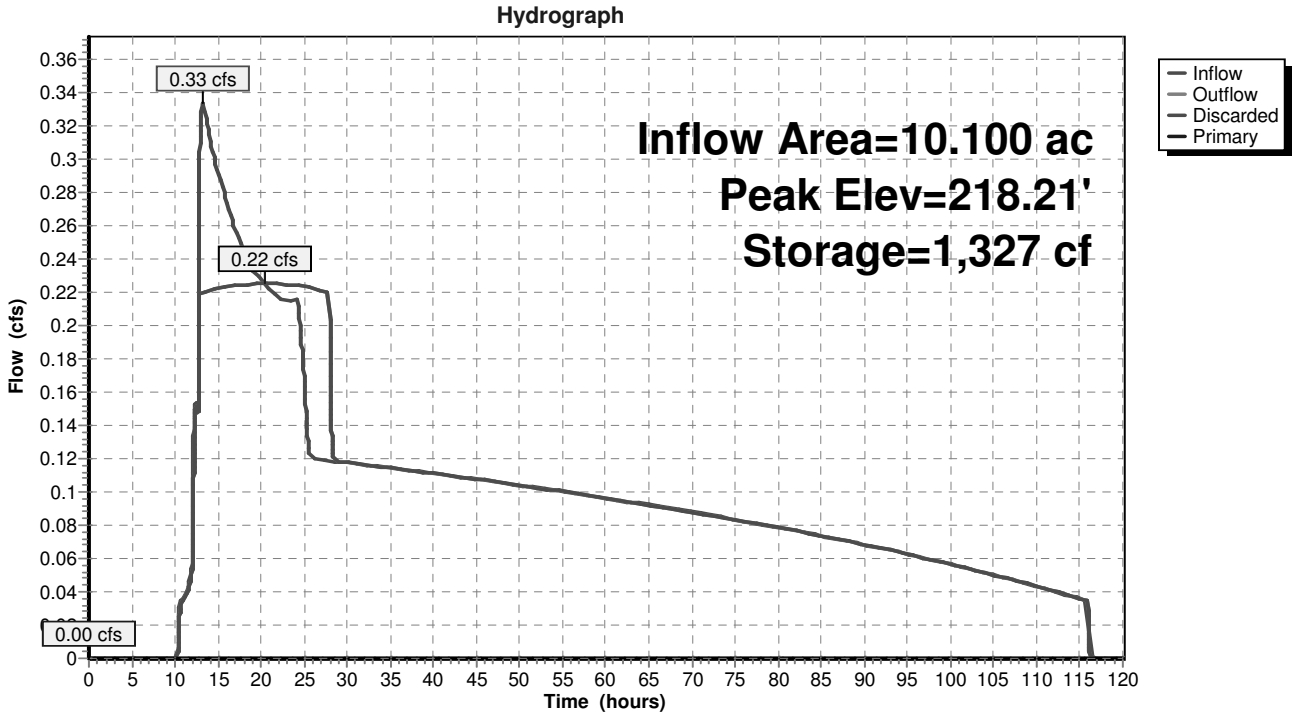
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
218.00	6,300	0	0
220.00	7,900	14,200	14,200
222.00	9,500	17,400	31,600
223.00	11,900	10,700	42,300

Device	Routing	Invert	Outlet Devices
#1	Device 2	220.50'	**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
#2	Primary	217.50'	**15.0" Round Culvert** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 217.50' / 214.00' S= 0.1029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#3	Discarded	218.00'	**1.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00' Phase-In= 0.01'

Discarded OutFlow Max=0.22 cfs @ 20.46 hrs HW=218.21' (Free Discharge)
└**3=Exfiltration** (Controls 0.22 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=218.00' TW=0.00' (Dynamic Tailwater)
└**2=Culvert** (Passes 0.00 cfs of 1.10 cfs potential flow)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.2 IB:


Hydrograph
Inflow Area=10.100 ac
Peak Elev=218.21'
Storage=1,327 cf
0.33 cfs
0.22 cfs
0.00 cfs
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)

Summary for Pond FS 1:

Inflow Area =	9.900 ac, 28.28% Impervious, Inflow Depth = 1.85" for 10-yr event			
Inflow =	2.61 cfs @ 13.23 hrs, Volume=	1.528 af		
Outflow =	2.61 cfs @ 13.23 hrs, Volume=	1.528 af, Atten= 0%, Lag= 0.0 min		
Primary =	0.32 cfs @ 13.23 hrs, Volume=	0.890 af		
Secondary =	2.29 cfs @ 13.23 hrs, Volume=	0.638 af		

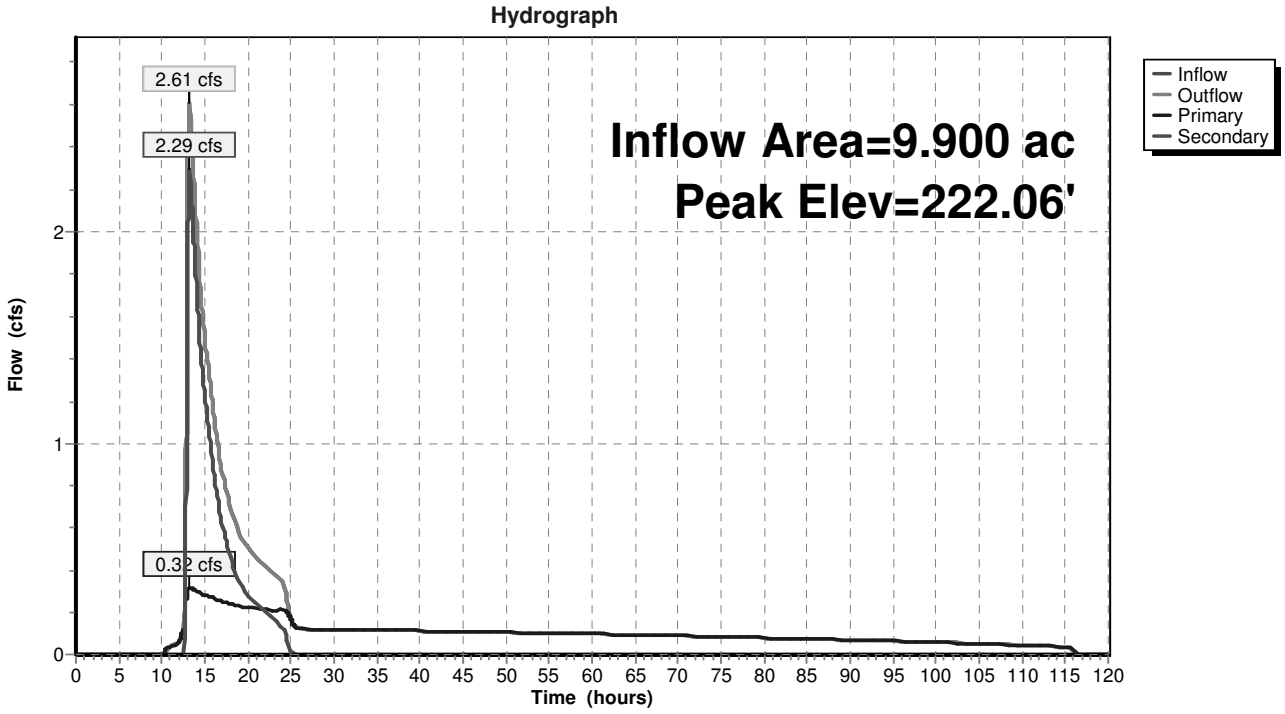
Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Peak Elev= 222.06' @ 13.23 hrs
Flood Elev= 226.00'

Device	Routing	Invert	Outlet Devices
#1	Secondary	221.50'	**36.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 221.50' / 218.00' S= 0.0583 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Primary	221.20'	**4.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 221.20' / 221.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.32 cfs @ 13.23 hrs HW=222.06' TW=218.03' (Dynamic Tailwater)
└─**2=Culvert** (Barrel Controls 0.32 cfs @ 3.63 fps)

Secondary OutFlow Max=2.29 cfs @ 13.23 hrs HW=222.06' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.29 cfs @ 2.54 fps)

Pond FS 1:



Summary for Subcatchment 1.1S:

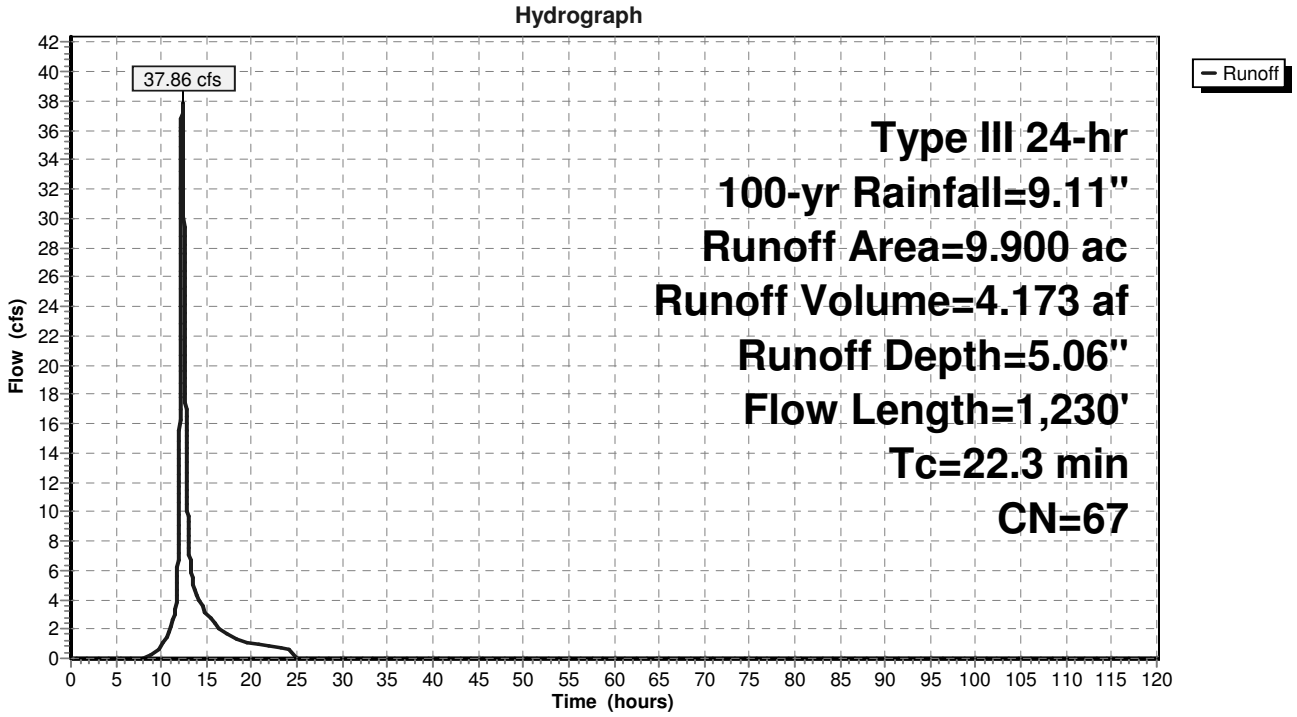
Runoff = 37.86 cfs @ 12.31 hrs, Volume= 4.173 af, Depth= 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=9.11"

Area (ac)	CN	Description
2.800	98	Paved parking, HSG B
1.900	61	>75% Grass cover, Good, HSG B
3.400	55	Woods, Good, HSG B
1.300	39	>75% Grass cover, Good, HSG A
0.500	77	Woods, Good, HSG D
9.900	67	Weighted Average
7.100		71.72% Pervious Area
2.800		28.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
1.3	150	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	250	0.0400	1.40		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	200	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	530	0.1000	18.03	22.13	**Pipe Channel, CMP_Round 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
22.3	1,230	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S:

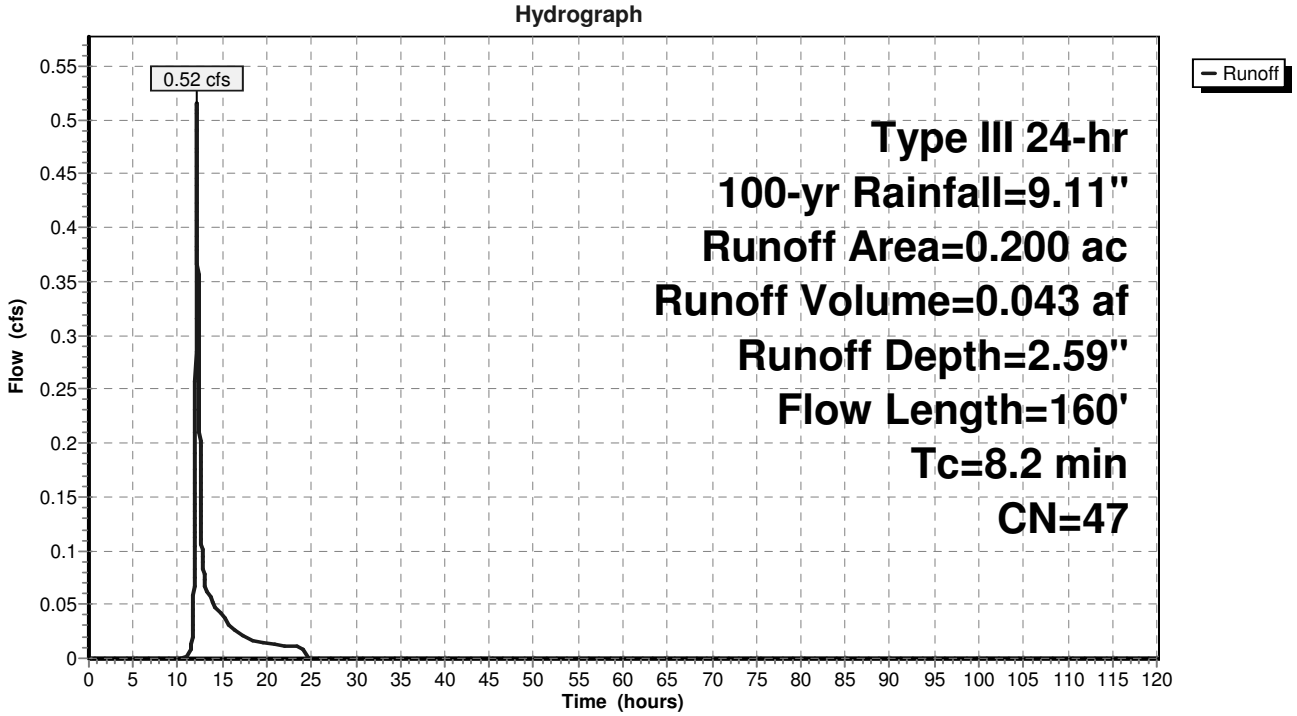
Runoff = 0.52 cfs @ 12.13 hrs, Volume= 0.043 af, Depth= 2.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=9.11"

Area (ac)	CN	Description
0.100	39	>75% Grass cover, Good, HSG A
0.100	55	Woods, Good, HSG B
0.200	47	Weighted Average
0.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	20	0.2000	0.32		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
6.8	80	0.2000	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	60	0.2500	2.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	160	Total			

Subcatchment 1.2S:



Summary for Subcatchment 1.3:

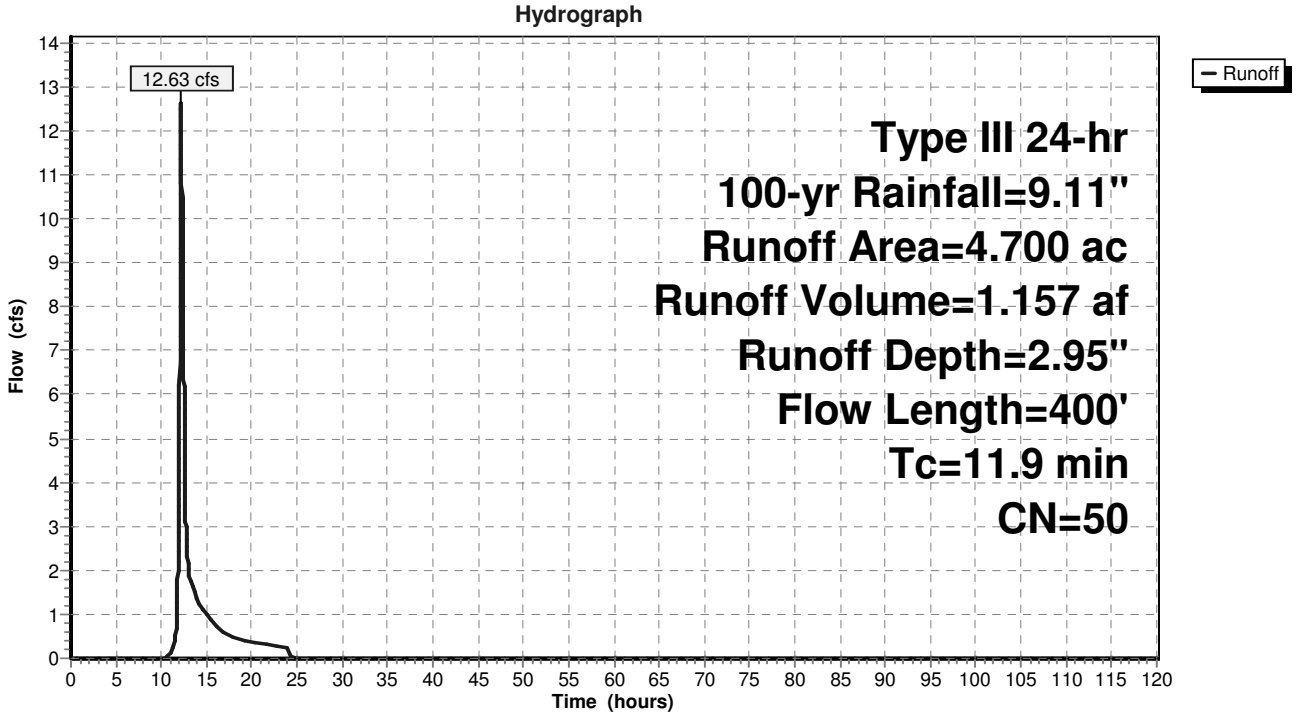
Runoff = 12.63 cfs @ 12.18 hrs, Volume= 1.157 af, Depth= 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=9.11"

Area (ac)	CN	Description
1.200	39	>75% Grass cover, Good, HSG A
1.300	77	Woods, Good, HSG D
0.900	55	Woods, Good, HSG B
1.300	30	Brush, Good, HSG A
4.700	50	Weighted Average
4.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.1100	0.24		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
5.0	300	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.9	400	Total			

Subcatchment 1.3:

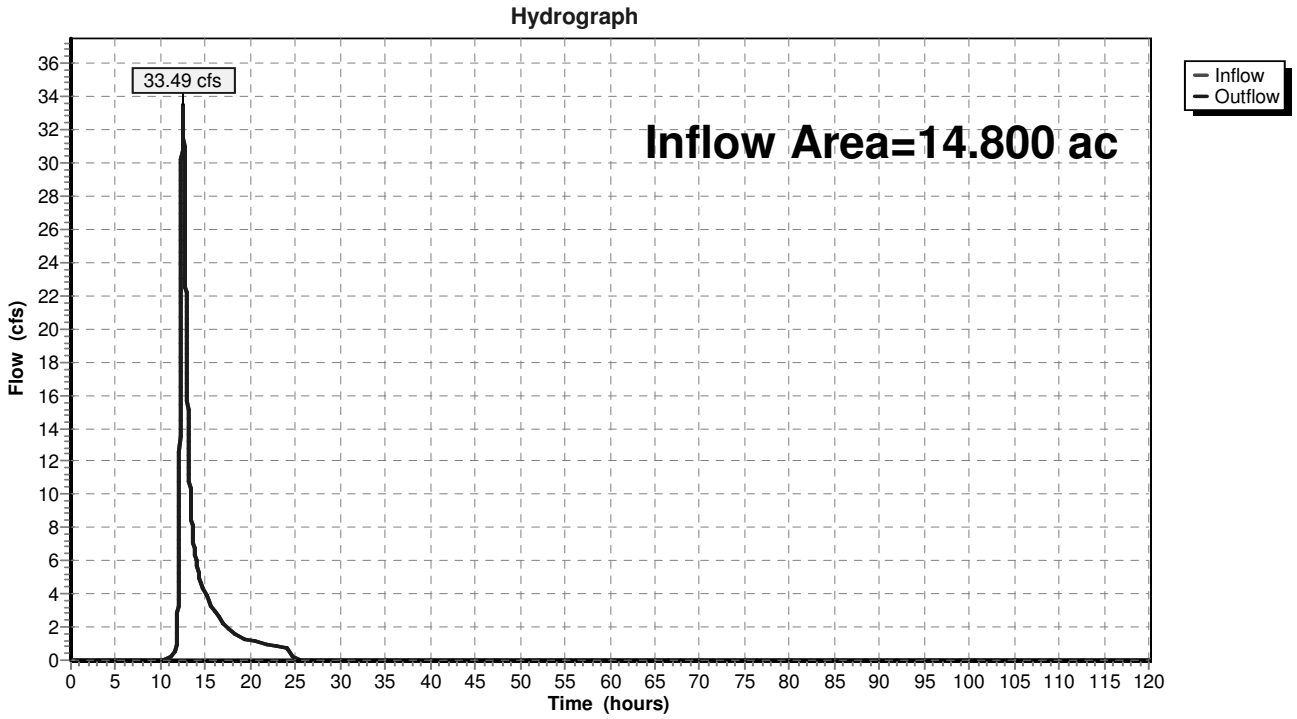


Summary for Reach Design Line 1:

Inflow Area = 14.800 ac, 18.92% Impervious, Inflow Depth = 3.53" for 100-yr event
Inflow = 33.49 cfs @ 12.47 hrs, Volume= 4.348 af
Outflow = 33.49 cfs @ 12.47 hrs, Volume= 4.348 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs

Reach Design Line 1:



Summary for Pond 1.1P:

Inflow Area = 9.900 ac, 28.28% Impervious, Inflow Depth = 5.06" for 100-yr event
Inflow = 37.86 cfs @ 12.31 hrs, Volume= 4.173 af
Outflow = 27.90 cfs @ 12.52 hrs, Volume= 4.173 af, Atten= 26%, Lag= 12.3 min
Primary = 27.90 cfs @ 12.52 hrs, Volume= 4.173 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Peak Elev= 229.60' @ 12.52 hrs Surf.Area= 10,995 sf Storage= 51,657 cf

Plug-Flow detention time= 491.0 min calculated for 4.173 af (100% of inflow)
Center-of-Mass det. time= 491.4 min (1,331.7 - 840.3)

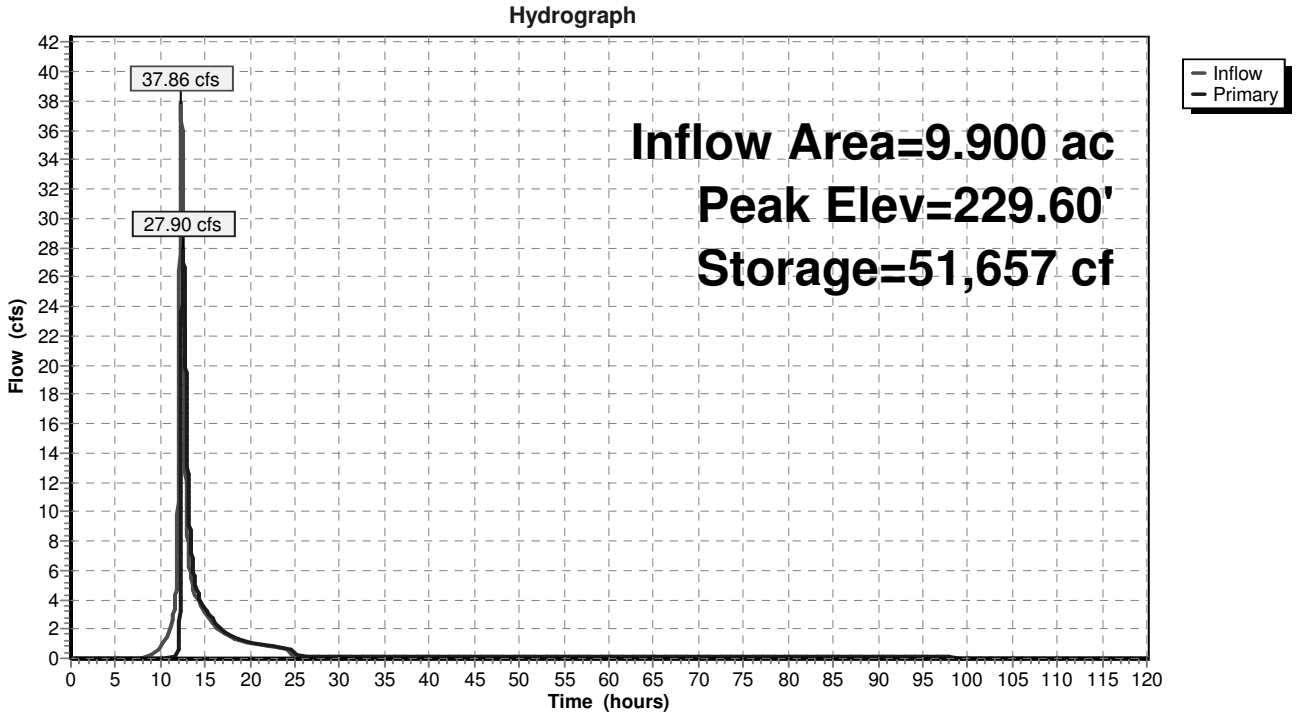
Volume	Invert	Avail.Storage	Storage Description
#1	222.00'	56,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
222.00	3,100	0	0
224.00	5,000	8,100	8,100
226.00	6,800	11,800	19,900
228.00	9,000	15,800	35,700
230.00	11,500	20,500	56,200

Device	Routing	Invert	Outlet Devices
#1	Device 3	221.50'	**1.4" Vert. Orifice/Grate** C= 0.600
#2	Device 3	227.00'	**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
#3	Primary	221.50'	**36.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 221.50' / 221.20' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=27.90 cfs @ 12.52 hrs HW=229.60' TW=223.66' (Dynamic Tailwater)
└─**3=Culvert** (Passes 27.90 cfs of 82.90 cfs potential flow)
  ├─**1=Orifice/Grate** (Orifice Controls 0.13 cfs @ 11.73 fps)
  └─**2=Broad-Crested Rectangular Weir** (Weir Controls 27.77 cfs @ 5.35 fps)

Pond 1.1P:


Hydrograph
37.86 cfs
27.90 cfs
Inflow Area=9.900 ac
Peak Elev=229.60'
Storage=51,657 cf
Inflow
Primary
Flow (cfs)
Time (hours)

Summary for Pond 1.2 IB:

Inflow Area =	10.100 ac, 27.72% Impervious, Inflow Depth = 1.22" for 100-yr event				
Inflow =	0.83 cfs @	12.18 hrs,	Volume=	1.026 af	
Outflow =	0.24 cfs @	24.22 hrs,	Volume=	1.026 af,	Atten= 71%, Lag= 722.6 min
Discarded =	0.24 cfs @	24.22 hrs,	Volume=	1.026 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= 0.01 hrs
Peak Elev= 218.74' @ 24.22 hrs Surf.Area= 6,894 sf Storage= 4,900 cf

Plug-Flow detention time= 110.2 min calculated for 1.026 af (100% of inflow)
Center-of-Mass det. time= 110.2 min (2,853.3 - 2,743.1)

Volume	Invert	Avail.Storage	Storage Description
#1	218.00'	42,300 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

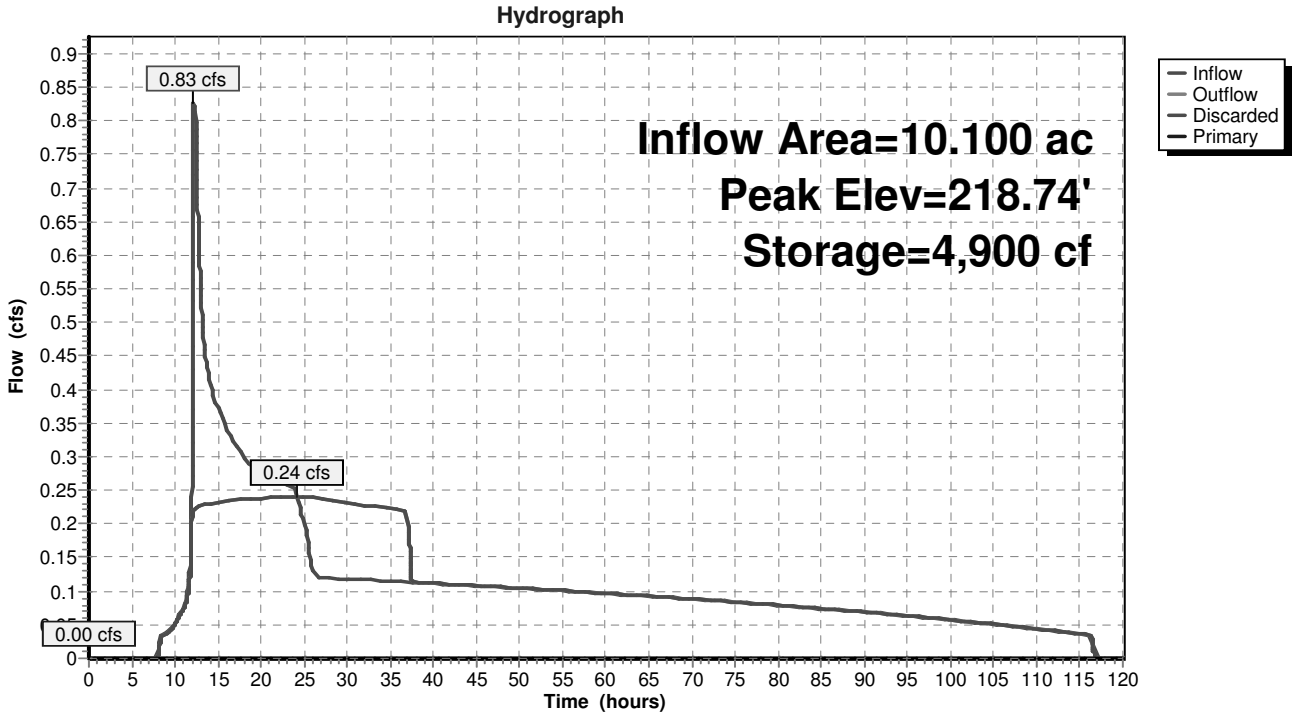
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
218.00	6,300	0	0
220.00	7,900	14,200	14,200
222.00	9,500	17,400	31,600
223.00	11,900	10,700	42,300

Device	Routing	Invert	Outlet Devices
#1	Device 2	220.50'	**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
#2	Primary	217.50'	**15.0" Round Culvert** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 217.50' / 214.00' S= 0.1029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#3	Discarded	218.00'	**1.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00' Phase-In= 0.01'

Discarded OutFlow Max=0.24 cfs @ 24.22 hrs HW=218.74' (Free Discharge)
└**3=Exfiltration** (Controls 0.24 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=218.00' TW=0.00' (Dynamic Tailwater)
└**2=Culvert** (Passes 0.00 cfs of 1.10 cfs potential flow)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.2 IB:


Hydrograph
Inflow Area=10.100 ac
Peak Elev=218.74'
Storage=4,900 cf
0.83 cfs
0.24 cfs
0.00 cfs
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)

Summary for Pond FS 1:

Inflow Area =	9.900 ac, 28.28% Impervious, Inflow Depth = 5.06" for 100-yr event				
Inflow =	27.90 cfs @	12.52 hrs,	Volume=	4.173 af	
Outflow =	27.90 cfs @	12.52 hrs,	Volume=	4.173 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.57 cfs @	12.52 hrs,	Volume=	0.983 af	
Secondary =	27.33 cfs @	12.52 hrs,	Volume=	3.191 af	

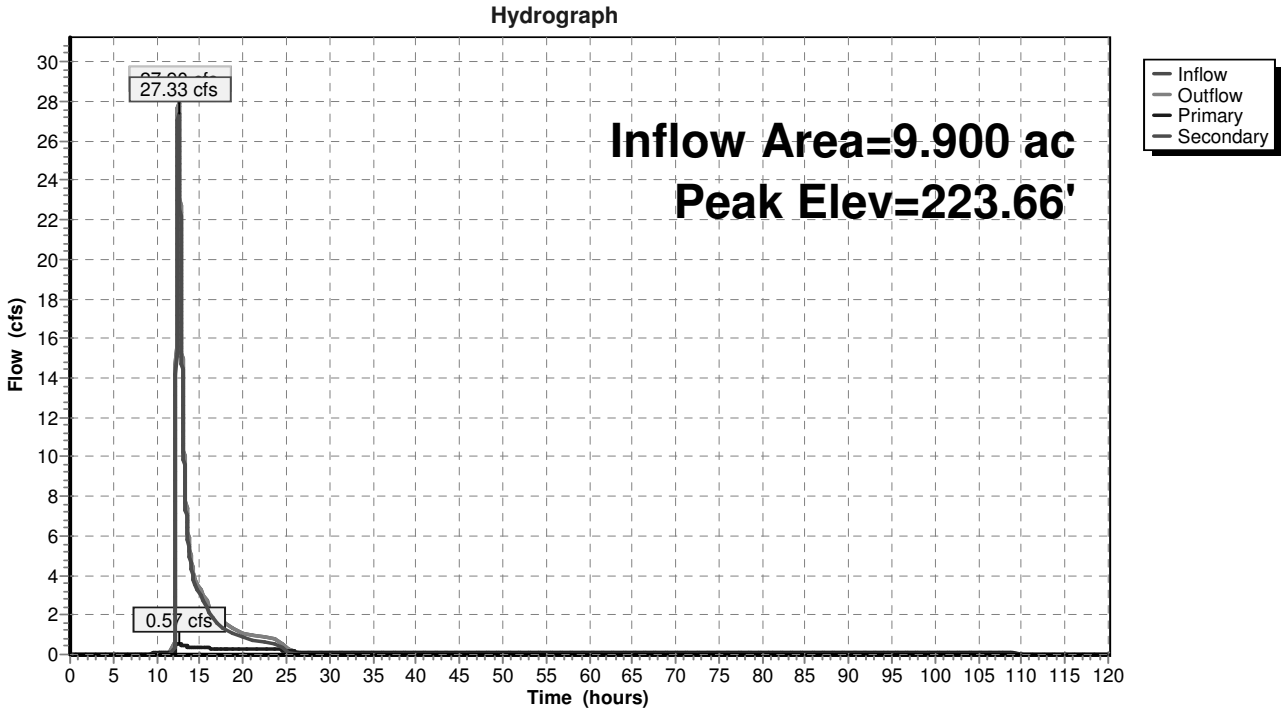
Routing by Dyn-Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
Peak Elev= 223.66' @ 12.52 hrs
Flood Elev= 226.00'

Device	Routing	Invert	Outlet Devices
#1	Secondary	221.50'	**36.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 221.50' / 218.00' S= 0.0583 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Primary	221.20'	**4.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 221.20' / 221.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.57 cfs @ 12.52 hrs HW=223.66' TW=218.16' (Dynamic Tailwater)
└─**2=Culvert** (Barrel Controls 0.57 cfs @ 6.51 fps)

Secondary OutFlow Max=27.33 cfs @ 12.52 hrs HW=223.66' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 27.33 cfs @ 5.01 fps)

Pond FS 1:



APPENDIX D

Project and Owner Information

Site Data:

Wilder Balter Partners Inc.
Town of Lewisboro
Westchester County, New York
Area: 35.4 acres ±

Owner Information:

Property Group Partners, LLC
c/o Jeffrey Sussman, President
609 Fifth Avenue, 6th Floor
New York, NY 10017

Applicant Information:

Wilder Balter Partners, Inc.
570 Taxter Road
Elmsford, NY 10523

Party Responsible for Implementation of the Stormwater Pollution Prevention Plan (Including Maintenance During and After Construction):

Wilder Balter Partners, Inc.
570 Taxter Road
Elmsford, NY 10523

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

Inspector to be determined at time of construction

APPENDIX E

NYSDEC SPDES for Construction Activities Construction Site Log Book

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM
FOR CONSTRUCTION ACTIVITIES

CONSTRUCTION SITE LOG BOOK

Table of Contents

I. Pre-Construction Meeting Documents.

a. Preamble to Site Assessment and Inspections

b. Operator's Certification

c. Qualified Professional's Credentials & Certification

d. Contractors Certification

e. Pre-Construction Site Assessment Checklist

II. Construction Duration Inspections

a. Directions

b. Modification to the SWPPP

Properly completing forms such as those contained in this document meet the inspection requirement of NYSDEC SPDES GP 0-10-001 for Construction Activities, or superceding permit. Completed forms shall be kept on site at all times and made available to authorities upon request.

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 professional[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.

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days (Construction Duration Inspections). 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 professional perform a final site inspection. The qualified professional 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 "Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).

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. Operators Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law. "

Name (please print):_____

Title _____**Date:**_____

Address: _____

Phone: _____ **Email:**_____

Signature:_____

c. Qualified Professional's Credentials & Certification

“ I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the following Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction.”

Name (please print):_____

Title _____**Date:**_____

Address: _____

Phone: _____ **Email:**_____

Signature:_____

d. Contractors Certification Statement

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings."

_____

Signature of Contractor Date

_____

Print Name Title

_____

Signature of Trained Contractor Date

_____

Print Name of Trained Contractor Title

Name of Contracting Firm _____

Street Address _____

City, State, Zip _____

Telephone No. _____

A copy of this statement shall be retained as part of the Stormwater Pollution Prevention Plan (SWPPP) for a period off at least five (5) years after the subject property is stabilized.

e. 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 Entrance

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. Perimeter 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 7-day period;

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 Professional (print name) **Qualified Professional 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?

[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease?

[ ] [ ] [ ] 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 and debris 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.

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.

2. Level 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

Runoff Control Practices (continued)

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

1. Stabilized Construction Entrance

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?

2. Silt Fence

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 (continued)

3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated 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.

Sediment accumulation ___% of design capacity.

4. 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 accumulation is ___% of design capacity.

5. 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 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.
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:

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APPENDIX F

Analysis of Practices Listed on Pages 10-19 and 10-20 of Chapter 10

Goal 1 of *Chapter 10: Enhanced Phosphorus Removal Standards* (Chapter 10) requires an analysis of Better Site Design Techniques or standard infiltration practices to which a percentage of proposed impervious surfaces must be directed. In addition to the Better Site Design Techniques referenced in Section 2.2 of this SWPPP the following analysis of the list obtained from pages 10-19 and 10-20 of Chapter 10 has been provided:

Proposed Practice	Used in SWPPP	Reason / Where Employed
Minimizing Disturbance	Yes	The overall site disturbance has been minimized to eliminate impacts to the buffer areas and areas of steep slopes.
Disconnecting Impervious Areas	No	The onsite collection system in the parking lot and entrance road ultimately discharges to an infiltration basin.
Minimize Grading and Compaction	Yes	The limits of disturbance have been minimized, and as such create minimal grading.
Employing methods to improve soil hydrologic function.	No	No techniques are specifically proposed.
Minimize disturbance and minimize siting of impervious cover on highly infiltrative soils.	Yes	As noted above the limits of disturbance has been minimized to the greatest extent practicable.
Maintain pre-development time of concentration	Yes	The development of this site allows for maintaining the pre-development time of concentration. Extended Detention dry pretreatment basin and infiltration basin will be used to maintain pre-development times of concentrations.
Increase roughness by establishing vegetative of woody surfaces.	Yes	A proposed planting plan is included on the project drawings including the planting of various trees and shrubs.
Using Grass Swales instead of closed channels.	No	Given the adjacent steep slopes and site grading, open channel systems for conveyance is not a practical application.
Using vegetative filter and buffer strips.	Yes	Vegetative filters and buffer strips have been indirectly utilized as disturbance for the project has been minimized, thus allowing large portions of the existing wooded areas to remain. Vegetative filters and buffer strips have not been targeted but promoted through the design
Reducing curb and gutter to direct flow onto vegetate or infiltration areas and reduce pipe discharge.	No	To minimize disturbance of steep slopes and environmentally sensitive areas a collection system is proposed to convey the stormwater runoff from the impervious areas to the extended detention basin and infiltration basin for treatment.
Using alternate materials such as porous pavements and paver system	Yes	The use of porous pavement will not be considered due to steep slopes and shallow depth to rock.
Capturing runoff within the catchment using distributed systems	No	All developed impervious areas shall be directed to an infiltration practice for treatment
Maintaining pre-development runoff volume through on-site stormwater management	No	Minimizing increase in runoff volumes has not been targeted and promoted through the use of an infiltration basin.
Providing retention and on-site reuse of runoff	Yes	Infiltration basin has been provided and will promote infiltration to the greatest extent allowable by the in-situ soils.

APPENDIX G

NYSDEC Infiltration System Calculations

Subcatchment 1.1S/1.2S for Treatment in Infiltration Basin 1.2 IB

- Infiltration sizing to treat the WQv for subcatchment 1.1S to meet the NYSDEC requirements

  Assumed Values:

  Water Quality Volume (WQ_v)

  WQv = 0.402* acre-feet = 17,511 cubic feet

  * As per the requirements of the Enhanced Phosphorus Removal Supplement (Chapter 10) of the NYSSMDM the WQv is the runoff volume produced during the 1-year 24-hour design storm. The above information was taken from Appendix C of this report. Information regarding contributing areas (A) and 1-year 24-hour Design Storm Volumes (WQv) to the infiltration basin is shown in Appendix C.

  Surface Area of Infiltration Trenches:

  $$A_p = \frac{V_w}{D_b}$$

  The following applies for the infiltration system:

  V_w = WQv = 17,511 c.f.

  D_b = 3.0 ft (depth of basin below emergency overflow)

  Therefore,

  $$A_p = \frac{17{,}511 \text{ c.f.}}{(3 \text{ ft})}$$

  A_p = 5,837 square-feet required

The bottom surface area of the infiltration basin as shown on the project plans is 5,900 s.f. > 6,300 s.f. required.

APPENDIX H
NYSDEC Stormwater Design Manual Chapter 5 Analysis

Table Key: ● = Practice Used in Accordance with Chapter 5 Requirements
o = Practice Not Used
- = Practice is Not Applicable

NYSDEC Chapter 5 Requirements	Subcatchments			Remarks
	1.1	1.2	1.3	
Chapter 5, Section 5.1: Preservation if Natural Features and Conservation Design				
Practices				
Preservation of Undisturbed Areas	-	●	●	See Note #2
Preservation of Buffers	●	●	●	See Note #5
Reduction of Clearing & Grading	●	●	●	See Note #6
Locating Development in Less Sensitive Areas	●	●	●	See Note #6
Open Space Design	-	-	-	
Soil Restoration	-	-	-	
Chapter 5, Section 5.2: Reduction of Impervious Cover				
Practices				
Roadway Reduction	-	-	-	
Sidewalk Reduction	●	-	-	See Note #1
Driveway Reduction	●	-	-	See Note #1
Cul-de-sac Reduction	-	-	-	
Building Footprint Reduction	●	-	-	See Note #6
Parking Reduction	●	-	-	See Note #6
Conservation of Natural Areas	●	-	-	See Note #5
Sheetflow to Riparian Buffers or Filter Strips	-	-	-	
Vegetated Swale	-	-	-	
Tree Planting / Tree Pit	●	-	-	See Note #7
Disconnection of Rooftop Runoff	-	-	-	
Stream Daylighting	-	-	-	
Rain Gardens	-	-	-	
Green Roofs	-	-	-	
Stormwater Planters	-	-	-	
Rain Barrels / Cisterns	-	-	-	See Note #3
Porous Pavement	-	-	-	See Note #4

Notes:

1. The proposed driveway entrance and onsite sidewalk areas have been designed to provide a minimum width for safe ingress and egress for the residential development.
2. Although no formal calculations have been provided, the subject project has provided conservation of natural areas to the maximum extent practical.
3. Roof runoff and stormwater runoff from the impervious areas surrounding the buildings will either be infiltrated within the infiltration basin, rather than using rain barrels / cisterns.
4. Due to driveway slopes and the shallow depth to rock, porous pavement was not utilized.
5. Town of Lewisboro Wetland Buffers have been maintained to the maximum extent practical as shown on the project plans. Any buffer disturbance in the future would need to meet the Town requirements.
6. The reduction in clearing and grading, as well as the driveway and building foot print reduction will be enforced with the approval of the project SWPPP. Notes on the project plans, establish that any changes in the project plans would require an amended approval from the necessary regulatory agencies.
7. Although tree planting is proposed it should also be noted that most of the subject project is located in mature forested areas. The limits of disturbance have been restricted as much as possible to save and maintain the existing forested areas as much as possible.

APPENDIX I
Temporary Sediment Trap Sizing

Temporary Sediment Trap Sizing Calculations:

Extended Detention Dry Pond 1.1P is proposed to be utilized as a Temporary Sediment Trap with Optional Dewatering Device During Construction.

Total Disturbed Tributary Area to 1.1P = 6.2 acres

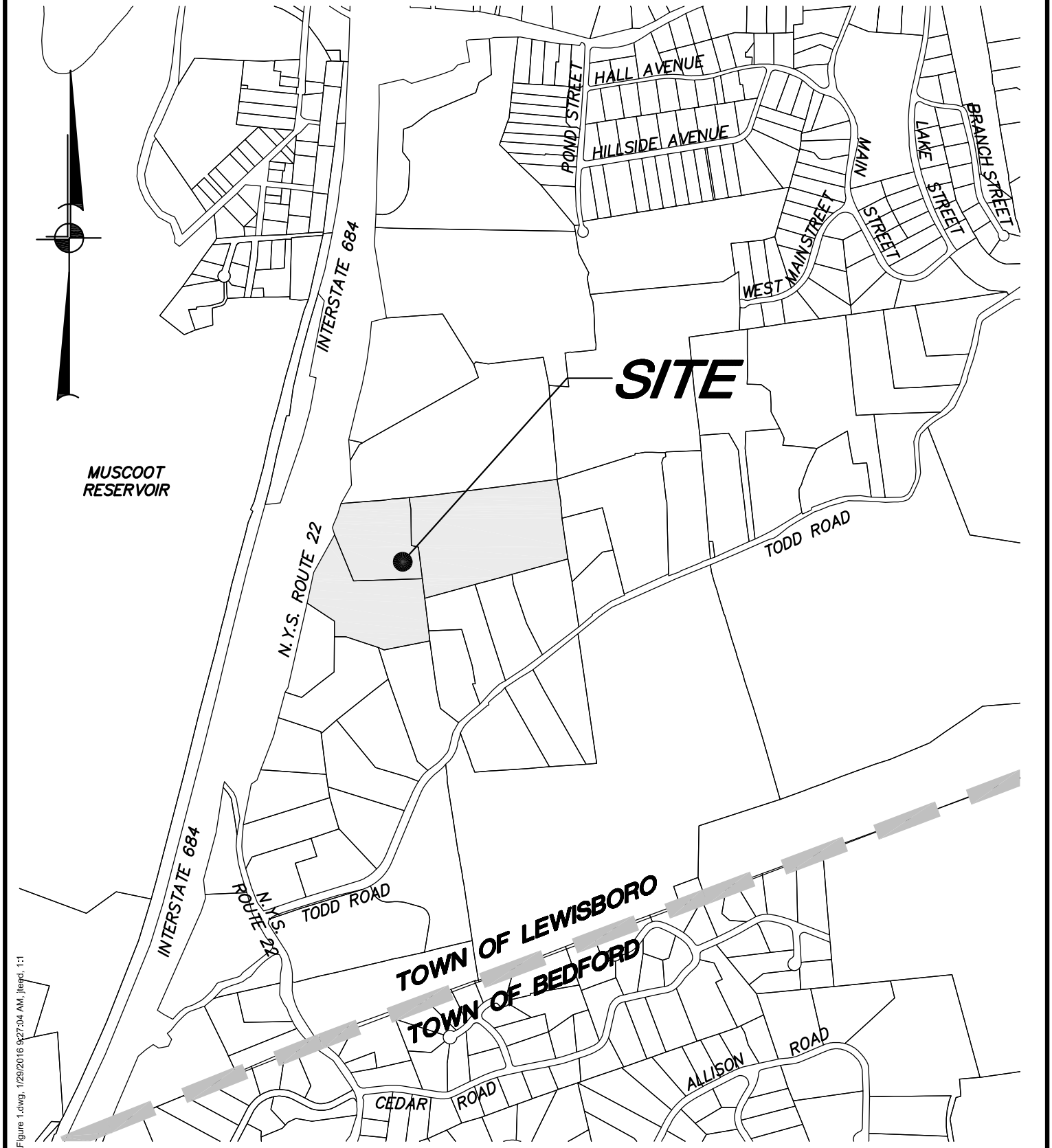
Volume required in Temporary Sediment Trap = 3,600 c.f. / acre

Total Required Volume in 1.1P = 5.9 acres (3,600 c.f. / acre) = 21,092 c.f.

The temporary sediment trap outlet structure for 1.1P proposes a weir at elevation 227.0.

The Extended Detention Dry Pond will be excavated to the proposed bottom elevation for use as a sediment trap (elevation 222.0). With a sediment trap bottom elevation of 222.0, the provided volume between elevation 222.0 and 227.0 is 27,250 c.f. and was determined from the Stage-Area-Storage Table in the HydroCAD output. The volume between elevation 222.0 and 227.0 was determined by calculating the difference between the cumulative storage volume of the 222.0 and 227.0 contours (27,250 c.f. minus 0 c.f.). As can be seen sufficient storage is available to meet the required temporary sediment trap volume.

FIGURES



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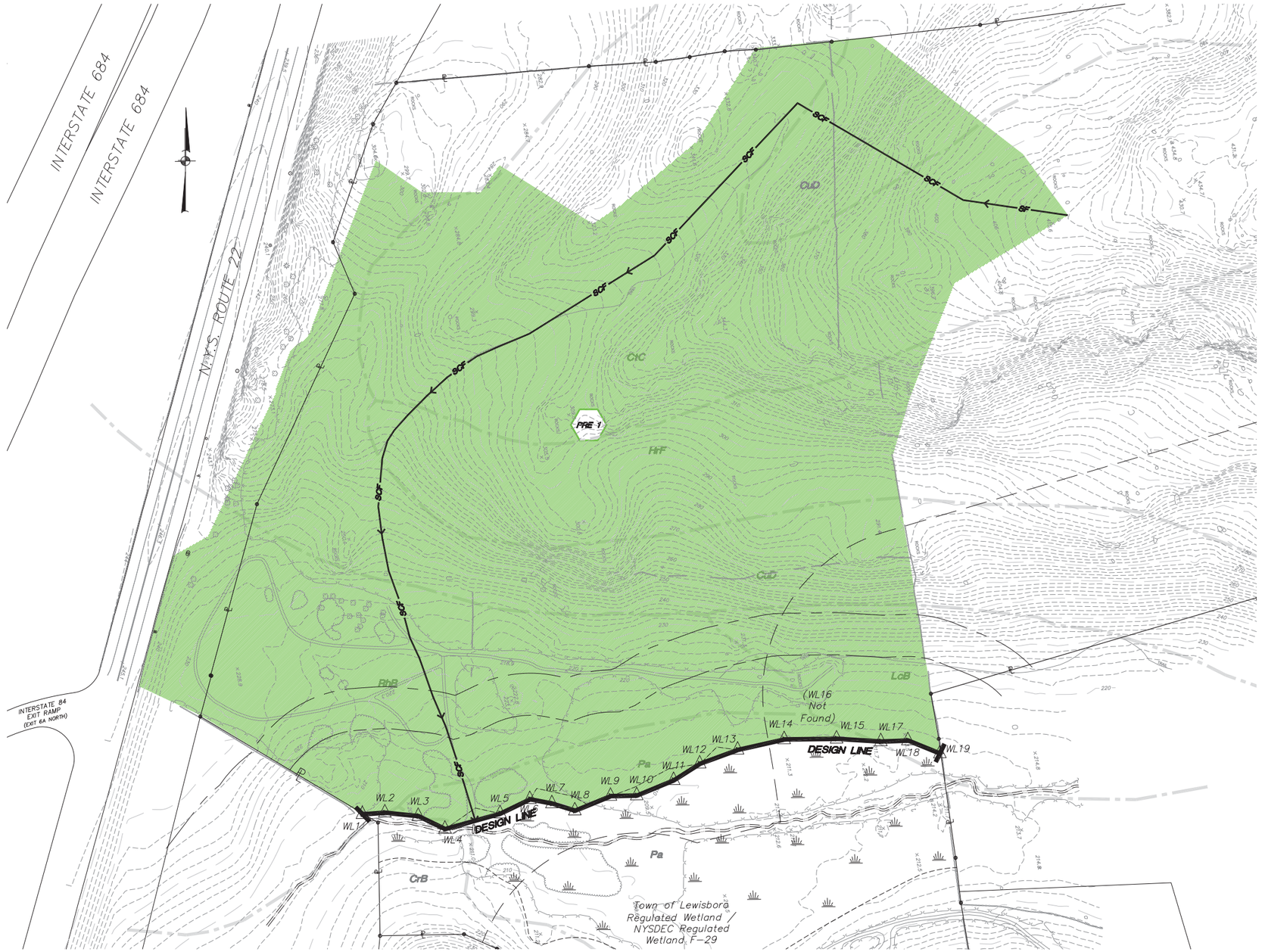
PROJECT: WILDER BALTER PARTNERS, INC. ROUTE 22, TOWN OF LEWISBORO, WESTCHESTER COUNTY, NEW YORK	PREPARED BY: INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C. 3 Garrett Place • Carmel, New York 10512 Phone (845) 225-9690 • Fax (845) 225-9717 www.insite-eng.com	DATE: 01-29-16
DRAWING: LOCATION MAP		SCALE: 1" = 1,000'
		PROJECT NO.: 15246.100
		FIGURE: 1



OVERALL PLAN
SCALE: 1" = 50'

GENERAL NOTES:

1. Property lines as shown hereon are based on a Survey of Property prepared by Bunney Associates Land Surveyors, last revised October 31, 1984.
2. Topography as shown hereon is based on aerial photography dated April 2008, as prepared by Geomaps International. Contour Interval is 2'.
3. The wetland flagging as shown hereon was delineated by Steve Marino on November 16, 2015 and survey located by Insite Engineering, Surveying & Landscape Architecture PC, completed November 25, 2015.

LEGEND

PRE 1	SUBCATCHMENT
SF	TIME OF CONCENTRATION SHEET FLOW
SCF	TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW

SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
ChB	Charlton loam, 2% to 8% slopes	B
CrC	Charlton-Chatfield Complex, rolling, very rocky	B
CtC	Chatfield-Hollis-Rock Outcrop Complex, rolling	B
CuD	Chatfield-Hollis-Rock Outcrop Complex, hilly	B
HrF	Hollis-Rock Outcrop Complex, very steep	D
LcB	Leicester loam, 3% to 8% slopes, stony	A/D
Pa	Palms Muck	A/D
RhB	Riverhead Loam, 3% to 8% slopes	A
	NRCS Soil Boundary Line	

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

NO.	DATE	REVISION	BY

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
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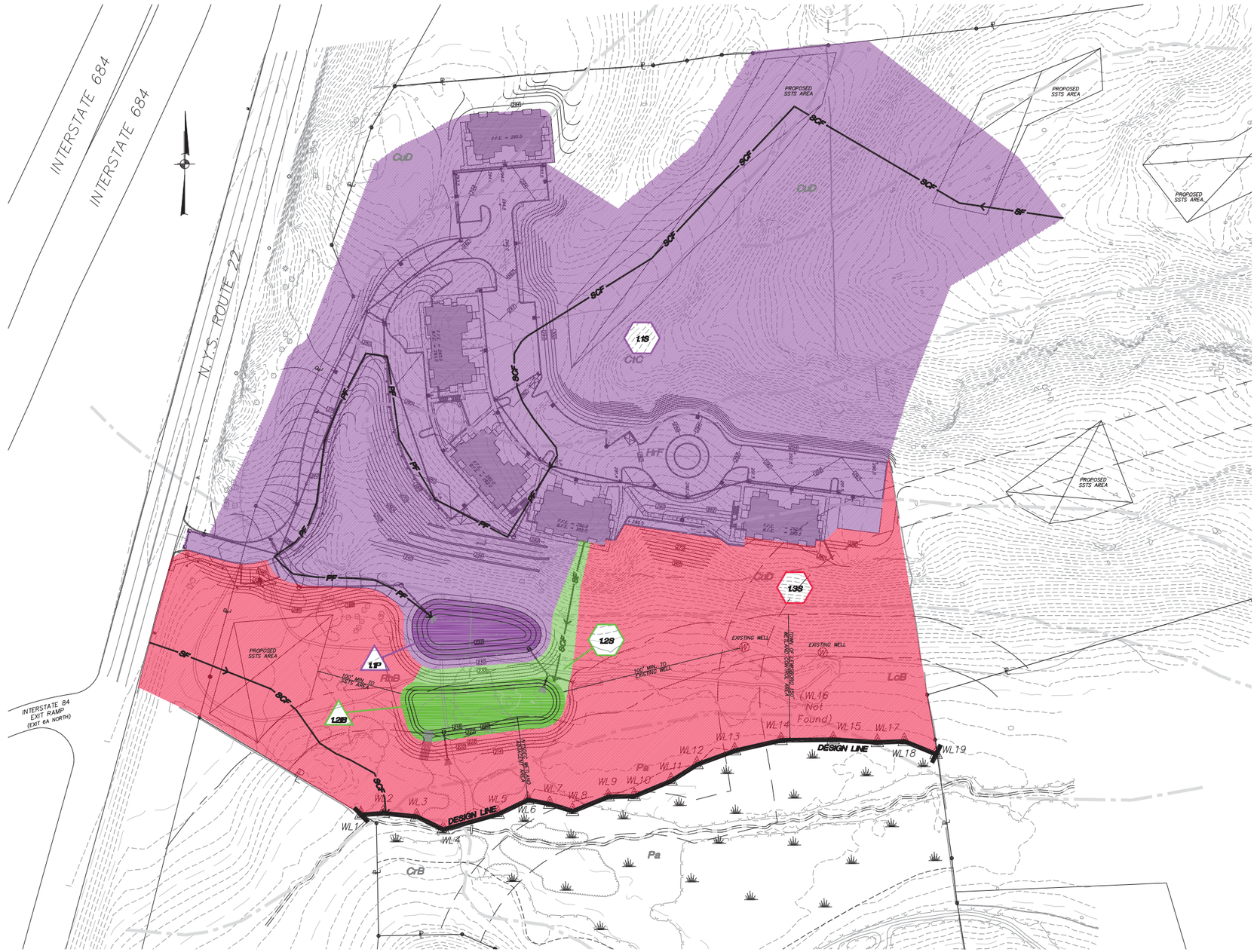
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
WILDER BALTER PARTNERS, INC.
ROUTE 22, TOWN OF LEWISBORO, WESTCHESTER COUNTY, NEW YORK

DRAWING:
PRE-DEVELOPMENT DRAINAGE

PROJECT NUMBER	15246.100	PROJECT MANAGER	J.J.C.	FIGURE NO.	SHEET
DATE	1-29-16	DRAWN BY	J.W.T.	2	2 / 3
SCALE	1" = 50'	CHECKED BY	Z.M.P.		

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.



OVERALL PLAN
SCALE: 1" = 50'

GENERAL NOTES:

1. Property lines as shown hereon are based on a Survey of Property prepared by Bunney Associates Land Surveyors, last revised October 31, 1984.
2. Topography as shown hereon is based on aerial photography dated April 2008, as prepared by Geomaps International. Contour Interval is 2'.
3. The wetland flagging as shown hereon was delineated by Steve Marino on November 16, 2015 and survey located by Insite Engineering, Surveying & Landscape Architecture PC, completed November 25, 2015.

LEGEND

1.1S	SUBCATCHMENT
1.1P	STORMWATER MANAGEMENT PRACTICE
PF	TIME OF CONCENTRATION PIPE FLOW
SF	TIME OF CONCENTRATION SHEET FLOW
SCF	TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW

SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
ChB	Charlton loam, 2% to 8% slopes	B
CrC	Charlton–Chatfield Complex, rolling, very rocky	B
CtC	Chatfield–Hollis–Rock Outcrop Complex, rolling	B
CuD	Chatfield–Hollis–Rock Outcrop Complex, hilly	B
HrF	Hollis–Rock Outcrop Complex, very steep	D
LcB	Leicester loam, 3% to 8% slopes, stony	A/D
Pa	Palms Muck	A/D
RhB	Riverhead Loam, 3% to 8% slopes	A
	NRCS Soil Boundary Line	

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

NO.	DATE	REVISION	BY

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3 Garrett Place
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(845) 225–9717 fax
www.insite-eng.com

PROJECT:
WILDER BALTER PARTNERS, INC.
ROUTE 22, TOWN OF LEWISBORO, WESTCHESTER COUNTY, NEW YORK

DRAWING:
POST–DEVELOPMENT DRAINAGE

PROJECT NUMBER	15246.100	PROJECT MANAGER	J.J.C.	FIGURE NO.	SHEET
DATE	1–29–16	DRAWN BY	J.W.T.	3	3 / 3
SCALE	1" = 50'	CHECKED BY	Z.M.P.		

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.

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

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January 29, 2016

VIA UPS & E-Mail

Mr. John Bainlardi
Wilder Balter Partners, Inc.
570 Taxter Road, Suite 673
Elmsford, NY 10523

Re: WBP AFFH Multi-Family Development
NYS Route 22
Town of Lewisboro, Westchester County, NY
MC Project No. 15002398A

Dear Mr. Bainlardi:

As requested, we have completed our evaluation of traffic conditions associated with the WBP AFFH Multi-Family Development, which is proposed to consist of 46 dwelling units. The site is located in the Hamlet of Goldens Bridge, Town of Lewisboro, New York (See Figure No. 1) on a parcel of land located on the east side of NYS Route 22 immediately north of the I-684 northbound off ramp (Exit 6A). While the development is expected to be completed within the next several years, a Design Year of 2020 has been used in the evaluation herein to reflect future traffic conditions.

A. DESCRIPTION OF EXISTING ROADWAY NETWORK

Regional access to the site is provided via Interstate Route 684 and locally via NYS Route 22. The following is a brief description of these roadways serving the site:

1. Interstate Route 684

Interstate Route 684 is a six lane, divided, limited access highway which originates in the Town of Harrison at an interchange connection with Interstate 287 and the Hutchinson River Parkway. The roadway traverses in a northerly direction through Westchester County passing the site and continuing north into Putnam County where it intersects with Interstate 84. There is a northbound exit ramp from I-684 which connects with NYS Route 22 (Exit 6A) and is located immediately south of the site. In addition, there is a southbound entrance ramp to I-684 from NYS Route 138 approximately ¼ mile northwest of the site.

2. NYS Route 22

   NYS Route 22 is a major north/south roadway which traverses throughout Westchester County and extends north into Putnam County. Route 22 generally consists of one lane in each direction and has a signalized intersection connection with Route 35 approximately 2 miles south of the site and a stop sign controlled "T" intersection with I-684 Exit 6A in the vicinity of the site. The roadway in the vicinity of the site consists of one lane in each direction with paved shoulders. The posted speed limit is 45 mph immediately north of the site frontage. It should be noted that sections of Route 22 both to the north and south of the site also have some speed reductions to 40 mph due to horizontal and vertical road alignment controls.

B. 2015 EXISTING TRAFFIC VOLUMES (Figures No. 2 and 3)

Available data regarding existing traffic volumes and any planned improvements in the area were collected from the NYS Department of Transportation and the Town of Lewisboro. In addition to the above information, representatives of Maser Consulting, P.A. conducted field surveys during December 2015. During these surveys information was collected regarding traffic control, roadway geometrics and traffic flow characteristics.

In order to establish the existing traffic volumes on the area roadways, manual turning movement traffic counts were conducted at the intersection of NYS Route 22 and the I-684 (Exit 6A) northbound off ramp. The traffic volumes were counted during the weekday AM and PM Peak periods on December 2nd and 3rd of 2015. Based upon a review of the traffic counts taken and the traffic generating characteristics of the proposed site, the following peak hours were identified as being critical:

Peak AM Highway Hour	7:45 to 8:45 AM
Peak PM Highway Hour	5:00 to 6:00 PM

The counts taken were compared with traffic volume information obtained from the NYS Department of Transportation and with other counts collected in 2014 for the Goldens Bridge Shopping Centre located north of the site. The resulting volumes for the existing Peak Hour Traffic Volumes for the AM and PM Peak Hours are shown on Figures No. 2 and 3 in Appendix "A" of this report.

Based upon a review of the Existing Traffic Volumes, and the anticipated impact of the site traffic on the adjoining roadway network, it was determined that the following locations would require detailed analysis:

1. NYS Route 22 and Proposed Site Access Driveway
2. NYS Route 22 and I-684 Northbound Off Ramp (Exit 6A)

C. 2020 NO-BUILD TRAFFIC VOLUMES (Figures No. 4 through 9)

The 2015 Existing Traffic Volumes were projected to the 2020 Design Year using a background growth factor of 0.5% per year which was developed as a result of a review of historical traffic volume data or a total increase of 2.5%. The projected traffic volumes for the AM and PM Highway Hour and are shown on Figures No. 4 and 5. Other Development volumes for the Goldens Bridge Village Centre expansion development for the AM and PM Highway Hour were also accounted for separately and are shown on Figures No. 6 and 7. The 2020 No-Build Traffic Volumes are a total of the projected volumes and other development traffic volumes. The resulting 2020 No-Build Traffic Volumes for the Peak AM Highway Hour and Peak PM Highway Hour are shown on Figures No. 8 and 9, respectively, which are located in Appendix "A" of this report.

D. SITE GENERATED VOLUMES (Table No. 1)

The Site Generated Traffic Volumes for the proposed site were developed from data published by the Institute of Transportation Engineers (ITE) as contained in the report entitled "Trip Generation", 9th Edition, 2012. The Hourly Trip Generation Rates utilized and the anticipated amount of the new traffic that will be added to the adjoining roadway network as a result of the proposed development are summarized in Table No. 1 in Appendix "B" of this study.

E. ARRIVAL/DEPARTURE DISTRIBUTION (Figures No. 10 and 11)

The Arrival/Departure distribution pattern to assign the site generated traffic to the roadway system was developed based upon the existing traffic volume distributions observed on NYS Route 22 and supplemented with data on the population centers in the area. The anticipated Arrival/Departure distributions of the site generated traffic for the development are shown on Figures No. 10 and 11.

F. 2020 BUILD TRAFFIC VOLUMES (Figures No. 12 through 15)

The Site Generated Traffic Volumes were assigned to the roadway network via the Arrival/Departure Distribution and are shown on Figures No. 12 and 13.

These site generated traffic volumes were added to the 2020 No-Build Traffic Volumes to obtain the 2020 Build Traffic Volumes. These volumes are shown on Figures No. 14 and 15 for the AM and PM Peak Hours, respectively. These figures are contained in Appendix "A".

G. DESCRIPTION OF ANALYSIS PROCEDURES

It was necessary to perform capacity analyses to determine existing and future traffic operating conditions at the study area intersections. The following is a brief description of the analysis methods utilized in this report:

- Signalized Intersection Capacity Analysis

  The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the *2010 Highway Capacity Manual*, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service "A" represents the best condition and a Level of Service "F" represents the worst condition. A Level of Service "C" is generally used as a design standard while a Level of Service "D" is acceptable during peak periods. A Level of Service "E" represents an operation near capacity. In order to identify an intersection's Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

- Unsignalized Intersection Capacity Analysis

  The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the *2010 Highway Capacity Manual*. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix "C" of this report.

H. RESULTS OF ANALYSIS (Table No. 2)

Using the above procedures together with the SYNCHRO Analysis Software, a capacity analysis was performed using the 2015 Existing, 2020 No-Build and 2020 Build Traffic Volumes for each of the intersections. Table No. 2 summarizes the results of the analyses, which are described below:

1. NYS Route 22 and I-684 NB Off Ramp (Exit 6A)

   This intersection is controlled by a "Stop" sign located on the Northbound Off Ramp at its approach to NYS Route 22. The analysis conducted using the 2015 Existing Traffic Volumes indicates that the left turn movement from the Northbound Off Ramp experiences Levels of Service "F" during the AM and PM Peak Hours.

   The installation of a traffic signal at this location would be needed to significantly improve level of service (see Level of Service Summary Table No. 2 in Appendix "B"). With the installation of a traffic signal, the 2020 Build Traffic Volumes indicates an overall Level of Service "B" or better during the AM and PM Peak Hours. However, a review of the traffic volumes indicates the intersection does not satisfy traffic signal warrants as specified by the NYSDOT Manual of Uniform Traffic Control Devices. It is recommended that traffic volumes at this intersection continue to be monitored in the future for possible signalization.

2. NYS Route 22 and Site Access Driveway

   As indicated above, access to the site is proposed via a single driveway connection to NYS Route 22 north of the I-684 (Exit 6A) northbound off ramp. The driveway should be located approximately 180 feet north of the ramp.

   During the time of the field survey, sight distance measurements were observed and are summarized in Table No. 3. Some vegetation along the east side of NYS Route 22 south and north of the driveway intersection should be pruned to ensure adequate sight distances. The analysis indicates that Levels of Service "C" or better will be provided under future conditions for traffic entering and exiting the site. Also, a W2-2 "Intersection Ahead" advance warning sign should be installed on NYS Route 22 north and south of the site access. A final determination on this will be made by NYSDOT as post of the Highway Work Permit Process.

I. SUMMARY AND CONCLUSIONS

The results of the capacity analysis indicated the proposed residential development will not significantly change the overall Levels of Service at each of the key locations. The intersection of I-684 and Route 22 will continue to experience operating problems during peak periods and should continue to be monitored in the future for a possible traffic signal.

Very truly yours,
MASER CONSULTING P.A.

Philip J. Grealy, Ph.D., P.E.
Principal/Department Manager

PJG/jr
Enclosures

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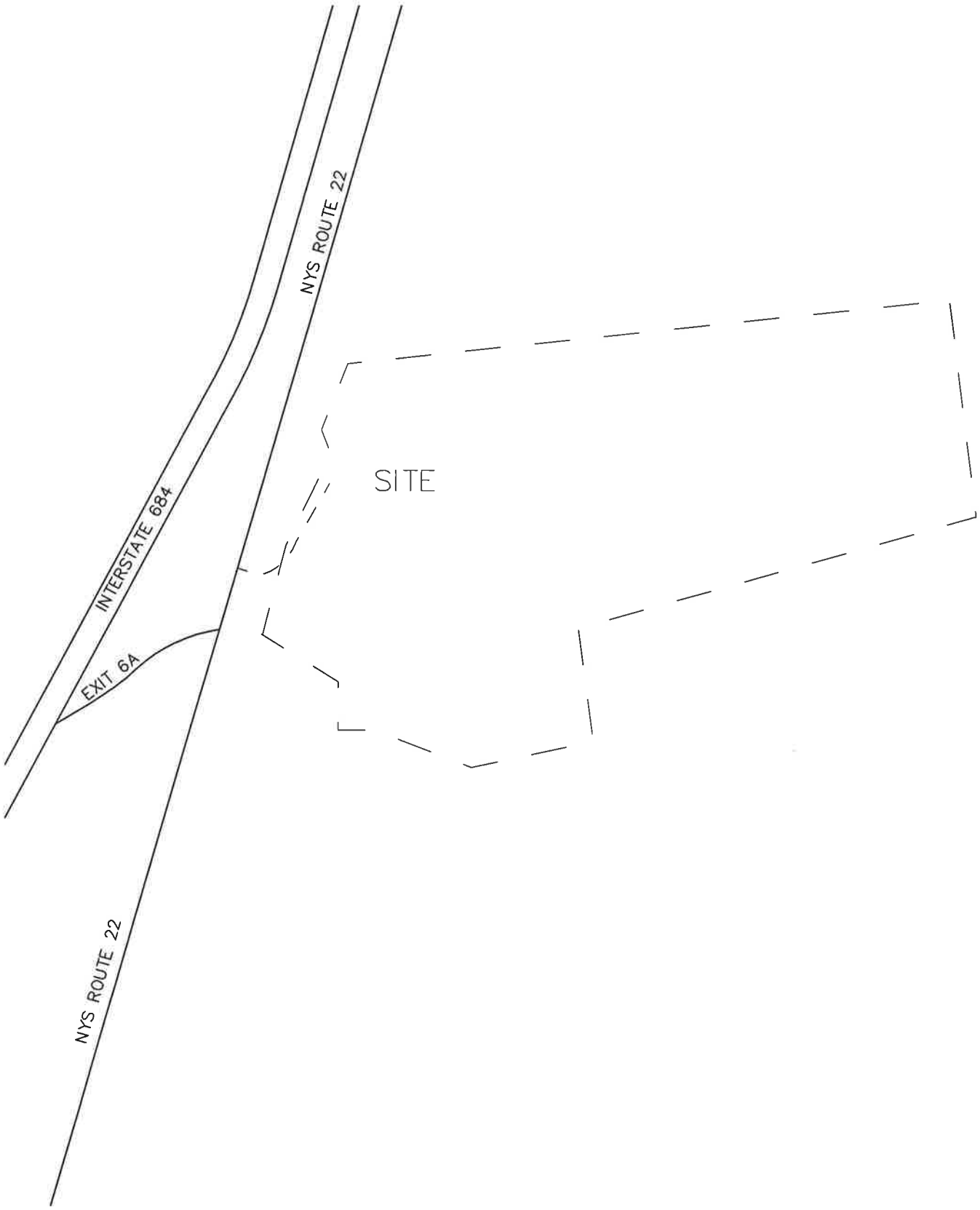
WBP AFFH MULTI-FAMILY DEVELOPMENT

APPENDIX A

FIGURES



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WBP AFFH MULTI-FAMILY DEVELOPMENT
TOWN OF LEWISBORO, NY

SITE LOCATION MAP

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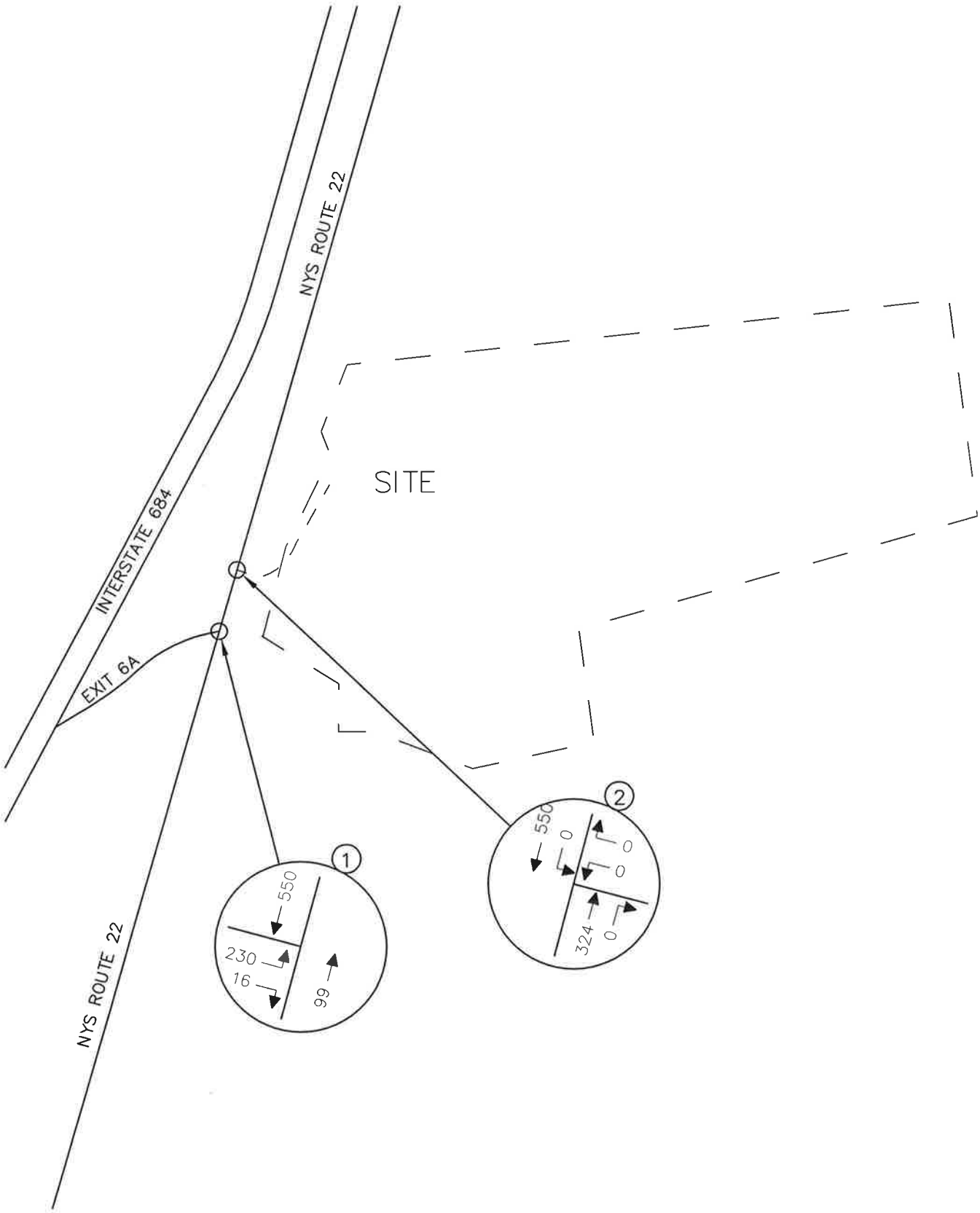
FIGURE NUMBER:	
1	



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WBP AFFH MULTI-FAMILY DEVELOPMENT
TOWN OF LEWISBORO, NY

2015 EXISTING TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
15002398A	JAN. 2016
FIGURE NUMBER:	
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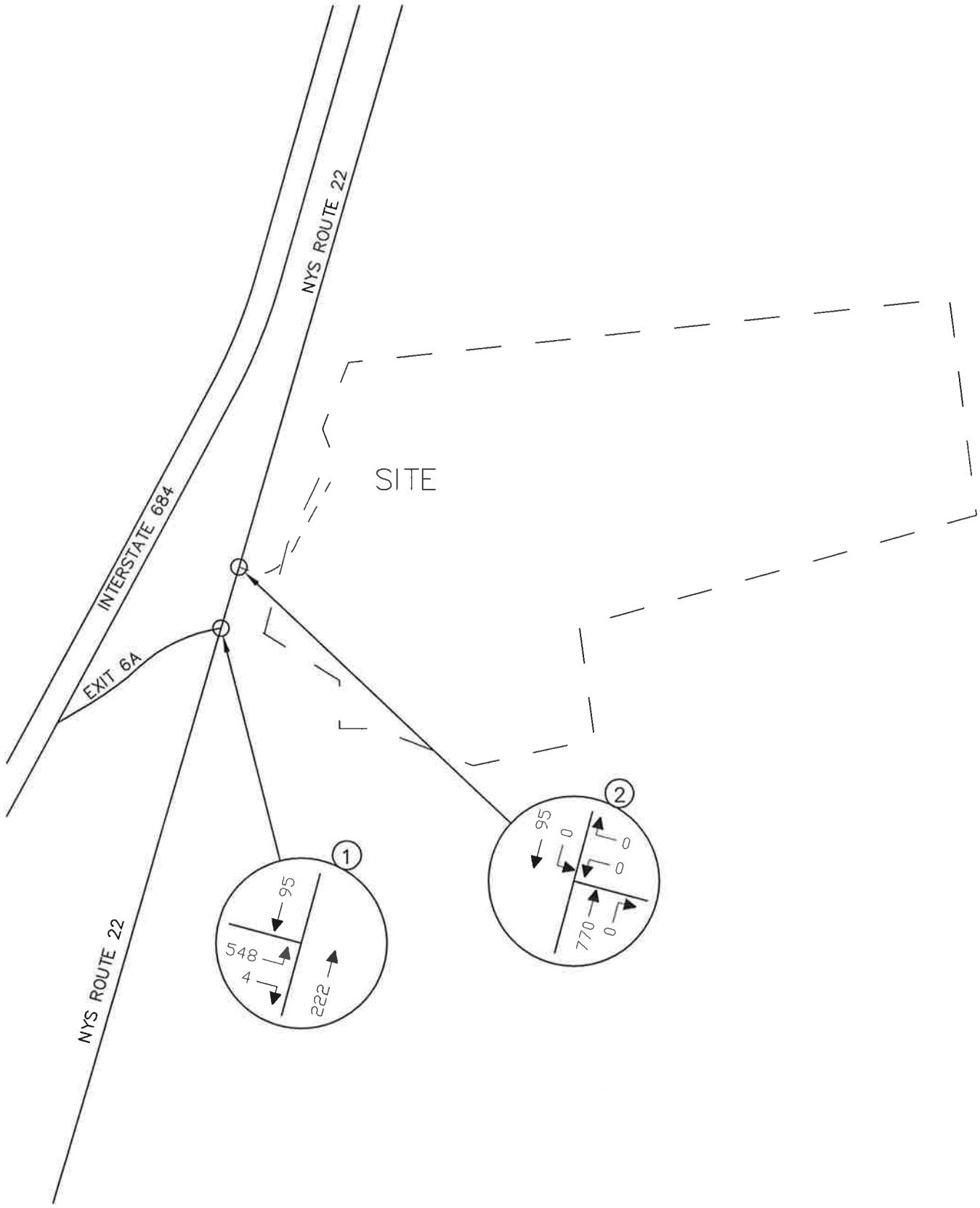

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WBP AFFH MULTI-FAMILY DEVELOPMENT
TOWN OF LEWISBORO, NY

2015 EXISTING TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

JOB NUMBER:	DATE:
15002398A	JAN. 2016
FIGURE NUMBER:	
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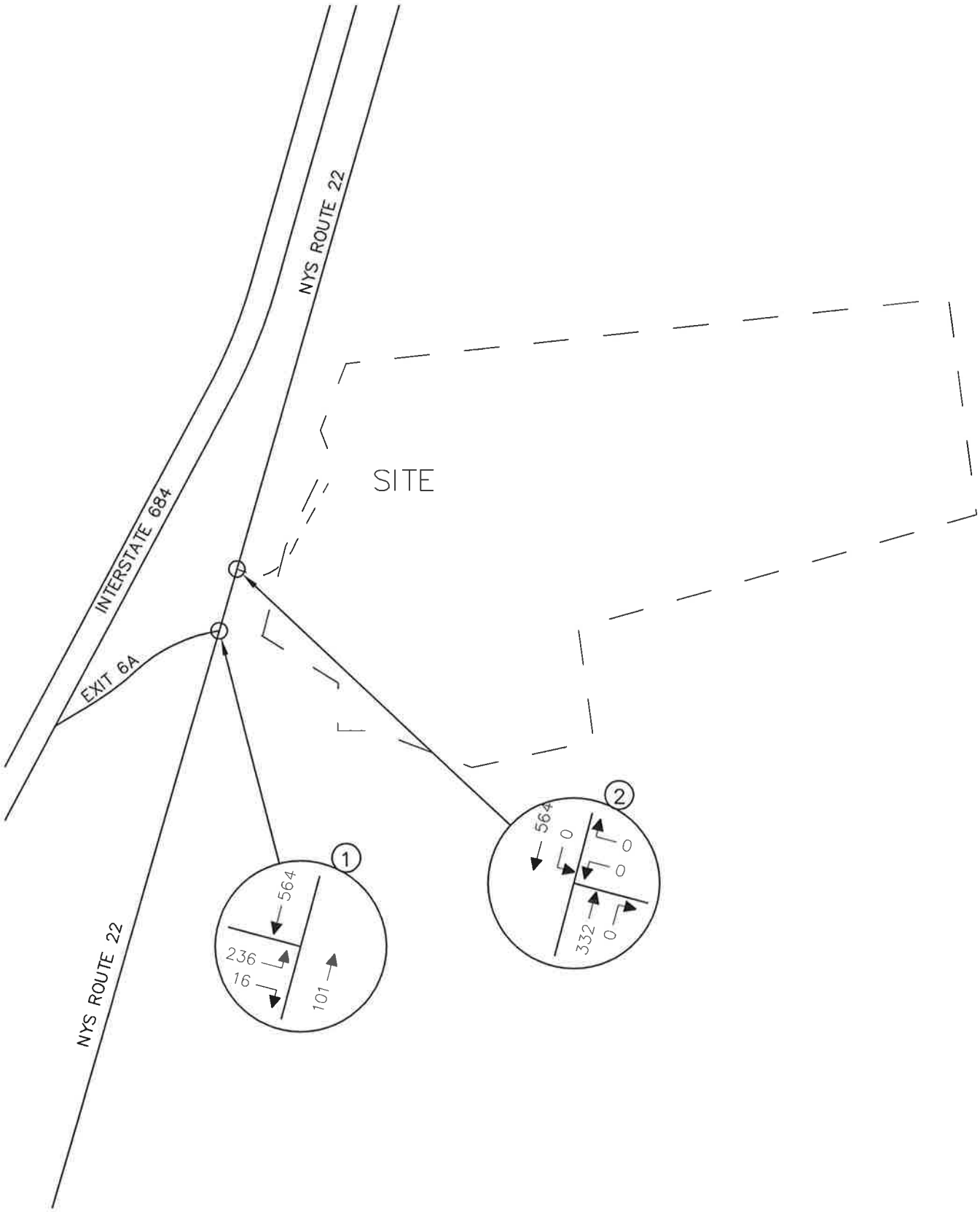

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WBP AFFH MULTI-FAMILY DEVELOPMENT
TOWN OF LEWISBORO, NY

2020 PROJECTED TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
15002398A	JAN. 2016
FIGURE NUMBER:	
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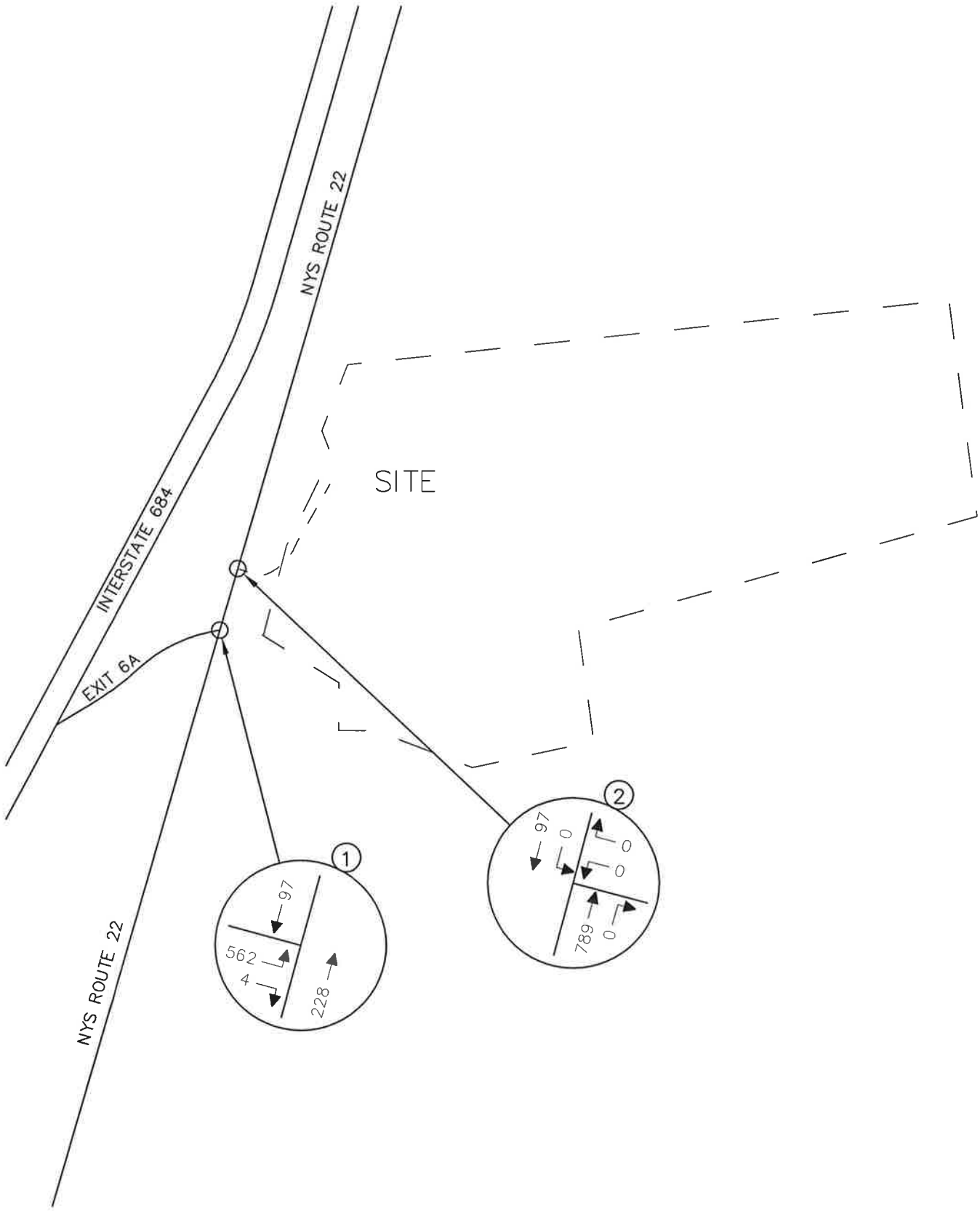

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2020 PROJECTED TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

JOB NUMBER:	DATE:
15002398A	JAN. 2016
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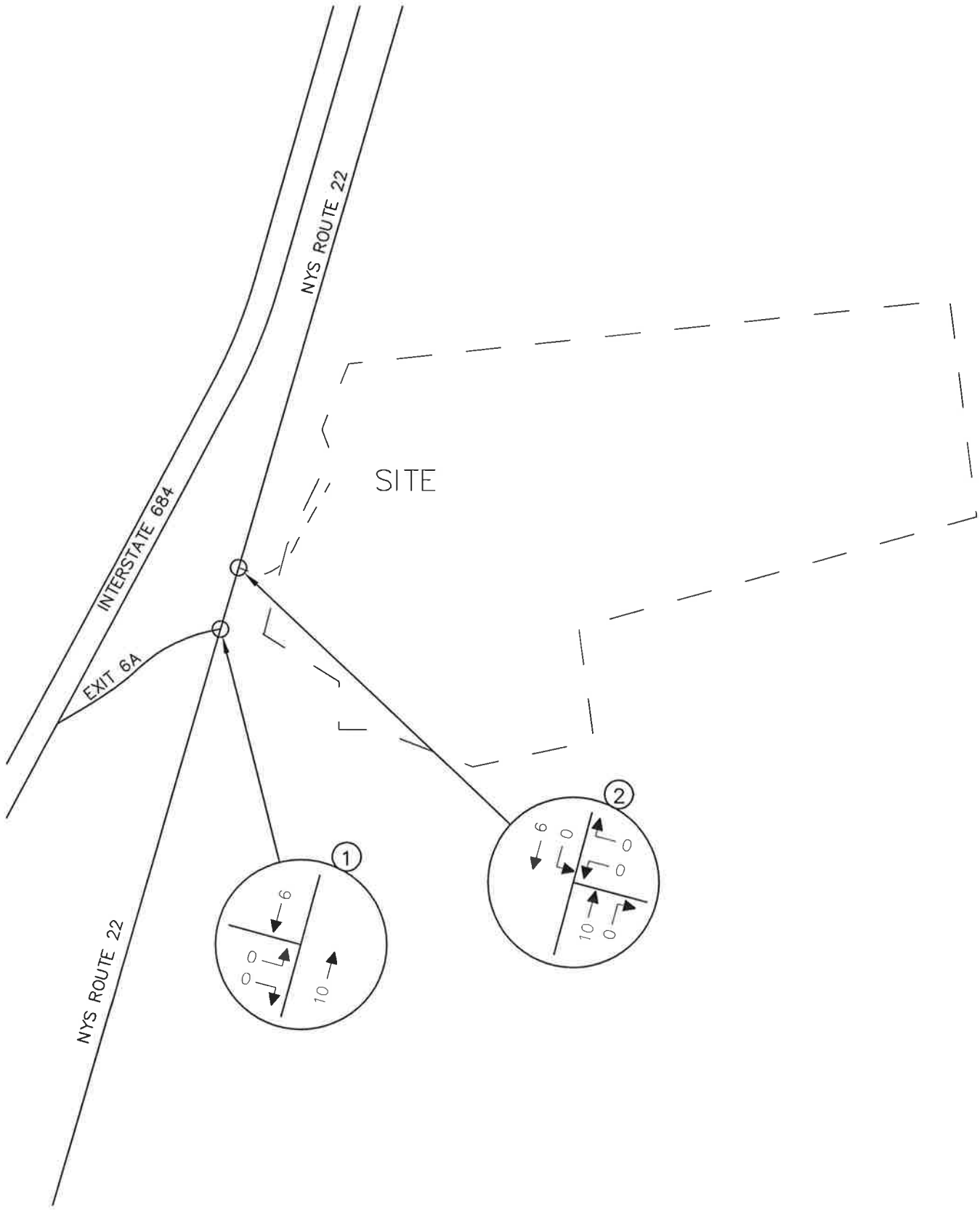

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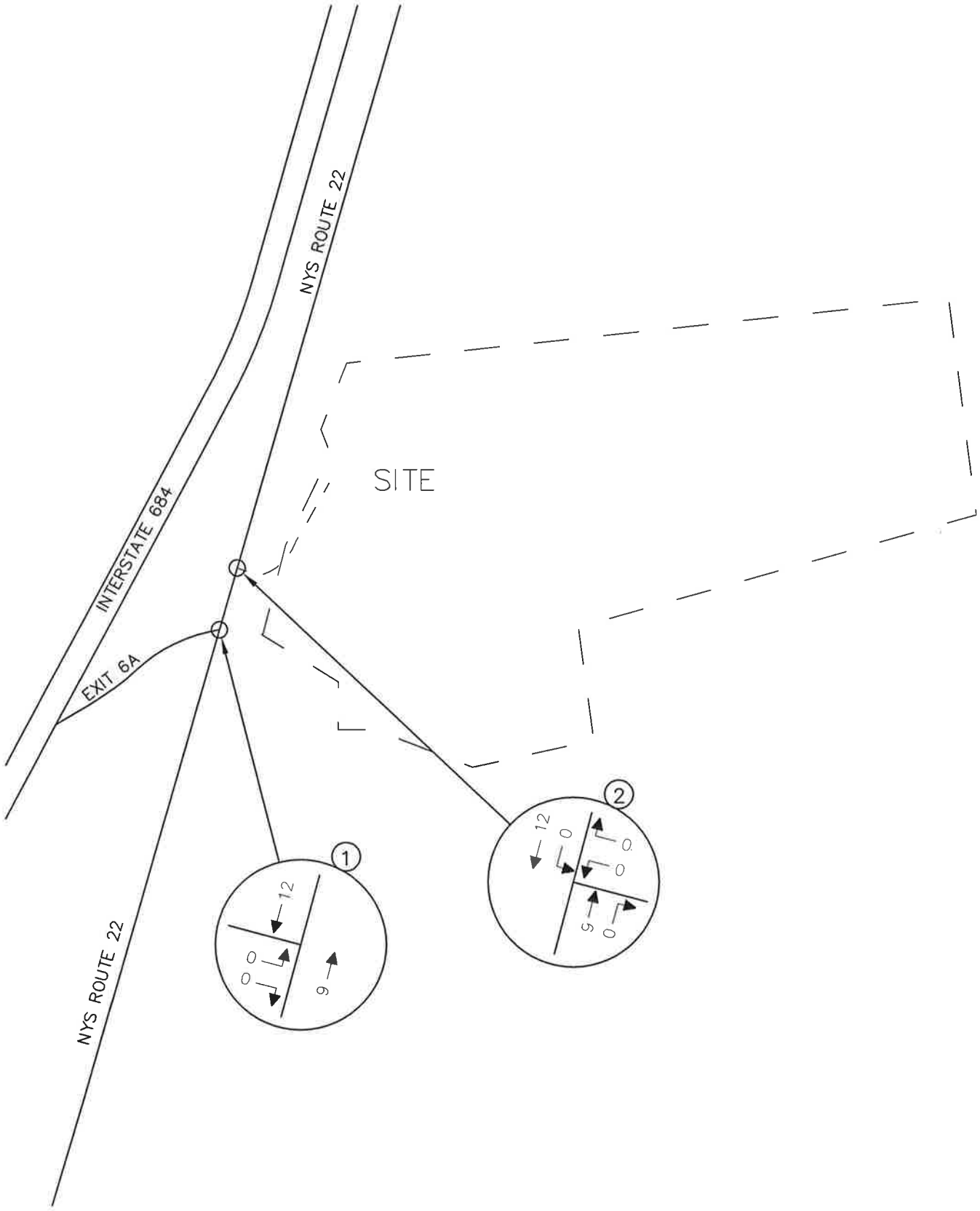
TOWN OF LEWISBORO, NY

OTHER DEVELOPMENT TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
15002398A	JAN. 2016
FIGURE NUMBER:	
6	



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OTHER DEVELOPMENT TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

JOB NUMBER:	DATE:
15002398A	JAN. 2016
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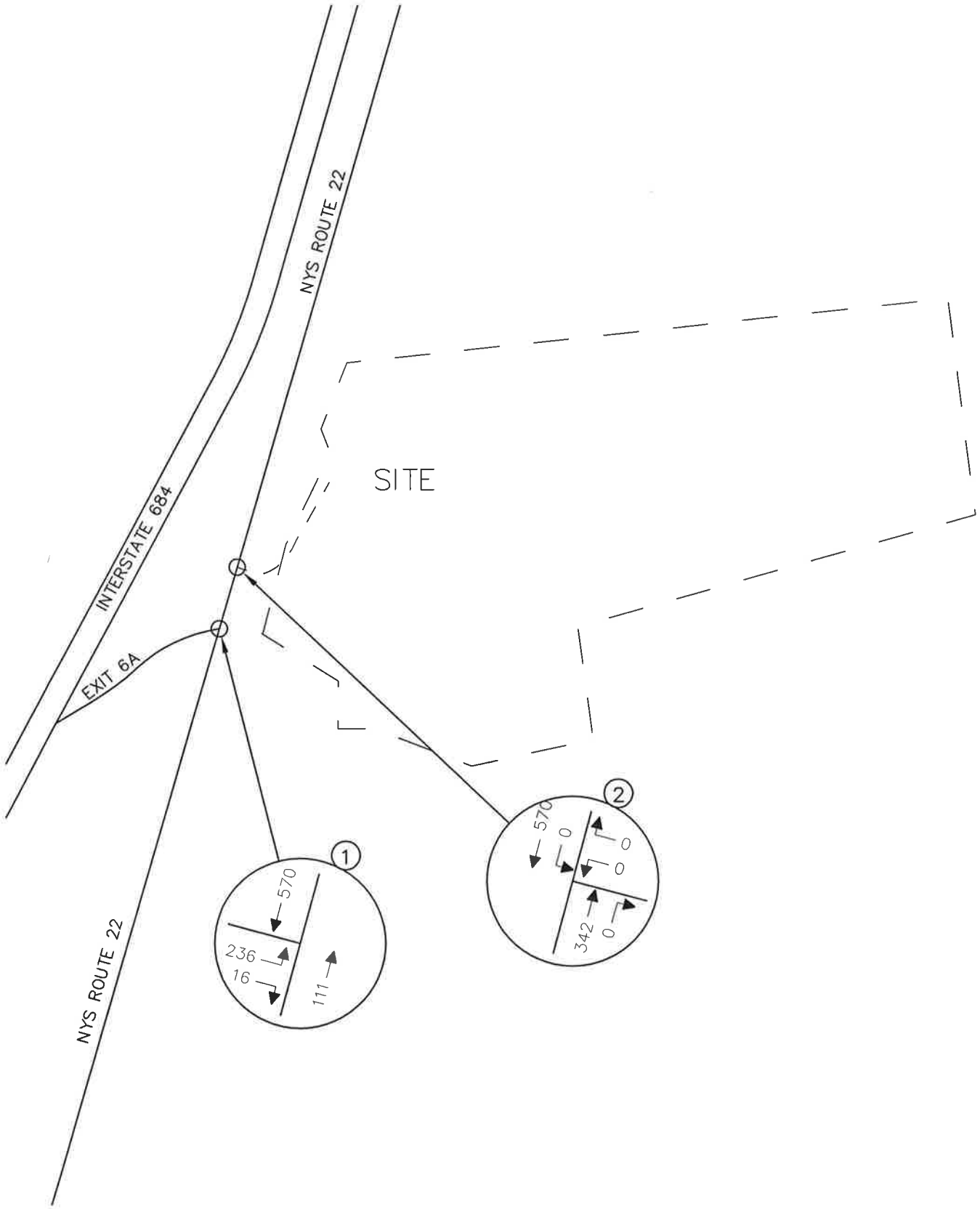

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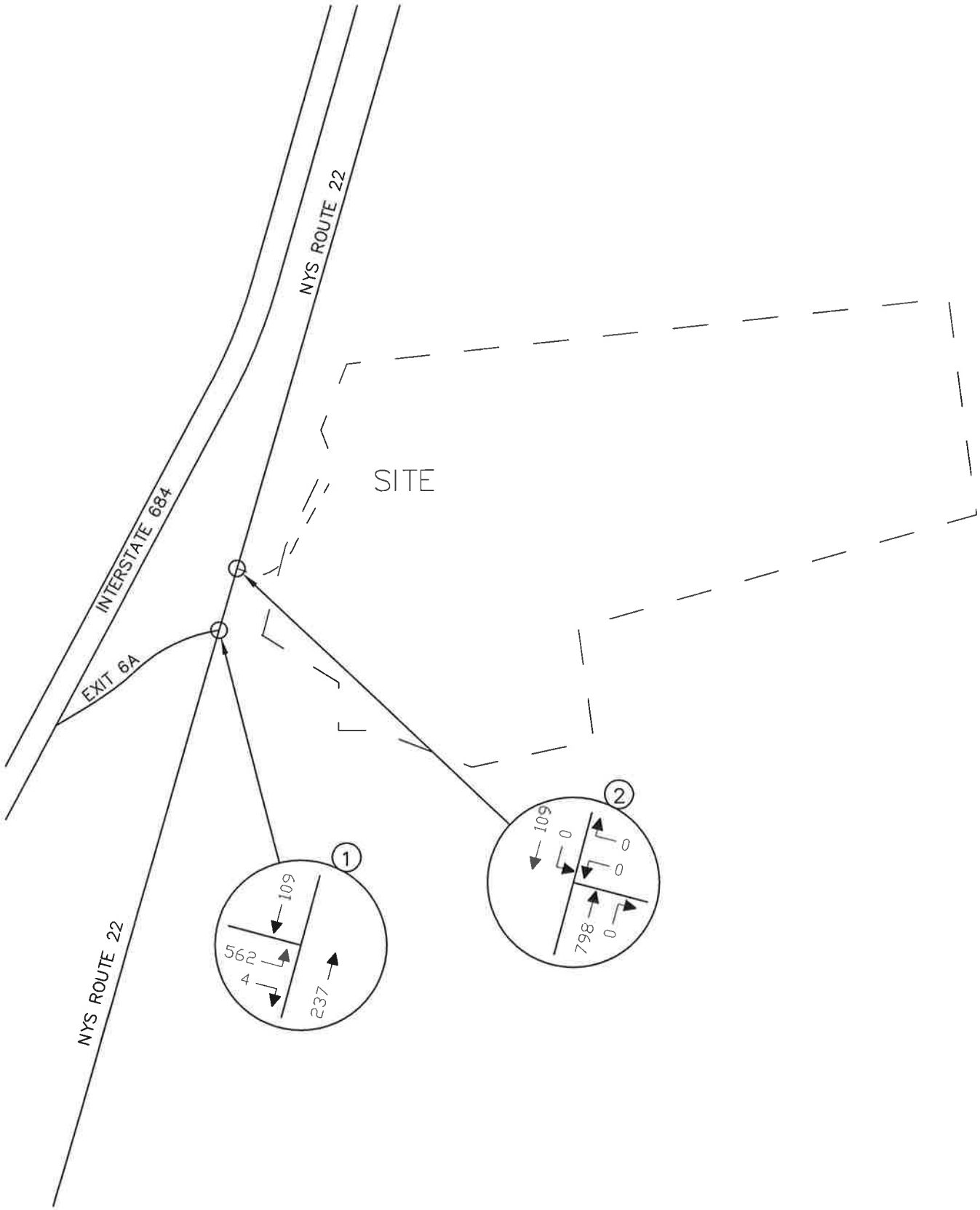
WBP AFFH MULTI-FAMILY DEVELOPMENT
TOWN OF LEWISBORO, NY

2020 NO-BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
15002398A	JAN. 2016
FIGURE NUMBER:	
8	



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TOWN OF LEWISBORO, NY

2020 NO-BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

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15002398A	JAN. 2016
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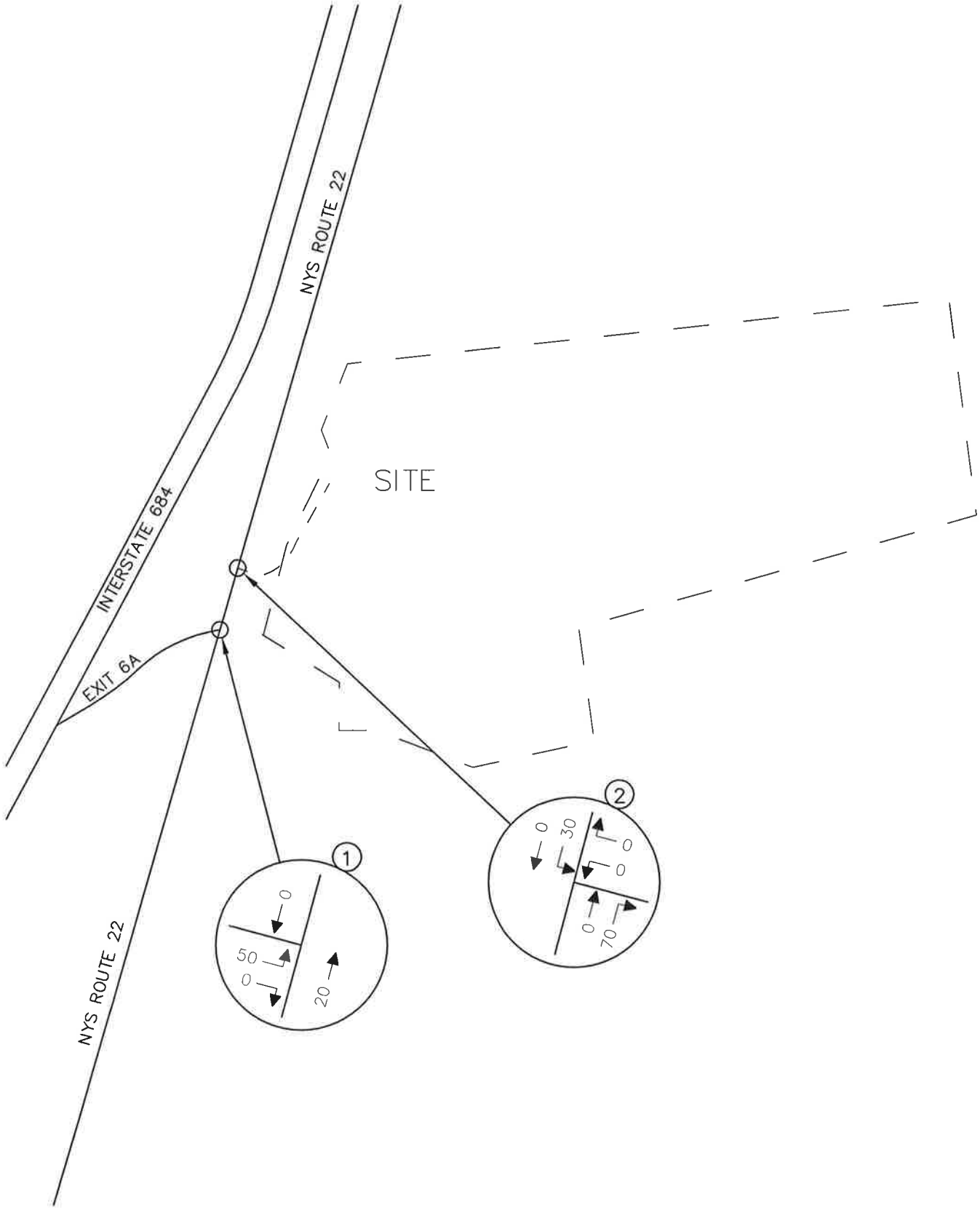
9	



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WBP AFFH MULTI-FAMILY DEVELOPMENT
TOWN OF LEWISBORO, NY

ARRIVAL DISTRIBUTION
(ALL VALUES EXPRESSED AS A %)

JOB NUMBER:	DATE:
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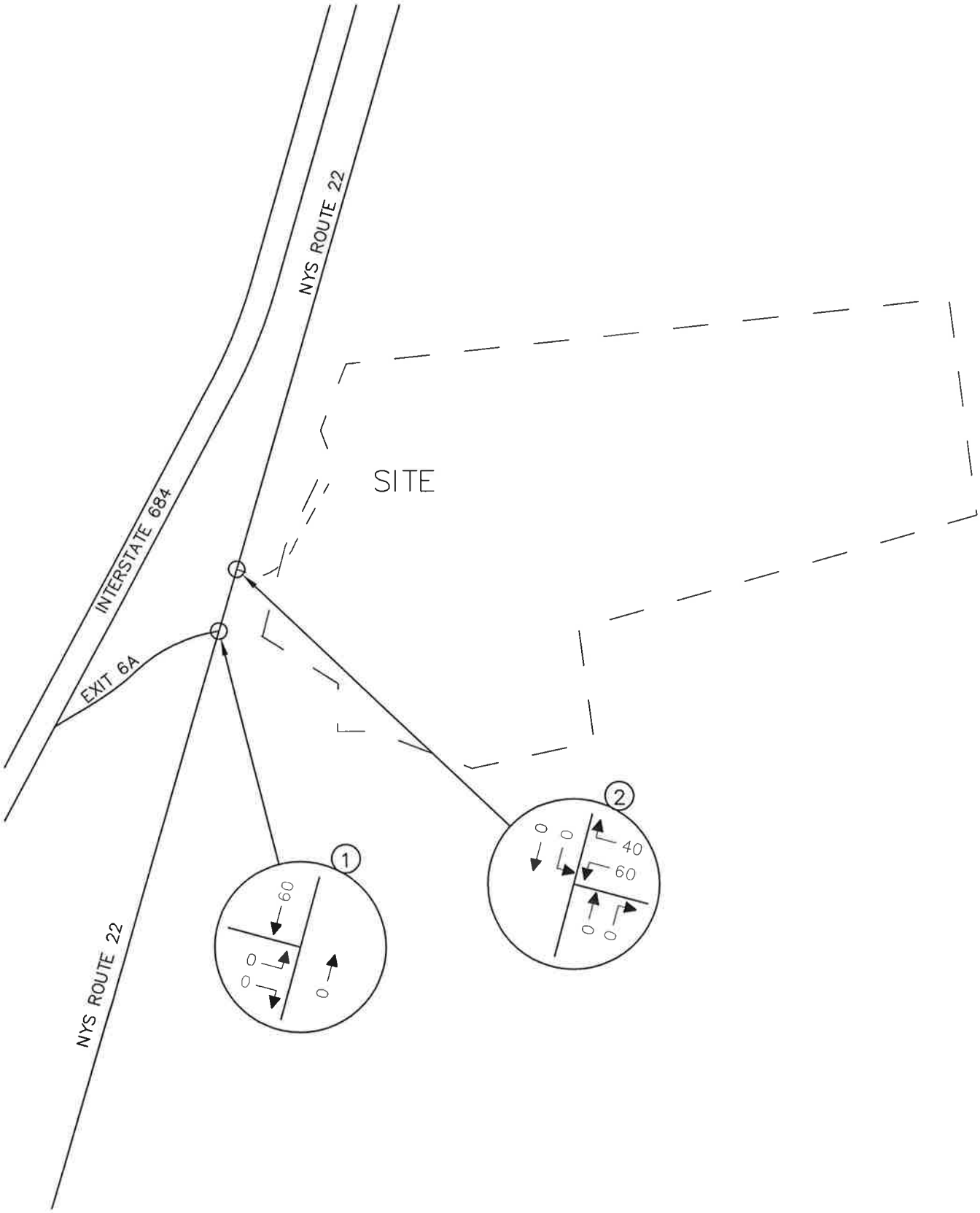
10	



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WBP AFFH MULTI-FAMILY DEVELOPMENT
TOWN OF LEWISBORO, NY

DEPARTURE DISTRIBUTION
(ALL VALUES EXPRESSED AS A %)

JOB NUMBER:	DATE:
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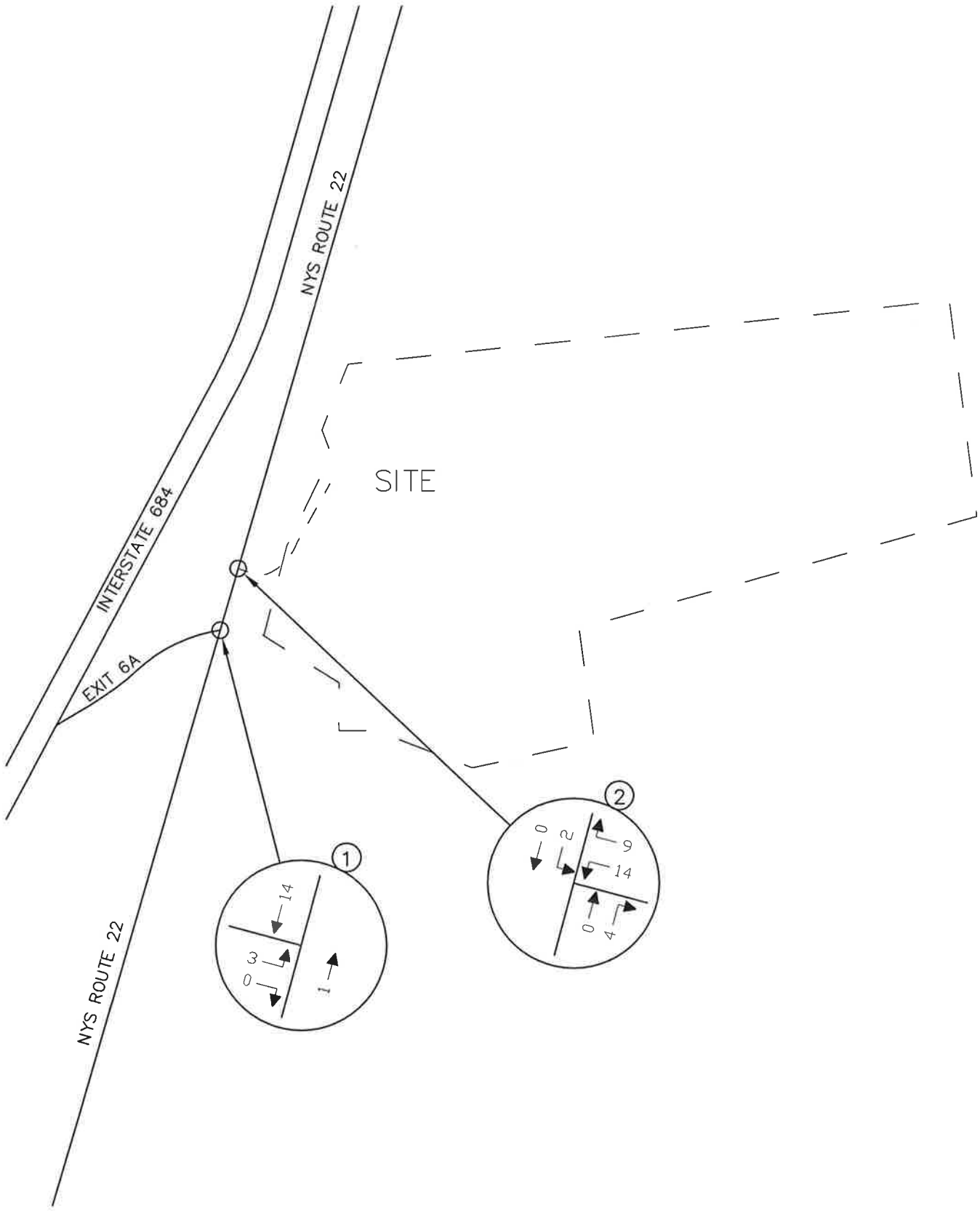

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WBP AFFH MULTI-FAMILY DEVELOPMENT
TOWN OF LEWISBORO, NY

SITE GENERATED TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
15002398A	JAN. 2016
FIGURE NUMBER:	
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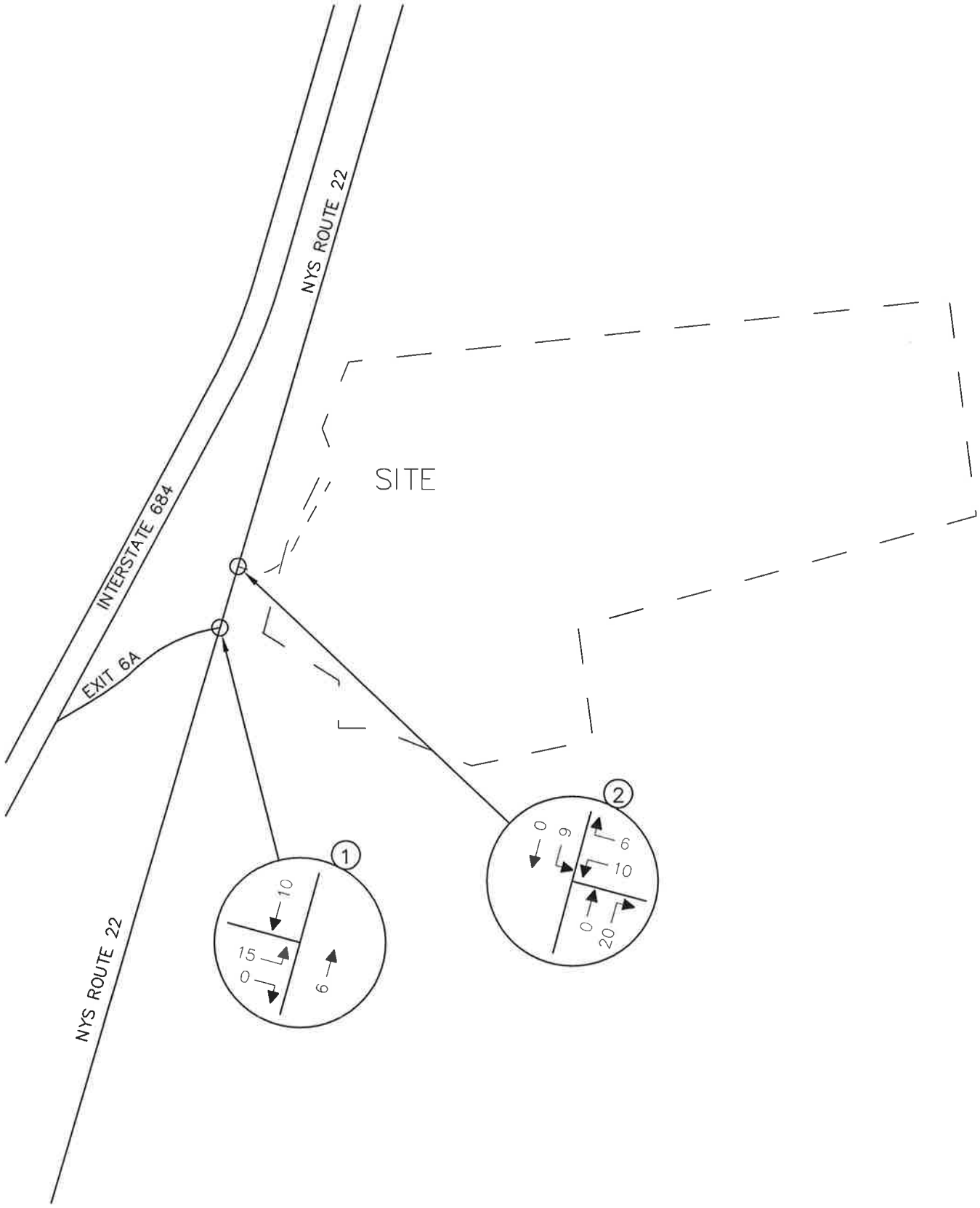

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SITE GENERATED TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

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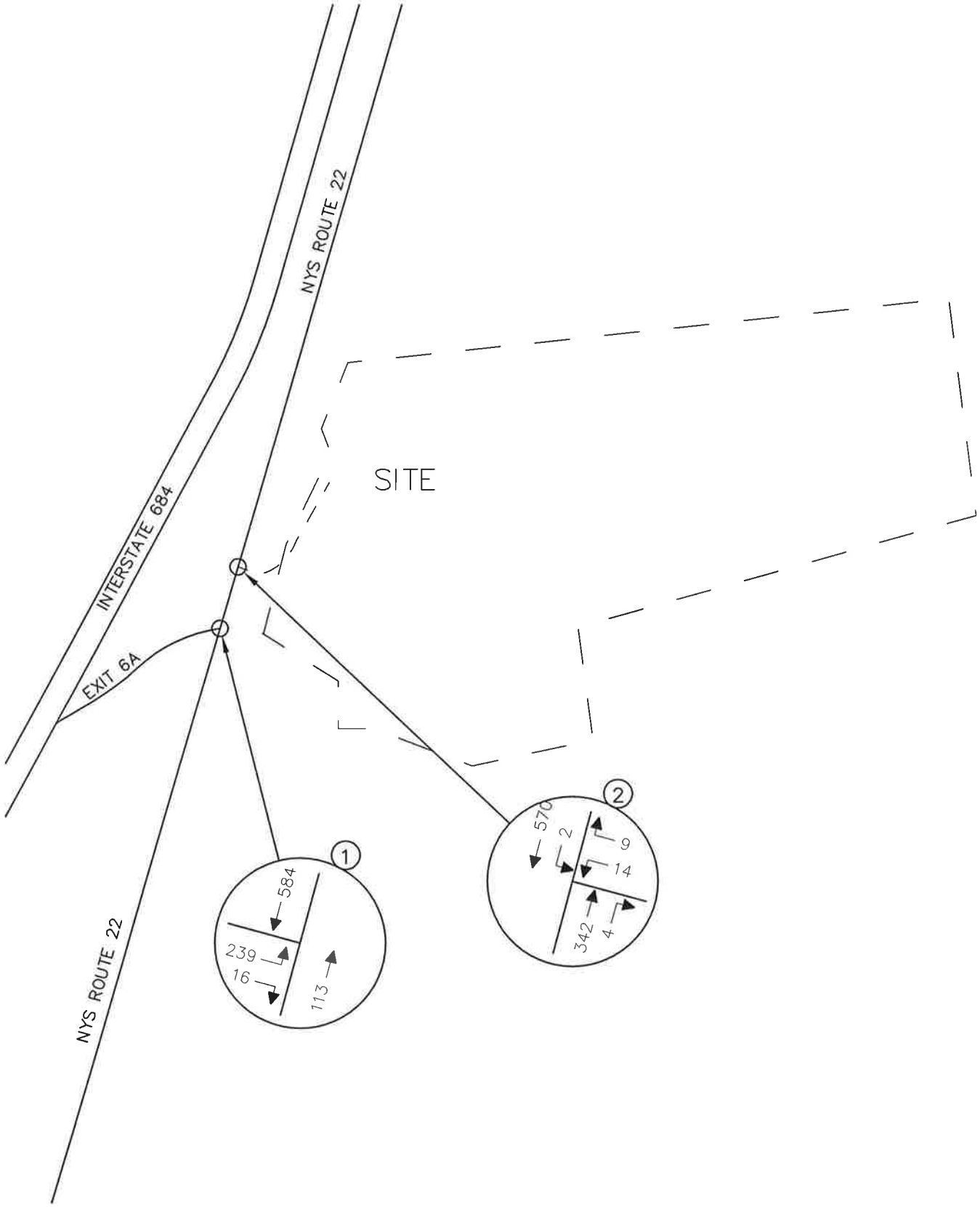

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WBP AFFH MULTI-FAMILY DEVELOPMENT
TOWN OF LEWISBORO, NY

2020 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOB NUMBER:	DATE:
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FIGURE NUMBER:	
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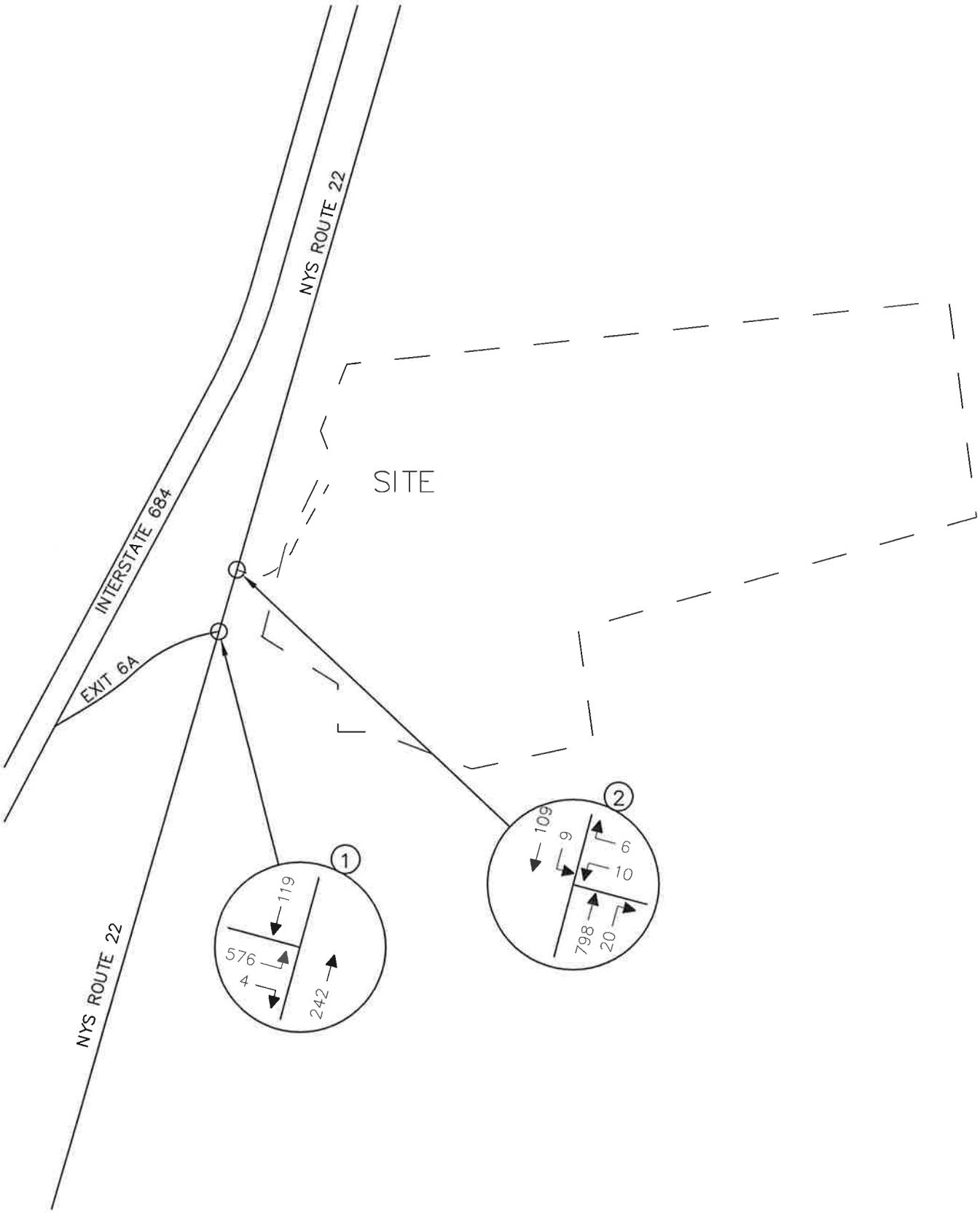

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2020 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

JOB NUMBER:	DATE:
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FIGURE NUMBER:	
15	

WBP AFFH MULTI-FAMILY DEVELOPMENT

APPENDIX B

TABLES

TABLE NO. 1

HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED SITE GENERATED TRAFFIC VOLUMES

WBP AFFH MULTI-FAMILY DEVELOPMENT TOWN OF LEWISBORO, NEW YORK	ENTRY		EXIT	
	HTGR[1]	VOLUME	HTGR[1]	VOLUME
MULTI-FAMILY (46 DWELLING UNITS)				
PEAK AM HOUR	0.11	5	0.45	21
PEAK PM HOUR	0.59	28	0.32	15
SATURDAY PEAK HOUR	0.40	19	0.40	19

NOTES:

1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 9TH EDITION, 2012. ITE LAND USE CODE - 220 - APARTMENT.

TABLE NO. 2

LEVEL OF SERVICE SUMMARY TABLE

			2012 EXISTING		2014 NO-BUILD		2014 BUILD	
			AM	PM	AM	PM	AM	PM
1	NYS ROUTE 22 &	**UNSIGNALIZED**						
	I-684 NB OFF RAMP (EXIT 6A)	EB	F[62.6]	F[160.1]	F[81.1]	F[206.4]	F[91.9]	F[242.2]
	WITH SIGNALIZATION	EB	-	-	-	-	B[15.4]	B[11.4]
		NB	-	-	-	-	A[5.0]	B[14.7]
		SB	-	-	-	-	A[8.0]	B[12.1]
		OVERALL	-	-	-	-	A[9.7]	B[12.3]
6	NYS ROUTE 22 &	**UNSIGNALIZED**						
	SITE ACCESS DRIVEWAY	WB	-	-	-	-	C[17.8]	C[22.1]
		SB	-	-	-	-	A[8.1]	B[10.5]

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS.

2) SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

TABLE NO. 3

SIGHT DISTANCE SUMMARY TABLE FOR PROPOSED ACCESS

Location	Sight Line	Provided Sight Distance[1]	AASHTO Sight Distances[2]	
			Stopping Sight Distance	Intersection Sight Distance
SITE ACCESS	Looking Left	1422	495	610
	Looking Right	558	495	610
	Looking Right (3)	1203	495	610
	Left Turn Entry	1422	495	445
	Rear End	1203	495	495

NOTES:

1) Provided Sight Distances based on field measurements conducted by Maser Consulting, P.A. on December 3, 2015.

2) AASHTO Sight Distances based on data provided in the Geometric Design of Highways and Streets, 6th Edition dated 2011. Sight distances are based on the Posted Speed Limit of 55 MPH on NYS Route 22.

3) With completion of clearing and grading.

WBP AFFH MULTI-FAMILY DEVELOPMENT

APPENDIX C

LEVEL OF SERVICE STANDARDS

LEVEL OF SERVICE STANDARDS

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

LOS A describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate.

LOS D describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long.

LOS E describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long.

LOS F describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long.

A lane group can incur a delay less than 80 s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

The Level of Service Criteria for signalized intersections are given in Exhibit 18-4 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

Exhibit 18-4

	LOS by Volume-to-Capacity Ratio	
Control Delay (s/veh)	**v/c ≤1.0**	**v/c >1.0**
≤10	A	F
>10-20	B	F
>20-35	C	F
>35-55	D	F
>55-80	E	F
>80	F	F

For approach-based and intersection wide assessments, LOS is defined solely by control delay.

LEVEL OF SERVICE CRITERIA
FOR TWO-WAY STOP-CONTROLLED (TWSC) UNSIGNALIZED INTERSECTIONS

Level of Service (LOS) for a two-way stop-controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches.

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 19-1 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

Exhibit 19-1

	LOS by Volume-to-Capacity Ratio	
Control Delay (s/veh)	**v/c ≤1.0**	**v/c >1.0**
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

As Exhibit 19-1 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

LEVEL OF SERVICE CRITERIA
FOR ALL-WAY STOP-CONTROLLED (AWSC) UNSIGNALIZED INTERSECTIONS

The Levels of Service (LOS) for all-way stop-controlled (AWSC) intersections are given in Exhibit 20-2. As the exhibit notes, LOS F is assigned if the volume-to-capacity (v/c) ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

The Level of Service Criteria for AWSC unsignalized intersections are given in Exhibit 20-2 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

Exhibit 20-2

	LOS by Volume-to-Capacity Ratio	
Control Delay (s/veh)	**v/c ≤1.0**	**v/c >1.0**
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

For approaches and intersection wide assessment, LOS is defined solely by control delay.

WBP AFFH MULTI-FAMILY DEVELOPMENT

APPENDIX D

CAPACITY ANALYSIS

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	16	0	99	550	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	11	11	12
Grade (%)	5%			4%	-11%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991					
Flt Protected	0.955					
Satd. Flow (prot)	1725	0	0	1714	1845	0
Flt Permitted	0.955					
Satd. Flow (perm)	1725	0	0	1714	1845	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	849			989	187	
Travel Time (s)	19.3			15.0	2.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	261	18	0	113	625	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	279	0	0	112	625	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	1.03	1.03	1.07	0.97	0.93
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	17.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	230	16	0	99	550	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	5	-	-	4	-11	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	261	18	0	112	625	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	738	625	625	0	-	0
Stage 1	625	-	-	-	-	-
Stage 2	113	-	-	-	-	-
Critical Hdwy	7.45	6.75	4.15	-	-	-
Critical Hdwy Stg 1	6.45	-	-	-	-	-
Critical Hdwy Stg 2	6.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	310	440	942	-	-	-
Stage 1	444	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	310	440	942	-	-	-
Mov Cap-2 Maneuver	310	-	-	-	-	-
Stage 1	444	-	-	-	-	-
Stage 2	876	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	62.6	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	942	-	316	-	-
HCM Lane V/C Ratio	-	-	0.885	-	-
HCM Control Delay (s)	0	-	62.6	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	8.2	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	548	4	0	222	95	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	11	11	12
Grade (%)	5%			4%	-11%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					
Flt Protected	0.953					
Satd. Flow (prot)	1736	0	0	1714	1845	0
Flt Permitted	0.953					
Satd. Flow (perm)	1736	0	0	1714	1845	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	849			989	187	
Travel Time (s)	19.3			15.0	2.8	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	685	5	0	278	119	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	690	0	0	278	119	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	1.03	1.03	1.07	0.97	0.93
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	101.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	548	4	0	222	95	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	5	-	-	4	-11	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	685	5	0	278	119	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	397	119	119	0	-	0
Stage 1	119	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Critical Hdwy	7.45	6.75	4.15	-	-	-
Critical Hdwy Stg 1	6.45	-	-	-	-	-
Critical Hdwy Stg 2	6.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	~ 540	909	1451	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 540	909	1451	-	-	-
Mov Cap-2 Maneuver	~ 540	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	705	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	160.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1451	-	542	-	-
HCM Lane V/C Ratio	-	-	1.273	-	-
HCM Control Delay (s)	0	-	160.1	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	27.8	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	236	16	0	111	570	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	11	11	12
Grade (%)	5%			4%	-11%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992					
Flt Protected	0.955					
Satd. Flow (prot)	1727	0	0	1714	1845	0
Flt Permitted	0.955					
Satd. Flow (perm)	1727	0	0	1714	1845	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	849			989	187	
Travel Time (s)	19.3			15.0	2.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	268	18	0	126	648	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	286	0	0	126	648	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	1.03	1.03	1.07	0.97	0.93
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	21.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	236	16	0	111	570	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	5	-	-	4	-11	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	268	18	0	126	648	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	774	648	648	0	-	0
Stage 1	648	-	-	-	-	-
Stage 2	126	-	-	-	-	-
Critical Hdwy	7.45	6.75	4.15	-	-	-
Critical Hdwy Stg 1	6.45	-	-	-	-	-
Critical Hdwy Stg 2	6.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	292	425	924	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	862	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	292	425	924	-	-	-
Mov Cap-2 Maneuver	292	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	862	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	81.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	924	-	298	-	-
HCM Lane V/C Ratio	-	-	0.961	-	-
HCM Control Delay (s)	0	-	81.1	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	9.7	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	562	4	0	237	109	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	11	11	12
Grade (%)	5%			4%	-11%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					
Flt Protected	0.953					
Satd. Flow (prot)	1736	0	0	1714	1845	0
Flt Permitted	0.953					
Satd. Flow (perm)	1736	0	0	1714	1845	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	849			989	187	
Travel Time (s)	19.3			15.0	2.8	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	703	5	0	296	136	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	707	0	0	296	136	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	1.03	1.03	1.07	0.97	0.93
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	128.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	562	4	0	237	109	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	5	-	-	4	-11	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	702	5	0	296	136	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	432	136	136	0	-	0
Stage 1	136	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Critical Hdwy	7.45	6.75	4.15	-	-	-
Critical Hdwy Stg 1	6.45	-	-	-	-	-
Critical Hdwy Stg 2	6.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	~ 510	888	1430	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	~ 689	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 510	888	1430	-	-	-
Mov Cap-2 Maneuver	~ 510	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	~ 689	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	206.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1430	-	512	-	-
HCM Lane V/C Ratio	-	-	1.382	-	-
HCM Control Delay (s)	0	-	206.4	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	32.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	239	16	0	113	584	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	11	11	12
Grade (%)	5%			4%	-11%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992					
Flt Protected	0.955					
Satd. Flow (prot)	1727	0	0	1714	1845	0
Flt Permitted	0.955					
Satd. Flow (perm)	1727	0	0	1714	1845	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	849			989	187	
Travel Time (s)	19.3			15.0	2.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	272	18	0	128	664	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	290	0	0	128	664	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	1.03	1.03	1.07	0.97	0.93
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	24.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	239	16	0	113	584	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	5	-	-	4	-11	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	272	18	0	128	664	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	792	664	664	0	-	0
Stage 1	664	-	-	-	-	-
Stage 2	128	-	-	-	-	-
Critical Hdwy	7.45	6.75	4.15	-	-	-
Critical Hdwy Stg 1	6.45	-	-	-	-	-
Critical Hdwy Stg 2	6.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	284	415	911	-	-	-
Stage 1	421	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	284	415	911	-	-	-
Mov Cap-2 Maneuver	284	-	-	-	-	-
Stage 1	421	-	-	-	-	-
Stage 2	859	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	91.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	911	-	290	-	-
HCM Lane V/C Ratio	-	-	0.999	-	-
HCM Control Delay (s)	0	-	91.9	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	10.4	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	14	9	342	4	2	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	11
Grade (%)	0%		6%			-7%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.948		0.998			
Flt Protected	0.970					
Satd. Flow (prot)	1664	0	1693	0	0	1810
Flt Permitted	0.970					
Satd. Flow (perm)	1664	0	1693	0	0	1810
Link Speed (mph)	30		45			45
Link Distance (ft)	119		187			1626
Travel Time (s)	2.7		2.8			24.6
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	16	10	389	5	2	648
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	394	0	0	650
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.09	1.04	0.96	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	14	9	342	4	2	570
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	6	-	-	-7
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	16	10	389	5	2	648

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1043	391	0	0	393	0
Stage 1	391	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	251	651	-	-	1149	-
Stage 1	677	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	250	651	-	-	1149	-
Mov Cap-2 Maneuver	250	-	-	-	-	-
Stage 1	677	-	-	-	-	-
Stage 2	511	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	329	1149	-
HCM Lane V/C Ratio	-	-	0.079	0.002	-
HCM Control Delay (s)	-	-	16.9	8.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	576	4	0	242	119	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	11	11	12
Grade (%)	5%			4%	-11%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					
Flt Protected	0.953					
Satd. Flow (prot)	1736	0	0	1714	1845	0
Flt Permitted	0.953					
Satd. Flow (perm)	1736	0	0	1714	1845	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	849			989	187	
Travel Time (s)	19.3			15.0	2.8	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	720	5	0	303	149	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	725	0	0	302	149	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	1.03	1.03	1.07	0.97	0.93
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	149.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	576	4	0	242	119	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	5	-	-	4	-11	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	720	5	0	302	149	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	452	149	149	0	-	0
Stage 1	149	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Critical Hdwy	7.45	6.75	4.15	-	-	-
Critical Hdwy Stg 1	6.45	-	-	-	-	-
Critical Hdwy Stg 2	6.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	~ 494	872	1414	-	-	-
Stage 1	836	-	-	-	-	-
Stage 2	~ 682	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 494	872	1414	-	-	-
Mov Cap-2 Maneuver	~ 494	-	-	-	-	-
Stage 1	836	-	-	-	-	-
Stage 2	~ 682	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	242.2	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1414	-	495	-	-
HCM Lane V/C Ratio	-	-	1.465	-	-
HCM Control Delay (s)	0	-	242.2	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	36.2	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	10	6	798	20	9	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	12	11
Grade (%)	0%		6%			-7%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946		0.997			
Flt Protected	0.971					0.996
Satd. Flow (prot)	1662	0	1692	0	0	1803
Flt Permitted	0.971					0.996
Satd. Flow (perm)	1662	0	1692	0	0	1803
Link Speed (mph)	30		45			45
Link Distance (ft)	164		187			1626
Travel Time (s)	3.7		2.8			24.6
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	13	8	998	25	11	136
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	0	1023	0	0	147
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.09	1.04	0.96	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	10	6	798	20	9	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	6	-	-	-7
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	12	8	998	25	11	136

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1169	1010	0	0	1023	0
Stage 1	1010	-	-	-	-	-
Stage 2	159	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	211	287	-	-	667	-
Stage 1	347	-	-	-	-	-
Stage 2	862	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	207	287	-	-	667	-
Mov Cap-2 Maneuver	207	-	-	-	-	-
Stage 1	347	-	-	-	-	-
Stage 2	846	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.1	0	0.8
HCM LOS	C		

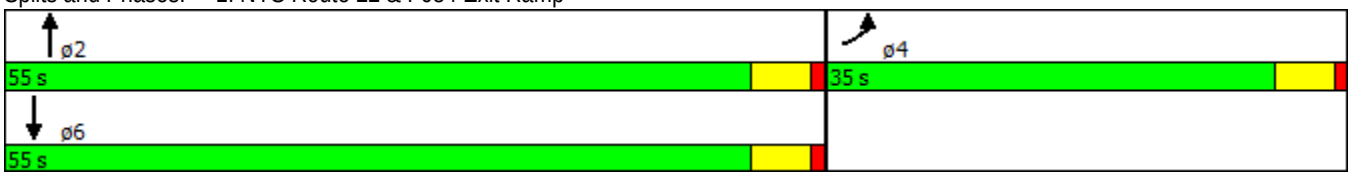
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	231	667	-
HCM Lane V/C Ratio	-	-	0.087	0.017	-
HCM Control Delay (s)	-	-	22.1	10.5	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	239	16	0	113	584	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	11	11	12
Grade (%)	5%			4%	-11%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992					
Flt Protected	0.955					
Satd. Flow (prot)	1727	0	0	1714	1845	0
Flt Permitted	0.955					
Satd. Flow (perm)	1727	0	0	1714	1845	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	4					
Link Speed (mph)	30			45	45	
Link Distance (ft)	849			989	187	
Travel Time (s)	19.3			15.0	2.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	272	18	0	128	664	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	290	0	0	128	664	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	1.03	1.03	1.07	0.97	0.93
Turning Speed (mph)	15	9	15			9
Number of Detectors	1			2	2	
Detector Template	Left			Thru	Thru	
Leading Detector (ft)	20			100	100	
Trailing Detector (ft)	0			0	0	
Detector 1 Position(ft)	0			0	0	
Detector 1 Size(ft)	20			6	6	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot			NA	NA	
Protected Phases	4			2	6	
Permitted Phases						
Detector Phase	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Switch Phase						
Minimum Initial (s)	4.0			4.0	4.0	
Minimum Split (s)	21.0			21.0	21.0	
Total Split (s)	35.0			55.0	55.0	
Total Split (%)	38.9%			61.1%	61.1%	
Maximum Green (s)	30.0			50.0	50.0	
Yellow Time (s)	4.0			4.0	4.0	
All-Red Time (s)	1.0			1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	
Recall Mode	None			Min	Min	
v/c Ratio	0.58			0.15	0.70	
Control Delay	22.3			7.9	15.2	
Queue Delay	0.0			0.0	0.0	
Total Delay	22.3			7.9	15.2	
Queue Length 50th (ft)	65			17	130	
Queue Length 95th (ft)	177			51	304	
Internal Link Dist (ft)	769			909	107	
Turn Bay Length (ft)						
Base Capacity (vph)	1052			1555	1674	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.28			0.08	0.40	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 52.3	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: NYS Route 22 & I-684 Exit Ramp



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	239	16	0	113	584	0
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1835	1852	0	1773	1909	0
Adj Flow Rate, veh/h	272	18	0	128	664	0
Adj No. of Lanes	0	0	0	1	1	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	5	5	0
Cap, veh/h	364	24	0	865	931	0
Arrive On Green	0.22	0.22	0.00	0.49	0.49	0.00
Sat Flow, veh/h	1622	107	0	1773	1909	0
Grp Volume(v), veh/h	291	0	0	128	664	0
Grp Sat Flow(s),veh/h/ln	1735	0	0	1773	1909	0
Q Serve(g_s), s	5.4	0.0	0.0	1.4	9.5	0.0
Cycle Q Clear(g_c), s	5.4	0.0	0.0	1.4	9.5	0.0
Prop In Lane	0.93	0.06	0.00			0.00
Lane Grp Cap(c), veh/h	389	0	0	865	931	0
V/C Ratio(X)	0.75	0.00	0.00	0.15	0.71	0.00
Avail Cap(c_a), veh/h	1500	0	0	2555	2750	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.5	0.0	0.0	4.9	7.0	0.0
Incr Delay (d2), s/veh	2.9	0.0	0.0	0.1	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	0.7	5.1	0.0
LnGrp Delay(d),s/veh	15.4	0.0	0.0	5.0	8.0	0.0
LnGrp LOS	B			A	A	
Approach Vol, veh/h	291			128	664	
Approach Delay, s/veh	15.4			5.0	8.0	
Approach LOS	B			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		21.9		12.8		21.9		
Change Period (Y+Rc), s		5.0		5.0		5.0		
Max Green Setting (Gmax), s		50.0		30.0		50.0		
Max Q Clear Time (g_c+I1), s		3.4		7.4		11.5		
Green Ext Time (p_c), s		5.5		0.9		5.4		

Intersection Summary	
HCM 2010 Ctrl Delay	9.7
HCM 2010 LOS	A

Notes

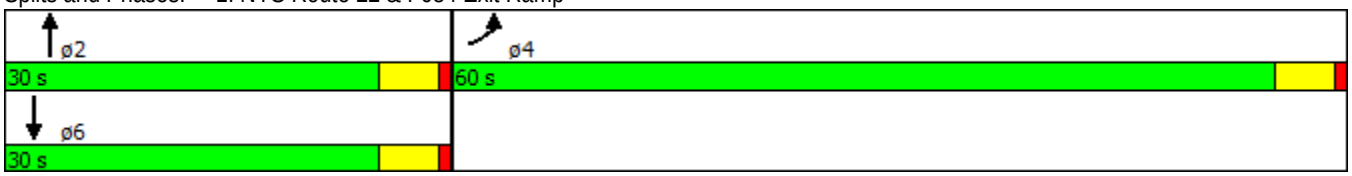
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	576	4	0	242	119	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	11	11	12
Grade (%)	5%			4%	-11%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					
Flt Protected	0.953					
Satd. Flow (prot)	1736	0	0	1714	1845	0
Flt Permitted	0.953					
Satd. Flow (perm)	1736	0	0	1714	1845	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	1					
Link Speed (mph)	30			45	45	
Link Distance (ft)	849			989	187	
Travel Time (s)	19.3			15.0	2.8	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	720	5	0	302	149	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	725	0	0	302	149	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	1.03	1.03	1.07	0.97	0.93
Turning Speed (mph)	15	9	15			9
Number of Detectors	1			2	2	
Detector Template	Left			Thru	Thru	
Leading Detector (ft)	20			100	100	
Trailing Detector (ft)	0			0	0	
Detector 1 Position(ft)	0			0	0	
Detector 1 Size(ft)	20			6	6	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot			NA	NA	
Protected Phases	4			2	6	
Permitted Phases						
Detector Phase	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Switch Phase						
Minimum Initial (s)	4.0			4.0	4.0	
Minimum Split (s)	21.0			21.0	21.0	
Total Split (s)	60.0			30.0	30.0	
Total Split (%)	66.7%			33.3%	33.3%	
Maximum Green (s)	55.0			25.0	25.0	
Yellow Time (s)	4.0			4.0	4.0	
All-Red Time (s)	1.0			1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0	3.0	
Recall Mode	None			Min	Min	
v/c Ratio	0.79			0.64	0.29	
Control Delay	18.1			27.6	21.1	
Queue Delay	0.0			0.0	0.0	
Total Delay	18.1			27.6	21.1	
Queue Length 50th (ft)	166			86	38	
Queue Length 95th (ft)	305			193	97	
Internal Link Dist (ft)	769			909	107	
Turn Bay Length (ft)						
Base Capacity (vph)	1547			824	887	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.47			0.37	0.17	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 57.4	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: NYS Route 22 & I-684 Exit Ramp



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	576	4	0	242	119	0
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1835	1852	0	1773	1909	0
Adj Flow Rate, veh/h	720	5	0	302	149	0
Adj No. of Lanes	0	0	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	0	0	5	5	0
Cap, veh/h	844	6	0	458	493	0
Arrive On Green	0.49	0.49	0.00	0.26	0.26	0.00
Sat Flow, veh/h	1732	12	0	1773	1909	0
Grp Volume(v), veh/h	726	0	0	302	149	0
Grp Sat Flow(s),veh/h/ln	1746	0	0	1773	1909	0
Q Serve(g_s), s	14.3	0.0	0.0	6.0	2.5	0.0
Cycle Q Clear(g_c), s	14.3	0.0	0.0	6.0	2.5	0.0
Prop In Lane	0.99	0.01	0.00			0.00
Lane Grp Cap(c), veh/h	851	0	0	458	493	0
V/C Ratio(X)	0.85	0.00	0.00	0.66	0.30	0.00
Avail Cap(c_a), veh/h	2444	0	0	1128	1214	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.8	0.0	0.0	13.0	11.7	0.0
Incr Delay (d2), s/veh	2.5	0.0	0.0	1.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	0.0	3.1	1.3	0.0
LnGrp Delay(d),s/veh	11.4	0.0	0.0	14.7	12.1	0.0
LnGrp LOS	B			B	B	
Approach Vol, veh/h	726			302	149	
Approach Delay, s/veh	11.4			14.7	12.1	
Approach LOS	B			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		15.1		24.2		15.1		
Change Period (Y+Rc), s		5.0		5.0		5.0		
Max Green Setting (Gmax), s		25.0		55.0		25.0		
Max Q Clear Time (g_c+I1), s		8.0		16.3		4.5		
Green Ext Time (p_c), s		2.2		2.8		2.3		

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

TABLE NO. 3

SIGHT DISTANCE SUMMARY TABLE FOR PROPOSED ACCESS

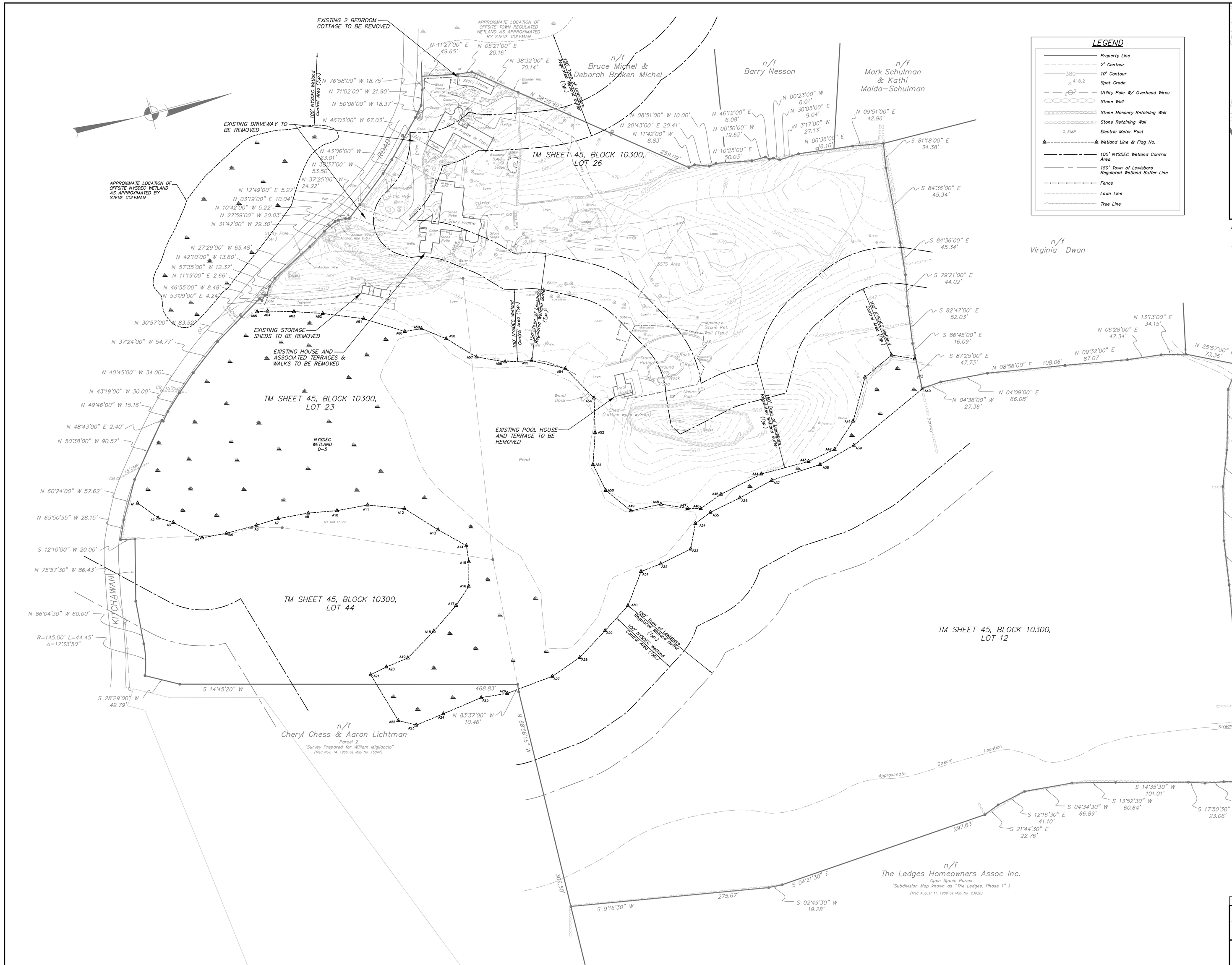
Location	Sight Line	Provided Sight Distance[1]	AASHTO Sight Distances[2]	
			Stopping Sight Distance	Intersection Sight Distance
SITE ACCESS	Looking Left	1422	495	610
	Looking Right	558	495	610
	Looking Right (3)	1203	495	610
	Left Turn Entry	1422	495	445
	Rear End	1203	495	495

NOTES:

1) Provided Sight Distances based on field measurements conducted by Maser Consulting, P.A. on December 3, 2015.

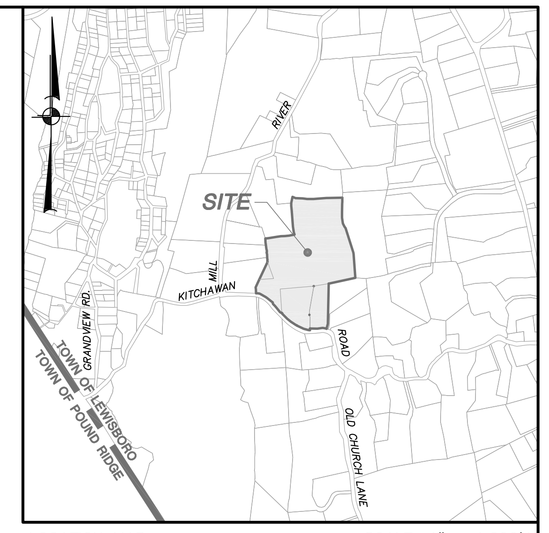
2) AASHTO Sight Distances based on data provided in the Geometric Design of Highways and Streets, 6th Edition dated 2011. Sight distances are based on the Posted Speed Limit of 55 MPH on NYS Route 22.

3) With completion of clearing and grading.



LEGEND

- Property Line
- 2' Contour
- 380 10' Contour
- 418.2 Spot Grade
- Utility Pole W/ Overhead Wires
- Stone Wall
- Stone Masonry Retaining Wall
- Stone Retaining Wall
- EMP Electric Meter Post
- Wetland Line & Flag No.
- 100' NYSDEC Wetland Control Area
- 150' Town of Lewisboro Regulated Wetland Buffer Line
- Fence
- Lawn Line
- Tree Line



LOCATION MAP SCALE: 1" = 1,000'±

OWNER/APPLICANT:

AARON LICHTMAN
192-218 KITCHAWAN ROAD
SOUTH SALEM, NY 10590

SITE DATA:

Zone: R-4A
Total Acreage 26.3 AC
Tax Map No.: Sheet 45, Block 10300 Lot 12/26, 23 & 44.

GENERAL NOTES:

1. Property line as shown hereon based on survey of property prepared by Insite Engineering, Surveying & Landscape Architecture, P.C, dated October 9, 2015.
2. Topography shown hereon is based on topographic map prepared by Insite Engineering, Surveying & Landscape Architecture, P.C, dated October 9, 2015.
3. NYSDEC Wetland D-5 was flagged by Steve Coleman on August 12, 2015 and December 15, 2015 and survey located by Insite Engineering, Surveying & Landscape Architecture, P.C.
4. If any development is proposed east of wetland flags A34 through A40, the wetland line and stream delineations will need to be verified prior to any start of construction.

NO.	DATE	REVISION	BY

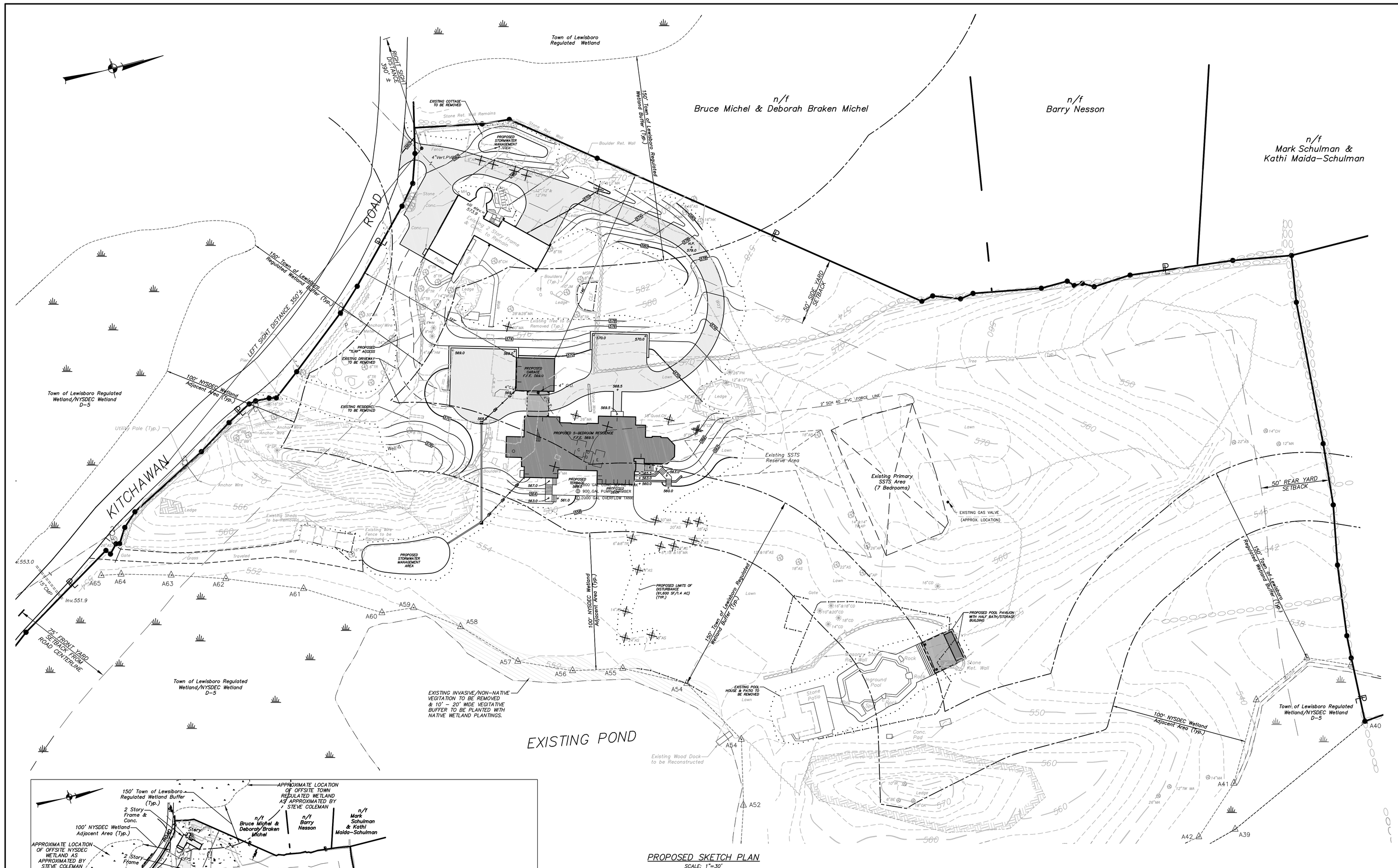
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
LICHTMAN RESIDENCE
192-218 KITCHAWAN RD., TOWN OF LEWSBORO, WESTCHESTER CO., NY

DRAWING:
EXISTING CONDITIONS, TOPOGRAPHIC SURVEY & DEMOLITION PLAN

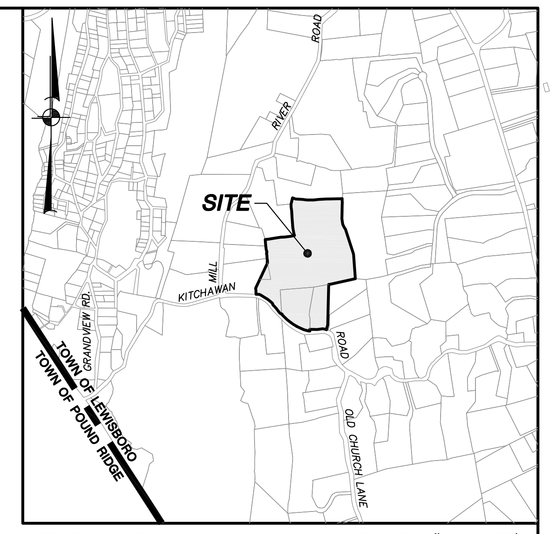
PROJECT NUMBER	15260.100	PROJECT MANAGER	S.W.B.	DRAWING NO.	SHEET
DATE	2-4-16	DRAWN BY	C.T.Q.	EX-1	1 / 1
SCALE	1" = 50'	CHECKED BY	J.L.L.		

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.



PROPOSED SKETCH PLAN

SCALE: 1"=30'



LOCATION MAP SCALE: 1" = 1,000'±

OWNER/APPLICANT:

AARON LICHTMAN & KIMBERLY HOWARD
192-218 KITCHAWAN ROAD
SOUTH SALEM, NY 10590

SITE DATA:

Zone: R-4A
Total Acreage: 26.3 AC
Tax Map No.: Sheet 45, Block 10300, Lot 12/26, 23 & 44

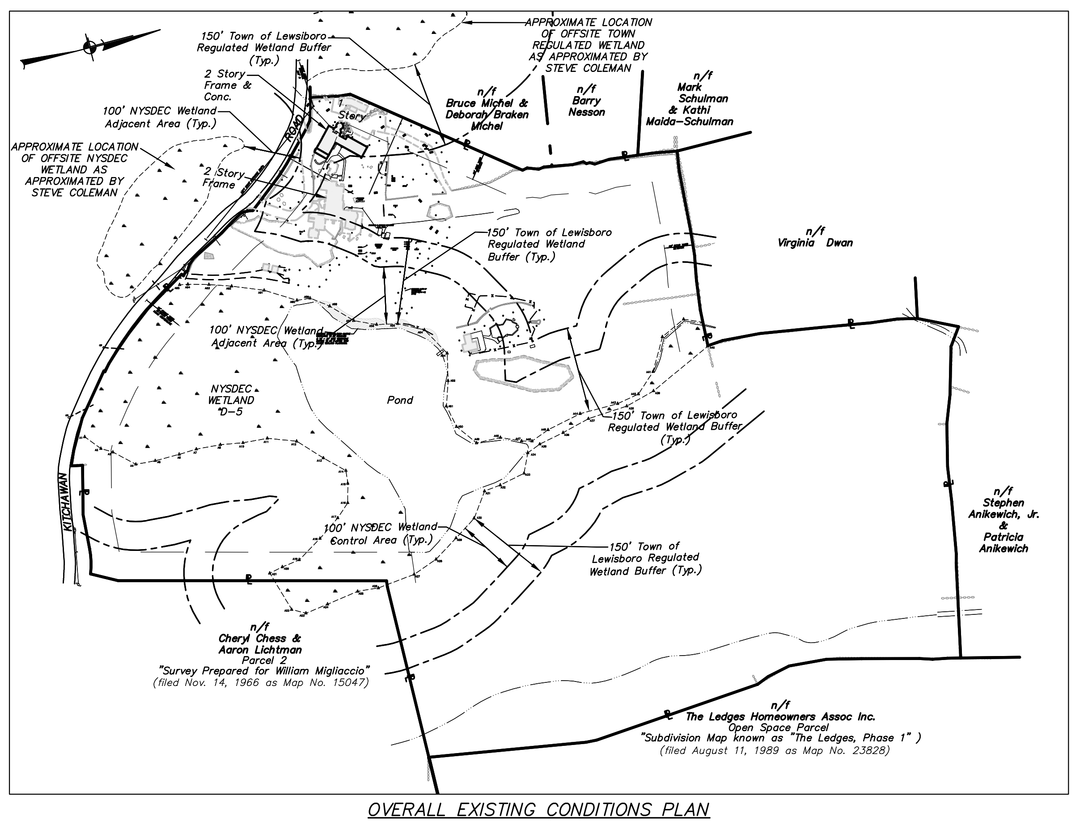
GENERAL NOTES:

1. Property line as shown hereon based on survey of property prepared by Insite Engineering, Surveying & Landscape Architecture, P.C. dated October 9, 20150.
2. Topography shown hereon is based on topographic map prepared by Insite Engineering, Surveying & Landscape Architecture, P.C. dated October 9, 20150.
3. Wetland limits indicated on this plan field delineated by Stephen Coleman on August 12, 2015 and December 15, 2015 and survey located by Insite Engineering, Surveying & Landscape Architecture, P.C.

R-4A ZONE REQUIREMENTS

	REQUIRED	PROVIDED (PROPOSED RESIDENCE)
Minimum Lot Area:	4 AC.	26.3 AC
Minimum Lot Width:	250'	GREATER THAN 250'
Minimum Setbacks:		
Front Yard:		
From Street Center Line:	75'	75'±
From Front Lot Line:	50'	126'±
Side Yard:	50'	147'±
Rear Yard:	50'	463'±
Maximum Building Height:		
Stories:	2 1/2	LESS THAN 2 1/2
Feet:	35'	LESS THAN 35'
Maximum Building Coverage: (Percentage of Lot Area)	6%	0.7%

* Pre-existing non-conforming.



OVERALL EXISTING CONDITIONS PLAN

SCALE: 1"=150'

LEGEND

- Property Line
- 2' Contour
- 10' Contour
- Spot Grade
- Utility Pole W/ Overhead Wires
- Stone Wall
- Stone Masonry Retaining Wall
- Stone Retaining Wall
- Electric Meter Post
- Wetland Line & Flag No.
- 100' NYSDEC Wetland Adjacent Area
- 150' Town of Lewisboro Regulated Wetland Buffer Line
- Fence
- Lawn Line
- Tree Line

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 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
1	2-4-16	GENERAL REVISION	CTQ

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-emp.com

PROJECT:
LICHTMAN RESIDENCE
192-218 KITCHAWAN RD., TOWN OF LEWISBORO, WESTCHESTER CO., NY

DRAWING:
SKETCH PLAN

PROJECT NUMBER	15260.100	PROJECT MANAGER	S.W.B.	DRAWING NO.	SHEET
DATE	1-13-15	DRAWN BY	M.E.U.	SK-1	1 / 1
SCALE	AS SHOWN	CHECKED BY	J.L.L.		

BIBBO ASSOCIATES, L.L.P.
Consulting Engineers

Joseph J. Buschynski, P.E.
Timothy S. Allen, P.E.
Sabri Barisser, P.E.

January 29, 2016

Lewisboro Planning Board
20 North Salem Road
P.O. Box 725
Cross River, NY 10518

Attn: Jerome Kerner, AIA, Chairman

Re: J-2 Boniello Builders
Wetland Activity Permit Approval
Town Stormwater Permit
Sh. 26, Blk. 10803, Lot 18

Dear Chairman and Members of the Board:

On behalf of our client we are requesting that a 90 day extension be granted for Resolutions CAL#39-14WP and CAL#15-14SW that will be expiring on February 19, 2016 for the above referenced project.

Final plans have been submitted and we are awaiting the Town's legal counsel to approve easement documents. Therefore we request extension of the resolutions until May 19, 2016.

We respectfully request that this matter be placed on your February agenda for consideration. Thank you in advance.

Very truly yours,

Timothy S. Allen, P.E.

TSA/mme

cc: J. Johannessen
G. Boniello
File

Site Design ◆ Environmental

Mill Pond Offices · 293 Route 100, Suite 203 · Somers, NY 10589
Phone: 914-277-5805 · Fax: 914-277-8210 · E-Mail: bibbo@optonline.net

DeLalla & Associates, LLC.
LANDSCAPE ARCHITECTS

February 3, 2016

Mr. Jerome Kerner
Chairman, Planning Board
Cross River Shopping Center @
Orchard Square
Suite L/Lower Level
Cross River, NY 10518

Re: Popoli/Sicuranza Subdivision
NYS Route 35
South Salem, NY 10590
(Sheet 40, Block 10552, Lots 3, 4 & 5)

Dear Mr. Kerner,

I am writing to request an additional 90 day extension of time until June 6, 2016, for the Final Subdivision Plat Approval granted by the Planning Board on December 8, 2009. The applicants have signed a contract to sell the property to a group interested in installing the private road and building homes on the five undeveloped lots. The applicants have indicated that they are currently close to finalizing the agreement with the bank and will need additional time to complete the process. Therefore we are requesting the application be placed on the next agenda of Planning Board to consider this request.

Please do not hesitate to contact me if you have any questions or require any additional information.

Sincerely,

James A. DeLalla, RLA

Cc: Mr. Pat Popoli
Mr. Angelo Sicuranza
Michael Sirignano Esq.

Landscape Architecture ◇ Site Design ◇ Environmental Planning ◇ Land Development Consulting
30 Old Quarry Road, Suite 203 ◇ Ridgefield, CT 06877 ◇ Tel: 203-431-2112 ◇ Fax: 203-431-2442

Site Planning
Civil Engineering
Landscape Architecture
Land Surveying
Transportation Engineering

Environmental Studies
Entitlements
Construction Services
3D Visualization
Laser Scanning

February 1, 2016

Honorable Chairman Jerome Kerner, AIA
and Members of the Planning Board
Cross River Shopping Center @ Orchard Square
PO Box 725, 20 South Salem Road
Suite L (Lower Level)
Cross River, NY 10518

RE: JMC Project **13112**
JT Farm Subdivision
1125 Route 35
Town of Lewisboro, NY

Final Execution of Subdivision Plat and Site Plans and Site Plan Extension

Dear Chairman Kerner and Members of the Planning Board:

On behalf of JT Farm we are respectfully requesting signatures on the following:

1. JMC Drawings (2 sets of mylars):

Dwg. No.	Title	Revision No./Date
SP-1	"Lot Line Change Plan"	5 12/01/2015
SP-2	"Buildable Area Plan"	3 12/01/2015
	"Final Subdivision Plat"	12/01/2015

2. Old/Previous JMC Drawings to mark as "Void" (1 set of Mylars).

The Health Department signed the Final Subdivision Plat on January 27, 2016, now we are requesting signatures and will then file the Final Subdivision Plat with the County Clerk.

This letter also serves to request an extension of Planning Board Resolution #9-13, dated November 18, 2014 while the Site Plans and Final Subdivision Plat are being signed.

We trust that the enclosed is sufficient for signatures and to extend the Site Plan Approval. In the interim, if you have questions or require additional information, please do not hesitate to contact our office at (914) 273-5225.

Sincerely,

JMC Planning Engineering Landscape Architecture & Land Surveying PLLC

Stephen Spina, PE
Project Manager

cc: Mr. James Toon
Mr. Jan Johannessen, AICP
Ms. Ellen Toon
Judson Seibert, Esq.

F:\2013\13112\ltKerner 02-01-2016.docx

Site Design Consultants

Civil Engineers • Land Planners

February 4, 2016

Chairman Jerome Kerner, AIA
Members of the Lewisboro Planning Board
Cross River Shopping Center at Orchard Square
Suite L – Lower Level
20 North Salem Road
Cross River, NY 10518

Re: Arias/Lexus Subdivision
Block 09834, Lots 28 & 162, Sheet 50
Cal# 12-13PB

Dear Chairman Kerner and Members of the Planning Board:

We are providing this letter as a request for an extension of time for resubmission of approval regarding the above referenced Planning Board Resolution for Arias / Lex Holding Company Ltd., granting Final Subdivision Plat Approval, which will expire February 17, 2016 . Since the subdivision plat has not yet received final signature, we are requesting a time extension to keep this project current.

We are awaiting the review of the project documents from the Town Attorney. Kindly place this item on the agenda for the February 23, 2016 Planning Board Meeting for a time extension to expire May 27, 2016. Please let us know if you have any questions, or advise us of additional information that may need to be provided to support this request. Thank you.

Sincerely,

Joseph C. Riina, P.E.

Cc: G. Arias
Lex Holding Co., Ltd.

JCR/cm/Enc./sdc 02-20

251-F Underhill Avenue • Yorktown Heights, New York 10598
60 Walnut Grove Road • Ridgefield, Connecticut 06877
(914) 962-4488 (203) 431-9504 Fax (914) 962-7386