City of Poughkeepsie
Planning Board
Meeting Agenda

Common Council Chambers
Tuesday, November 26, 2024
6:00 PM

I. CALL TO ORDER

II. APPROVAL OF MEETING MINUTES

1. APPROVAL OF OCTOBER 22, 2024 MEETING MINUTES

III. ADJOURNED APPLICATION REVIEW

1. 110 SOUTH GRAND AVENUE: SITE PLAN

2. 306-316 MAIN STREET: SEQRA

3. "7" MORGAN AVENUE: SITE PLAN

4. 121 PARKER AVENUE: SEQRA

IV. REVIEW OF RESOLUTIONS

1. 481 MAIN STREET: SITE PLAN

Application for site plan review relative to the conversion of the second and third floors of a mixed-use building into three two-bedroom living units; two units on the second floor and one unit on the third floor. Owner/Applicant: Mumtaz Corp., Syed Lateef; Consultant: Mazzarelli Architecture & Planning, PC; Grid #6162-79-283023; Zoning District: C-3 General Commercial District; File #PB2023-019.

2. 531 MAIN STREET: SITE PLAN/SPECIAL PERMIT

Application for revised site plan/special permit approval for the conversion of a mini-mart with self-service gas pumps and a one-bay automobile service facility to a convenience store with (existing) self-service gas pumps. Owner: AIF Estates, Inc.; Applicant: Kheiraddine Mazouzi; Consultant: Aryeh Siegel and Alphonso Clark; Grid # 6161-23-350986; Zoning District: Neighborhood Commercial (C-1); File #2023-047

V. PUBLIC HEARINGS FOR SITE PLANS/SPECIAL PERMITS/SUBDIVISIONS

1. LOT#151783 SOUTH HAMILTON STREET: SITE PLAN

An application for a two-story building consisting of 29 one-bedroom units and 29 two- bedroom units. Owner/Applicant: O'Neill Group Hamilton LLC.; Consultant: Arico Associates; Grid# 6161-30-151782; Zoning District: Medium High-Density Residential (R-4); File #2023- 041

VI. SEQRA REVIEW

1. 47-51 CANNON STREET: SEQRA

Application for site plan the construction of a 6 story mixed use building at 47-51 Cannon Street, with first floor restaurant/artisanal beverage production and 140 dwelling units on the upper stories. The proposal includes the demolition of two existing buildings and combining two lots of record into a single lot of record. Owner: 47 Cannon Street, LLC; Applicant: James Sullivan; Consultant: LRC Engineering & Surveying; Grid # 6162-77-086045 and 092041; Zoning District: PID-UV; File #2024-060

2. 31-39 MARKET STREET: SEQRA

Application for site plan for the conversion of the existing office buildings at 31and 39 Market Street to a mixed use building with restaurants, box office/lobby space and office space of the first floors, and a total of 49 dwelling units of the upper floors, including construction of two additional stories on the building at 39 Market Street and the combining of the two lots into a single lot of record. Owner/Applicant: 31 Market LLC; Consultant: Natalie Quinn, KARC Planning Consultants; Grid # 6162-77-030072 and 031066; Zoning District: PID-HC; File #2024-061

VII. BOARD BUSINESS

1. APPROVE 2025 MEETING DATES

VIII. ADJOURNMENT

1. ADJOURN TO THE WEDNESDAY, DECEMBER 18, 2024 MEETING

October Minutes
Motion:
Second:
Carried:

City of Poughkeepsie
Planning Board Meeting Minutes

Common Council Chambers

Tuesday, October 22, 2024 6:00 PM

DRAFT

Present:	**Excused:**	**Staff:**
Anne Saylor	Marjorie Smith	Richard Distel, City Planner
Nick DeLuccia		Joanna Longcore, Assistant Corporation Counsel
Chris Petsas		Lori Garcia, Board Administrative Assistant
Brian Veltre		Chris Kroner, MASS Design
Bryce Holland		
Shane Egan (left 9:03)		
Rosaura Andújar-McNeil - 6:20		
Viviana Peña – 6:54		

I. CALL TO ORDER

II. APPROVAL OF MEETING MINUTES

1. **Approval of September 24,2024 Meeting Minutes**
   Motion: Shane Egen
   Second: Nick De Luccia
   Carried: 5:0:1

III. ADJOURNED APPLICATIONS

1. **481 MAIN STREET: SITE PLAN**
   Adjourned to the November 26, 2024 meeting

2. **110 SOUTH GRAND AVENUE: SITE PLAN**
   Adjourned to the November 26, 2024 meeting

3. **(100-106) ALBANY STREET: SITE PLAN**
   Application adjourned. Date to be determined

IV. REVIEW OF RESOLUTIONS

1. 40 CIVIC CENTER PLAZA: SITE PLAN

Site Plan application for the proposed addition of an eleventh story to the existing ten story hotel, to contain a rooftop bar; Owner: Hudson Valley Lodging Associates; Applicant: Hemant Patel; Grid #6162-69-038151; Zoned: District (PID-CC, CIVIC CORRIDOR); File #2024-051

Presenting: Jim Hutchinson

Motion was made to approve the resolution
Motion: Shane Egan
Second: Nick DeLuccia
Carried: 6:0:0

V. SEQRA AGENCY DETERMINATION

1. 121 PARKER AVENUE: DECLARATION OF LEAD AGENCY

Full Environmental Assessment Form for SEQR Review and Determination relative to the to the proposed installation of a communications facility, including a monopole tower, ground-mounted equipment platform and associated improvements, on the property at 121 Parker Avenue, currently a surface parking lot, to create a mixed-use parcel. Use and Area Variances are pending before the Zoning Board of Appeals. Owner: Parker Avenue Realty, LLC; Applicant: Verizon Wireless of the East L.P.; Consultant: Scott Olson, Young Sommer LLC; Zoning District: G-CM; Grid #6162-55-257465; File #PB2024-066

The Planning Board declared Lead Agency pursuant to SEQRA
Motion: Rosaura Andújar-McNeil
Second: Nick DeLuccia
Carried: 7:0:0

2. 31-39 MARKET STREET: SITE PLAN

Application for site plan for the conversion of the existing office buildings at 31and 39 Market Street to a mixed-use building with restaurants, box office/lobby space and office space of the first floors, and a total of 49 dwelling units of the upper floors, including construction of two additional stories on the building at 39 Market Street and the combining of the two lots into a single lot of record. Owner/Applicant: 31 Market LLC; Consultant: Natalie Quinn, KARC Planning Consultants; Grid # 6162-77-030072 and 031066; Zoning District: PID-HC; File #2024-061

Presenting: Natalie Quinn, KARC Planning Consultants

The Planning Board declared Lead Agency pursuant to SEQRA
Motion: Rosaura Andújar-McNeil
Second: Chris Petsas
Carried: 7:0:0

3. 41-57 CANNON STREET: SITE PLAN

Application for site plan the construction of a 6-story mixed use building at 47-51 Cannon Street, with first floor restaurant/artisanal beverage production and 140 dwelling units on the upper stories. The proposal includes the demolition of two existing buildings and combining two lots of record into a single lot of record. Owner: 47 Cannon Street, LLC; Applicant: James Sullivan; Consultant: LRC Engineering & Surveying; Grid # 6162- 77-086045 and 092041; Zoning District: PID-UV; File #2024-060

Presenting: Jim Sullivan, Applicant
Shawn Carr, LRC Group

The Planning Board declared Lead Agency pursuant to SEQRA
Motion: Rosaura Andújar-McNeil
Second: Nick DeLuccia
Carried: 7:0:0

The Planning Board established an escrow in the amount of $3,500
Motion: Rosaura Andújar-McNeil
Second: Nick DeLuccia
Carried: 7:0:0

VI. PUBLIC HEARINGS FOR SITE PLANS/SPECIAL PERMITS/SUBDIVISIONS

1. LOT#151783 SOUTH HAMILTON STREET: SITE PLAN

An application for a three-story building consisting of 29 one-bedroom units and 29 two-bedroom units. Owner/Applicant: O'Neill Group Hamilton LLC.; Consultant: Arico Associates; Grid# 6161-30-151782; Zoning District: Medium High-Density Residential (R-4); File #2023- 041

Presenting: Lauren O'Neill
Dominick Arico, George James, Michael Boyce, Ailhan Polot

A motion was made to open the public hearing
Motion: Rosaura Andújar-McNeil
Second: Nick DeLuccia
Carried: 7:0:0

Speakers: Shirley Adams, Roger Christenfeld, Mike Hartmuth, Ann Hartmuth, Sam Finnerman, Tina Tockarshewsky, Tina McKenna, Michael Ackerbauer, Diane Pedollan, Laurie Sandow

A motion was made to adjourn the public hearing to November 26th
Motion: Rosaura Andújar-McNeil
Second: Shane Egan
Carried: 7:0:0

2. 531 MAIN STREET: SITE PLAN/SPECIAL PERMIT

Application for revised site plan/special permit approval for the conversion of a mini-mart with self-service gas pumps and a one-bay automobile service facility to a convenience store with (existing) self-service gas pumps and a single-bay automobile service shop. Owner: AIF Estates, Inc.; Applicant: Kheiraddine Mazouzi; Consultant: Aryeh Siegel and Alphonso Clark; Grid # 6161-23-350986; Zoning District: Neighborhood Commercial (C-1); File #2023-047

Presenting: Kheiraddine Mazouzi, Applicant
Alfonso Clark, Consultant

A motion was made to open the public hearing
Motion: Rosaura Andújar-McNeil
Second: Bryce Holland
Carried: 7:0:0

Speakers: Laurie Sandow

A motion was made to close the public hearing
Motion: Rosaura Andújar-McNeil
Second: Viviana Peña
Carried: 7:0:0

VII. SITE PLANS/SPECIAL PERMITS/SUBDIVISIONS

1. 15 NORTH CLINTON STREET: SITE PLAN

Application for site plan review relative to the proposed conversion of the existing four family dwelling at 15 North Clinton Street to an eight-family dwelling, including construction of a third story addition. The application previously received variances from the Zoning Board of Appeals relative to lot area, open space and landscaping, Owner/Applicant: North Clinton Holdings LLC., Grid: #6162-79-27208; File #2024-019

Presenting: Issa Nesheiwat

Motion was made to approve the resolution
Motion: Rosaura Andújar-McNeil
Second: Viviana Peña
Carried: 7:0:0

2. "7" MORGAN AVENUE: SITE PLAN

Application for Site Plan Review relative to the proposed construction of two (2) buildings containing a total of nine dwelling units and accessory off- street parking on the vacant parcel at "7" Morgan Avenue. The project previously received area variances from the Zoning Board of Appeals. Owner: Patterson Calhoun, LLC; Applicant: James Patterson; Consultant: Ciro Interrante; Zoning District: Medium High Density (R-4) District; Grid #6162-72-458149; File #2024-025

Presenting: James Patterson

3. 419 MAPLE STREET: SITE PLAN

Site Plan application for the proposed conversion of a two-family dwelling to a four-family dwelling of four one-bedroom units. A waiver is requested for 6 parking spaces. Owner/Applicant:419 Maple, LLC/Yehuda Herzog; Consultant: KARC Planning Consultants; Grid # 6162-79-349050; Zoned: District (R-4); File #2024-041

Presenting: Natalie Quinn, KARC Planning Consultants

Motion was made to approve the resolution
Motion: Rosaura Andújar-McNeil
Second: Viviana Peña
Carried: 6:0:0

4. 306-316 MAIN STREET: SITE PLAN

currently being utilized as a one-story office building and a two-story commercial building. The proposed development to include 120 apartment units, 17,087 SF of ground floor commercial space and resident amenity space. Owner/Applicant; 316 Main LLC Consultant; KARC Planning Consultants Grid# 6162-77-091064 Zoning District: PID HC File #PB2024- 059.

Presenting: Natalie Quinn, KARC Planning Consultants

VIII. ADJOURNMENT

Meeting Adjourned to November 26, 2024
Motion: Rosaura Andújar-McNeil
Second: Viviana Peña
Carried: 6:0:0

For more details regarding the meeting, please visit the Meeting Webcast or the Agendas and Minutes page on the City of Poughkeepsie website.

APPLICATION TO THE PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

Application for Site Plan, Special Permit & Facade Approval

I. **PROPERTY ADDRESS:** 481 MAIN STREET

II. **PROPERTY OWNER:** MUMTAZ CORP, SYED LATEEF, PRESIDENT
ADDRESS: 89 SUNSET AVE
POUGHKEEPSIE
NY 12601 (state and zip code)
PHONE NUMBER: 845-485-0065 (include area code)

III. **NAME OF APPLICANT:** MUMTAZ CORP, SYED LATEEF, PRESIDENT
ADDRESS: 89 SUNSET AVE
POUGHKEEPSIE
NY, 12601 (state and zip code)
PHONE NUMBER: 845-485-0065 (include area code)
EMAIL ADDRESS: lateefali16@yahoo.com

(If applicant is NOT the owner, proof of owner's consent to the application MUST be provided.)

IV. **CONSULTANT:** MAZZARELLI ARCHITECTURE + PLANNING, PC
ADDRESS: 44 NORTH CLOVER STREET
POUGHKEEPSIE
NY, 12601 (state and zip code)
PHONE NUMBER: 845-485-0275 (include area code)

V. **PROPOSED USE or FAÇADE CHANGE** (Summarize proposed use or uses): FIT-UP / RENOVATION OF EXIST MIXED USE BUILDING, COMM SPACES @ BSMT & 1ST FL, RES @ 2ND & 3RD FLS

VI. **ZONING DISTRICT:** C-3 GEN COMM DIST

OFFICE USE ONLY

CODE: PLSF

ID #_____

FEE: _____
Total, from:
$500, plus
$_____
($150 per 1000 square feet of floor area), plus
$_____
($35 per number of required parking spaces), plus
$_____
($500 for special permit, if applicable)

(Proceed to XVII for special permit & façade approval only)

PROJECT INFORMATION

New construction: _____(yes) X (no)

Change of use: X (yes) _____ (no)

Expansion/addition: _____ (yes) X (no)

Alteration: X (yes) _____ (no)

Cost of Construction: $ TBD

LOT AND BULK INFORMATION:

Lot area: +/- .61 (acres) +/- 26,719 (square feet)

Building Footprint: N/A (proposed square feet for new construction)

_____ (existing square feet for change of use/expansion)

N/A (additional proposed square feet for expansion)

+/-4,540 (total building footprint, square feet)

Lot Coverage: +/- 33% (percentage, building coverage only)

Gross Floor Area: N/A (proposed square feet for new construction)

_____ (existing square feet for change of use/expansion)

N/A (additional proposed square feet for expansion)

_____ (total gross floor area, square feet)

Building Height: 3 (stories) +/-32 (feet)

Floor Area Ratio: .62 (ratio of gross floor area divided by lot area)

VIII. PROJECT PARKING INFORMATION

A) Number of Off-Street Parking Spaces required: 17

B) Number of Off-Street Parking Spaces provided: 17

C) Waiver Requested: _____ (Yes) X (No)

Is municipal parking available within 600 feet? _____ (Yes) _____ (No)

XI. SERVICE BUSINESS PROPOSALS

A) Specify Business: _____
(e.g., laundromat, drycleaner, beauty parlor, travel agency, banks)

B) Number of Employees: _____

C) Number of Washing Machines (for laundromat): _____

D) Days/Hours of Operation: _____

XII. MERCANTILE PROPOSALS (Retail X Wholesale _____)

A) Type of Mercantile (specify): FUTURE GROCERY

B) Number of Employees: +/-1-2 PER SPACE @ BSMT & 1ST FL

C) Days/Hours of Operation: TO BE DETERMINED

XIII. STANDARD RESTAURANT/FAST FOOD RESTAURANT/COFFEE SHOP/DONUT SHOP/NIGHTCLUB/DISCOTHEQUE/BAR PROPOSALS

A) Specify Use: FUTURE FAST FOOD RESTAURANT - TO BE DETERMINED

B) Number of seats (excluding bar stools and outdoor seating): _____

C) Meals served (i.e., breakfast, lunch, dinner): _____

D) Type of Menu: _____

E) Days/Hours of Operation: _____

F) Entertainment (live and/or recorded): _____

G) Will the restaurant contain a bar/lounge?: _____ Yes _____ No

H) If yes, how many seats at the bar? _____

I) Is a drive-through window proposed? NO

J) Is a walk-up window proposed? NO

K) Is an outdoor seating area proposed? NO

L) If yes, how many seats are proposed? N/A

M) If yes, is outdoor cooking proposed? N/A

XIV. INDUSTRIAL/COMMERCIAL PROPOSALS (Automobile repair, taxi, motor vehicle sales, warehouse, manufacturing, animal hospital, research facilities, etc.)

A) Specify Use: _____

B) Number of shifts (if any): _____

C) Number of employees: _____
(If shifts are proposed, list number of employees per shift)

E) Number of work bays (if automobile repair): _____

F) Days/Hours of operation: _____

If yes, name all such municipal facilities: _____

_____

_____

(If a waiver is requested based on proximity to municipal facilities, a written request for such waiver, addressed to the City Planning Staff and the Chairman of the Planning Board, must be submitted with the application.)

If a private parking facility is to be utilized, is such facility within 600 feet?

_____ (Yes) _____ (No)

If yes, provide the address of the facility, name of the property owner, number of spaces in the lot, number of spaces available for lease, and length of lease. Attach copy of lease. Additional information may be required by the Planning Board): _____

_____

_____

_____

IX. RESIDENTIAL PROPOSALS

A) Type of Development: APARTMENTS
(Townhouse, condominium, multiple residence rental, etc.)

B) Unit Breakdown:

Number of efficiency or "studio" units: _____

Number of one (1) bedroom units: _____

Number of two (2) bedroom unit's 3

Number with three or more bedrooms: _____

Total number of units: 3

C) Is funding public? ____ Yes X No

If yes, describe funding source: _____

X. OFFICE PROPOSALS (____ Medical/Dental ____ Professional ____ Business)

A) Number of Employees: _____

B) Number of doctors/dentists/medical practitioners: _____

C) Days/Hours of Operation: _____

XV. EDUCATIONAL/INSTITUTIONAL/RECREATIONAL PROPOSALS (e.g., Museums, Theatres, Conference Centers, Hotels, Motels, Hospitals, Nursing Homes, Assisted Living Facilities, Nursery Schools, Private Schools, Day Care Centers, Places of Worship, Marinas, Membership Clubs, etc.)

A) Specify: _____

B) Number of shifts (if any): _____

C) Number of employees: _____
(If shifts are proposed, list number of employees per shift)

D) Number of beds (hospitals, nursing homes, etc): _____

E) Number of seats in largest assembly space: _____

F) Number of classrooms (schools): _____

G) Number of rental units (hotels, motels, etc.) _____

H) Number of boat slips/courts (e.g., tennis, handball, etc.), alleys: _____

I) Days/Hours of Operation: _____

XVI. PROPOSALS NOT MENTIONED ABOVE (Please be specific):

_____

_____

_____

_____

_____

XVII. APPLICANT CERTIFICATION

I, MUMTAZ CORP, SYED LATEEF, certify that the this application has addressed the objectives outlined in the Zoning Ordinance with consideration given to the public health, safety and welfare; the comfort and convenience of the public in general or the residents or users of the proposed development and of the immediate neighborhood.

The applicant certifies that all information contained herein is accurate and complete as of the date of this application.

_____ 28 MAR 23

Signature of Applicant Date

MAZZARELLI ARCHITECTURE + PLANNING, PC
44 NORTH CLOVER STREET
POUGHKEEPSIE, NY 12601
845 485 0275 V
845 485 2601 F

CITY OF POUGHKEEPSIE
62 CIVIC CENTER PLAZA,
2ND FLOOR
POUGHKEEPSIE, NY 12601

JOB #2204
10 June 24

Re: 481 Main Street
Architectural review comments
City Engineer comments

To Planning Board members:

Below are our responses to the Architectural Consultants comments dated 15 June 2023 & City Engineers comments dated 16 June 23 & 16 Mar 24.

ARCHITECTURAL REVIEW:

Signage There is an existing side mounted signage pole on the existing structure, which we understand is not intended to be removed. If the applicant is amenable, we hope that this item should remain and be refurbished enough to support vertical banners for the district, or display printed works like previously shown with photographs of the Fall Kill printed on scrims at Murphy Park by Hudson River Housing.

The Existing sign pole will be cleaned, prepped and re-painted "black" it's original color. The existing signage has been taken down to be repaired and is intended to be reinstalled.

Materials - Brick MASS observes in the renderings new brick piers at the corners which we recommend should match (esp. color/texture/mortar appearance) of the wall brick of the existing building behind. We would also recommend that the existing parged brick along the walk to the back be prepared (parged/primed) for a future mural to help participate in the district identity. MASS is happy to introduce partners who could help with selection of artist/content.

The Owner would like to keep the proposed red brick piers, he prefers the contrast to the beige bricks. The adjacent "Art Centro" building has two different bricks, similarly colored on it's exterior & we feel this is not at all a detriment to this proposal.

The Owner is not opposed to allowing the use of his building for a future mural however; he does not feel the cost of parging or priming the additional concrete masonry walls as requested should come out of his budget for renovating the building. He would also like to see this parging or priming occur just prior to the painting of the mural, he is concerned that the newly created canvas will attract potential unwanted graffiti. Lastly, the Owner needs to have the final approval of any proposed artwork / mural.

Materials - Siding Please clarify intent as to the vertical siding. In the workshop it was discussed that Vinyl siding is being considered – MASS would not recommend residential Grade Vinyl Siding for a number of reasons including sustainability and durability (material is very susceptible to impacts). In

discussion we asked if the applicant would consider board and batten cementitious plank siding. We would love the chance to revisit the intent of the low panels when the design is updated.

The Owner has agreed to install a cementitious Board and Batten siding by James Hardie, as recommended. The low panels are a common occurrence thru-out Main Street. They shall be similar to the panels installed on the "Art Centro" building.

Windows/Doors The windows and doors, as presented, are attempting to respond to the white window frames in the adjacent "Art Centro" property. We recommend that any possible alignments of window head and/or sill to Art Centro could be made to allow this building to be in better dialogue with its immediate neighbor. In trying to understand the doorways, some are shown with transom windows over the door. Can all of the doors include this detail as a way to communicate where to enter?

Are any of the exterior windows operable? We would recommend that any side lites or transoms could include the possibility of operability to help increase access to fresh air. Landscaping/Site Please clarify the street gate (materials/aesthetics) – is this to be similarly detailed as the refuse enclosure? Will there be any landscape or planting improvements

The window heads and sills have been adjusted to align with the adjacent "Art Centro" property as recommended. We have also added the additional transom windows as requested.

There will be no operable windows installed at this time. We do not feel it is necessary nor would it be detrimental to the proposed project as designed.

There is no proposed Landscaping at this time. The site is currently covered by pavement and buildings.

The entry gate will be replaced w/ a black bifold chain-link fence.

ENGINEERS REVIEW 16 JUNE 23:

1. *Show existing water and sewer services, including pipe diameters.*

   See plans provided by William J Moreau, PE Consulting Engineer.

2. *Provide documentation verifying existing domestic water and sewer services are sufficient for proposed change in uses.*

   See plans provided by William J Moreau, PE Consulting Engineer.

3. *Provide traffic control plan for sprinkler service installation.*

   See plans provided by William J Moreau, PE Consulting Engineer.

4. *Repair or replace existing catch basins in disrepair. During a site investigation floatables and free oil product were observed in the basins. The applicant should install catch basin inserts for treating the observed pollutants – trash, debris, oils and grease. The applicant should also consider a parking lot sweeping plan to prevent pollutants from reaching the City MS4.*

   See plans and drawings provided by William J Moreau, PE Consulting Engineer.

   Currently, the owner has the parking lot swept daily and as needed.

5. *Indicate on site plan where catch basins drain.*

   See plans provided by William J Moreau, PE Consulting Engineer.

6. *Provide detail for retaining wall repair.*

   Detail provided, see 5 / S-1 on plans provided by Mazzarelli Architecture + Planning, PC.

7. *Bollards or guide rail should be considered at top of southern retaining wall.*

   Detail provided, see 5 / S-1 on plans provided by Mazzarelli Architecture + Planning, PC.

8. *Provide an itemized cost estimate for proposed site work.*

   See itemized cost estimate provided by BVA Construction Corp.

ENGINEERS REVIEW 16 MARCH 24:

1. *Where does the 3" waste line @ rear of the Active Beverage Building drain?*

   This is still to be determined.

2. *Provide calculations to ensure that the proposed Contech CDS2015 are appropriately sized for the site. Provide maintenance plan and schedule for these practices. Provide maintenance records to the city engineering department on an annual basis.*

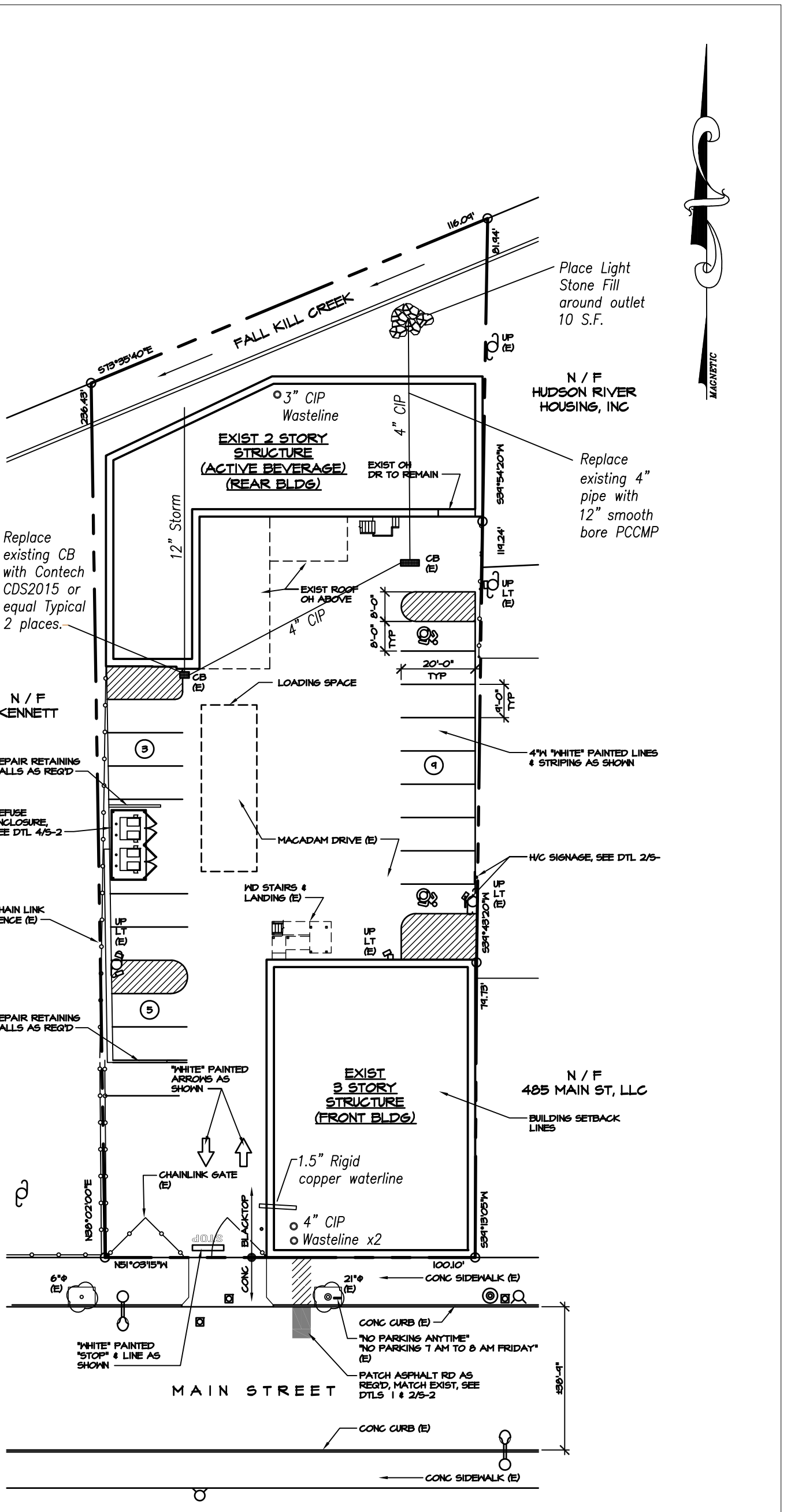
   See the Hydrological Study and conceptual design options prepared for Langan Engineering dated 29 Apr 2024. See plans provided by William J Moreau, PE Consulting Engineer dated 10 June 24 for final storm water mitigation design. Maintenance schedule records shall be provided on an annual basis.

Please do not hesitate to contact me if you have any questions, comments or concerns.

Sincerely,

Steven Bernabé Jr

2204-RESPONSE-10JUNE24.DOC



Mumatz Corp.
481 Main Street
Poughkeepsie, NY
Utilities Plan

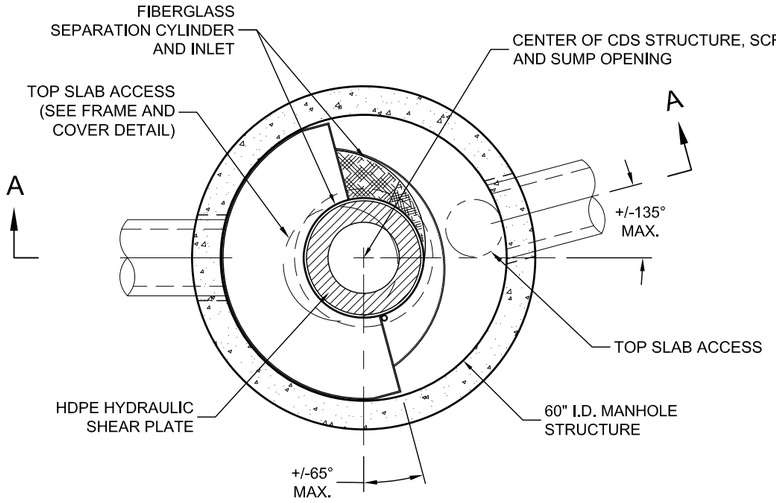
No.	Revision/Issue

William J. Moreau, P.E.
Consulting Civil Engineer

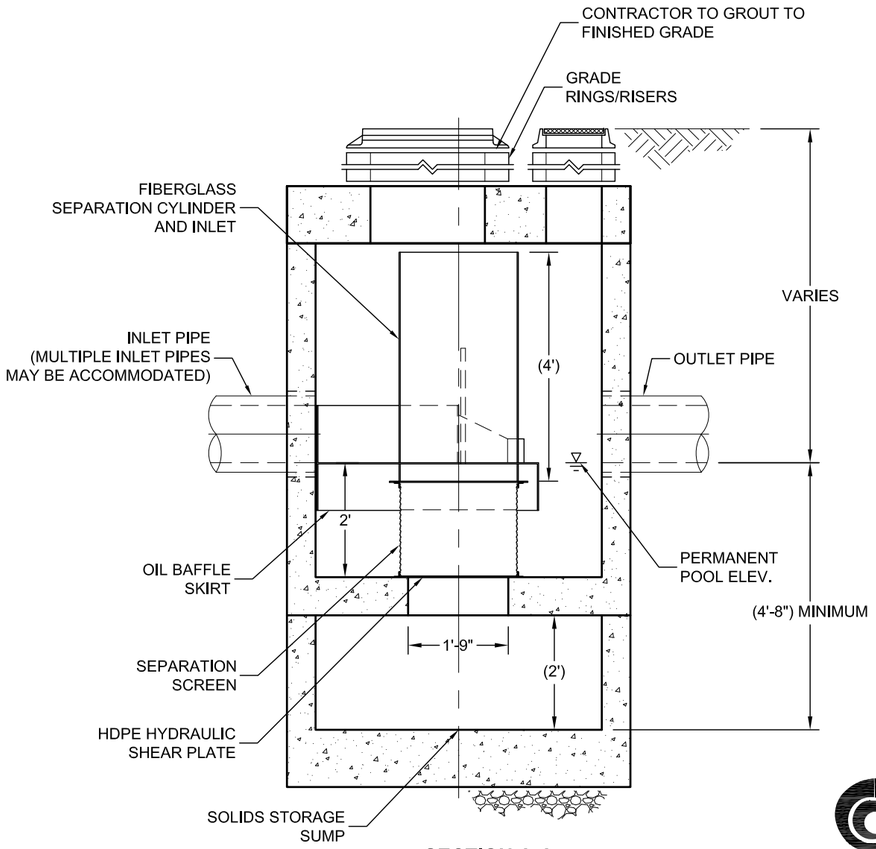
STATE OF NEW YORK WILLIAM J. MOREAU No. 060887 LICENSED PROFESSIONAL ENGINEER

60 Rymph Road
LaGrangeville, NY 12540

Project	Sheet
Date 06/10/24	1
Scale As noted	



PLAN VIEW
N.T.S.



SECTION A-A
N.T.S.

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,788,848; 6,641,720; 6,511,595; 6,581,783; RELATED FOREIGN PATENTS, OR OTHER PATENTS PENDING.

CDS2015 DESIGN NOTES

CDS2015 RATED TREATMENT CAPACITY IS 0.7 CFS, OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 14.0 CFS. IF THE SITE CONDITIONS EXCEED 14.0 CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD CDS2015 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

DESIGNATION (MODEL SUFFIX)	CONFIGURATION DESCRIPTION
G	GRATED INLET ONLY (NO INLET PIPE)
GP	GRATED INLET WITH INLET PIPE OR PIPES
K	CURB INLET ONLY (NO INLET PIPE)
KP	CURB INLET WITH INLET PIPE OR PIPES
B	SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
W	SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS)			*
PEAK FLOW RATE (CFS)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
	*	*	

NOTES/SPECIAL REQUIREMENTS:

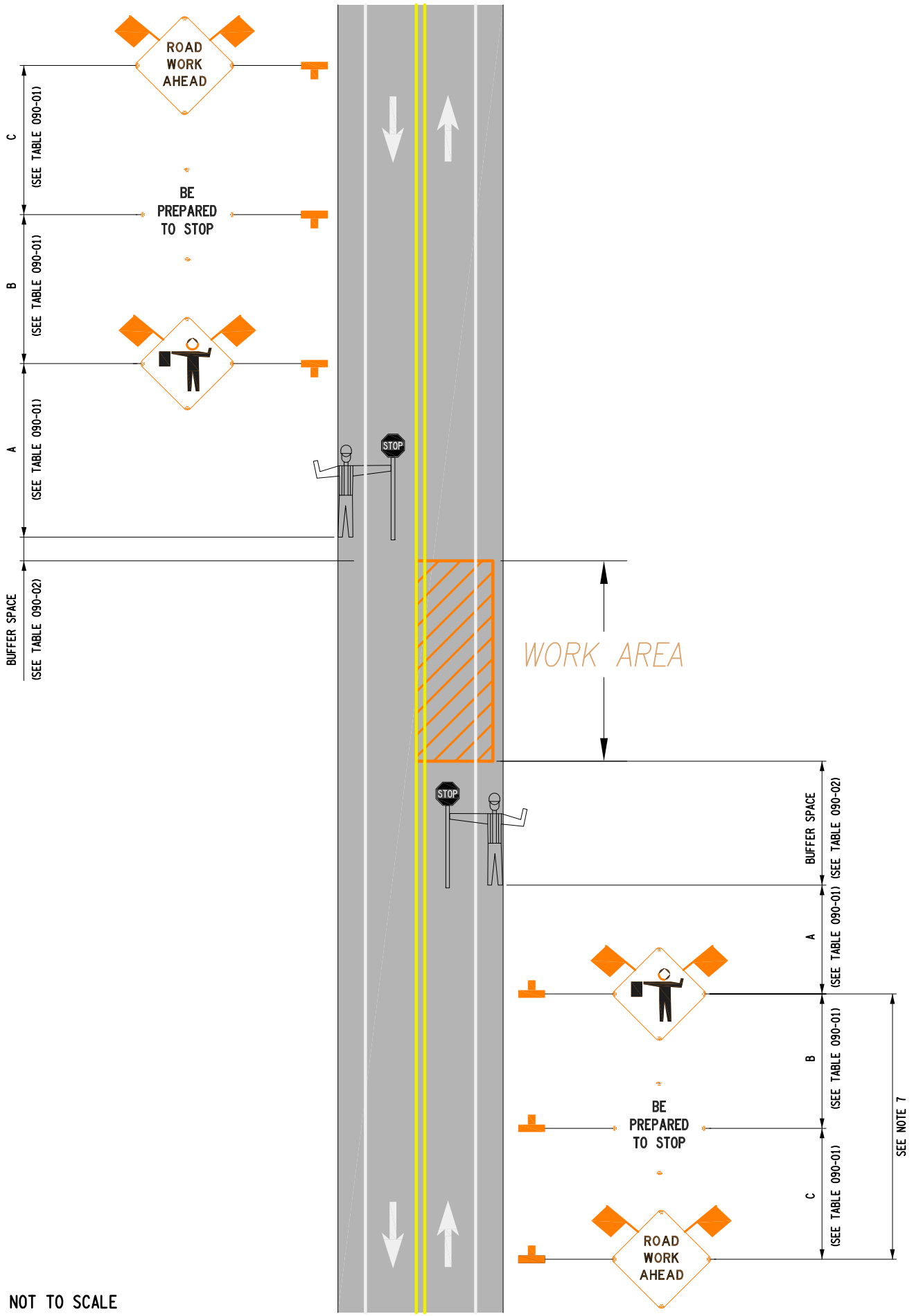
* PER ENGINEER OF RECORD

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH STORMWATER SOLUTIONS REPRESENTATIVE. www.contechstormwater.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.
6. HDPE HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
3. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
4. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
5. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH STORMWATER SOLUTIONS
contechstormwater.com

CDS2015
PRECAST CONCRETE WATER QUALITY SYSTEM
STANDARD DETAIL



NOT TO SCALE

TABLE 090-01: ADVANCE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS			SIGN LEGEND	
	A (FT.)	B (FT.)	C (FT.)	XX	YY
URBAN (≤ 30 MPH•)	100	100	100	AHEAD	AHEAD
URBAN (35-40 MPH•)	200	200	200	AHEAD	AHEAD
URBAN (≥ 45 MPH•)	350	350	350	1000 FT.	AHEAD
RURAL	500	500	500	1500 FT.	1000 FT.

• PRECONSTRUCTION POSTED SPEED LIMIT

TABLE 090-02: LONGITUDINAL BUFFER SPACE

PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	DISTANCE (FT.)/ # OF SKIP LINES
25	155/4
30	200/5
35	250/6
40	305/8
45	360/9
50	425/11
55	495/13

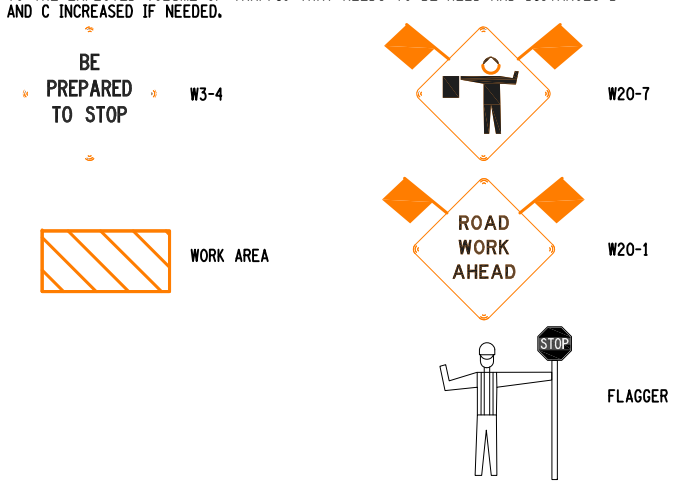
TABLE 090-03: REQUIRED SIGN SIZE•

SIGN	NON-FREEWAY	FREEWAY
W3-4	36x36	48x48
W20-1	36x36	48x48
W20-7	36x36	48x48
WARNING FLAG	18x18	18x18

•FREEWAY SIZES MAY BE USED ON NON-FREEWAY, IF SPACE CONSTRAINTS DO NOT EXIST.

NOTES:

1. *Single lane closure with alternating traffic around work zone.*
2. IN URBAN CONDITIONS, ADVANCE WARNING SIGN SPACINGS MAY BE ADJUSTED IN ORDER TO ACCOMMODATE SIDE STREETS AND DRIVEWAYS. IF THERE IS A CONFLICT, MOVE THE SIGN UPSTREAM.
3. FLAGGER SYMBOL SIGN (W20-7) AND "BE PREPARED TO STOP" (W3-4) SHALL BE REMOVED, COVERED OR TURNED AWAY FRON ROAD USERS WHEN FLAGGING OPERATIONS ARE NOT OCCURING.
4. FOR MULTI LANE ROADWAYS, A SITE SPECIFIC PLAN IS REQUIRED ILLUSTRATING PROPOSED STRATEGIES / SIGNAGE TO REDUCE THE ROAD TO A SINGLE LANE ON EACH APPROACH TO THE WORK AREA.
5. TRAFFIC IN BOTH DIRECTIONS WILL BE STOPPED FOR THE ENTIRE DURATION OF THE WORK. THE WORK SHALL BE SUSPENDED DURING PERIODS OF POOR VISIBILITY AND DURING PEAK HOURS.
6. WORK SHOULD BE SCHEDULED DURING NON-PEAK HOURS.
7. PRIOR TO PLACING THE ADVANCE WARNING SIGNS, CONSIDERATION NEEDS TO BE GIVEN TO THE EXPECTED VOLUME OF TRAFFIC THAT NEEDS TO BE HELD AND DISTANCES B AND C INCREASED IF NEEDED.



NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL ONE LANE TWO-WAY ROADWAY TEMPORARY ROAD CLOSURE

APPROVED DECEMBER 2, 2021

ROBERT LIMOGES, P.E.
DIRECTOR, OTSM

ISSUED UNDER EI 21-028

619-090 *R*

Mumatz Corp.
481 Main Street
Poughkeepsie, NY
Utilities Plan

No.	Revision/Issue

William J. Moreau, P.E.
Consulting Civil Engineer

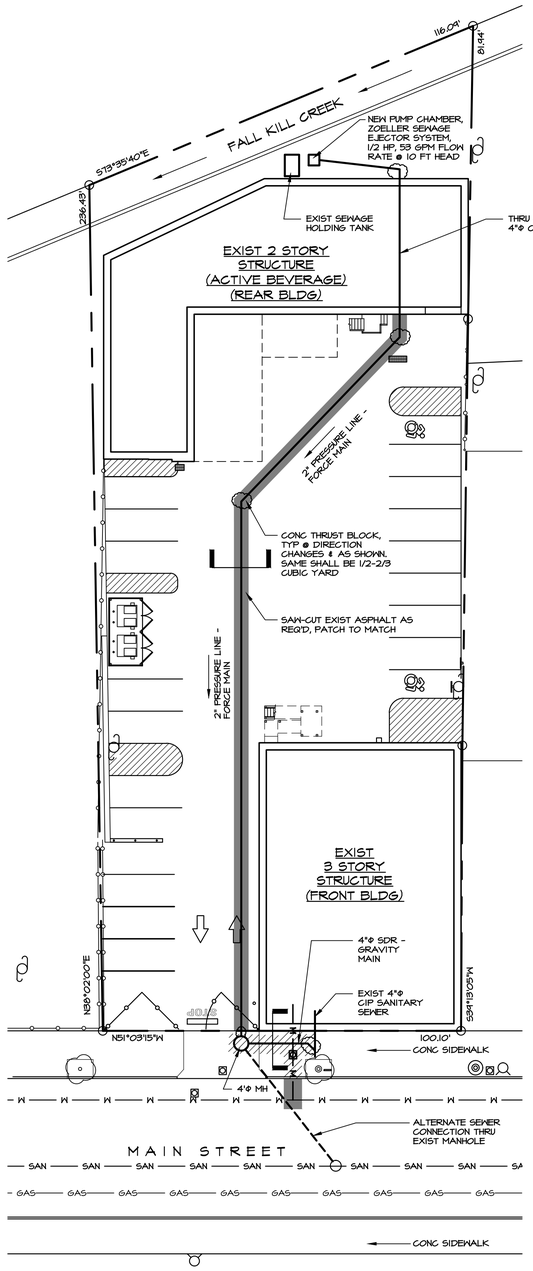
60 Rymph Road
LaGrangeville, NY 12540

Project

Date *08/26/23*

Scale *As noted*

Sheet *3*

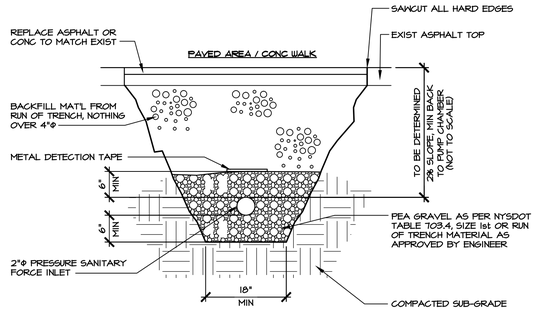


1/4 SEWER PLAN

SCALE: 1"=20'-0"

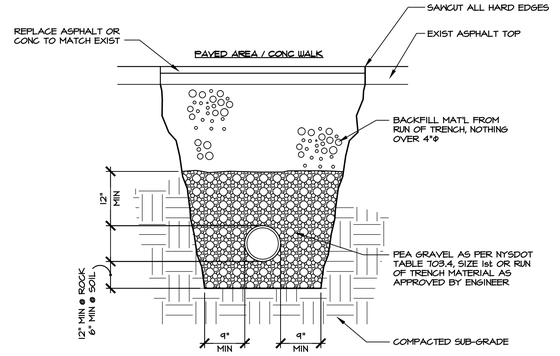
0 10' 20' 40'

NORTH



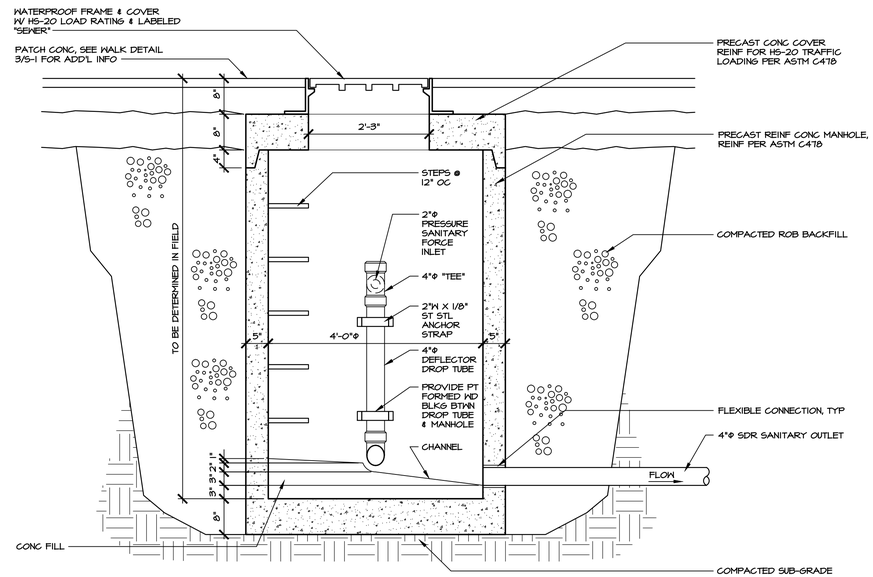
2/4 FORCE MAIN TRENCH DTL

SCALE: NTS



3/4 GRAVITY MAIN TRENCH DTL

SCALE: NTS

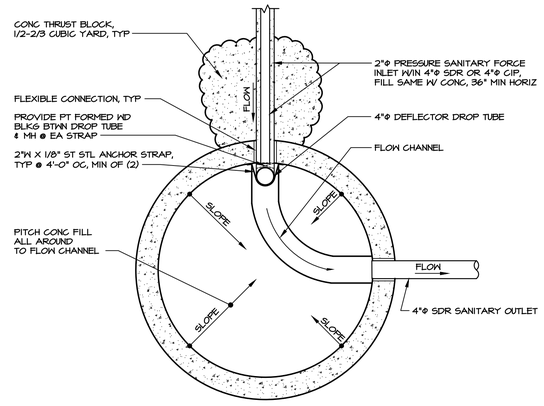


4/4 MANHOLE SECTION

SCALE: 3/4"=1'-0"

NOTES:
1. LEAK TEST AS REQ'D BY CITY ENGINEER SHALL BE PERFORMED PRIOR TO OPG THE SANITARY LINE
2. INSTALL A CONT ASPHALTIC COATING INSIDE & OUTSIDE OF MH

0 6" 1' 2' 3'



5/4 MANHOLE DETAIL

SCALE: 3/4"=1'-0"

0 6" 1' 2' 3'

MUMTAZ CORP
481 MAIN STREET
POUGHKEEPSIE, NY
SANITARY PLAN AND DETAILS

No.	Revision/Issue	Date

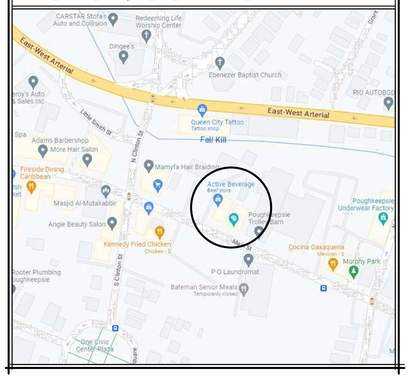
William J. Moreau, P.E.
Consulting Civil Engineer

60 Rymph Rd
LaGrangeville, NY 12540

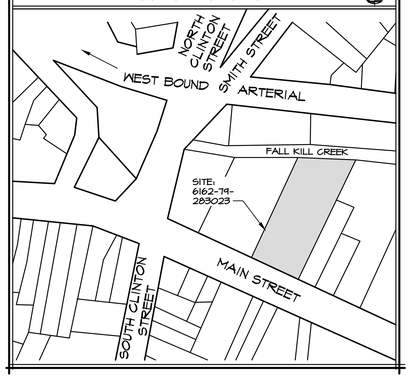
Project	Sheet
Date 11/7/24	4
Scale AS NOTED	

811 Know what's below. Call before you dig.

SITE LOCATION MAP



TAX MAP



CITY OF POUGHKEEPSIE SITE PLAN CHECK LIST

A) LEGAL DATA:
 1. OWNER OF RECORD: MUMTAZ CORP, 8 SUNSET AVE, POUGHKEEPSIE, NY 12601
B) NATURAL FEATURES:
 1. WAIVER REQUESTED FOR EXISTING CONTOURS W/ INTERVALS OF 5 FEET OR LESS.
 2. APPROXIMATE BOUNDARIES OF ANY AREAS SUBJECT TO FLOODING OR STORM WATER OVERFLOWS.
 4. THERE ARE NO SCENIC VIEWS FROM THIS PROPERTY.

(C) EXISTING STRUCTURES & UTILITIES:
 8. THERE ARE NO EXIST OR PROPOSED EASEMENTS, SETBACKS, RESERVATIONS & AREAS DEDICATED TO PUBLIC USE W/IN OR ADJACENT TO THE PROPERTY.
 9. THERE ARE NO DEED RESTRICTIONS OR COVENANTS KNOWN.

(D) PROPOSED DEVELOPMENT:
 3. THERE IS NO PROPOSED OUTDOOR LIGHTING OR PUBLIC ADDRESS SYSTEMS. CURRENTLY THE OWNER RENTS LIGHTS FROM CHG4E, WHICH ARE OPERATED BY A PHOTOCELL. THE LIGHTS TURN ON @ DUSK & OFF @ DAWN.
 4. THERE ARE NO PROPOSED OUTDOOR SIGNS, SAME SHALL BE APPLIED FOR UNDER SEPARATE SUBMISSION.
 6. THERE IS NO PROPOSED SCREENING & OTHER LANDSCAPING.
 7. THERE ARE NO PROPOSED HYDRANTS OR SEWER LINES.
 8. THE NEAREST FIRE ALARM PULL BOX IS LOCATED @ 505 MAIN ST, POUGHKEEPSIE PUBLIC SAFETY FACILITY
 9. THERE ARE NO PROPOSED EASEMENTS, DEED RESTRICTIONS OR COVENANTS & NO AREAS TO BE DEDICATED TO A PUBLIC AGENCY.
 10. THERE ARE NO CONTEMPLATED PUBLIC IMPROVEMENTS ON OR ADJOINING THE PROPERTY.
 11. THERE ARE NO PROPOSED NEW GRADES.
 13. THE PROPOSED STRUCTURE SHALL COMPLY W/ THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE
 14. THIS SITE PLAN IS A SINGLE STAGE PROJECT

NOTES:

THE FOLLOWING SHALL BE INSTALLED IF REQ'D BY THE CITY:

THE WATER SERVICE SHALL HAVE A WATTS DOUBLE CHECK VALVE BACKFLOW PREVENTOR OR EQUAL INSTALLED AT THE WATER METER. AFTER THE INSTALLATION IS PERFORMED, THE BACKFLOW PREVENTOR MUST BE TESTED BY A NEW YORK STATE CERTIFIED TESTER. A CERTIFICATE OF APPROVAL MUST BE SENT TO THE PLUMBING INSPECTOR AND THE DUTCHESS COUNTY BOARD OF HEALTH.

REQUIRED SIGNATURES

PLANNING	FIRE CHIEF
	POLICE CHIEF
	SUPERINTENDENT OF PUBLIC WORKS
	CITY ENGINEER
	BUILDING INSPECTOR

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK
SITE PLAN APPROVAL

FILE NO:
PROJECT NAME: REPAIRS & RENOVATIONS TO: 481 MAIN ST
PROJECT LOCATION: 481 MAIN STREET
APPLICANT:
OFFICIALLY APPROVED AT THE PLANNING BOARD MEETING HELD ON ___DAY OF _____, 2024 ⚠
PLANNING CHAIRMAN:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

INDEX TO DRAWINGS

SHT. #	TITLE
S-1	SITE PLAN, DETAILS & NOTES
S-2	UTILITY PLAN & DETAILS
S-3	PRELIM BSMT & 1ST FL PLANS
S-4	PRELIM 2ND & 3RD FL PLANS
S-5	PRELIM ELEVATIONS

LEGEND

UP	UTILITY POLE
	CONC CURB
	EXIST LIGHT POLES (LP)
	CATCH BASIN
	GAS VALVE
WV	WATER VALVE
	EXIST FIRE HYDRANTS
N/F	NOW OR FORMERLY
W	WATER MAIN
SAN	SANITARY SEWER
GAS	GAS MAIN
E	OVERHEAD ELEC LINES
(E)	EXISTING

OWNER'S CERTIFICATION

I / WE THE UNDERSIGNED OWNER / OFFICER OF THE PROPERTY SHOWN HEREON, HEREBY CERTIFY THAT I / WE ARE FAMILIAR W/ THIS MAP, IT'S CONTENTS & IT'S LEGENDS & HEREBY AGREE TO THE TERMS & CONDITIONS AS STATED HEREON. I / WE THE UNDERSIGNED OWNER / OFFICER OF THE PROPERTY HEREBY CERTIFY THAT I / WE ARE FINANCIALLY CAPABLE OF COMPLETING THIS PROJECT

SYED LATEEF — PRESIDENT
PRINT NAME — TITLE
SIGNATURE — DATE

MUMTAZ CORP
SYED LATEEF
481 MAIN STREET
POUGHKEEPSIE, NY 12601

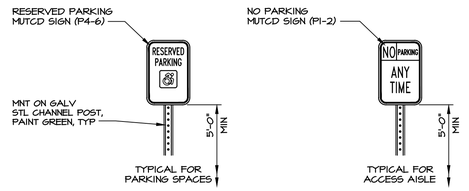
PARKING REQUIREMENTS

USE	REQ'MTS	UNITS	SPACES REQ'D	PROPOSED
MULTI-FAMILY DWELLING	2 SPACES / 2 BDRM UNIT	(3) 2 BDRM UNITS	6	6
GROCERY / RETAIL (REAR BLDG)	1 SPACE / 300 SF OF GROSS FL AREA	±1,475 SF / 300	5	5
STORAGE (REAR BLDG)	1 SPACE / 1,000 SF OF GROSS FL AREA	±5,765 SF / 1,000	6	6
TOTAL			17	17

ZONING DATA CHART

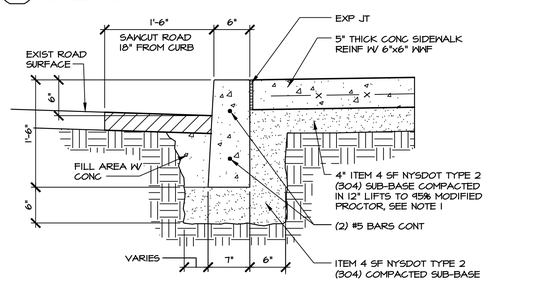
ZONE C-3 GENERAL COMMERCIAL DISTRICT	REQ'D/ALLOW		EX/PROP
LOT AREA	MIN	NONE	NONE
LOT FRONTAGE	MIN	40'	100.10'
FRONT YARD SETBACK	MIN	10'	0'-0" *
SIDE YARD SETBACKS	MIN	10'	±43'-8" & 0'-0" *
REAR YARD SETBACK	MIN	20'	±175'-6"
FAR (INCLUDES BOTH FRONT & REAR BLDGS)	MAX	2.0	.62
LOT COVERAGE	MAX	60%	± 33%

* PRE-EXIST NON-CONFORMING



2 S-1 H/C SIGN DETAILS

SCALE: NTS

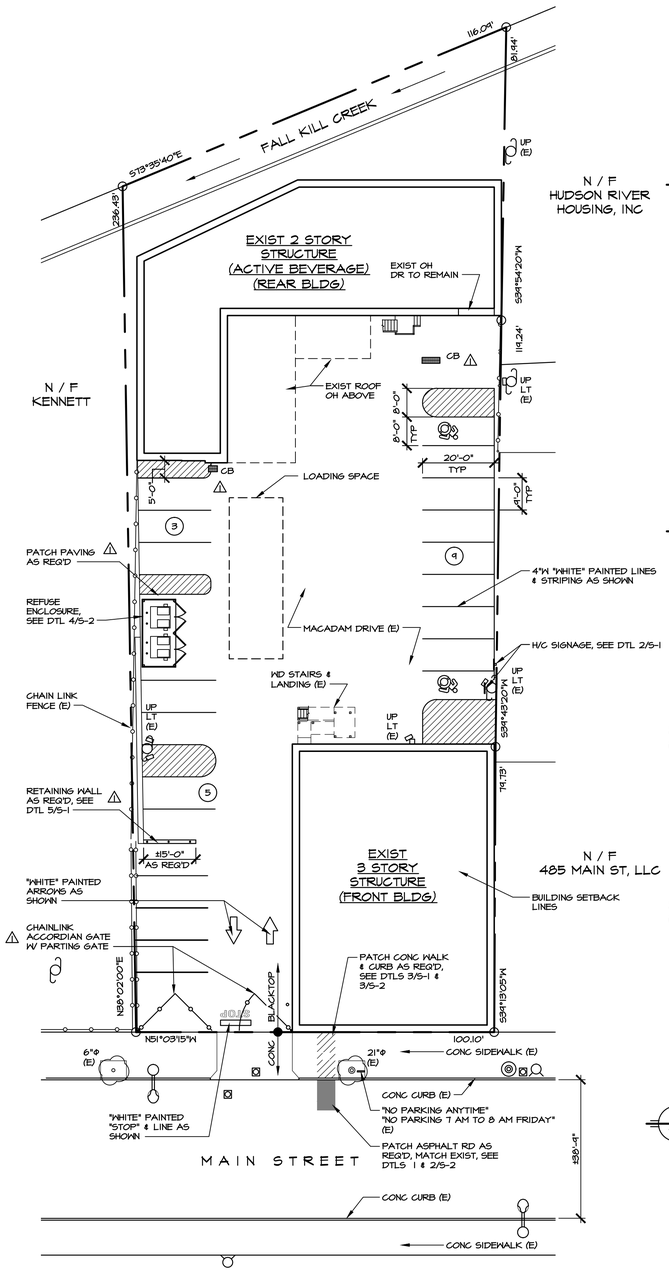


3 S-1 CONC WALK DETAIL

SCALE: 1"=1'-0"

0 3" 6" 1' 2'

NOTES:
1. ALL CONC SHALL BE MIN 4,000 PSI.
2. PROVIDE TOOLED CONTROL JOINTS @ ± 5'-0" OC MAX, UON
3. UPON COMPLETION OF CURING ALL CONC SURFACES SHALL BE COATED W/ SODIUM CHLORIDE INHIBITING SEALER AS REQ'D.

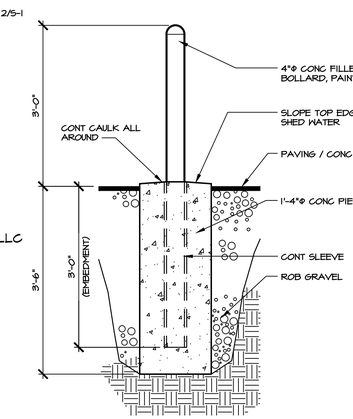


1 S-1 SITE PLAN

SCALE: 1"=20'-0"

0 10' 20' 40'

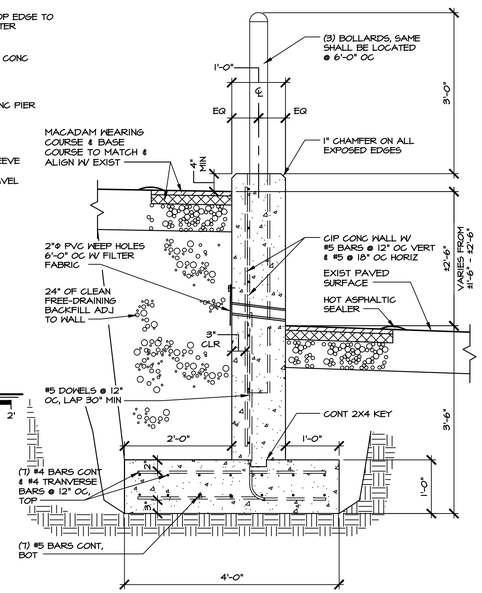
NOTE:
1. THE ABOVE SITE PLAN WAS GENERATED BASED UPON THE FOLLWING:
 A. SURVEY ENTITLED "SURVEY MAP PREPARED FOR JORGE DUQUE, CITY OF POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK AS PREPARED BY ROBERT D KALAKA, LS & DATED 4 AUG 2005
 B. SITE OBSERVATIONS BY MAZZARELLI ARCHITECTURE + PLANNING, PC ON 3 MAR 23, 17 MAR 23 & 22 MAR 23



4 S-1 BOLLARD DETAIL

SCALE: 3/4"=1'-0"

0 6" 1' 2'



⚠ 5 S-1 BOLLARD/RETAINING WALL DETAIL

SCALE: 3/4"=1'-0"

0 6" 1' 2'

811 Know what's below. Call before you dig.

⚠ 10 JUN 24

project no. 22-04

date 28 MAR 23

drawn by SB

REPAIRS AND RENOVATIONS TO:

481 MAIN STREET

POUGHKEEPSIE, NY

SITE PLAN, DETAILS AND NOTES

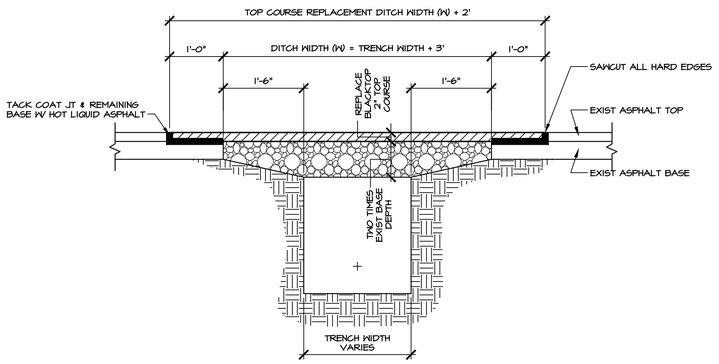
MAZZARELLI ARCHITECTURE + PLANNING, PC
44 NORTH CLOVER STREET
POUGHKEEPSIE NY 12601
845 485 0215

MAPI

PURSUANT TO SECTION 6415 (3) OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION UNAUTHORIZED ALTERATIONS TO THIS DOCUMENT IS A VIOLATION OF THE LAW.

DISTRIBUTION:
PER PLANNING BD COMMENTS

S-1

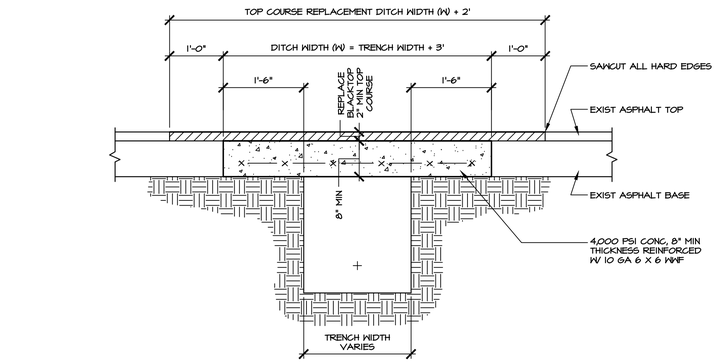


FLEXIBLE PAVEMENT & TRENCH LIMITS DETAIL

1 S-2 SCALE: NTS

NOTE:

1. DITCH WIDTH SHALL EXTEND A MIN OF 1'-6" FROM EDGES.
2. REPLACED BASE MATERIAL OVER TRENCH SHALL BE 2X THE THICKNESS OF THE BASE. (MIN THICKNESS OF 8").
3. BASE MATERIAL SHALL BE PLACED IN 2 OR 3 LAYERS & EACH LAYER THOROUGHLY ROLLED OR TAMPED.
4. ASPHALTIC CONC PAVEMENT JTS SHALL BE MECHANICALLY SAWN.
5. ALL JTS SHALL BE SQUARED TO THE EXIST EDGE OF CURB &/OR PAVEMENT, & TACK COATED PER DETAIL.
6. TOP COURSE SURFACE REPLACEMENT SHALL EXTEND A MIN OF 1'-0" FROM EDGES OF THE OPEN CUT ONTO THE ROAD BASE.
7. TOP COURSE REPLACEMENT SHALL BE MIN OF 2" OF ASPHALTIC CONC.

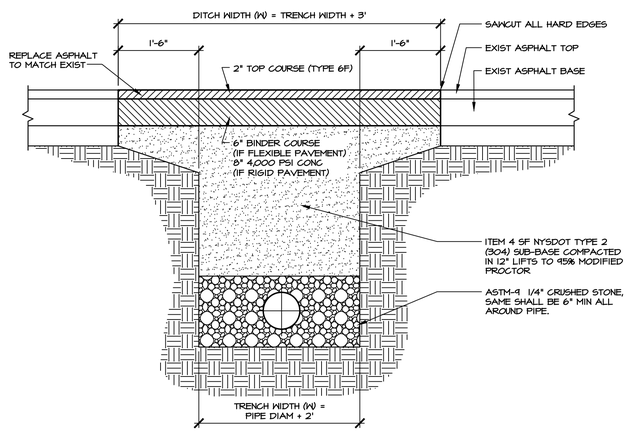


RIGID PAVEMENT & TRENCH LIMITS DETAIL

2 S-2 SCALE: NTS

NOTE:

1. CONTRACTOR SHALL PROVIDE ALL NECESSARY PLATING TO FACILITATE CONCRETE CURING OPERATIONS



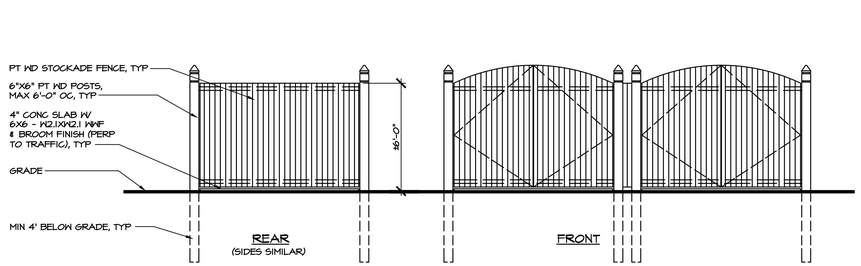
UTILITY TRENCH IN ROW DETAIL

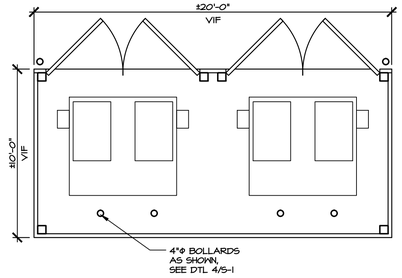
3 S-2 SCALE: 3/4"=1'-0"

0 3" 6" 1' 2'

NOTES:

1. DITCH WIDTH SHALL EXTEND A MIN OF 1'-6" FROM THE EDGES OF THE TRENCH.
2. REPLACED BASE MATERIAL OVER TRENCH SHALL BE ITEM 4 COMPACTED IN 12" LIFTS.
3. ALL JOINTS SHALL BE MECHANICALLY SAWN.
4. ALL JOINTS SHALL BE SQUARED TO THE EXIST EDGE OF CURB &/OR PAVEMENT & TACK COATED PER DETAIL.
5. ROAD SURFACE REPLACEMENT SHALL BE MIN OF 6" OF ASPHALTIC CONC.
6. BINDER COURSE ASPHALT PAVEMENT TO BE PLACED IN 2 LIFTS.



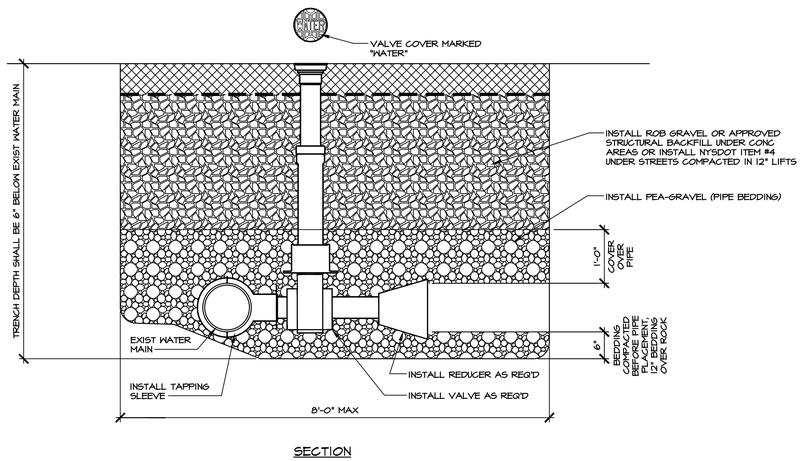


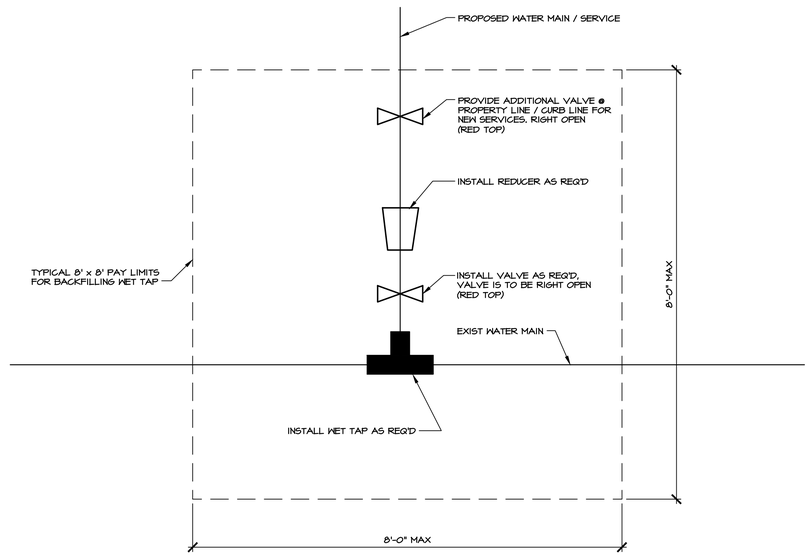
REFUSE ENCLOSURE DETAIL

4 S-2 SCALE: NTS

NOTE:

1. CONTRACTOR SHALL CONTACT REFUSE COMPANY FOR FINAL SIZE OF ENCLOSURE & CONFIGURATION OF BINS



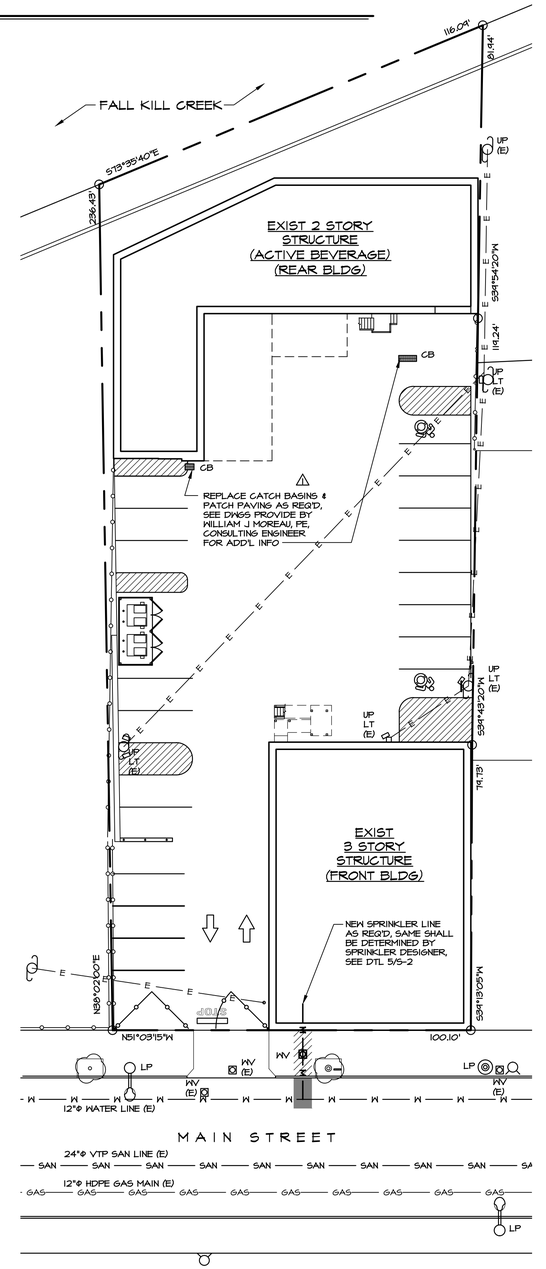


TAPPING SLEEVE & VALVE DETAIL

5 S-2 SCALE: NTS

NOTES:

1. ALL BACKFILL SHALL BE PLACED IN 1'-0" LIFTS & COMPACTED TO 95% OF MODIFIED PROCTOR (ASTM 1557)
2. SAME SHALL BE DESIGNED FOR H-20 LOADING



UTILITY PLAN

6 S-2 SCALE: 1"=20'-0"

0 10' 20' 40'

NORTH

1	10 JUN 24
project no.	22-04
date	28 MAR 23
drawn by	SB

REPAIRS AND RENOVATIONS TO:

481 MAIN STREET

POUGHKEEPSIE, NY

UTILITY PLAN AND DETAILS

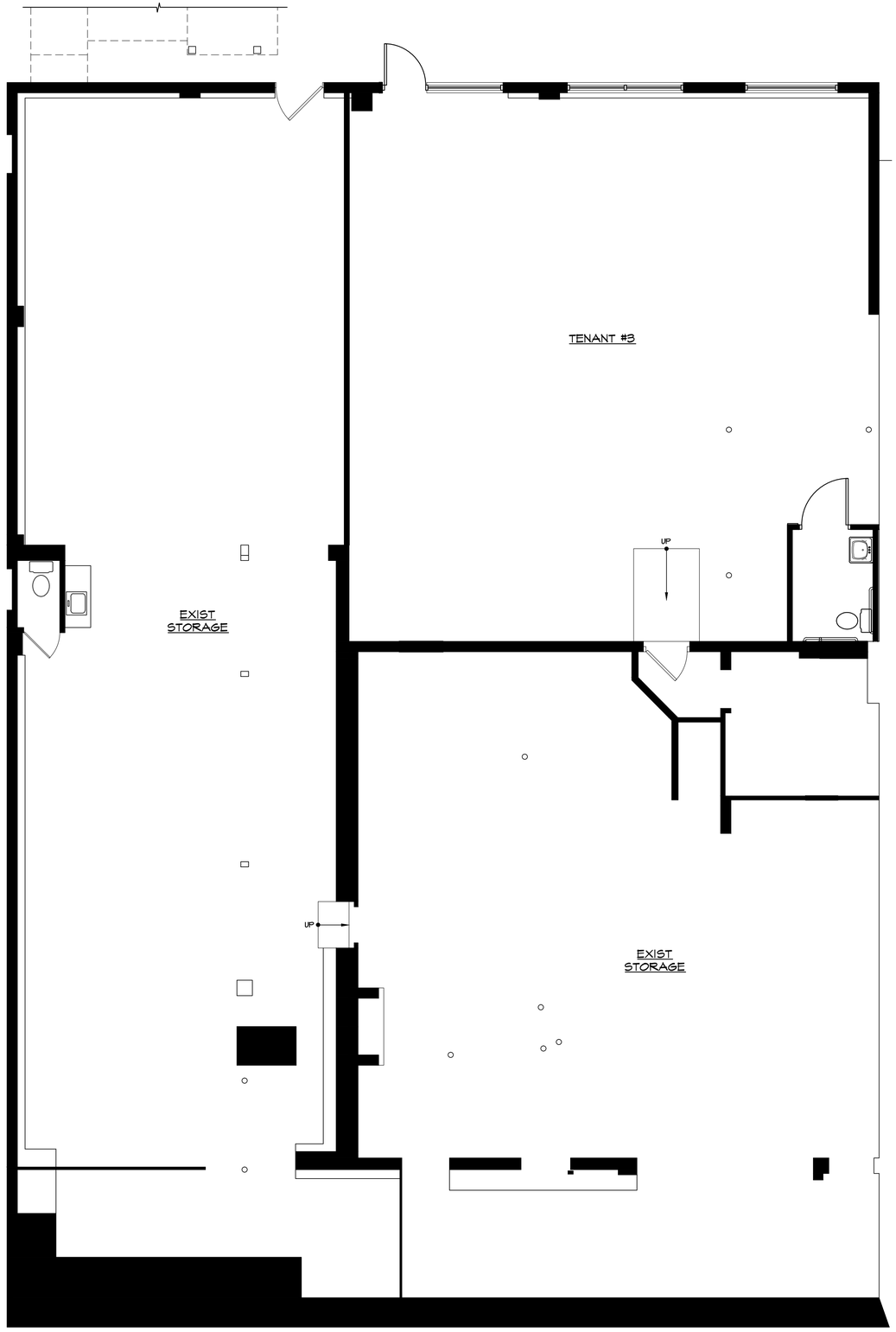
MAZZARELLI ARCHITECTURE + PLANNING, PC
44 NORTH CLOVER STREET
POUGHKEEPSIE NY 12601
845 485 0215

MAP

PURSUANT TO SECTION 6415 (B) OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION UNAUTHORIZED ALTERATIONS TO THIS DOCUMENT IS A VIOLATION OF THE LAW.

DISTRIBUTION:
PER PLANNING BD COMMENTS

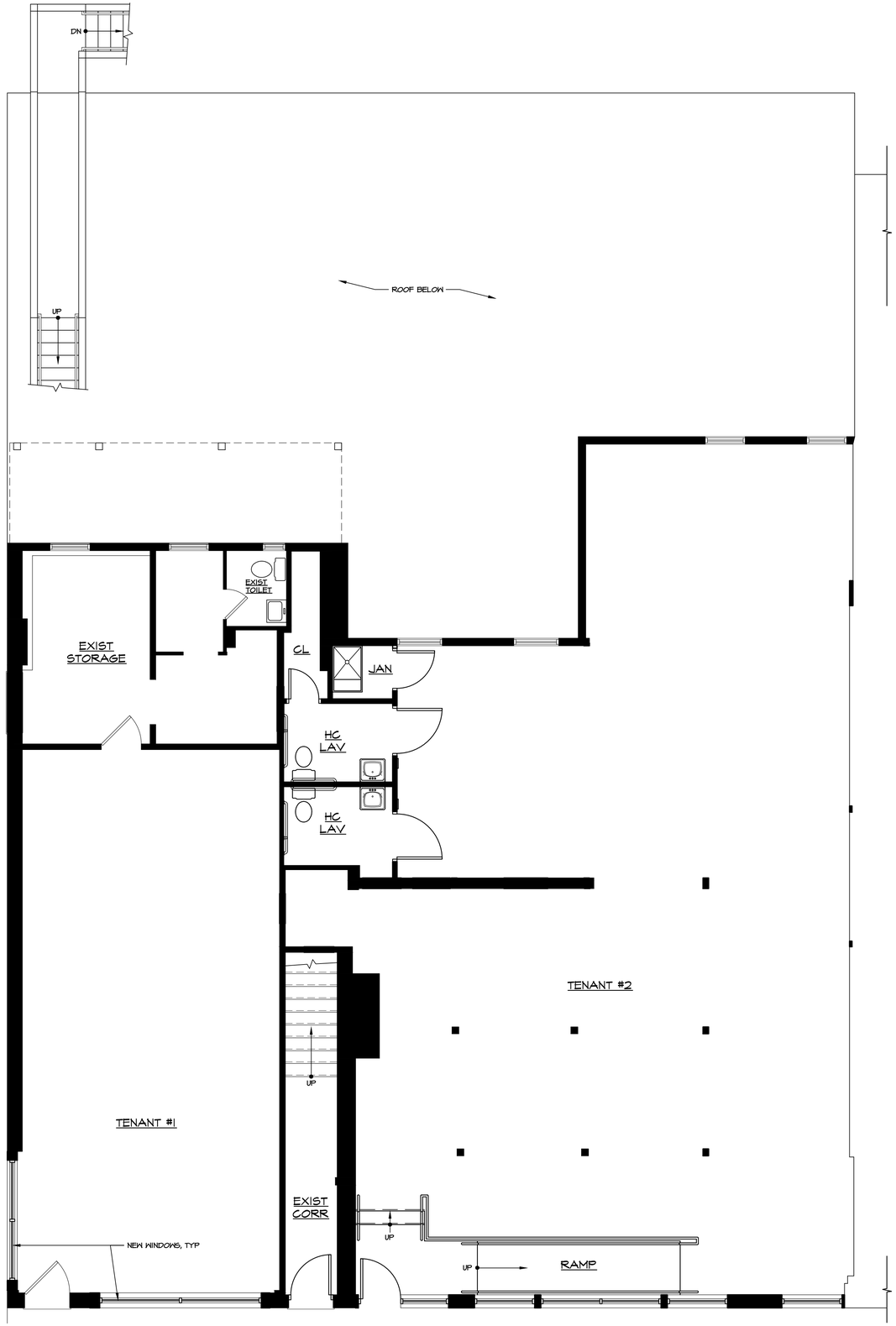
S-2



1 S-3 PRELIMINARY BASEMENT PLAN

SCALE: 1/4"=1'-0"

0 1' 2' 5' 10'



2 S-3 PRELIMINARY FIRST FLOOR PLAN

SCALE: 1/4"=1'-0"

0 1' 2' 5' 10'

project no.
22-04

date
28 MAR 23

drawn by
SB

REPAIRS AND RENOVATIONS TO:

481 MAIN STREET

POUGHKEEPSIE, NY

PRELIMINARY BASEMENT AND FIRST FLOOR PLANS

MAZZARELLI ARCHITECTURE + PLANNING, PC
44 NORTH CLOVER STREET
POUGHKEEPSIE NY 12601
845 485 0215

MAPI

PURSUANT TO SECTION 6415 (b) OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION UNAUTHORIZED ALTERATIONS TO THIS DOCUMENT IS A VIOLATION OF THE LAW

DISTRIBUTION:
PLANNING BOARD

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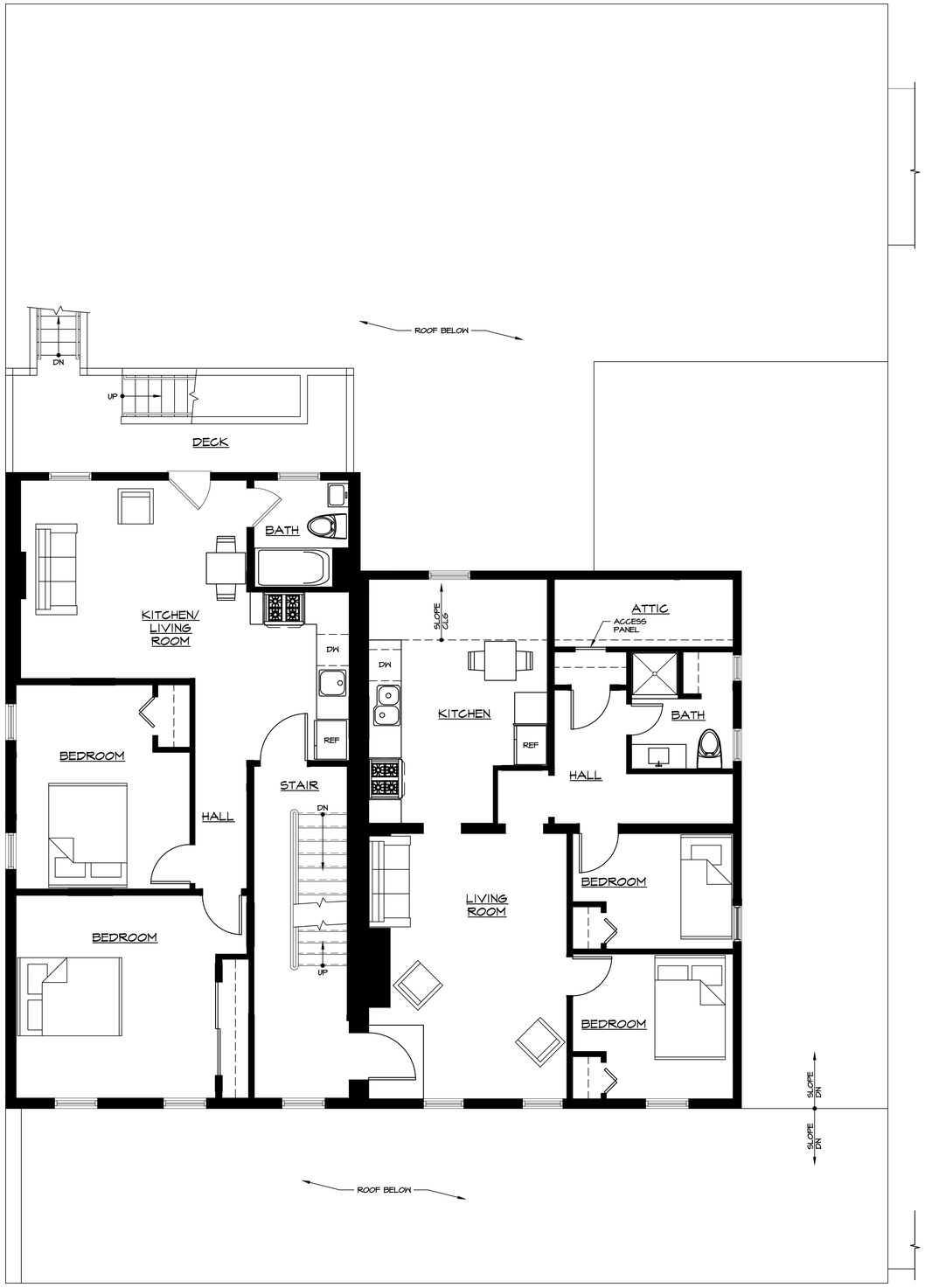
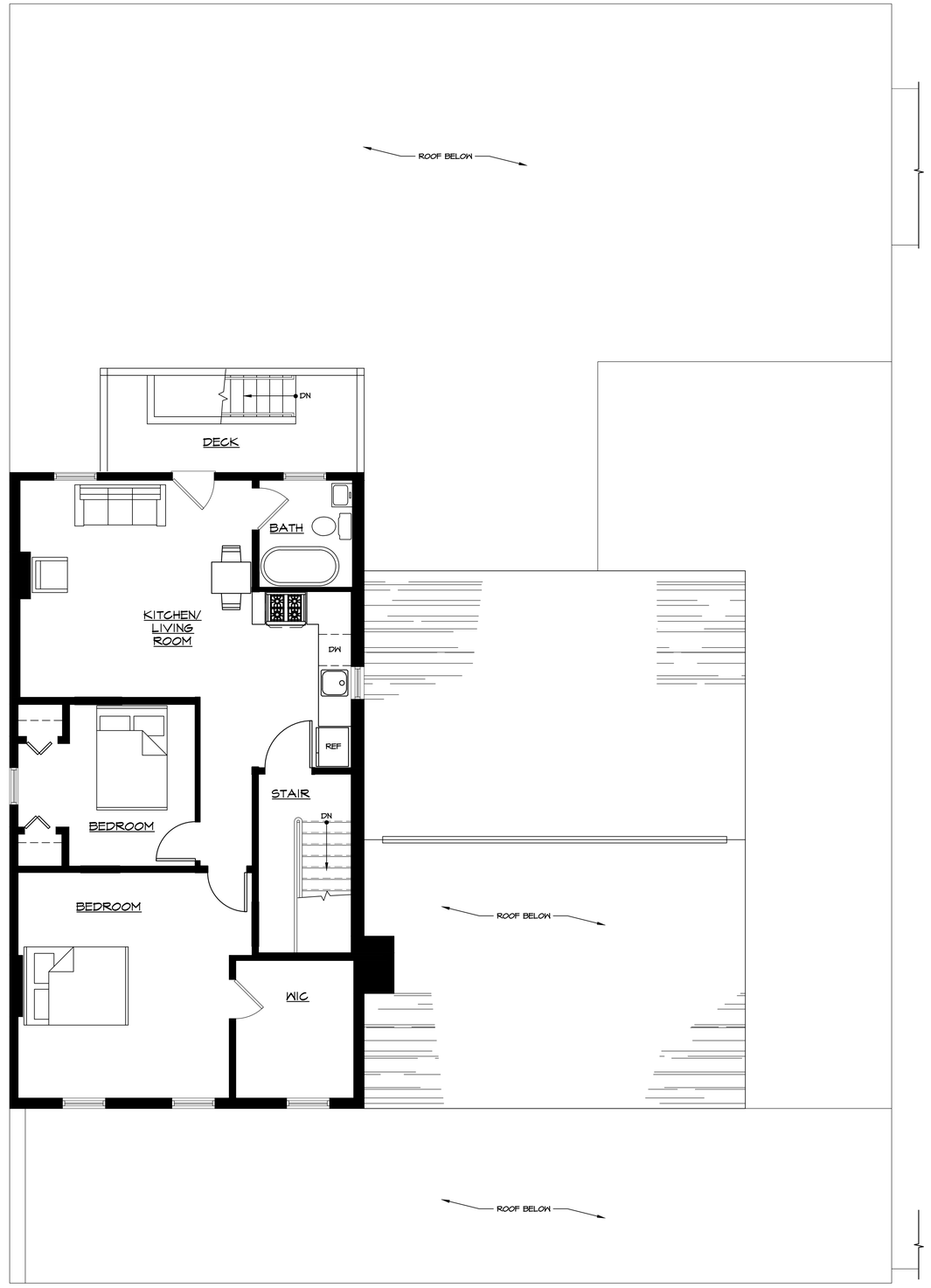


PRELIMINARY SECOND FLOOR PLAN

1 S-4 SCALE: 1/4"=1'-0"

0 1' 2' 5' 10'



PRELIMINARY THIRD FLOOR PLAN

2 S-4 SCALE: 1/4"=1'-0"

0 1' 2' 5' 10'

project no.
22-04

date
28 MAR 23

drawn by
SB

REPAIRS AND RENOVATIONS TO:

481 MAIN STREET

POUGHKEEPSIE, NY

PRELIMINARY SECOND AND THIRD FLOOR PLANS

MAZZARELLI ARCHITECTURE + PLANNING, PC
44 NORTH CLOVER STREET
POUGHKEEPSIE NY 12601
845 485 0215

MAP

PURSUANT TO SECTION 6415 (3) OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION UNAUTHORIZED ALTERATIONS TO THIS DOCUMENT IS A VIOLATION OF THE LAW

DISTRIBUTION:
PLANNING BOARD

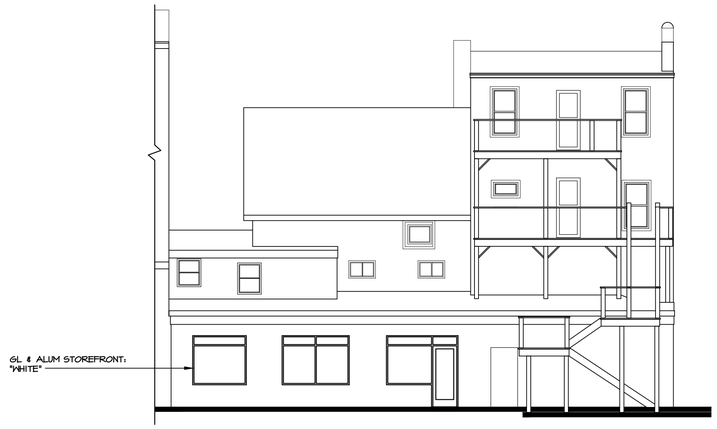
S-4



1 S-5 **PRELIMINARY SOUTH ELEVATION**

SCALE: 1/4"=1'-0"

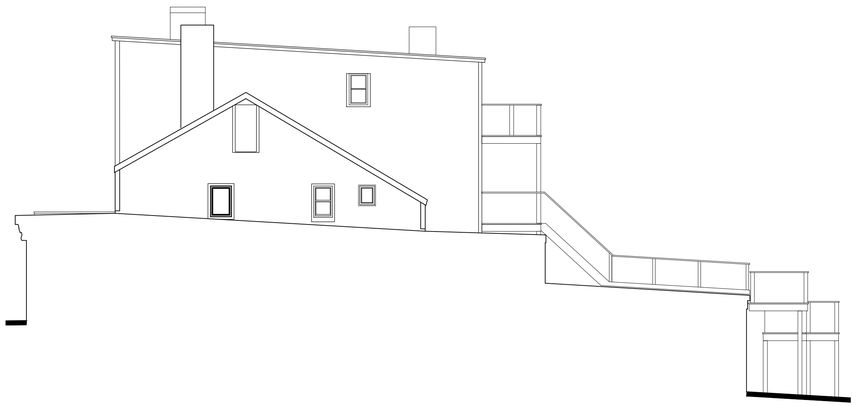
0 1' 2' 5' 10'



2 S-5 **PRELIMINARY NORTH ELEVATION**

SCALE: 1/8"=1'-0"

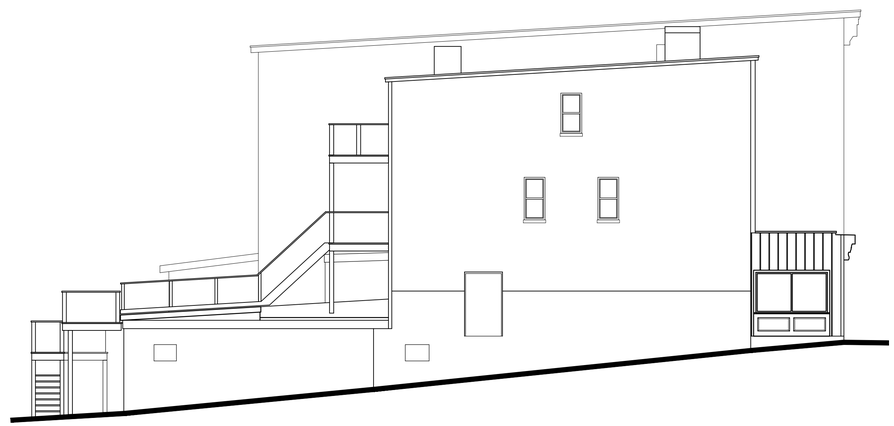
0 2' 4' 10' 20'



3 S-5 **PRELIMINARY EAST ELEVATION**

SCALE: 1/8"=1'-0"

0 2' 4' 10' 20'



4 S-5 **PRELIMINARY WEST ELEVATION**

SCALE: 1/8"=1'-0"

0 2' 4' 10' 20'

10 JUN 24

project no.
22-04

date
28 MAR 23

drawn by
SB

REPAIRS AND RENOVATIONS TO:

481 MAIN STREET

POUGHKEEPSIE, NY

PRELIMINARY ELEVATIONS

MAZZARELLI ARCHITECTURE + PLANNING, PC
44 NORTH CLOVER STREET
POUGHKEEPSIE NY 12601
845 485 0215

MAP

PURSUANT TO SECTION 645 (3) OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION UNAUTHORIZED ALTERATIONS TO THIS DOCUMENT IS A VIOLATION OF THE LAW

DISTRIBUTION:
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MAZZARELLI
A
ARCHITECTURE
P
+ PLANNING
845 485 0275
GROCERY
RESTAURANT

THE CITY OF POUGHKEEPSIE
NEW YORK
DEVELOPMENT DEPARTMENT
62 CIVIC CENTER PLAZA, 2ND FLOOR
POUGHKEEPSIE, NY 12601
Phone: (845) 451-4263 Fax: (845) 451-4006

MEMORANDUM

To: Syed Lateef, President, Mumtaz Corp

From: Tyler Maegerle, Junior Planner

Date: 6/12/2023

Re: 481 Main Street

Upon review of project materials provided by the applicant, including Short EAF Part 1 and site plan application, it is my understanding that the proposed action to be undertaken includes the conversion of the second and third floors of a mixed-use building into three two-bedroom living units; two units on the second floor and one unit on the third floor.

Based on the above description it is the determination of the planning division that the proposed action is classified as Type II Action with regards to SEQRA pursuant to 6 NYCRR Section 617.5 (c)(18) “reuse of a residential or commercial structure, or of a structure containing mixed residential and commercial uses, where the residential or commercial use is a permitted use under the applicable zoning law or ordinance, including permitted by special use permit, and the action does not meet or exceeds any of the thresholds in section 617.4 of this Part.” The action is therefore not subject to further environmental review.

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information

Name of Action or Project:
REPAIRS AND RENOVATIONS TO: 481 MAIN STREET

Project Location (describe, and attach a location map):
481 MAIN STREET, POUGHKEEPSIE, NY 12601, SEE SHT S-1 FOR ATTACHED LOCATION MAP

Brief Description of Proposed Action:
RENOVATE BASEMENT TO CREATE FUTURE COMMERCIAL TENANT SPACE IN PORTION OF SAME

RENOVATE FIRST FLOOR, TO CREATE (2) SEPARATE COMMERCIAL TENANT SPACES, ADD STOREFRONT ALONG MAIN STREET & ENHANCE FACADE

RENOVATE SECOND FLOOR, TO CREATE (2) 2 BEDROOM APARTMENTS

REPAIR & RENOVATE EXIST THIRD FLOOR APARTMENT

Name of Applicant or Sponsor:	Telephone: 845-485-0065
MUMTAZ CORP, SYED LATEEF, PRESIDENT	E-Mail: lateefali16@yahoo.com

Address:
89 SUNSET AVE

City/PO:	State:	Zip Code:
POUGHKEEPSIE	NY	12601

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: BUILDING DEPT, BUILDING PERMIT	☐	☑

3. a. Total acreage of the site of the proposed action? +/-.61 acres
   b. Total acreage to be physically disturbed? 0 acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ acres

4. Check all land uses that occur on, are adjoining or near the proposed action:
   ☑ Urban ☐ Rural (non-agriculture) ☑ Industrial ☑ Commercial ☐ Residential (suburban)
   ☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other(Specify):
   ☐ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☑	☐
b. Consistent with the adopted comprehensive plan?	☐	☑	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		
If Yes, identify: _____	☑	☐

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐
b. Are public transportation services available at or near the site of the proposed action?	☐	☑
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☐	☑

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies:	☐	☑

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water: _____	☐	☑

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment: _____	☐	☑

	NO	YES
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	☐	☑
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☑	☐

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☑	☐
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ THE FALL KILL CREEK. THERE ARE NO ALTERATIONS OCCURING BEYOND THE EXTERIOR WALLS OF THE PROPOSED PROJECT STRUCTURE		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional

☐ Wetland ☑ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☑	☐
16. Is the project site located in the 100-year flood plan?	☐	☑
17. Will the proposed action create storm water discharge, either from point or non-point sources?	☑	☐
If Yes, a. Will storm water discharges flow to adjacent properties?	☑	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☑	☐
If Yes, briefly describe:		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)?	☑	☐
If Yes, explain the purpose and size of the impoundment:		
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?	☑	☐
If Yes, describe:		
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?	☑	☐
If Yes, describe:		

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor/name: MUMTAZ CORP, SYED LATEEF Date: 28 MAR 23

Signature: _____ Title: PRESIDENT

PRINT FORM

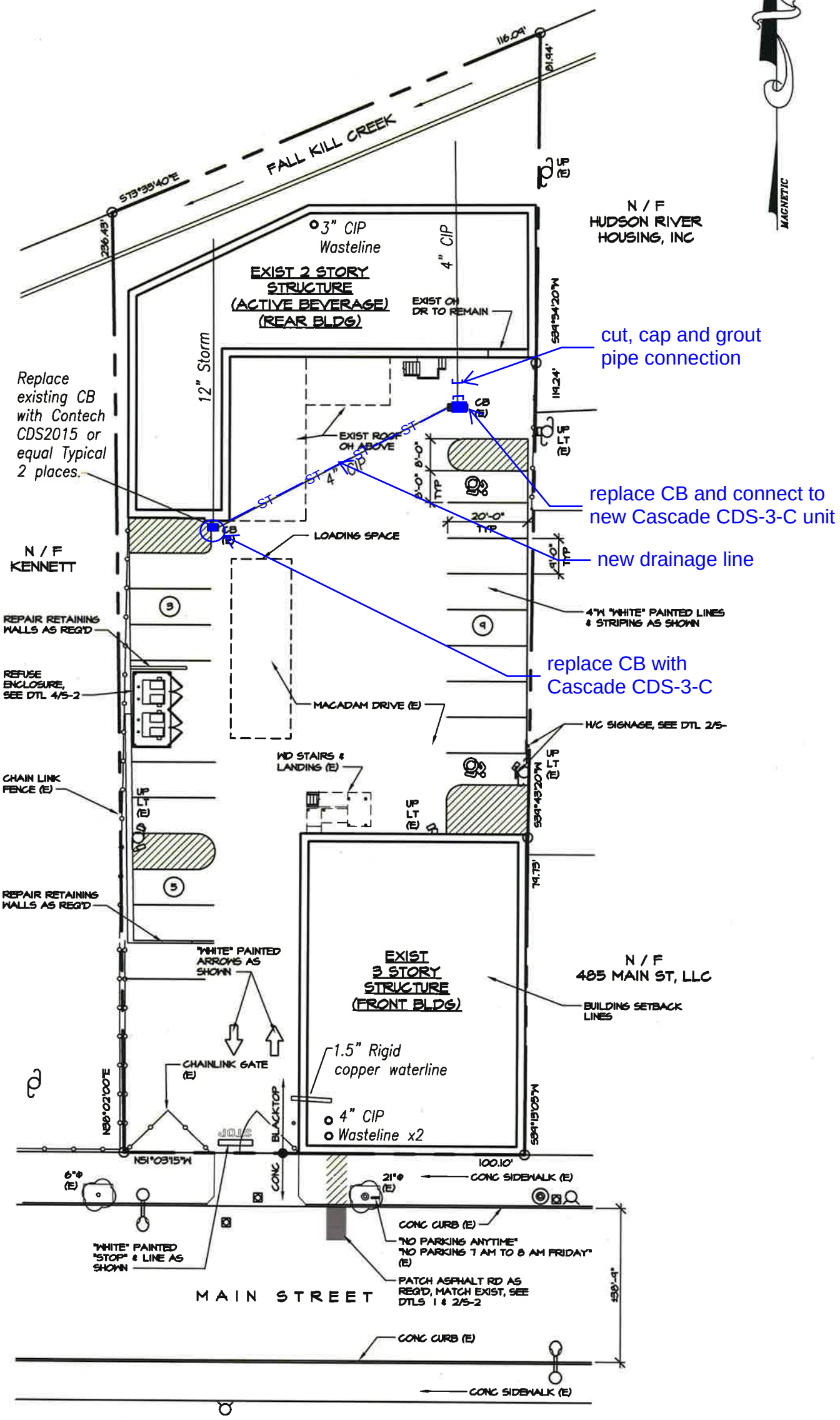
Mumatz Corp.
481 Main Street
Poughkeepsie, NY
Utilities Plan

No.	Revision/Issue

William J. Moreau, P.E.
Consulting Civil Engineer

60 Rymph Road
LaGrangeville, NY 12540

Project	Sheet
Date 08/26/23	1
Scale As noted	



Option 2
Langan
Christina M. Zolezi, PE
4/29/2024


N CLINTON ST
N CLINTON ST
SMITH ST
SMITH ST
SMITH ST
MILL ST
MAPLE ST
55
44
170
CLINTON SQ
LITTLE SMITH ST
CLINTON SQ
MAIN ST
MAIN ST
POUGHKEEPSIE CITY
POUGHKEEPSIE CITY
0.53 ac
S1
180
190
276039
295039
310038
296066
313065
292061
311062
289057
309059
283052
307055
292050
299051
303051
306050
310049
262028
271024
283023
298024
287017
311017
289013
257010
261008
257004
263005
258001
257998
268999
271998
274997
263992
258990
276988
257985
256982
255980
264978
282992
304986
306985
309983
290979
1.8 A(c)
0
50
100
ft
Dutchess County New York
Parcel Lines
Dutchess County, NY
Printed By:
ParcelAccess
ParcelAccess
4/29/2024



Subcat Reach Pond Link

Routing Diagram for 2024-04-26 481 Main St HDS analysis
Prepared by Langan Engineering, Printed 4/29/2024
HydroCAD® 10.20-3f s/n 08223 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1 year	Type III 24-hr		Default	24.00	1	2.61	2
2	10 year	Type III 24-hr		Default	24.00	1	4.68	2
3	100 year	Type III 24-hr		Default	24.00	1	8.22	2
4	WQV	Type III 24-hr		Default	24.00	1	1.50	2

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

SubcatchmentS1 alt: Runoff Area=0.530 ac 100.00% Impervious Runoff Depth=2.38"
Tc=6.0 min CN=98 Runoff=1.30 cfs 0.105 af

Total Runoff Area = 0.530 ac Runoff Volume = 0.105 af Average Runoff Depth = 2.38"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.530 ac

Summary for Subcatchment S1 alt:

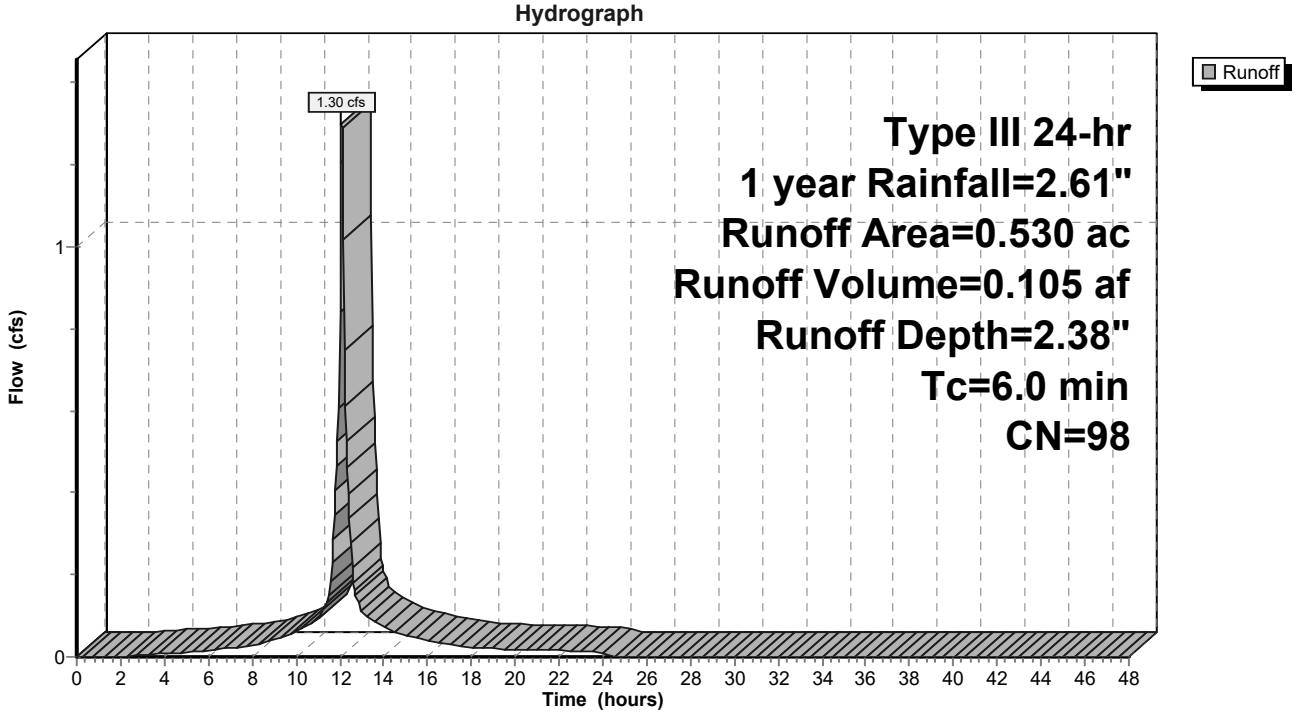
Runoff = 1.30 cfs @ 12.09 hrs, Volume= 0.105 af, Depth= 2.38"
Routed to nonexistent node WQS1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 year Rainfall=2.61"

	Area (ac)	CN	Description
*	0.530	98	Paved parking & roof
	0.530		100.00% Impervious Area

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

Subcatchment S1 alt:



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

SubcatchmentS1 alt: Runoff Area=0.530 ac 100.00% Impervious Runoff Depth=4.44"
Tc=6.0 min CN=98 Runoff=2.37 cfs 0.196 af

Total Runoff Area = 0.530 ac Runoff Volume = 0.196 af Average Runoff Depth = 4.44"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.530 ac

Summary for Subcatchment S1 alt:

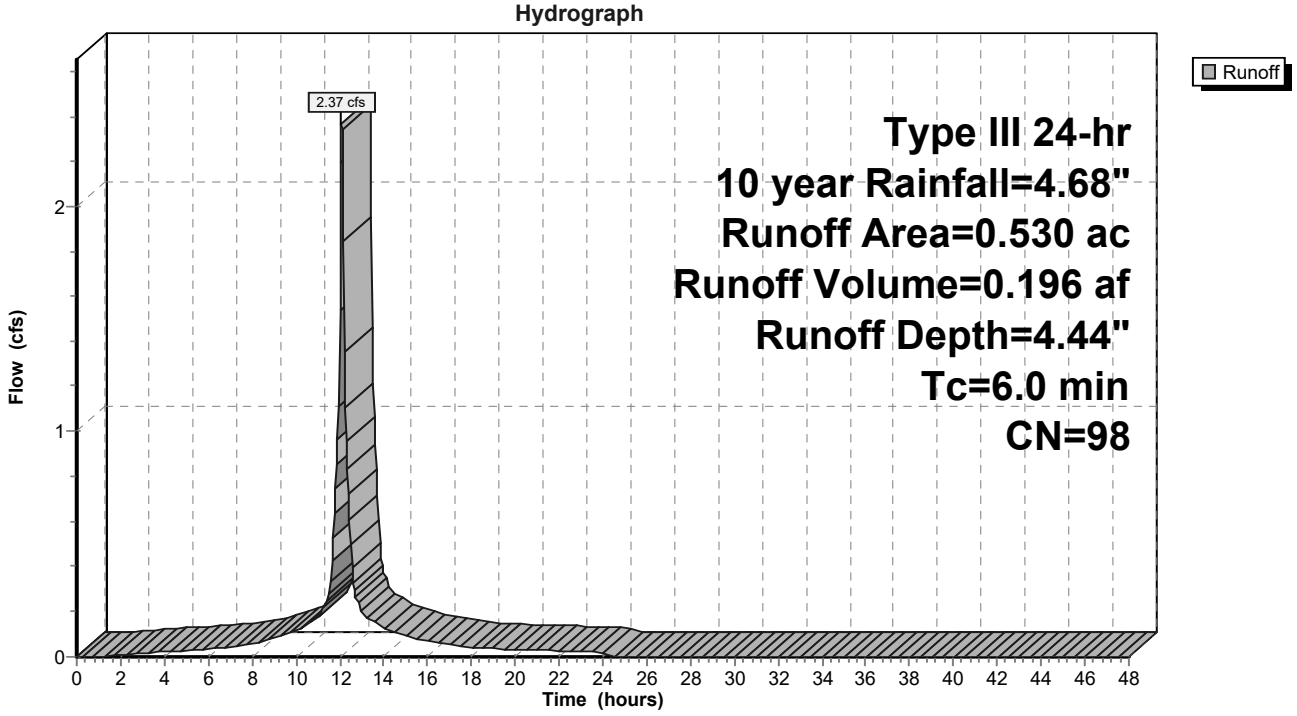
Runoff = 2.37 cfs @ 12.09 hrs, Volume= 0.196 af, Depth= 4.44"
Routed to nonexistent node WQS1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.68"

	Area (ac)	CN	Description
*	0.530	98	Paved parking & roof
	0.530		100.00% Impervious Area

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

Subcatchment S1 alt:



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

SubcatchmentS1 alt: Runoff Area=0.530 ac 100.00% Impervious Runoff Depth=7.98"
Tc=6.0 min CN=98 Runoff=4.18 cfs 0.352 af

Total Runoff Area = 0.530 ac Runoff Volume = 0.352 af Average Runoff Depth = 7.98"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.530 ac

Summary for Subcatchment S1 alt:

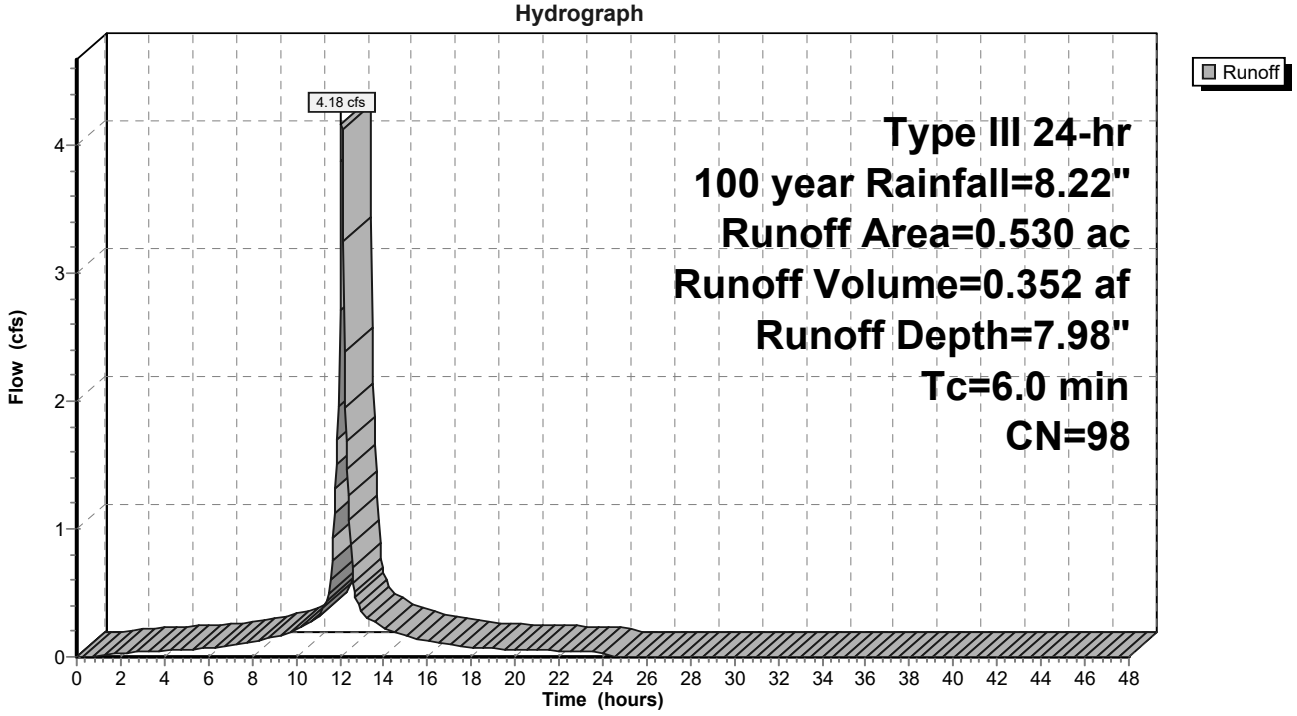
Runoff = 4.18 cfs @ 12.09 hrs, Volume= 0.352 af, Depth= 7.98"
Routed to nonexistent node WQS1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.22"

	Area (ac)	CN	Description
*	0.530	98	Paved parking & roof
	0.530		100.00% Impervious Area

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

Subcatchment S1 alt:



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

SubcatchmentS1 alt: Runoff Area=0.530 ac 100.00% Impervious Runoff Depth=1.28"
Tc=6.0 min CN=98 Runoff=0.73 cfs 0.057 af

Total Runoff Area = 0.530 ac Runoff Volume = 0.057 af Average Runoff Depth = 1.28"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.530 ac

Summary for Subcatchment S1 alt:

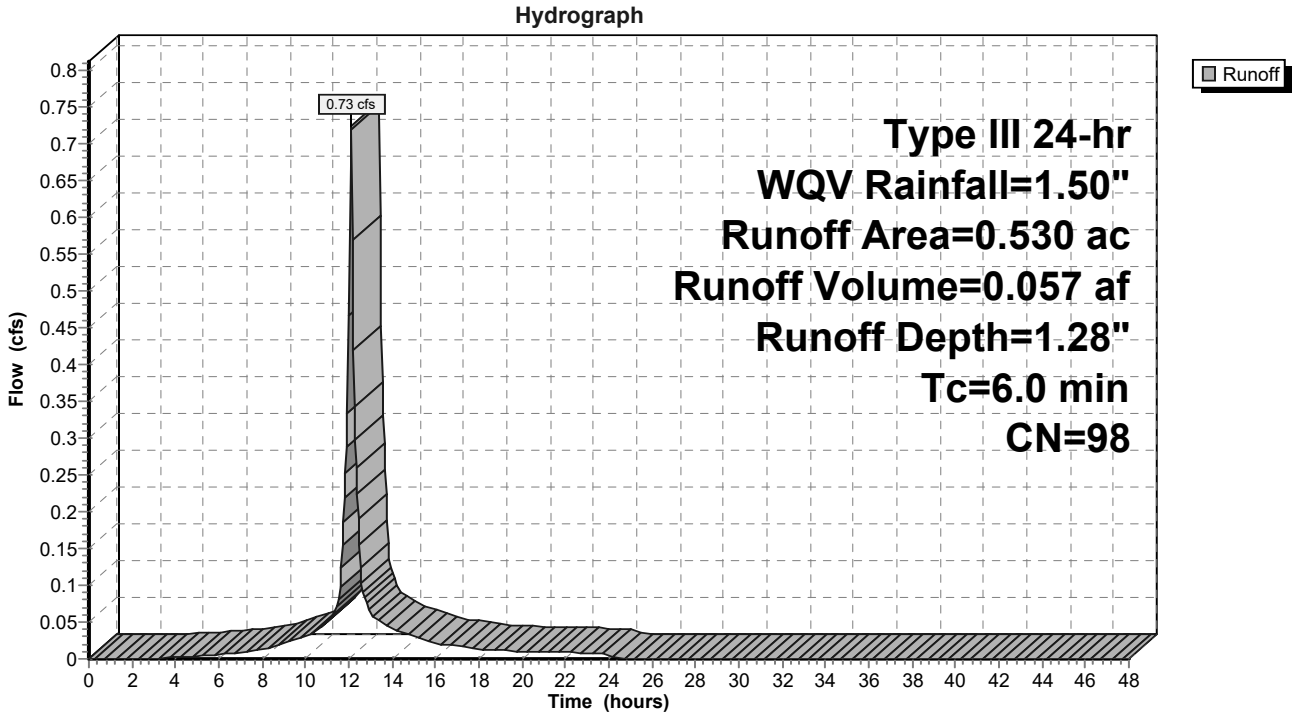
Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 1.28"
Routed to nonexistent node WQS1

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

	Area (ac)	CN	Description
*	0.530	98	Paved parking & roof
	0.530		100.00% Impervious Area

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

Subcatchment S1 alt:



Hydrodynamic Separation Product Calculator

481 Main Street

WQS1 alternative

CASCADE SEPARATOR CS-3

Project Information					
Project Name	481 Main Street			**Option #**	A
Country	UNITED_STATES	**State**	New York	**City**	Poughkeepsie

Contact Information			
First Name	Christina	**Last Name**	Zolezi
Company		**Phone #**	914-323-7418
Email	czolezi@langan.com		

Design Criteria					
Site Designation	WQS1 alternative			**Sizing Method**	Treatment Flow Rate
Screening Required?	No	**Treatment Flow Rate**	0.73	**Peak Flow (cfs)**	4.18
Groundwater Depth (ft)	>15	**Pipe Invert Depth (ft)**	0 - 5	**Bedrock Depth (ft)**	>15
Multiple Inlets?	Yes	**Grate Inlet Required?**	Yes	**Pipe Size (in)**	12.00
Required Particle Size Distribution?	No	**90° between two inlets?**	Yes		

Treatment Selection				
Treatment Unit	CASCADE SEPARATOR	**System Model**	CS-3	
Target Removal	80%	**Particle Size Distribution (PSD)**	250	

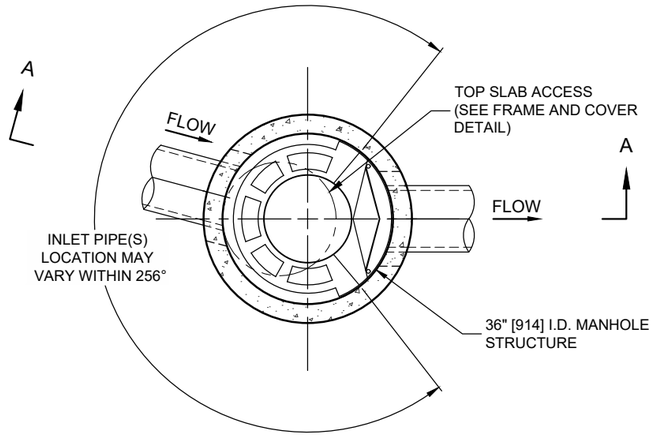
Hydrodynamic Separation Product Calculator

481 Main Street

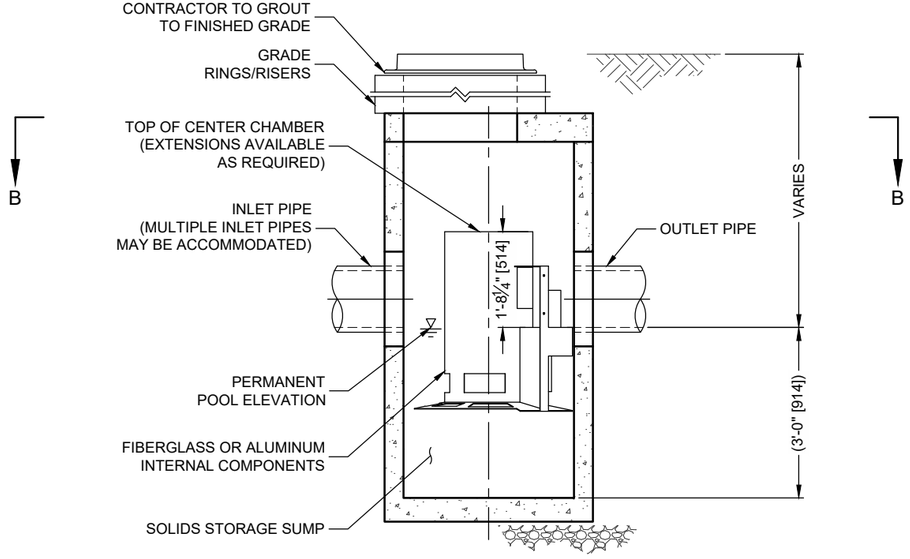
WQS1 alternative

CASCADE SEPARATOR CS-3

CASCADE SEPARATOR ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION BASED ON THE RATIONAL RAINFALL METHOD								
Rainfall Intensity[1] (in/hr)	% Rainfall Volume[1]	Cumulative Rainfall Volume	Rainfall Volume Treated	Total Flowrate (cfs)	Treated Flowrate (cfs)	Hydraulic Loading Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
							Removal Efficiency Adjustment[2] =	
							Predicted % Annual Rainfall Treated =	
							Predicted Net Annual Load Removal Efficiency =	
1 -								
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.								



PLAN VIEW B-B
NOT TO SCALE



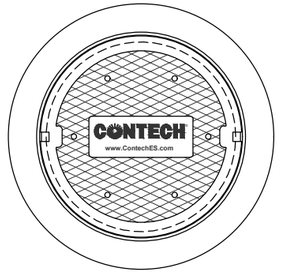
ELEVATION A-A
NOT TO SCALE

CASCADE
separator™

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-3 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (cfs [L/s])	
PEAK FLOW RATE (cfs [L/s])	
RETURN PERIOD OF PEAK FLOW (yrs)	
RIM ELEVATION	

PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			

NOTES / SPECIAL REQUIREMENTS:

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

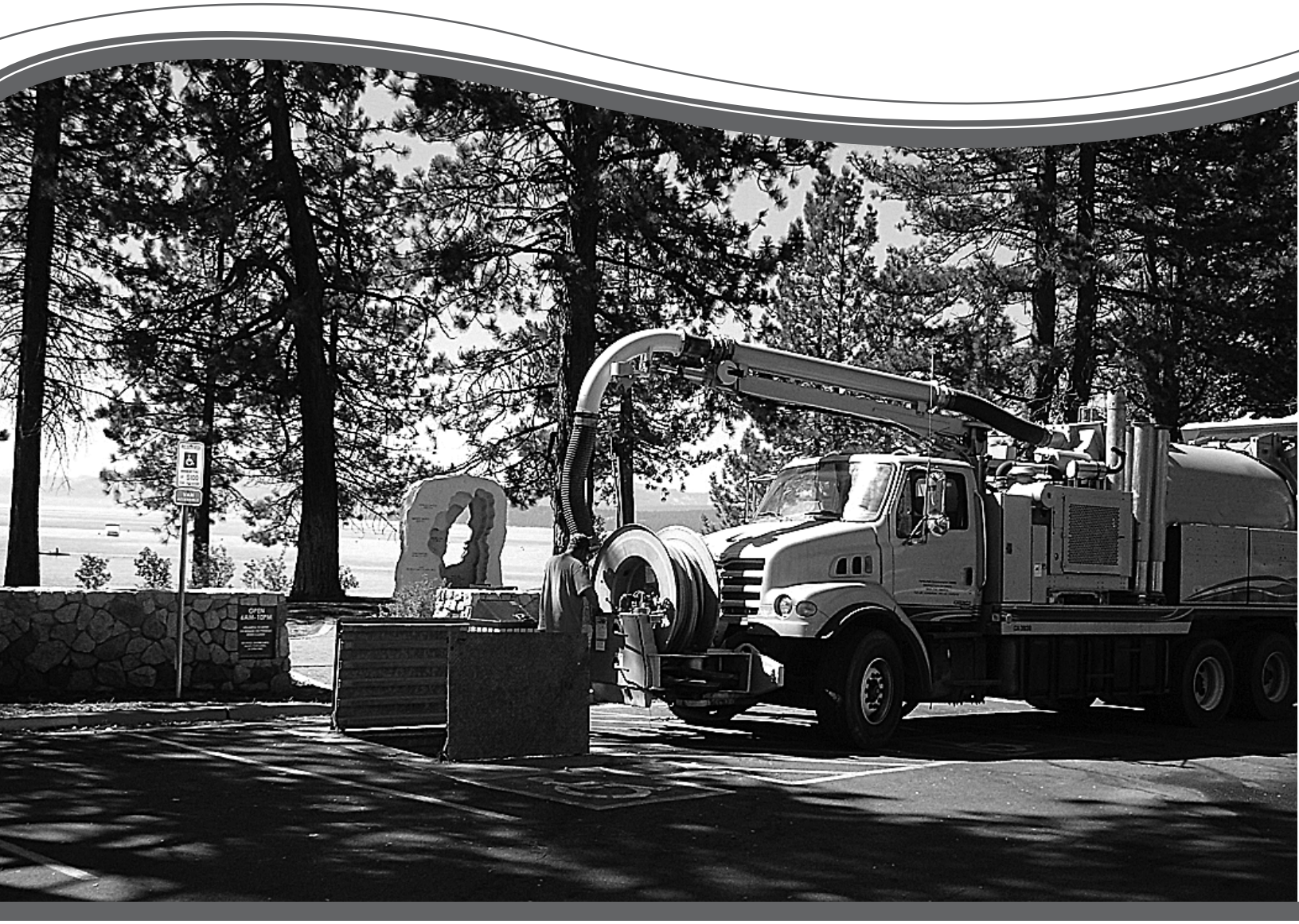
CONTECH
ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CS-3
CASCADE SEPARATOR
STANDARD DETAIL

I:\COMMON\CAD\TREATMENT\21 CASCADE\40 STANDARD DRAWINGS\DWG\CS-3-DTL.DWG 6/18/2020 4:23 PM

CONTECH®
ENGINEERED SOLUTIONS

Cascade Separator® Inspection and Maintenance Guide



CASCADE
separator®

Maintenance

The Cascade Separator® system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects sediment and debris will depend upon on-site activities and site pollutant characteristics. For example, unstable soils or heavy winter sanding will cause the sediment storage sump to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (i.e. spring and fall). However, more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment wash-down areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

A visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet chamber, flumes or outlet channel. The inspection should also quantify the accumulation of hydrocarbons, trash and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided in this Inspection and Maintenance Guide.

Access to the Cascade Separator unit is typically achieved through one manhole access cover. The opening allows for inspection and cleanout of the center chamber (cylinder) and sediment storage sump, as well as inspection of the inlet chamber and slanted skirt. For large units, multiple manhole covers allow access to the chambers and sump.

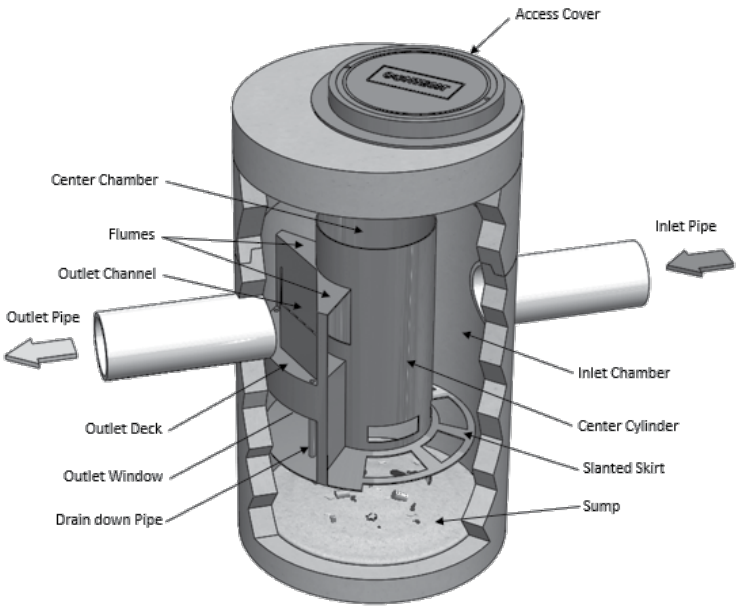
The Cascade Separator system should be cleaned before the level of sediment in the sump reaches the maximum sediment depth and/or when an appreciable level of hydrocarbons and trash has accumulated. If sorbent material is used, it must be replaced when significant discoloration has occurred. Performance may be impacted when maximum sediment storage capacity is exceeded. Contech recommends maintaining the system when sediment level reaches 50% of maximum storage volume. The level of sediment is easily determined by measuring the distance from the system outlet invert (standing water level) to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Finer, silty particles at the top of the pile typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the chart in this document to determine if the height of the sediment pile off the bottom of the sump floor exceeds 50% of the maximum sediment storage.

Cleaning

Cleaning of a Cascade Separator system should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole cover and insert the vacuum tube down through the center chamber and into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The areas outside the center chamber and the slanted skirt should also be washed off if pollutant build-up exists in these areas.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. Then the system should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and to ensure proper safety precautions. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the Cascade Separator system must be done in accordance with local regulations. In many locations, disposal of evacuated sediments may be handled in the same manner as disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal. If any components are damaged, replacement parts can be ordered from the manufacturer.



Cascade Separator® Maintenance Indicators and Sediment Storage Capacities

Model Number	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y^3	m^3
CS-3	3	0.9	1.5	0.5	0.4	0.3
CS-4	4	1.2	2.5	0.8	0.7	0.5
CS-5	5	1.3	3	0.9	1.1	0.8
CS-6	6	1.8	3.5	1	1.6	1.2
CS-8	8	2.4	4.8	1.4	2.8	2.1
CS-10	10	3.0	6.2	1.9	4.4	3.3
CS-12	12	3.6	7.5	2.3	6.3	4.8

Note: The information in the chart is for standard units. Units may have been designed with non-standard sediment storage depth.



A Cascade Separator unit can be easily cleaned in less than 30 minutes.



A vacuum truck excavates pollutants from the systems.

Cascade Separator® Inspection & Maintenance Log

Cascade Model:			Location:		
Date	Depth Below Invert to Top of Sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The depth to sediment is determined by taking a measurement from the manhole outlet invert (standing water level) to the top of the sediment pile. Once this measurement is recorded, it should be compared to the chart in the maintenance guide to determine if the height of the sediment pile off the bottom of the sump floor exceeds 50% of the maximum sediment storage. Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.
2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

SUPPORT

- Drawings and specifications are available at www.ContechES.com.
- Site-specific design support is available from our engineers.

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MAZZARELLI ARCHITECTURE + PLANNING, PC
44 NORTH CLOVER STREET
POUGHKEEPSIE, NY 12601
845 485 0275 V
845 485 2601 F

28 MAR 23

City of Poughkeepsie
62 Civic Center Plaza, 2nd Floor
Poughkeepsie, NY 12601

Re: Waivers for: 481 Main Street

To Planning Board members & Mr Eric Philipp:

We are requesting the following waiver:

From the Application For Site Plan, Special Permit Approval & Facade Review.

(b) Natural features:

(1) Existing contours w/ intervals of five feet or less.

Please do not hesitate to contact me if you have any questions, comments or concerns.

Sincerely,

Carlo Mazzarelli, RA

2204-WAIVER.DOC

GRAINGER

Products Based on Your Search



ZOELLER Sewage Ejector System: 4/10 HP, 110V...

Compare

Web Price

$730.75 / each



ZOELLER Sewage Ejector System: 1/2 HP, 110V A...

Compare

Web Price

$1,131.21 / each



LIBERTY PUMPS Grinder Pump System: 1 hp HP,...

Compare

Web Price

$2,053.85 / each

Related Categories



Sewage Ejector Pump Systems



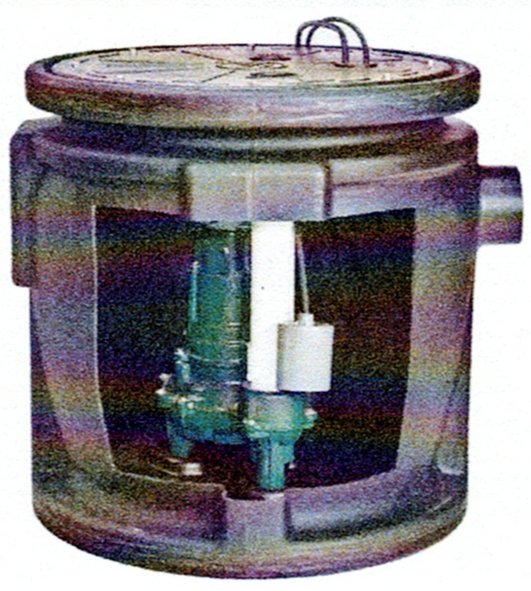
Sewage Pumps, Systems & Basins



Sewage & Effluent Pumps







ZOELLER Sewage Ejector System: 1/2 HP, 110V AC, Tether Float, 53 gpm Flow Rate @ 10 Ft. of Head

Item **6JGW6** Mfr. Model **912-1117**

Product Image Feedback

Compare

Product Details

Catalog Page **2509**

Brand **ZOELLER**

Manufacturer Part Number **912-1117**

HP **1/2**

Number of Pumps **1**

Rated Voltage **120V AC**

Hz **60 Hz**

Phase - Pumps **1**

Switch Actuation **Tether Float**

Switch Electrical Connection **Piggyback**

Pump Body Material **Cast Iron**

Web Price

$1,147.62 / each

This item requires special shipping, additional charges may apply.

Qty 1

Add to Cart

Ship

Pickup

Expected to arrive **Fri. Aug 30.**

Ship to 12590 | Change

Shipping Weight **68 lbs**

Ship Availability Terms

Add to List

Compliance & Restrictions

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Documents

Zoeller fm0447 Installation Instructions

Basin Material **Polyethylene**

Flow Rate @ 5 Ft. of Head **128 gpm**

Flow Rate @ 10 Ft. of Head **53 gpm**

Flow Rate @ 15 Ft. of Head **32 gpm**

Flow Rate @ 20 Ft. of Head **10 gpm**

Max. Diameter Solids **2 in**

Cord Length **10 ft**

Max. Liquid Temp. **130 °F**

Max. Head **21 ft**

RPM **1,725 RPM**

Duty Cycle **Continuous**

Basin Capacity **41 gal**

Basin Dia. **24 in**

Basin Height **24 in**

Pump Discharge Diameter **2 in**

Inlet **4 in FNPT**

Vent Size **2 in**

Alarm Included **Yes**

Alarm Application **Indoor**

Includes ***Internal 2 in PVC Discharge Pipe and High Water Indoor Alarm***

Manufacturers Warranty Length **3 yr**

UNSPSC **40151517**

Country of Origin **USA (subject to change)**

Product Description

These 110V sewage ejector pump systems have an alarm that turns on when the water rises to a preset level in the sump basin. This alerts that the pump has malfunctioned or is not able to keep up with the water flow. Pumps remove sewage containing solids from drains where a gravity system won't work, such as in septic systems that are below the main sewer line. They are compatible with most standard U.S. residential electrical wall outlets and have a Type A (two prongs, ungrounded) or Type B (three prongs, grounded) power cord plug.

Product Details Feedback

William J. Moreau, PE Consulting Engineer
60 Rymph Road, LaGrangeville, NY 12540
845 518 7200
Billmoreau@aol.com

481 Main St — 10-2-23

Hydraulic Supply + Demand Analysis

Sanitary Loads:

- NON-Restaurant

(3) Apts @ 1 Bath = 3
(2) Tenants @ 1 Bath = 2
} 5 Baths

1 Water Closet = 3
1 Lavatory = 1
1 Shower = 2
} 6 Fix. Units/Bath

5 Baths x 6 Fix. Units/Bath = 30 F.U.

Cap. 4" ø waste line @ 1/4"/FT = 216 F.U.

216 >> 30 ✓

- Restaurant Loading

35 gal/day/seat x 36 Seats = 1260 gpd

2 baths	@ 6 F.U. ea	= 12 F.U.
2 Prep Sinks	@ 4 F.U. ea	= 8
2 Wash Sinks	@ 4 F.U. ea	= 8
1 D.W.	@ 6	= 6
		34 F.U.

216 >> 34 F.U. ✓

TABLE 709.1
DRAINAGE FIXTURE UNITS FOR FIXTURES AND GROUPS

FIXTURE TYPE	DRAINAGE FIXTURE UNIT VALUE AS LOAD FACTORS	MINIMUM SIZE OF TRAP (inches)
Automatic clothes washers, commercial[a,g]	3	2
Automatic clothes washers, residential[g]	2	2
Bathroom group as defined in Section 202 (1.6 gpf water closet)[f]	5	—
Bathroom group as defined in Section 202 (water closet flushing greater than 1.6 gpf)[f]	6	—
Bathtub[b] (with or without overhead shower or whirlpool attachments)	2	1 1/2
Bidet	1	1 1/4
Combination sink and tray	2	1 1/2
Dental lavatory	1	1 1/4
Dental unit or cuspidor	1	1 1/4
Dishwashing machine,[c] domestic	2	1 1/2
Drinking fountain	1/2	1 1/4
Emergency floor drain	0	2
Floor drains	2	2
Kitchen sink, domestic	2	1 1/2
Kitchen sink, domestic with food waste grinder and/or dishwasher	2	1 1/2
Laundry tray (1 or 2 compartments)	2	1 1/2
Lavatory	1	1 1/4
Shower	2	1 1/2
Sink	2	1 1/2
Urinal	4	Note d
Urinal, 1 gallon per flush or less	2[e]	Note d
Wash sink (circular or multiple) each set of faucets	2	1 1/2
Water closet, flushometer tank, public or private	4[e]	Note d
Water closet, private (1.6 gpf)	3[e]	Note d
Water closet, private (flushing greater than 1.6 gpf)	4[e]	Note d
Water closet, public (1.6 gpf)	4[e]	Note d
Water closet, public (flushing greater than 1.6 gpf)	6[e]	Note d

For SI: 1 inch = 25.4 mm, 1 gallon = 3.785 L.

a. For traps larger than 3 inches, use Table 709.2.
b. A showerhead over a bathtub or whirlpool bathtub attachment does not increase the drainage fixture unit value.
c. See Sections 709.2 through 709.4 for methods of computing unit value of fixtures not listed in this table or for rating of devices with intermittent flows.
d. Trap size shall be consistent with the fixture outlet size.
e. For the purpose of computing loads on building drains and sewers, water closets and urinals shall not be rated at a lower drainage fixture unit unless the lower values are confirmed by testing.
f. For fixtures added to a dwelling unit bathroom group, add the DFU value of those additional fixtures to the bathroom group fixture count.
g. See Section 406.3 for sizing requirements for fixture drain, branch drain, and drainage stack for an automatic clothes washer standpipe.

TABLE 710.1 (1)
BUILDING DRAINS AND SEWERS

DIAMETER OF PIPE (inches)	MAXIMUM NUMBER OF DRAINAGE FIXTURE UNITS CONNECTED TO ANY PORTION OF THE BUILDING DRAIN OR THE BUILDING SEWER, INCLUDING BRANCHES OF THE BUILDING DRAIN[a]			
	Slope per foot			
	1/16 inch	1/8 inch	1/4 inch	1/2 inch
1 1/4	—	—	1	1
1 1/2	—	—	3	3
2	—	—	21	26
2 1/2	—	—	24	31
3	—	36	42	50
4	—	180	216	250
5	—	390	480	575
6	—	700	840	1,000
8	1,400	1,600	1,920	2,300
10	2,500	2,900	3,500	4,200
12	3,900	4,600	5,600	6,700
15	7,000	8,300	10,000	12,000

For SI: 1 inch = 25.4 mm, 1 inch per foot = 83.3 mm/m.

a. The minimum size of any building drain serving a water closet shall be 3 inches.

TABLE 710.1(2)
HORIZONTAL FIXTURE BRANCHES AND STACKS [a]

DIAMETER OF PIPE (inches)	MAXIMUM NUMBER OF DRAINAGE FIXTURE UNITS (dfu)			
		Stacks[b]		
	Total for horizontal branch	Total discharge into one branch interval	Total for stack of three branch intervals or less	Total for stack greater than three branch intervals
1 1/2	3	2	4	8
2	6	6	10	24
2 1/2	12	9	20	42
3	20	20	48	72
4	160	90	240	500
5	360	200	540	1,100
6	620	350	960	1,900
8	1,400	600	2,200	3,600
10	2,500	1,000	3,800	5,600
12	2,900	1,500	6,000	8,400
15	7,000	Note c	Note c	Note c

For SI: 1 inch = 25.4 mm.

a. Does not include branches of the building drain. Refer to Table 710.1(1).

b. Stacks shall be sized based on the total accumulated connected load at each story or branch interval. As the total accumulated connected load decreases, stacks are permitted to be reduced in size. Stack diameters shall not be reduced to less than one-half of the diameter of the largest stack size required.

c. Sizing load based on design criteria.

481 Main St. 10-2-23

Potable water Demand

(3) Apt.s
(2) Tenants } 5 Baths @ 3.6

- 5 baths x Private Bath Grp. (Tank)
  = 5 x 3.6 = 18.0
- 2 Kitchen @ 1.4 = 2.8
- 2 Wash Machine @ 1.4 = 2.8

23.6 wsfu

Restaurant water Demand

	wsfu
• 2 Bath @ 2 W.C./bath = 4@10	= 40
• 2 Lav. @ 2 Fu	= 4
• 2 Kit. Sink - Rest. @ 4	= 8
	52

Total = 23.6 + 52 = 75.6 wsfu
see table w/ 80 wsfu ∴ Q = 38 gpm

A 1½"ϕ = .0123 ft² ; $V = Q/A = \frac{(38 \div 7.48 \frac{gal}{ft^3}) \div 60 \frac{sec}{min}}{.0123\ ft^2}$

1 1/2" Dia. Copper Water Line V = 6.9 fps < 8.0 ✓

TABLE E102
TABLE FOR ESTIMATING DEMAND

SUPPLY SYSTEMS PREDOMINANTLY FOR FLUSH TANKS			SUPPLY SYSTEMS PREDOMINANTLY FOR FLUSH VALVES		
Load	Demand		Load	Demand	
(Water supply fixture units)	(Gallons per minute)	(Cubic feet per minute)	(Water supply fixture units)	(Gallons per minute)	(Cubic feet per minute)
1	3.0	0.04104	—	—	—
2	5.0	0.0684	—	—	—
3	6.5	0.86892	—	—	—
4	8.0	1.06944	—	—	—
5	9.4	1.256592	5	15.0	2.0052
6	10.7	1.430376	6	17.4	2.326032
7	11.8	1.577424	7	19.8	2.646364
8	12.8	1.711104	8	22.2	2.967696
9	13.7	1.831416	9	24.6	3.288528
10	14.6	1.951728	10	27.0	3.60936
11	15.4	2.058672	11	27.8	3.716304
12	16.0	2.13888	12	28.6	3.823248
13	16.5	2.20572	13	29.4	3.930192
14	17.0	2.27256	14	30.2	4.037136
15	17.5	2.3394	15	31.0	4.14408
16	18.0	2.90624	16	31.8	4.241024
17	18.4	2.459712	17	32.6	4.357968
18	18.8	2.513184	18	33.4	4.464912
19	19.2	2.566656	19	34.2	4.571856
20	19.6	2.620128	20	35.0	4.6788
25	21.5	2.87412	25	38.0	5.07984
30	23.3	3.114744	30	42.0	5.61356
35	24.9	3.328632	35	44.0	5.88192
40	26.3	3.515784	40	46.0	6.14928
45	27.7	3.702936	45	48.0	6.41664
50	29.1	3.890088	50	50.0	6.684
60	32.0	4.27776	60	54.0	7.21872
70	35.0	4.6788	70	58.0	7.75344
80	38.0	5.07984	80	61.2	8.181216
90	41.0	5.48088	90	64.3	8.595624
100	43.5	5.81508	100	67.5	9.0234
120	48.0	6.41664	120	73.0	9.75864
140	52.5	7.0182	140	77.0	10.29336
160	57.0	7.61976	160	81.0	10.82808
180	61.0	8.15448	180	85.5	11.42964
200	65.0	8.6892	200	90.0	12.0312
225	70.0	9.3576	225	95.5	12.76644
250	75.0	10.026	250	101.0	13.50168
275	80.0	10.6944	275	104.5	13.96956
300	85.0	11.3628	300	108.0	14.43744
400	105.0	14.0364	400	127.0	16.97736
500	124.0	16.57632	500	143.0	19.11624
750	170.0	22.7256	750	177.0	23.66136

(continued)

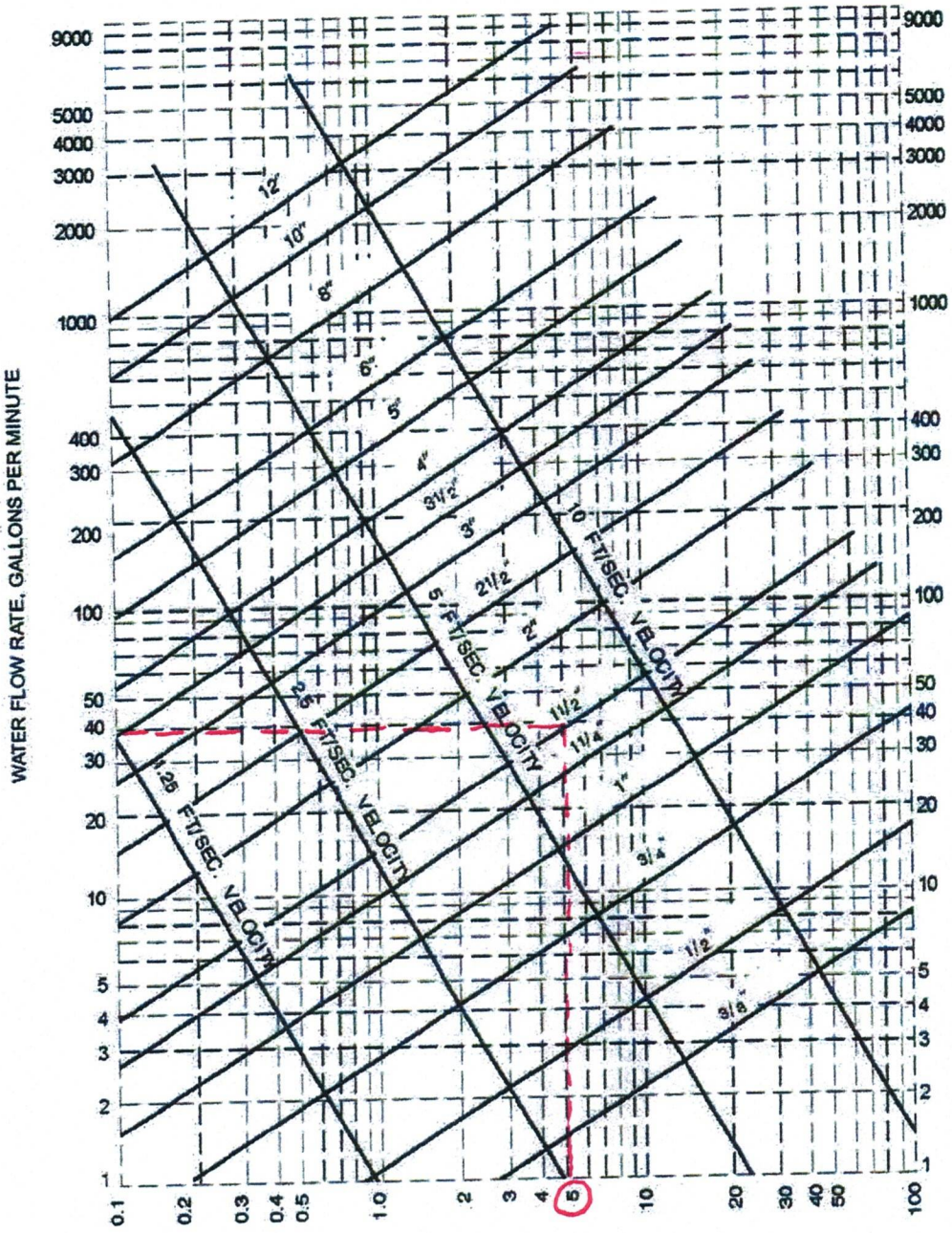
TABLE E101B
LOAD VALUES ASSIGNED TO FIXTURES[a]

FIXTURE	OCCUPANCY	TYPE OF SUPPLY CONTROL	LOAD VALUES, IN WATER SUPPLY FIXTURE UNITS (wsfu)		
			Cold	Hot	Total
Bathroom group	Private	Flush tank	2.7	1.5	3.6
Bathroom group	Private	Flush valve	6.0	3.0	8.0
Bathtub	Private	Faucet	1.0	1.0	1.4
Bathtub	Public	Faucet	3.0	3.0	4.0
Bidet	Private	Faucet	1.5	1.5	2.0
Combination fixture	Private	Faucet	2.25	2.25	3.0
Dishwashing machine	Private	Automatic	—	1.4	1.4
Drinking fountain	Offices, etc.	$^3/_8$" valve	0.25	—	0.25
Kitchen sink	Private	Faucet	1.0	1.0	1.4
Kitchen sink	Hotel, restaurant	Faucet	3.0	3.0	4.0
Laundry trays (1 to 3)	Private	Faucet	1.0	1.0	1.4
Lavatory	Private	Faucet	0.5	0.5	0.7
Lavatory	Public	Faucet	1.5	1.5	2.0
Service sink	Offices, etc.	Faucet	2.25	2.25	3.0
Shower head	Public	Mixing valve	3.0	3.0	4.0
Shower head	Private	Mixing valve	1.0	1.0	1.4
Urinal	Public	1" flush valve	10.0	—	10.0
Urinal	Public	$^3/_4$" flush valve	5.0	—	5.0
Urinal	Public	Flush tank	3.0	—	3.0
Washing machine (8 lb)	Private	Automatic	1.0	1.0	1.4
Washing machine (8 lb)	Public	Automatic	2.25	2.25	3.0
Washing machine (15 lb)	Public	Automatic	3.0	3.0	4.0
Water closet	Private	Flush valve	6.0	—	6.0
Water closet	Private	Flush tank	2.2	—	2.2
Water closet	Public	Flush valve	10.0	—	10.0
Water closet	Public	Flush tank	5.0	—	5.0
Water closet	Public or private	Flushometer tank	2.0	—	2.0

For SI: 1 inch = 25.4 mm, 1 pound = 0.454 kg.

a. For fixtures not listed, loads should be assumed by comparing the fixture to one listed using water in similar quantities and at similar rates. The assigned loads for fixtures with both hot and cold water supplies are given for separate hot and cold water loads and for total load, the separate hot and cold water loads being three-fourths of the total load for the fixture in each case.

38 GPM



Note: Fluid velocities in excess of 5 to 8 feet/second are not usually recommended.

FIGURE E103A.3
FRICTION LOSS IN SMOOTH PIPE[a]
(TYPE M, ASTM B 88 COPPER TUBING)

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa, 1 foot per second = 0.305 m/s.

a. This chart applies to smooth new copper tubing with recessed (streamline) soldered joints and to the actual sizes of types indicated on the diagram.

481 Main Street
Poughkeepsie
DCHD Hydraulic Loads

Marina	Per Slip [25] with shore side restroom facilities including shower	20
	add per slip for dump station	7
Migrant Worker Housing	Per Person	50
Motel	Per Sleeping Unit;	110/130/150
	add for in-room kitchen;	10
	add for in-room jacuzzi/spa	20
Office Building	Per Employee[25];	15
	add for showers	5
Service station/Convenience store	Per Toilet[25]	400
Shopping Center / Grocery Store / Department Store	Per Sq. Ft. [25,26]; add for deli, bakery, butcher	0.1

Page #12

Swimming Pool / Bath House	Per Swimmer	10
Veterinary Office	Per Veterinarian	200
Food Service Operations [27]		
Ordinary Restaurant	Per Seat	35
24-Hour Restaurant	Per Seat (for cafeterias: pro rate flow in proportion to the hours)	50
Fast Food Restaurant	Per Seat	25
	Per Drive-Up Window	500
Lounge, Bar	Per Seat	20
Drive-In	Per Car Space	50
Banquet Hall	Per Seat	10
Restaurant along Freeway	Per Seat	75

Table 1A notes:

16. 110 gallons per day for post 1994 plumbing code fixtures; 130 gallons per day for pre 1994 fixtures; and 150 gallons per day for pre 1980 fixtures.
18. Additional wastewater flow due to food service or laundry shall be accounted for. Structures available for overnight occupancy other than those meeting the definition of a camping unit shall be based on 150 gallons per day / unit for design flow purposes, pursuant to NYSDOH – *Chapter 1 State Sanitary Code Subpart 7-3 Campgrounds.*
19. The addition of flow for dump station sewage may be prorated by using an estimated percentage of sites suited for RV use based on historical data. No reduction for low flow fixture usage should be applied here.
20. Add 15 gallons per day per employee
21. Add for Food Service (e.g. 24-hour restaurant; refer to Food Service Operations Table)
22. Add 15 gallons per day per employee/shift
23. Add for Food Service (e.g. 24 hour restaurant; refer to Food Service Operations Table)
24. Dental offices must recycle mercury amalgam instead of washing it down the drain. NYSDEC's website has guidance referencing the 2002 law.
25. Add for Food Service (e.g. 24-hour restaurant; refer to Food Service Operations Table)
26. Add 15 gallons per day per employee/shift.
27. **Garbage grinder use should be evaluated in the design phase of the project and accounted for in tank and absorption area sizing.**

Assume ;1) "ordinary" Restaurant with 36 seats @ 35 gpd = 1260 gpd

2) Three (2)-bedroom Apartments = 6 @ 110 gpd = 660 gpd

3) Eight employees @ 15 gpd = 120 gpd

Total Flow usage rate = 2040 gpd

SECONDARY CHECK of WATER SUPPLY CAPACITY

2040 gpd / 12 hours = 170 gph / 60 min/hr = 2.83 gpm; use max flow factor of 6
At 30 psi a 1 1/2" dia pipe can supply ~ 44 gpm > > 6(2.83 gpm) = 17 gpm

William J. Moreau, PE Consulting Engineer
60 Rymph Road, LaGrangeville, NY 12540
845 518 7200
Billmoreau@aol.com

August 25, 2023

Mumatz Corp.
481 Main Street
Poughkeepsie, NY

Re: Town Engineer's Comments – 481 Main St. Site Plan Application



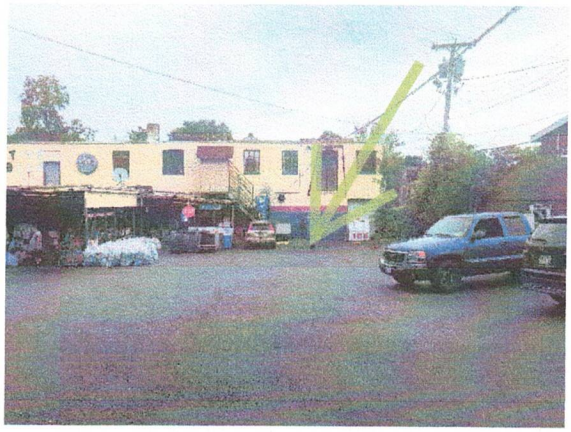
1 ½" rigid copper water line, (1 5/8" O.D.) from Street into upper building



Two 4" diameter C.I. Waste Lines exit thru the concrete bsm't floor (Note new Gas meter and distribution on Rt.)



East side of Parking Lot – Looking North
Note Storm Drain Location



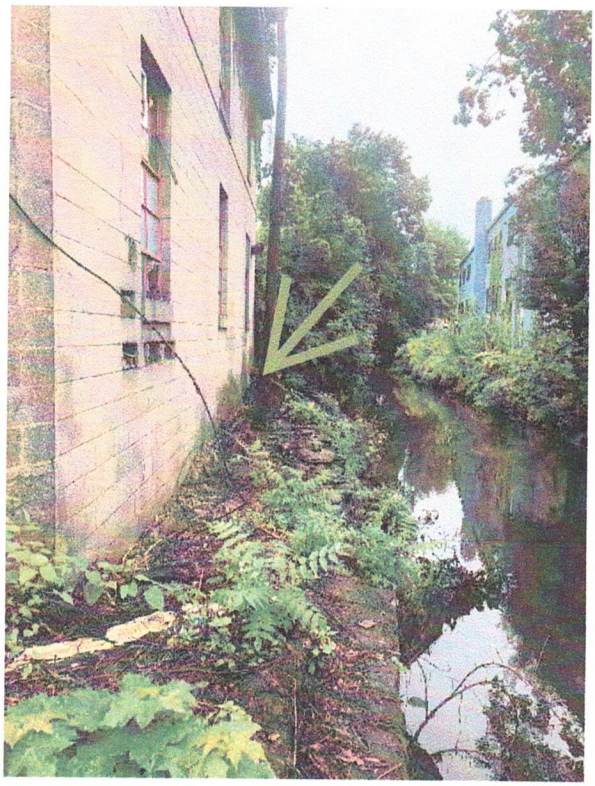
West side of Parking Lot – Looking North
Note Storm Drain Location



View of East Side Storm Drain (Catch Basin), 12" concrete pipe exit to the North & 4" C.I. exit to West C.B.



3" Cast Iron Waste Line exiting the Lower Building



Location of 12" Storm Drain outfall



Location of 4" Storm Drain outfall

BVA Construction Corp

17 Pondview Road, Hopewell Jct, NY 12533
C 845.416.5252 bvacorp17@gmail.com

481 Main Street

ESTIMATE NO
421M-1

DATE
11/6/2023

ADDRESS
481 Main Street

Pok/NY

WORK	DESCRIPTION	QUANTITY	AMOUNT
General	General Fees-Bldg Permits and Fees, Mobilization.		**$2,200.00**
Removals	Remove existing misc concrete retaining walls throughout site		**$1,500.00**
	Saw-cut and remove existing paving & catch basins	2.00	**$3,500.00**
	Saw-cut and remove portion of existing sidewalk & paving for sprinkler line		**$1,500.00**
	Remove existing deteriorated concrete slab		**$1,500.00**
	Dumpsters for removal	2.00	**$1,240.00**
Site-Work	Install Concrete Sidewalk and curb if required	50 sqft	**$1,200.00**
	Sprinkler Tap-Excavation only no pipe. Include blacktop & finish		**$12,500.00**
	Install new catch basins, as per spec and patch blacktop as required	2.00	**$45,000.00**
	Option to be discussed:Cartridge filter - storm water filtration insert option		**$0.00**
	Prep and Seal Parking Lot	14,500 sqft	**$6,525.00**
	Restripe parking spaces and Island	21.00	**$2,100.00**
	Provide/Install Accessible Parking Signage	2.00	**$600.00**
	Refuse enclosure, bollards/slab & retaining wall, approx 10x20.		**$7,500.00**
	Post and stockade fencing not included. Must be selected by owner.		**$0.00**
			$0.00
		SUBTOTAL	**$86,865.00**
		Offerhead & Profit, includes bond & insurance	**15.00%**
		TOTAL	**$13,029.75**
		TOTAL	**$99,894.75**

PAYMENT TERMS
Net 30

THIS PROPOSAL INCLUDES THE CONDITIONS NOTED:

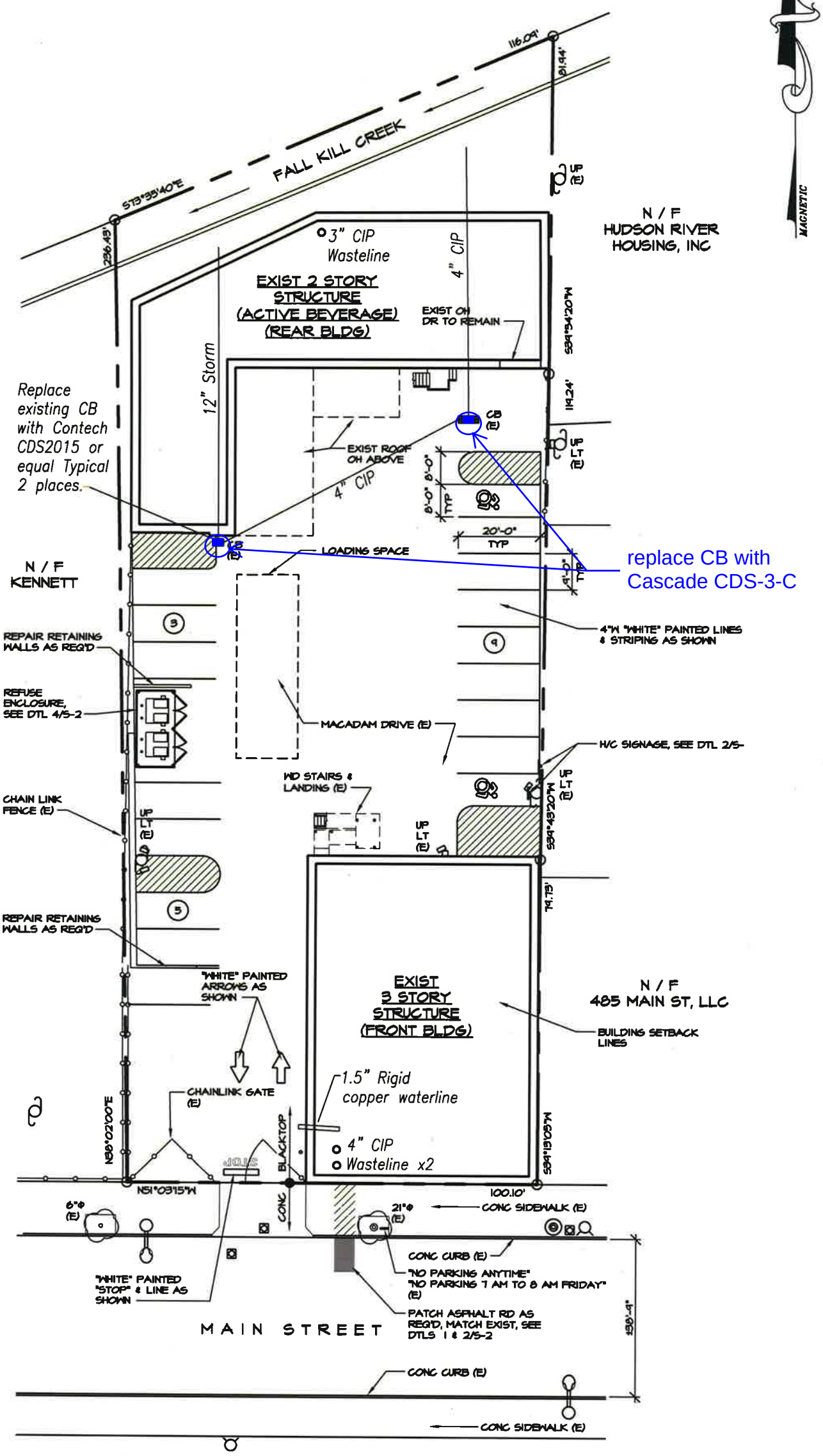
Mumatz Corp.
481 Main Street
Poughkeepsie, NY
Utilities Plan

No.	Revision/Issue

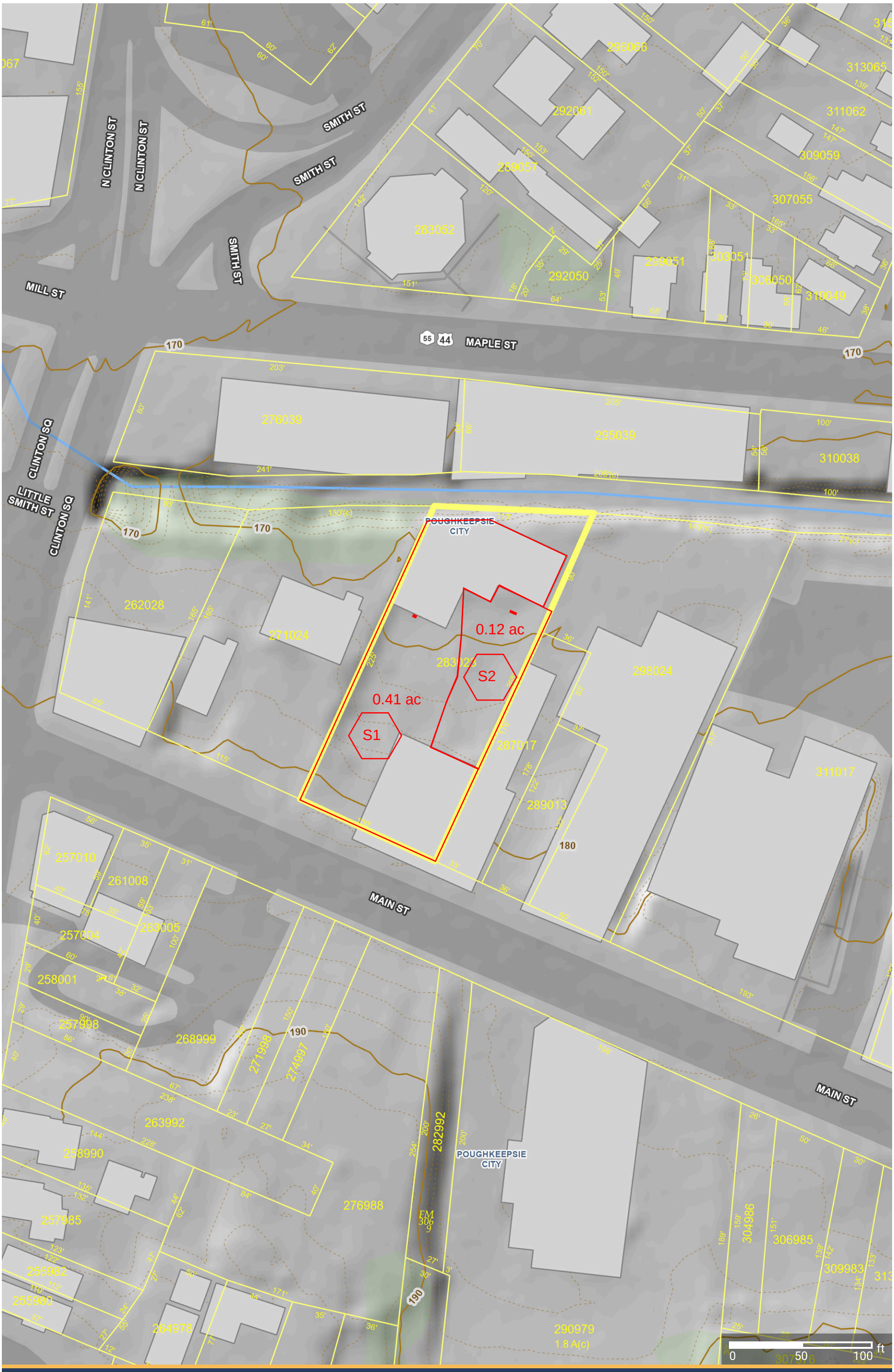
William J. Moreau, P.E.
Consulting Civil Engineer

60 Rymph Road
LaGrangeville, NY 12540

Project	Sheet
Date 08/26/23	1
Scale As noted	



Option 1
Langan
Christina M. Zolezi, PE
4/29/2024



Dutchess County
New York

Parcel Lines

Dutchess County, NY

Printed By:
ParcelAccess

ParcelAccess
4/29/2024



Subcat Reach Pond Link

Routing Diagram for 2024-04-26 481 Main St HDS analysis
Prepared by Langan Engineering, Printed 4/29/2024
HydroCAD® 10.20-3f s/n 08223 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1 year	Type III 24-hr		Default	24.00	1	2.61	2
2	10 year	Type III 24-hr		Default	24.00	1	4.68	2
3	100 year	Type III 24-hr		Default	24.00	1	8.22	2
4	WQV	Type III 24-hr		Default	24.00	1	1.50	2

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

SubcatchmentS1: Runoff Area=0.410 ac 100.00% Impervious Runoff Depth=2.38"
Tc=6.0 min CN=98 Runoff=1.01 cfs 0.081 af

SubcatchmentS2: Runoff Area=0.120 ac 100.00% Impervious Runoff Depth=2.38"
Tc=6.0 min CN=98 Runoff=0.30 cfs 0.024 af

Total Runoff Area = 0.530 ac Runoff Volume = 0.105 af Average Runoff Depth = 2.38"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.530 ac

Summary for Subcatchment S1:

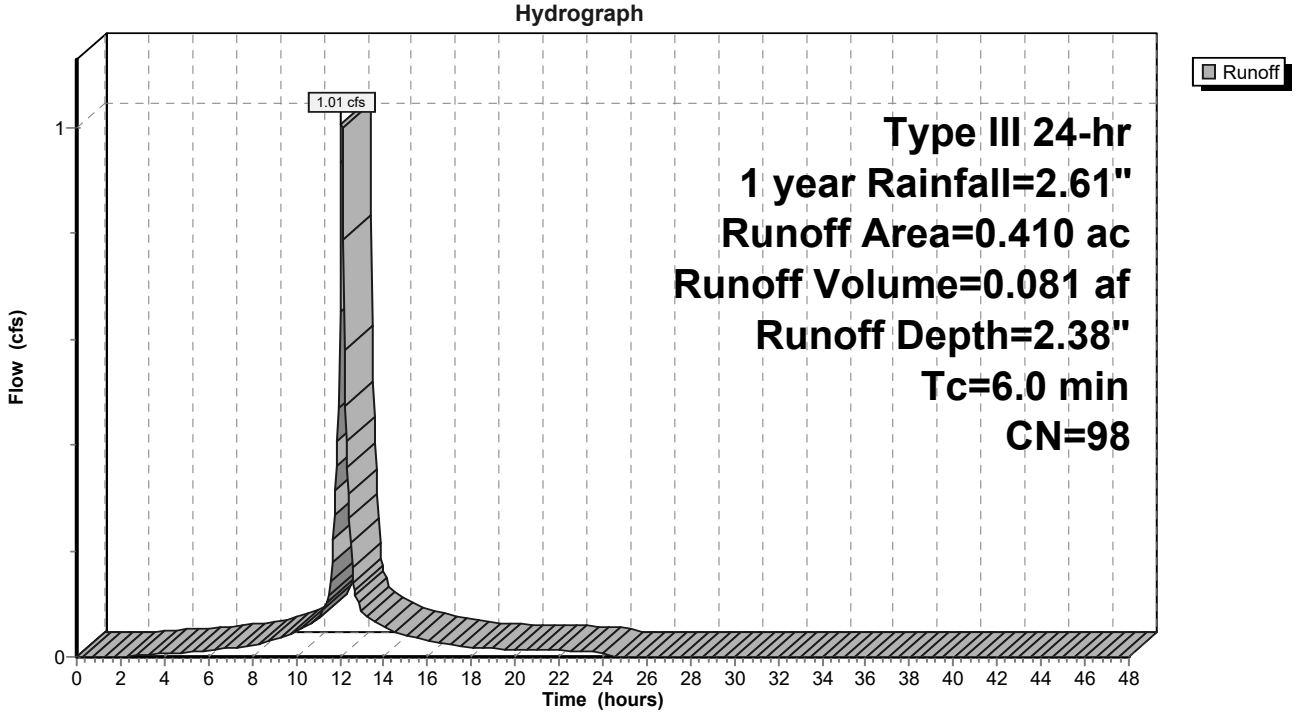
Runoff = 1.01 cfs @ 12.09 hrs, Volume= 0.081 af, Depth= 2.38"
Routed to nonexistent node WQS1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 year Rainfall=2.61"

	Area (ac)	CN	Description
*	0.410	98	Paved parking & roof
	0.410		100.00% Impervious Area

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

Subcatchment S1:



Summary for Subcatchment S2:

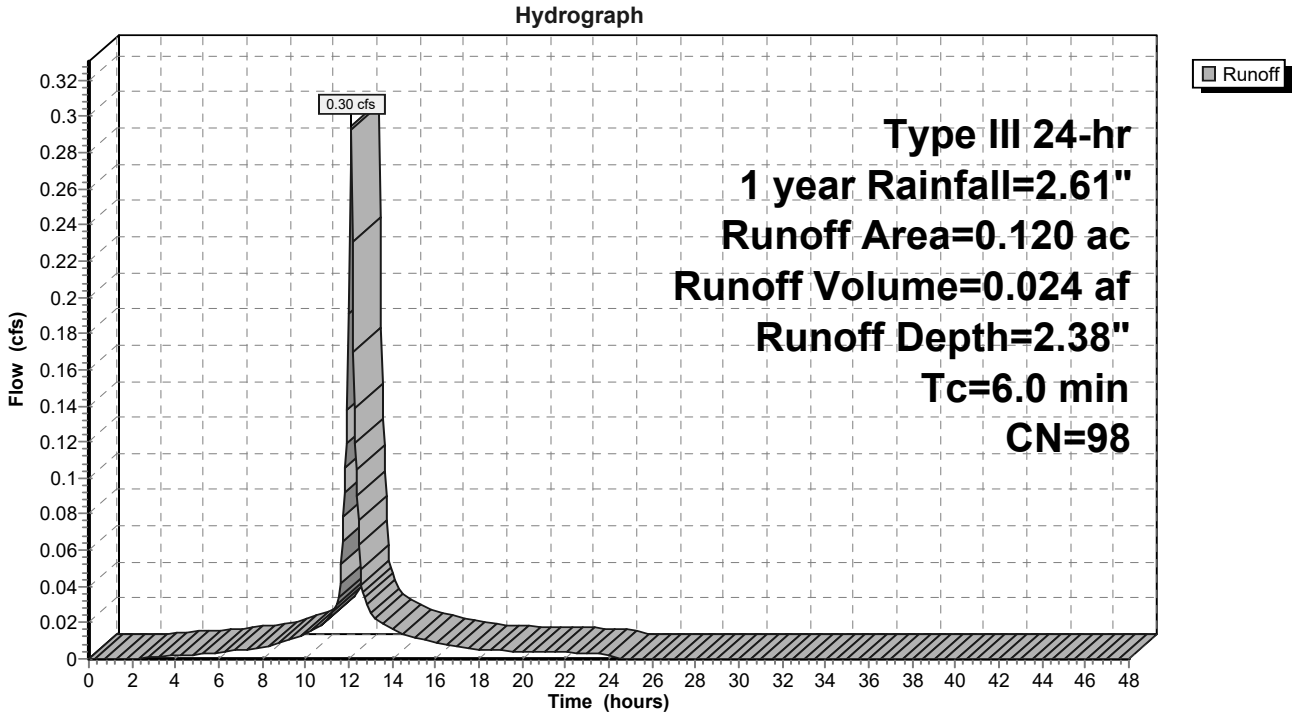
Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 2.38"
Routed to nonexistent node WQS2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1 year Rainfall=2.61"

	Area (ac)	CN	Description
*	0.120	98	Paved parking & Roofs
	0.120		100.00% Impervious Area

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

Subcatchment S2:



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

SubcatchmentS1: Runoff Area=0.410 ac 100.00% Impervious Runoff Depth=4.44"
Tc=6.0 min CN=98 Runoff=1.83 cfs 0.152 af

SubcatchmentS2: Runoff Area=0.120 ac 100.00% Impervious Runoff Depth=4.44"
Tc=6.0 min CN=98 Runoff=0.54 cfs 0.044 af

Total Runoff Area = 0.530 ac Runoff Volume = 0.196 af Average Runoff Depth = 4.44"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.530 ac

Summary for Subcatchment S1:

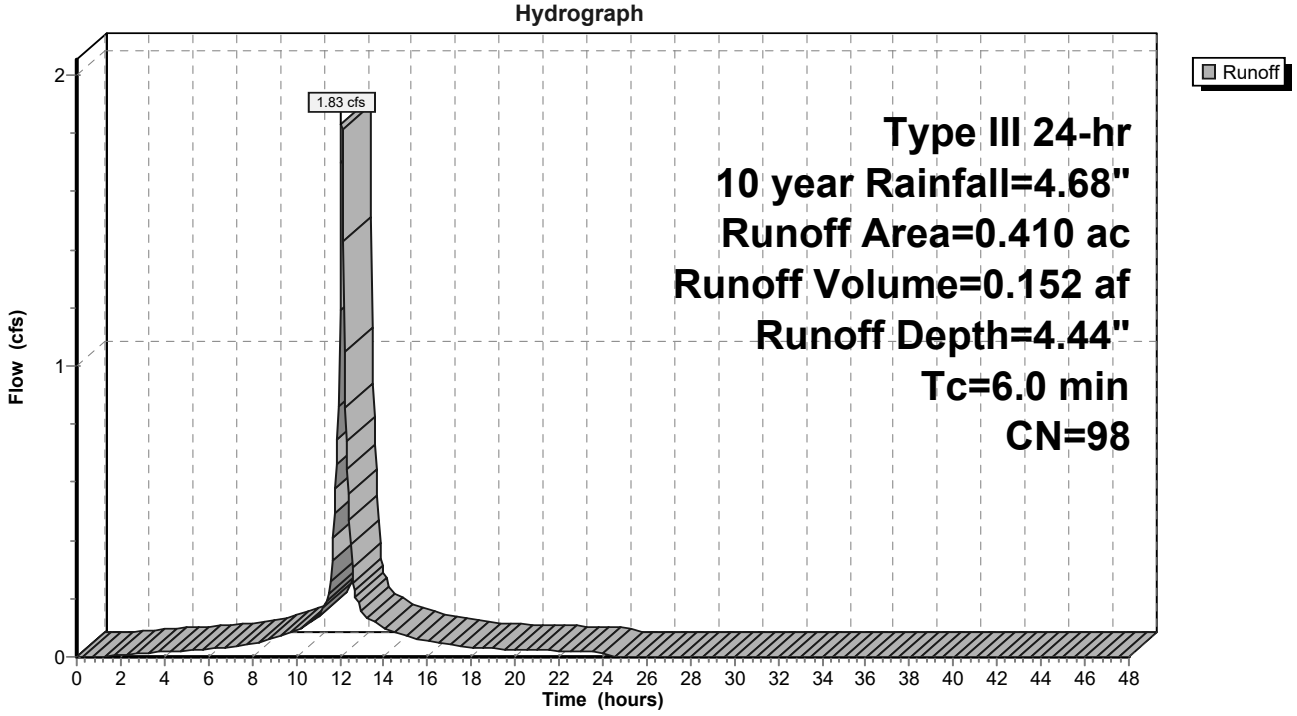
Runoff = 1.83 cfs @ 12.09 hrs, Volume= 0.152 af, Depth= 4.44"
Routed to nonexistent node WQS1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.68"

	Area (ac)	CN	Description
*	0.410	98	Paved parking & roof
	0.410		100.00% Impervious Area

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

Subcatchment S1:



Summary for Subcatchment S2:

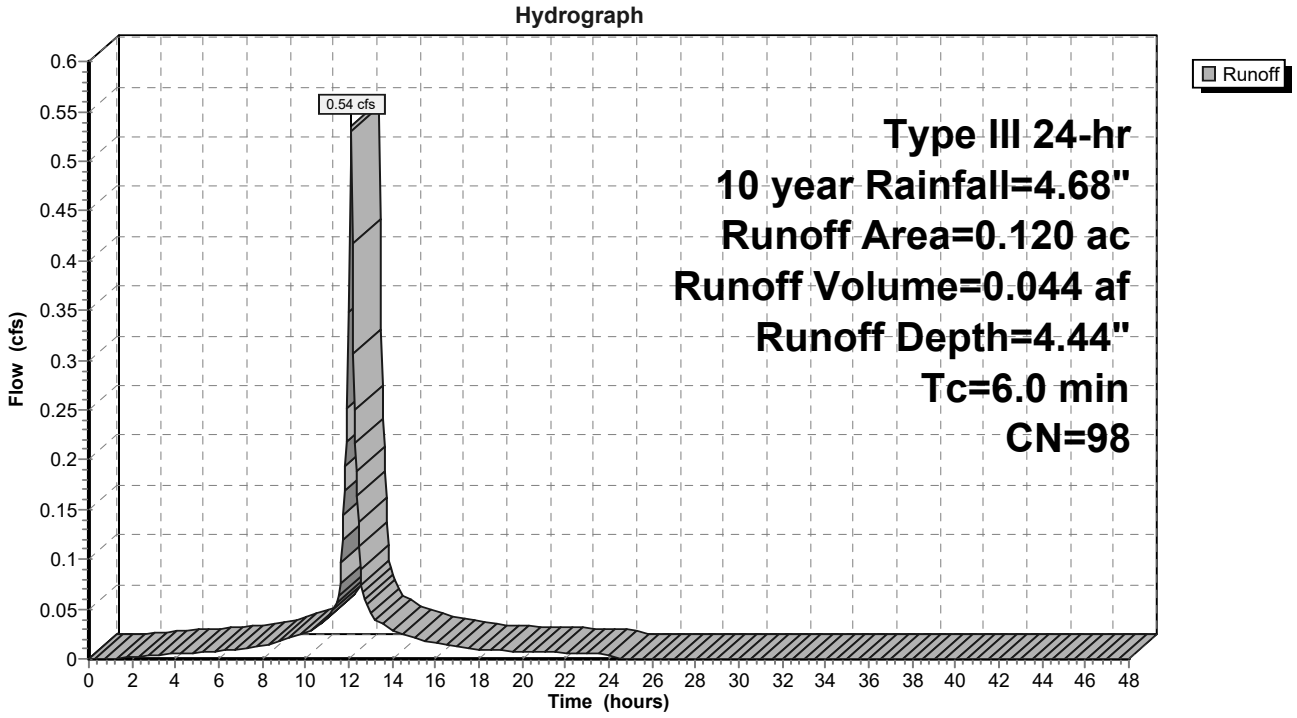
Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.044 af, Depth= 4.44"
Routed to nonexistent node WQS2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.68"

	Area (ac)	CN	Description
*	0.120	98	Paved parking & Roofs
	0.120		100.00% Impervious Area

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

Subcatchment S2:



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

SubcatchmentS1: Runoff Area=0.410 ac 100.00% Impervious Runoff Depth=7.98"
Tc=6.0 min CN=98 Runoff=3.23 cfs 0.273 af

SubcatchmentS2: Runoff Area=0.120 ac 100.00% Impervious Runoff Depth=7.98"
Tc=6.0 min CN=98 Runoff=0.95 cfs 0.080 af

Total Runoff Area = 0.530 ac Runoff Volume = 0.352 af Average Runoff Depth = 7.98"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.530 ac

Summary for Subcatchment S1:

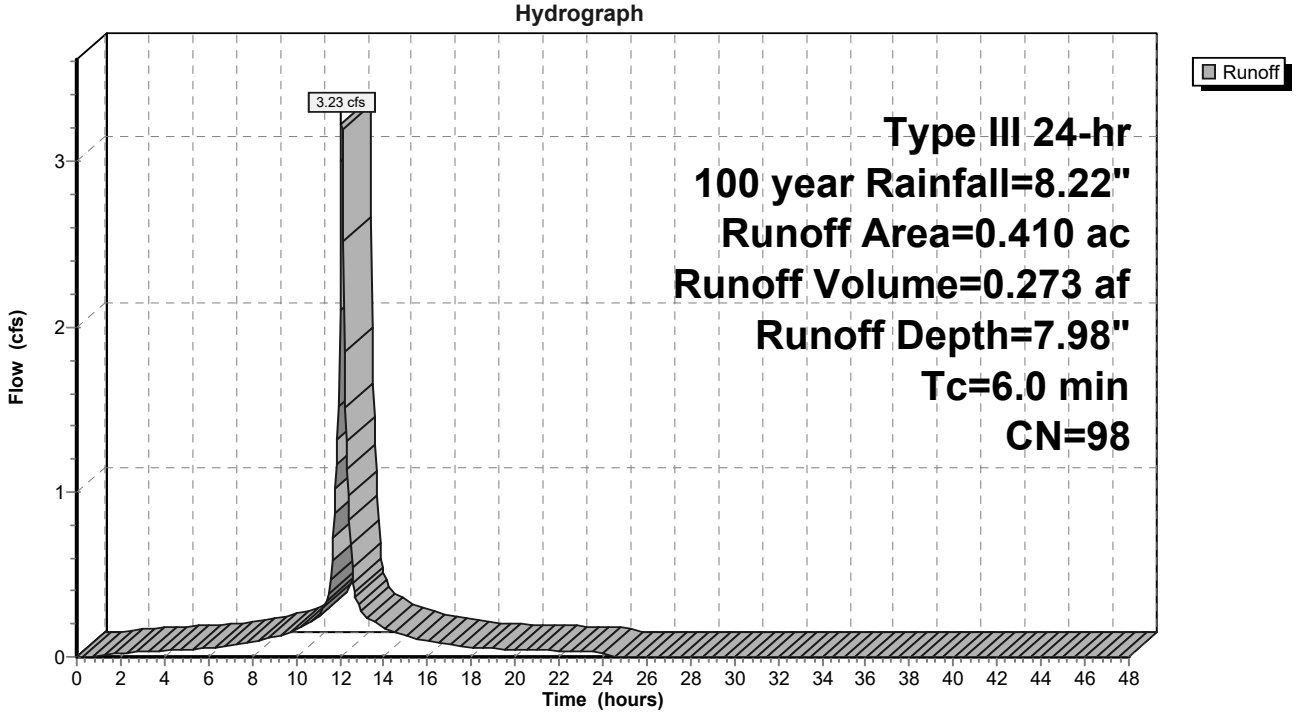
Runoff = 3.23 cfs @ 12.09 hrs, Volume= 0.273 af, Depth= 7.98"
Routed to nonexistent node WQS1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.22"

	Area (ac)	CN	Description
*	0.410	98	Paved parking & roof
	0.410		100.00% Impervious Area

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

Subcatchment S1:



Summary for Subcatchment S2:

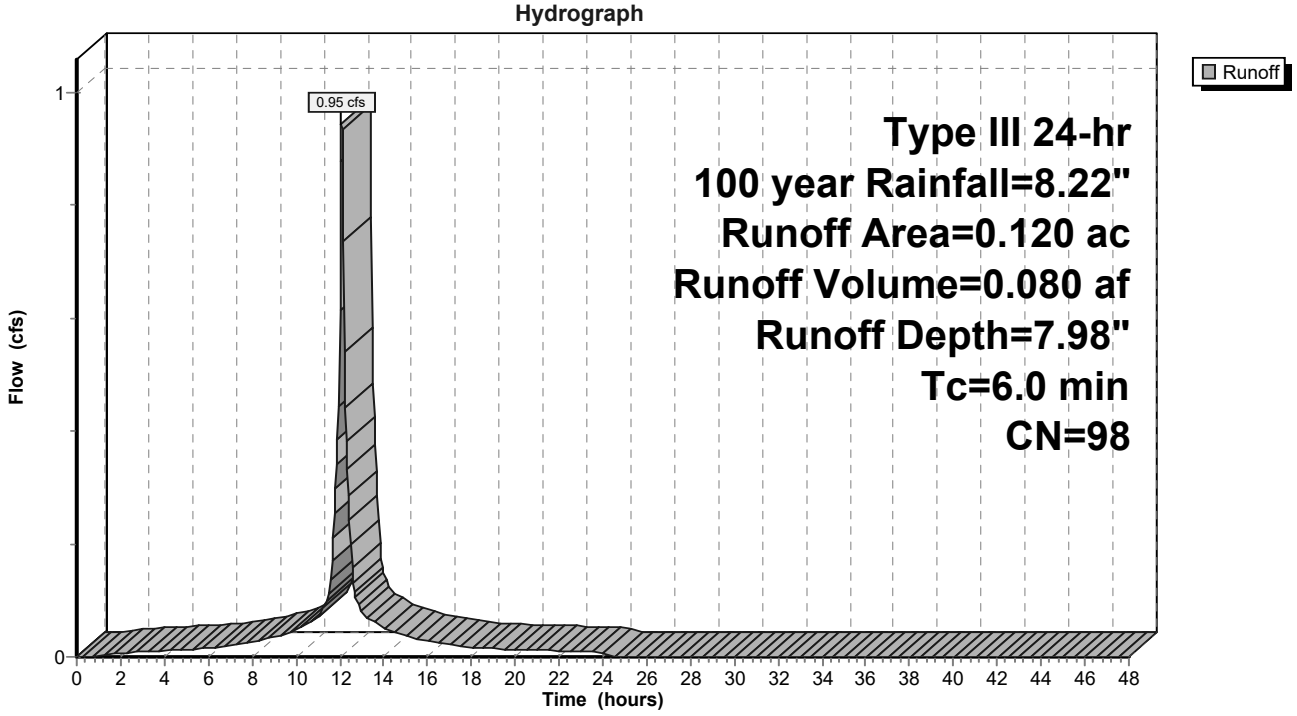
Runoff = 0.95 cfs @ 12.09 hrs, Volume= 0.080 af, Depth= 7.98"
Routed to nonexistent node WQS2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.22"

	Area (ac)	CN	Description
*	0.120	98	Paved parking & Roofs
	0.120		100.00% Impervious Area

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

Subcatchment S2:



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

SubcatchmentS1: Runoff Area=0.410 ac 100.00% Impervious Runoff Depth=1.28"
Tc=6.0 min CN=98 Runoff=0.56 cfs 0.044 af

SubcatchmentS2: Runoff Area=0.120 ac 100.00% Impervious Runoff Depth=1.28"
Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af

Total Runoff Area = 0.530 ac Runoff Volume = 0.057 af Average Runoff Depth = 1.28"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.530 ac

Summary for Subcatchment S1:

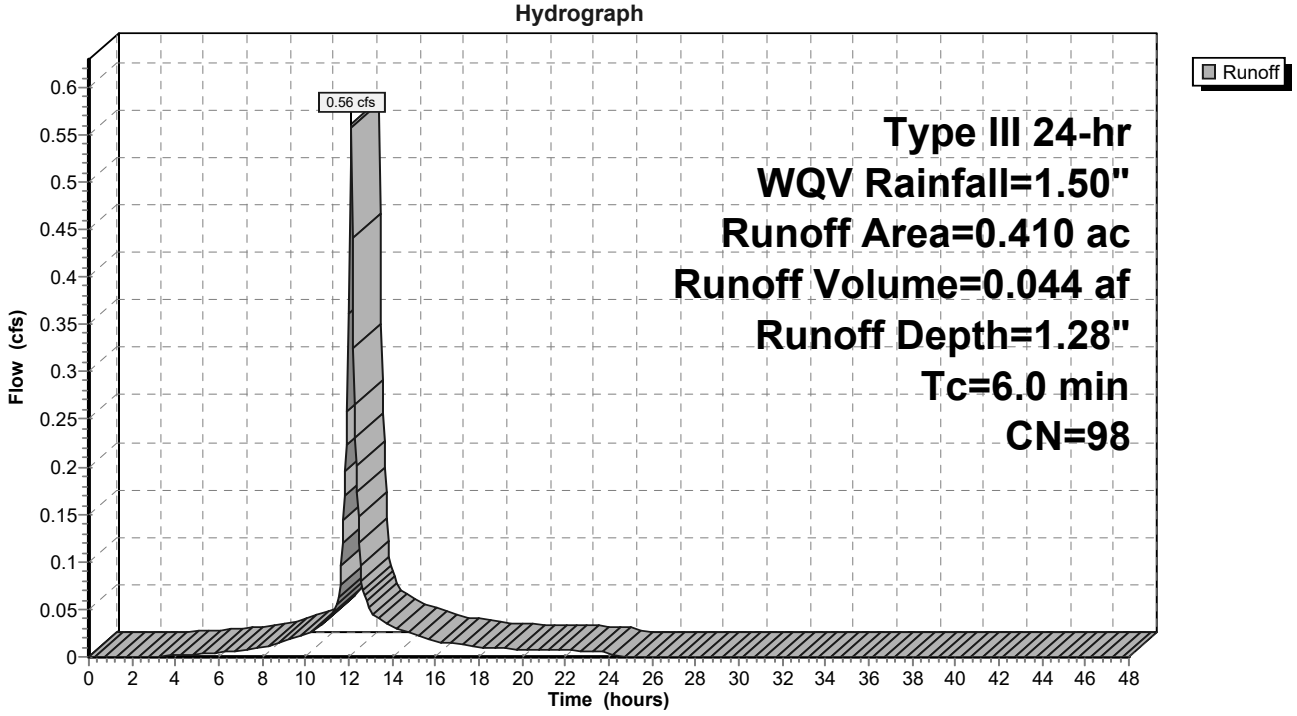
Runoff = 0.56 cfs @ 12.09 hrs, Volume= 0.044 af, Depth= 1.28"
Routed to nonexistent node WQS1

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

	Area (ac)	CN	Description
*	0.410	98	Paved parking & roof
	0.410		100.00% Impervious Area

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

Subcatchment S1:



Summary for Subcatchment S2:

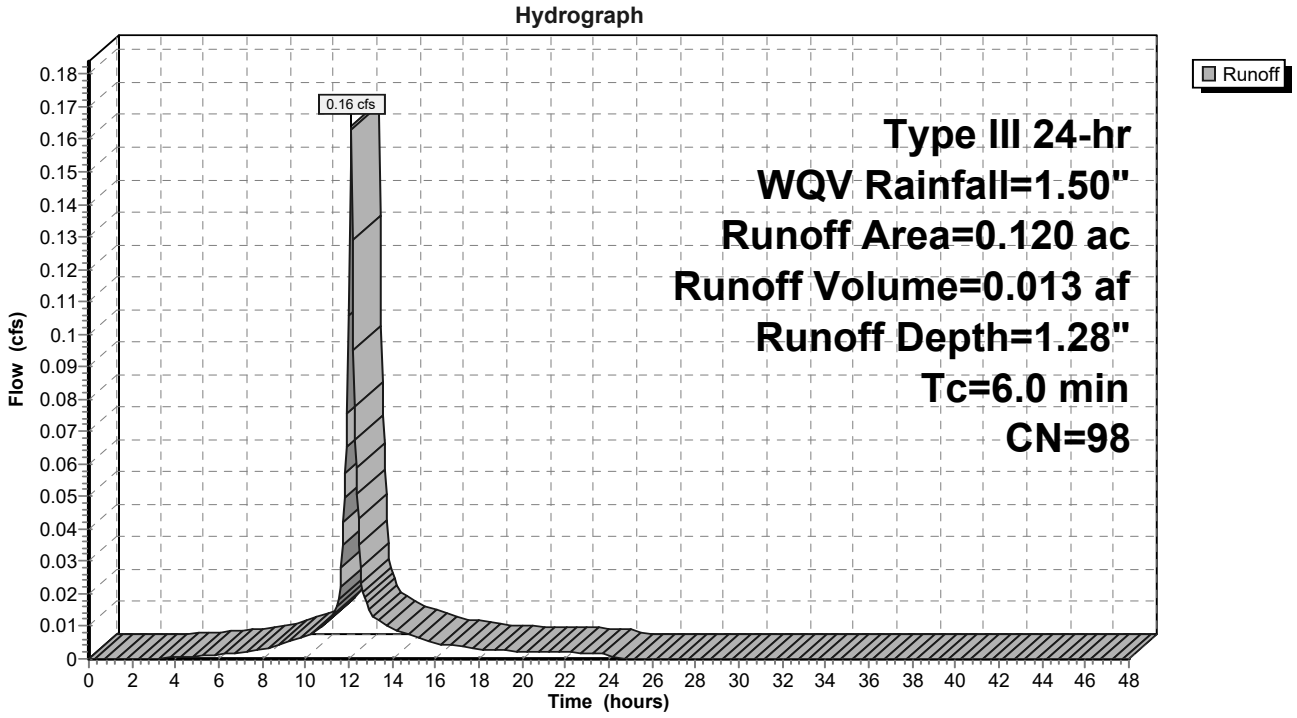
Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.013 af, Depth= 1.28"
Routed to nonexistent node WQS2

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

	Area (ac)	CN	Description
*	0.120	98	Paved parking & Roofs
	0.120		100.00% Impervious Area

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

Subcatchment S2:



Hydrodynamic Separation Product Calculator

481 Main Street

WQS1

CASCADE SEPARATOR CS-3

Project Information					
Project Name	481 Main Street			**Option #**	A
Country	UNITED_STATES	**State**	New York	**City**	Poughkeepsie

Contact Information			
First Name	Christina	**Last Name**	Zolezi
Company		**Phone #**	914-323-7418
Email	czolezi@langan.com		

Design Criteria					
Site Designation	WQS1			**Sizing Method**	Treatment Flow Rate
Screening Required?	No	**Treatment Flow Rate**	0.56	**Peak Flow (cfs)**	3.23
Groundwater Depth (ft)	>15	**Pipe Invert Depth (ft)**	0 - 5	**Bedrock Depth (ft)**	>15
Multiple Inlets?	No	**Grate Inlet Required?**	Yes	**Pipe Size (in)**	12.00
Required Particle Size Distribution?	No	**90° between two inlets?**	N/A		

Treatment Selection				
Treatment Unit	CASCADE SEPARATOR	**System Model**	CS-3	
Target Removal	80%	**Particle Size Distribution (PSD)**	250	

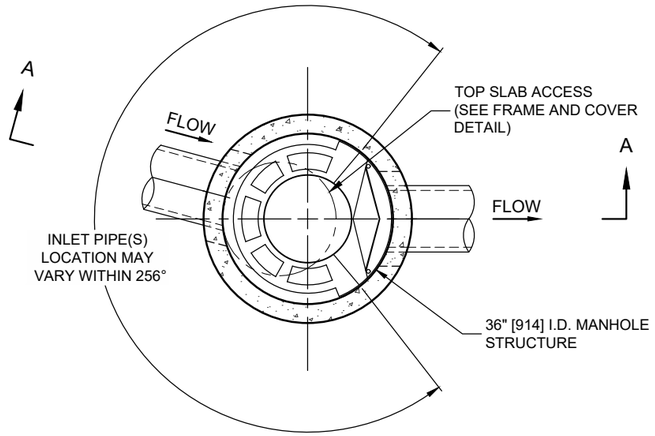
Hydrodynamic Separation Product Calculator

481 Main Street

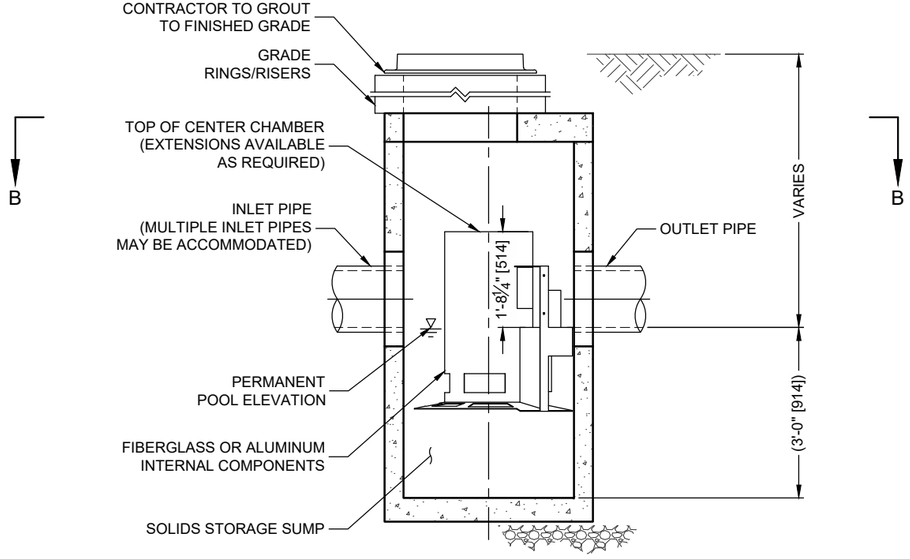
WQS1

CASCADE SEPARATOR CS-3

CASCADE SEPARATOR ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION BASED ON THE RATIONAL RAINFALL METHOD								
Rainfall Intensity[1] (in/hr)	% Rainfall Volume[1]	Cumulative Rainfall Volume	Rainfall Volume Treated	Total Flowrate (cfs)	Treated Flowrate (cfs)	Hydraulic Loading Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
							Removal Efficiency Adjustment[2] =	
							Predicted % Annual Rainfall Treated =	
							Predicted Net Annual Load Removal Efficiency =	
1 -								
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.								



PLAN VIEW B-B
NOT TO SCALE



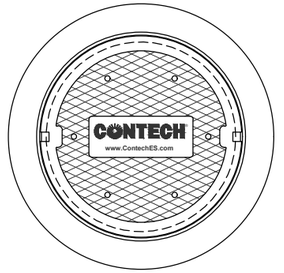
ELEVATION A-A
NOT TO SCALE

CASCADE
separator™

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-3 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (cfs [L/s])	
PEAK FLOW RATE (cfs [L/s])	
RETURN PERIOD OF PEAK FLOW (yrs)	
RIM ELEVATION	

PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			

NOTES / SPECIAL REQUIREMENTS:

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
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6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
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D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CS-3
CASCADE SEPARATOR
STANDARD DETAIL

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Hydrodynamic Separation Product Calculator

481 Main Street

WQS2

CASCADE SEPARATOR CS-3

Project Information					
Project Name	481 Main Street			**Option #**	A
Country	UNITED_STATES	**State**	New York	**City**	Poughkeepsie

Contact Information			
First Name	Christina	**Last Name**	Zolezi
Company		**Phone #**	914-323-7418
Email	czolezi@langan.com		

Design Criteria					
Site Designation	WQS2			**Sizing Method**	Treatment Flow Rate
Screening Required?	No	**Treatment Flow Rate**	0.16	**Peak Flow (cfs)**	0.95
Groundwater Depth (ft)	>15	**Pipe Invert Depth (ft)**	0 - 5	**Bedrock Depth (ft)**	>15
Multiple Inlets?	No	**Grate Inlet Required?**	Yes	**Pipe Size (in)**	6.00
Required Particle Size Distribution?	No	**90° between two inlets?**	N/A		

Treatment Selection				
Treatment Unit	CASCADE SEPARATOR	**System Model**	CS-3	
Target Removal	80%	**Particle Size Distribution (PSD)**	250	

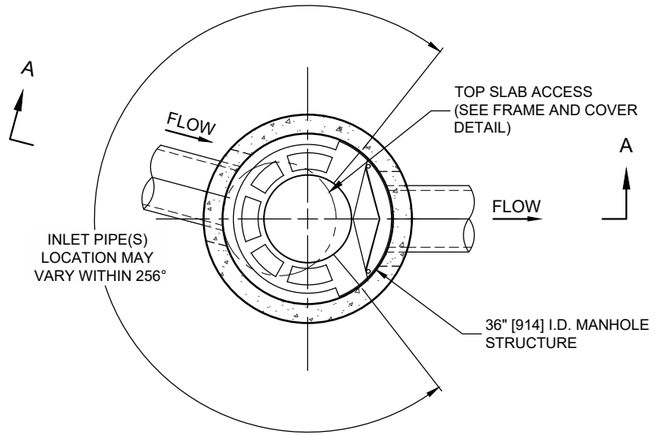
Hydrodynamic Separation Product Calculator

481 Main Street

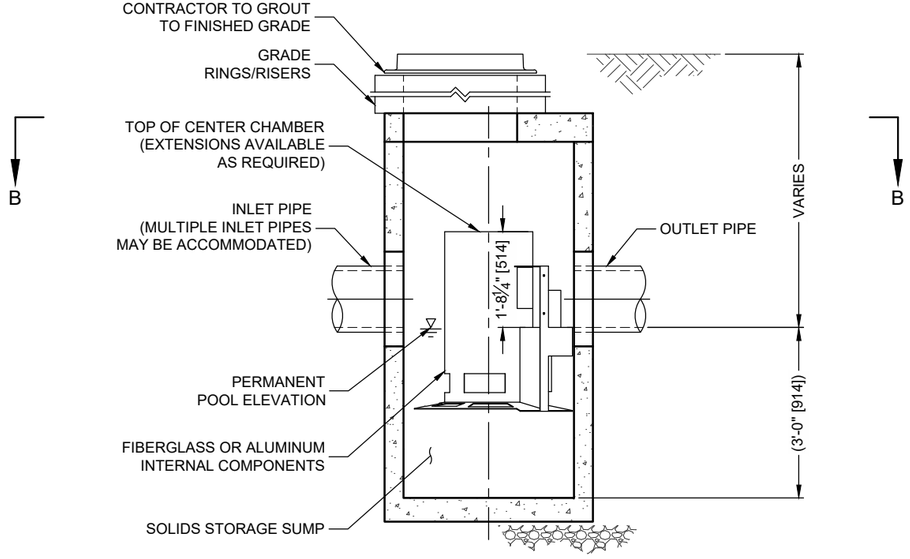
WQS2

CASCADE SEPARATOR CS-3

CASCADE SEPARATOR ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION BASED ON THE RATIONAL RAINFALL METHOD								
Rainfall Intensity[1] (in/hr)	% Rainfall Volume[1]	Cumulative Rainfall Volume	Rainfall Volume Treated	Total Flowrate (cfs)	Treated Flowrate (cfs)	Hydraulic Loading Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
							Removal Efficiency Adjustment[2] =	
							Predicted % Annual Rainfall Treated =	
							Predicted Net Annual Load Removal Efficiency =	
1 -								
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.								



PLAN VIEW B-B
NOT TO SCALE



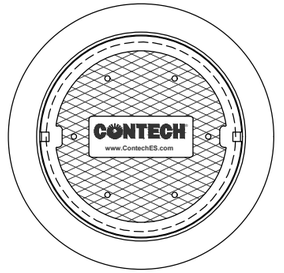
ELEVATION A-A
NOT TO SCALE

CASCADE
separator™

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-3 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (cfs [L/s])	
PEAK FLOW RATE (cfs [L/s])	
RETURN PERIOD OF PEAK FLOW (yrs)	
RIM ELEVATION	

PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			

NOTES / SPECIAL REQUIREMENTS:

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
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BUILDING DEPARTMENT

CITY OF POUGHKEEPSIE
62 CIVIC CENTER PLAZA, 2ND FLOOR
POUGHKEEPSIE, NY 12601
Phone: (845) 451-4007 Fax: (845) 451-4006

Eric Philipp
Building Inspector

June 2nd, 2023

Mumtaz Corp
481 Main Street
Poughkeepsie NY 12601

Re: 481 Main Street
ID # 287200
Site Plan Application # PB-2023-019

To whom it may concern,

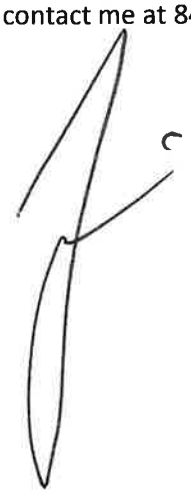
The Development Department is in receipt of your Site Plan Application # PB-2023-019 relative to the existing mixed use and the removal of office space and the addition of two dwelling units for the property of 481 Main Street located in the General Commercial District (C-3). Upon further review of the application and per Section 19-4.3(10)(a) which states " structures and land uses in existence or for which building permits shall have been approved as of the effective date of this Chapter, shall not be subject to the requirements for off-street parking spaces set forth in this Chapter, provided that any parking facilities now existing and serving such structures or uses shall not in the future be reduced, except to the extent that they exceed such requirements."

Therefore, the proposed 17 parking spaces meet the code requirement specified in Section 19-4.3(11) for the current proposed use of the property and will not require a variance from the ZBA. As no uses are proposed for the 1st floor commercial spaces, they are not included in this calculation and will not be required until a use for those spaces are proposed. After you obtain approvals from the Planning Board, you would then need to file all required Building permits and obtain an issued Certificate of Occupancy from the Building Department.

If you have any questions, you may contact me at 845-451-4273 or at jobrien@cityofpoughkeepsie.com.

Sincerely,

Joseph O'Brien
Deputy Zoning Administrator



June 15, 2023
REV OCT 31, 2024

City of Poughkeepsie Planning Board
Attn: Anne Saylor, Chairperson
63 Civic Center Plaza
Poughkeepsie, NY 12601

cc: Joe Donat, Richard Distel, Lori Garcia

RE: 20213-019: 481 Main Street

MASS DESIGN GROUP

1 Chandler Street Suite 101
Boston, MA 02116

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Poughkeepsie, NY 12601

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Dear City of Poughkeepsie Planning Board,

We have received notes from the applicant in response to our letter of June 15, 2023. We would like to officially respond to those to assist the planning board in its determinations. I will weave in their responses in BLUE, and our follow ups in GREEN.

We are in the receipt of the site plan, elevation drawings and rendering forwarded to our office on May 22, 2023. The applicant, planning board members and design team convened on site on May 25, 2023 to discuss their proposed project on Middle Main Street. Planning board members included: Anne Saylor (At the Beginning), Rosaura Marjorie Smith, Nick DeLuccia, Marjorie Smith (at the end) as well as the owner and architect for the project. The discussion was a preliminary workshop in nature, and the applicant team gave an introduction to the project, its intent and constraints to which MASS elevated some clarifying questions and ideas for further consideration.

I have included these notes marked up on the rendering below for reference.



General Participation in Main Street Upgrades

First we applaud that this project is work to upgrade an existing structure on Main Street. As this parcel creates a gap in the Main Street streetwall to allow trucks down to the bottling and recycling center at the rear of the property, the front building acts as a western gateway to the Middle Main Arts District. We are hoping that this project will capture the attention of the public, and we applaud any efforts for the building to participate in the support of that district (the district currently includes Art Centro, Trolley Barn and the Poughkeepsie Underwear Factory, for example).

Signage

There is an existing side mounted signage pole on the existing structure, which we understand is not intended to be removed. If the applicant is amenable, we hope that this item should remain and be refurbished enough to support vertical banners for the district, or display printed works like previously shown with photographs of the Fall Kill printed on scrims at Murphy Park by Hudson River Housing.

APPLICANT RESPONSE:

> The Existing sign pole will be cleaned, prepped and re-painted "black" it's original color. The existing signage has been taken down to be repaired and is intended to be reinstalled.

MASS RESPONSE: NO FURTHER DESIGN OBJECTION.

Materials - Brick

MASS observes in the renderings new brick piers at the corners which we recommend should match (esp. color/texture/mortar appearance) of the wall brick of the existing building behind.

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APPLICANT RESPONSE:

The Owner would like to keep the proposed red brick piers, he prefers the contrast to the beige bricks. The adjacent "Art Centro" building has two different bricks, similarly colored on it's exterior & we feel this is not at all a detriment to this proposal.

MASS RESPONSE: PLANNING BOARD SHOULD UNDERSTAND THE EXACT COLOR OF THE PROPOSED BRICKS. PLEASE PROVIDE SHEET WITH PHOTOGRAPHS OF THE PRODUCTS TO BE USED, OR PHYSICAL SAMPLES FOR THEIR FINAL REVIEW.

We would also recommend that the existing parged brick along the walk to the back be prepared (parged/primed) for a future mural to help participate in the district identity. MASS is happy to introduce partners who could help with selection of artist/content.

APPLICANT RESPONSE:

The Owner is not opposed to allowing the use of his building for a future mural however; he does not feel the cost of parging or priming the additional concrete masonry walls as requested should come out of his budget for renovating the building. He would also like to see this parging or priming occur just prior to the painting of the mural, he is concerned that the newly created canvas will attract potential unwanted graffiti. Lastly, the Owner needs to have the final approval of any proposed artwork / mural.

MASS RESPONSE: WE AGREE THAT FINAL APPROVAL OF ANY FUTURE MURAL BY OWNER WOULD BE REQUIRED. IT IS NOTED THAT APPLICANT IS AGREEABLE TO MURAL BUT ALSO WILL MAKE NO PROVISIONS TO PREPARE THE WALL AT THIS TIME.

Materials - Siding

Please clarify intent as to the vertical siding. In the workshop it was discussed that Vinyl siding is being considered – MASS would not recommend residential Grade Vinyl Siding for a number of reasons including sustainability and durability (material is very susceptible to impacts). In discussion we asked if the applicant would consider board and batten cementitious plank siding. We would love the chance to revisit the intent of the low panels when the design is updated.

APPLICANT RESPONSE:

The Owner has agreed to install a cementitious Board and Batten siding by James Hardie, as recommended. The low panels are a common occurrence thru-out Main Street. They shall be similar to the panels installed on the "Art Centro" building.

MASS RESPONSE: NO FURTHER DESIGN OBJECTION.

Windows/Doors

The windows and doors, as presented, are attempting to respond to the white window frames in the adjacent "Art Centro" property. We recommend that any possible alignments of window head and/or sill to Art Centro could be made to allow this building to be in better dialogue with its immediate neighbor.

In trying to understand the doorways, some are shown with transom windows over the door. Can all of the doors include this detail as a way to communicate where to enter?

Are any of the exterior windows operable? We would recommend that any side lites or transoms could include the possibility of operability to help increase access to fresh air.

APPLICANT RESPONSE:

The window heads and sills have been adjusted to align with the adjacent "Art Centro" property as recommended. We have also added the additional transom windows as requested.

There will be no operable windows installed at this time. We do not feel it is necessary nor would it be detrimental to the proposed project as designed.

MASS RESPONSE: OPERABLE TRANSOM WINDOWS WOULD BE A PREFERRED DETAIL, BUT FIXED TRANSOMS AT THE ADJUSTED HEIGHTS ARE TOLERABLE.

Landscaping/Site

Please clarify the street gate (materials/aesthetics) – is this to be similarly detailed as the refuse enclosure?

Will there be any landscape or planting improvements?

APPLICANT RESPONSE:

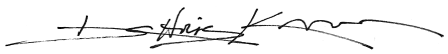
There is no proposed Landscaping at this time. The site is currently covered by pavement and buildings.

The entry gate will be replaced w/ a black bifold chain-link fence.

MASS RESPONSE: NO FURTHER DESIGN OBJECTION.

Given the scale and location, we look forward to seeing this important anchor project for Main Street evolve through public participation in collaboration with community partners.

Sincerely,
Chris Kroner



Principal
ckroner@mass-group.org

MASS DESIGN GROUP

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Agency Use Only [If applicable]

Project : 481 Main St PB2023-019

Date : 8/28/24

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "**Yes"** to a numbered question, please complete all the questions that follow in that section.
- If you answer "**No"** to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land

Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1)

If "Yes", answer questions a - j. If "No", move on to Section 2.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☐	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☐	☐
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☐	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☐	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☐	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☐	☐
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☐	☐
h. Other impacts: _____ _____		☐	☐

2. Impact on Geological Features

The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g)

☑ NO ☐ YES

If "Yes", answer questions a - c. If "No", move on to Section 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Identify the specific land form(s) attached: _____ _____	E2g	☐	☐
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: _____	E3c	☐	☐
c. Other impacts: _____ _____		☐	☐

3. Impacts on Surface Water

The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h)

☑ NO ☐ YES

If "Yes", answer questions a - l. If "No", move on to Section 4.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may create a new water body.	D2b, D1h	☐	☐
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	☐	☐
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	☐	☐
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	☐	☐
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	☐	☐
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	☐	☐
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	☐	☐
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	☐	☐
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	☐	☐
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	☐	☐
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	☐	☐

l. Other impacts: _____ _____		□	□

4. Impact on groundwater

The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. (See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t)

☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	□	□
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: _____	D2c	□	□
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	□	□
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	□	□
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	□	□
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	□	□
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	□	□
h. Other impacts: _____ _____		□	□

5. Impact on Flooding

The proposed action may result in development on lands subject to flooding. (See Part 1. E.2)

☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	□	□
b. The proposed action may result in development within a 100 year floodplain.	E2j	□	□
c. The proposed action may result in development within a 500 year floodplain.	E2k	□	□
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	□	□
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	□	□
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	□	□

g. Other impacts: _____ _____		☐	☐

6. Impacts on Air

The proposed action may include a state regulated air emission source. (See Part 1. D.2.f., D.2.h, D.2.g) ☑ NO ☐ YES

If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	☐	☐
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	☐	☐
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	☐	☐
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	☐	☐
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	☐	☐
vi. 43 tons/year or more of methane	D2h	☐	☐
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	☐	☐
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	☐	☐
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	☐	☐
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	☐	☐
f. Other impacts: _____ _____		☐	☐

7. Impact on Plants and Animals

The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☑ NO ☐ YES

If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	☐	☐
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	☐	☐
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	☐	☐
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	☐	☐

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	☐	☐
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: _____	E2n	☐	☐
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	☐	☐
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: _____ _____	E1b	☐	☐
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	☐	☐
j. Other impacts: _____ _____		☐	☐

8. Impact on Agricultural Resources

The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	☐	☐
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, Elb	☐	☐
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	☐	☐
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	☐	☐
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	El a, E1b	☐	☐
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	☐	☐
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	☐	☐
h. Other impacts: _____		☐	☐

9. Impact on Aesthetic Resources

The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)

☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", go to Section 10.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☐	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☐	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	 ☐ ☐	 ☐ ☐
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	 ☐ ☐	 ☐ ☐
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☐
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☐	☐
g. Other impacts: _____ _____		☐	☐

10. Impact on Historic and Archeological Resources

The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)

☑ NO ☐ YES

If "Yes", answer questions a - e. If "No", go to Section 11.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on the National or State Register of Historical Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places.	E3e	☐	☐
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	☐	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: _____	E3g	☐	☐

d. Other impacts: _____ _____		□	□
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	□	□
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	□	□
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	□	□

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	□	□
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	□	□
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	□	□
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	□	□
e. Other impacts: _____ _____		□	□

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)
If "Yes", answer questions a - c. If "No", go to Section 13.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	□	□
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	□	□
c. Other impacts: _____ _____		□	□

13. Impact on Transportation

The proposed action may result in a change to existing transportation systems. ☑ NO ☐ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☐	☐
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☐	☐
c. The proposed action will degrade existing transit access.	D2j	☐	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☐	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☐	☐
f. Other impacts: _____ _____		☐	☐

14. Impact on Energy

The proposed action may cause an increase in the use of any form of energy. ☑ NO ☐ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☐	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☐	☐
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☐	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☐	☐
e. Other Impacts: _____ _____			

15. Impact on Noise, Odor, and Light

The proposed action may result in an increase in noise, odors, or outdoor lighting. ☑ NO ☐ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☐	☐
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☐	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☐	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☐	☐
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☐	☐
f. Other impacts: _____ _____		☐	☐

16. Impact on Human Health

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.) ☑ NO ☐ YES

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No,or small impact may cccur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☐	☐
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☐	☐
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☐	☐
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☐	☐
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☐	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☐	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☐	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☐	☐
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☐	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☐	☐
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☐	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☐	☐
m. Other impacts: _____ _____			

17. Consistency with Community Plans

The proposed action is not consistent with adopted land use plans. (See Part 1. C.1, C.2. and C.3.) ☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☐	☐
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☐	☐
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☐	☐
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☐	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, Elb	☐	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☐	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☐	☐
h. Other: _____ _____		☐	☐

18. Consistency with Community Character

The proposed project is inconsistent with the existing community character. (See Part 1. C.2, C.3, D.2, E.3) ☐ NO ☐ YES

If "Yes", answer questions a - g. If "No", proceed to Part 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☐	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☐	☐
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☐	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☐	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☐	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☐	☐
g. Other impacts: _____ _____		☐	☐

PRINT FULL FORM

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:
To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☐ Type 1 ☑ Unlisted

Identify portions of EAF completed for this Project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the City of Poughkeepsie Planning Board as lead agency that:

☑ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.7(d)).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: 481 Main St PB2023-019

Name of Lead Agency: City of Poughkeepsie Planning Board

Name of Responsible Officer in Lead Agency: Anne Saylor

Title of Responsible Officer: Chair

Signature of Responsible Officer in Lead Agency: Date:

Signature of Preparer (if different from Responsible Officer) Date:

For Further Information:

Contact Person: Tyler Maegerle

Address: 62 Civic Center Plaza

Telephone Number: 8454514041

E-mail: tmaegerle@cityofpoughkeepsie.com

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

PRINT FULL FORM

THE CITY OF POUGHKEEPSIE
NEW YORK
PLANNING BOARD
481 MAIN STREET
NOVEMBER 26, 2024
DRAFT RESOLUTION

Present: **Excused:** **Absent:**

WHEREAS, the Planning Board has received an application from Mumtaz Corp., and Syed Lateef for the proposed conversion of the second and third floors of the existing mixed-use building at 481 Main Street into three two-bedroom living units; two units on the second floor and one unit on the third floor., File #20213-019; and,

WHEREAS, this application has been classified as an Unlisted Action for the purposes of SEQRA, and,

WHEREAS, the action is more fully detailed on a site plan and elevations prepared by Mazzarelli Architecture & Planning, PC, dated 11/7/24, and supplemental documentation; and,

WHEREAS, the Planning Board declared its intent to serve as SEQRA Lead Agency and conduct a coordinated review on 5/16/23

WHEREAS, upon completion of the project, prior to the issuance of the final certificate of occupancy, an as-built site plan set shall be submitted to the Planning Department for certification of compliance with Planning Board approval; and,

WHEREAS, at the November 26th, 2024 meeting the Planning Board as Lead Agency of the coordinated SEQRA review adopted a Negative Declaration in accordance with Article 8 of the Environmental Conservation Law and 6 NYCRR 617 and City Code 19-6.4 and 19-4.17; and,

NOW THEREFORE BE IT FURTHER RESOLVED that the Board grant site plan approval relative to the proposed conversion of the second and third floors of the existing mixed-use building at 481 Main Street into three two-bedroom living units; two units on the second floor and one unit on the third floor, with the following conditions:

- All comments from the City of Poughkeepsie Engineering Department be resolved to their satisfaction.
- All illegal signage be removed from the property.

Motion:
Second:
Carried:

_____
Planning Board Chair

_____
Date

APPLICATION TO THE PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

Application for Site Plan, Special Permit & Facade Approval

OFFICE USE ONLY
CODE: PLSF
ID # SB2023-047
FEE: _____
Total, from: $500, plus
$_____ ($150 per 1000 square feet of floor area), plus
$_____ ($35 per number of required parking spaces), plus
$_____ ($500 for special permit, if applicable)

I. **PROPERTY ADDRESS:** 531 Main Street

II. **PROPERTY OWNER:** AIF Estate Inc.
ADDRESS: 173 Fulton Street
Poughkeepsie
New York, 12601 (state and zip code)
PHONE NUMBER: (845)392-4606 (include area code)

III. **NAME OF APPLICANT:** Kheiraddine Mazouzi
ADDRESS: 173 Fulton Street
Poughkeepsie
New York, 12601 (state and zip code)
PHONE NUMBER: (845) 392-4606 (include area code)
EMAIL ADDRESS: mazighcorp@gmail.com

(If applicant is NOT the owner, proof of owner's consent to the application MUST be provided.)

IV. **CONSULTANT:** Aryeh Siegel Architect
ADDRESS: 84 Mason Circle
Beacon
New York, 12508 (state and zip code)
PHONE NUMBER: (845) 838-2490 (include area code)

V. **PROPOSED USE or FAÇADE CHANGE** (Summarize proposed use or uses): This application is intended to amend the existing Resolution of Site Plan/Special Use Permit Approval, dated 9/19/23.

VI. **ZONING DISTRICT:** C-1

All other information remains unchanged from the original application and Resolution of Approval.

(Proceed to XVII for special permit & façade approval only)

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PROJECT INFORMATION

New construction: _____(yes) X _____ (no)

Change of use: X _____ (yes) _____ (no)

Expansion/addition: _____ (yes) X _____ (no)

Alteration: X _____ (yes) _____ (no)

Cost of Construction: $ +/- $10,000

LOT AND BULK INFORMATION:

Lot area: .238 _____ (acres) 10,370 _____ (square feet)

Building Footprint: NA _____ (proposed square feet for new construction)

400 SF _____ (existing square feet for change of use/expansion)

425 SF _____ (additional proposed square feet for expansion)

1,500 SF _____ (total building footprint, square feet)

Lot Coverage: 14.46% _____ (percentage, building coverage only)

Gross Floor Area: NA _____ (proposed square feet for new construction)

400 SF _____ (existing square feet for change of use/expansion)

425 SF _____ (additional proposed square feet for expansion)

1,500 SF _____ (total gross floor area, square feet)

Building Height: 1 _____ (stories) 18 _____ (feet)

Floor Area Ratio: 14.46% _____ (ratio of gross floor area divided by lot area)

VIII. PROJECT PARKING INFORMATION

A) Number of Off-Street Parking Spaces required: 5 _____

B) Number of Off-Street Parking Spaces provided: 6 _____

C) Waiver Requested: _____ (Yes) X _____ (No)

Is municipal parking available within 600 feet? _____ (Yes) X _____ (No)

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If yes, name all such municipal facilities: _____

_____

_____

(If a waiver is requested based on proximity to municipal facilities, a written request for such waiver, addressed to the City Planning Staff and the Chairman of the Planning Board, must be submitted with the application.)

If a private parking facility is to be utilized, is such facility within 600 feet?

_____ (Yes) _____ (No)

If yes, provide the address of the facility, name of the property owner, number of spaces in the lot, number of spaces available for lease, and length of lease. Attach copy of lease. Additional information may be required by the Planning Board):

_____

_____

_____

_____

IX. RESIDENTIAL PROPOSALS

A) Type of Development: _____
(Townhouse, condominium, multiple residence rental, etc.)

B) Unit Breakdown:

Number of efficiency or "studio" units: _____

Number of one (1) bedroom units: _____

Number of two (2) bedroom unit's _____

Number with three or more bedrooms: _____

Total number of units: _____

C) Is funding public? ____ Yes ____ No

If yes, describe funding source: _____

X. OFFICE PROPOSALS (____ Medical/Dental ____ Professional ____ Business)

A) Number of Employees: _____

B) Number of doctors/dentists/medical practitioners: _____

C) Days/Hours of Operation: _____

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XI. SERVICE BUSINESS PROPOSALS

A) Specify Business: Retail Sales & Personal Service Establishment
(e.g., laundromat, drycleaner, beauty parlor, travel agency, banks)

B) Number of Employees: 2

C) Number of Washing Machines (for laundromat): _____

D) Days/Hours of Operation: 24-Hour Proposal

XII. MERCANTILE PROPOSALS (Retail _____ Wholesale _____)

A) Type of Mercantile (specify): _____

B) Number of Employees: _____

C) Days/Hours of Operation: _____

XIII. STANDARD RESTAURANT/FAST FOOD RESTAURANT/COFFEE SHOP/DONUT SHOP/NIGHTCLUB/DISCOTHEQUE/BAR PROPOSALS

A) Specify Use: _____

B) Number of seats (excluding bar stools and outdoor seating):_____

C) Meals served (i.e., breakfast, lunch, dinner): _____

D) Type of Menu: _____

E) Days/Hours of Operation: _____

F) Entertainment (live and/or recorded):_____

G) Will the restaurant contain a bar/lounge?: _____ Yes _____ No

H) If yes, how many seats at the bar? _____

I) Is a drive-through window proposed? _____

J) Is a walk-up window proposed? _____

K) Is an outdoor seating area proposed? _____

L) If yes, how many seats are proposed? _____

M) If yes, is outdoor cooking proposed? _____

XIV. INDUSTRIAL/COMMERCIAL PROPOSALS (Automobile repair, taxi, motor vehicle sales, warehouse, manufacturing, animal hospital, research facilities, etc.)

A) Specify Use: _____

B) Number of shifts (if any): _____

C) Number of employees: _____
(If shifts are proposed, list number of employees per shift)

E) Number of work bays (if automobile repair): _____

F) Days/Hours of operation: _____

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XV. EDUCATIONAL/INSTITUTIONAL/RECREATIONAL PROPOSALS (e.g., Museums, Theatres, Conference Centers, Hotels, Motels, Hospitals, Nursing Homes, Assisted Living Facilities, Nursery Schools, Private Schools, Day Care Centers, Places of Worship, Marinas, Membership Clubs, etc.)

A) Specify: _____

B) Number of shifts (if any): _____

C) Number of employees: _____
(If shifts are proposed, list number of employees per shift)

D) Number of beds (hospitals, nursing homes, etc): _____

E) Number of seats in largest assembly space: _____

F) Number of classrooms (schools): _____

G) Number of rental units (hotels, motels, etc.) _____

H) Number of boat slips/courts (e.g., tennis, handball, etc.), alleys: _____

I) Days/Hours of Operation: _____

XVI. PROPOSALS NOT MENTIONED ABOVE (Please be specific):

Existing Self-Service Gasoline Pumps and proposed conversion of Mini-Mart to Convenience Store.

XVII. APPLICANT CERTIFICATION

I, Kheiraddine Mazouzi, certify that the this application has addressed the objectives outlined in the Zoning Ordinance with consideration given to the public health, safety and welfare; the comfort and convenience of the public in general or the residents or users of the proposed development and of the immediate neighborhood.

The applicant certifies that all information contained herein is accurate and complete as of the date of this application.

Signature of Applicant

October 8, 2024
Date

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REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	8/1/23	Additional Landscaping along Main St.	AC
2	8/11/23	Landscaping Revision / Privacy Fence	AC
3	8/18/23	Public Works & Engineering Comments	AC
4	9/19/23	Planning Board Approved Drawings	AC
5	7/9/24	Deputy Zoning Administrator Review	AC
6	10/1/24	Deputy Zoning Administrator Review	AC
7	10/11/24	Landscaping Revision	AC

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK
SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:
OFFICIALLY APPROVED at the Planning Board
meeting held the ____ day of _____2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

Bulk Zoning Regulations Table

	Required Setbacks			Proposed Setbacks			Allowable Building Height	Proposed Building Height	Lot Coverage	Required Lot Area	Proposed Floor Area
	Front	Side	Rear	Front	Side	Rear					
Zoning District											
C-1 (Neighborhood Commercial District)	15'	NA	25'	63.2'	NA	6.6'	40'	18'	14.46%	N/A	1,500 SF

Zoning Summary

Zoning District:	C-1 (Neighborhood Commercial District)
Tax Map No.:	6161-23-350986
Lot Area:	0.238 Acres
Building Footprint:	1,500 SF
Historical Overlay District:	No
Parking Overlay District:	No
Existing Use:	Self-Service Gasoline Pumps / Automobile Service Shop / Mini-Mart
Proposed Use:	Convenience Store/Self-Service Gasoline Pumps

Parking & Loading

Use & Parking Requirements	Proposed Area	Current Parking Requirement
Commercial Uses		
Retail Sales and Personal Service Establishment	(1) space for each 300 SF of Gross Floor Area	5 parking spaces
Total Required		**5 parking spaces**
Total Provided		**6 parking spaces (See Note 1**)**

Notes:

1. ****In 1998, the Zoning Board of Appeals granted a variance to allow (7) off-street parking spaces where (11) spaces were required. Based off the current parking requirements, the Applicant is in compliance with the Off-Street parking and loading regulations. Reference Section 19-4.3. (Off-Street Parking and Loading).**
2. The applicant does not believe an undesirable change will be produced in the character of the neighborhood or a detriment to nearby properties will be created by the granting of this application.
3. The benefit sought by the applicant cannot be achieved by some other method, feasible for the applicant to pursue.
4. All landscaping shown on the Site Plan shall be maintained in a vigorous growing condition for the duration of the use and shall be trimmed so as not to interfere with pedestrian use of the sidewalk. All plants not so maintained shall be replaced with new plants of comparable size and quality at the beginning of the next immediately following growing season in compliance with the Site Plan, at the sole cost and expense of the property owner.

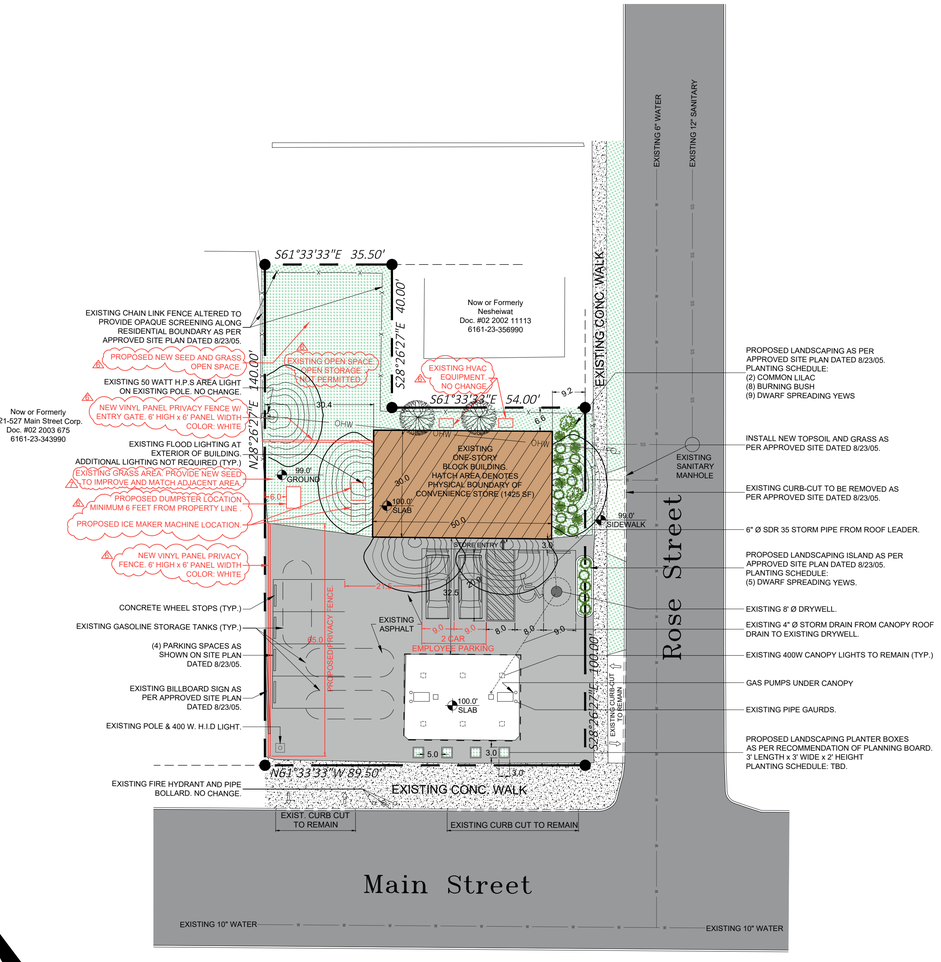
Materials / Symbols

- Existing Ornamental Grass
- Proposed Ornamental Grass
- Concrete
- Existing Asphalt Paving
- Existing Gravel

River Rock

LEGEND

- PROPERTY LINE
- SS — SANITARY SEWER LINE
- ST — STORM SEWER LINE
- FENCE
- OHW — OVERHEAD WIRES
- HYDRANT
- GAS VALVE
- WATER VALVE
- ELECTRIC BOX
- UNKNOWN MANHOLE
- TELEPHONE MANHOLE
- SANITARY SEWER MANHOLE
- DRAINAGE MANHOLE
- DROP INLET
- LIGHT POLE
- UTILITY POLE
- MAIL BOX
- GUY WIRE
- SIGN
- BOLLARD
- IRON ROD FOUND
- MONUMENT FOUND



0 10' 20' 40'

SCALE: 1" = 20'

Site Plan

Scale: 1" = 20'

Index of Drawings

Sheet 1 of 2 Site Plan
Sheet 2 of 2 Building Plans & Elevations

Aerial View

Scale: Not to Scale

FILED MAP REFERENCE

Map entitled "Map of Lots at Poughkeepsie to be sold by JAS. bleeker & Sons" filed in the Dutchess County Clerks office as Map No. 78

DEED REFERENCE

Doc. #02 2006 7239
Elias I. Nesheiwat
To:
AIF Estate Inc.
September 5, 2006

TAX PARCEL NUMBER

City of Poughkeepsie, Dutchess County, New York
6161-23-350986

AREA

10,370 SQUARE FEET
0.238 Acres

DATE OF SURVEY

Field Completion: July 29, 2022
BRENDAN JOHNSON, PLS
10 Meadow Lane
Pleasant Valley, New York 12569

Special Use Permit/Site Plan Application

Sheet 1 of 2 - Site Plan

Owner:
AIF Estate Inc.
173 Fulton Street
Poughkeepsie, NY 12601

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

531 Main Street
Poughkeepsie, New York
Scale: 1" = 20'
August 1, 2023

REVISIONS:			
NO.	DATE	DESCRIPTION	BY
1	8/1/23	Additional Landscaping along Main St.	AC
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Fire Chief

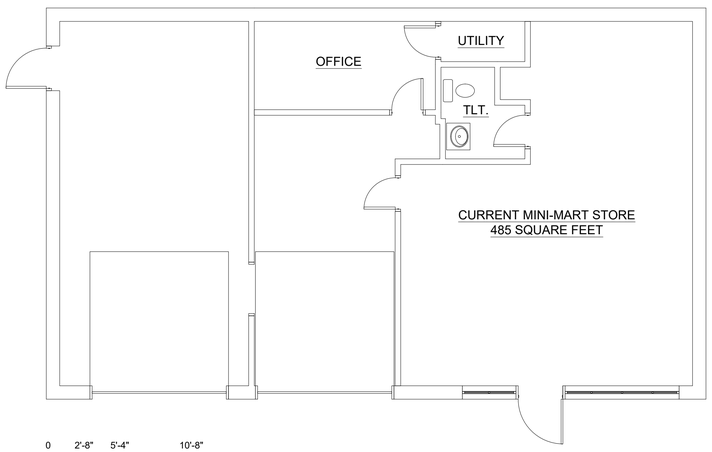
Police Chief

Building Inspector

City Engineer

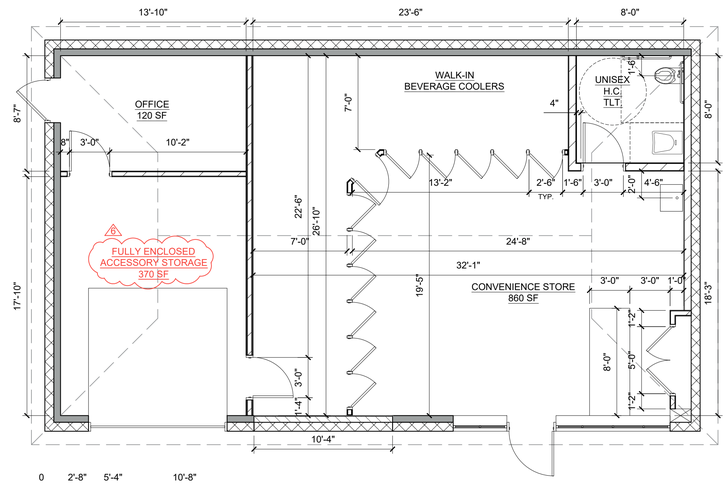
Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK
SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:
OFFICIALLY APPROVED at the Planning Board
meeting held the ____ day of _____2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):



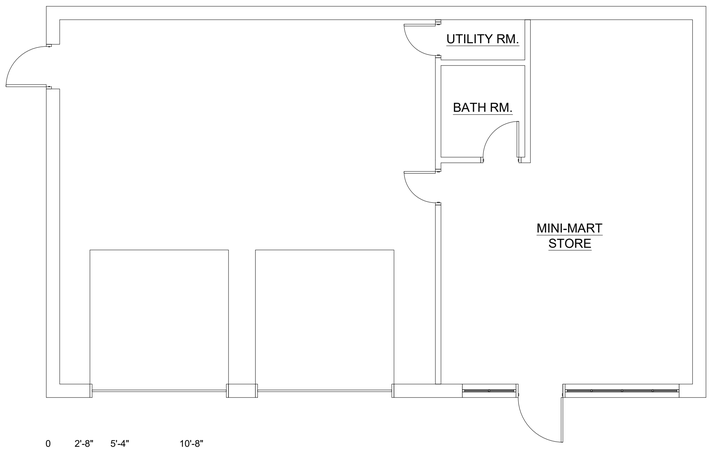
SCALE: 3/16" = 1'-0"

Current Floor Plan
Scale: 3/16" = 1'-0"



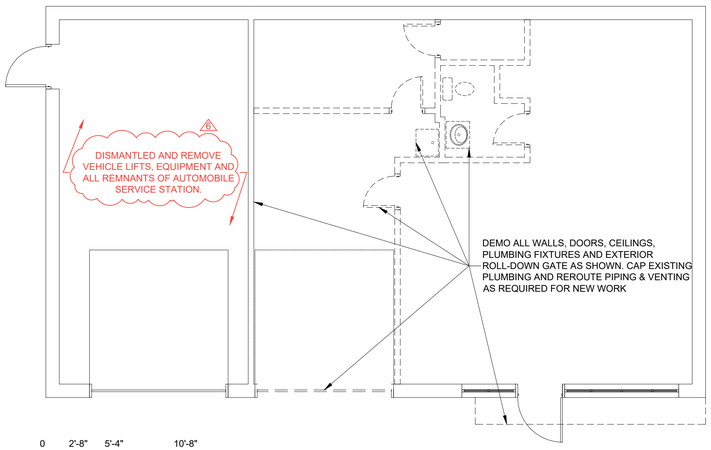
SCALE: 3/16" = 1'-0"

Proposed Floor Plan
Scale: 3/16" = 1'-0"



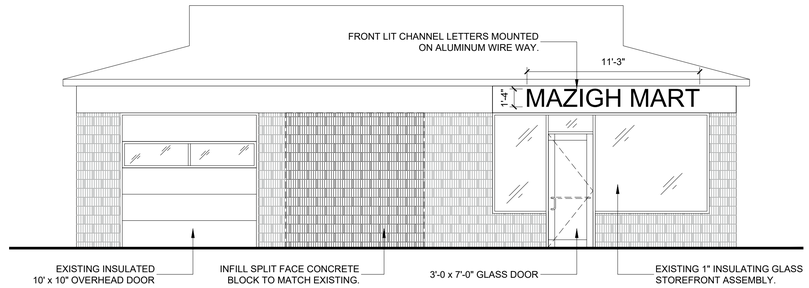
SCALE: 3/16" = 1'-0"

Approved Floor Plan Dated 8/23/05
Scale: 3/16" = 1'-0"

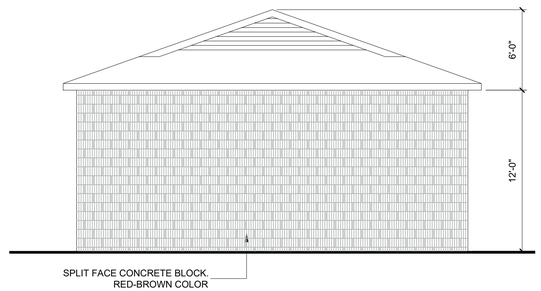


SCALE: 3/16" = 1'-0"

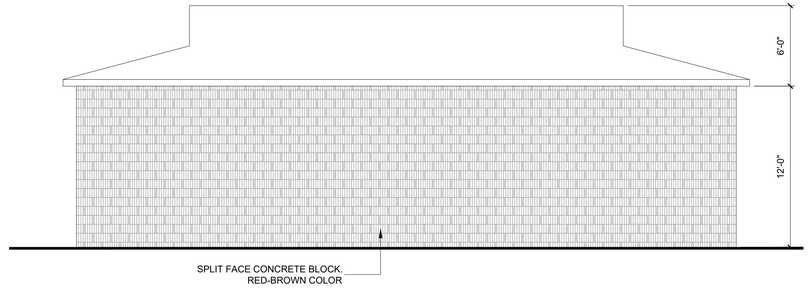
Proposed Demolition Plan
Scale: 3/16" = 1'-0"



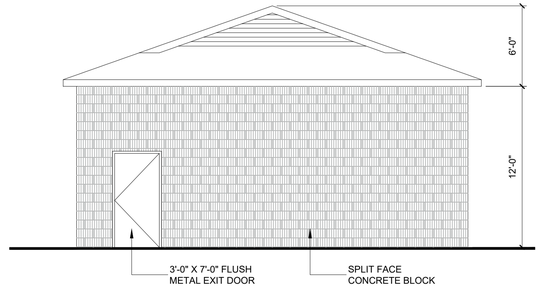
Proposed South (Front) Elevation
Scale: 3/16" = 1'-0"



Proposed East (Right-Side) Elevation
Scale: 3/16" = 1'-0"



Proposed North (Rear) Elevation
Scale: 3/16" = 1'-0"



Proposed West (Left-Side) Elevation
Scale: 3/16" = 1'-0"

Special Use Permit/Site Plan Application
Sheet 2 of 2 - Floor Plans and Elevations

Owner:
AIF Estate Inc.
173 Fulton Street
Poughkeepsie, NY 12601

Architect:
Aryeh Siegel, Architect
84 Mason Circle
Beacon, New York 12508

531 Main Street
Poughkeepsie, New York
Scale: 1" = 20'
August 1, 2023

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information

AIF Estate, Inc.

Name of Action or Project:
531 Main Street

Project Location (describe, and attach a location map):
531 Main Street - Poughkeepsie, NY 12601

Brief Description of Proposed Action:
The Applicant intends to abate currnet violations onsite and proposes to convert the existing Min-Mart to a Convenience Store.

Name of Applicant or Sponsor:	Telephone: (845) 392-4606
Kheiraddine Mazouzi	E-Mail: mazighcorp@gmail.com

Address:
173 Fulton Street

City/PO:	State:	Zip Code:
Poughkeepsie	NY	12601

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval:	☑	☐

3. a. Total acreage of the site of the proposed action? .238 acres
   b. Total acreage to be physically disturbed? .033 acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? .238 acres

4. Check all land uses that occur on, are adjoining or near the proposed action:

5. ☑ Urban ☐ Rural (non-agriculture) ☐ Industrial ☑ Commercial ☑ Residential (suburban)
   ☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other(Specify):
   ☐ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☑	☐
b. Consistent with the adopted comprehensive plan?	☐	☑	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		
If Yes, identify: _____	☑	☐

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐
b. Are public transportation services available at or near the site of the proposed action?	☐	☑
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☐	☑

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies: _____ _____	☐	☑

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water: _____ _____	☐	☑

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment: _____ _____	☐	☑

	NO	YES
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	☐	☑
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☐	☑

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☑	☐
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ _____ _____		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional

☐ Wetland ☑ Urban ☑ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☑	☐
16. Is the project site located in the 100-year flood plan?	☑	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources?	☐	☑
If Yes,		
a. Will storm water discharges flow to adjacent properties?	☑	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☐	☑
If Yes, briefly describe: Existing Drywell as approved on site plan dated 8/23/05.		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment:	☑	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	☑	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	☐	☑

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

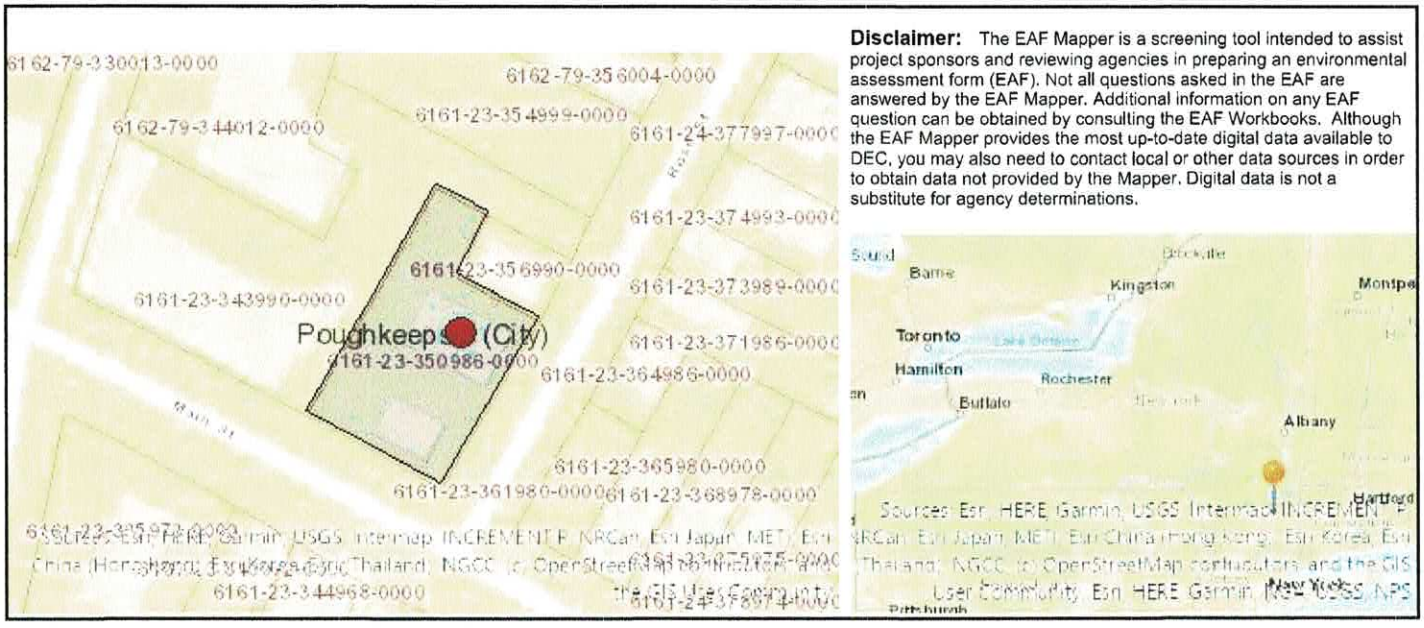
Applicant/sponsor/name: Alphonso Clark C/O Aryeh Siegel Architects Date: 6/15/23

Signature: A. Clark Title: DESIGN ASSOCIATE

PRINT FORM

EAF Mapper Summary Report

Thursday, June 15, 2023 9:31 AM



Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	Yes
Part 1 / Question 12b [Archeological Sites]	Yes
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	No
Part 1 / Question 16 [100 Year Flood Plain]	No
Part 1 / Question 20 [Remediation Site]	Yes

BUILDING DEPARTMENT

CITY OF POUGHKEEPSIE
62 CIVIC CENTER PLAZA, 2ND FLOOR
POUGHKEEPSIE, NY 12601
Phone: (845) 451-4007 Fax: (845) 451-4006

Eric Philipp
Building Inspector

SITE PLAN REVIEW

DATE: 10-21-24

PROJECT ADDRESS: 531 Main St

PROJECT NAME: Special Permit- convenience Store

OWNER: AIF Estates, Inc

ENGINEER/ARCHITECT:

☑ **The site plan is acceptable and will be signed with no conditions.**

☐ **The site plan cannot be approved as submitted. The following comments must be addressed or conditions satisfied:**

No conditions however it says a one-bay automobile service but the proposed floor plan shows removing the lift and creating a storage area. So not sure what it is they want to have there.

Eric Philipp
Building Inspector

THE CITY OF POUGHKEEPSIE

DEPARTMENT OF PUBLIC WORKS & ENGINEERING

SITE PLAN REVIEW
Form #2

1. Date: October 11, 2024

2. Name of Site Plan: Special Use Permit / Site Plan Application

3. Address or Location: 531 Main Street

4. Owner: AIF Estate Inc.

5. Engineer/ Architect: Aryeh Siegel

6. Yes ☐ No ☐ The site plan as forwarded by the Planning Department is acceptable and will be signed off on with no condition(s).

7. Yes ☐ No ☐ The site plan as forwarded by the Planning Department is acceptable and has been signed off on with no condition(s).

8. Yes ☒ No ☐ The applicant should be notified that the Dept. of Public Works/Engineering requires the following comment(s) be addressed:

   1. Show contours on site plan or spot elevations to demonstrate direction of runoff at a minimum.
   2. Provide a stormwater report. Report should validate the size of drywell and a description of any additional existing or proposed post construction stormwater management practice. Include a discussion of how stormwater will be prevented from dispensing fuel and running off site. Indicate how stormwater from roof leaders will be handled as well. The stormwater report should include a maintenance plan and schedule for stormwater management practices and parking area (ie drywell cleaning and pavement sweeping.) Maintenance records are to be submitted to the engineering department on an annual basis.

Joseph A. Chenier, Jr. CPESC, CPMSM
Assistant Civil Engineer

BUILDING DEPARTMENT

CITY OF POUGHKEEPSIE
62 CIVIC CENTER PLAZA, 2ND FLOOR
POUGHKEEPSIE, NY 12601
Phone: (845) 451-4007 Fax: (845) 451-4006

Eric Philipp
Building Inspector

June 20th, 2023

Kheiraddine Mazouzi
173 Fulton Street
Poughkeepsie NY 12601

Re: 531 Main Street
ID # 288140
Site Plan Application # PB-2023-047

To whom it may concern,

The Development Department is in receipt of your Site Plan Application # PB-2023-047 relative to the existing mixed use and the reduction of work bays from 2 to 1 for the Motor Vehicle Service Station/Self-service gasoline pumps and conversion/expansion of the Mini-Mart to a Convenience store/Self-service gasoline pumps for the property of 531 Main Street located in the Neighborhood Commercial District (C-1). All uses associated with this mixed-use proposal are permitted uses per Sections 19-3.22(2)(b)8 & 19-3.22(2)(b)13 which require a Special Permit approval from the Planning Board. Upon review of the provided plans, I've been able to determine some Area Variance(s) that will be required along with some determinations that will need to be made by the Planning Board which are as follows;

1. Section 19-4.3(5)(a) requires a 15' wide lane for parking areas containing fewer than 20 spaces; 2 of the parking spaces located in front of the entrance to the store might not have enough space, but the plans are not clear as only the canopy is shown and not the location of the gas pumps. Also, the 2 parking spaces labeled employee parking have only a 12.5' access.
2. Section 19-4.3(5)(b) requires 22' between rows of parking spaces; the 2 parking spaces labeled employee parking have only 13.25' between spaces.
3. 19-4.3(11)(d) states that all other uses not mentioned or variations of above uses shall be determined by the Planning Board; if the Planning Board determines more than the 9 proposed spaces are required, then you would either need to obtain a waiver for the remaining spaces from the Planning Board or a Variance from the ZBA.
4. Sections 19-3.22(2)(b)8(vi) & 19-3.22(3)(g) require fully enclosed storage; the proposed open storage area would require a variance.

Therefore, Area Variance(s) will be required from the Zoning Board of Appeals. After you obtain approvals from the Planning Board and Zoning Board you would then need to file all required Building permits and obtain an issued Certificate of Occupancy from the Building Department.

BUILDING DEPARTMENT

CITY OF POUGHKEEPSIE
62 CIVIC CENTER PLAZA, 2ND FLOOR
POUGHKEEPSIE, NY 12601
Phone: (845) 451-4007 Fax: (845) 451-4006

Eric Philipp
Building Inspector

If you have any questions, you may contact me at 845-451-4273 or at jobrien@cityofpoughkeepsie.com.

Sincerely,

Joseph O'Brien
Deputy Zoning Administrator



APPLICATION TO THE PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

Application for Site Plan, Special Permit & Facade Approval

I. **PROPERTY ADDRESS:** SOUTH HAMILTON AVENUE

II. **PROPERTY OWNER:** O'NEILL GROUP HAMILTON LLC
ADDRESS: 241 HUDSON STREET
HACKENSACK
NEW JERSEY 07601 (state and zip code)
PHONE NUMBER: 201-488-4455 (include area code)

III. **NAME OF APPLICANT:** O'NEILL GROUP HAMILTON LLC
ADDRESS: 241 HUDSON STREET
HACKENSACK
NEW JERSEY 07601 (state and zip code)
PHONE NUMBER: 201-488-4455 (include area code)
EMAIL ADDRESS: LONEILL@ONEKEYLLC.COM GBRANDT@ONEKEYLLC.COM

(If applicant is NOT the owner, proof of owner's consent to the application MUST be provided.)

IV. **CONSULTANT:** Arico Associates
ADDRESS: 50 Century Hill Drive
Latham, NY 12110
(state and zip code)
PHONE NUMBER: 518-573-6989 (include area code)

V. **PROPOSED USE or FAÇADE CHANGE** (Summarize proposed use or uses): RESIDENTIAL

VI. **ZONING DISTRICT:** MEDIUM HIGH-DENSITY RESIDENTIAL (R-4)

OFFICE USE ONLY
CODE: PLSF
ID #_____
FEE: _____
Total, from:
$500, plus
$_____
($150 per 1000 square feet of floor area), plus
$_____
($35 per number of required parking spaces), plus
$_____
($500 for special permit, if applicable)

(Proceed to XVII for special permit & façade approval only)

Revised January 2018: Previous Editions Obsolete

PROJECT INFORMATION

New construction: X (yes)_____ (no)

Change of use:_____ (yes) X (no)

Expansion/addition:_____ (yes) X (no)

Alteration:_____ (yes) X (no)

Cost of Construction: $ 6,000,000

LOT AND BULK INFORMATION:

Lot area: 3.378 (acres) 147,145.68 (square feet)

Building Footprint: 36,758 (proposed square feet for new construction)

_____ (existing square feet for change of use/expansion)

_____ (additional proposed square feet for expansion)

_____ (total building footprint, square feet)

Lot Coverage: 25 (percentage, building coverage only)

Gross Floor Area: 68,850 (proposed square feet for new construction)

_____ (existing square feet for change of use/expansion)

_____ (additional proposed square feet for expansion)

_____ (total gross floor area, square feet)

Building Height: 2 (stories) 24'3" (feet)

Floor Area Ratio: .47 (ratio of gross floor area divided by lot area)

VIII. PROJECT PARKING INFORMATION

A) Number of Off-Street Parking Spaces required: 112

B) Number of Off-Street Parking Spaces provided: 112

C) Waiver Requested: _____ (Yes) X (No)

Is municipal parking available within 600 feet? _____ (Yes) X (No)

If yes, name all such municipal facilities: _____

_____

_____

(If a waiver is requested based on proximity to municipal facilities, a written request for such waiver, addressed to the City Planning Staff and the Chairman of the Planning Board, must be submitted with the application.)

If a private parking facility is to be utilized, is such facility within 600 feet?

_____ (Yes) __X__ (No)

If yes, provide the address of the facility, name of the property owner, number of spaces in the lot, number of spaces available for lease, and length of lease. Attach copy of lease. Additional information may be required by the Planning Board):

_____

_____

_____

_____

IX. RESIDENTIAL PROPOSALS

A) Type of Development: LUXURY MULTIPLE FAMILY RENTAL
(Townhouse, condominium, multiple residence rental, etc.)

B) Unit Breakdown:

Number of efficiency or "studio" units: _____

Number of one (1) bedroom units: 29

Number of two (2) bedroom unit's 29

Number with three or more bedrooms: _____

Total number of units: 58

C) Is funding public? ____ Yes __X__ No
If yes, describe funding source: _____

X. OFFICE PROPOSALS (____ Medical/Dental ____ Professional ____ Business)

A) Number of Employees: _____
B) Number of doctors/dentists/medical practitioners: _____
C) Days/Hours of Operation: _____

XI. SERVICE BUSINESS PROPOSALS

A) Specify Business: _____
(e.g., laundromat, drycleaner, beauty parlor, travel agency, banks)

B) Number of Employees: _____

C) Number of Washing Machines (for laundromat): _____

D) Days/Hours of Operation: _____

XII. MERCANTILE PROPOSALS (Retail _____ Wholesale _____)

A) Type of Mercantile (specify): _____

B) Number of Employees: _____

C) Days/Hours of Operation: _____

XIII. STANDARD RESTAURANT/FAST FOOD RESTAURANT/COFFEE SHOP/DONUT SHOP/NIGHTCLUB/DISCOTHEQUE/BAR PROPOSALS

A) Specify Use: _____

B) Number of seats (excluding bar stools and outdoor seating): _____

C) Meals served (i.e., breakfast, lunch, dinner): _____

D) Type of Menu: _____

E) Days/Hours of Operation: _____

F) Entertainment (live and/or recorded): _____

G) Will the restaurant contain a bar/lounge?: _____ Yes _____ No

H) If yes, how many seats at the bar? _____

I) Is a drive-through window proposed? _____

J) Is a walk-up window proposed? _____

K) Is an outdoor seating area proposed? _____

L) If yes, how many seats are proposed? _____

M) If yes, is outdoor cooking proposed? _____

XIV. INDUSTRIAL/COMMERCIAL PROPOSALS (Automobile repair, taxi, motor vehicle sales, warehouse, manufacturing, animal hospital, research facilities, etc.)

A) Specify Use: _____

B) Number of shifts (if any): _____

C) Number of employees: _____
(If shifts are proposed, list number of employees per shift)

E) Number of work bays (if automobile repair): _____

F) Days/Hours of operation: _____

XV. EDUCATIONAL/INSTITUTIONAL/RECREATIONAL PROPOSALS (e.g., Museums, Theatres, Conference Centers, Hotels, Motels, Hospitals, Nursing Homes, Assisted Living Facilities, Nursery Schools, Private Schools, Day Care Centers, Places of Worship, Marinas, Membership Clubs, etc.)

A) Specify: _____

B) Number of shifts (if any): _____

C) Number of employees: _____
(If shifts are proposed, list number of employees per shift)

D) Number of beds (hospitals, nursing homes, etc): _____

E) Number of seats in largest assembly space: _____

F) Number of classrooms (schools): _____

G) Number of rental units (hotels, motels, etc.) _____

H) Number of boat slips/courts (e.g., tennis, handball, etc.), alleys: _____

I) Days/Hours of Operation: _____

XVI. PROPOSALS NOT MENTIONED ABOVE (Please be specific):

_____

_____

_____

_____

_____

XVII. APPLICANT CERTIFICATION

I, O'NEILL GROUP HAMILTON LLC, certify that the this application has addressed the objectives outlined in the Zoning Ordinance with consideration given to the public health, safety and welfare; the comfort and convenience of the public in general or the residents or users of the proposed development and of the immediate neighborhood.

The applicant certifies that all information contained herein is accurate and complete as of the date of this application.

Signature of Applicant

10/21/24
Date

Revised January 2018: Previous Editions Obsolete

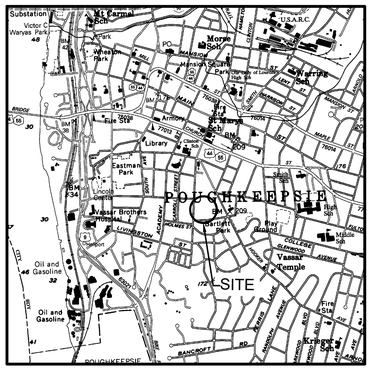
SOUTH HAMILTON

CITY OF POUGHKEEPSIE

COUNTY OF DUTCHESS STATE OF NEW YORK

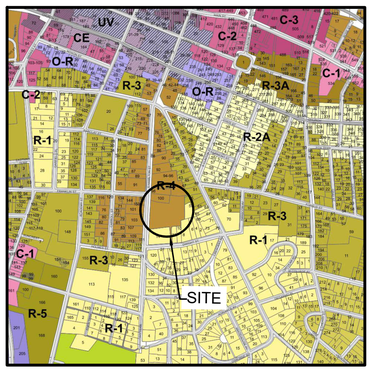
OCTOBER 3, 2023

LAST REVISED: OCTOBER 28, 2024



SITE LOCATION MAP

SCALE: 1"=2000'±



ZONING MAP

SCALE: 1"=2000'±

MAP REFERENCE: BOUNDARY AND TOPOGRAPHIC INFORMATION GENERATED FROM AUSFELD & WALDRUFF LAND SURVEYORS LLP DATED JANUARY 5, 2010 ENTITLED" BOUNDARY &TOPOGRAPHIC SURVEY OF THE LANDS OF STEVEN REIFLER.

CITY OF POUGHKEEPSIE
ZONING DISTRICT INFORMATION

DESCRIPTION	REQUIREMENT	PROPOSED
R4 - MEDIUMHIGH DENSITY RESIDENTIAL		
MINIMUM LOT AREA	145,000 SF* (+ 3 BEDROOM UNITS)	147,145.7± SF (58 UNITS)
MINIMUM LOT WIDTH	50 FT	346.3 FT
MINIMUM LOT FRONTAGE	30 FT	346.3 FT
FRONT SETBACK	35 FT	39.0± FT
SIDE SETBACK	20 FT (0.5 MAX HEIGHT OF 40 FT)	20.0 FT (LEFT SIDE) 65.0± FT (RIGHT SIDE)
REAR SETBACK	20 FT (0.5 MAX HEIGHT OF 40 FT)	215.4± FT
MAX. BUILDING HEIGHT	40 FT	24.2 FT
LOT COVERAGE	40%	25.0%
* - SEE SITE AREA CALCULATIONS TABLE		

SITE STATISTICS

TOTAL PROJECT AREA 147,145.7± SF 3.378± AC	EXISTING			PROPOSED		
	SQUARE FEET	ACRES	COVERAGE	SQUARE FEET	ACRES	COVERAGE
BUILDING AREA	0.00	0.00	0.00%	36,758.0 SF	0.844±	25.0%
PAVEMENT AREA	2,000.0±	0.050±	1.5%	38,090.3±	0.874±	25.9%
GREEN/OPEN AREA	145,145.7±	3.328±	98.5%	72,297.4±	1.660±	49.1%

PROJECT INFORMATION

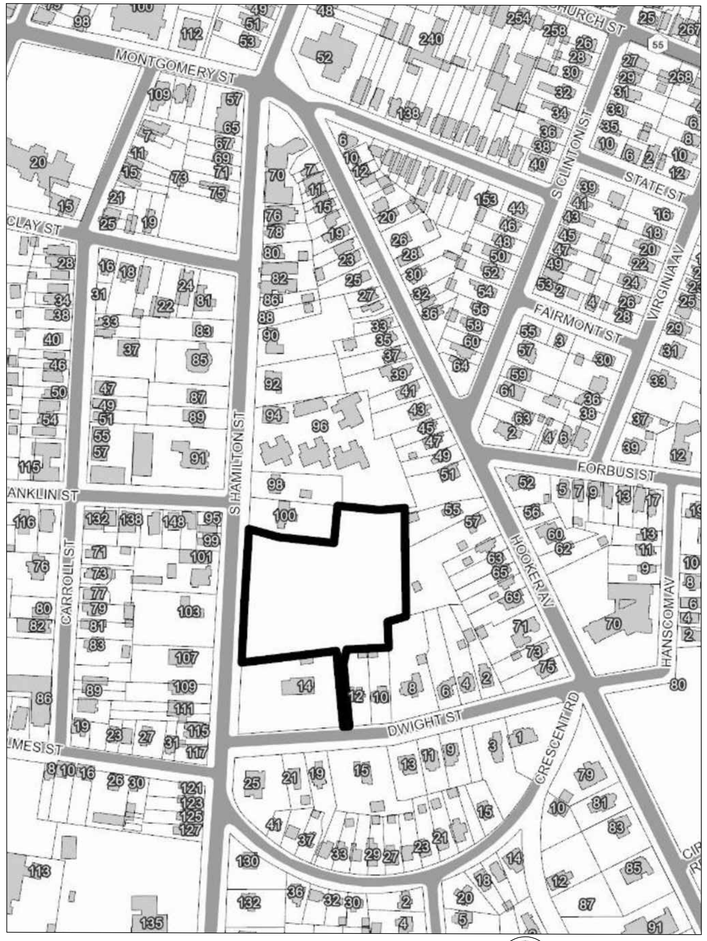
ADDRESS	SOUTH HAMILTON STREET
TAX MAP No.	6161-30-151783
ZONING DISTRICT	R-4 MEDIUM HIGH DENSITY RESIDENTIAL
SITE COORDINATES	N 41°41'42.82" W 73°55'28.39"
TOTAL PROJECT AREA	3.378± ACRES
EXISTING USE	RESIDENTIAL / VACANT
PROPOSED USE	MULTI-FAMILY
PARCEL FRONTAGE	346.3 LF (S. HAMILTON STREET) 17.0 LF (DWIGHT STREET)
WATER SUPPLY	CITY OF POUGHKEEPSIE
SANITARY SERVICE	CITY OF POUGHKEEPSIE
FIRE PROTECTION	CITY OF POUGHKEEPSIE
SCHOOL DISTRICT	CITY OF POUGHKEEPSIE
PROPSED DENSITY	58 UNITS

SITE AREA CALCULATIONS

PARKING REQUIREMENTS
1.5 SPACES PER 1-BEDROOM UNIT @ 29 UNITS = 43.5 SPACES
2.0 SPACES PER 2-BEDROOM UNIT @ 29 UNITS = 58.0 SPACES
TOTAL PARKING REQUIRED = 112 SPACES
TOTAL PARKING PROVIDED = 112 SPACES
(73 PAVED; 39 GARAGE)

MINIMUM LOT AREA
2,200 SF PER 1-BEDROOM UNIT @ 29 UNITS = 81,200 SF
2,800 SF PER 2-BEDROOM UNIT @ 29 UNITS = 63,800 SF
TOTAL LOT AREA REQUIRED = 145,000 SF
TOTAL LOT AREA PROVIDED = 147,145.7 SF

USABLE OPEN SPACE
300 SF PER 1-BEDROOM UNIT @ 29 UNITS = 8,700 SF
400 SF PER 2-BEDROOM UNIT @ 29 UNITS = 11,600 SF
TOTAL OPEN SPACE REQUIRED = 20,300 SF
TOTAL OPEN SPACE PROVIDED = 21,800± SF



OVERALL SITE LOCATION

SCALE: 1"= 200'

INDEX TO DRAWINGS

SHEET No.	DWG. NO.	DESCRIPTION
0	–	COVER
1	–	BOUNDARY & TOPOGRAPHIC SURVEY (BY OTHERS)
2	S1	SITE LAYOUT PLAN
3	S2	WATER AND SEWER UTILITY PLAN
4	S3	GRADING AND DRAINAGE PLAN
5	S4	EROSION CONTROL PLAN
6	D1	STANDARD DETAILS
7	D2	STANDARD CITY DETAILS
8	D2.1	STANDARD CITY DETIALS
9	D3	STANDARD DETAILS
10	D4	STANDARD DETAILS
11	CT1	STORMWATER MANAGEMENT PLAN (CONTECH)
12	CT2	STORMWATER MANAGEMENT PLAN (CONTECH)
13	L1	LANDSCAPING PLAN (BOICE)
14	L2	LANDSCAPING PLAN (BOICE)
15	L3	LANDSCAPING PLAN (BOICE)
16	LP	LIGHTING/PHOTOMETRIC PLAN (BY OTHERS)

GENERAL NOTES:

1. THE APPLICANT SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL RULES AND REGULATIONS, INCLUDING BUT NOT LIMITED TO THE SEQR, FRESHWATER WETLAND PERMIT REGULATIONS, THE TOWN GRADING LAW AND THE TOWN FLOOD PLAIN MANAGEMENT.

2. THE APPLICANT SHALL BEAR THE SOLE RESPONSIBILITY FOR ENSURING THAT ALL IMPROVEMENTS ARE COMPLETED AND MAINTAINED IN ACCORDANCE WITH APPROVED PLANS, SPECIFICATIONS AND STANDARDS.

3. NO CERTIFICATE OF OCCUPANCY SHALL BE ISSUED UNTIL ALL REQUIRED IMPROVEMENTS ARE SATISFACTORILY COMPLETED, AND THE PLANNING BOARD HAS PROVIDED WRITTEN AUTHORIZATION TO THE BUILDING DEPARTMENT.

4. THE APPLICANT SHALL BE RESPONSIBLE FOR KEEPING EXISTING PUBLIC HIGHWAYS AND ADJACENT LANDS FREE OF DEBRIS, SOIL AND OTHER MATTER WHICH MAY ACCUMULATE DUE TO CONSTRUCTION RELATED TO THE SITE.

5. ALL PLANT MATERIALS INSTALLED PURSUANT TO THIS SITE DEVELOPMENT PLAN SHALL CONFORM TO THE AMERICAN STANDARD NURSERY STOCK (ANSI Z60.1–1986) OF THE AMERICAN ASSOCIATION OF NURSERYMEN OR EQUIVALENT RECOGNIZED STANDARD, AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH ACCEPTED INDUSTRY PRACTICE.

6. NO PORTION OF THIS SITE SHALL BE USED FOR STORAGE OR DISPLAY OF ANY PRODUCT OR MATERIAL, OR FOR PARKING OF ANY VEHICLES, OR FOR THE CONDUCT OF ANY OTHER BUSINESS OPERATIONS, UNLESS SPECIFICALLY DESIGNATED FOR SUCH USE ON THIS SITE DEVELOPMENT PLAN.

7. ALL REQUIRED EROSION & SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND THE BUILDING DEPARTMENT SHALL BE NOTIFIED PRIOR TO ANY SOIL DISTURBANCE OR ISSUANCE OF ANY GRADING PERMIT.

8. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON–SITE.

9. THE CONTRACTOR AND/OR HIS REPRESENTATIVE(S) ARE ENTIRELY RESONSIBLE FOR EXECUTING THE WORK AND MAINTAINING THE WORK SITE IN ACCORDANCE WITH ALL APPLICABLE SAFETY CODES AND STANDARDS.

10. THE CONTRACTOR SHALL CLEAN–UP AT THE END OF EACH WORK DAY AND LEAVE THE WORK SITE CLEAN, WITH ALL ITEMS ATTENDED TO; NO FASTENERS, TOOLS AND/OR ANY OTHER ITEM MAY NOT BE LEFT UNATTENDED.

11. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL CONSTRUCTION MATERIALS AND DEBRIS FROM THE WORK SITE ON A DAILY BASIS.

12. ON–SITE VERIFICATION OF ALL DIMENSIONS AND CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

13. THE ENGINEER SHALL BE NOTIFIED, IN WRITING, OF ANY ANY DISCREPANCIES OF CONFLICTS THAT MAY ARISE PERTAINING TO THESE DRAWINGS. NO DECISION SHALL BE MADE WITHOUT APPROVAL OR CONSENT FROM THE ENGINEER.

14. ALL CONSTRUCTION SHALL COMPLY WITH NYS FIRE PREVENTION AND BUILDING CODES, LOCAL BUILDING CODES AND REQUIREMENTS, AS WELL AS FEDERAL PLUMBING AND ELECTRICAL CODES.

15. THE CONTRACTOR SHALL PERFORM ALL WORK IN A PROFESSIONAL AND SKILLED MANNER.

16. ANY EXISTING CONDITIONS DAMAGED OR DESTROYED DURING THE COURSE OF WORK SHALL BE RESTORED AT THE CONTRACTORS EXPENSE TO "AS GOOD AS CONDITION" AS DETERMINED BY THE ENGINEER.

17. ACCESS TO ALL PUBLIC UTILITIES INCLUDING FIRE HYDRANTS AND ALARMS, POLICE CALL BOXES, STREET LIGHTS, MANHOLES, ETC. SHALL BE KEPT UNOBSTRUCTED DURING CONSTRUCTION.

18. ALL MATERIALS AND EQUIPMENT USED FOR THIS PROJECT AND/OR KEPT ON–SITE SHALL COMPLY WITH NYS ENERGY CONSERVATION CONSTRUCTION CODE.

19. THESE PLANS ARE CERTIFIED TO BE IN ACCORDANCE WITH NYS BUILDING CODES; THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE FINISHED PRODUCT.

20. THE CONTRACTOR SHALL PROVIDE PROTECTIVE BARRICADES, PROPER SIGNAGE AND LIGHTING TO PREVENT UNAUTHORIZED ENTRY TO THE WORK–SITE.

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OSHA REGULATIONS AND NYS LABOR COMPLIANCE.

22. THE CONTRACTOR SHALL COMPLY WITH ALL DRAWING NOTES.

23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING HIGHWAY WORK PERMIT BEFORE PERFORMING ANY WORK WITHIN RIGHT–OF–WAY.

24. APPROPRIATE TRAFFIC CONTROL DEVICES & PERSONEL SHALL BE PROVIDED IN ACCORDANCE WITH FEDERAL, STATE OR LOCAL REGULATIONS TO REGULATE, WARN & GUIDE TRAFFIC THROUGH THE WORK SITE.

OWNER / APPLICANT:

O'NEILL GROUP HAMILTON, LLC
241 HUDSON STREET
HACKENSACK, NEW JERSEY 07601

PREPARED BY:

ARICO ASSOCIATES
ENGINEERS
LAND PLANNERS
& CONSULTANTS

NOTE

UNAUTHORIZED ALTERATION OR ADDITION TO THESE PLANS IS A VIOLAITON OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

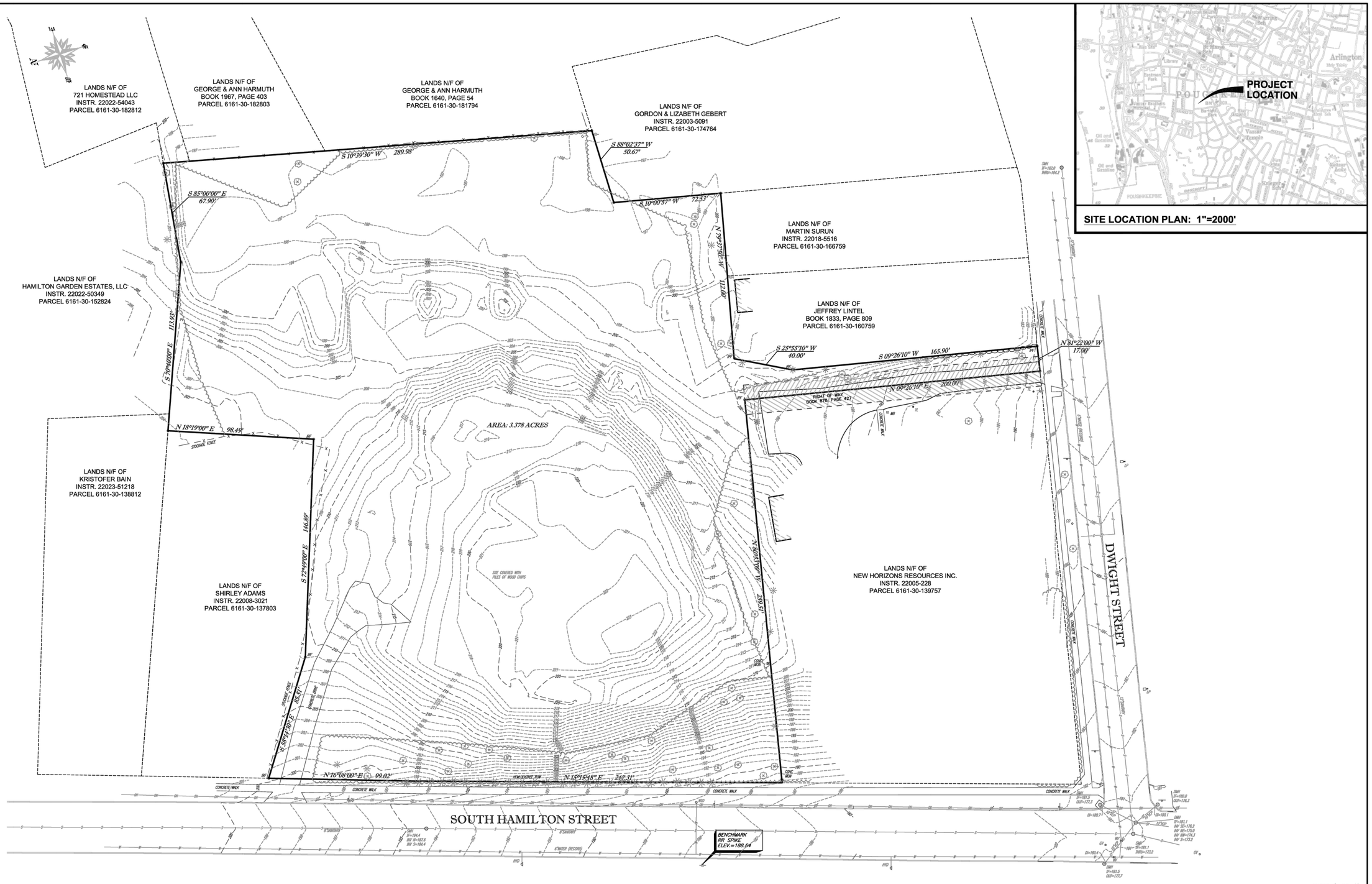
CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

LEGEND:

- CB — CATCH BASIN
- HYD — HYDRANT
- LT — LIGHT POLE
- SMH — SANITARY MANHOLE
- DMH — STORM MANHOLE
- EMH — ELECTRIC MANHOLE
- WV — WATER VALVE
- TEL PED — TELEPHONE PEDESTAL
- EHH — ELECTRIC BOX
- ELEC TRANS. — ELECTRIC TRANSFORMER
- UTILITY POLE
- TMH — TELEPHONE MANHOLE
- TSCB — TRAFFIC CONTROL BOX
- TSP — TRAFFIC SIGNAL POLE
- G — GAS LINE
- S — SANITARY LINE
- ST — STORM LINE
- W — WATER LINE
- T — TELEPHONE LINE
- OH — OVERHEAD WIRES
- + 357.62 — SPOT ELEVATION
- CMF — CAPPED IRON ROD FOUND
- IRF — IRON ROD FOUND
- IPF — IRON PIPE FOUND
- LA — LANDSCAPED AREA
- RD — ROOF DRAIN
- SB — SOIL BORING
- MW — MONITORING WELL
- GMK — GAS MARKER POST
- EM — ELECTRIC METER
- GM — GAS METER



SITE LOCATION PLAN: 1"=2000'

TAX PARCEL NUMBER:

CITY OF POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK
TAX PARCEL 6161-30-151783

MAP REFERENCES:

1. "SURVEY OF PROPERTY PREPARED FOR STEPHEN REIFLER." PREPARED BY JOHN MARANO, DATED JUNE 6, 1987.
2. SANITARY SEWER MAP NO. 18 ON FILE AT THE CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT.
3. STORM SEWER MAP NO. 18 ON FILE AT THE CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT.
4. WATER MAPS PAGE NOS. 118 AND 176 ON FILE AT THE CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT.

DEED REFERENCES:

1. STEVEN REIFLER TO ONEILL GROUP HAMILTON LLC, DATED SEPTEMBER 13, 2022 AND RECORDED IN THE DUTCHESS COUNTY CLERKS OFFICE IN DEED INSTR. 22022-53570.

GENERAL NOTES:

NORTH IS ORIENTED TO DEED REFERENCE 1.

VERTICAL DATUM IS ASSUMED. ADD 1.0 FEET TO ALL ELEVATIONS TO NAVD88 DATUM.

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

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SURVEYED FROM RECORD DESCRIPTION AND AS IN POSSESSION.

SUBJECT TO COVENANTS, EASEMENTS, RESTRICTIONS, CONDITIONS AND AGREEMENTS OF RECORD.

SURVEY SUBJECT TO ANY RIGHT, TITLE OR INTEREST THE PUBLIC MAY HAVE FOR HIGHWAY USE.

SURVEY SHOWN IS SUBJECT TO ANY SUBSURFACE CONDITIONS THAT MAY EXIST, IF ANY.

UNDERGROUND FACILITIES AND STRUCTURES SHOWN HEREON WERE TAKEN FROM DATA OBTAINED FROM PREVIOUS MAPS AND RECORD DRAWINGS. ALL ABOVE GROUND STRUCTURES AND SURFACE FEATURES SHOWN HEREON ARE THE RESULT OF A FIELD SURVEY UNLESS OTHERWISE NOTED. THERE MAY BE OTHER UNDERGROUND UTILITIES, THE EXISTENCE OF WHICH ARE NOT KNOWN OR CERTIFIED BY THE UNDERSIGNED. THE SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES. THE UNDERGROUND FACILITIES PROTECTIVE ORGANIZATION MUST BE NOTIFIED PRIOR TO CONDUCTING TEST BORINGS, EXCAVATION AND CONSTRUCTION.

30 0 30
SCALE IN FEET
1"=30'

SHEET 1 OF 16

SOUTH HAMILTON STREET

BOUNDARY & TOPOGRAPHIC SURVEY OF THE LANDS OF ONEILL GROUP HAMILTON LLC

CITY OF POUGHKEEPSIE	DUTCHESS COUNTY, N.Y.
SCALE: 1"=30'	SEPTEMBER 28, 2023
DRAWN BY: KCW	PROJECT NO:

REVISION:
DATE:

Ausfeld & Waldruff Land Surveyors LLP
323 CLINTON STREET, SCHENECTADY NY
Phone: (518) 346-1595 Fax: 518-770-1655

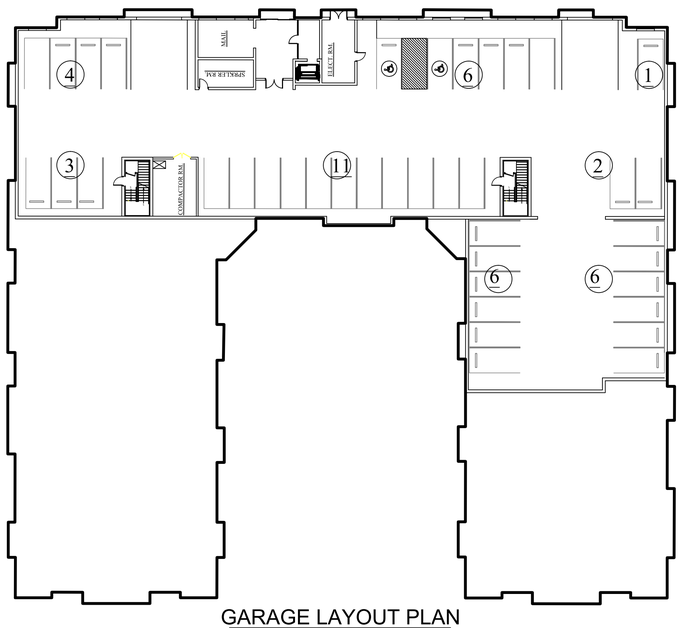
VINCENT P. AUSFELD P.L.S.
LICENSE #049997
www.awlsllp.com

STATE OF NEW YORK — VINCENT P. AUSFELD — 049997 — LICENSED PROFESSIONAL SURVEYOR

Drawing Name: Z:\PROJECTS\2023\23-3540\dwg\23-3540-BM.dwg
Xref's Attached:
Date Printed: Sep 28, 2023, 6:30pm



MAP REFERENCE: BOUNDARY AND TOPOGRAPHIC INFORMATION GENERATED FROM AUSFELD & WALDRUFF LAND SURVEYORS LLP DATED JANUARY 5, 2010 ENTITLED" BOUNDARY &TOPOGRAPHIC SURVEY OF THE LANDS OF STEVEN REIFLER.



GARAGE LAYOUT PLAN
SCALE: NONE

SITE LAYOUT PLAN
SCALE: 1"= 30'

PRIOR TO START OF CONSTRUCTION OR EXCAVATION, TREES TO BE RETAINED SHALL BE PROTECTED BY SILT FENCE, SNOW FENCE, CONSTRUCTION FENCE, OR EQUAL, WHCICH WILL BE PLACED AT THE DRIP LINE OR SEVERAL FEET BEYOND. HOWEVER, THE FENCING SHALL NOT CROSS PUBLIC SIDEWALKS. NO STORAGE OR STOCKPILING OF CONSTRUCTION MATERIALS, DEBRIS OR EQUIPMENT SHALL OCCUR WITHIN THE FENCED AREA.

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED FOOTPRINT, GRADING, UTILITIES, OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.01.24
9	REVISED PER CITY COMMENTS	DFA	10.28.24

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AS REVISED BY DOMINICK F. ARICO, P.E. AS A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK. PURSUANT TO EDUCATION LAW, ARTICLE 145 SEC. 7209.

DOMINICK F. ARICO, P.E.
LIC. NO. 085351

ARICO ASSOCIATES
ENGINEERS
LAND PLANNERS
& CONSULTANTS
1407 Route 9, Bldg 2 Suite 6, Clifton Park, New York 12065
518.573.6999 aricoassociates@gmail.com

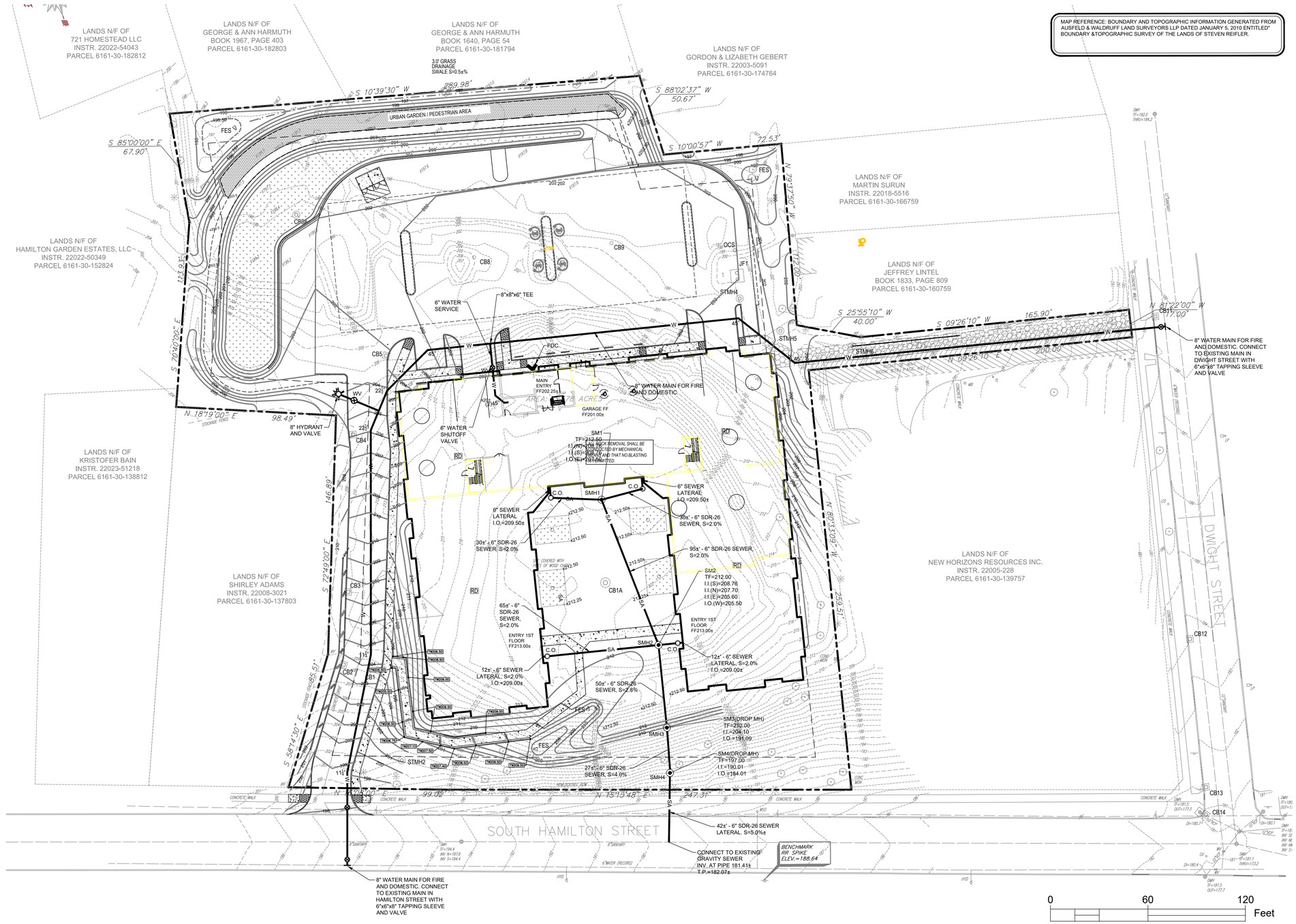
CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

LAYOUT PLAN
SOUTH HAMILTON

TAX MAP - 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

DRAWING NO.
S1
SHEET 2 OF 16



UTILITY PLAN
SCALE: 1"= 30'

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the _____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED FOOTPRINT, GRADING, UTILITIES, & OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.01.24
9	REVISED PER CITY COMMENTS	DFA	10.28.24

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DOMINICK F. ARICO, P.E.
LIC. NO. 085357

ARICO ASSOCIATES
ENGINEERS
LAND PLANNERS
& CONSULTANTS
1407 Route 9, Bldg 2 Suite 6, Clifton Park, New York 12065
518.573.6989 aricoassociates@gmail.com

CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

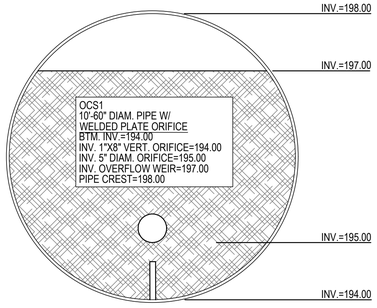
WATER & SEWER UTILITY PLAN
SOUTH HAMILTON

TAX MAP - 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

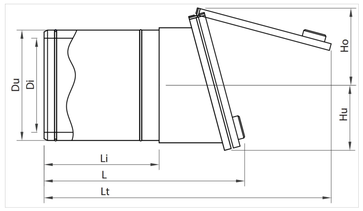
DRAWING NO.
S2

SHEET 3 OF 16



WAFLAP™

FLAP VALVE - KVI DN/OD 8-24



DIMENSIONS IN [INCHES]

DN/OD	Ø	Du	Di	B	Li	L	Lt	Ho	Hu	WEIGHT [LBS]
8	8	7.3-7.9	6.5	8.9	7.9	15.5	20.9	6.54	4.21	9
9	9	8.3-8.9	7.2	9.9	7.9	15.8	22.1	7.13	4.76	10.6
10	10	9.3-9.8	8.1	10.9	9.9	18.5	25.6	7.76	5.20	13.4
11	11	9.8-11	9.1	12	9.9	19.5	26.4	8.43	5.79	16.5
12	12	11-12.4	10.2	13.6	11.8	19.7	28.9	9.41	6.50	24
14	14	12.6-14	11.5	16	11.8	24.8	30.5	9.65	7.99	33.5
16	16	14.3-15.8	12.9	17.7	15.8	28.7	37	10.79	8.90	41
18	18	15.8-17.7	14.3	20.3	17.7	31.5	42.5	12.68	10.06	63.9
20	20	17.8-19.7	16.1	22	19.7	35.4	46.3	13.31	11.06	92.6
22	22	19.7-22	18	24	22.1	39.6	51.2	15.24	12.05	117.5
24	24	22-24.8	20.3	28	23.6	40.1	57.5	16.97	14.06	160.4

Other dimensions on request. Reserves the right to changes.

wapro.com +1 888 927 8677 sales@wapro.com

WAPRO



GRADING & STORM PLAN

SCALE: 1"= 30'

0 60 120 Feet

Area:	147,226 gsf	3.4 Acre			
Topsoil					
	Strip:	0.0 CY	Respread:		2525.3 CY
1.31 Fluff Factor	Waste:	0.0 CY			
1.31 Fluff Factor	After Waste:	0.0 CY			
		0.0 LCY			
	Excess(Export):	0.0 CY	Required(Import):		2525.3 CY
		0.0 LCY			3308.2 LCY
Subsoil					
	Subsoil Cut:	31,583 CY	Subsoil Fill:		1,807 CY
		41,374 LCY			2,367 LCY
	For Fill:	1,807 CY	From Cut:		1,807 CY
		2,367 LCY			2,367 LCY
	Rock:	3,809 CY	Process for Subbase		3,809 CY
		4,990 LCY			4,990 LCY
	Topsoil Respread Amended Onsite Soil:	2,525 CY			2,525 CY
		3,308 LCY			3,308 LCY
	Excess	23,442 CY	Spoil(Export):		23,442 CY
		30,709 LCY			30,709 LCY
	Borrow(Import)	0 CY	Borrow(Import):		0.0 CY
		0 LCY			0.0 LCY

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
4	REVISED PER CITY COMMENTS, KS	DFA	02.16.24
5	REVISED PER LOT GRADING, UTILITIES, OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.03.24
9	REVISED PER CITY COMMENTS	DFA	10.28.24

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I, STEVEN M. ARICO, AM AUTHORIZED BY THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SEC. 7209 TO PRACTICE ENGINEERING AS A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK AND THAT I PREPARED OR SUPERVISED THE PREPARATION OF THE ATTACHED DOCUMENT.

DOMINICK F. ARICO, P.E.
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CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

GRADING & DRAINAGE PLAN SOUTH HAMILTON

TAX MAP - 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA
DRAWING NO.
S3
SHEET 4 OF 16

GENERAL NOTES:

BEFORE UNDERTAKING ANY CONSTRUCTION ACTIVITY, ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH SITE WORK THAT INVOLVES PHYSICAL GROUND DISTURBANCE ON THE PROJECT SITE SHALL SIGN AND DATE A COPY OF THE CERTIFICATION STATEMENT, WHICH IS LOCATED IN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), PREPARED FOR THIS PROJECT.

1. ALL EROSION & SEDIMENT CONTROL MEASURES SHALL ADHERE TO THE PROJECT'S STORMWATER POLLUTION PREVENTION PLAN (SWPPP). ALL APPROPRIATE STORMWATER CONTROL MEASURES IDENTIFIED IN THE SWPPP SHALL BE IN PLACE BEFORE COMMENCING CONSTRUCTION OF ANY SEGMENT OF THE PROJECT THAT REQUIRES THESE MEASURES.

2. INSPECTIONS: THE OPERATOR SHALL HAVE A QUALIFIED PROFESSIONAL CONDUCT AN ASSESSMENT OF THE SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION & CERTIFY IN AN INSPECTION REPORT THAT THE APPROPRIATE EROSION & SEDIMENT CONTROLS DESCRIBED IN THE SWPPP HAVE BEEN ADEQUATELY INSTALLED OR IMPLEMENTED TO ENSURE OVERALL PREPAREDNESS OF THE SITE FOR THE COMMENCEMENT OF CONSTRUCTION. FOLLOWING THE COMMENCEMENT OF CONSTRUCTION, SITE INSPECTIONS SHALL BE CONDUCTED BY THE QUALIFIED PROFESSIONAL AT LEAST EVERY 7 CALENDAR DAYS. INSPECTIONS SHALL LOOK FOR EVIDENCE OF SOIL EROSION ON THE SITE, POTENTIAL OF POLLUTANTS ENTERING DRAINAGE SYSTEMS, PROBLEMS AT DISCHARGE POINTS, I.E., TURBIDITY IN RECEIVING WATERS, & SIGNS OF SOIL & MUD TRANSPORT FROM THE SITE ONTO PUBLIC ROADWAYS. REPAIRS & CLEANING SHALL BE MADE IMMEDIATELY.

3. SITE LOG/CERTIFICATION: THE OPERATOR MUST MAINTAIN A RECORD OF ALL INSPECTION REPORTS IN A SITE LOG BOOK. THE SITE LOG BOOK MUST BE MAINTAINED ON-SITE & BE MADE AVAILABLE TO THE PERMITTING AUTHORITY UPON REQUEST.

4. STABILIZATION: THE OPERATOR SHALL INITIATE STABILIZATION MEASURES AS SOON AS PRACTICABLE ON PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.

5. MAINTENANCE: SEDIMENT SHALL BE REMOVED FROM TEMPORARY SEDIMENT TRAPS OR PONDS WHENEVER THEIR CAPACITY HAS BEEN REDUCED BY 50% OF THE DESIGN CAPACITY. INSTALL ADDITIONAL SEDIMENT TRAPS & BARRIERS AS NEEDED DURING CONSTRUCTION.

6. CONTRACTOR SHALL ESTABLISH A TEMPORARY STABILIZED CONSTRUCTION ENTRANCE TO CAPTURE MUD & DEBRIS FROM CONSTRUCTION VEHICLES BEFORE THEY ENTER A PUBLIC ROADWAY, AS DETAILED. SEDIMENT TRACKED ONTO THE ROADWAYS SHALL BE REMOVED OR CLEANED ON A DAILY BASIS. ALL BARE AREAS, E.G., ENTRANCES, CONSTRUCTION ROUTES, & EQUIPMENT PARKING AREAS, SHALL BE STABILIZED IMMEDIATELY AS CONSTRUCTION TAKES PLACE. PLACE GRAVEL ON THESE AREAS OR MAINTAIN THE EXISTING VEGETATIVE COVER.

7. TEMPORARY CONSTRUCTION SILT FENCES, STRAW BALE DIKES, OR TRIANGULAR SILT DIKES SHALL BE PLACED ON OR PARALLEL TO CONTOURS WHERE THERE IS NO CONCENTRATION OF STORMWATER RUNOFF FLOWING TO THEM & WHERE EROSION OCCURS IN THE FORM OF SHEET EROSION, AS DETAILED. THE AREA BELOW THESE TEMPORARY STRUCTURAL MEASURES SHOULD BE UNDISTURBED/UNEXCAVATED EARTH.

TEMPORARY STABILIZATION MEASURES SHALL START AS SOON AS PRACTICAL ON PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT NOT MORE THAN (7) DAYS AFTER WORK HAS CEASED. ACCEPTABLE TEMPORARY STABILIZATION MEASURES INCLUDE, BUT MAY NOT BE LIMITED TO SEEDING MULCH, STRAW, EROSION CONTROL BLANKETS, SOIL STABILIZING EMULSION PRODUCTS, OR SOME FUNCTIONALLY EQUIVALENT MEASURE. TEMPORARY SEEDING SHALL BE ANNUAL RYE GRASS, APPLIED AT A RATE OF 30 LBS./ACRE.

8. DIVERT OFFSITE OR CLEAN STORMWATER RUNOFF FROM DISTURBED AREAS. CONVEY RUNOFF FROM HIGHLY ERODIBLE SOILS & STEEP SLOPES TO MORE SUITABLE STABLE AREAS. INSTALL TRIANGULAR SILT DIKES TO REDUCE THE VELOCITY OF CONCENTRATED RUNOFF.

9. LIMIT ALL CLEARING & EXCAVATION ACTIVITIES TO MAINTAIN EXISTING VEGETATIVE COVER AS MUCH AS PRACTICABLE. TOPSOIL SHALL BE STOCKPILED, PROTECTED, & STABILIZED IN AN AREA LOCATED AWAY FROM DRAINAGE CHANNELS.

10. WHEN ACTIVITIES TEMPORARILY CEASE DURING CONSTRUCTION, SOIL STOCKPILES & EXPOSED SOIL SHALL BE STABILIZED BY SEED, MULCH, OR OTHER APPROPRIATE MEASURES AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS CEASED. PERMANENT VEGETATION & LANDSCAPING SHALL BE INSTALLED IMMEDIATELY FOLLOWING FINAL GRADING.

11. NO GRADING, FILLING, OR OTHER DISTURBANCE IS ALLOWED WITHIN EXISTING DRAINAGE SWALES, UNLESS INDICATED ON THE GRADING PLANS.

12. BACKFILL & STABILIZE ALL UTILITY TRENCHES DAILY.

13. SEEDING:
 A. SOW GRASS SEED BETWEEN APRIL 1 & MAY 15TH OR BETWEEN AUGUST 15TH & OCTOBER 15TH, EXCEPT AS OTHERWISE APPROVED IN WRITING BY THE ENGINEER. NO SEEDING SHALL OCCUR ON FROZEN GROUND, HIGHLY MUDDY SOILS, OR DURING EXTREME HEAT OR DROUGHT CONDITIONS.
 B. SEED MIXTURE: 40% FENWAY RED FESCUE, 30% ABBEY KENTUCKY BLUEGRASS BLEND, 20% DEVINE PERENNIAL RYE, & 10% ENCHANTED PERENNIAL RYE. PROVIDE SEED MIXTURE EQUAL TO SCOTT'S PURE PREMIUM SUN & SHADE NORTH GRASS SEED MIXTURE, OR APPROVED EQUIVALENT. VARIETY MAY BE ALTERED DEPENDING ON AVAILABILITY OF SEED FROM MANUFACTURER.

14. TOPSOIL:
 A. PROVIDE TOPSOIL FROM EXISTING STOCKPILES STRIPPED FROM THE PROJECT SITE & APPROVED BY THE ENGINEER. IF REQUIRED, PROVIDE ADDITIONAL TOPSOIL CONFORMING TO THE FOLLOWING:
 B. ORIGINAL LOAM TOPSOIL, WELL DRAINED HOMOGENEOUS TEXTURE & OF UNIFORM GRADE, WITHOUT THE ADMIXTURE OF SUBSOIL MATERIAL & ENTIRELY FREE OF DENSE MATERIAL, HARDPAN, SOD, OR ANY OTHER OBJECTIONABLE FOREIGN MATERIAL.
 C. CONTAINING NOT LESS THAN 4% NOR MORE THAN 20% ORGANIC MATTER IN THAT PORTION OF A SAMPLE PASSING A 1/4 INCH SIEVE WHEN DETERMINED BY THE WET COMBUSTION METHOD ON A SAMPLE DRIED AT 105 DEGREES C.
 D. CONTAINING A PH VALUE WITHIN THE RANGE OF 4.5 TO 7 ON THAT PORTION OF THE SAMPLE THAT PASSES A 1/4 INCH SIEVE.

15. FERTILIZER:
 A. MIXED COMMERCIAL FERTILIZERS SHALL CONTAIN TOTAL NITROGEN, AVAILABLE PHOSPHORIC ACID & SOLUBLE POTASH IN THE RATIO OF 10-6-4 (50% N/UF). 50% OF TOTAL NITROGEN SHALL BE DERIVED FROM UREAFORM FURNISHING A MINIMUM OF 3.5% WATER INSOLUBLE NITROGEN (3.5% WIN). THE BALANCE OF THE NITROGEN SHALL BE PRESENT AS METHYLENE UREA, WATER-SOLUBLE UREA, NITRATE & AMMONIACAL COMPOUNDS. OTHER FERTILIZERS MEETING NYSDOT SPECIFICATION SECTION 713-03 FERTILIZER CAN BE USED.

16. MULCH:
 A. DRY APPLICATION, STRAW: STALKS OF OATS, WHEAT, RYE OR OTHER APPROVED CROPS THAT ARE FREE OF NOXIOUS WEED SEEDS. WEIGHT SHALL BE BASED ON A 15% MOISTURE CONTENT.
 B. HYDRO APPLICATION: COLORED WOOD CELLULOSE FIBER PRODUCT SPECIFICALLY DESIGNED FOR USE AS A HYDRO-MECHANICAL APPLIED MULCH, BY CONWED HYDRO MULCH, CONWED FIBERS, OR APPROVED EQUIVALENT.

17. JUTE MESH:
 A. HEAVY JUTE EROSION CLOTH WITH 12 INCH LENGTHS OF NO. 11 GAGE WIRE BENT TO FORM A "U" WIRE STAPLE, BY JUTE PRODUCTS, INC., OR APPROVED EQUIVALENT.

18. EROSION CONTROL BLANKETS:
 A. FOR USE IN REPLACE OF MULCH ON SLOPES GREATER THAN 5% AS SHOWN ON THE PLANS. CONSISTING OF LIGHTWEIGHT PHOTODEGRADABLE POLYPROPYLENE NETS WITH AN APPROXIMATE WEIGHT OF 1.64 LBS/1,000 SQUARE FEET, DEGRADABLE THREAD, STRAW FIBER WITH AN APPROXIMATE WEIGHT OF 0.5 LBS/SQUARE YARD, WITH MANUFACTURER'S DOT STAPLE SYSTEM & 6 INCH BIOSTAKE'S BIODEGRADABLE BLANKET PIN FASTENERS. USE DEGRADABLE DOUBLE NET STRAW BLANKET, PRODUCT NO. S150 BY NORTH AMERICAN GREEN, OR APPROVED EQUIVALENT.

19. DUST SUPPRESSION MEASURES MAY INCLUDE: 1) USING A DEDICATED ON-SITE WATER TRUCK FOR ROAD AND SOILS WETTING, CAPABLE OF SPRAYING WATER DIRECTLY ONTO OFF-ROAD AREAS, INCLUDING EXCAVATIONS AND STOCKPILES; 2) CLEARING AND GRUBBING OF LARGER SITES WILL BE DONE IN STAGES TO LIMIT THE AREA OF EXPOSED, UNVEGETATED SOILS VULNERABLE TO DUST PRODUCTION; AND 3) GRAVEL WILL BE USED ON ROADWAYS TO PROVIDE A CLEAN AND DUST-FREE ROAD SURFACE.

20. IF TEMPORARY SEDIMENT BASINS/TRAPS/SWALES ARE NEEDED AT THE BEGINNING, BASINS MUST PROVIDE 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED AND DISTURBED

21. DECOMPACTION OF EXISTING SOILS. UPON REMOVAL OF ANY EXISTING PAVEMENT AREAS, HEAVILY TRAVELED AREAS AND/OR AREAS THAT APPEAR TO BE OVER COMPACTED SHALL UNDERGO A DE-COMPACTION APPLICATION TO RESTORE SOIL POROSITY AND PERMEABILITY.

SILT FENCE NOTES:

1. SILT FENCE SHALL BE PLACED ON THE DOWNSLOPE SIDE OF DISTURBED AREAS AND AROUND THE PERIMETER OF SOIL STOCKPILES.
2. SILT FENCE SHALL BE PLACED AROUND THE BOUNDARY OF WETLANDS ADJACENT TO THE WORK AREA, AND AT THE EDGE OF WETLANDS AFTER CONSTRUCTION IS COMPLETED.
3. SILT FENCE SHALL BE REPAIRED OR REPLACED WHEN THE ENDS ARE FRAYED OR WORN, AND WHEN THE FENCE IS NOT ANCHORED 6" INTO THE GROUND. WHEN THE ACCUMULATED SEDIMENT REACHES 30% OF THE SILT FENCE HEIGHT, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROPRIATE UPLAND AREA.

DUST CONTROL NOTES:

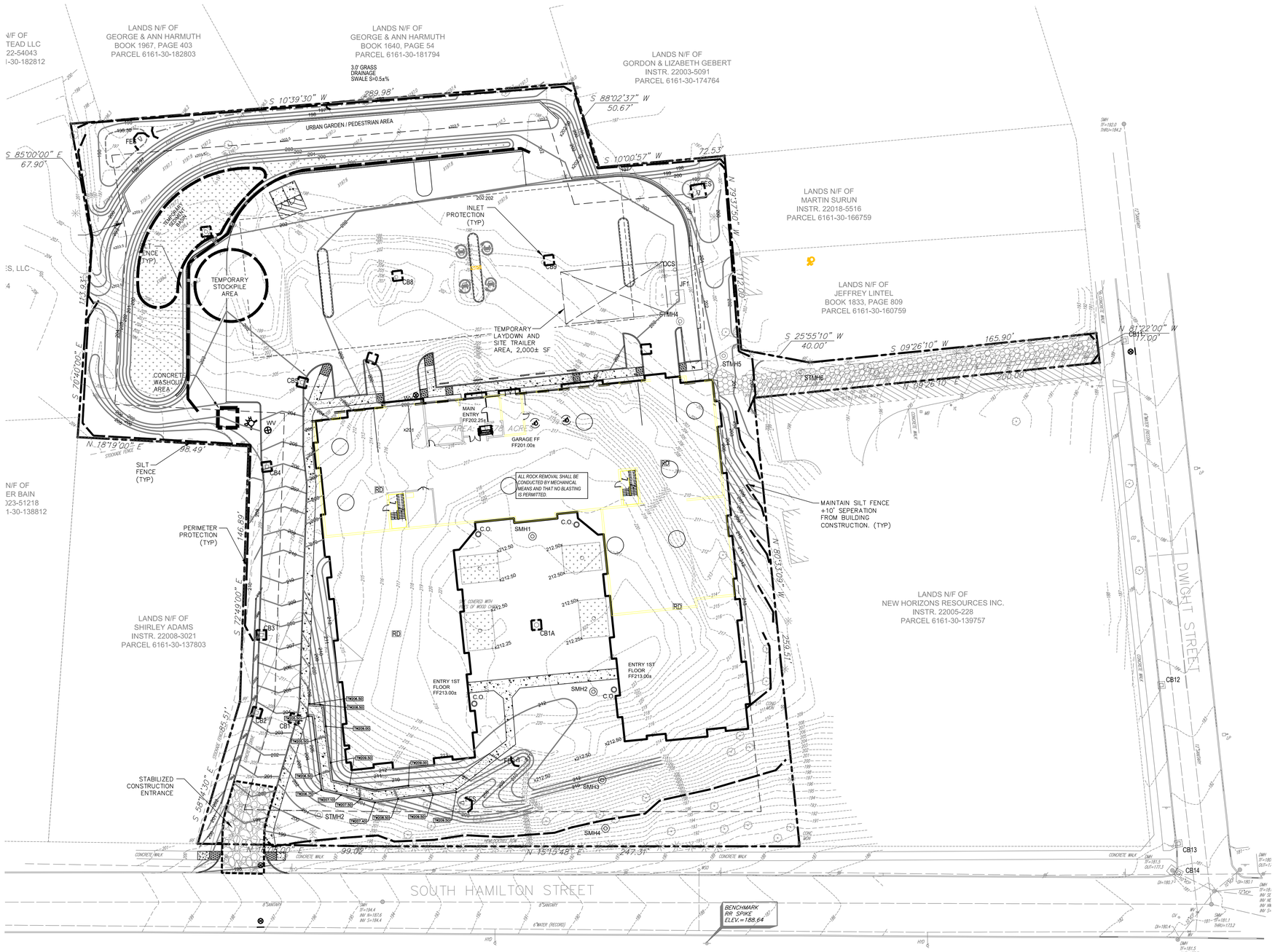
1. DUST SHALL BE CONTROLLED ON THIS PROJECT BY USE OF A WATER TRUCK.
2. THE QUALIFIED INSPECTOR WILL DETERMINE THE FREQUENCY OF WATER APPLICATION IN ORDER TO CONTROL DUST.
3. CHEMICALS OR OTHER METHODS OF DUST CONTROL ARE PROHIBITED TO BE USED ON THIS PROJECT, UNLESS APPROVED BY NYSDEC REGION 3.

STABILIZED CONSTRUCTION ACCESS NOTES:

1. STABILIZED CONSTRUCTION ACCESS SHALL BE INSTALLED WHERE NECESSARY TO PREVENT SEDIMENT FROM BEING TRACKED ONTO ROADWAYS.
2. PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED. CONSTRUCTION TRAFFIC SHALL NOT CROSS STREAMS OR DITCHES EXCEPT AT SUITABLE CROSSING FACILITIES, AND SHALL NOT OPERATE UNNECESSARILY WITHIN WATERWAYS OR DRAINAGE DITCHES.
3. IF INTERNAL CONSTRUCTION ROADS ARE DETERMINED TO BE A SOURCE OF SEDIMENT-LADEN RUNOFF TO SENSITIVE AREAS, THEY SHALL BE STABILIZED AS SOON AS PRACTICABLE.

TEMPORARY SEEING AND MULCHING NOTES:

1. AREAS TO RECEIVE TEMPORARY SEEDING AND MULCHING SHALL RECEIVE BOTH GRASS SEED AND MULCH.
2. A JUTE MESH SHALL BE PLACED OVER THE MULCH IN AREAS WHERE WIND OR WATER EROSION PREVENTS ESTABLISHMENT OF GRASS COVER.



SEQUENCE OF CONSTRUCTION NOTES:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE, PERIMETER PROTECTION, INLET PROTECTION, ETC. AS SHOWN ON E&SC PLAN.
2. INSTALL TEMPORARY SEDIMENT TRAP(S) TO PROVIDE A MINIMUM 3,600 CUBIC FEET VOLUME. SEDIMENT TRAPS CAN BE REMOVED/RELOCATED ONCE TRIBUTARY AREAS ARE STABILIZED.
3. ONCE THE ABOVE EROSION AND SEDIMENT CONTROL DEVICES ARE INSTALLED, CONTRACTOR TO BEGIN CONSTRUCTION ON PROPOSED BUILDING TOGETHER WITH REMAINING SITE WORK INCLUDING ROUGH GRADING, STORMWATER MANAGEMENT, SEWER, WATER AND OTHER UTILITIES.
4. PERFORM BULK SITE EARTH MOVING OPERATIONS.
5. CONTRACTOR SHALL PAVE (BASE COURSE) PARKING LOTS.
6. TOP COURSE OF PAVING TO BE INSTALLED ON PARKING AREAS AS SOON AS PRACTICAL. PRIOR TO PLACING PAVEMENT, CLEAN STORM SEWER SUMPS AND PIPING OF ANY ACCUMULATED SEDIMENT.
7. REMOVAL OF EROSION AND SEDIMENT CONTROL PRACTICES WHEN CONTRIBUTING AREAS ACHIEVE PERMANENT STABILIZATION UPON RECOMMENDATION BY THE PROJECT ENGINEER AND APPROVAL BY THE TOWN ENGINEER.

EROSION CONTROL PLAN

SCALE: 1"= 30'

0 60 120 Feet

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED PER CITY COMMENTS, GRADING, UTILITIES, OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	09.25.24
9	REVISED PER CITY COMMENTS	DFA	10.28.24

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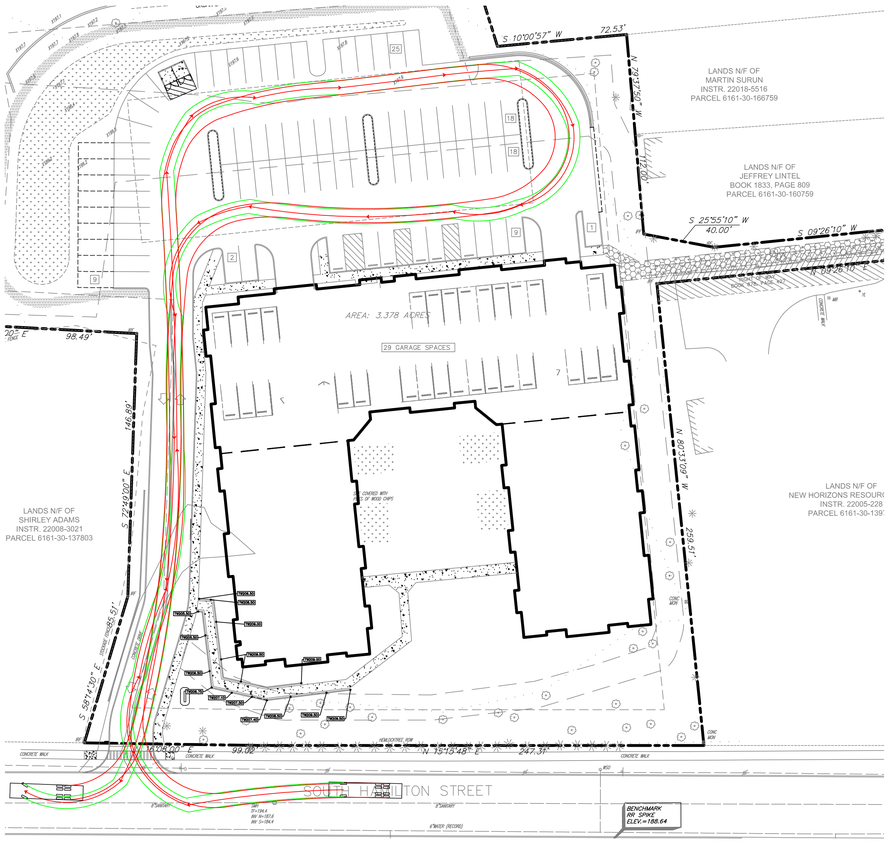
CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
EROSION CONTROL PLAN
SOUTH HAMILTON

TAX MAP - 6161-30-151783

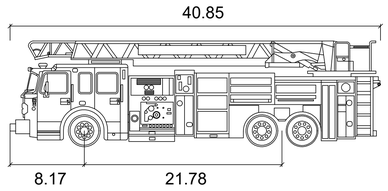
DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

DRAWING NO.
S4
SHEET 5 OF 16



EMERGENCY VEHICLE TURNING MOVEMENT

SCALE: 1"= 40'

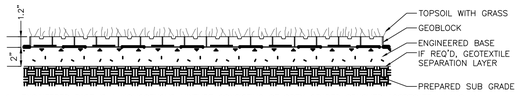


Spartan Gladiator Star Series Aerial

	Feet
Width	: 8.23
Track	: 7.87
Lock to Lock Time	: 6.0 s
Steering Angle	: 46.3 deg

EMERGENCY VEHICLE PROFILE

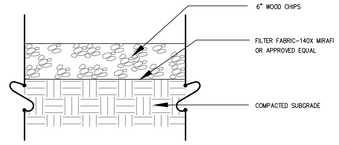
SCALE: NONE



1. ENGINEERED BASE IS A HOMOGENOUS MIXTURE CONSISTING OF OPEN GRADED CRUSHED AGGREGATE HAVING AN AASHTO # 5 OR SIMILAR DESIGNATION BLENDED WITH PULVERIZED TOPSOIL AND A VOID COMPONENT GENERALLY CONTAINING AIR AND/OR WATER. THIS HOMOGENOUS MIXTURE WILL PROMOTE VEGETATIVE GROWTH AND PROVIDE REQUIRED STRUCTURAL SUPPORT. THE AGGREGATE PORTION SHALL HAVE A PARTICLE RANGE FROM 0.375 TO 1.0 IN (9.5 MM TO 25 MM) WITH A D50 OF 0.5 IN (13 MM). THE PERCENTAGE VOID-SPACE OF THE AGGREGATE PORTION WHEN COMPACTED SHALL BE AT LEAST 30%. THE PULVERIZED TOPSOIL PORTION SHALL EQUAL 33% +/- OF THE TOTAL VOLUME AND BE ADDED AND BLENDED TO PRODUCE A HOMOGENOUS MIXTURE PRIOR TO PLACEMENT.
2. IF REQUIRED, PROVIDE A NON-WOVEN GEOTEXTILE SEPARATION LAYER AND INSTALL IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS INCLUDING OVERLAPS BASED ON SUB GRADE CBR.
3. REFER TO THE GEOBLOCK DESIGN AND CONSTRUCTION OVERVIEW FOR A COMPLETE DESCRIPTION OF THE DESIGN AND CONSTRUCTION METHODS.

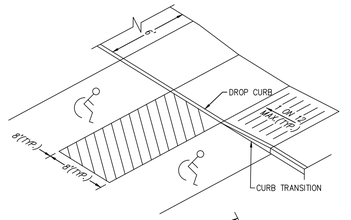
GEOCELL VEGETATIVE GRID DETAIL

SCALE: NO SCALE



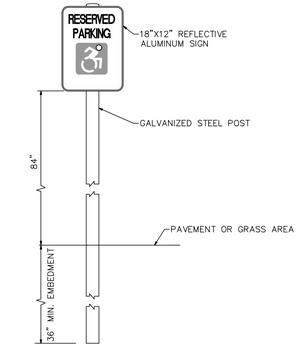
TYPICAL WOOD CHIP PATH DETAIL

SCALE: NO SCALE

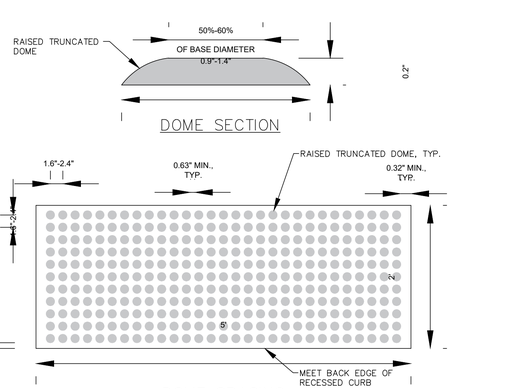


SIDEWALK RAMP DETAILS

SCALE: NO SCALE



SIGN - A

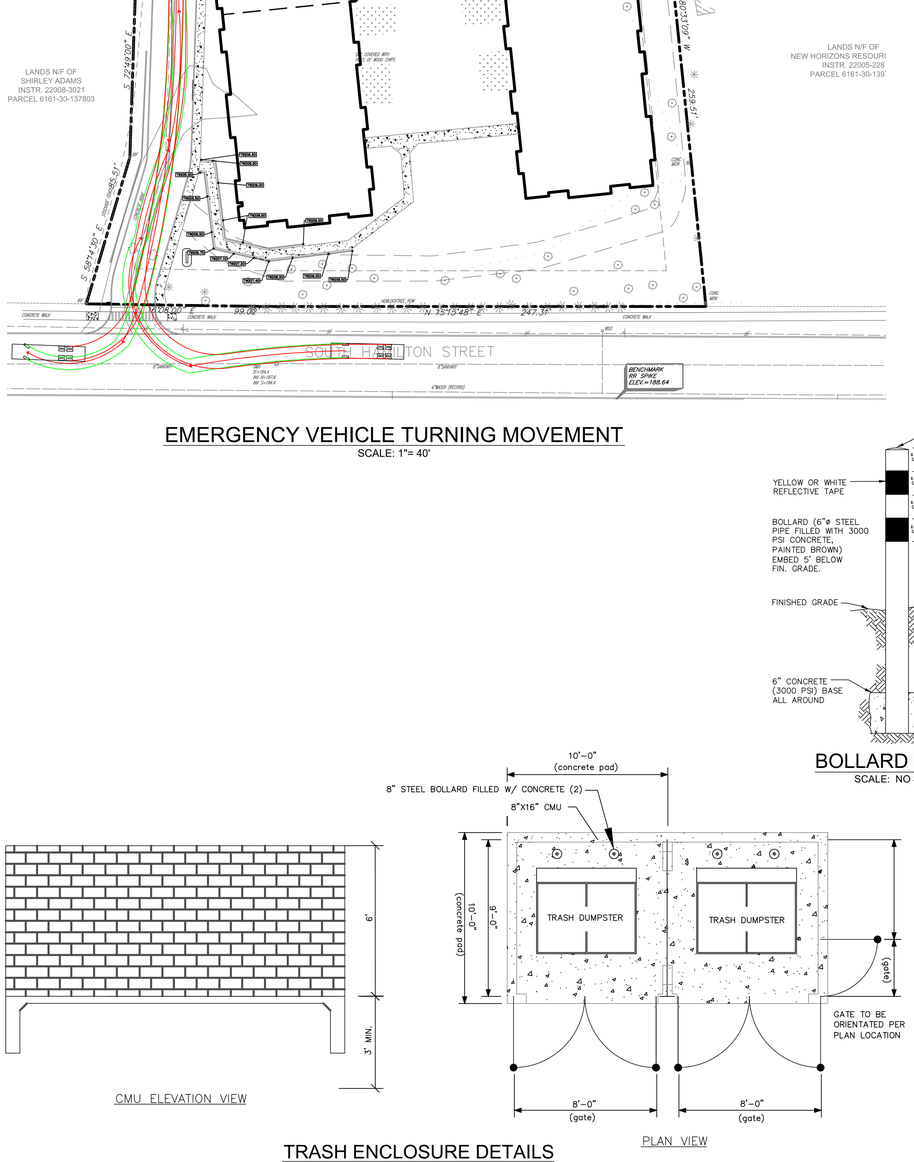


NOTES:

1. SIDEWALK SIDE FLARES ARE NOT REQUIRED FOR RAMPS IN LAWN AREAS, SEE PLANS FOR LOCATIONS. IN THESE AREAS, THE CURB SHALL TRANSITION FROM FLUSH TO FULL REVEAL IN 3 LF.
2. IN ACCORDANCE WITH THE AMERICAN WITH DISABILITY ACT (ADA) REQUIREMENTS, DETECTABLE WARNINGS SHALL BE INSTALLED WHENEVER SIDEWALK CURB RAMPS OR CUT-THROUGHS IN MEDIAN/REFUGE ISLANDS, & IN-STREET OR CROSS-SIDEWALK RAIL CROSSINGS ARE CONSTRUCTED OR ALTERED.
3. SURFACE APPLIED DETECTABLE WARNINGS ARE NOT ALLOWED. BRICK PAVERS, TILES, SHEETS & STAMPED CONCRETE METHODS ARE ALLOWABLE.
4. THE SIZE OF THE DETECTABLE WARNING FIELD SHALL BE 2' IN THE DIRECTION OF TRAVEL & SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE, EXCLUSIVE OF SIDE FLARES.
5. DETECTABLE WARNINGS SHALL BE LOCATED SO THAT THE EDGE OF THE WARNING FIELD MEETS THE BACK EDGE OF THE RECESSED CURB.
6. THE COLORS FOR THE DETECTABLE WARNING FIELDS SHALL BE DARK GRAY (MUNSELL BOOK NOTATION BG-PB 3/5), DARK BROWN (MUNSELL BOOK NOTATION 10 YR. 3/2), DARK RED (MUNSELL BOOK NOTATION 10R 3/6), OR DARK GREEN (MUNSELL BOOK NOTATION 2.5G 3/6).
7. DOME SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL.

REINFORCED CONCRETE SIDEWALK RAMP DETAILS

SCALE: NO SCALE



BOLLARD DETAIL

SCALE: NO SCALE

TRASH ENCLOSURE DETAILS

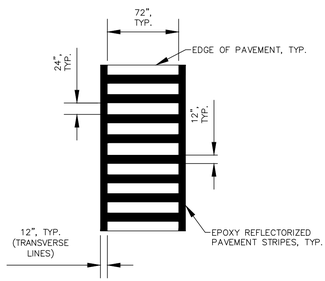
NOT TO SCALE

NOTES:

1. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH ADAAG 2010 SUPPLEMENTED BY THE 2020 BUILDING CODE OF NEW YORK STATE.
2. SLOPES OF PAVEMENT SURFACE IN THE ACCESSIBLE SPACE AND ACCESSIBLE AISLE SHALL NOT EXCEED 1.5% IN ANY DIRECTION.
3. SEE PLAN FOR ACTUAL LOCATION OF SIGNAGE.

HANDICAP & PARKING CONFIGURATION

SCALE: NONE

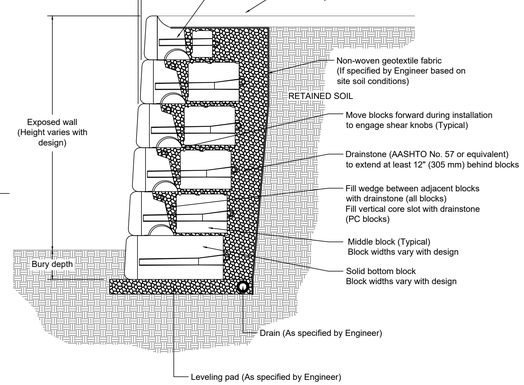


COMBINED TYPE LS CROSSWALK MARKING DETAIL

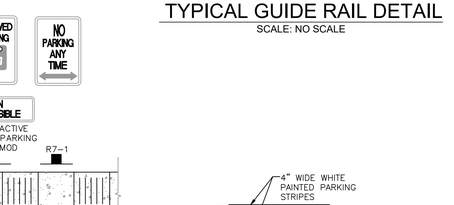
NOTE:

1. ALL CROSSWALK MARKINGS SHALL BE WHITE.

N.T.S.



TYPICAL GRAVITY WALL SECTION



TYPICAL GUIDE RAIL DETAIL

SCALE: NO SCALE

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Fire Chief	
Police Chief	
Building Inspector	
City Engineer	
Commissioner of Public Works	

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the _____ day of _____, 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
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4	REVISED PER CITY COMMENTS	DFA	02.02.24
5	REVISED: BLD. FOOTPRINT, GRADING, UTILITIES, & OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.16.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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518.573.6899 aricoassociates@gmail.com

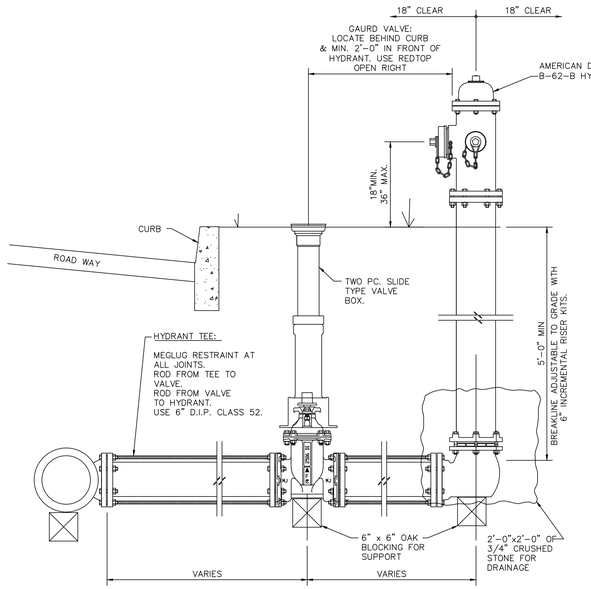
CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

STANDARD DETAILS SOUTH HAMILTON

TAX MAP - 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

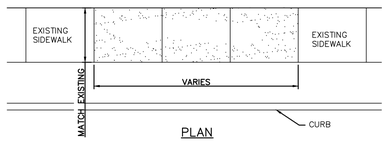
DRAWING NO.
D1
SHEET 6 OF 16



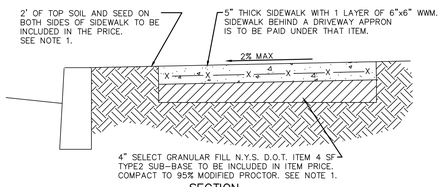
NOTES:
1. PAINT AMERICAN DARLING B-62-B HYDRANT RED
2. ALL MATERIAL TO BE MADE IN USA
3. NEW OR REPLACEMENT HYDRANT ON EXISTING CAST IRON MAIN REQUIRES TRANSITION COUPLINGS & SPOOLS FROM TEE (ROCKWELL 441 OR EQUAL)
4. ALL JOINTS TO BE FULLY RESTRIANTED ROD SUBSTITUIONS TO BE APROVED BY ENGINEER.

CITY OF POUGHKEEPSIE STANDARD HYDRANT DETAIL

SCALE: N.T.S.



PLAN



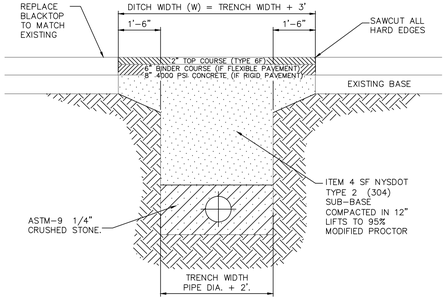
SECTION

NOTES:

1. ALL CONCRETE SHALL BE MINIMUM 4,000 PSI.
2. WHERE MATERIAL IS NOT USED THE CITY OF POUGHDEEPSIE WILL BE CREDITED IN AREAS WHERE MORE THAN THE SPECIFIED AMOUNT OF MATERIAL IS USED. MAJOR GRADE CHANGES WILL BE APROVED BY THE CITY ENGINEERING DEPT. AND WILL BE PAID UNDER APPROPRIATE ITEMS.
3. UPON COMPLETION OF CURING ALL CONCRETE SURFACES SHALL BE COATED WITH SODIUM CHLORIDE INHIBITING SEALER AS REQ'D.

SIDEWALK DETAIL REPLACE & NEW

SCALE: 1"=2'-0"

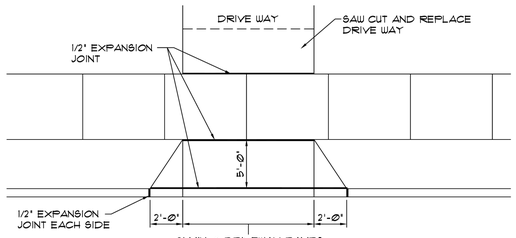


UTILITY TRENCH DETAIL IN PUBLIC R.O.W.

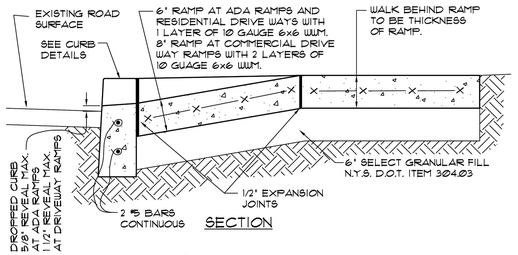
SCALE: 1/4" =1'-0"

NOTES:

1. DITCH WIDTH SHALL EXTEND A MINIMUM OF ONE AND ONE-HALF FT. FROM THE EDGES OF THE TRENCH.
2. REPLACED BASE MATERIAL OVER TRENCH SHALL BE ITEM 4 COMPACTED IN 12" LIFTS.
3. PIPE BEDDING SHALL BE A MINIMUM OF 6" ABOVE AND BELOW PIPE
4. ALL JOINTS SHALL BE MECHANICALLY SAWED.
5. ALL JOINTS SHALL BE SQUARED TO THE EXISTING EDGE OF CURB AND/OR PAVEMENT, AND TACK COATED PER DETAIL.
6. ROAD SURFACE REPLACEMENT SHALL BE MINIMUM OF SIX INCHES OF ASPHALIC CONCRETE.
7. BINDER COURSE ASPHALT PAVEMENT TO BE PLACED IN TWO LIFTS.



PLAN



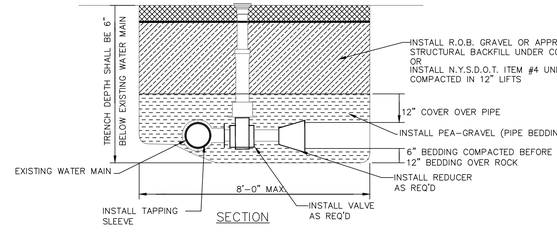
SECTION

NOTES:

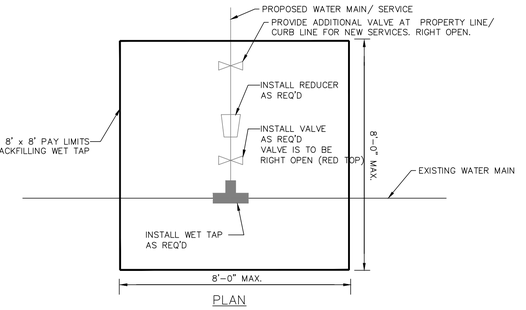
1. ALL CONCRETE SHALL BE MINIMUM 4,000 PSI.

DRIVEWAY RAMPS & ADA RAMP

SCALE: 1"-1'-0"



SECTION

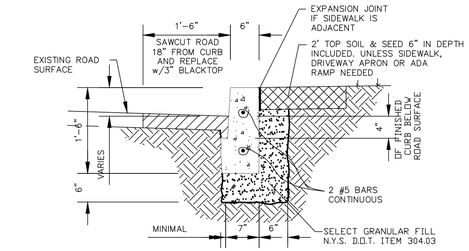


PLAN

NOTE: ALL BACKFILL TO BE PLACED IN 1' LIFTS AND COMPACTED TO 95% OF MODIFIED PROCTOR (ASTM 1557)

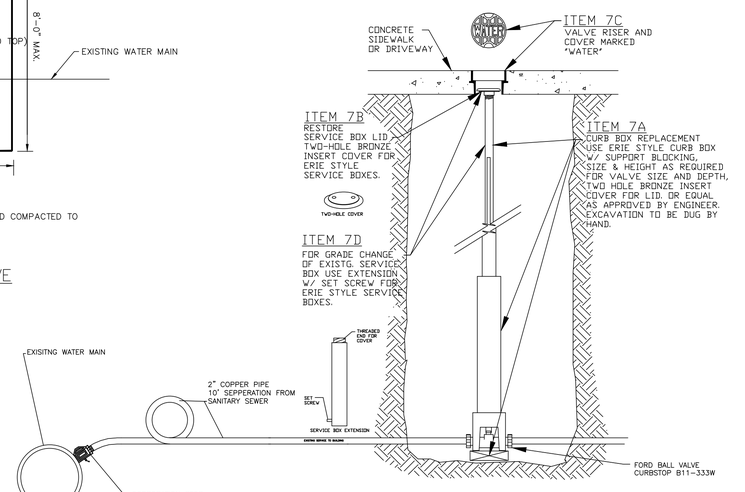
TAPPING SLEEVE & VALVE

SCALE: N.T.S.



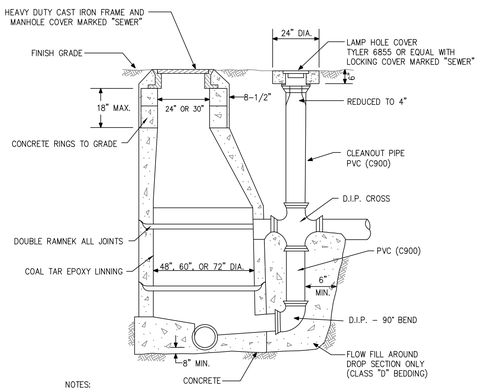
CLEATED CURB DETAIL

SCALE: 1"-1'-0"



CURB BOX AND SERVICE CONNECTION

SCALE: N.T.S.



NOTES:
1. SEE MANHOLE REINFORCEMENT DETAIL FOR BASE.
2. STEPS INSTALLED OVER DOWNSTREAM INVERT OF MANHOLE.

STANDARD DROP CONNECTION

NTS

DETAILS ON THIS PAGE HAVE BEEN PROVIDED BY THE CITY OF POUGHKEEPSIE

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
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8	REVISED PER CITY COMMENTS	DFA	10.10.24

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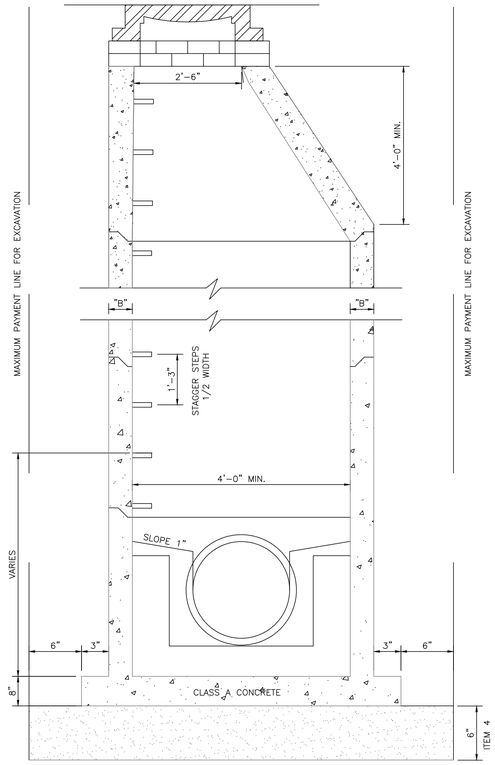
1407 Route 9, Bldg 2 Suite 5 Clifton Park New York, 12065
518.573.6988 aricoassociates@gmail.com

CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
CITY OF POUGHKEEPSIE
SOUTH HAMILTON

TAX MAP - 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

DRAWING NO.
D2
SHEET 7 OF 16

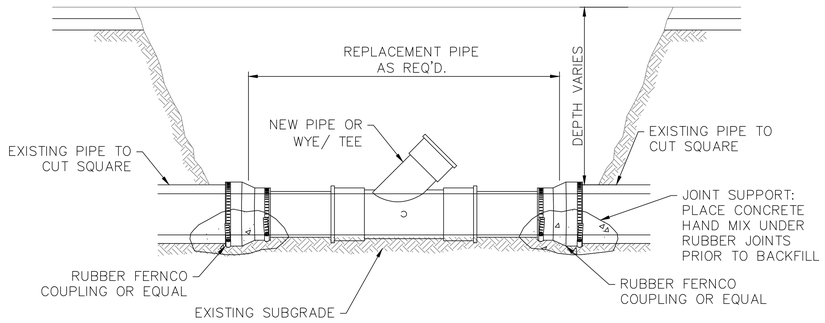


MINIMUM DIMENSION "B" SHALL BE:
5" FOR PRECAST SECTIONS

PRECASTS CONICAL TOP SECTIONS SHALL BE 4' IN HEIGHT AND SHALL HAVE WALL THICKNESS OF 5" MINIMUM AT BOTTOM AND 7" MINIMUM AT TOP. INTERMEDIATE SECTIONS MAY BE 1'-2'-3'-4' HIGH.

NEW MANHOLE DETAIL

NOT TO SCALE
REMOVE AND REPLACE EXISTING MANHOLE WITH MANHOLE SECTIONS.

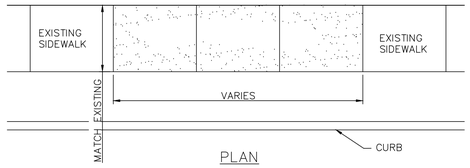


NOTES:

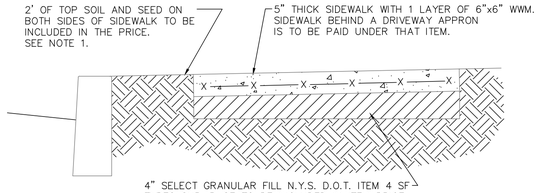
1. FOR PIPE GREATER THAN 15" ALL PIPE JOINTS SHALL BE CONSTRUCTED BY MEDTHODS APPROVED BY THE CITY ENGINEER.

TYPICAL SANITARY SEWER PIPE REPAIR OR WYE INSTALLATION DETAIL

SCALE: N.T.S.



PLAN



SECTION

NOTES:

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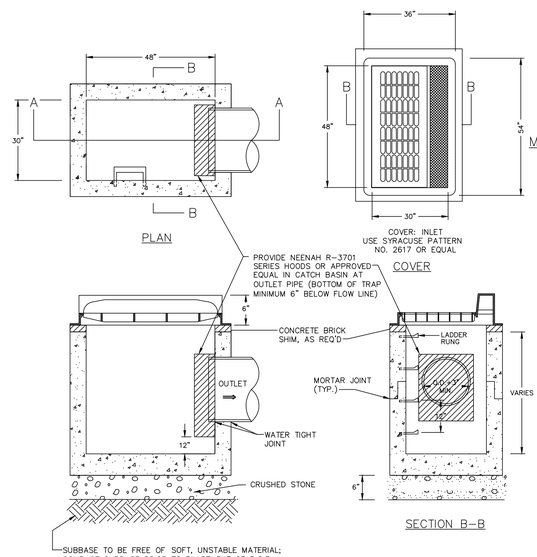
2. WHERE MATERIAL IS NOT USED THE CITY OF POUGHDEEPSIE WILL BE CREDITED IN AREAS WHERE MORE THAN THE SPECIFIED AMOUNT OF MATERIAL IS USED. MAJOR GRADE CHANGES WILL BE APROVED BY THE CITY ENGINEERING DEPT. AND WILL BE PAID UNDER APPROPRIATE ITEMS.
3. UPON COMPLETION OF CURING ALL CONCRETE SURFACES SHALL BE COATED WITH SODIUM CHLORIDE INHIBITING SEALER AS REQ'D.

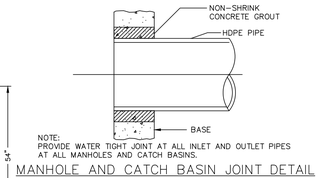
SIDEWALK DETAIL REPLACE & NEW

SCALE: 1"=2'-0"



NEW CATCH BASIN

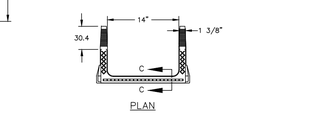
SCALE: N.T.S.



NOTE:
PROVIDE WATER TIGHT JOINT AT ALL INLET AND OUTLET PIPES AT ALL MANHOLES AND CATCH BASINS.

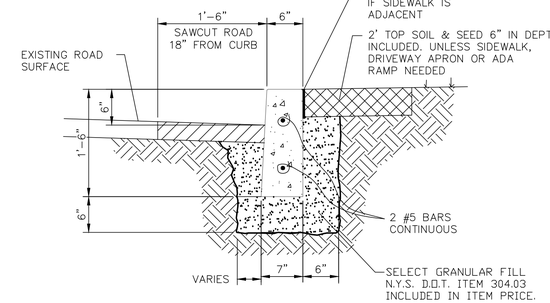
MANHOLE AND CATCH BASIN JOINT DETAIL

SCALE: N.T.S.



NOTES:

1. CATCH BASIN SHALL BE PRECAST CONCRETE, DESIGNED FOR H-20-44 VEHICULAR LOADING AND 30% IMPACT.
2. FRAME AND COVER SHALL BE DESIGNED FOR H-20-44 VEHICULAR LOADING AND 30% IMPACT.
3. CONCRETE CATCH BASIN CASTING CLEAR OPENING DIMENSION MUST MATCH FRAME AND GRATE. CLEAR OPENING DIMENSION (30"x48") FOR H-20-44 VEHICULAR LOADING.
4. CATCH BASINS HAVING A DEPTH GREATER THAN 48" FROM FINISHED SURFACE TO THE TOP OF THE CONCRETE BASE SHALL BE PROVIDED WITH STEPS.
5. BACKFILL USING SELECT MATERIAL, COMPACTED IN 6" LIFTS.
6. SUMP SHALL BE 2'. BOTTOM OF HOOD SHALL BE 1' FROM BOTTOM OF CATCH BASIN.
7. EXISTING CONNECTION TO BE ABANDONED AND CAPPED AT CATCH BASIN, MANHOLE, AT EXPOSED TRENCH CROSSING AS ORDERED BY ENGINEER. PIPE TO BE SEALED TO SATISFACTION OF ENGINEER BY USE OF BRICK AND MORTAR WITH CAP TO SEAL.



NOTE:

1. CONCRETE SHALL BE MINIMUM 4,000 PSI

FORMED CURB DETAIL

SCALE: 1"-1'-0"

DETAILS ON THIS PAGE HAVE BEEN PROVIDED BY THE CITY OF POUGHKEEPSIE

Fire Chief
Police Chief
Building Inspector
City Engineer
Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

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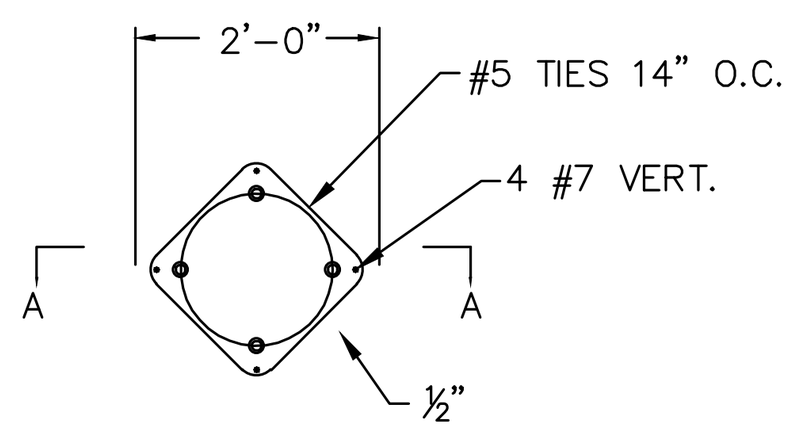
CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
CITY OF POUGHKEEPSIE
SOUTH HAMILTON

TAX MAP : 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

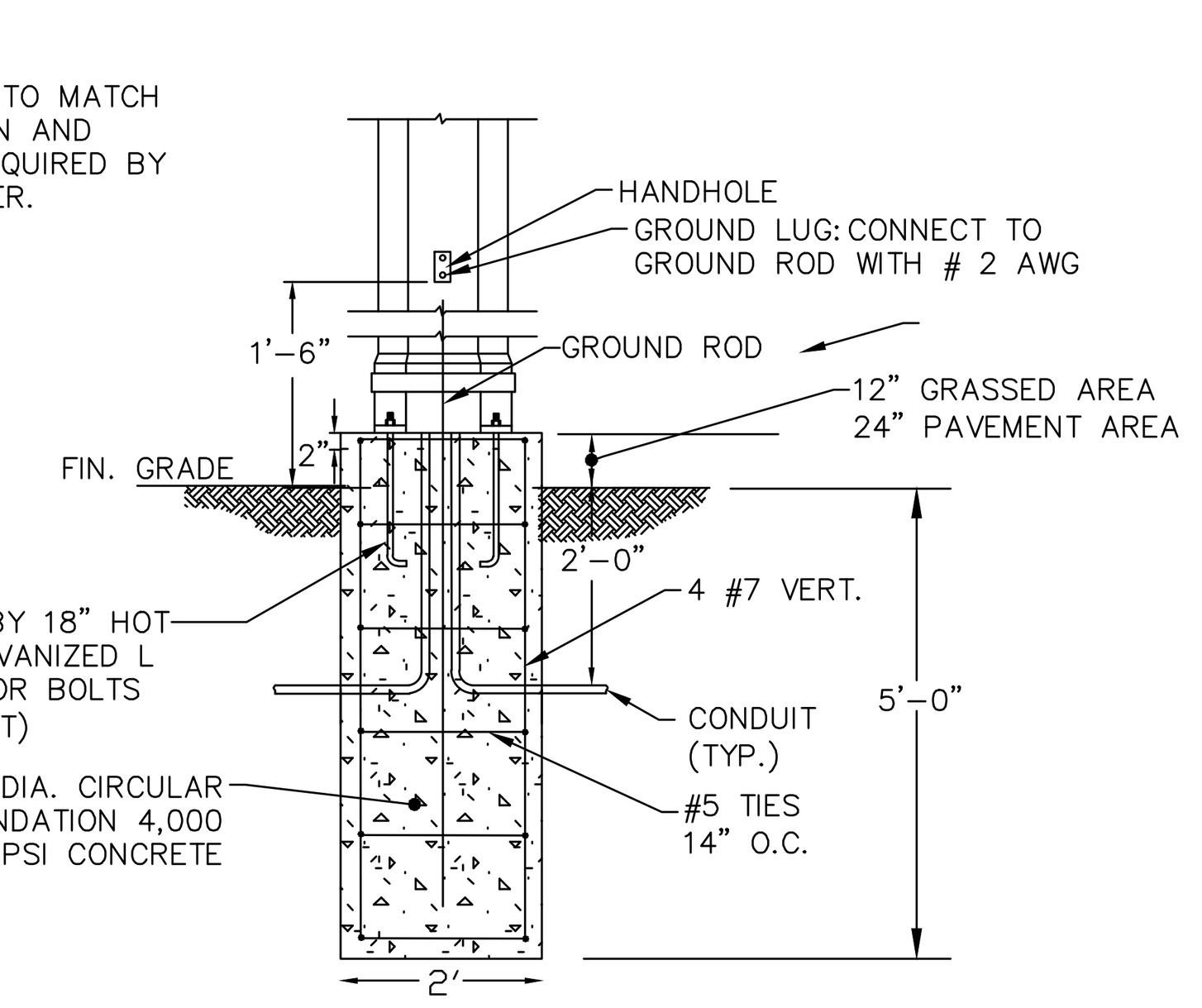
DRAWING NO.
D2.1
SHEET 8 OF 16

NOTES:
CONTRACTOR TO MATCH BOLT PATTERN AND DETAIL AS REQUIRED BY MANUFACTURER.



FOUNDATION FOR LIGHT POLE

NOTES:
CONTRACTOR TO MATCH BOLT PATTERN AND DETAIL AS REQUIRED BY MANUFACTURER.

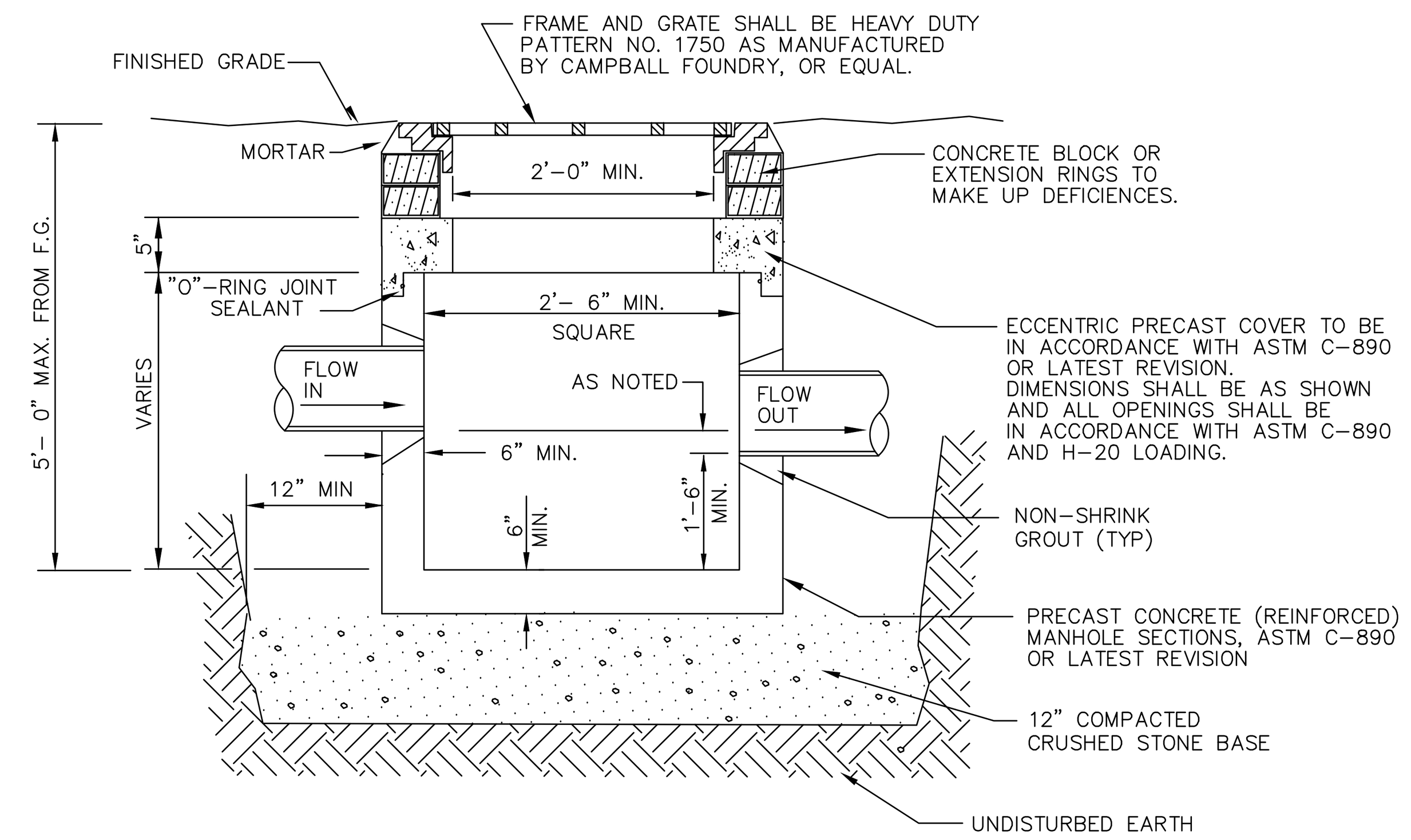


SECTION A – A

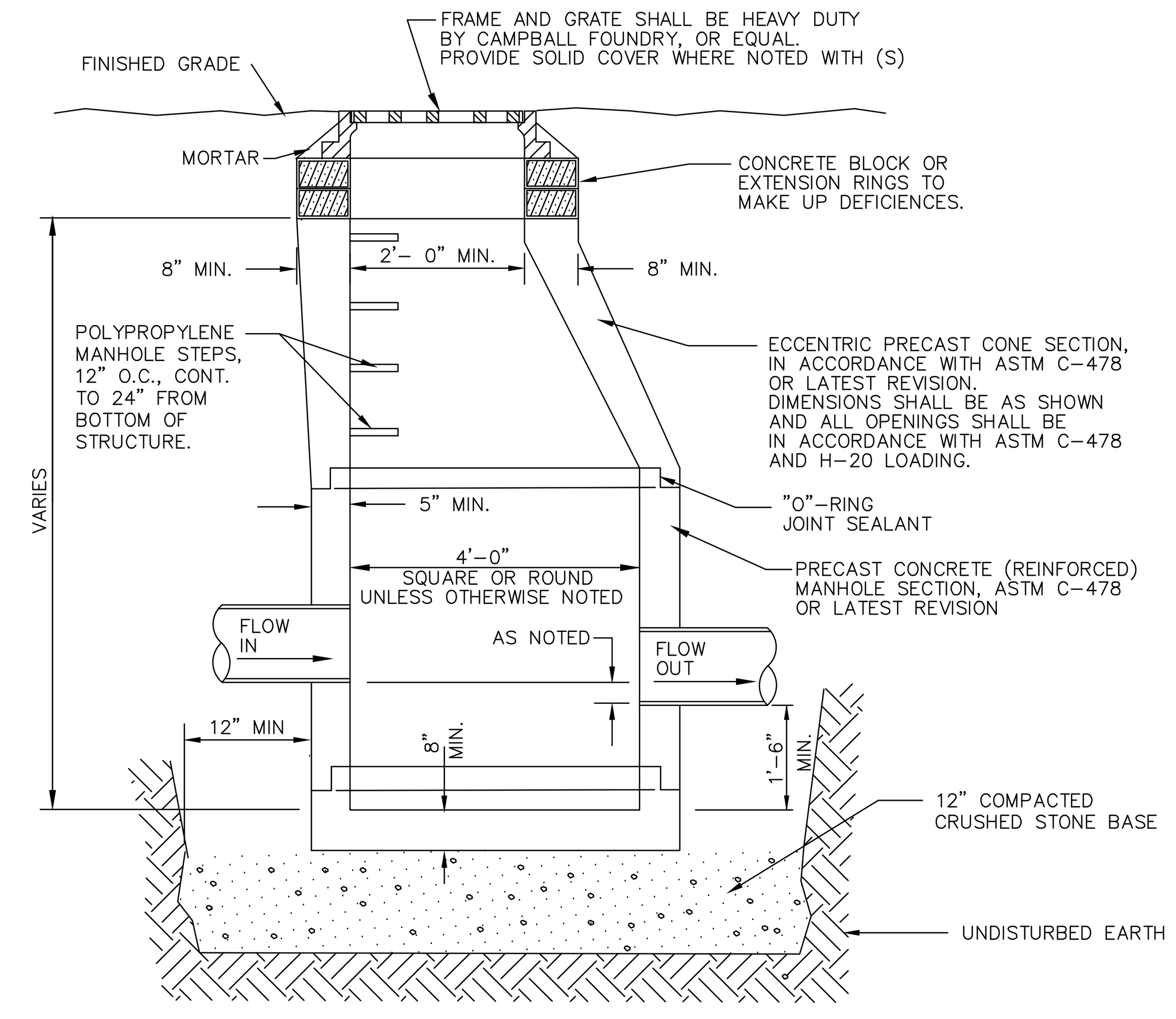
TYPICAL LIGHT POLE FOUNDATION DETAIL
SCALE: NO SCALE

NOTES:
FOR DEPTHS GREATER THAN 5'– 0", A 4'– 0" I.D. PRECAST CONCRETE STRUCTURE SHALL BE USED.

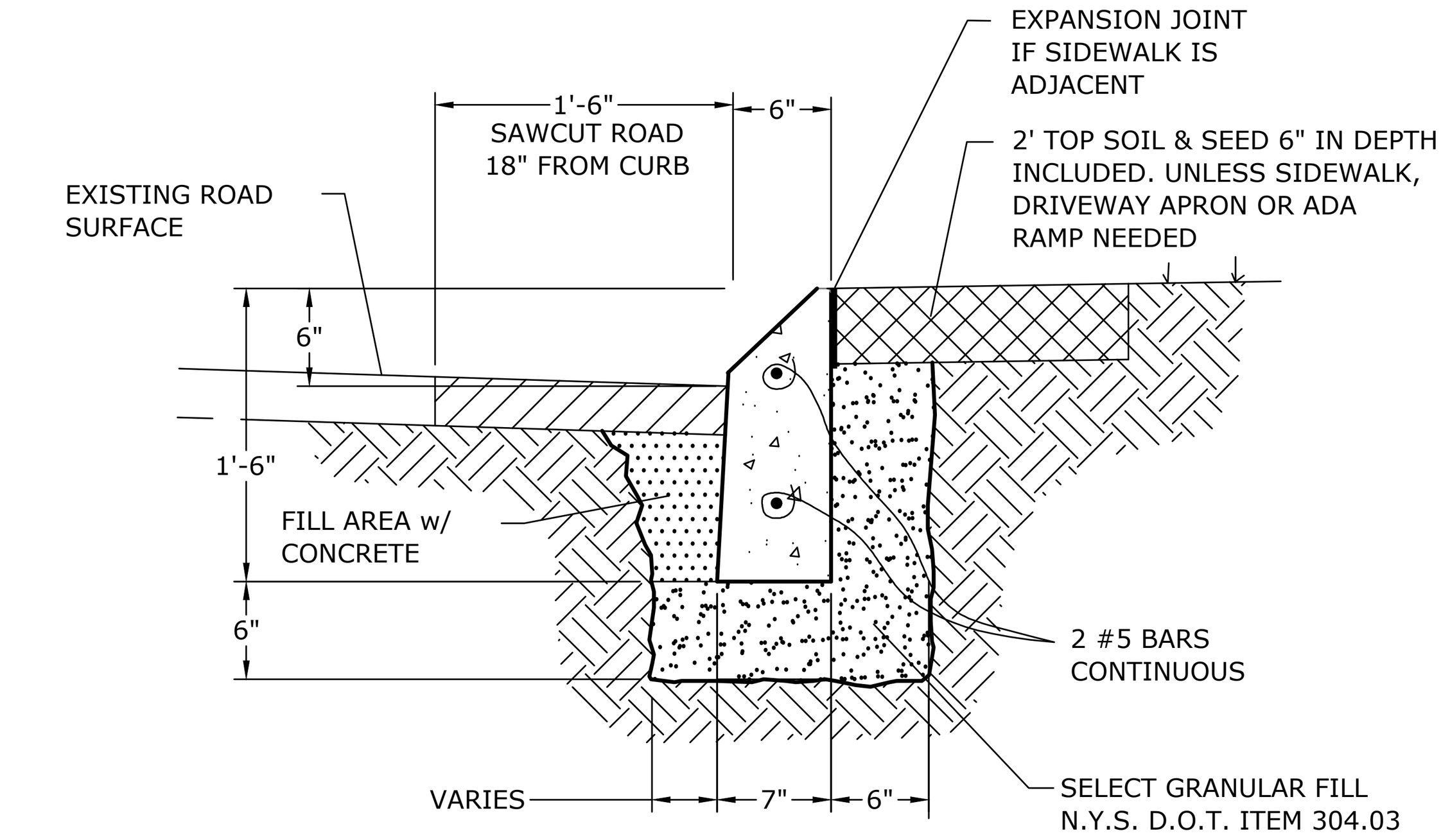
STRUCTURES SHALL BE AS MANUFACTURED BY THE FORT MILLER COMPANY, OR EQUAL.



TYPE "A" CATCH BASIN
SCALE: NONE



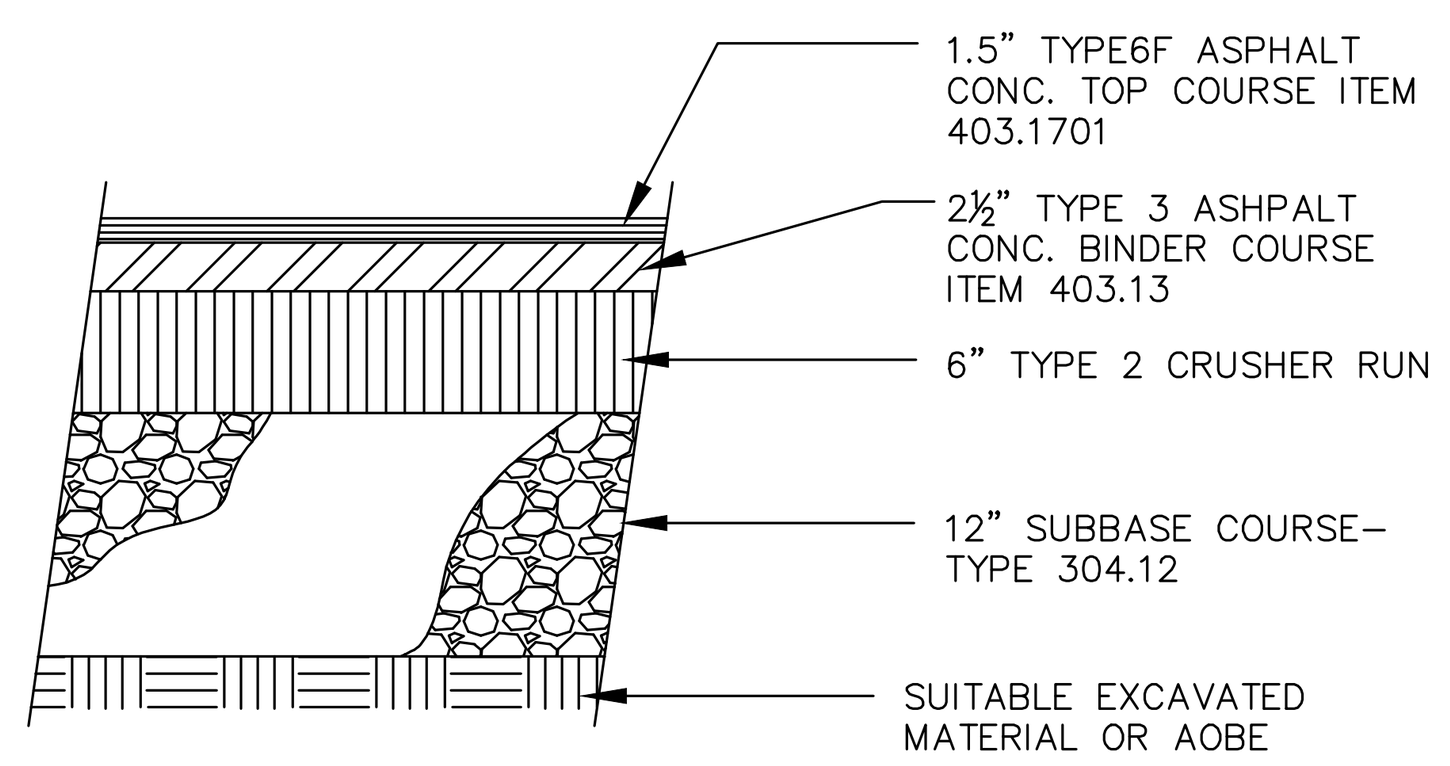
TYPE "B" CATCH BASIN
SCALE: NONE



NOTE:

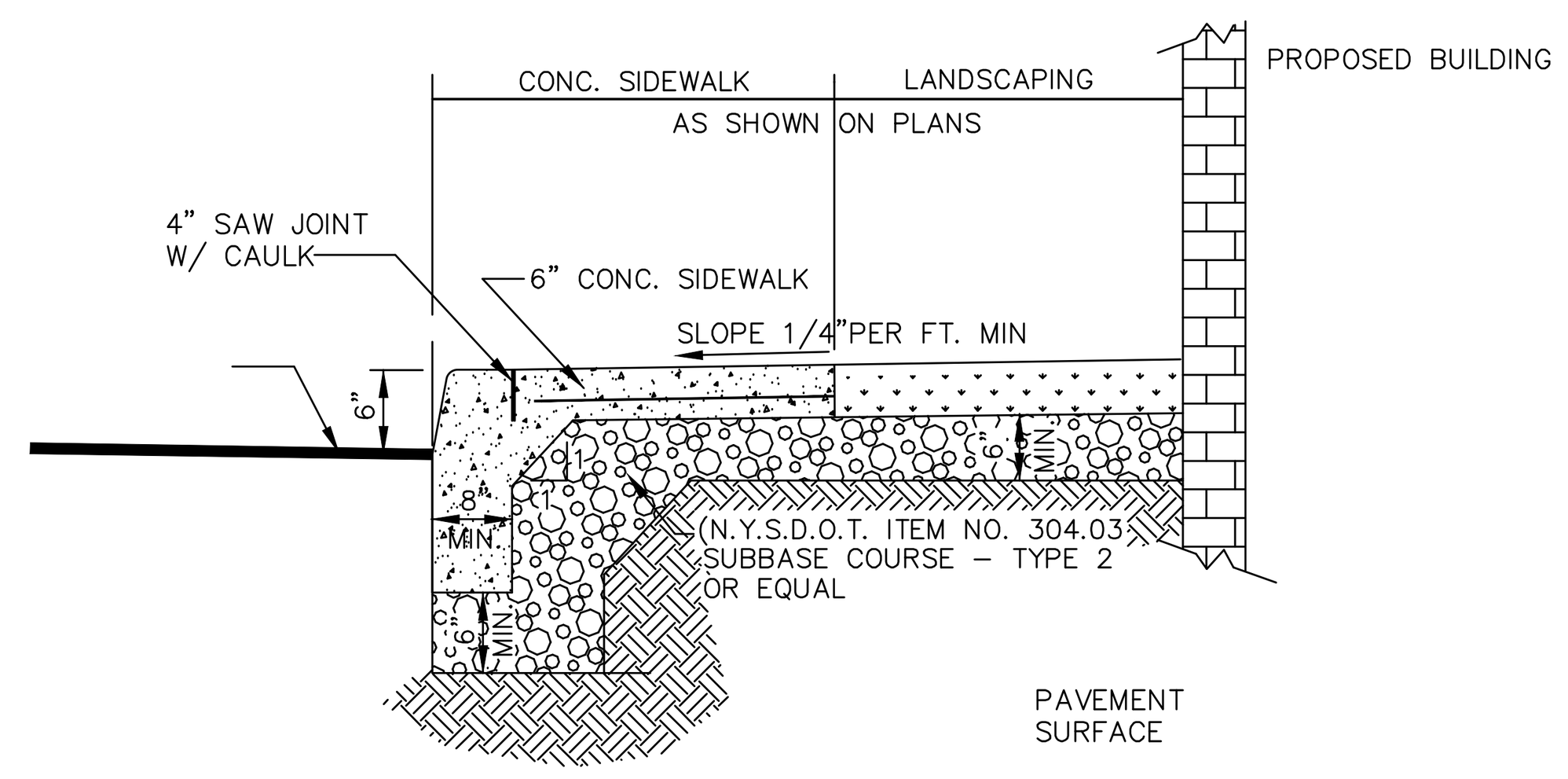
1. CONCRETE SHALL BE MINIMUM 4,500 PSI AND MEET ALL REQUIREMENTS OF ACI 301.

MOUNTABLE CURB DETAIL

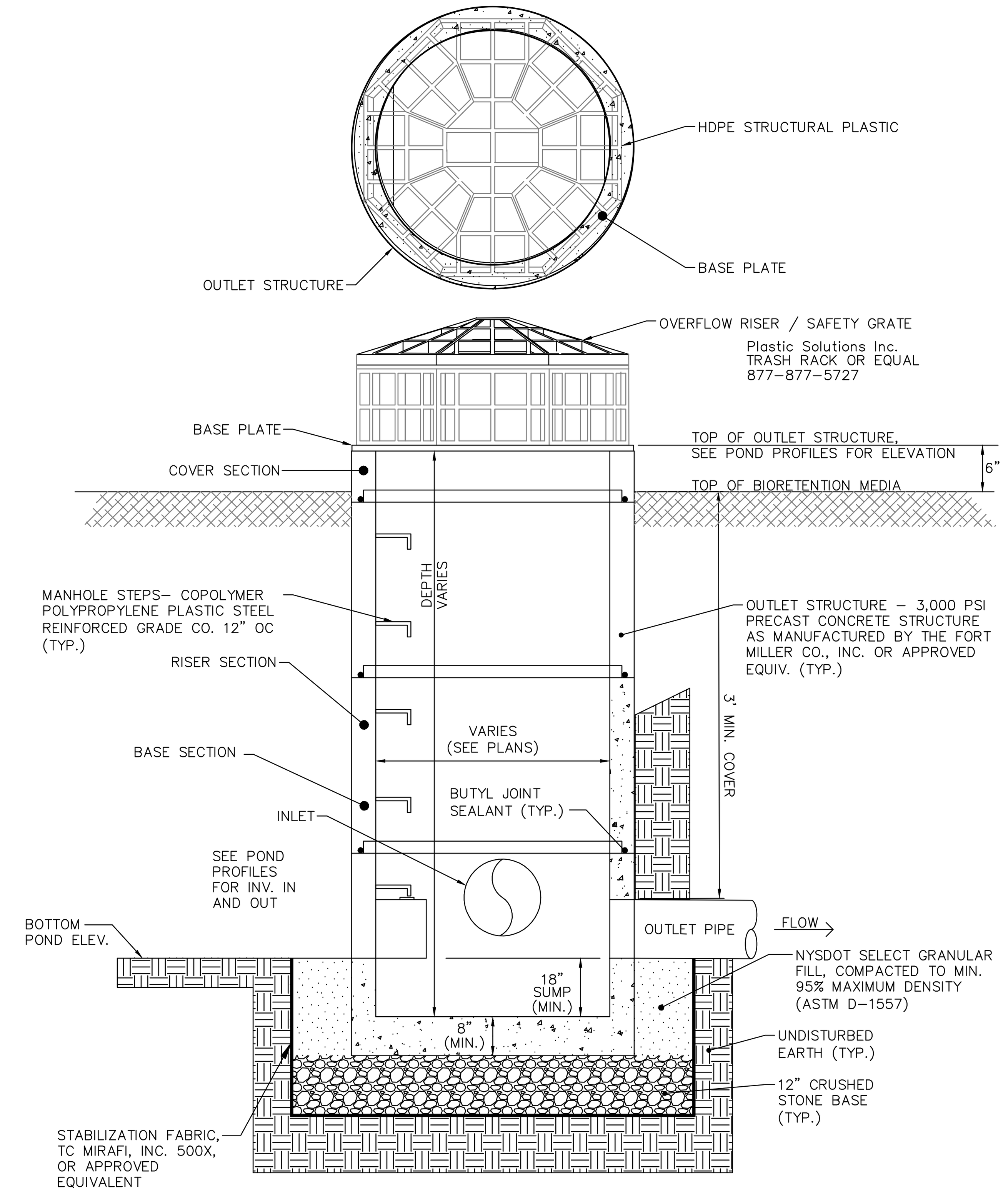


NOTE:
1. PROPOSED ASPHALT DEPTH WITHIN THE STATE RIGHT–OF–WAY MUST BE A MINIMUM OF EXISTING PAVEMENT DEPTHS

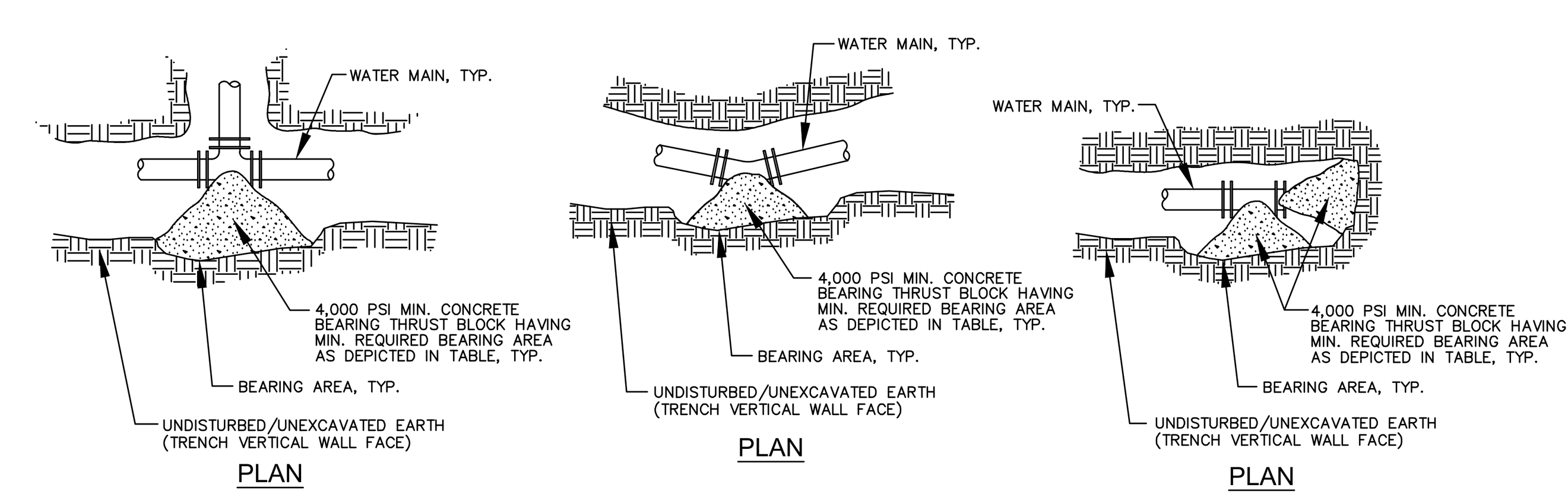
TYPICAL SITE PAVEMENT SECTION
SCALE: NO SCALE



CONCRETE CURB & SIDEWALK DETAIL
SCALE: NONE



BIORETENTYION POND OUTLET RISER
SCALE: NO SCALE



THRUST BLOCK DETAIL
SCALE: NO SCALE

DISINFECTION OF WATER MAINS:

A. DISINFECTION METHODS IN ACCORDANCE WITH AWWA C651.

B. CHLORINATION SHALL PROVIDE A MINIMUM OF 25 PPM RESIDUAL AFTER 24–HOURS CONTACT IN PIPELINE. IN GENERAL, THIS RESIDUAL MAY BE EXPECTED WITH AN APPLICATION OF 50 PPM ALTHOUGH SOME CONDITIONS MAY REQUIRE MORE.

C. CHLORINE, IN A FORM OF A 1% SLURRY OF HIGH TEST CALCIUM HYPOCHLORITE (HTH, PERCHLORON, PITTCHLOR,ETC.) SHALL BE FED INTO THE PIPELINE IN SUCH A MANNER AS TO MIX WITH THE WATER FLOWING IN THE PIPELINE. (A 1% SLURRY RESULTS FROM MIXING 1 POUND OF CALCIUM HYPOCHLORITE WITH 7.5 GALLONS OF WATER)

D. THE FOLLOWING TABLE PROVIDES INFORMATION AS TO THE REQUIRED QUANTITY OF SLURRY TO BE USED PER 100 FEET OF PIPE TO PROVIDE A CHLORINE CONCENTRATION OF 50 PPM:

PIPE SIZE INCHES	VOL. OF 100 FT LENGTH (GALLONS)	REQUIRED AMOUNT OF SLURRY (GALLONS)
4	65	0.33
6	147	0.74
8	261	1.3
10	408	2.0
12	588	3.0
16	1044	5.2

A. DURING THE PROCESS OF CHLORINATING THE PIPELINE, ALL VALVES AND OTHER PIPELINE APPURTENANCES SHALL BE OPERATED SEVERAL TIMES TO PROVIDE SUFFICIENT CONTACT WITH THE CHLORINATING AGENT.

HYDROSTATIC WATER MAIN TEST:

A. THE HYDROSTATIC TEST METHOD SHALL BE IN ACCORDANCE WITH ANSI/AWWA C600.

B. ALL PIPELINES, SERVICES, AIR RELEASE VALVES AND APPURTENANCES SHALL BE HYDROSTATIC TESTED.

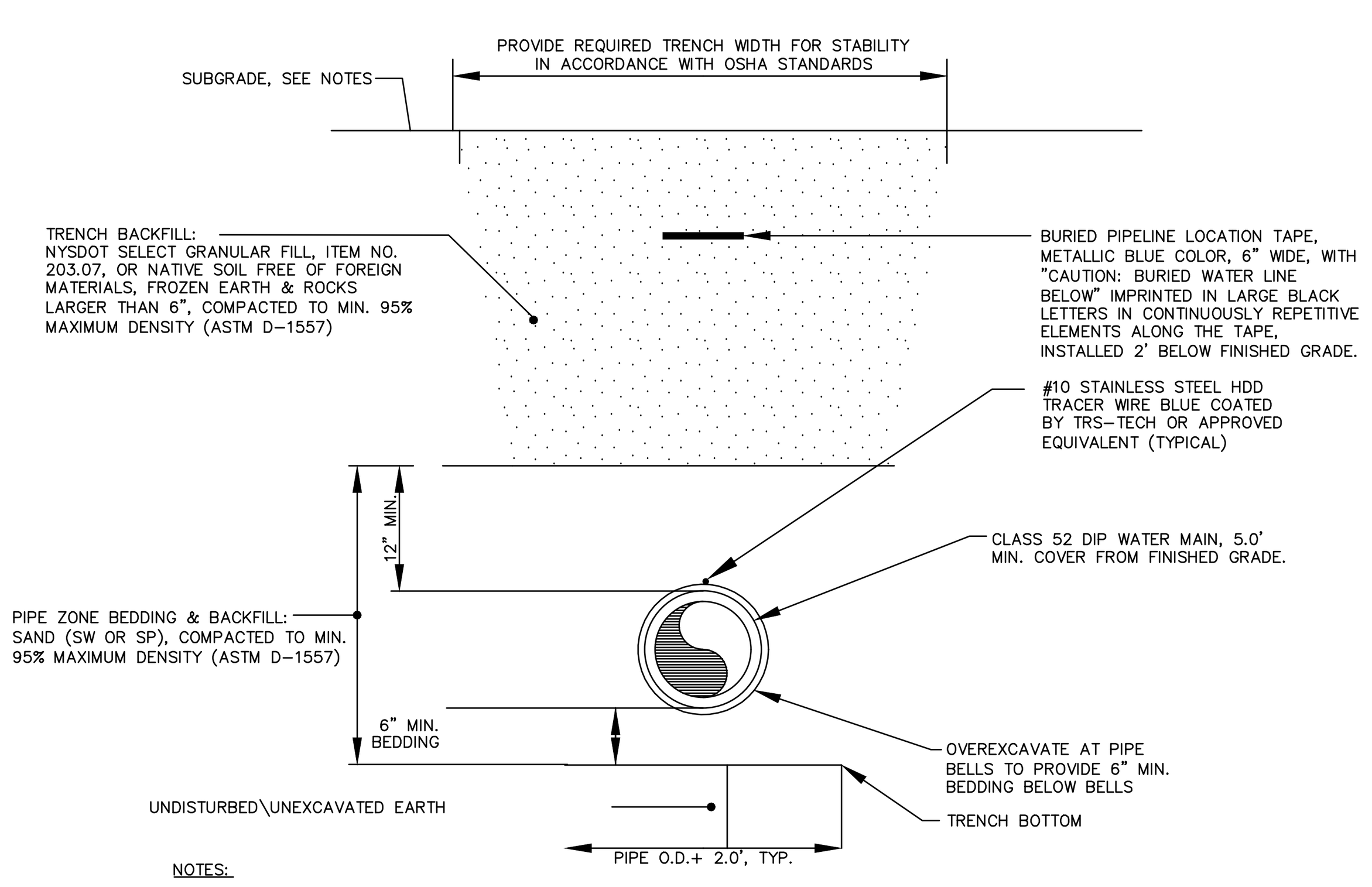
C. ALL WATER MAINS SHALL BE GIVEN A HYDROSTATIC TEST OF AT LEAST 1.5 TIMES THE WATER SYSTEM OPERATING PRESSURE OR 150 POUNDS PER SQUARE INCH (PSI), WHICH EVER IS GREATER. THE PRESSURE MEASUREMENT SHALL BE MADE FROM THE LOWEST ELEVATION OF THE FORCE MAIN SECTION BEING TESTED. THE TEST PRESSURE SHALL NOT EXCEED THE PIPE OR VALVE RATED PRESSURES.

D. THE HYDROSTATIC TEST DURATION OF EACH WATER/FIRE LINE TEST SECTION IS 2 HOURS (UNINTERRUPTED).

E. THE MAXIMUM ALLOWABLE LEAKAGE OF FORCE MAIN SHALL BE BASED UPON THE FOLLOWING TABLE:

ALLOWABLE LEAKAGE OF DIP WATER MAINS IN GALLONS PER HOUR (GPH) AT 150 PSI

DIA.	100 FT.	200 FT.	300 FT.	400 FT.	500 FT.	600 FT.	700 FT.	800 FT.	900 FT.	1000 FT.
4	0.04	0.07	0.11	0.15	0.18	0.22	0.26	0.29	0.33	0.37
6	0.06	0.11	0.17	0.22	0.28	0.33	0.39	0.44	0.50	0.55
8	0.07	0.15	0.22	0.29	0.37	0.44	0.51	0.59	0.66	0.74
10	0.09	0.18	0.28	0.37	0.46	0.55	0.64	0.74	0.83	0.92
12	0.11	0.22	0.33	0.44	0.55	0.66	0.77	0.88	0.99	1.10



NOTES:

1. THE CITY OF POUGHKEEPSIE SHALL BE NOTIFIED A MIN. OF 72 HOURS PRIOR TO THE COMMENCEMENT OF THE WATER MAIN CONSTRUCTION.

2. WATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA), NYSDOH, NYSDEC, AMERICAN WATER WORKS ASSOCIATION (AWWA), GREAT LAKES–UPPER MISSISSIPPI RIVER BOARD OF STATE & PROVINCIAL PUBLIC HEALTH & ENVIRONMENTAL MANAGERS "RECOMMENDED STANDARDS FOR WATER WORKS (GLUMRB–TEN STATE STANDARDS), AND THE CITY OF POUGHKEEPSIE, NY.

3. ALL ITEMS DISTURBED BY THE CONTRACTOR, SHALL BE RESTORED TO THE FULL LIMIT OF DISTURBANCE AT THE CONTRACTOR'S EXPENSE.

A. PAVEMENT AREAS ONLY: RESTORE DISTURBED AREAS IN ACCORDANCE WITH ASPHALT CONCRETE PAVEMENT DETAIL.
B. LAWN AREAS ONLY: RESTORE DISTURBED AREAS WITH MIN. 4" TOPSOIL, SEED, MULCH, & JUTE MESH.

4. ALL NEW WATER SYSTEMS SHALL BE FLUSHED THOROUGHLY AT MIN. 2.5 FT/SEC. FOR A DURATION ACCEPTABLE TO THE CITY OF POUGHKEEPSIE, THEN HYDROSTATIC PRESSURE TESTED IN ACCORDANCE WITH ANSI/AWWA C906–7 STANDARDS PRIOR TO PLACING IN SERVICE.

5. AFTER HYDROSTATIC PRESSURE TESTING, WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH ANSI/AWWA C651 STANDARDS PRIOR TO PLACING IN SERVICE.

6. PROVIDE (3) COPIES OF THE HYDROSTATIC PRESSURE, DISINFECTION, & BACTERIOLOGICAL TEST REPORTS TO THE CITY OF POUGHKEEPSIE AND THE DUTCHESS COUNTY DEPARTMENT OF HEALTH FOR APPROVAL.

WATER MAIN TRENCH DETAIL - CLASS 52 DIP
SCALE: NO SCALE

MINIMUM REQUIRED BEARING AREAS FOR CONCRETE THRUST BLOCKS 225 PSIG & 2,000 PSF SOIL

PIPE DIAMETER	DEAD END, TEE	90° BEND	45° BEND	22.5° BEND	11.25° BEND	5.625° BEND
	AREA (SF)	AREA (SF)	AREA (SF)	AREA (SF)	AREA (SF)	AREA (SF)
6"	4.2	5.9	3.2	1.6	0.8	0.8

NOTES:

1. REQUIRED BEARING AREAS ARE DUE TO THRUSTS CAUSED BY 225 PSI TOTAL INTERNAL PRESSURE (MAX. 150 PSIG WORKING PRESSURE PLUS 75 PSIG SURGE ALLOWANCE)

2. CONCRETE THRUST BLOCK SHALL BE PLACED SO THAT THE PIPE & FITTING SHALL BE ACCESSIBLE FOR FUTURE REPAIR. FITTING AND HARDWARE SHALL BE WRAPPED WITH A TOTAL OF 12–MIL OF POLYETHYLENE PLASTIC PRIOR TO PLACING CONCRETE THRUST BLOCKS. THRUST BLOCKS ARE REQUIRED AT ALL HORIZONTAL & VERTICAL BENDS.

3. REQUIRED BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING CAPACITY OF 2,000 POUNDS PER SQUARE FOOT FOR SAND. DUE TO OTHER SOIL CONDITIONS THAT MAY BE ENCOUNTERED, BEARING AREAS MAY BE MODIFIED (BY THE ENGINEER ONLY) BY MULTIPLYING THE AREA GIVEN IN THE TABLE FOR THE APPROPRIATE PIPE SIZE AND FITTING BY THE CORRECTION FACTORS LISTED BELOW. IN THE EVENT THAT ENCOUNTERED SOIL CONDITIONS ARE OTHER THAN SAND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF SAID CONDITIONS, AND THE CONTRACTOR SHALL CONSTRUCT THE MODIFIED CONCRETE THRUST BLOCK(S) IN ACCORDANCE WITH THE ENGINEER'S WRITTEN INSTRUCTIONS. THE CONTRACTOR SHALL NOT MODIFY THE MINIMUM REQUIRED BEARING AREAS OF THE CONCRETE THRUST BLOCKS FROM THOSE DEPICTED ABOVE WITHOUT RECEIVING THE ENGINEER'S WRITTEN PERMISSION TO DO SO.

SOIL	ALLOWABLE SOIL PRESSURE (PSF)	CORRECTION FACTOR
SOFT CLAY	1,000	2.00
SAND	2,000	1.00
SAND & GRAVEL	3,000	0.67
SAND & GRAVEL CEMENTED W/CLAY	4,000	0.50
HARD SHALE	10,000	0.20

4. IN MUCK, PEAT, OR RECENTLY PLACED FILL, ALL THRUSTS SHALL BE RESISTED BY PILES, OR BY INSTALLING TIE RODS TO SOLID FOUNDATIONS, OR BY REMOVAL OF SUCH UNSTABLE MATERIAL AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THE THRUSTS, ALL AS REQUIRED BY THE ENGINEER.

5. ALL CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED OF MINIMUM 4,000 PSI COMPRESSIVE STRENGTH (f'c) CONCRETE (28–DAY STRENGTH) WITH 4% TO 6% AIR ENTRAINMENT, AND A MAXIMUM WATER–TO–CEMENT (W/C) RATIO OF 0.35. ALL THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED/UNEXCAVATED SOIL OF TRENCH VERTICAL WALL FACE.

6. MINIMUM REQUIRED THRUST BLOCK BEARING AREA SHALL BE THE ACTUAL CONTACT AREA AGAINST THE VERTICAL FACE OF THE TRENCH WALL LOCATED BEHIND THE PIPE FITTING. BEARING AREA SHALL BE IN A SQUARE CONFIGURATION TO THE BEST EXTENT POSSIBLE.

THRUST BLOCK BEARING AREA TABLE & NOTES

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of __________ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED: BLD. FOOTPRINT; GRADING; UTILITIES; OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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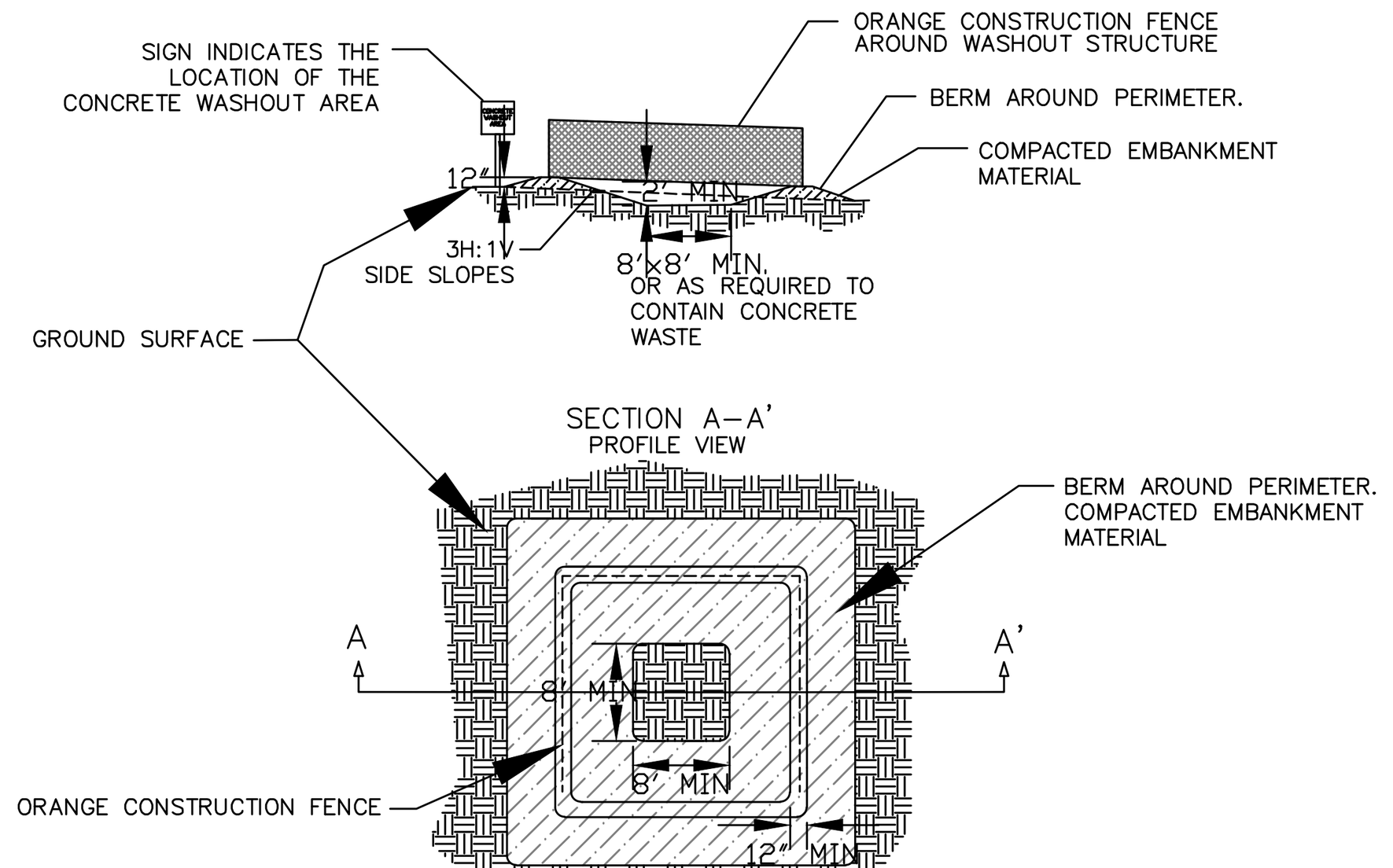
518.573.6989 aricoassociates@gmail.com

CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
STANDARD DETAILS
SOUTH HAMILTON

TAX MAP : 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA
DRAWING NO.
D3
SHEET 9 OF 16

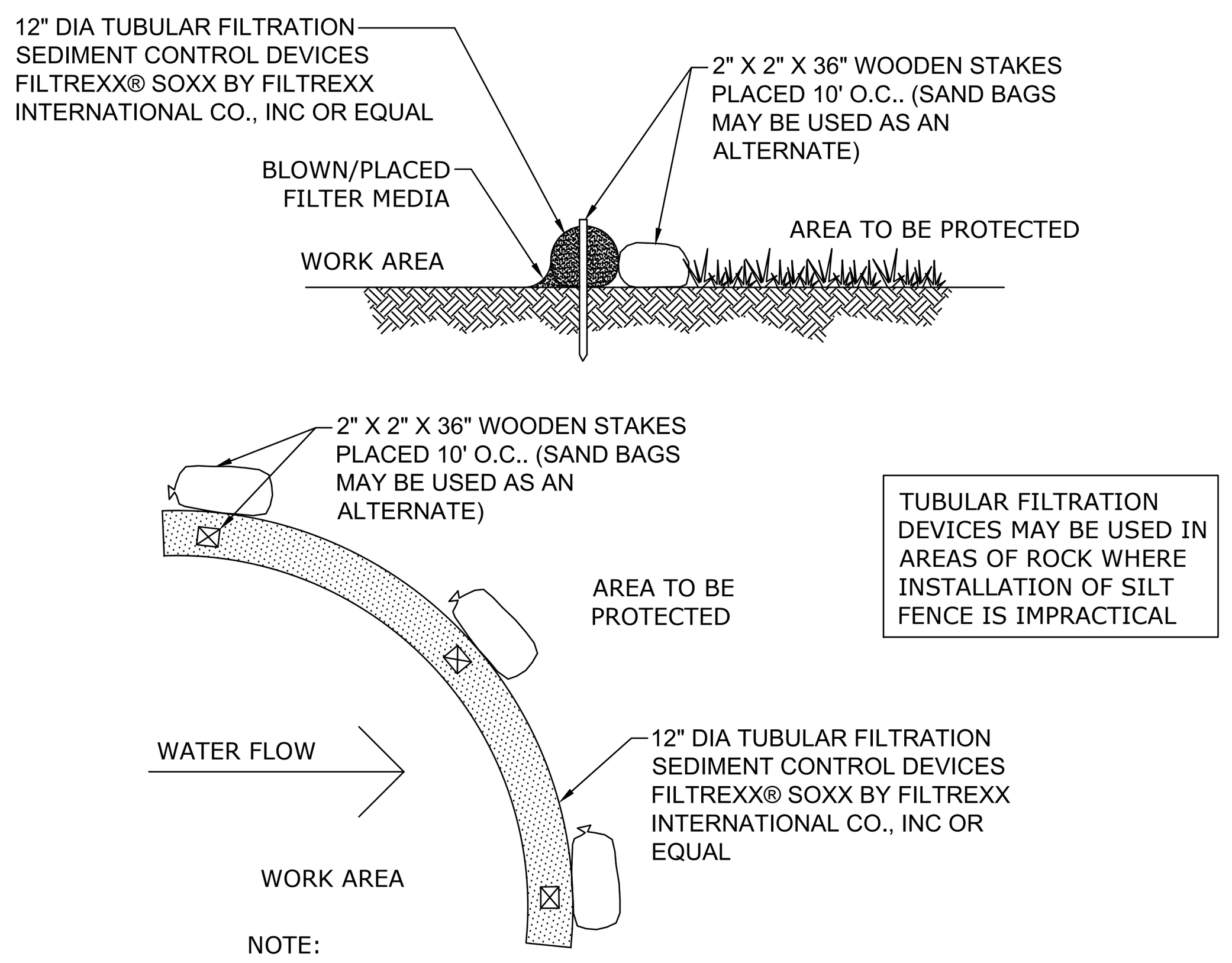


NOTES:

1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. VEHICLE TRACKING CONTROL IS REQUIRED AT CONCRETE WASHOUT ENTRANCE IF ACCESS TO CONCRETE WASHOUT AREA IS OFF PAVEMENT.
3. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND/OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTE CONCRETE.
4. WASTE MATERIAL FROM CONCRETE WASHOUT OPERATIONS MUST BE REMOVED AND LEGALLY DISPOSED OF WHEN IT HAS ACCUMULATED TWO–THIRDS OF THE WET STORAGE CAPACITY OF THE STRUCTURE.
5. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF AT AN APPROVED WASTE SITE.
6. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE TOWN.

CONCRETE WASHOUT AREA DETAIL

SCALE: NO SCALE

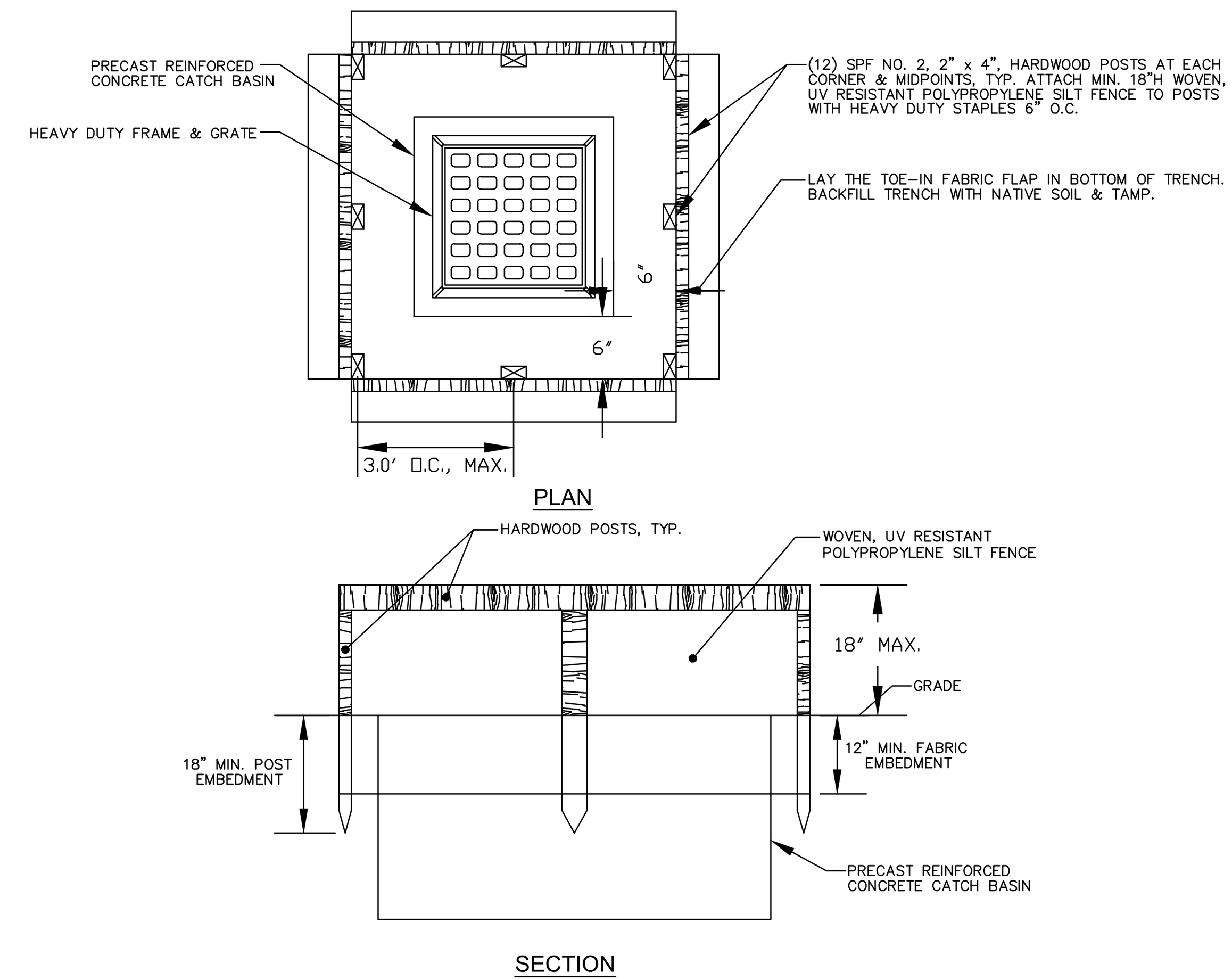


NOTE:

1. FILL TUBULAR FILTRATION SEDIMENT CONTROL DEVICE WITH FILTER MEDIA APPROVED BY NYSDEC FOR THIS APPLICATION.

TUBULAR FILTRATION SEDIMENT CONTROL DEVICE

SCALE: NO SCALE

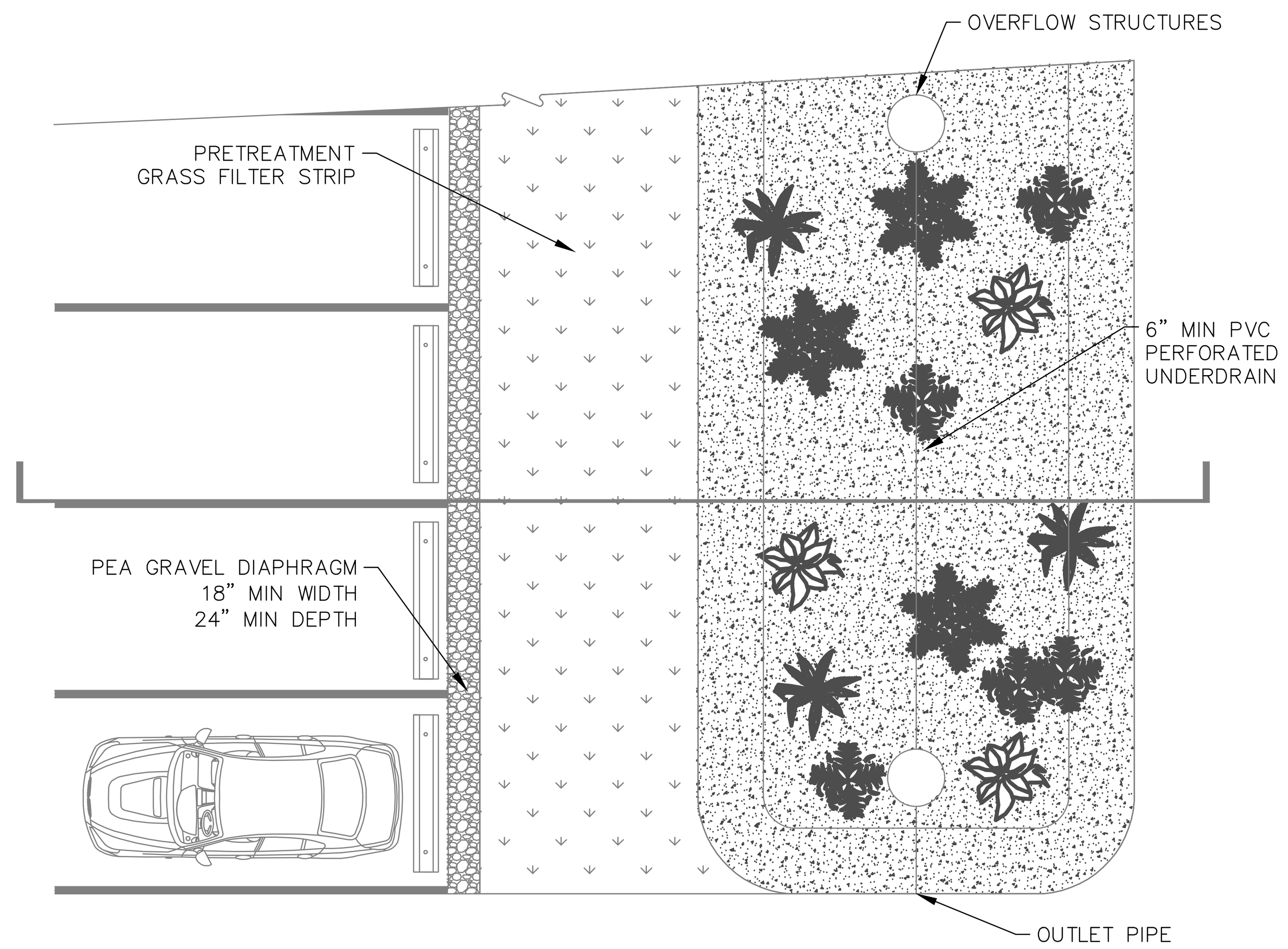


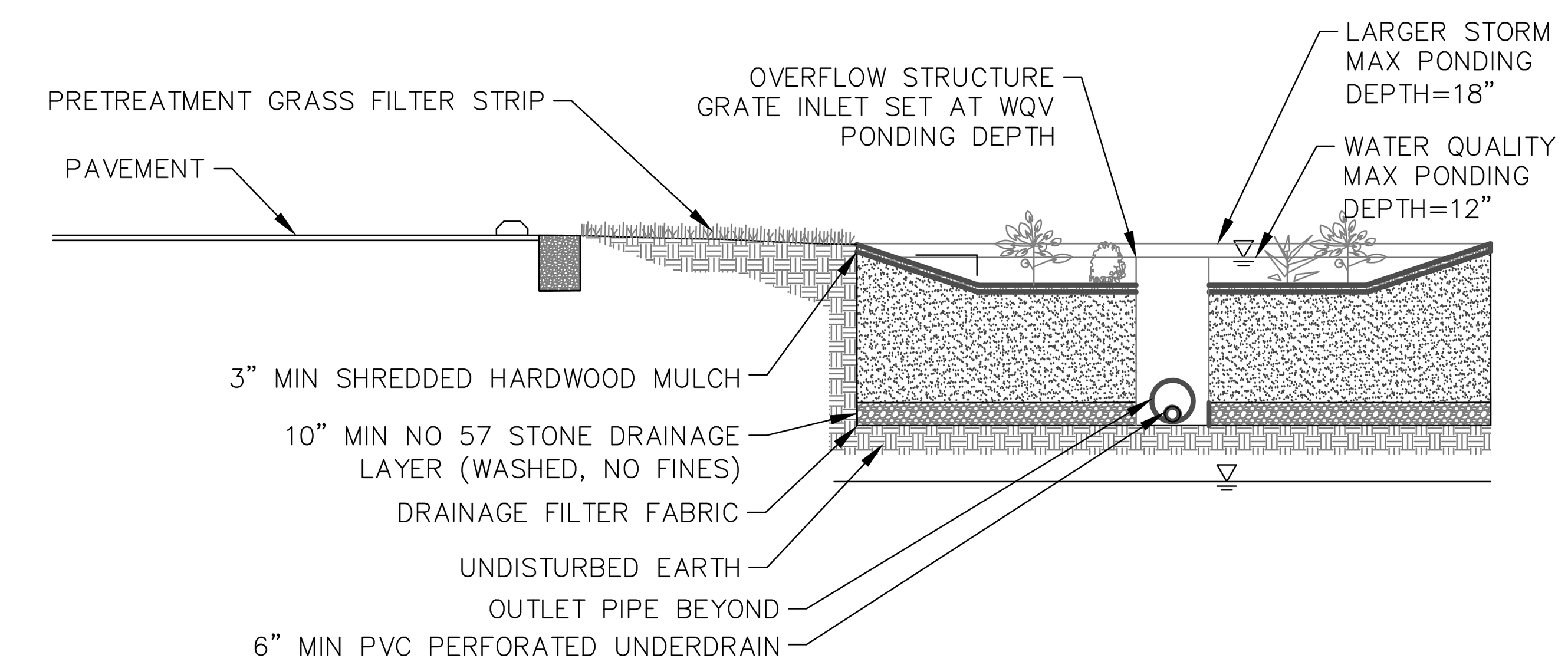
NOTES:

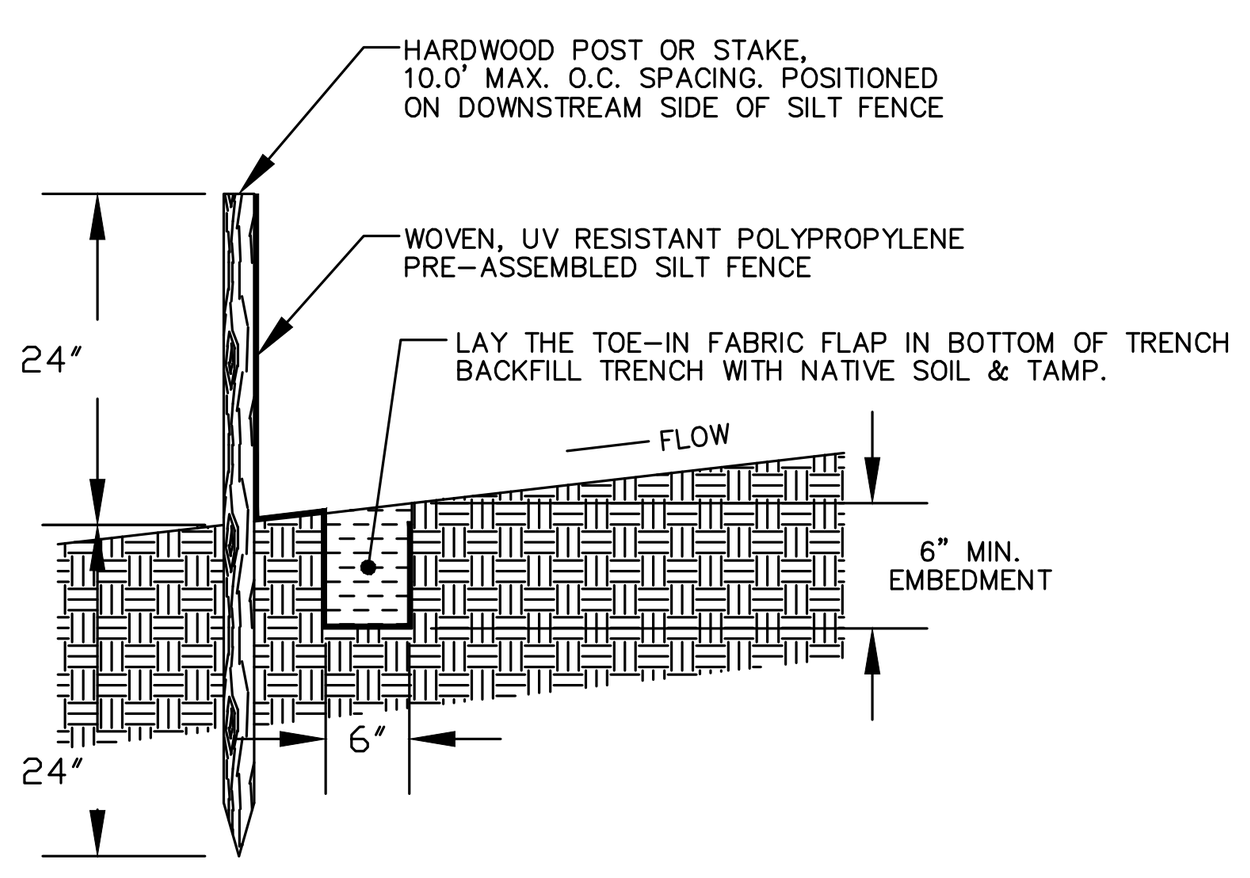
1. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY MUST BE OVERLAPPED TO THE NEXT STAKE.
2. 1 ACRE MAXIMUM DRAINAGE AREA PER PROTECTION DEVICE.
3. LAND AREA SLOPE IMMEDIATELY SURROUNDING THE PROTECTION DEVICE SHOULD NOT EXCEED 1%.
4. REMOVE SEDIMENT FROM THE POOL AREA AS NECESSARY WITH CARE TO PREVENT UNDERCUTTING OR DAMAGING THE FILTER FABRIC.
5. PROTECTION DEVICE SHALL BE KEPT IN PLACE UNTIL ASPHALT CONCRETE PLACEMENT IS COMMENCED.

TEMPORARY FILTER FABRIC CATCH BASIN PROTECTION DETAIL

SCALE: NO SCALE







NOTES:

1. THE LENGTH OF SLOPE ABOVE THE SILT FENCE SHALL NOT EXCEED THE FOLLOWING LIMITS:

SLOPE	MAX. SLOPE LENGTH
1V:2H (50%)	50 FEET
1V:3H (33%)	75 FEET
1V:4H (25%)	125 FEET
1V:5H (20%)	175 FEET
FLATTER THAN 1V:5H (20%)	200 FEET

2. DRAINAGE AREA SHALL NOT BE GREATER THAN 0.25 ACRES PER 100 L.F. OF SILT FENCE.

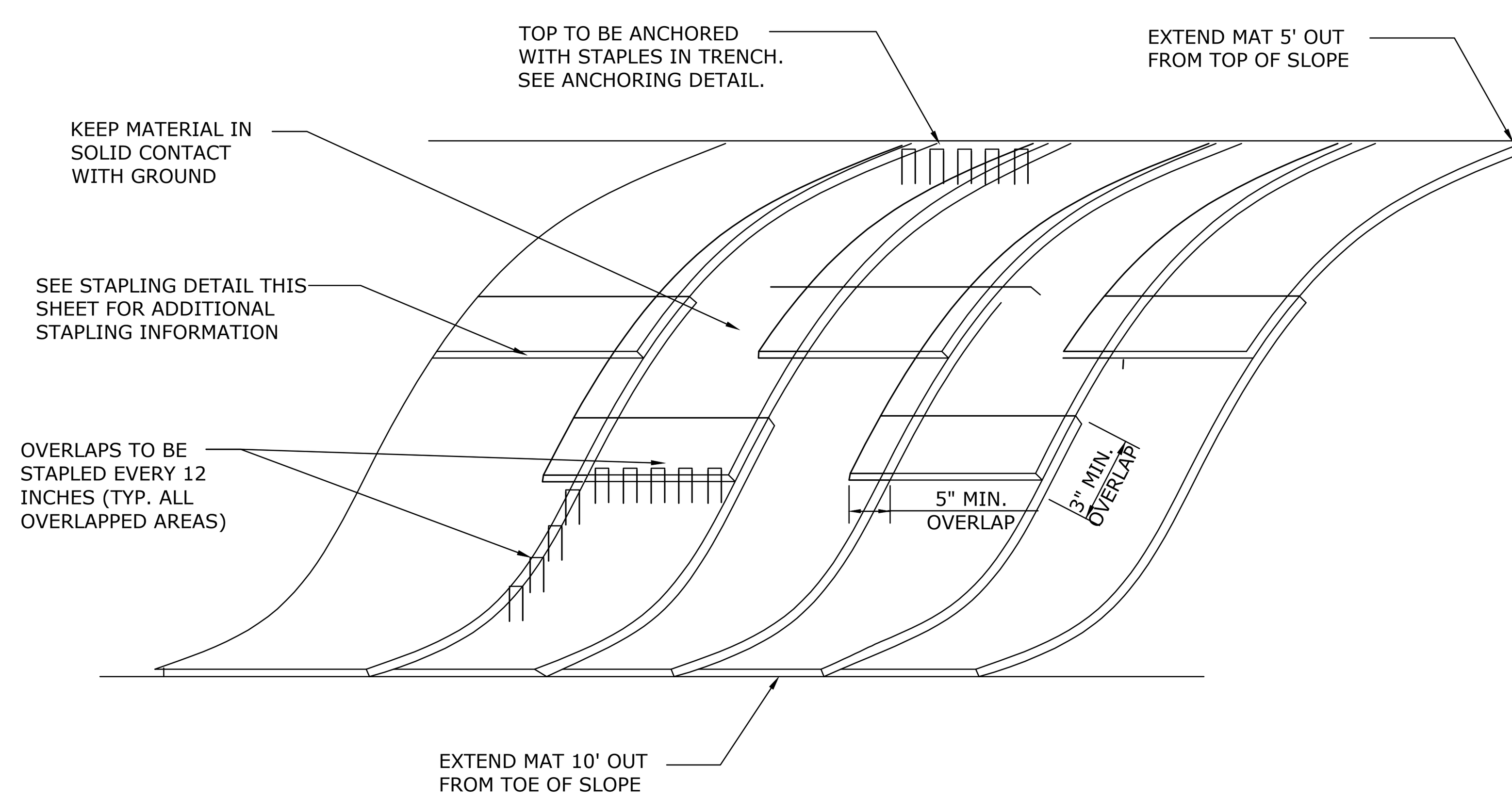
3. ALL SILT FENCES SHALL BE PLACED AS CLOSE TO THE WORK AREA AS POSSIBLE, AND THE AREA BELOW THE SILT FENCE MUST BE UNDISTURBED OR STABILIZED.

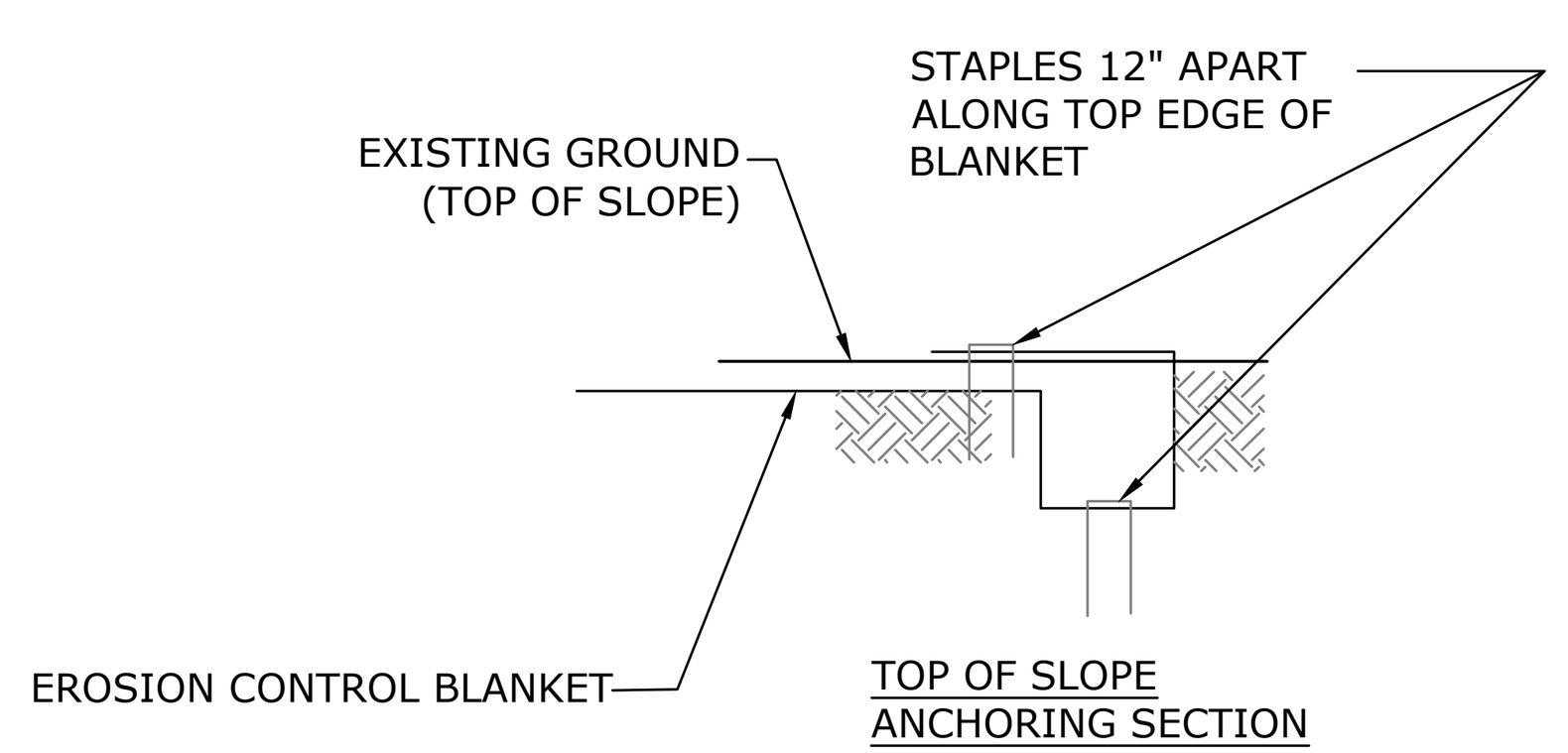
4. WHERE ENDS OF FILTER CLOTH COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.

5. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS TO PREVENT BLOCKING OR IMPEDING STORMWATER RUNOFF.

TEMPORARY SILT FENCE DETAIL

SCALE: NO SCALE





NOTES:

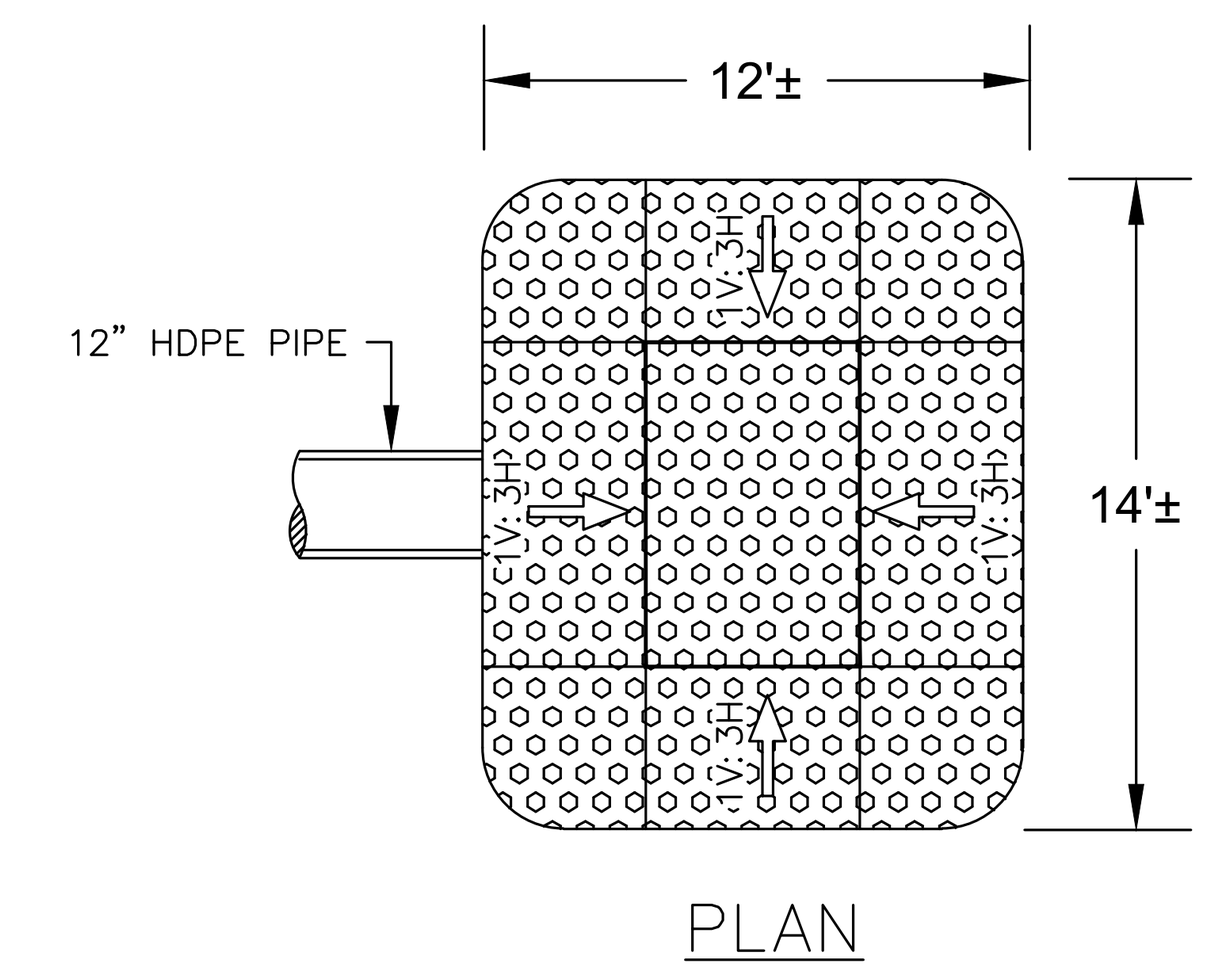
1) APPLY APPLICATION OF ANY LIME, FERTILIZER, AND SEED BEFORE INSTALLING TURF REINFORCEMENT MAT.

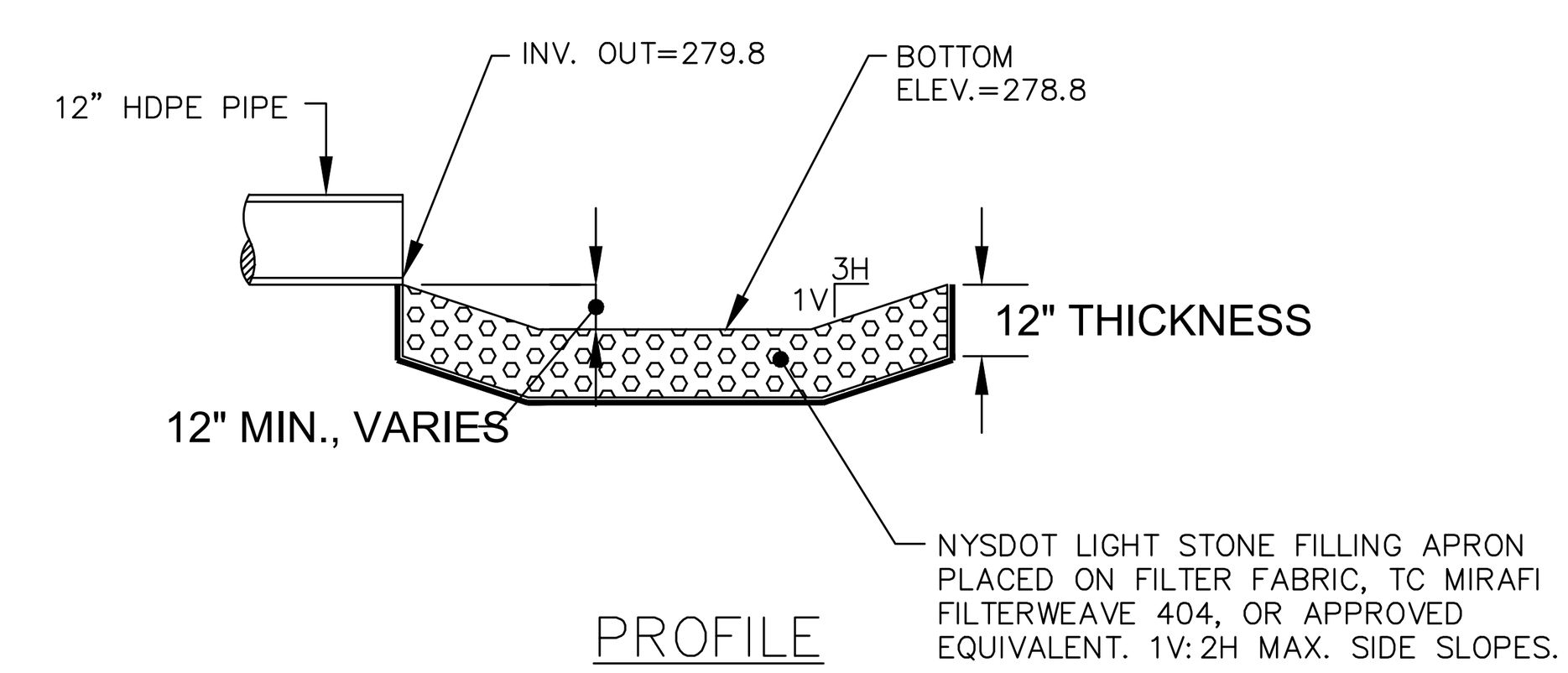
2) INSTALL USING ALL MANUFACTURERS INSTALLATION RECOMMENDATIONS AND GUIDLINES.

3) BLANKET FOR 5:1 SLOPES - S75 BY NORTH AMERICAN GREEN
BLANKET FOR 2:1 TO 3:1 SLOPES - HYDRAMAX STEEP SLOPE MATRIX - NORTH AMERICAN GREEN

EROSION CONTROL BLANKET DETAIL

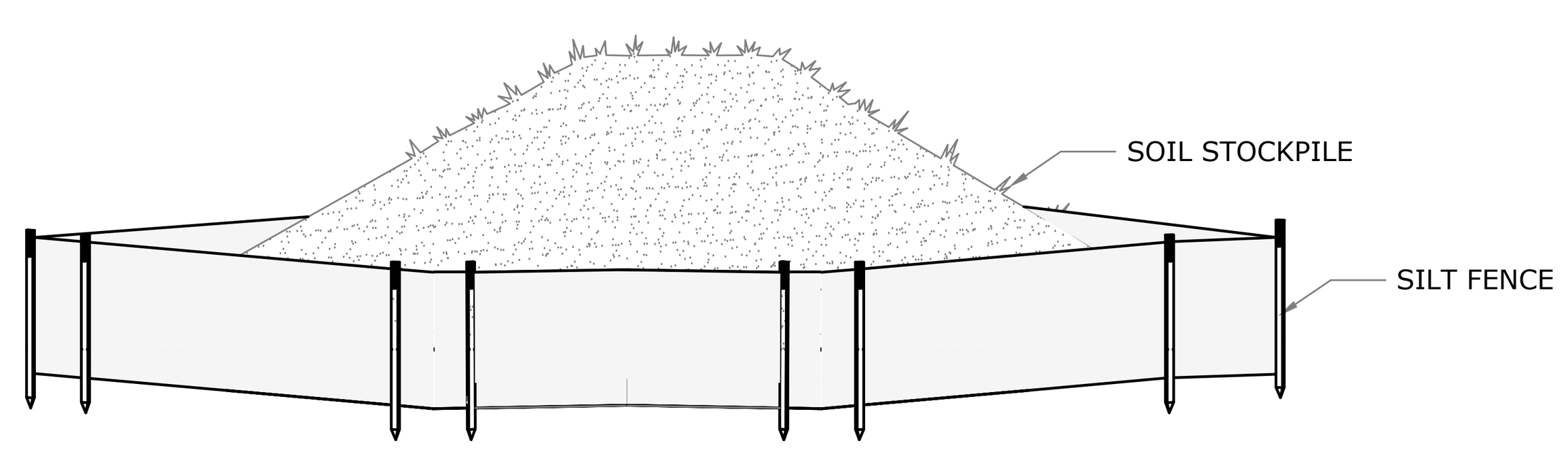
SCALE: NONE





EXPANDED SCOUR HOLE DETAIL FOR DETENTION POND OUTLET

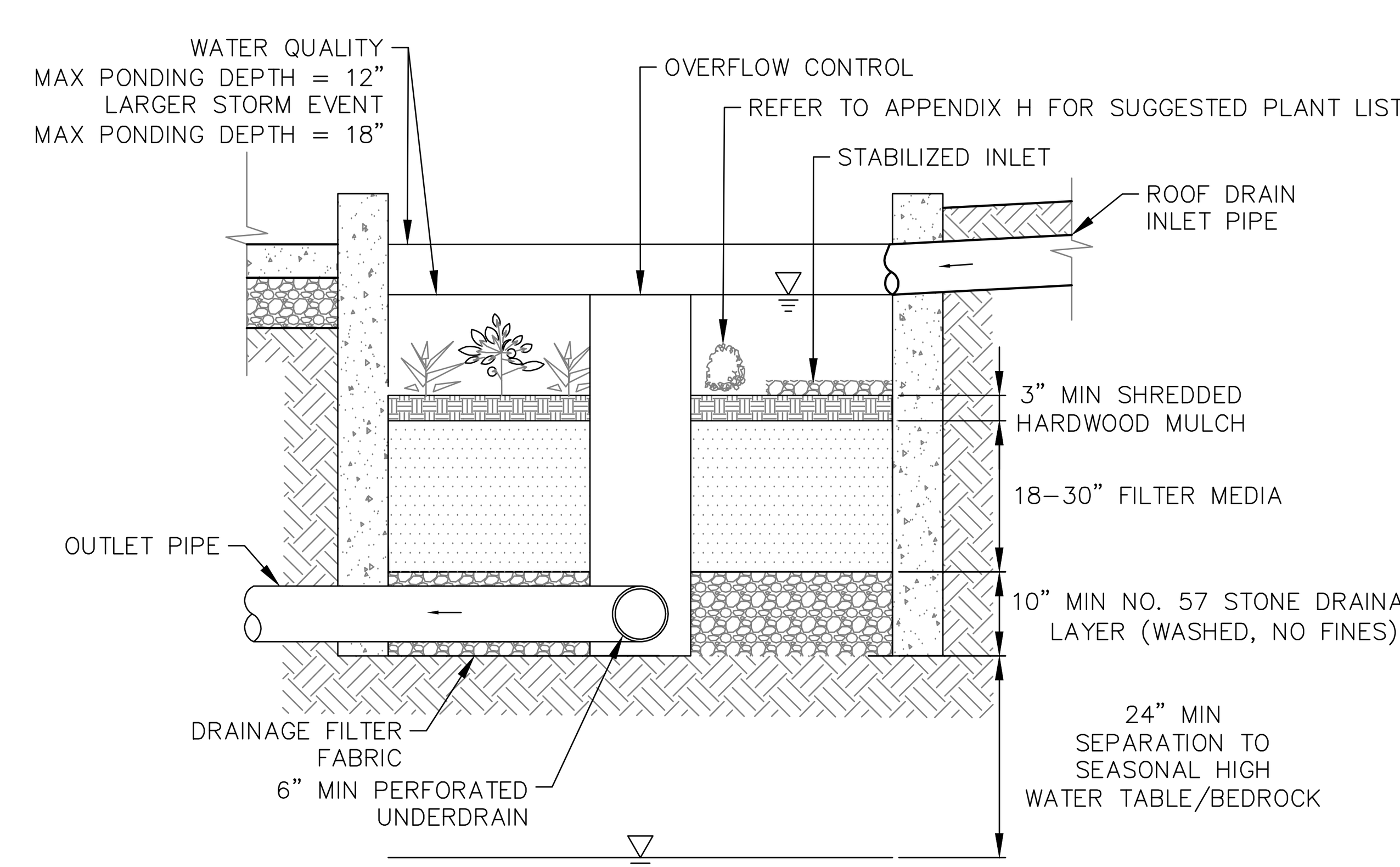
SCALE: NO SCALE



1. TOPSOIL AND FILL THAT IS ANTICIPATED TO REMAIN STOCKPILED ON–SITE FOR PERIODS GREATER THAN 30 DAYS SHALL BE STABILIZED BY SEEDING. PRIOR TO THE SEEDING OPERATION, THE STOCKPILED MATERIAL SHALL BE GRADED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. IN NO CASE SHALL ERODIBLE MATERIALS BE STOCKPILED WITHIN 25 FT OF ANY DITCH, STREAM, OR OTHER SURFACE WATERBODY.
2. SILT FENCE SHALL BE CONSTRUCTED AROUND ALL STOCKPILES OF FILL, TOPSOIL AND EXCAVATED OVERBURDEN THAT ARE TO REMAIN EXPOSED FOR PERIODS LESS THAN 30 DAYS. SILT FENCE SHALL BE ANCHORED AND MAINTAINED IN GOOD CONDITION UNTIL SUCH TIME AS SAID STOCKPILES ARE REMOVED AND STOCKPILING AREAS ARE BROUGHT TO FINAL GRADE AND PERMANENTLY STABILIZED.
3. TEMPORARY STABILIZATION MEASURES SHALL START AS SOON AS PRACTICAL ON PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT NOT MORE THAN 14 DAYS AFTER WORK HAS CEASED.

SOIL STOCKPILE DETAIL

SCALE: NONE



FILTRATION STORMWATER PLANTER SECTION VIEW

NOTES:

1. BIORETENTION FACILITIES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH "VOLUME 5 – LOW IMPACT DEVELOPMENT STORMWATER MANAGEMENT MANUAL" AS PREPARED BY THE MRETOPOLITAN GOVERNMENT NASHVILLE AND DAVIDSON COUNTY (MWS).
2. DRAINAGE AREA TRIBUTARY TO THE BIORETENTION MUST BE FULLY STABILIZED, PRIOR TO CONSTRUCTION OF BIORETENTION AREAS.
3. BACK FILLING OF BIORETENTION FACILITY SHALL BE PLACED IN 12" LIFTS.
4. PLANTING SOIL MATERIAL SHALL BE USDA SOIL TYPES LOAMY SAND, SANDY LOAM OR LOAM, CONTAINING 60% SAND, LESS THAN 30% SILT, 5 TO 10% ORGANIC MATTER AND LESS THAN 10% CLAY. FINAL MATERIAL SHALL BE APPROVED BY THE ENGINEER AND SHALL MEET THE FOLLOWING CRITERIA:

PH RANGE	5.2–7.0
ORGANIC MATTER	5–10%
MAGNESIUM	35 LB/AC
PHOSPHOROUS P_2O_5	75LB/AC
POTASSIUM K_2O	85LB/AC
SOLUBLE SALTS	NOT TO EXCEED 500PPM
CEC	> 10 meq/100 mL

5. PLANTING SOIL MATERIAL SHALL NOT CONTAIN THE FOLLOWING:
   - 5.1. UNACCEPTABLE MATERIALS: CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, BUILDING DEBRIS, ASPHALT, BRICKS, OILS, GASOLINE, DIESEL FUEL, PAIN THINNER, TURPENTINE, TAT, ROOFING COMPOUND, ACID, SOLID WASTE, AND OTHER EXTRANEOUS MATERIALS THAT ARE HARMFUL TO PLANT GROWTH.
   - 5.2. UNSUITABLE MATERIALS: STONES, ROOTS, PLANTS, SOD, CLAY LUMPS, AND POCKETS OF COARSE SAND THAT EXCEED A COMBINED MAXIMUM OF 5 PERCENT BY DRY WEIGHT OF THE MANUFACTURED SOIL.
   - 5.3. LARGE MATERIALS: STONES, CLODS, ROOTS, CLAY LUMPS, AND POCKETS OF COARSE SAND EXCEEDING 0.187" (7.76 mm) IN ANY DIMENSION.
6. HARDWOOD MULCH SHALL BE AGED FOR A MINIMUM OF 6 MONTHS, PRIOR TO INSTALL.
7. ROTOTILL 2–3" OF SAND BASE INTO THE BASE OF THE BIORETENTION FACILITY.
8. NON–WOVEN GEOTEXTILE SHALL HAVE FLOW RATE > 100 GAL./MIN./FT SQUARE

BIORETENTION BASIN

SCALE: NO SCALE

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of __________ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED: BLD. FOOTPRINT; GRADING; UTILITIES; OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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LIC. NO. 066515

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CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
STANDARD DETAILS
SOUTH HAMILTON
TAX MAP : 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA
DRAWING NO.
D4
SHEET 10 OF 16

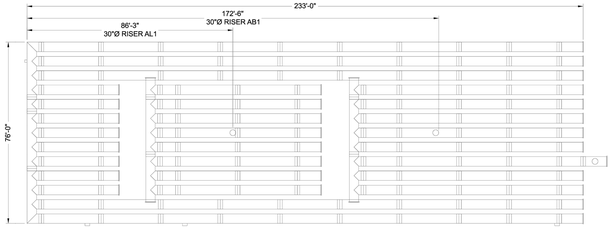
PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20/HS25
- APPROX. LINEAR FOOTAGE = 2,919 LF

STORAGE SUMMARY
- STORAGE VOLUME REQUIRED = 35,073 CF
- PIPE STORAGE VOLUME = 36,681 CF
- BACKFILL STORAGE VOLUME = 0 CF
- TOTAL STORAGE PROVIDED = 36,681 CF

PIPE DETAILS
- DIAMETER = 48"
- CORRUGATION = 2 2/3x1/2
- GAGE = 16
- COATING = ALT2
- WALL TYPE = SOLID
- BARREL SPACING = 24"

BACKFILL DETAILS
- WIDTH AT ENDS = 12"
- ABOVE PIPE = 0"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 0"



NOTES
- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE $2\frac{2}{3}$" x $\frac{1}{2}$" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN. QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

ASSEMBLY
SCALE: 1" = 30'

C:\USERS\JEREMY.JOHNSON\DOCUMENTS\DYOCMP_V10.DWG 10/18/2019 10:02 AM

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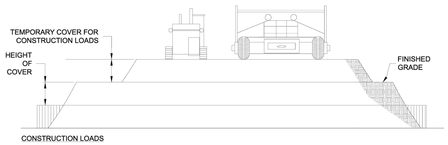
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO53286 Hamilton
48in
Poughkeepsie, NY
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
33890	53286	6/14/2024
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:	1	



CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM
SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

NOTE:
THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

PIPE
THIS PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

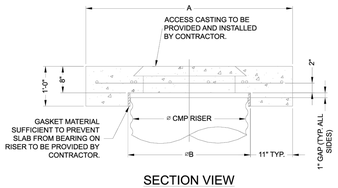
APPLICABLE POLYMER COATED: AASHTO M-245 OR ASTM A-762

ALUMINUM: AASHTO M-196 OR ASTM B-745

APPLICABLE HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSPS (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.

REQUIREMENTS
INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE)AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

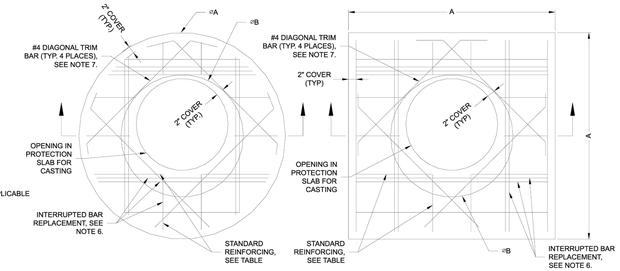
IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.



SECTION VIEW

REINFORCING TABLE				
Ø CMP RISER	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
24"	Ø 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	Ø 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	Ø 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	Ø 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	Ø 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW

SQUARE OPTION PLAN VIEW

NOTES:
1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL
SCALE: N.T.S.

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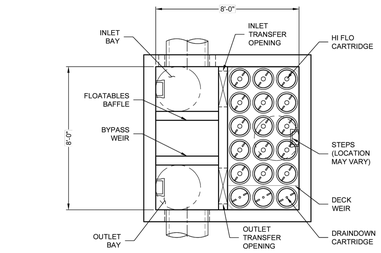
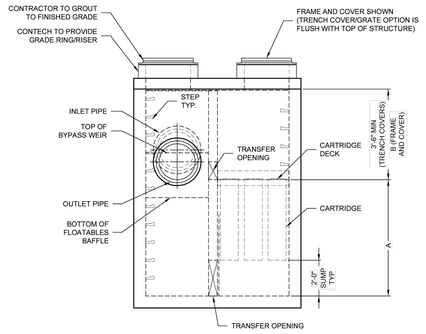
CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO53286 Hamilton
48in
Poughkeepsie, NY
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
33890	53286	6/14/2024
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:	1	



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



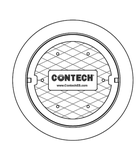
ELEVATION VIEW

JELLYFISH DESIGN NOTES

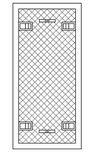
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	2.94	2.21	1.47	0.81
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



24" TRENCH COVER
(LENGTH VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	JF
WATER QUALITY FLOW RATE (cfs)	2.30
PEAK FLOW RATE (cfs)	PER EOR
RETURN PERIOD OF PEAK FLOW (yrs)	PER EOR
# OF CARTRIDGES REQUIRED (HF / DD)	12/3
CARTRIDGE LENGTH	54

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	196.50	HDPE	12	*	*
INLET #2	*	*	*	*	*
OUTLET	196.00	HDPE	12	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	205

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,728; 8,231,818; US 9,123,935; OTHER INTERNATIONAL PATENTS PENDING

CONTECH ENGINEERED SOLUTIONS LLC
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9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0808
STANDARD DETAIL
PEAK DIVERSION CONFIGURATION

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	01.16.24
5	REVISED: BLD. FOOTPRINT, GRADING, UTILITIES, OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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DOMINICK J. ARICO, P.E.
LIC. NO. 085951

ENGINEERS
LAND PLANNERS
& CONSULTANTS
ARICO ASSOCIATES
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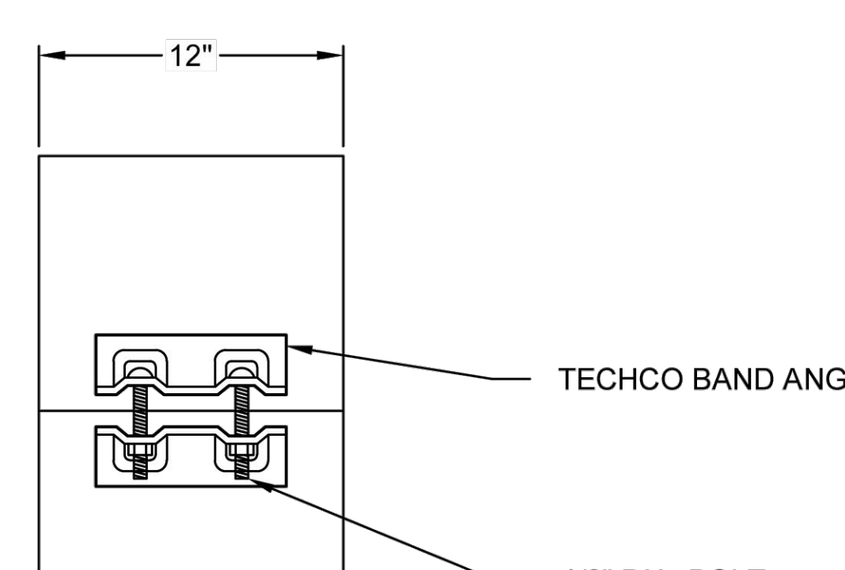
518.979.6999
aricoassociates@gmail.com

CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
CONTECH STANDARD DETAILS
SOUTH HAMILTON

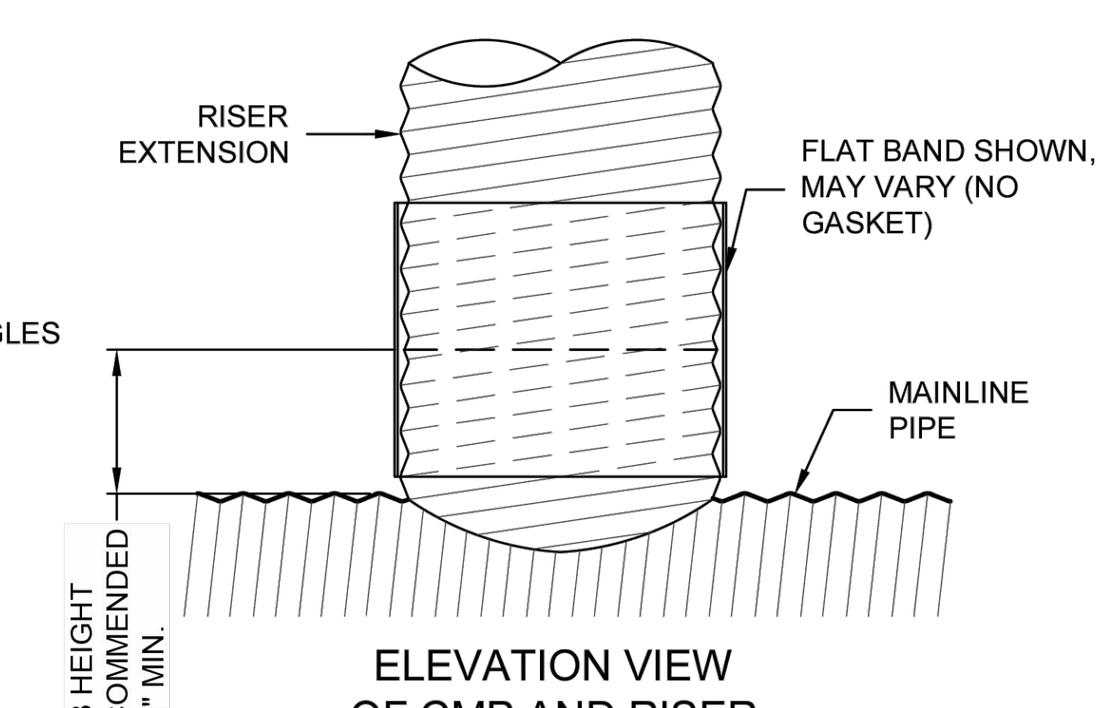
TAX MAP - 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

DRAWING NO.
CT1
SHEET 11 OF 16



CONNECTION DETAIL
7 1/2" TECHCO SHOWN - MAY VARY



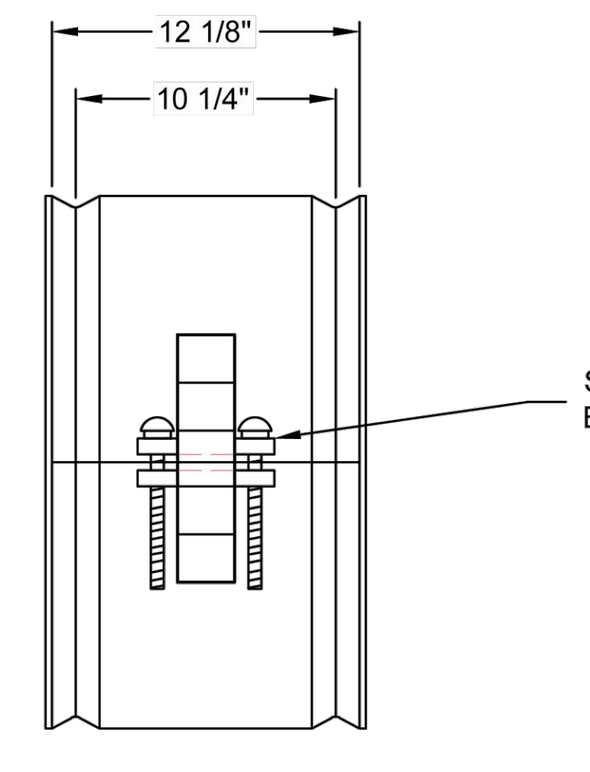
ELEVATION VIEW
OF CMP AND RISER

PLAIN END CMP RISER PIPE

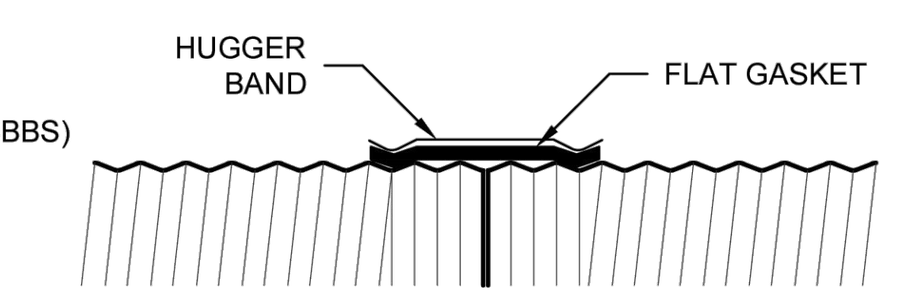
GENERAL NOTES:

1. **DELIVERED BAND STYLE AND FASTENER TYPE MAY VARY BY FABRICATION PLANT.**
2. JOINT IS TO BE ASSEMBLED PER AASHTO BRIDGE CONSTRUCTION SPECIFICATION SEC 26.4.2.4.
3. BAND MATERIAL AND GAGE TO BE SAME AS RISER MATERIAL.
4. IF RISER HAS A HEIGHT OF COVER OF 10' OR MORE, USE A SLIP JOINT.
5. BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
   - 12" THRU 48" 1-PIECE
   - 54" 2-PIECES
6. ALL RISER JOINT COMPONENTS WILL BE FIELD ASSEMBLED.
7. MANHOLE RISERS IN APPLICATIONS WHERE TRAFFIC LOADS ARE IMPOSED REQUIRE SPECIAL DESIGN CONSIDERATIONS.
8. DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES.

12" RISER BAND DETAIL
NOT TO SCALE



CONNECTION DETAIL
(SBBS)



FLAT GASKET

2 2/3"x1/2" RE-ROLLED END HEL-COR PIPE

GENERAL NOTES:

1. JOINT IS TO BE ASSEMBLED PER AASHTO BRIDGE CONSTRUCTION SPECIFICATION SEC 26.4.2.4.
2. BAND MATERIALS AND/OR COATING CAN VARY BY LOCATION. CONTACT YOUR CONTECH REPRESENTATIVE FOR AVAILABILITY.
3. BANDS ARE SHAPED TO MATCH THE PIPE-ARCH WHEN APPLICABLE.
4. BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
   - 12" THRU 48" 1-PIECE
   - 54" THRU 96" 2-PIECES
   - 102" THRU 144" 3-PIECES
5. BAND FASTENERS ARE ATTACHED WITH SPOT WELDS, RIVETS OR HAND WELDS.
6. ALL CMP IS REROLLED TO HAVE ANNULAR END CORRUGATIONS OF 2 2/3"x1/2"
7. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
8. ORDER SHALL DESIGNATE GASKET OPTION, IF REQUIRED (SEE DETAILS ABOVE).

H-12 HUGGER BAND DETAIL
NOT TO SCALE

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800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS — CONTECH PROPOSAL DRAWING

UNDERGROUND DETENTION SYSTEM - 786131-015
SOUTH HAMILTON STREET
POUGHKEEPSIE, NY
SITE DESIGNATION: SUBSURFACE STORMWATER MANAGEMENT AREA

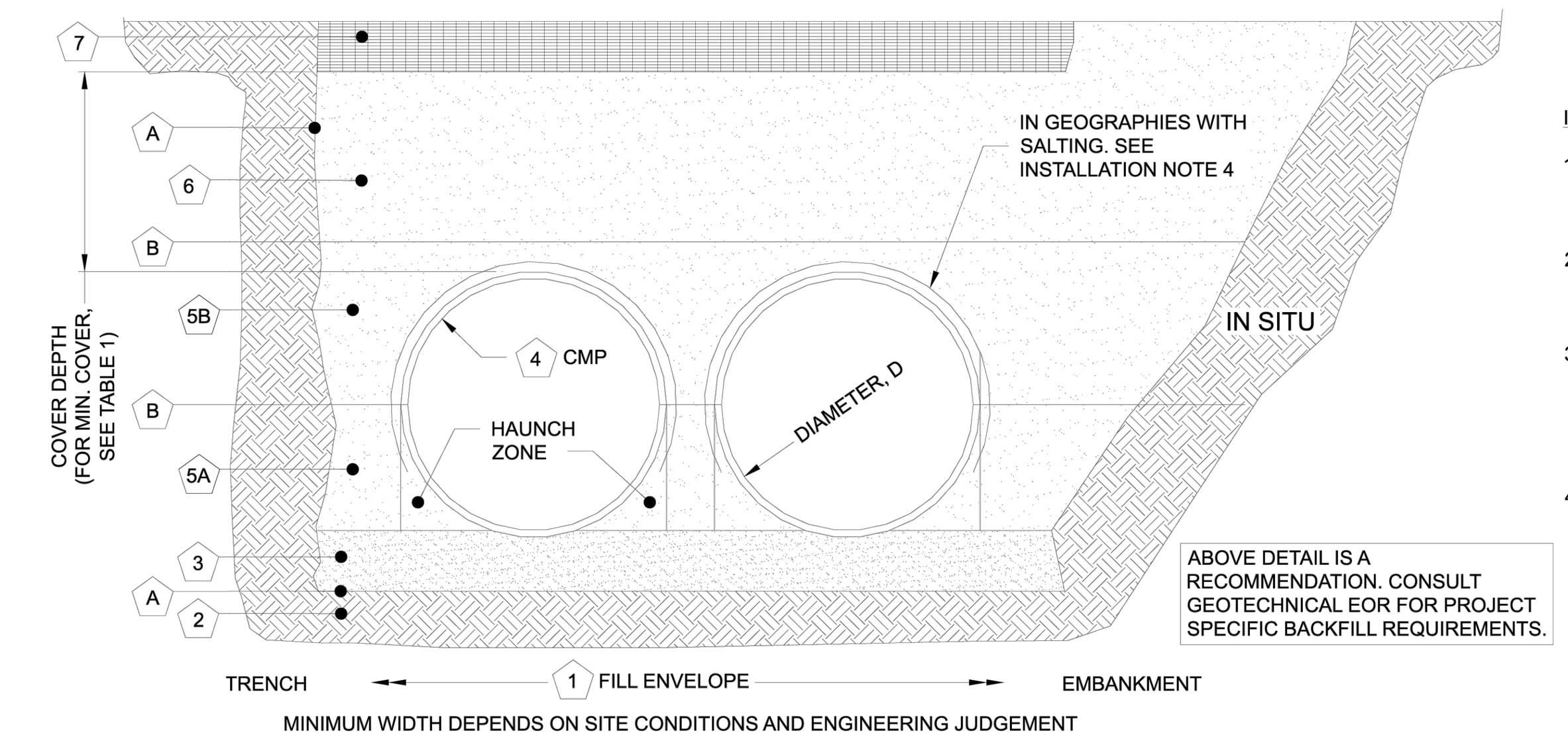
PROJECT No.: 786131	SEQ. No.: 015	DATE: 2/14/2024
DESIGNED: SZM	DRAWN: SZM	
CHECKED: MSB	APPROVED: SZM	
SHEET NO.: P4 OF 5		

I:\MERLIN\PROJECT\ACTIVE\786100\786131\786131-15-CMP DETENTION\DRAWINGS\786131-015-CMP-CONFAB.DWG 2/16/2024 12:17 PM

TABLE 1:

DIAMETER, D	MIN. COVER	CORR. PROFILE
6"-10"	12"	1 1/2" x 1/4"
12"-48"	12"	2 2/3" x 1/2"
>48"-96"	12"	3" x 1", 5" x 1"
>96"	D/8	3" x 1", 5" x 1"

- STRUCTURAL BACKFILL MUST EXTEND TO LIMITS OF THE TABLE
- TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT
- ULTRAFLO ALSO AVAILABLE FOR SIZES 18" - 120" WITH 3/4"x 3/4"x 7 1/2" CORRUGATION



INSTALLATION NOTES

1. WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES.
2. OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.
3. BACKFILL USING CONTROLLED LOW-STRENGTH MATERIAL (CLSM, "FLASH FILL" OR "FLOWABLE FILL") MAY BE USED WHEN THE SPACING BETWEEN THE PIPES WILL NOT ALLOW FOR PLACEMENT AND ADEQUATE COMPACTION OF THE BACKFILL. CONTACT CONTECH FOR FURTHER EVALUATION.
4. IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, A GEOMEMBRANE BARRIER IS RECOMMENDED OVER THE UPPER HALF OF THE PIPE. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

TABLE 2: SOLID STANDARD

CMP DETENTION AND CMP DRAINAGE STANDARD BACKFILL SPECIFICATIONS

	MATERIAL LOCATION	MATERIAL SPECIFICATION	DESCRIPTION	
1	FILL ENVELOPE WIDTH	PER ENGINEER OF RECORD	MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE. THE SUGGESTED MINIMUM TRENCH WIDTH, OR EOR RECOMMENDATION: PIPE ≤ 12": D + 16" PIPE > 12": 1.5D + 12"	MINIMUM EMBANKMENT WIDTH (IN FEET) FOR INITIAL FILL ENVELOPE: PIPE < 24": 3.0D PIPE 24" - 144": D + 4'0" PIPE > 144": D + 10'0"
2	FOUNDATION	**AASHTO 26.5.2** OR PER ENGINEER OF RECORD	PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND FOUNDATION BROUGHT BACK TO GRADE WITH A FILL MATERIAL APPROVED BY THE ENGINEER OF RECORD.	
3	BEDDING	**AASHTO M 43: 3, 357, 4, 467, 5, 56, 57** (APPROVED REGIONAL EQUIVALENTS INCLUDE CA-7)	ENGINEER OF RECORD TO DETERMINE IF BEDDING IS REQUIRED. PIPE MAY BE PLACED ON THE TRENCH BOTTOM OF A RELATIVELY LOOSE, NATIVE SUITABLE WELL GRADED GRANULAR MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, 2" MIN DEPTH. THE BEDDING MATERIAL MAY BE SUITABLE FOUNDATION SOILS CONFORMING TO AASHTO SOIL CLASSIFICATIONS A1, A2, OR A3 WITH MAXIMUM PARTICLE SIZE OF 3" PER AASHTO 26.3.8.1	
4	CORRUGATED METAL PIPE			
5A	CRITICAL BACKFILL	**AASHTO M 145: A-1, A-2, A-3 ***	HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION WITHOUT SOFT SPOTS. BACKFILL SHALL BE PLACED IN 8" +/- LOOSE LIFTS AND COMPACTED TO 90% STANDARD PROCTOR PER AASHTO T 99. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A THREE LIFT (24") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHOULD BE ADVANCED ALONG THE LENGTH OF THE SYSTEM TO AVOID DIFFERENTIAL LOADING. WELL GRADED GRANULAR MATERIAL WHICH MAY CONTAIN SMALL AMOUNTS OF SILT OR CLAY AND MAXIMUM PARTICLE SIZE OF 3" (PER AASHTO 26.3.8.1 AND 12.4-1.3).	
5B	BACKFILL	**AASHTO M 145: A-1, A-2, A-3**		
6	COVER MATERIAL	UP TO MIN. COVER - SEE 5A AND 5B ABOVE ABOVE MIN. COVER - PER ENGINEER OF RECORD	COVER MATERIAL MAY INCLUDE NON-BITUMINOUS, GRANULAR ROAD BASE MATERIAL WITHIN MIN COVER LIMITS	
7	RIGID OR FLEXIBLE PAVEMENT (IF APPLICABLE)	PER ENGINEER OF RECORD	FLEXIBLE PAVEMENT SHOULD NOT BE COUNTED AS PART OF THE FILL HEIGHT OVER THE CMP. FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD.	
A	OPTIONAL SIDE GEOTEXTILE	NONE	GEOTEXTILE LAYER IS RECOMMENDED ON SIDES OF EXCAVATION TO PREVENT SOIL MIGRATION.	
B	OPTIONAL GEOTEXTILE BETWEEN LAYERS	NONE	IF SOIL TYPES DIFFER AT ANY POINT ABOVE PIPE INVERT, A GEOTEXTILE LAYER IS RECOMMENDED TO BE PLACED BETWEEN THE LAYERS TO PREVENT SOIL MIGRATION.	

NOTES:
- FOR MULTIPLE BARREL INSTALLATIONS, THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE THE PIPE DIAMETER /2 BUT NO LESS THAN 12" FOR DIAMETERS <72". FOR 72" AND LARGER DIAMETERS, THE MINIMUM SPACING IS 36". CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING.

* APPROVED REGIONAL EQUIVALENTS FOR SECTION 5A INCLUDE CA-7, CODOT #67, MIDOT 2G, 34G, OR 21AA STONE OR GRAVEL; #8; #57; MIDOT 6A, 2G, 3G, 34G.

MANUFACTURER RECOMMENDED BACKFILL
NOT TO SCALE

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CONTECH CMP DETENTION SYSTEMS — CONTECH DYODS DRAWING

DYO53286 Hamilton
48in
Poughkeepsie, NY
DETENTION SYSTEM

PROJECT No.: 33890	SEQ. No.: 53286	DATE: 6/14/2024
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: 1		

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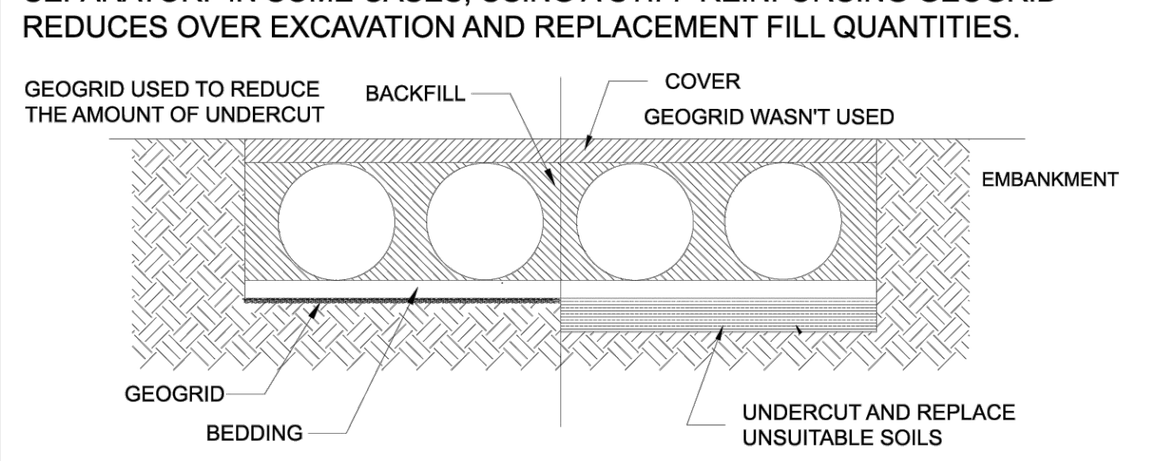
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

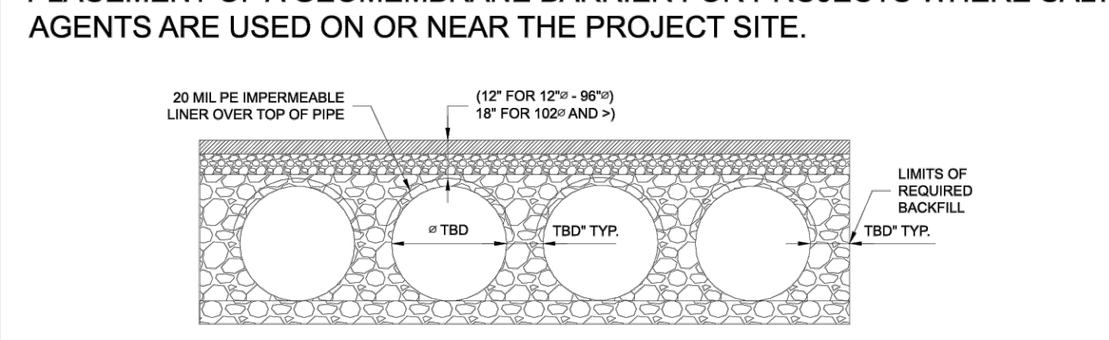


GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

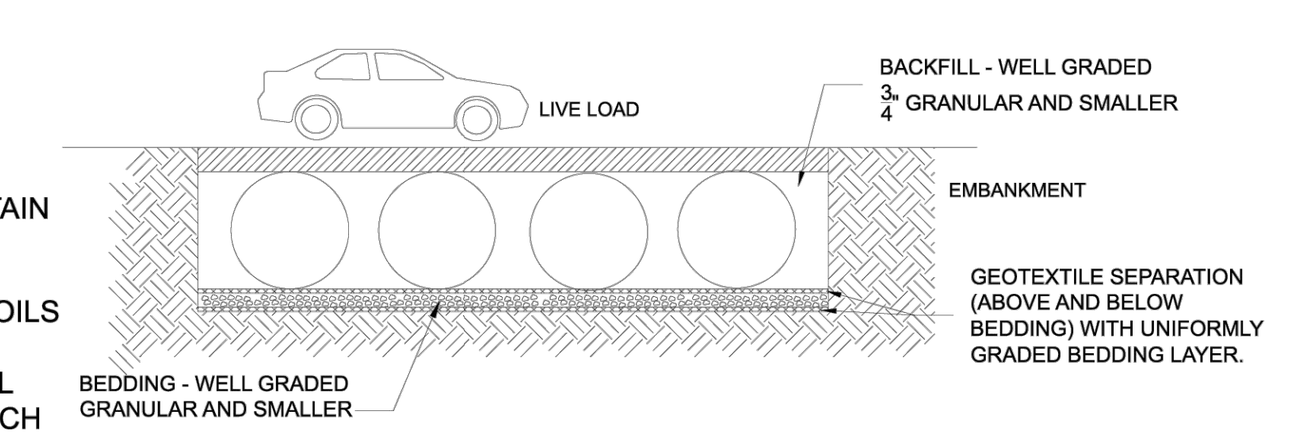
THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



IN-SITU TRENCH WALL

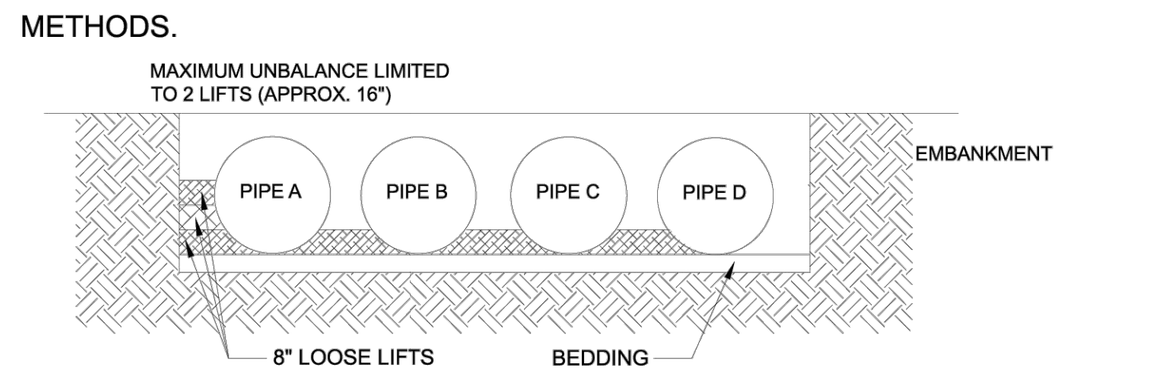
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



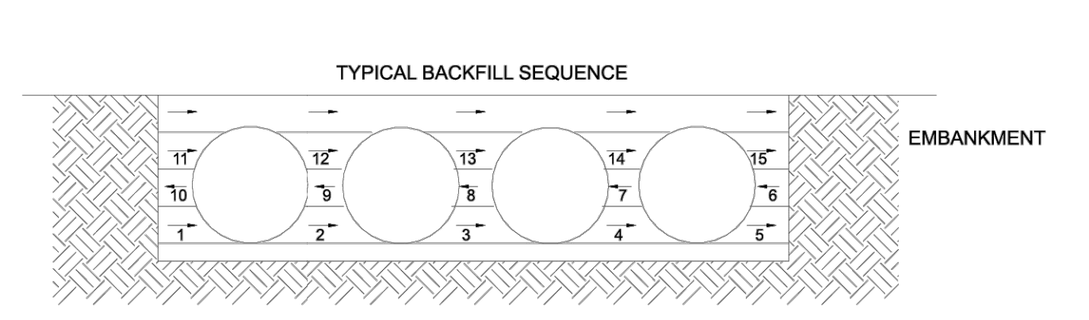
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

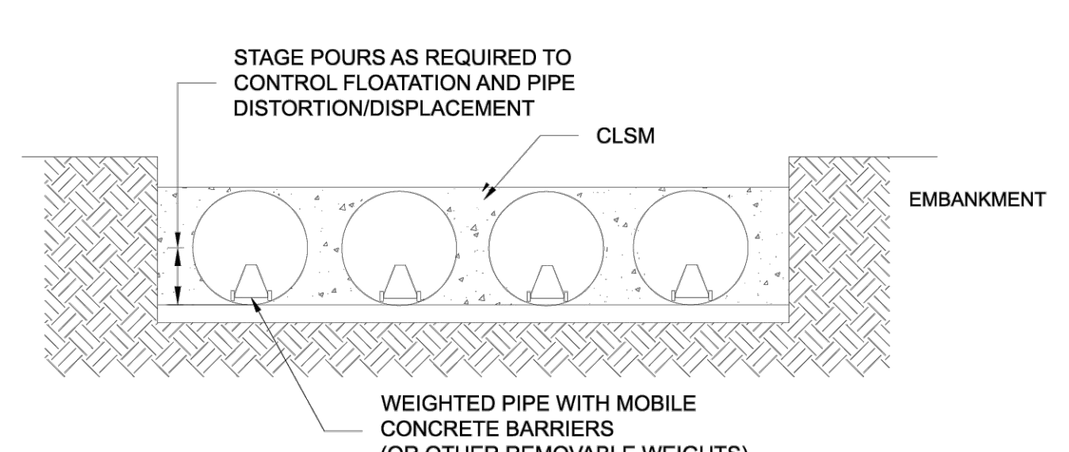


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

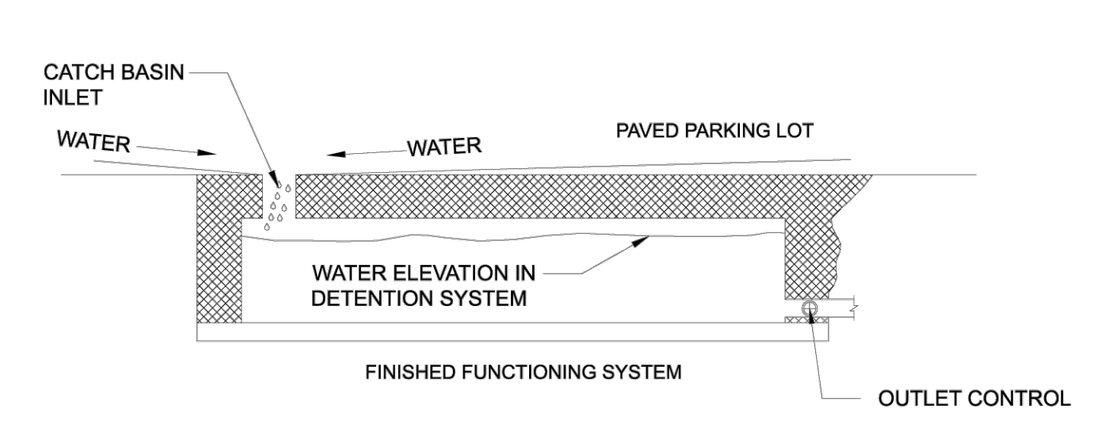


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

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CONTECH CMP DETENTION SYSTEMS — CONTECH DYODS DRAWING

DYO53286 Hamilton
48in
Poughkeepsie, NY
DETENTION SYSTEM

PROJECT No.: 33890	SEQ. No.: 53286	DATE: 6/14/2024
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
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DATE SUBMITTED:

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NO.	DESCRIPTION	BY	DATE
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED: BLD. FOOTPRINT; GRADING; UTILITIES; OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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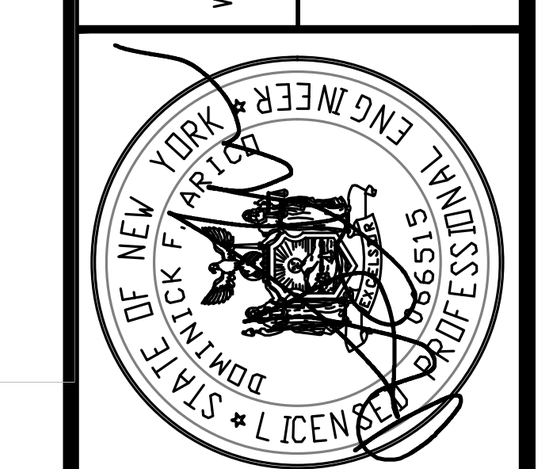

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CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

CONTECH STANDARD DETAILS
SOUTH HAMILTON

TAX MAP : 6161-30-151783

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of __________ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

DATE: JANUARY 2023
JOB NO. 22.10
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SHEET 12 OF 16

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39 Agastache foeniculum Hyssop 2gal
45 Echinacea pallida Pale Coneflower2gal
10 Clethra alnifolia 'Ruby Spice CARS Sweet Pepper Bush 3gal
20 Lindera benzoin LB Spice Bush 3'-4' B&B
31 Dracopis amplexicaulis Clasping Coneflower 2gal
7 Fruit Trees
4 Dwarf Apples - Ambrosia, 2 Honey Crisp, Pixie Crunch, Melrose
2 Pear - Moonglow, Seckel
5 Nyssa sylvatica NS Black Gum 3"-3.5" caliper
125 Panicum virgatum 'Heavy Metal' Switch Grass 2gal 24"-30" o.c.
58 Ilex verticilata 'Berry Poppins' Winterberry 3gal 4' +/- o.c.
37 Carex eburnea Bristle Leaved Sedge 1gal 16" o.c.
23 Carex bicknellii Bicknell's Sedge 1gal 36" o.c.

33 Eutrochium fistulosum 3gal
106 Chasmanthium latifolium Northern Sea Oats 1gal
18 Panicum virgatum 'Heavy Metal' Switch Grass 2gal 24"-30" o.c.
36 Clethra alnifolia 'Ruby Spice CARS Sweet Pepper Bush 3gal
339 Carex eburnea Bristle Leaved Sedge 1gal 16" o.c.
246 Carex bicknellii Bicknell's Sedge 1gal 36" o.c.
89 Rudbeckia fulgida 'Goldsturm' 2gal
45 Panicum virgatum 'Heavy Metal' Switch Grass 2gal 24"-30" o.c.
9 Cornus amomum CA Silky Dogwood 3gal
203 Liriope muscari 'Variegata' 1gal 12" o.c.
6 Metasequoia glyptostroboides Dawn Redwood 7'-8' B&B

10 Hydrangea paniculata 'Little Quick Fire' 3gal
10 Hypericum frondosum 'Sunburst' HFSB Sunburst St John's Wort 3gal

18 Hydrangea paniculata 'Little Quick Fire' 3gal
57 Kalmia latifolia 'Raspberry Glow' KLRG Raspberry Glow Mountain Laurel 3gal
80 Thuja occidentalis 'American Pillar American Pillar Arborvitae 4'-5'
258 Liriope muscari 'Variegata' 1gal 12" o.c.
662 Gaultheria procumbens Wintergreen 1gal 12" o.c.
761 Liriope muscari 'Variegata' 1gal 12" o.c.

10 Hypericum frondosum 'Sunburst' HFSB Sunburst St John's Wort 3gal
108 Allium tanguiticum 'Summer Beauty' 2gal
18 Hydrangea paniculata 'Little Quick Fire' 3gal

Proposed Sign on Wall

10, Raised Steel Planters 2'x4'x6' with a 3' Tall Steel Mesh Fence Backdrop
4 Acer rubrum 'The Rocket' ARTR Red Maple 3"-3.5" caliper
99 Bouteloua gracilis 'Blonde Ambition' 1gal
57 Thuja plicatua 'Green Giant' Green Giant Arborvitae 7'-8' B&B
19 Dracopis amplexicaulis Clasping Coneflower 2gal
14 Hypericum frondosum 'Sunburst' HFSB Sunburst St John's Wort 3gal
13 Panicum virgatum 'Ropelocuroter 'Red Head' Red Headed Dwarf Fountain Grass 2gal

16 Thuja occidentalis 'American Pillar' American Pillar Arborvitae 4'-5'

393 (8 Islands and detention fringe) Schizachyrium scoparium 'Standing Ovation' 1gal 2' o.c.
Standing Ovation Little Bluestem

34 Hypericum frondosum 'Sunburst' HFSB Sunburst St John's Wort 3gal

31 Thuja occidentalis 'American Pillar' American Pillar Arborvitae 4'-5'

688 (2 Islands) Liriope muscari 'Variegata' 1gal 12" o.c.

268 Liriope muscari 'Variegata' 1gal 12" o.c.

4 Raised Storm Water Retention Planters
318 Carex eburnea Bristle Leaved Sedge 1gal 16" o.c.
224 Carex bicknellii Bicknell's Sedge 1gal 36" o.c.

No-Mow Lawn - ***see bottom of plant table for seed mix***

18 Cornus sanguinea 'Midwinter Fire' CSMWF Midwinter Fire Dogwood 3gal
73 Thuja occidentalis 'American Pillar' American Pillar Arborvitae 4'-5'
12 Hydrangea paniculata 'Tardiva' HPT Hydrangea Tardiva 3gal
62 Hydrangea quercifolia 'Ruby Slippers' HPRS Ruby Slippers Oakleaf Hydrangea 3gal
3 Hypericum frondosum 'Sunburst' HFSB Sunburst St John's Wort 3gal
3 Acer saccharum 'Goldspire' ASGS Sugar Maple 3"-3.5" caliper
15 Thuja plicatua 'Green Giant' Green Giant Arborvitae 7'-8' B&B
5 Acer rubrum 'The Rocket' ARTR Red Maple 3"-3.5" caliper

569 Polystichum acrostichoides Christmas Fern 1gal 2' o.c.

42±' - 6" SDR-26 SEWER
LATERAL: S=5.0%±

CONNECT TO EXISTING
GRAVITY SEWER
INV. AT PIPE 181.41±
T.P.=182.07±

Minimum of 12" of topsoil under all plants
where bedrock is encountered.
Avoid creating berms around individual plants
by raising entire planting areas

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

Fire Chief
Police Chief
Building Inspector
City Engineer
Commissioner of Public Works

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2___
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

Solar South
L1

The Michael Boice Collaboration
DESIGNERS AND MAKERS OF FINE LANDSCAPES
845-702-1004
11 South Fowlerhouse Road Wappinger Falls, New York 12590

Revisions
rev. July 3, 2024
note about bedrock
rev. August 1, 2024
remove lighting
rev. August 15, 2024
rear screen, plantings, reggie
and Hudson Valley Rag Rolly,
demarcation planting, courtyard
rev. August 22, 2024
comprehensive update, lighting,
concrete at courts, typical planting,
mech October 10, 2024
trash enclosure, some quantity changes,
labels

Date | June 6, 2024

Scale | 1" - 25' - 0"

One Key Hamilton **NEW BUILDING FOOTPRINT**
South Hamilton Street Poughkeepsie, New York

T M B C

SHEET 13 OF 16

PLANTING NOTES

1. All plant material must conform to American Standard for Nursery Stock ANSI Z60.1-2014

2. Voluntary Alternates/Plant substitutions must be approved by the Designer/Landscape Architect

3. All plant material delivered to the site and or planted must be maintained by the Landscape Contractor until the scope of agreed Landscape work is complete

4. All wire baskets must be either removed from the root ball or cut from the root ball after placing the plant in the planting hole

5. All burlap must be removed from root balls or cut away from the root ball after placing the plant in the planting hole. All planting holes must be 50% wider than the root ball or container root mass.

6a. The indigenous soil or back fill for major trees must not be conditioned unless rocky or unsuitable conditions are present

6b. Incorporate 50% organic soil media and slow release fertilizer per instructions into indigenous soil used to back fill shrubs, perennials and ground cover. Ground cover areas in particular may require mechanical tilling in an effort to create a friable soil texture

6c. Any soil glazing created by the back of the shovel shall be removed by reversing the shovel and caving in the planting hole

7. A soil pH test is highly recommended before planting begins

8. All existing unwanted plant material and weeds and their roots systems must be completely removed from planting beds prior to installing new plant material. The use of Round-Up may be required to eliminate invasive/stoloniferous weeds. Only a licensed professional may apply Round-Up

9. Only non-dyed natural mulch may be used. Install mulch to a depth of 2" - 3"

10. Stake any trees or plants that may be affected by high wind loads.

11. Where an automatic irrigation system is recommended, the Landscape Contractor shall provide proof of CID, CIC, CIT - Certified Irrigation Designer, Contractor, Technician through the Irrigation Association

12. It is the Landscape Contractor's responsibility to comply with all local and state codes. Any permits required for the Landscape Contractor's work must be obtained by the Landscape Contractor

13. It is the Landscape Contractor's responsibility to coordinate the planting schedule with the owner

14. Any deviations from the design due to unkown site conditions must be brought to the attention of the Designer/Landscape Architect

15. All Grasses and perennials must be cut back either in fall or early spring - before new foliage emerges. Grasses must not be pruned lower than 12", 18" is ideal

16. All hydrangea paniculata can be pruned in fall, winter or early spring. Little Quick fire does not require pruing and will grow to 4'x4'

17. Hypericum can be pruned to 12"-18" in late fall or early spring

18. The liriope can be cut with a typical hand lawn mower set at 3" in late fall or early spring before the new foliage appears

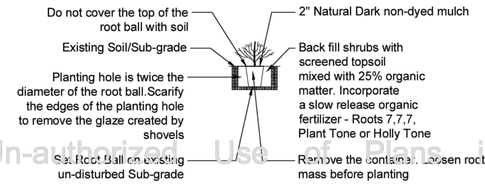
19. Where bed rock is encountered, all plants shall sit on top of a minimum of 12" of topsoil with all corresponding grades to be mended to form a uniformly thick soil profile, and to specifically avoid berming around each plant/tree/shrub

Design is the Property of The Michael Boice Collaboration. Un-authorized Use of Plans is Strictly Prohibited

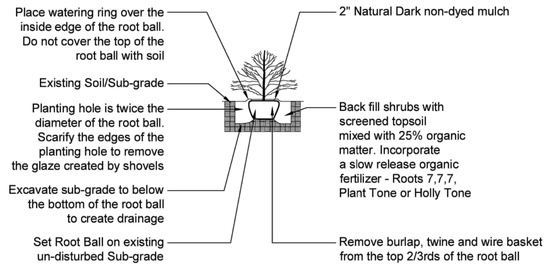
PLANTING LIST

GENUS SPECIE	COMMON NAME	SIZE	KEY	QUANTITY	NOTES	Zone
Acer rubrum 'The Rocket'	The Rocket Red Maple	3"-3.5" cal. branched 5-6'	ARTR - Labeled	9	Native, red fall color upright habit	3-9
Acer saccharum 'Goldspire'	Goldspire Sugar Maple	3"-3.5" cal. branched 5-6'	ASGS - Labeled	3	Native, fragrant pollinator friendly	3-9
Lindera benzoin	Spice Bush	3'-4' B&B	LB - Labeled	20	Native, yellow flowers spring	4-9
Metasequoia glyptostroboides	Dawn Redwood	7'-8'	Labeled	6	Introduced, wet soils, deciduous evergreen	5-10
Nyssa Sylvatica	Black Gum	3"-3.5" cal.	NS - Labeled	4	Native wetland tree, red fall color	3-9
Prunus serrulata 'Kwanzan'	Kwanzan Cherry	3"-3.5" cal. branched 5-6'	KC - Labeled	5	Introduced, pink flowers spring, yellow fall color	5-8
Thuja plicata 'Green Giant'	Green Giant Arborvitae	7'-8'	Labeled	72	Evergreen, deer resistant, grow 5'-6'/yr	5-8
Thuja occidentalis 'American Pillar'	American Pillar Arborvitae	4'-5' Larger sizes N/A	Labeled	200	Evergreen, deer resistant, grow 4'-5'/yr	2-7
Hydrangea paniculata 'Little Quick Fire'	Little Quick Fire Hydrangea	3 gal	HPLQF - Labeled	46	White flowers summer fade to red/pink in fall	4-8
Hypericum frondosum 'Sunburst'	Sunburst St John's Wort	3 gal	HFSB - Labeled	68	Yellow flowers summer native specie	5-8
Hydrangea quercifolia' Ruby Slippers'	Ruby Slippers Oakleaf Hydrangea	3 al	HQRS - Labeled	62	White flowers summer fade to pink in fall	4-8
Hydrangea paniculata 'Tardiva'	Tardiva Hydrangea	5 gal	HPT - Labeled	12	White flowers summer fade to pink in fall	4-8
Cornus sanguinea 'Midwinter Fire'	Midwinter Fire Dogwood	3 gal	CSMWF - Labeled	40	White flowers, red/ orange bark winter	5-7
Clethra alnifolia 'Ruby Spice'	Ruby Spice Sweet Pepper Bush	3 gal	CARS - Labeled	10	Pink flower summer, extremely fragrant	4-8
Kalmia latifolia 'Raspberry Glow'	Raspberry Glow Mountain Laurel	3 gal	KLRG - Labeled	57	Pink flowers spring, evergreen	4-0
Gualtheria procumbens	Wintergreen	1 gal	Labeled	662	low fragrant ground cover, evergreen	3-8
Cornus amomum	Silky Dogwood	3 gal	Labeled	9	Native wetland shrub	5-8
Dracopis amplexicaulus	Clasping Coneflower	2 gal	Labeled	50	Native, drought tolerant, better in wet soils	2-11
Schizachyrium scoparium 'Standing Ovation'	Standing Ovation Little Bluestem	1 gal	Labeled	393	Native grass, intense blue color	3-10
Liriope spicata 'Variegata'	Variegated Liriope	1 gal	Labeled	2,178	Low Grassy texture, Purple Flowers	5-10
Carex eburnea	Bristleleaf Sedge	1 gal	Labeled	694	Low grassy texture, grows in very wet soils	2-8
Carex bricknelli	Bricknell's Sedge	1 gal	Labeled	493	Low grassy texture, grows in very wet soils	3-7
Ilex vertcilata 'Berry Poppins'	Berry Poppins Winterberry	3 gal	Labeled	53	Deciduous holly, red berries fall-winter	3-8
Panicum virgatum 'Heavy Metal'	Heavy Metal Switch Grass	2 gal	Labeled	188	Blue/green grass blades Salt tolerant	5-9
Agastache foeniculum	Hyssop	2 gal	Labeled	39	Native, fragrant leaves drought tolerant	3-8
Echinacea pallida	Pale Coneflower	2 gal	Labeled	45	Native, open pink ray flowers	3-10
Bouteloua gracilis 'Blonde Ambition'	Blue Gramma Grass	1 gal	Labeled	99	Native, poor soils, salt tolerant	4-9
Eutrochium fistulosum	Joe Pye Weed	3 gal	Labeled	33	Native, upper wetlands, pink flowers summer	3-10
Chasmanthium latifolium	Northern Sea Oats	1 gal	Labeled	106	Native grass, gorgeous seeds	3-8
Pennisetum alopecuroides 'Red Head'	Red Headed Dwarf Fountain Grass	2 gal	Labeled	16	4'x4' grass, redish seed heads summer/fall	5-9
Rudbeckia fulgida 'Goldsturm'	Black Eyed Susan	2 gal	Labeled	89	Yellow flowers early summer/fall	3-9
Allium tanguiticum 'Summer Beauty'	Summer Beauty Allium	2 gal	Labeled	108	Purple flowers summer early fall	4-10

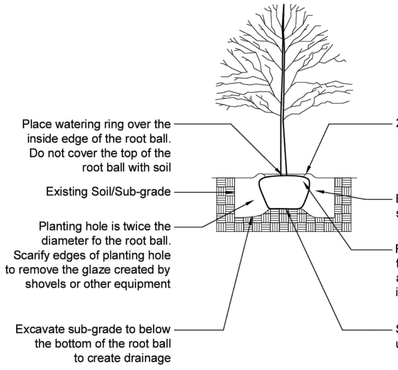
* No Mow Seed Mix: 20% Hard, 20% Sheep, 20% Chewings, 20% Red and 20% Creeping Fescue blend
* Apply Seed Mix Rate at 15 pounds per 1,000 square feet. Incorporate Perennial Rye Grass into the No Mow mix as a nurse grass @ 10lbs/1,000 sq ft
* Apply seed by Verti-seeding and included a starter fertilizer for no-mow lawns and by hyroseeder/sod for other disturbed areas to receive lawn



CONTAINER PLANTING SPECIFICATIONS



SHRUB PLANTING SPECIFICATIONS



TREE PLANTING SPECIFICATION

Police Chief

Fire Department

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____, 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

FRUIT TREES

GENUS SPECIE	COMMON NAME	SIZE	KEY	QUANTITY	NOTES	Zone
Malus pumila 'Melrose'	Melrose Apple	Bare Root	Labeled	1	Dwarf apple, sweet, long storing time	5-9
Malus pumila 'Honey Crisp'	Honey Crisp Apple	Bare Root	Labeled	1	Dwarf apple, sweet, very crisp	3-8
Malus domestica 'Ambrosia'	Ambrosia Apple	Bare Root	Labeled	1	Dwarf apple, sweet, tart, thin skinned	4-8
Malus domestica 'Pixie Crunch'	Pixie Crunch Apple	Bare Root	Labeled	1	Dwarf apple, very sweet, crisp	5-8
Pyrus comminus 'Moonglow'	Moonglow Pear	Bare Root	Labeled	1	Dwarf Pear, eating and canning	5-8
Pyrus comminus 'Seckel'	Seckel Pear	Bare Root	Labeled	1	Dwarf Pear, small sweet fruit	5-8

L2

The Michael Boice Collaboration
DESIGNERS AND MAKERS OF FINE LANDSCAPES
11 South Fowlerhouse Road Wappinger Falls, New York 12590
845-702-1004

Revisions |
mob July 5, 2024
mob August 5, 2024
mob September 5, 2024
plant list, final loop
mob October 15, 2024
revise plant list, quantities, title of Architect
mob October 15, 2024
add Architects seal, adjust other plant quantities

Date | June 6, 2024

Scale | ...

One Key Hamilton **PLANT TABLE AND SPECS**
South Hamilton Street Poughkeepsie, New York

SHEET 14 OF 16



Acer rubrum 'The Rocket' The Rocket Red Maple

Thuja occidentalis 'American Pillar' American Pillar Arborvitea





Thuja plicata 'Green Giant' Green Giant Arborvitae

Panicum virgatum 'Heavy Metal'
Switch Grass



Fothergilla gardenii



Schizachyrium scoparium 'Standing Ovation' Standing Ovation Little Bluestem



Liriope muscari 'Variegata'







Steel Planters

Ilex verticilata 'Berry Poppins'
Winterberry



Carex bricknelli
Bricnelle's Sedge



Carex eburnea
Bristle Leaved Sedge





Polystichum acrostichoides Chrismas Fern



Cornus sanguinea 'Midwinter Fire'

Tilia cordata Little Leaf Linden





Acer saccharum 'Goldspire' Goldspire Sugar Maple

Ambrosia Apple



Honey Crisp Apple



Dracopis amplexicaulis
Clasping Coneflower



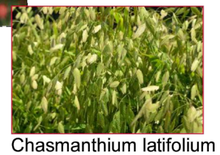
Bouteloua gracilis 'Blonde Ambition'



Nyssa sylvatica Black Gum



Melrose Apple



Chasmanthium latifolium
Northern Sea Oaks

Allium tanguiticum 'Summer Beauty'





Cornus amomum Silky Dogwood

Gaultheria procumbens





Pixie Crunch Apple



Moonglow Pear



Agastache foemiculum
Hyssop



Pennisetum alopecuroides 'Red Head'
Red Headed Dwarf Fountain Grass



Seckel Pear

Echinacea pallida
Pale Coneflower





Eutrochium fistulosum
Jow Pye Weed



Metaseqouia glyptostroboides



Prunus serrulata 'Kwanzan' Kwanzan Cherry



Rudbeckia fulgida 'Goldsturm'
Black Eyed Susan



Linder benzoin

Hydrangea paniculata 'Tardiva'



Hydrangea quercifolia 'Ruby Slippers'



Hypericum frondosum 'Sunburst' Sunburst St John's Wort



Clethra alnifolia 'Ruby Spice'



Kalmia latifolia 'Raspberry Glow'

Hydrangea paniculata 'Little Quick Fire'

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

Prohibited

L3

The Michael Boice Collaboration
DESIGNERS AND MAKERS OF FINE LANDSCAPES
845-702-1004
11 South Fowlerhouse Road Wappinger Falls, New York 12590

Revisions |
mob August 21, 2024
add fruit and blossom pond plants
update photos
mob August 30, 2024
update photos

Date | June 6, 2024

Scale | 1" - 25' - 0"

One Key Hamilton **PLANT TABLE AND SPECS**
South Hamilton Street Poughkeepsie, New York

T M B C

SHEET 15 OF 16



Isoline Legend	
Illuminance (Fc)	
Color	Value
	0.2
	0.5
	1

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____, 2___
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	LLF	Description	MH
	3	Twin Pole	GROUP	1.000	Twin bracket with Dark Sky Luminaires - Type I	3'-4" (Top)
	6	TWP1-4040K-CT4-120V	SINGLE	1.000	Wall Pack 40W	14' (pole)
	4	DS77xFC-2M-T3-30-530M	SINGLE	1.000	Dark Sky Luminaire - Type III, 3000K	8' above grade
	5	AB5-40-30-360	SINGLE	1.000	Bollard - 40in Height, 3000K, Symmetrical Dist	14' (pole)

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Ground Plane	Illuminance	Fc	0	17.9	0.0	N.A.	N.A.
Road_Parking Lot Area_Top	Illuminance	Fc	1	15.4	0.0	N.A.	N.A.

Dark Sky
LED Walkway Bollard



amerlux
A Delta Group Company

AB5 Dark Sky Bollard

Features
The LED Full Cutoff Bollard with a choice of shielding options, is designed to replace HID lighting systems up to 70W MH or HPS. This bollard is ideal for retail centers, industrial parks, schools and universities, public transit and airports, office buildings and medical facilities.

Product Overview

Type:	Exterior Walkway
Wattage:	19W
Lumen Output :	674 lm
Color Temp:	3000K, 4000K, 5000K
Standard Height:	40 inches
Diameter:	4 ¾ inches

DS770FC Series
Dark Sky Acorn



amerlux
A Delta Group Company

DSA550 Series Luminaire

Features
Lighting for exterior retail, commercial and hospitality environments. The DS770FC Series consists of a cast aluminum fitter and cage assembly and a spun aluminum top. Includes Full Cutoff optics for Dark Sky friendly applications. An optional Smartsite wireless lighting controller is available.

Product Overview

Wattage:	2M: 44W, 49W 3M: 60W, 67W 4M: 79W, 88W
Lumen Output :	11,124 lm (4M, 88W, T5, 40K)
Color Temp:	3000K, 4000K
Dimming:	0-10V dimming

Stealth LED Wall Pack

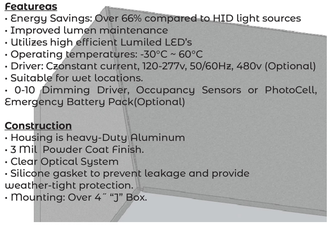


Stealth Full Cut Off LED Wall Pack Fixture, Suitable for wet locations, Perfect for lighting up Residential Exteriors, Walkways, Entry Ways, Perimeters, Parking Garages, School Campuses, Industrial/Commercial Spaces.

-Dark sky compliant and up light option.
-10 year/100,000 hour limited warranty.

Featureas
- Energy Savings: Over 66% compared to HID light sources
- Improved lumen maintenance
- Utilizes high efficient Lumiled LED's
- Operating temperatures: -30°C ~ 60°C
- Driver: Czonstant current, 120-277v, 50/60Hz, 480v (Optional)
- Suitable for wet locations.
- 0-10 Dimming Driver, Occupancy Sensors or PhotoCell, Emergency Battery Pack(Optional)

Construction
- Housing is heavy-Duty Aluminum
- 3 Mil Powder Coat Finish.
- Clear Optical System
- Silicone gasket to prevent leakage and provide weather-tight protection.
- Mounting: Over 4" "J" Box.





1 PARKING LEVEL FLOOR PLAN

SCALE: 3/32" = 1'-0"

RESIDENTIAL UNITS				
UNIT	TOTAL NO. OF UNITS	1-BRM	2-BRM	TOTAL NO. OF UNITS
FIRST FLOOR	29	15	14	29
SECOND FLOOR	29	14	15	29
TOTAL	58	29	29	58
RESIDENTIAL AMENITIES				
FITNESS CENTER (GYM)			914 SF.	
ACTIVITY RM			914 SF.	

ASSOCIATE ARCHITECTS

Mija Architecture LLC

N.J. AC. 669

241 HUDSON STREET
HACKENSACK, NJ 07601
PHONE: (201) 925 5888
F A X : (201) 488-1020
MIJAARCH@OPTONLINE.NET

ARCHITECT

NABIL N. MIJALLI, R.A.
NJ LIC. # AI01665500
NY LIC. # 032031
PA LIC. # RA405317
CT LIC. # 13827
SC LIC. # 8469

PROJECT:

58- UNIT RESIDENTIAL BUILDING
100 SOUTH HAMILTON STREET
CITY OF POUGHKEEPSIE
COUNTY OF DUTCHESS

OWNER:

O'NEILL GROUP HAMILTON LLC
241 HUDSON STREET
HACKENSACK, NJ 07601

RELEASE STATUS OF DRAWING	DATE:
FOR REVIEW	05-31-2024

THESE PLANS ARE THE PROPERTY OF THE ARCHITECT AND MAY NOT BE COPIED, RE-USED, OR ALTERED WITHOUT HIS APPROVAL

DRAWING TITLE:

PARKING LEVEL PLAN

REVISIONS

DATE	DWN	CHK	REMARKS

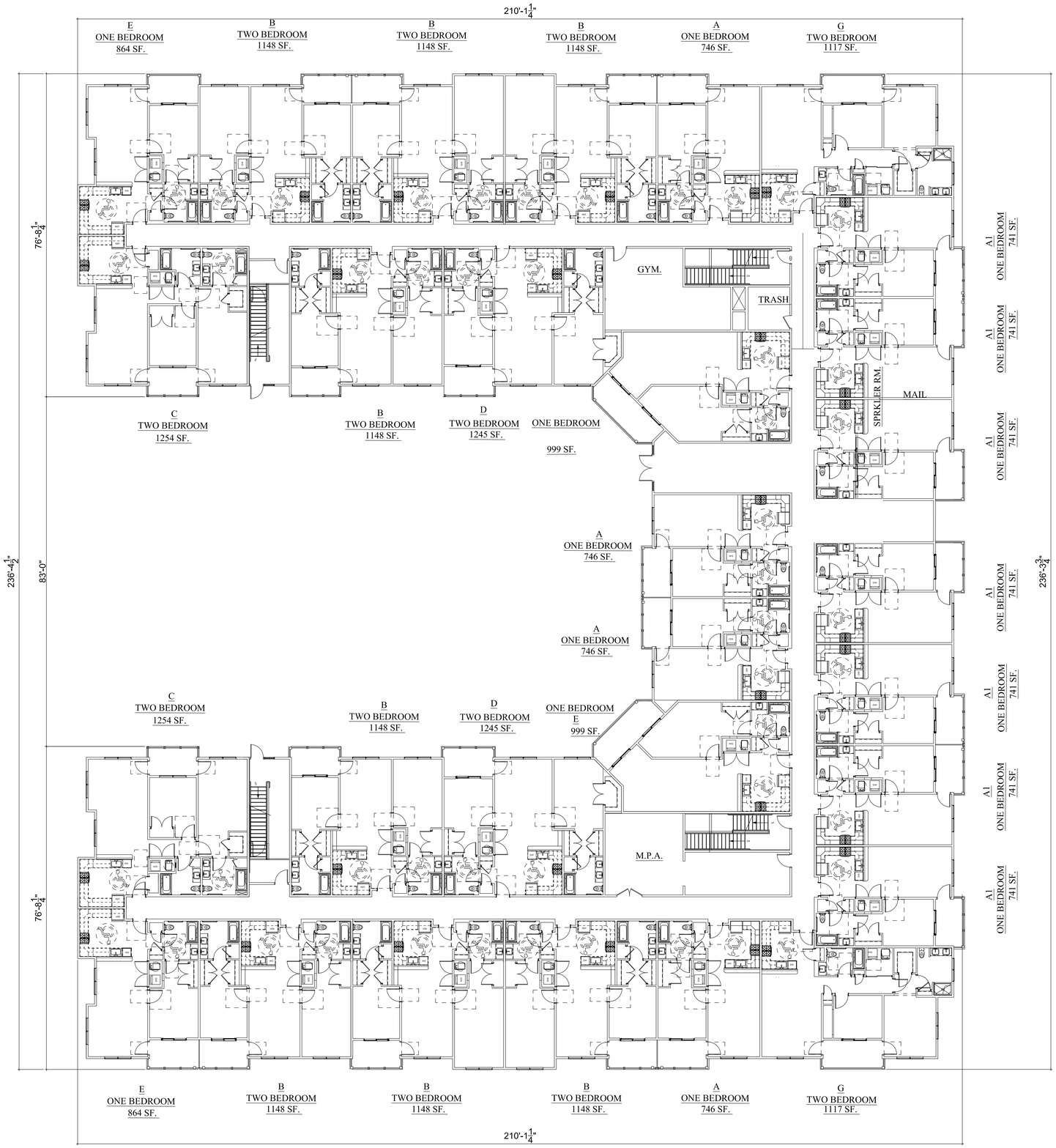
DO NOT SCALE DRAWINGS

DATE:	04/01/2024
DRAWN :	RI
CHECKED:	NM
SCALE:	AS NOTED
PROJECT NUMBER:	0102023

DRAWING N0:

A-1

ZONING DOCUMENTS 05-31-2024



1 FIRST FLOOR PLAN

SCALE: 3/32" = 1'-0"

ASSOCIATE ARCHITECTS

Mija Architecture LLC

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241 HUDSON STREET
HACKENSACK, NJ 07601
PHONE: (201) 925 5888
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PROJECT:

58- UNIT RESIDENTIAL BUILDING
100 SOUTH HAMILTON STREET
CITY OF POUGHKEEPSIE
COUNTY OF DUTCHESS

OWNER:

O'NEILL GROUP HAMILTON LLC
241 HUDSON STREET
HACKENSACK, NJ 07601

RELEASE STATUS OF DRAWING	DATE:
FOR REVIEW	05-31-2024

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DRAWING TITLE:

FIRST FL. PLAN

REVISIONS

DATE	DWN	CHK	REMARKS

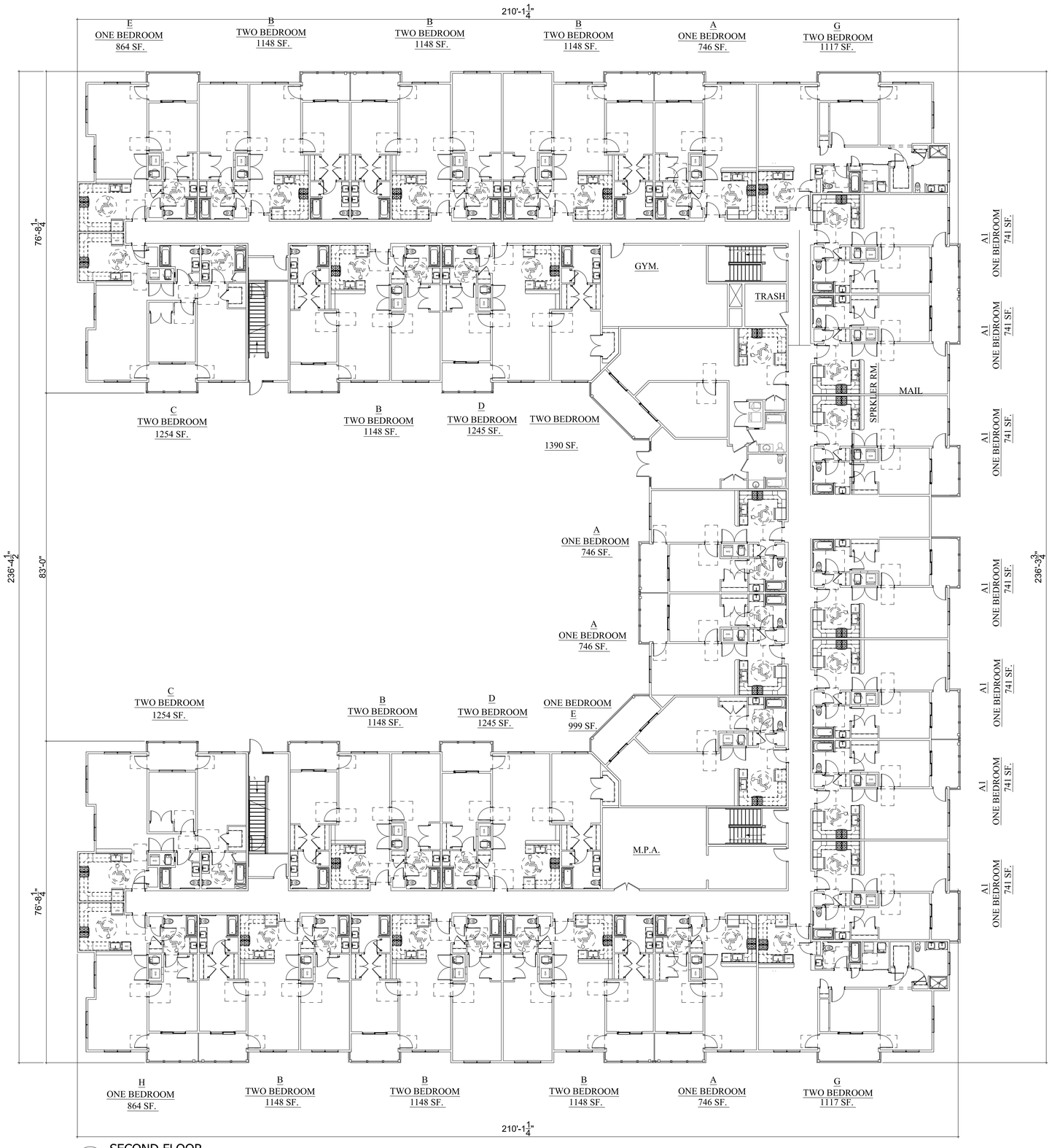
DO NOT SCALE DRAWINGS

DATE:	04/01/2024
DRAWN :	RI
CHECKED:	NM
SCALE:	AS NOTED
PROJECT NUMBER:	0102023

DRAWING N0:

A-2

ZONING DOCUMENTS 05-31-2024



1 SECOND FLOOR

SCALE: 3/32" = 1'-0"

ASSOCIATE ARCHITECTS

Mija Architecture LLC

N.J. AC. 669

241 HUDSON STREET
HACKENSACK, NJ 07601
PHONE: (201) 925 5888
F A X : (201) 488-1020
MIJAARCH@OPTONLINE.NET

ARCHITECT

NABIL N. MIJALLI, R.A.
NJ LIC. # AI01665500
NY LIC. # 032031
PA LIC. # RA405317
CT LIC. # 13827
SC LIC. # 8469

PROJECT:

58- UNIT RESIDENTIAL BUILDING
100 SOUTH HAMILTON STREET
CITY OF POUGHKEEPSIE
COUNTY OF DUTCHESS

OWNER:

O'NEILL GROUP HAMILTON LLC
241 HUDSON STREET
HACKENSACK, NJ 07601

RELEASE STATUS OF DRAWING	DATE:
FOR REVIEW	05-31-2024

THESE PLANS ARE THE PROPERTY OF THE ARCHITECT AND MAY NOT BE COPIED, RE-USED, OR ALTERED WITHOUT HIS APPROVAL

DRAWING TITLE:

SECOND FL. PLAN

REVISIONS

DATE	DWN	CHK	REMARKS

DO NOT SCALE DRAWINGS

DATE:	04/01/2024
DRAWN :	RI
CHECKED:	NM
SCALE:	AS NOTED
PROJECT NUMBER:	0102023

DRAWING N0:

A-3

ZONING DOCUMENTS 05-31-2024



EAST ELEVATION

SCALE: 3/32" = 1'-0"



SOUTH ELEVATION

SCALE: 3/32" = 1'-0"



NORTH ELEVATION

SCALE: 3/32" = 1'-0"



WEST ELEVATION

SCALE: 3/32" = 1'-0"

ASSOCIATE ARCHITECTS

Mija Architecture LLC

N.J. AC. 669

241 HUDSON STREET
HACKENSACK, NJ 07601
PHONE: (201) 925 5888
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MIJAARCH@OPTONLINE.NET

ARCHITECT

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NJ LIC. # AI01665500
NY LIC. # 032031
PA LIC. # RA405317
CT LIC. # 13827
SC LIC. # 8469

PROJECT:

58- UNIT RESIDENTIAL BUILDING
100 SOUTH HAMILTON STREET
CITY OF POUGHKEEPSIE
COUNTY OF DUTCHESS

OWNER:

O'NEILL GROUP HAMILTON LLC
241 HUDSON STREET
HACKENSACK, NJ 07601

RELEASE STATUS OF DRAWING	DATE:
FOR REVIEW	05-31-2024

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DRAWING TITLE:

ELEVATIONS

REVISIONS

DATE	DWN	CHK	REMARKS

DO NOT SCALE DRAWINGS

DATE:	04/01/2024
DRAWN :	RI
CHECKED:	NM
SCALE:	AS NOTED
PROJECT NUMBER:	0102023

DRAWING NO:

A-4

ZONING DOCUMENTS 05-31-2024



One Key South Hamilton Street
South Hamilton Street Poughkeepsie, New York

ARCHITECT: NABIL N MIJALLI
241 HUDSON STREET
HACKENSACK, NJ 07601



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The O'Neill Group
A Real Estate Development Company
241 Hudson Street / Hackensack, NJ 07601
Phone: 201.488.4455 / Fax: 201.488.8283
www.theoneillgroup.us

November 2, 2024

City Of Poughkeepsie
62 Civic Center Plaza, 2nd Floor
Poughkeepsie, Ny 12601
Attn: Tyler Maegerle

Re: S. Hamilton Street (151783) revised FEAF.

Dear Mr. Maegerle:

Below please find a brief outline of changes made to the FEAF last revised April 24, 2024.

1. In Section D.1.e.ii. was revised to reflect a single phase.
2. In Section D.2.a., additional detail was provided to answer questions ii, v., vi., and vii.
3. In Section D.2.e., the recalculation of impervious surface because of the plan changes reduced impervious surface to 1.71 acres.
4. In Section D.2.k., response to the question concerning energy demand was left blank as the question only pertains to industrial and commercial projects.
5. In Section D.2.m., the response was changed from "no" to "yes" and the "if yes" remains as answered as on previous submission.
6. In Section D.2.q.ii., the previous "no" response is deleted.
7. In Section E.1.a., "Urban" was added as occurring use.
8. In Section E.1.b., the land cover table was revised to reduce post-development Impervious coverage from 1.81 ac to 1.71ac.
9. In Section E.2.a., the average depth to bedrock is revised to match the findings of actual test pit excavation reported the subsurface soil investigation by Patton Engineering.
10. In Section E.2.b., was changed to reflect there are no rock outcroppings present based on the subsurface soil investigation by Patton Engineering.
11. In Section F. Additional Information, Letter Report from Kevin Patton, P.E. concerning vibration from construction activity.

Sincerely,

Lauran O'Neill

Lauran O'Neill

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

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

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

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

A. Project and Applicant/Sponsor Information.

Name of Action or Project: SOUTH HAMILTON		
Project Location (describe, and attach a general location map): SOUTH HAMILTON STREET OFF DWIGHT STREET - 41°41'43.54"N 73°55'29.13"W		
Brief Description of Proposed Action (include purpose or need): THE PROJECT SITE IS LOCATED AT S. HAMILTON ST. AND CONSISTS OF 3.378 ACRES. THE TAX MAP NUMBER FOR THE PARCEL IS 13130-6161-30-151783. THE PROJECT CONSISTS OF 58 LUXURY RENTAL APARTMENTS CONSISTING OF 29 TWO-BEDROOM APARTMENTS AND 29 ONE-BEDROOM APARTMENTS SERVICED BY CENTRAL WATER AND SANITARY SEWER. IN WINTER OF 2021, THE SITE WAS PARTIALLY CLEARED. IN THE 1970'5 THE SITE WAS USED AS RENTAL PROPERTY UNTIL IT WAS DESTROYED BY FIRE AND DEMOLISHED IN 1973. TODAY THE PROPERTY IS VACANT AND LARGELY COVERED WITH SMALL BRUSH AND DYING AND DECEASED TREES. THE FUTURE DEVELOPMENT WILL INCLUDE LANDSCAPING. LIGHTING, SURFACE PARKING AND SIDEWALKS TYPICALLY ASSOCIATED WITH RESIDENTIAL DEVELOPMENT, AS WELL AS A STORMWATER SYSTEM TO IMPLEMENT A STORM WATER POLLUTION PREVENTION PLAN.		
Name of Applicant/Sponsor: O'NEILL GROUP HAMILTON LLC	Telephone: 201.488.4455 E-Mail: LONEILL@ONEKEYLLC.COM	
Address: 241 HUDSON STREET		
City/PO: HACKENSACK	State: NJ	Zip Code: 07601
Project Contact (if not same as sponsor; give name and title/role): LAURAN O'NEILL	Telephone: 201.488.4455 E-Mail: LONEILL@ONEKEYLLC.COM	
Address: 241 HUDSON STREET		
City/PO: HACKENSACK	State: NJ	Zip Code: 07601
Property Owner (if not same as sponsor):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

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

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☐Yes☑No		
b. City, Town or Village Planning Board or Commission ☑Yes☐No	SITE PLAN	
c. City, Town or Village Zoning Board of Appeals ☐Yes☑No		
d. Other local agencies ☑Yes☐No	POUGHKEEPSIE DEPT. PUBLIC WORKS	
e. County agencies ☑Yes☐No	DUTCHESS COUNTY DEPT. HEALTH W&S	
f. Regional agencies ☐Yes☑No		
g. State agencies ☑Yes☐No	NYSDEC SPDES FOR CONSTRUCT. ACTIVITY	
h. Federal agencies ☐Yes☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

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

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

C.2. Adopted land use plans.

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

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

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

If Yes, identify the plan(s):

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

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
MEDIUM HIGH-DENSITY RESIDENCE (R-4)

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

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? CITY OF POUGHKEEPSIE SCHOOLS

b. What police or other public protection forces serve the project site?
CITY OF POUGHKEEPSIE POLICE DEPARTMENT

c. Which fire protection and emergency medical services serve the project site?
CITY OF POUGHKEEPSIE FIRE DEPARTMENT

d. What parks serve the project site?
NONE

D. Project Details

D.1. Proposed and Potential Development

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

b. a. Total acreage of the site of the proposed action? 3.378 acres
b. Total acreage to be physically disturbed? 3.0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 3.378 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 18 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☑ Yes ☐ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				58
At completion of all phases				58

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

If Yes,

i. Total number of structures _____

ii. Dimensions (in feet) of largest proposed structure: _____ height; _____ width; and _____ length

iii. Approximate extent of building space to be heated or cooled: _____ square feet

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

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:

_____

iii. If other than water, identify the type of impounded/contained liquids and their source.

_____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

_____

D.2. Project Operations

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

If Yes:

i. What is the purpose of the excavation or dredging? Clearing, Grading and Site Development

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): +/- 31,000 CY
- Over what duration of time? 14-21 days

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

Excess on-site soil and rock will be excavated and disposed off-site. Top soil will be stockpiled and reused.

iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☑ No

If yes, describe. _____

v. What is the total area to be dredged or excavated? 3 acres

vi. What is the maximum area to be worked at any one time? 3 acres

vii. What would be the maximum depth of excavation or dredging? +/-15 feet

viii. Will the excavation require blasting? ☐ Yes ☑ No

ix. Summarize site reclamation goals and plan:

Excess on-site soil and rock will be excavated and disposed off-site. Top soil woll be stockpiled and reused.

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

If Yes:

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

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

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐Yes ☐No
If Yes, describe:

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

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

v. Describe any proposed reclamation/mitigation following disturbance:

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

i. Total anticipated water usage/demand per day: 9,570 gallons/day

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

- Name of district or service area: CITY OF POUGHKEEPSIE WATER DISTRICT
- Does the existing public water supply have capacity to serve the proposal? ☑Yes ☐No
- Is the project site in the existing district? ☑Yes ☐No
- Is expansion of the district needed? ☐Yes ☑No
- Do existing lines serve the project site? ☑Yes ☐No

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

- Describe extensions or capacity expansions proposed to serve this project:
- Source(s) of supply for the district:

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

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

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

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

d. Will the proposed action generate liquid wastes? ☑Yes ☐No
If Yes:

i. Total anticipated liquid waste generation per day: 9,570 gallons/day

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

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

- Name of wastewater treatment plant to be used: CITY OF POUGHKEEPSIE WASTEWATER PLANT
- Name of district: CITY OF POUGHKEEPSI SEWER DISTRICT
- Does the existing wastewater treatment plant have capacity to serve the project? ☑Yes ☐No
- Is the project site in the existing district? ☑Yes ☐No
- Is expansion of the district needed? ☐Yes ☑No

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

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

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

If Yes:

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

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

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

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

If Yes:

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

_____ Square feet or 1.71 acres (impervious surface)

_____ Square feet or 3.378 acres (parcel size)

ii. Describe types of new point sources. CITY OF POUGHKEEPSIE STORMWATER SYSTEM

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

OFF-SITE STORMWATER COLLECTION SYSTEM

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐Yes ☑No

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

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

If Yes, identify:

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

CONSTRUCTION EQUIPMENT SUCH AS EXCAVATORS. GRADERS AND PAVERS

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

TEMPORARY POWER FROM GENERATORS

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

HEATING AND COOLING EQUIPMENT

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

If Yes:

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

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

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

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

If Yes:

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

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

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

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

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

If Yes:

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

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

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

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

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

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

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

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

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

If Yes:

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

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

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

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

i. During Construction:

- Monday - Friday: 7-5
- Saturday: 8-3
- Sunday: CLOSED
- Holidays: CLOSED

ii. During Operations:

- Monday - Friday: 9-5
- Saturday: TBD
- Sunday: CLOSED
- Holidays: CLOSED

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

NO UNREASONABLE NOISE WILL BE GENERATED AND THE PROJECT WILL COMPLY WITH CITY CODE SECTION 13 1/2.

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

Describe: AREAS OF VEGETATIVE MAY BE REDUCED AND TEMPORARILY LESSEN THE NOISE BARRIER.

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

LIGHTING THAT COMPLIES WITH THE CITY CODE FOR SAFETY AND CONVENIENCE WILL BE KEPT FROM SPILLING ONTO NEIGHBORING PROPERTIES

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

Describe: PARTICULAR CARE WILL BE TAKEN TO ENSURE ADEQUATE SCREENING AND LIGHT BARRIER CONSISTENT WITH THE CITY CODE

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities:

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

If Yes:

i. Describe proposed treatment(s):

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

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: 2.5 tons per MONTHLY (unit of time)
- Operation : 8.7 tons per MONTHLY (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: UNUSED CONSTRUCTION MATERIAL. PARTICULARLY PIPES AND FITTINGS. ARE STORED FOR FUTURE REUSE AND SPARE PARTS
- Operation: MATERIALS ARE NEVER THROWN AWAY BUT STORED OR STOCKPILED FOR FUTURE REUSE SUCH AS SPARE PARTS OR RETURNED TO SUPPLIERS WHEN POSSIBLE. COMPLIANCE WITH CITY/COUNTY REGS

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

- Construction: NYSDEC LICENSED DISPOSAL CONTAINER CONTRACTORS AND FACILITIES ARE USED.
- Operation: COUNTY RESOURCE RECOVERY FACILITY.

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

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

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

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

E. Site and Setting of Proposed Action

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

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☑ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	.05	1.71	1.66
• Forested	0	0	0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0	0	0
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	0
• Wetlands (freshwater or tidal)	0	0	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: OPEN/GRASSED BRUSH	3.328	1.67	1.66

c. Is the project site presently used by members of the community for public recreation? ☐Yes ☑No

i. If Yes: explain: _____

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

If Yes,

i. Identify Facilities:

REFORMED CHURCH OF POUGHKEEPSIE, THE PINES AT POUGHKEEPSIE NURSING AND REHABILITATION CENTER, TABERNACLE BAPTIST CHURCH. AND NEW HORIZONS RESOURCES INC.

e. Does the project site contain an existing dam? ☐Yes ☑No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes ☑No

If Yes:

i. Has the facility been formally closed? ☐Yes ☐No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐Yes ☑No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐Yes ☑No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐Yes ☐No

☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐Yes ☑No

If yes, provide DEC ID number(s): _____

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

_____

_____

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

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

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 7.25 feet

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

c. Predominant soil type(s) present on project site: DUTCHESS-CARDIGAN-URBAN 100 %
_____ %
_____ %

d. What is the average depth to the water table on the project site? Average: 7-12' feet

e. Drainage status of project site soils:
☐ Well Drained: ____% of site
☑ Moderately Well Drained: 100 % of site
☐ Poorly Drained ____% of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 60 % of site
☑ 10-15%: 35 % of site
☑ 15% or greater: 5 % of site

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

h. Surface water features.

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

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

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

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

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

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐Yes ☑No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

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

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

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

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐Yes ☑No
If Yes:

i. Name of aquifer: _____

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

n. Does the project site contain a designated significant natural community? ☐Yes ☑No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

ii. Source(s) of description or evaluation: _____

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐No

If Yes:

i. Species and listing (endangered or threatened): _____

Bald Eagle

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No

If Yes:

i. Species and listing: _____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No

If yes, give a brief description of how the proposed action may affect that use: _____

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

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No

If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No

i. If Yes: acreage(s) on project site? _____

ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No

If Yes:

i. CEA name: _____

ii. Basis for designation: _____

iii. Designating agency and date: _____

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

If Yes:

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

ii. Name: Reynolds House, South Hamilton Street Row, Dwight-Hooker Avenue Historic District, Reformed Dutch Church of Poughke..

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

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

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

If Yes:

i. Describe possible resource(s):

ii. Basis for identification:

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

If Yes:

i. Identify resource: WALKWAY OVER THE HUDSON

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

iii. Distance between project and resource: 1.3 miles.

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

If Yes:

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

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

F. Additional Information

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

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

G. Verification

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

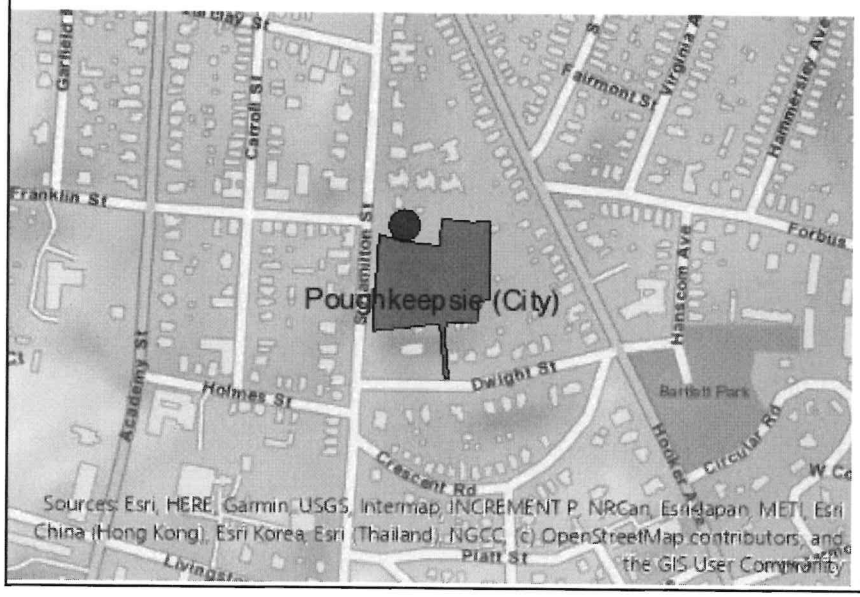
Applicant/Sponsor Name O'NEILL GROUP HAMILTON LLC Date 10/24/24

Signature Kaaran O'Neill Title Director

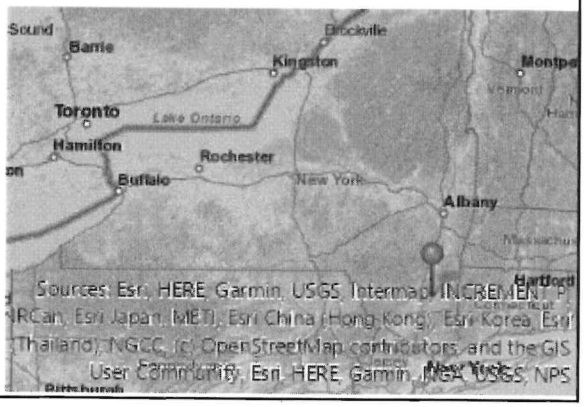
PRINT FORM

EAF Mapper Summary Report

Thursday, October 24, 2024 12:36 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	No
E.2.h.iii [Surface Water Features]	No
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Bald Eagle

E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National or State Register of Historic Places or State Eligible Sites - Name]	, Reynolds House, South Hamilton Street Row, Dwight-Hooker Avenue Historic District, Reformed Dutch Church of Poughkeepsie, Corlies-Ritter-Hart House
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

THE CITY OF POUGHKEEPSIE
NEW YORK
DEVELOPMENT DEPARTMENT
62 CIVIC CENTER PLAZA, 2ND FLOOR
POUGHKEEPSIE, NY 12601
Phone: (845) 451-4263 Fax: (845) 451-4006

MEMORANDUM

To: O'Neill Group Hamilton LLC

From: Tyler Maegerle, Junior Planner

Date: 6/12/2023

Re: Lot 151783 South Hamilton Avenue

Upon review of project materials provided by the applicant, including Full EAF and site plan application, it is my understanding that the proposed action to be undertaken includes construction of a three-story building consisting of 29 one-bedroom units and 29 two-bedroom units.

Based on the above description it is the determination of the planning division that the proposed action is classified as Type I Action with regards to SEQRA pursuant to 6 NYCRR Section 617.4 (b)(9) "any Unlisted action (unless the action is designed for the preservation of the facility or site), that exceeds 25 percent of any threshold established in this section, occurring wholly or partially within, or substantially contiguous to, any historic building, structure, facility, site or district or prehistoric site that is listed on the National Register of Historic Places (Volume 36 of the Code of Federal Regulations, parts 60 and 63, which is incorporated by reference pursuant to section 617.17 of this Part), or that is listed on the State Register of Historic Places or that has been determined by the Commissioner of the Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places pursuant to sections 14.07 or 14.09 of the Parks, Recreation and Historic Preservation Law." and Section 617.4 (b)(5)(iii) "in a city, town or village having a population of 150,000 persons or less, 200 units to be connected (at the commencement of habitation) to existing community or public water and sewerage systems including sewage treatment works." The action is therefore subject to coordinated environmental review.

New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

RANDY SIMONS
Commissioner *Pro Tempore*

June 25, 2024

George Brandt
Project Manager
O'Neill Group Hamilton LLC
241 Hudson Avenue
Hackensack, Ne 07601

Re: DEC
South Hamilton Residential Development - Apartments
City of Poughkeepsie, Dutchess County, NY
23PR09978

Dear George Brandt:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6NYCRR Part 617).

The project area is immediately adjacent to a National Register listed historic district and across the street from two individually National Register listed properties. Please see the attachments in the USN tab in CRIS for a more information. Because of the location adjacent to historic resources, and because ground disturbance is proposed, we have reviewed the project.

It is the opinion of OPRHP that the project will have No Adverse Impact on historic resources.
If you have any questions, I can be reached at sloane.bullough@parks.ny.gov or 518-268-2158.

Sincerely,

Sloane Bullough

Sloane Bullough
Historic Sites Restoration Coordinator via email only

Poughkeepsie Natural Resource Inventory
Conservation Analysis South Hamilton Street
Multi-Family Development

City of Poughkeepsie
Dutchess County, New York

Issued: October 5. 2023
Revised: July 8, 2024

Prepared for:
O'Neill Group Hamilton, LLC
241 Hudson Street
Hackensack, NJ 07601

Prepared by:
Cleary Consulting
529 Asharoken Avenue
Northport, NY 11768



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Figure 12: Recreational Resources
Figure 13: Historic Resources

1.0 INTRODUCTION

1.1 Project Summary

The O'Neill Group Hamilton (hereinafter referred to as "The Applicant") is seeking site plan approval from the City of Poughkeepsie, to develop a 58-unit, mid-rise multifamily residential development with surface-level parking (hereinafter referred to as the "Proposed Action"). The Proposed Action is located on an approximately 3.378-acre parcel of vacant land on the west side of South Hamilton Street (Tax Lot 13130-6161-30-151783), (hereinafter referred to as the "Site"). The Proposed Action includes construction of a three-story building with 29 one-bedroom, and 29 two-bedroom apartments supported by 102 off-street parking spaces, stormwater management facilities, utility infrastructure, landscaping and associated site improvements. The perimeter of the Site is wooded, and interior contains predominantly small brush.

The Site is located within the R-4, Medium High Density Zoning District. Multi-family residential development is a permitted principal use within the R-4 zone. Infrastructural improvements include a looped municipal water connection from South Hamilton Street to Dwight Street and a tie-in to the exiting 8" sanitary sewer main on South Hamilton Street. The proposed ground disturbance is approximately 3.00 acres. Since more than 1 acre of ground disturbance will occur, the Proposed Action will also require a SPDES General Permit for stormwater.

1.2 Background

The Site is comprised of approximately 3.378 acres and is zoned to accommodate the Proposed Action. The Site is comprised of one parcel, identified as follows:

- Taxparcel:131300-6161-30-151783 (South Hamilton Street)

Multi-family residential development is classified as a permitted use within the R-4 zone, subject to the applicable requirements. The proposed project will comply with all of the lot, bulk, and design requirements and standards included in ZS 19-3.15(4)(c), ZS 19-3.15(4)(i), ZS 19-4.11(1)(b), ZS 19-4.3(1) and, ZS 19-4.3(5)(a).

1.3 Site and Surrounding Area Description

The Site is currently undeveloped and wooded. The land uses located within 1,000 feet of the project site are characterized by single and multi-family dwellings and a mix of neighborhood retail and small commercial offices.

The Site is not located within a floodway, 100-year floodplain, or 500-year floodplain. The Site is also not located over an aquifer.

1.4 Approvals, Consultations and Referrals

Table 1 provides a list of the approvals/permits that are anticipated for the Proposed Action.

Table 1 Anticipated Approvals and Permits	
City of Poughkeepsie Planning Board	Site Plan Approval
City of Poughkeepsie Department of Public Works	Water and Sewer Hook-Ups
Dutchess County Department of Health	Water
NYS Department of Environmental Conservation	SPDES General Permit GP-0-020-001

2.0 CONSERVATION ANALYSIS

The Proposed Action has been prepared in accordance with §19.64 of the City Code – *Natural Resources*. The Code requires the preparation of a conservation analysis based on the data and information contained in the 2019 Natural Resources Inventory (NRI). The format of this analysis is based on the eight chapters of the NRI; Geology and Soils, Water Resources, Biological Communities and Habitats, Land Use, Recreational Resources, Historical Resources and Climate Change.

2.1 Geology and Soils

Figure 1[1] presents the bedrock geology of the Site, which has been identified as Graywacke, shale (Oag), which is a coarse-grained sandstone.

The Site's surficial geology consists of glacial till deposited over shallow bedrock (Figure 2). Soils on the Site are classified as Dutchess Cardigan Urban Land Complex (Figure 3). This soil unit consists of very deep, well drained loamy soils formed in glacial till. Folded shale bedrock occurs within 20 - 40 inches of the surface. Slope, frost action and variable depth to bedrock are the main limitations of this soil unit.

Table 2
Soil Characteristics

% of Site	Symbol	Soil Type	Erosion Hazard	Permeability	Depth to Water Table	Depth to Bedrock
100%	DxB	Dutchess-Cardigan-Urban Land Complex	Moderate	Moderate	>6'	20" – 60"

The Soil Survey[2] reports that the water table is typically at a depth of six feet or more year-round where these soils are present. Any groundwater encountered during the construction will be pumped from the open excavations and discharged to approved sediment trapping devices in accordance with NYSDEC guidelines.

2.2 Water Resources

As documented in Figure 4 (Surface Water and Watersheds), the Site is located within two watersheds. The majority of the Site is located within the Hudson River Direct Drainage E Watershed, while a small portion of the center of the Site is located within the Fall Kill Watershed. No surface water features are present in or around the Site, and it does not sit atop an aquifer.

Figure 5 (Wetlands) confirms that no wetlands are present on the Site. During the geotechnical investigation of the Site on June 14, 2023, no standing water was observed, which is indicative of the

[1] All maps in this report are reproduced from the Natural resources Inventory City of Poughkeepsie, 2019.
[2] Soil Survey of Dutchess County, New York, US Dept. of Agriculture, Natural Resources Conservation Service.

well-drained on-site soils and topography of the Site. Also, there was no evidence of wetland vegetation in the slight depressions located on the Site.

Figure 6 (Flood Hazard Areas and Riparian Buffer Areas) indicates that no floodplains, flood hazard areas or riparian buffer areas are located on the Site. And finally, Figure 7 (Potential and Known Sources of Pollution) documents that the Site is not constrained by existing sources of water pollution.

The Proposed Action will involve greater than one acre of ground disturbance; therefore, coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities is required. A Stormwater Pollution Prevention Plan (SWPPP) has been prepared in conformance with the most current New York State Stormwater Management Design Manual and New York State Standards and Specifications for Erosion and Sediment Control. With the implementation of the SWPPP, no significant adverse impacts to wetlands and watercourses located off site will occur.

2.3 Biological Communities and Habitat

As depicted on Figure 8 (Significant Habitats), the Site was identified as supporting the Upland Hardwood Forest cover type. The majority of this cover type was removed by a prior owner of the property. Today, the majority of the Site supports cleared meadow.

According to the NYSDEC Environmental Resource Mapper (Figure 9 – Rare and Endangered Animals and Plants), there are known occurrences of the bald eagle in the vicinity of the Site. According to Habitat Assessments conducted by Ecological Solutions, LLC in 2020 and 2023, no habitats that would support bald eagles exist on the Site.

An inquiry to Region 3 NYSDEC Bureau of Wildlife was made on September 28, 2023. The Agency confirmed that the Proposed action would have no impact on bald eagle habitat. The locus for the bald eagle occurrence records is in the vicinity of the Poughkeepsie Rural Cemetery, which is separated from the Site by NYS Route 9 and the intervening development.

Figure 10 (Habitat Envelopes and Potential Corridors) identifies the Site as a "significant habitat area." This designation reflects the characteristics of the Site prior to the clearance of the Upland Hardwood Forest. Absent this cover type, the Site no longer provides significant habitat.

2.4 Land Use

The Site is located within the R-4, Medium Density Zoning District. As set forth in §19-3.15 (1), the purpose of this district is:

> *"…to provide areas for a broad range of housing types with opportunity for appropriate nonresidential uses at a fairly high density commensurate with the scale and characteristics of the city's older neighborhoods; these are areas with access to major*

transportation arteries and a range of community services."

The Proposed Action fully complies with the applicable R-4 zoning district bulk, area, height and dimensional requirements (Table 3).

Table 3
R-4 Medium Density Zoning District – Project Compliance

Zoning Provision	Required	Proposed
Minimum Lot Area	145,000 SqFt	147,145.7 SqFt
Minimum Lot Width	50 Ft	346.3 Ft
Minimum Lot Frontage	30 Ft	346.3 Ft
Front Yard Setback	35 Ft	40.9 Ft
Side Yard Setback	20 Ft	20 Ft (Left Side) 65 Ft (Right Side)
Rear Yard Setback	20 Ft	240 Ft
Usable Open Space	40%	52.2%
Max. Building Height	40 Ft	40 Ft
Lot Coverage	40%	15.4%

As illustrated on Figure 11, the land use surrounding the Site is predominately residential, with the notable exception of a community service use (New Horizons Resources) that is immediately adjacent to the Site.

The Proposed Action's full compliance with the R-4 zoning district requirements, and its conformity with the existing character of the land uses surrounding the Site demonstrates that the Proposed Action is consistent with, and will strengthen and reinforce the City of Poughkeepsie's land use pattern.

2.5 Recreational Resources

While the Site is currently vacant and undeveloped, it is privately owned, and does not currently afford any public recreational opportunities.

The Proposed Action will result in new residents that will result in a proportional increase in the demand for recreational resources. The Proposed Action incorporates an array of new recreational amenities including open spaces, a walking trail around the entire perimeter of the Site, play and sitting areas, totaling 26,700 square feet. These amenities will off-set the demand on public recreational resources.

In addition, the Site is very near to Bartett Park, and is a short walk to other public recreational amenities such as Eastman Park, the Springside Historic Landmark, Hulme Park, among others (Figure 12).

Finally, the Proposed Action will result in a significant increase in taxes, which can be used by the City to support recreational programs and activities.

2.6 Historic Resources

As noted in Figure 13, the Site substantially contiguous to the Dwight Street-Hooker Avenue Historic District. This district was created in 1982 to preserve the architectural integrity of 17 contributing residential buildings that were built between 1895 and 1915 and reflect a variety of revival styles.

The Proposed Action will not physically impact the Historic District, and upon completion, limited views of the new building would be possible from the homes in the northwest corner of the District.
The project site is not located within a known archaeologically sensitive area. A consultation request has been submitted to NYSOPRHP. On December 20, 2023, NYSOPRHP advised the Applicant that the archaeology unit has no concerns and is not requesting an archaeological survey. A letter of No Adverse Impact on historic resources was issued on June 25, 2024.

2.7 Climate Change

The Proposed Action will convert a vacant formerly wooded site, into a well-designed, fully compliant multi-family development. To mitigate the Proposed Action's impact on climate change, a number of measures have been incorporated. To restore the tree canopy that was removed by the prior owner of the property, a very robust landscaping plan is proposed consisting of the following plantings:

Shade Trees

- Red Maple
- Columnar Hornbeam
- Honey Locust
- London Plane Tree
- Japanese Zelkova

Ornamental Trees

- Shadblow Serviceberry
- River Birch
- Eastern Redbud
- Winter King Hawthorne

Shrubs

- Sum mersweet
- Ink Berry
- Sea Green Juniper
- Bar Harbor Juniper
- Blue Pfitzer Juniper
- Dwarf Mugo Pine
- Anthony waterer Spirea

The proposed stormwater management plan that has been developed for the Proposed Action, includes several green practices as recommended in the New York State Stormwater Management Design Manual. The building will be constructed to comply with current stringent building code requirements, and

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FIGURES

Figure 1

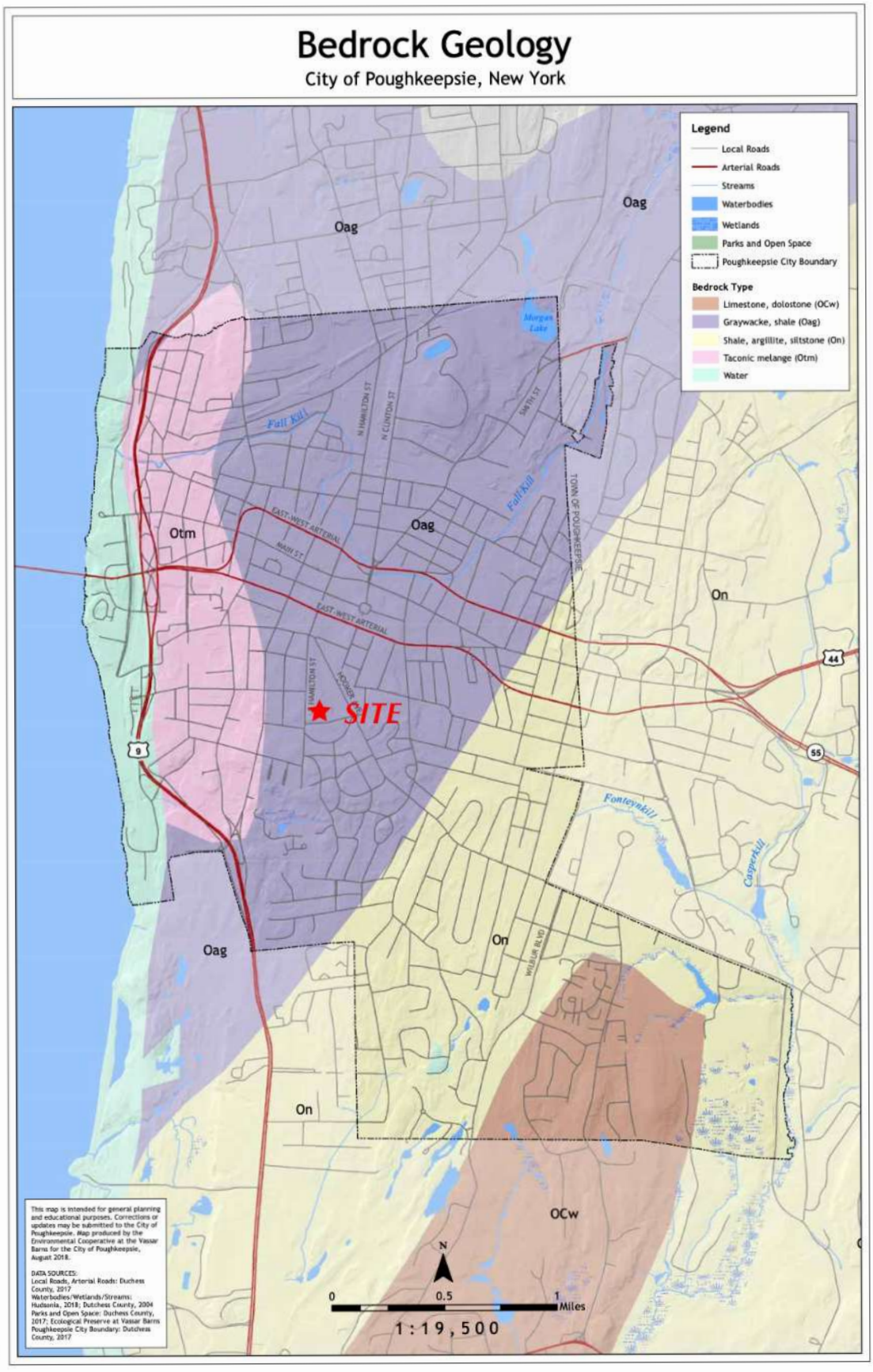
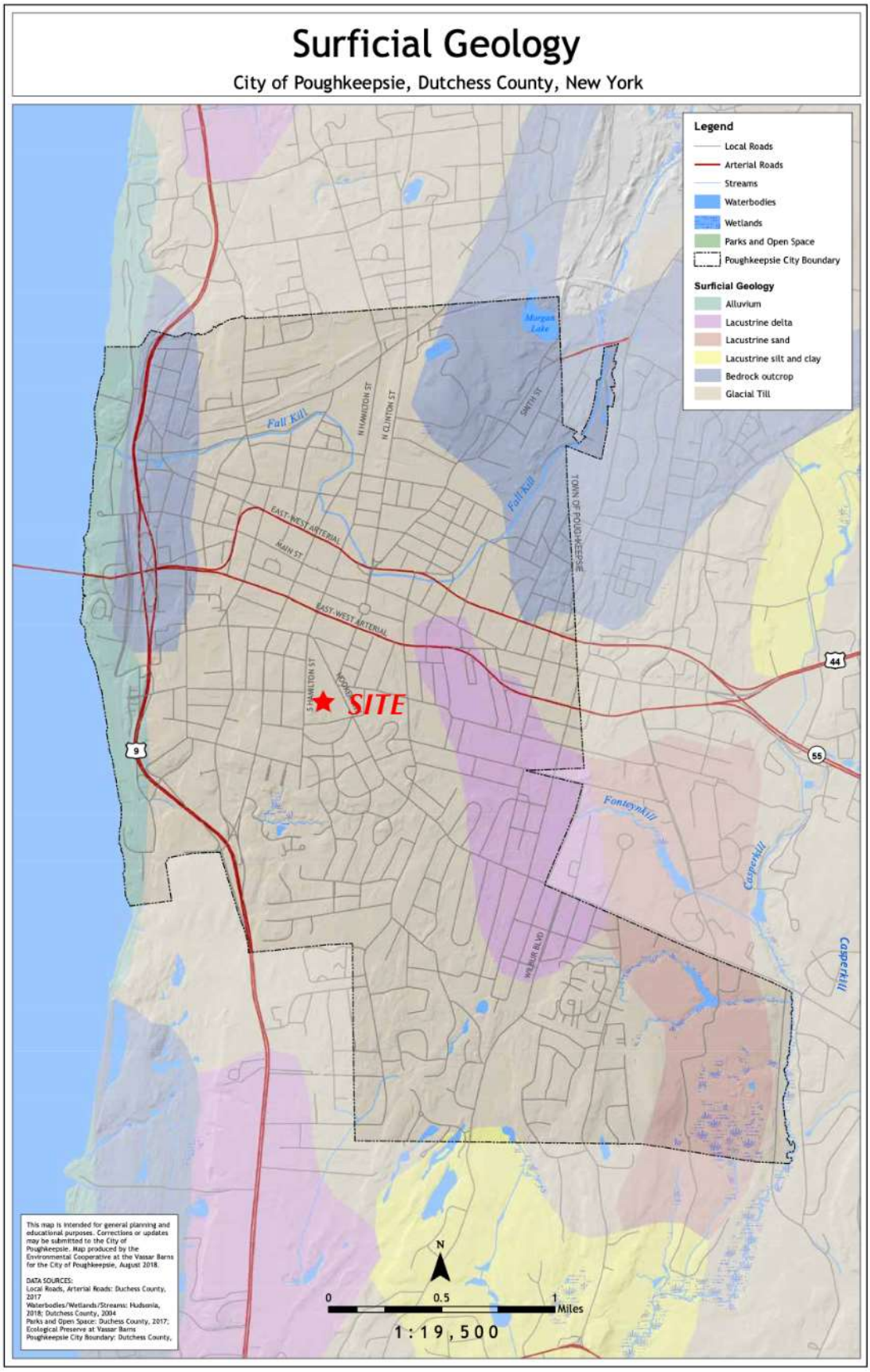

Bedrock Geology
City of Poughkeepsie, New York
Legend
Local Roads
Arterial Roads
Streams
Waterbodies
Wetlands
Parks and Open Space
Poughkeepsie City Boundary
Bedrock Type
Limestone, dolostone (OCw)
Graywacke, shale (Oag)
Shale, argillite, siltstone (On)
Taconic melange (Otm)
Water
Oag
Otm
On
OCw
SITE
Fall Kill
Morgan Lake
Fonteynkill
Casperkill
EAST-WEST ARTERIAL
MAIN ST
N HAMILTON ST
N CLINTON ST
SMITH ST
WILBUR BLVD
TOWN OF POUGHKEEPSIE
9
44
55
This map is intended for general planning and educational purposes. Corrections or updates may be submitted to the City of Poughkeepsie. Map produced by the Environmental Cooperative at the Vassar Barns for the City of Poughkeepsie, August 2018.
DATA SOURCES:
Local Roads, Arterial Roads: Duchess County, 2017
Waterbodies/Wetlands/Streams: Hudsonia, 2013; Dutchess County, 2004
Parks and Open Space: Duchess County, 2017; Ecological Preserve at Vassar Barns
Poughkeepsie City Boundary: Dutchess County, 2017
N
0
0.5
1
Miles
1:19,500

Figure 2


Surficial Geology
City of Poughkeepsie, Dutchess County, New York
Legend
Local Roads
Arterial Roads
Streams
Waterbodies
Wetlands
Parks and Open Space
Poughkeepsie City Boundary
Surficial Geology
Alluvium
Lacustrine delta
Lacustrine sand
Lacustrine silt and clay
Bedrock outcrop
Glacial Till
SITE
Fall Kill
Morgan Lake
N HAMILTON ST
N CLINTON ST
SMITH ST
TOWN OF POUGHKEEPSIE
EAST-WEST ARTERIAL
MAIN ST
S HAMILTON ST
WOODCOCK
WILBUR BLVD
Fonteynkill
Casperkill
9
44
55
N
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Miles
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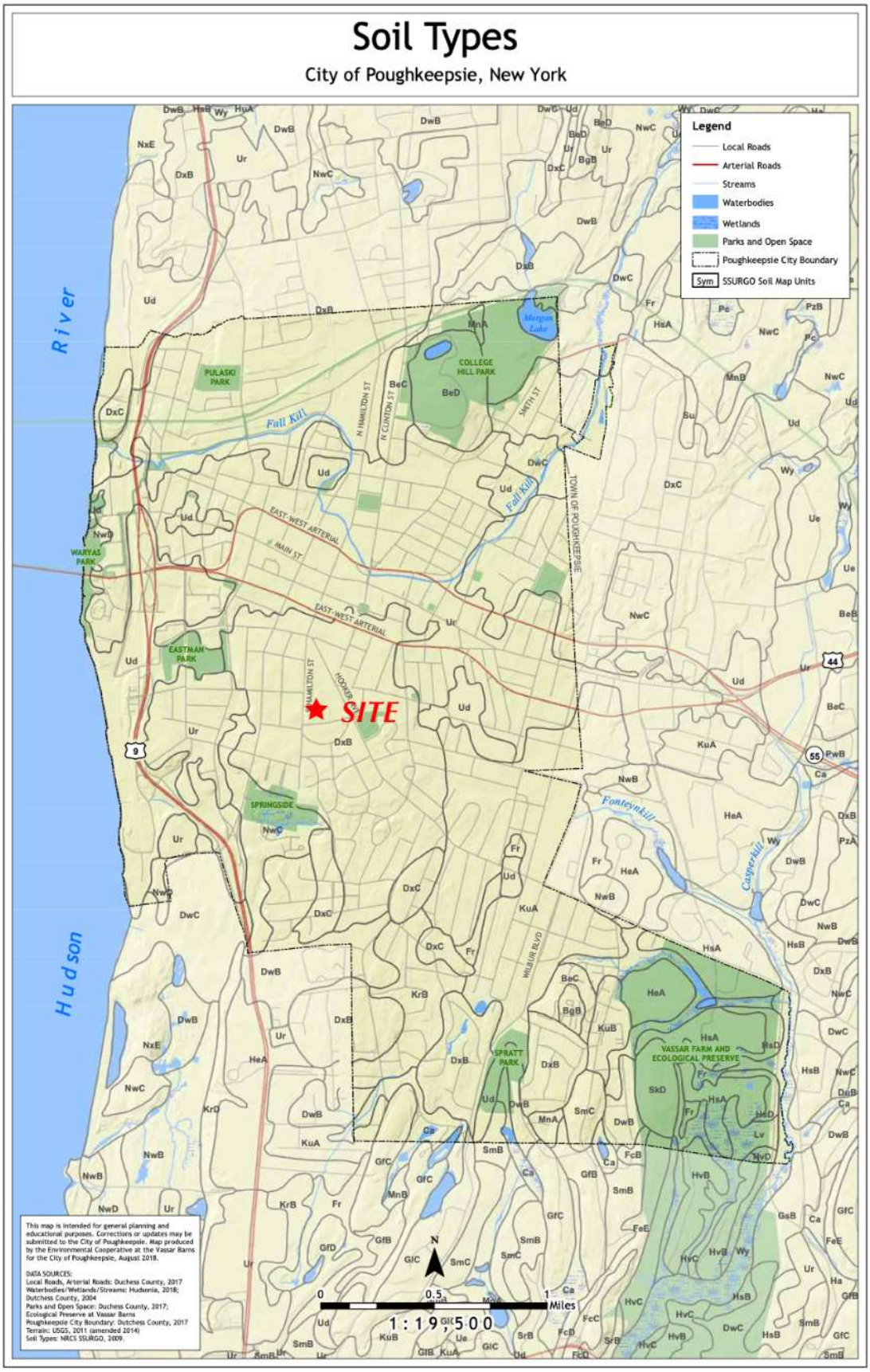
DATA SOURCES:
Local Roads, Arterial Roads: Duchess County, 2017
Waterbodies/Wetlands/Streams: Hudsonia, 2018; Dutchess County, 2004
Parks and Open Space: Duchess County, 2017; Ecological Preserve at Vassar Barns
Poughkeepsie City Boundary: Dutchess County,

Figure 3


Soil Types
City of Poughkeepsie, New York
Legend
Local Roads
Arterial Roads
Streams
Waterbodies
Wetlands
Parks and Open Space
Poughkeepsie City Boundary
Sym SSURGO Soil Map Units
SITE
Hudson River
Fall Kill
Fonteynkill
Casperkill
COLLEGE HILL PARK
PULASKI PARK
WARYAS PARK
EASTMAN PARK
SPRINGSIDE
SPRATT PARK
VASSAR FARM AND ECOLOGICAL PRESERVE
EAST-WEST ARTERIAL
MAIN ST
HAMILTON ST
N HAMILTON ST
N CLINTON ST
SMITH ST
WILBUR BLVD
TOWN OF POUGHKEEPSIE
0 0.5 1 Miles
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N
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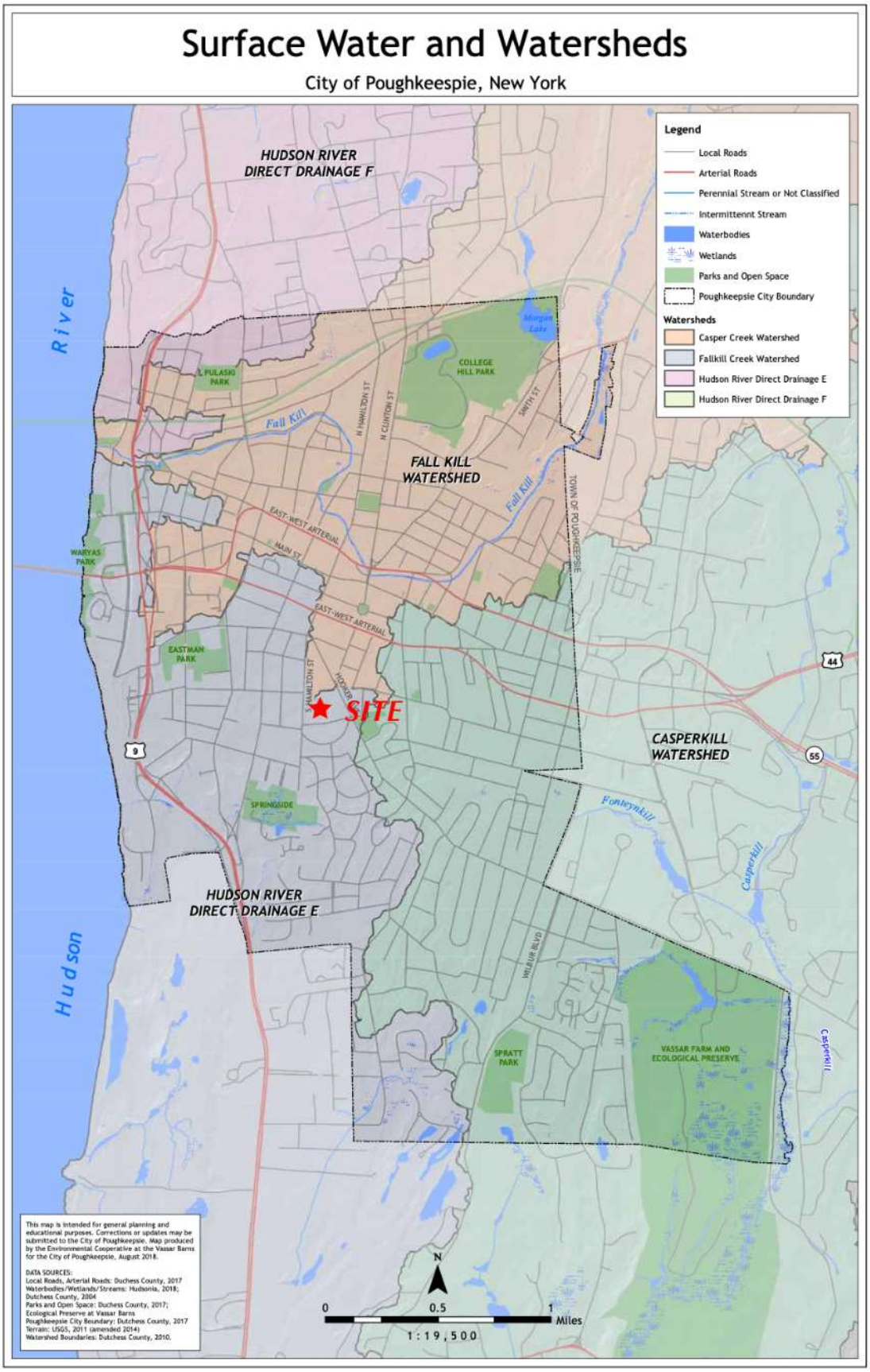
DATA SOURCES:
Local Roads, Arterial Roads: Duchess County, 2017
Waterbodies/Wetlands/Streams: Hudsonia, 2018; Dutchess County, 2004
Parks and Open Space: Duchess County, 2017; Ecological Preserve at Vassar Barns
Poughkeepsie City Boundary: Dutchess County, 2017
Terrain: USGS, 2011 (amended 2014)
Soil Types: NRCS SSURGO, 2009.

Figure 4


Surface Water and Watersheds
City of Poughkeepsie, New York
Legend
Local Roads
Arterial Roads
Perennial Stream or Not Classified
Intermittennt Stream
Waterbodies
Wetlands
Parks and Open Space
Poughkeepsie City Boundary
Watersheds
Casper Creek Watershed
Fallkill Creek Watershed
Hudson River Direct Drainage E
Hudson River Direct Drainage F
HUDSON RIVER DIRECT DRAINAGE F
FALL KILL WATERSHED
CASPERKILL WATERSHED
HUDSON RIVER DIRECT DRAINAGE E
SITE
Hudson River
Fall Kill
Fonteynkill
Casperkill
COLLEGE HILL PARK
EASTMAN PARK
SPRINGSIDE
SPRATT PARK
VASSAR FARM AND ECOLOGICAL PRESERVE
WARYAS PARK
EAST-WEST ARTERIAL
MAIN ST
N HAMILTON ST
N CLINTON ST
SMITH ST
HOOVER
WILBUR BLVD
TOWN OF POUGHKEEPSIE
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Miles
1:19,500
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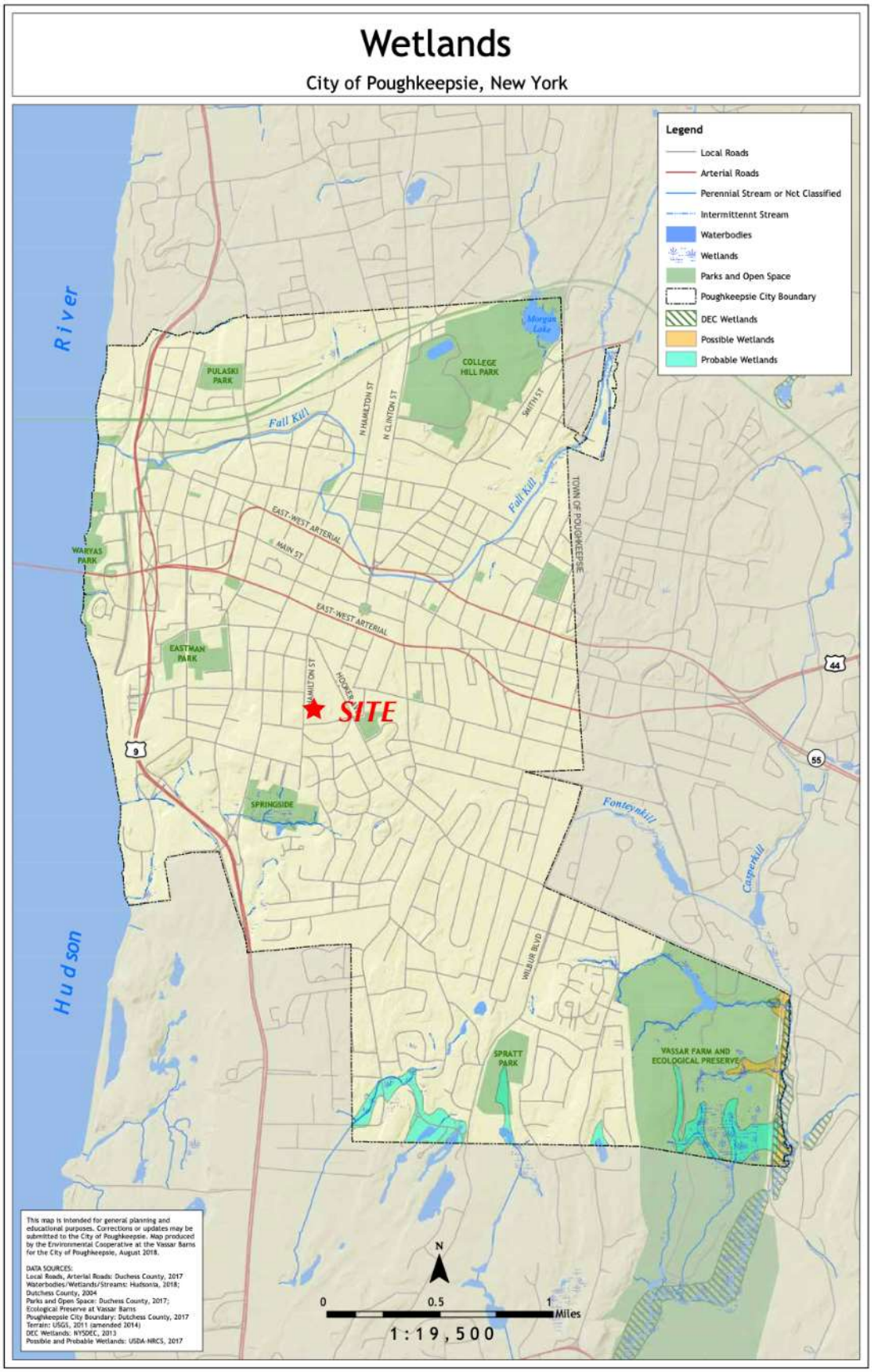
DATA SOURCES:
Local Roads, Arterial Roads: Duchess County, 2017
Waterbodies/Wetlands/Streams: Hudsonia, 2018; Dutchess County, 2004
Parks and Open Space: Duchess County, 2017; Ecological Preserve at Vassar Barns
Poughkeepsie City Boundary: Dutchess County, 2017
Terrain: USGS, 2011 (amended 2014)
Watershed Boundaries: Dutchess County, 2010.

Figure 5


Wetlands
City of Poughkeepsie, New York
Legend
Local Roads
Arterial Roads
Perennial Stream or Not Classified
Intermittennt Stream
Waterbodies
Wetlands
Parks and Open Space
Poughkeepsie City Boundary
DEC Wetlands
Possible Wetlands
Probable Wetlands
Hudson River
PULASKI PARK
COLLEGE HILL PARK
Morgan Lake
Fall Kill
N HAMILTON ST
N CLINTON ST
SMITH ST
TOWN OF POUGHKEEPSIE
EAST-WEST ARTERIAL
MAIN ST
WARYAS PARK
EASTMAN PARK
HAMILTON ST
HOOKER AVE
SITE
SPRINGSIDE
Fonteynkill
Casperkill
WILBUR BLVD
SPRATT PARK
VASSAR FARM AND ECOLOGICAL PRESERVE
9
44
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This map is intended for general planning and educational purposes. Corrections or updates may be submitted to the City of Poughkeepsie. Map produced by the Environmental Cooperative at the Vassar Barns for the City of Poughkeepsie, August 2018.
DATA SOURCES:
Local Roads, Arterial Roads: Duchess County, 2017
Waterbodies/Wetlands/Streams: Hudsonia, 2018; Dutchess County, 2004
Parks and Open Space: Duchess County, 2017; Ecological Preserve at Vassar Barns
Poughkeepsie City Boundary: Dutchess County, 2017
Terrain: USGS, 2011 (amended 2014)
DEC Wetlands: NYSDEC, 2013
Possible and Probable Wetlands: USDA-NRCS, 2017
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Figure 6

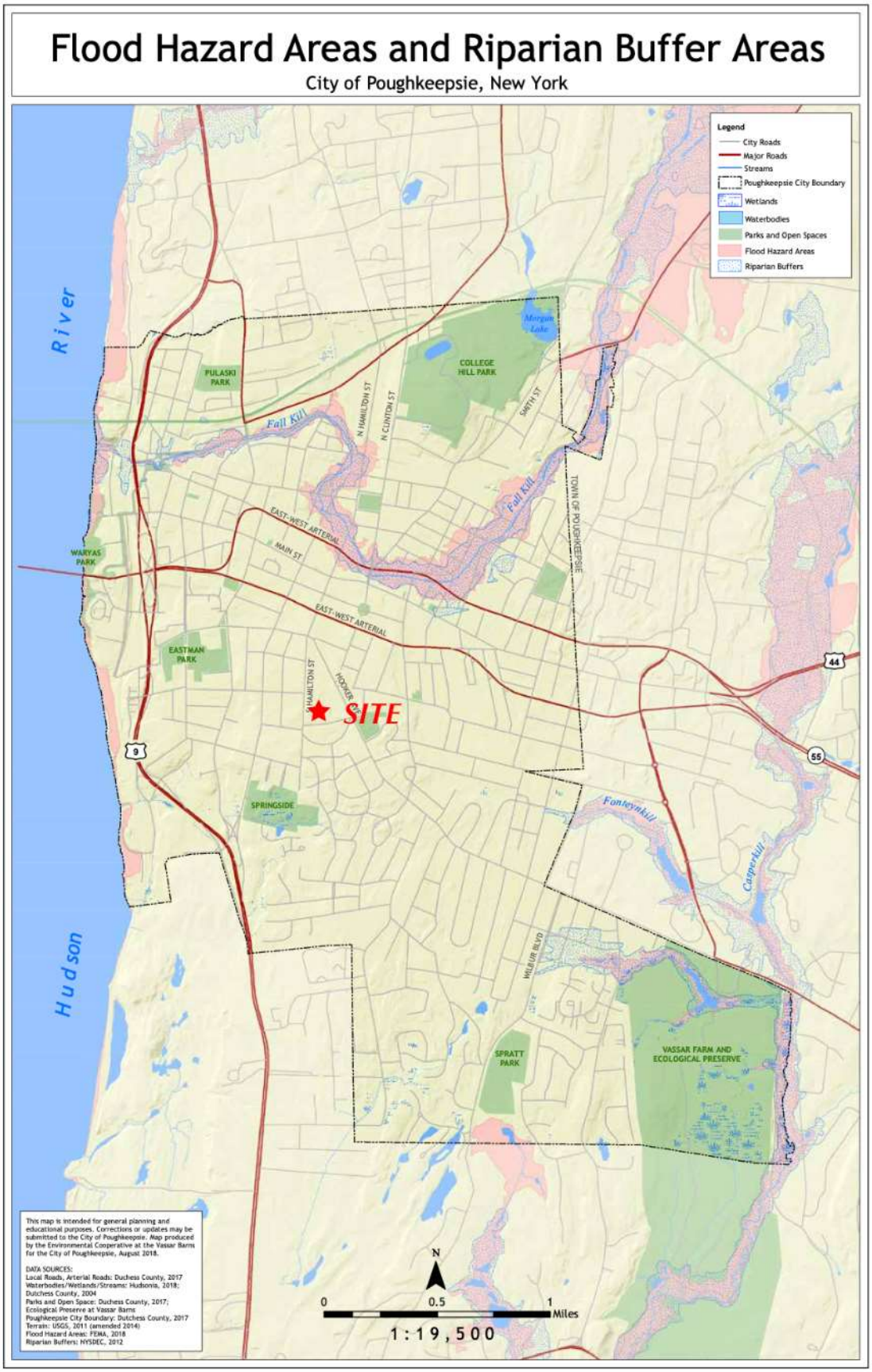
Flood Hazard Areas and Riparian Buffer Areas
City of Poughkeepsie, New York
Legend
City Roads
Major Roads
Streams
Poughkeepsie City Boundary
Wetlands
Waterbodies
Parks and Open Spaces
Flood Hazard Areas
Riparian Buffers
Hudson River
PULASKI PARK
COLLEGE HILL PARK
Morgan Lake
Fall Kill
N HAMILTON ST
N CLINTON ST
SMITH ST
TOWN OF POUGHKEEPSIE
EAST-WEST ARTERIAL
MAIN ST
WARYAS PARK
EASTMAN PARK
HAMILTON ST
HOOKER
SITE
SPRINGSIDE
Fonteynkill
Casperkill
WILBUR BLVD
SPRATT PARK
VASSAR FARM AND ECOLOGICAL PRESERVE
9
44
55
This map is intended for general planning and educational purposes. Corrections or updates may be submitted to the City of Poughkeepsie. Map produced by the Environmental Cooperative at the Vassar Barns for the City of Poughkeepsie, August 2018.
DATA SOURCES:
Local Roads, Arterial Roads: Duchess County, 2017
Waterbodies/Wetlands/Streams: Hudsonis, 2018; Dutchess County, 2004
Parks and Open Space: Duchess County, 2017; Ecological Preserve at Vassar Barns
Poughkeepsie City Boundary: Dutchess County, 2017
Terrain: USGS, 2011 (amended 2014)
Flood Hazard Areas: FEMA, 2018
Riparian Buffers: NYSDEC, 2012
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Figure 7

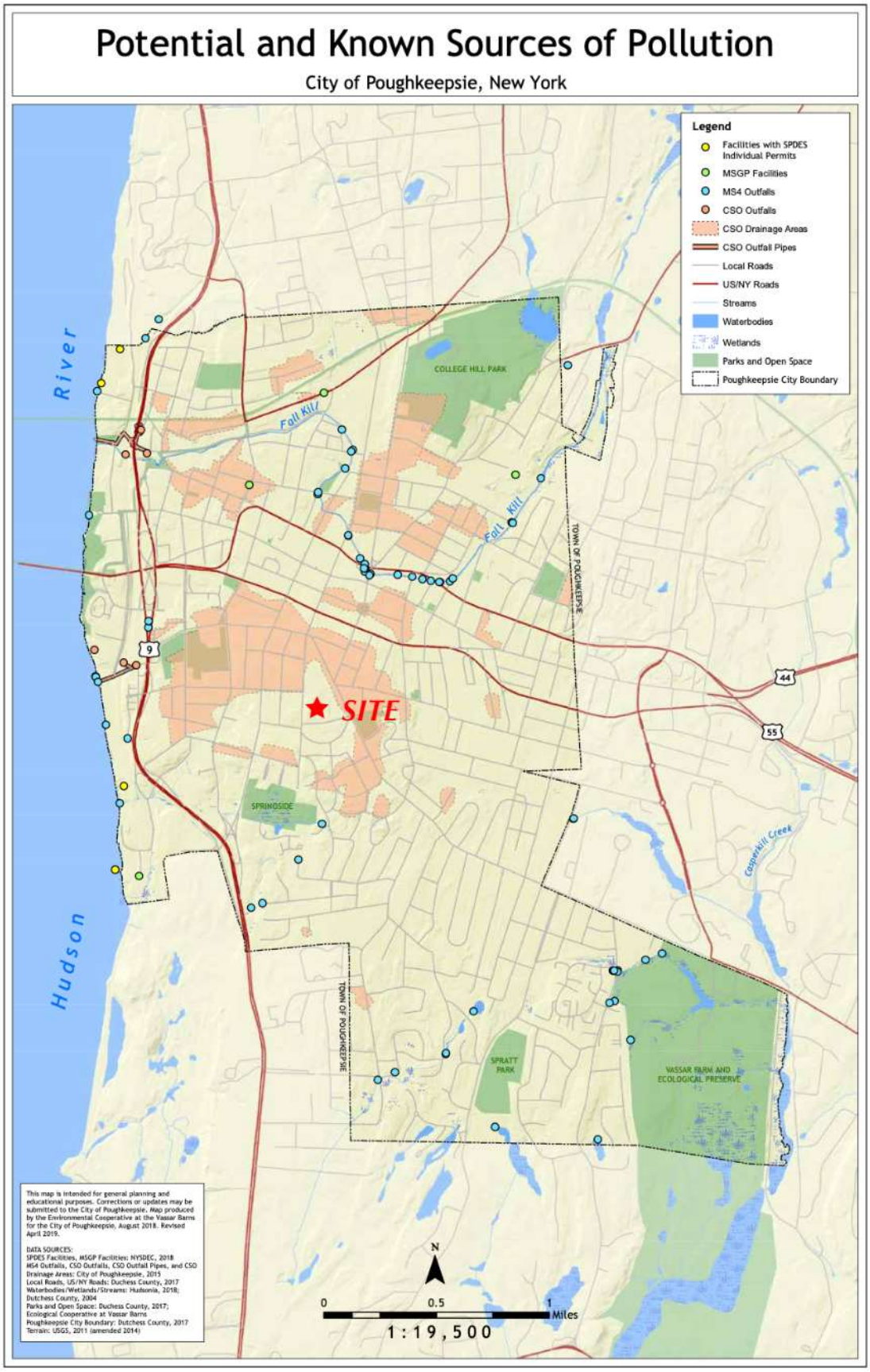
Potential and Known Sources of Pollution
City of Poughkeepsie, New York
Legend
Facilities with SPDES Individual Permits
MSGP Facilities
MS4 Outfalls
CSO Outfalls
CSO Drainage Areas
CSO Outfall Pipes
Local Roads
US/NY Roads
Streams
Waterbodies
Wetlands
Parks and Open Space
Poughkeepsie City Boundary
Hudson River
COLLEGE HILL PARK
Fall Kill
Fall Kill
TOWN OF POUGHKEEPSIE
SITE
SPRINGSIDE
Copperkill Creek
TOWN OF POUGHKEEPSIE
SPRATT PARK
VASSAR FARM AND ECOLOGICAL PRESERVE
9
44
55
This map is intended for general planning and educational purposes. Corrections or updates may be submitted to the City of Poughkeepsie. Map produced by the Environmental Cooperative at the Vassar Barns for the City of Poughkeepsie, August 2018. Revised April 2019.
DATA SOURCES:
SPDES Facilities, MSGP Facilities: NYSDEC, 2018
MS4 Outfalls, CSO Outfalls, CSO Outfall Pipes, and CSO Drainage Areas: City of Poughkeepsie, 2015
Local Roads, US/NY Roads: Duchess County, 2017
Waterbodies/Wetlands/Streams: Hudsonia, 2018; Dutchess County, 2004
Parks and Open Space: Duchess County, 2017; Ecological Cooperative at Vassar Barns
Poughkeepsie City Boundary: Dutchess County, 2017
Terrain: USGS, 2011 (amended 2014)
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Figure 8

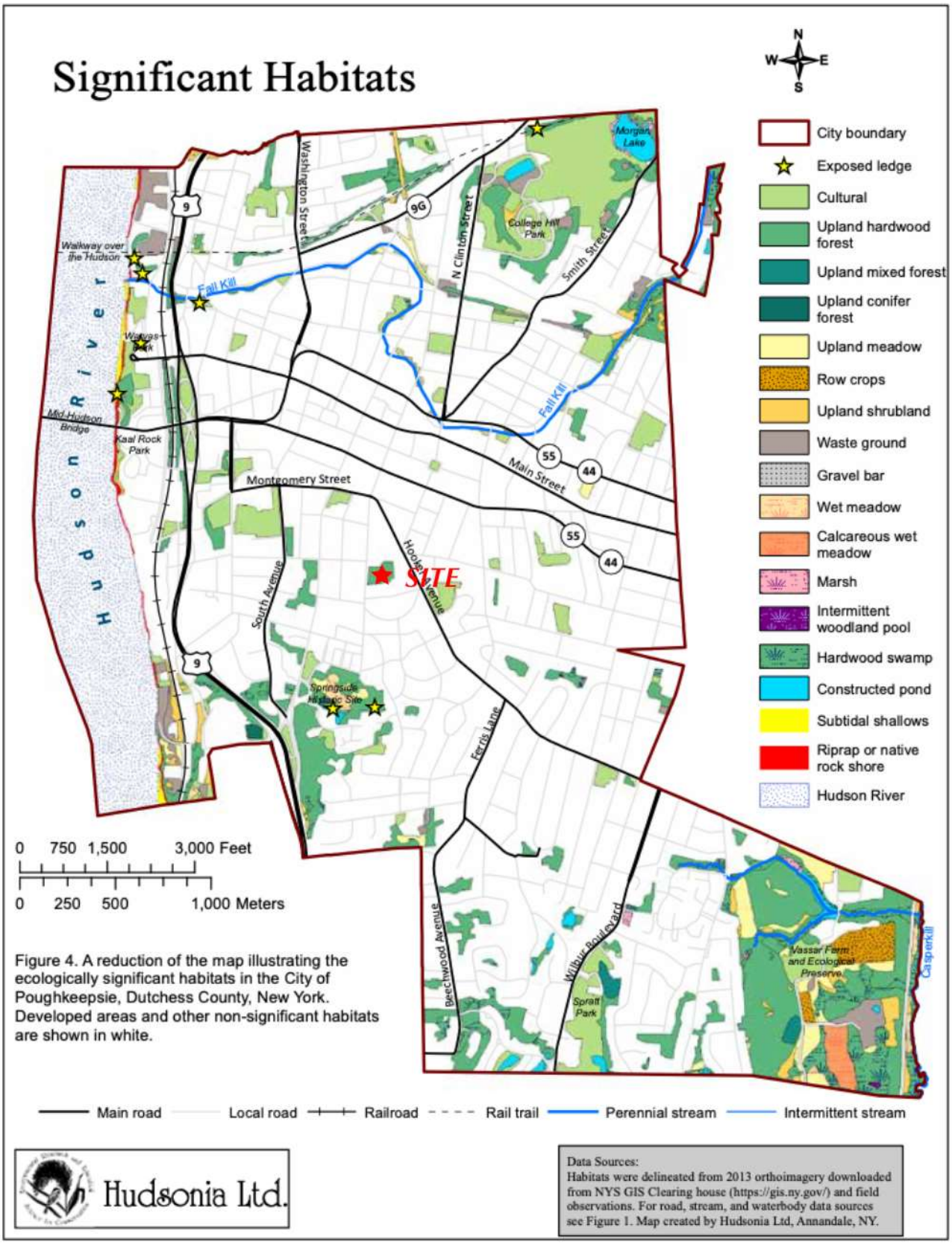
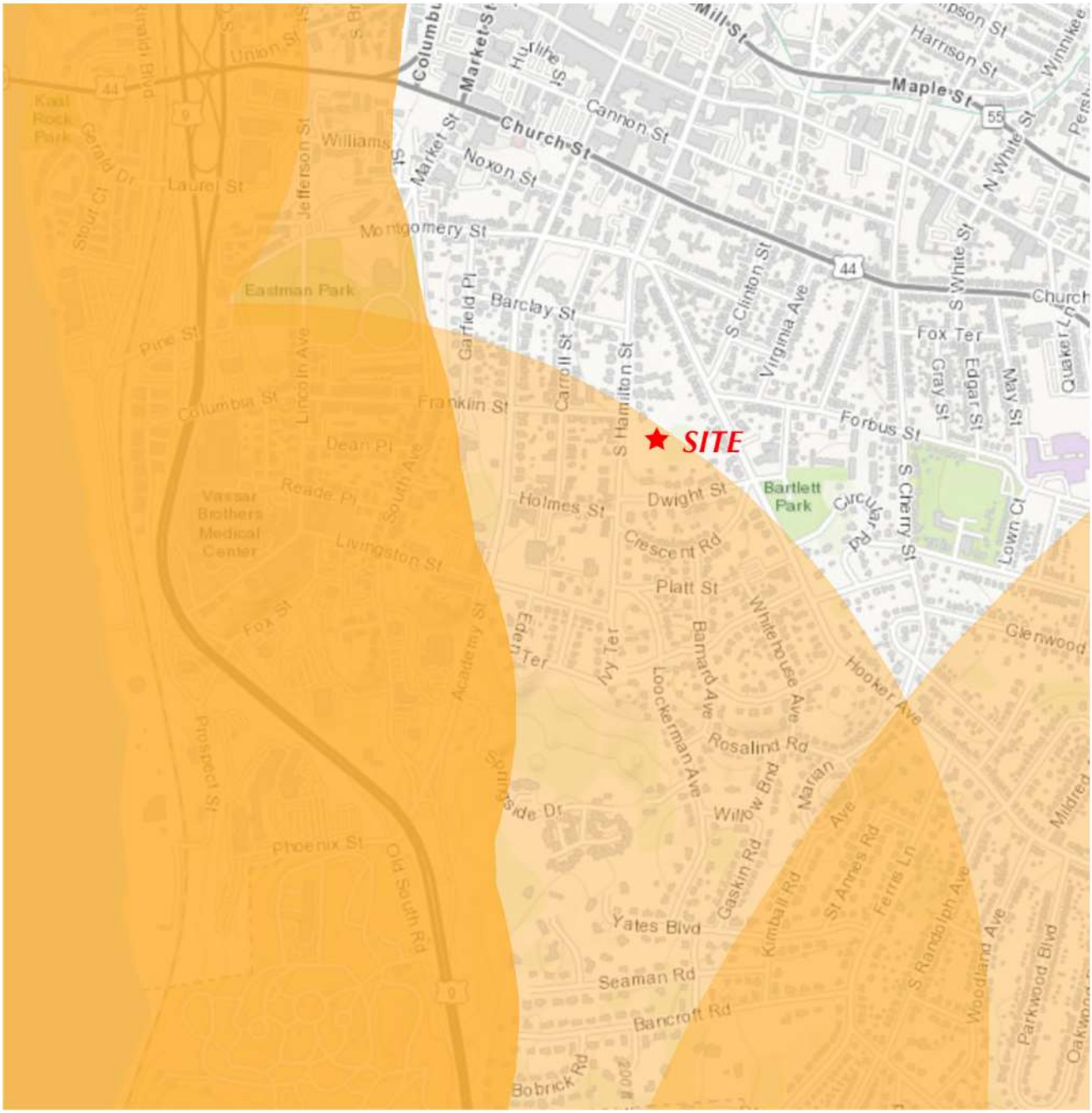


Figure 4. A reduction of the map illustrating the ecologically significant habitats in the City of Poughkeepsie, Dutchess County, New York. Developed areas and other non-significant habitats are shown in white.

Hudsonia Ltd.

Data Sources:
Habitats were delineated from 2013 orthoimagery downloaded from NYS GIS Clearing house (https://gis.ny.gov/) and field observations. For road, stream, and waterbody data sources see Figure 1. Map created by Hudsonia Ltd, Annandale, NY.

Figure 9
Rare Plants and Animals



Source: NYSDEC Environmental Resource Mapper

Figure 10

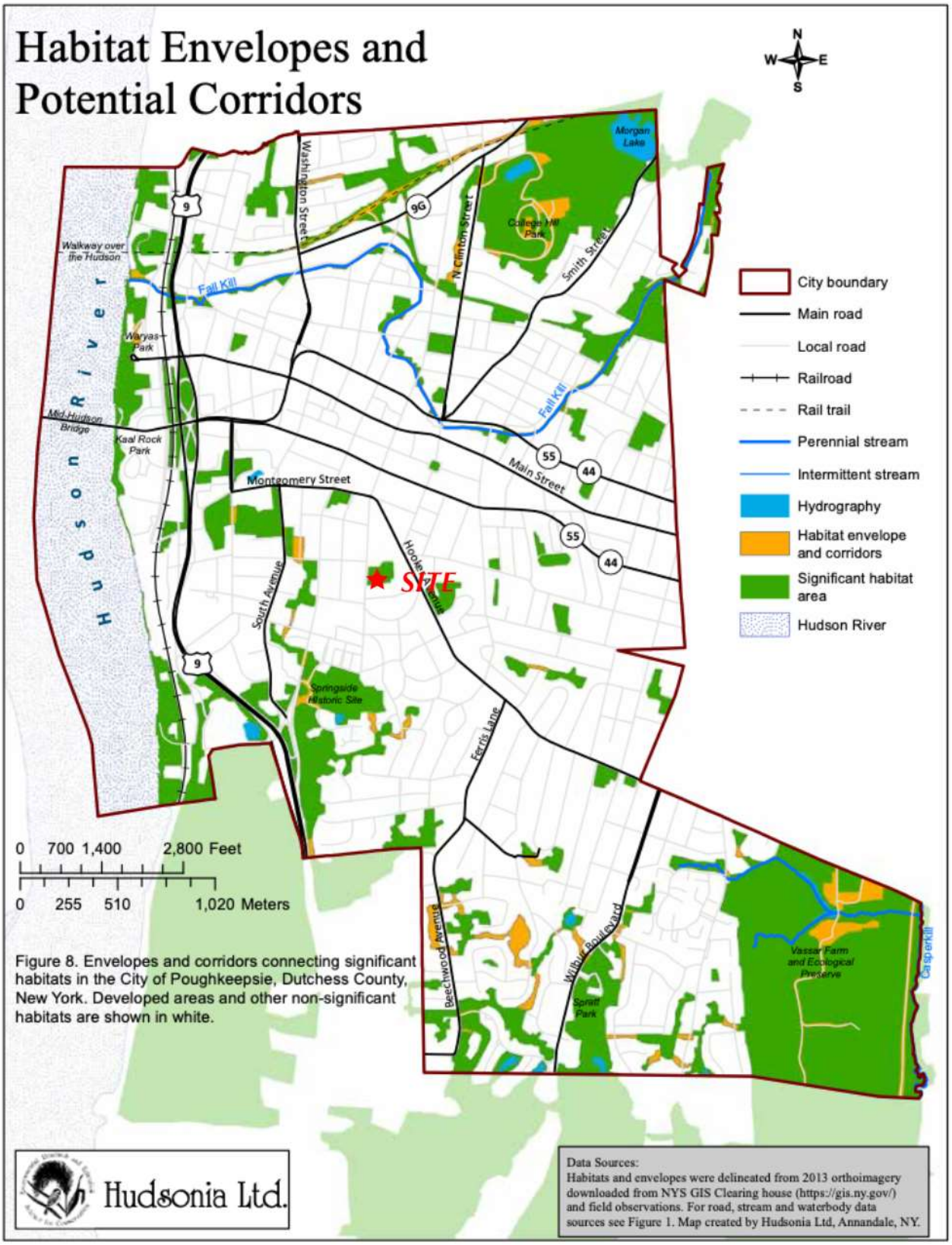


Figure 8. Envelopes and corridors connecting significant habitats in the City of Poughkeepsie, Dutchess County, New York. Developed areas and other non-significant habitats are shown in white.

Figure 11

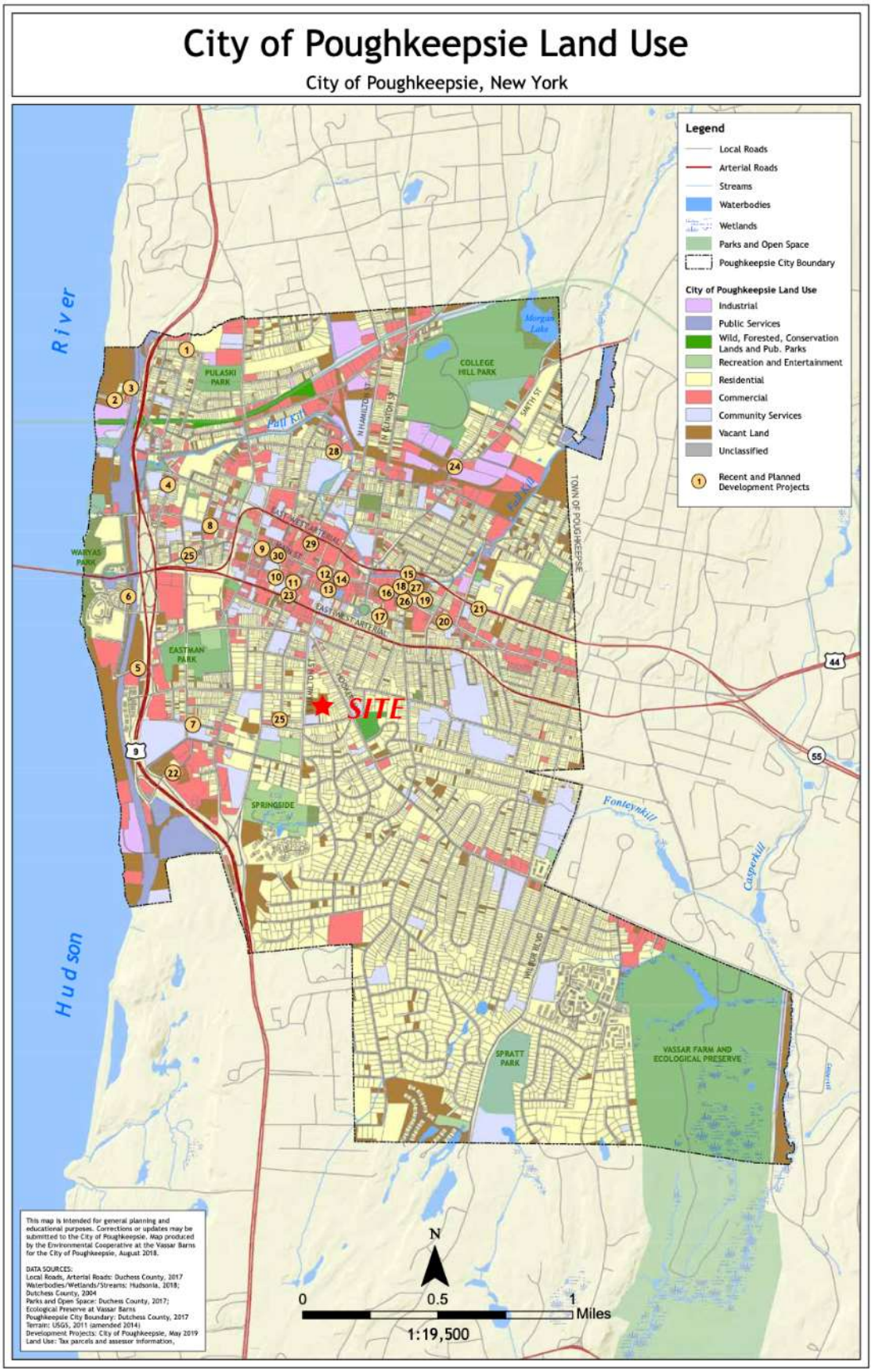

City of Poughkeepsie Land Use
City of Poughkeepsie, New York
Legend
Local Roads
Arterial Roads
Streams
Waterbodies
Wetlands
Parks and Open Space
Poughkeepsie City Boundary
City of Poughkeepsie Land Use
Industrial
Public Services
Wild, Forested, Conservation Lands and Pub. Parks
Recreation and Entertainment
Residential
Commercial
Community Services
Vacant Land
Unclassified
Recent and Planned Development Projects
SITE
Hudson River
Fonteynkill
Casperkill
PULASKI PARK
COLLEGE HILL PARK
EASTMAN PARK
SPRINGSIDE
SPRATT PARK
VASSAR FARM AND ECOLOGICAL PRESERVE
WARYAS PARK
TOWN OF POUGHKEEPSIE
EAST-WEST ARTERIAL
This map is intended for general planning and educational purposes. Corrections or updates may be submitted to the City of Poughkeepsie. Map produced by the Environmental Cooperative at the Vassar Barns for the City of Poughkeepsie, August 2018.
DATA SOURCES:
Local Roads, Arterial Roads: Duchess County, 2017
Waterbodies/Wetlands/Streams: Hudsonia, 2018; Dutchess County, 2004
Parks and Open Space: Duchess County, 2017; Ecological Preserve at Vassar Barns
Poughkeepsie City Boundary: Dutchess County, 2017
Terrain: USGS, 2011 (amended 2014)
Development Projects: City of Poughkeepsie, May 2019
Land Use: Tax parcels and assessor information,
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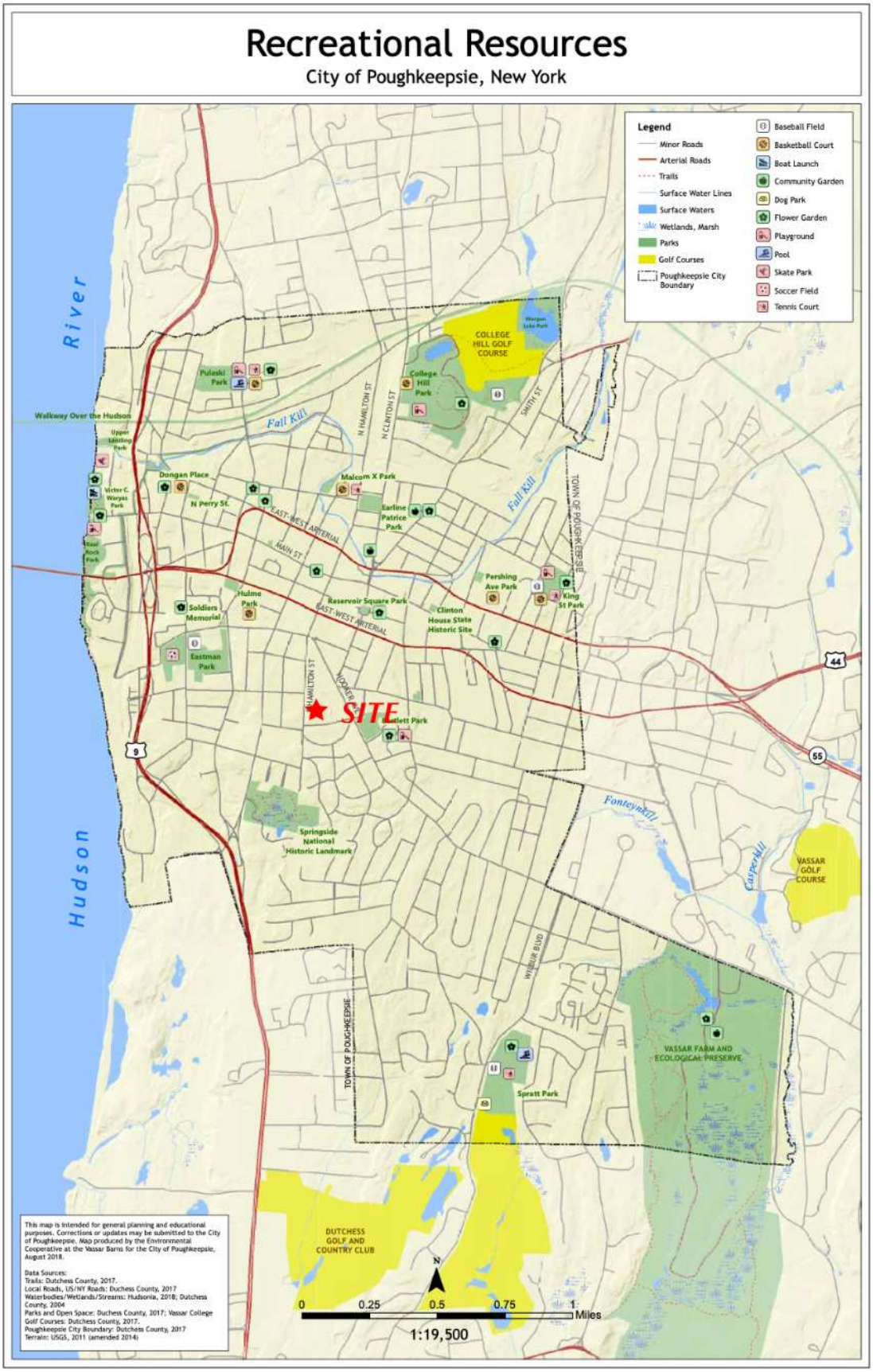
Figure 12



Recreational Resources
City of Poughkeepsie, New York
Legend
Minor Roads
Arterial Roads
Trails
Surface Water Lines
Surface Waters
Wetlands, Marsh
Parks
Golf Courses
Poughkeepsie City Boundary
Baseball Field
Basketball Court
Boat Launch
Community Garden
Dog Park
Flower Garden
Playground
Pool
Skate Park
Soccer Field
Tennis Court
Hudson River
Walkway Over the Hudson
Upper Landing Park
Victor C. Waryas Park
East Rock Park
Pulaski Park
Fall Kill
N HAMILTON ST
N CLINTON ST
College Hill Park
COLLEGE HILL GOLF COURSE
SMITH ST
Dongan Place
N Perry St.
Malcom X Park
Earline Patrice Park
EAST-WEST ARTERIAL
MAIN ST
TOWN OF POUGHKEEPSIE
Pershing Ave Park
King St Park
Soldiers Memorial
Hulme Park
Reservoir Square Park
Clinton House State Historic Site
Eastman Park
HAMILTON ST
NOOKER
SITE
Bartlett Park
44
55
9
Springside National Historic Landmark
Fonteynkill
Casperkill
VASSAR GOLF COURSE
WILBUR BLVD
VASSAR FARM AND ECOLOGICAL PRESERVE
Spratt Park
DUTCHESS GOLF AND COUNTRY CLUB
This map is intended for general planning and educational purposes. Corrections or updates may be submitted to the City of Poughkeepsie. Map produced by the Environmental Cooperative at the Vassar Barns for the City of Poughkeepsie, August 2018.
Data Sources:
Trails: Dutchess County, 2017.
Local Roads, US/NY Roads: Duchess County, 2017
Waterbodies/Wetlands/Streams: Hudsonia, 2018; Dutchess County, 2004
Parks and Open Space: Duchess County, 2017; Vassar College
Golf Courses: Dutchess County, 2017.
Poughkeepsie City Boundary: Dutchess County, 2017
Terrain: USGS, 2011 (amended 2014)
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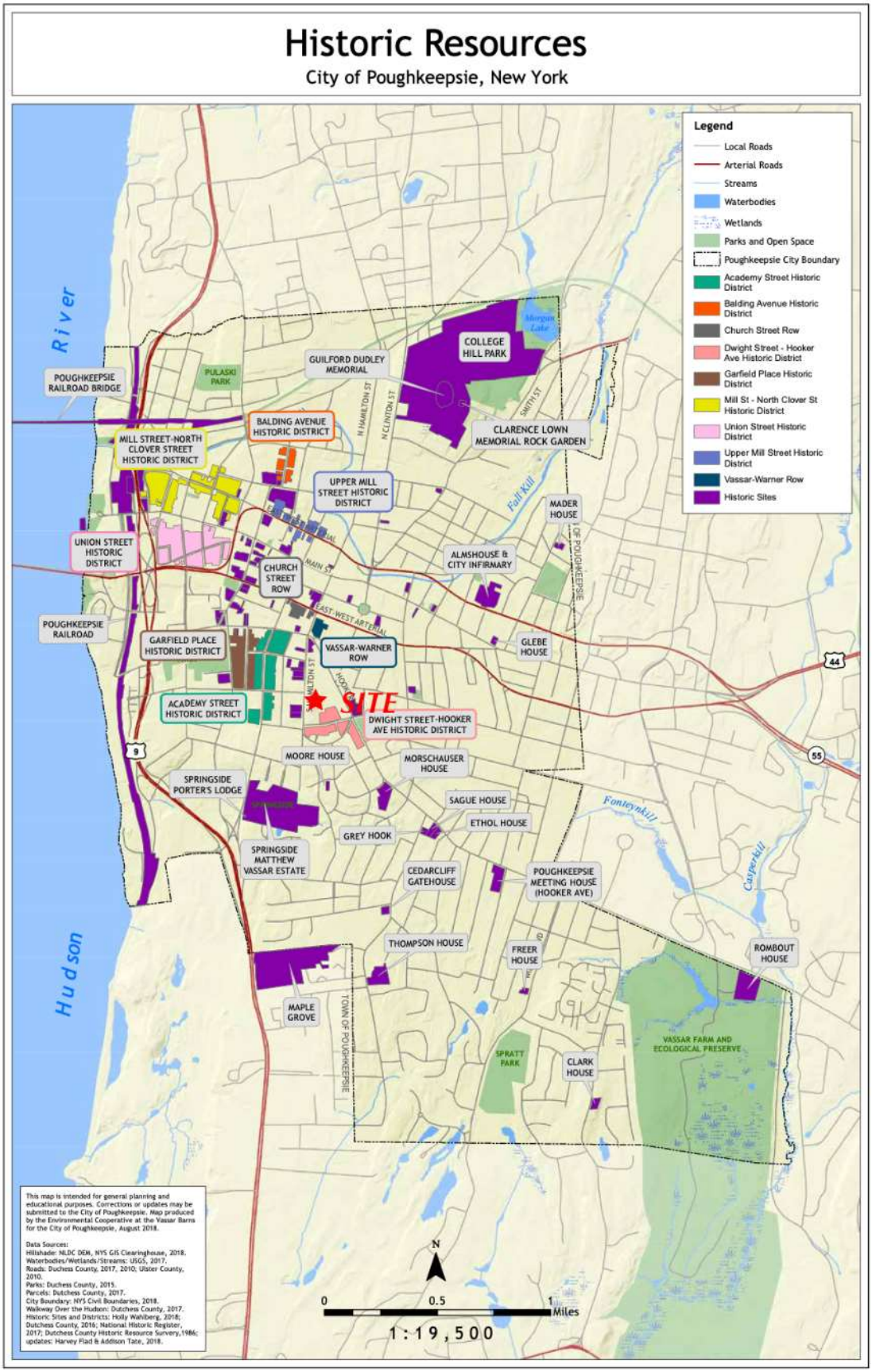
0.5
0.75
1
Miles
1:19,500

Figure 13


Historic Resources
City of Poughkeepsie, New York
Legend
Local Roads
Arterial Roads
Streams
Waterbodies
Wetlands
Parks and Open Space
Poughkeepsie City Boundary
Academy Street Historic District
Balding Avenue Historic District
Church Street Row
Dwight Street - Hooker Ave Historic District
Garfield Place Historic District
Mill St - North Clover St Historic District
Union Street Historic District
Upper Mill Street Historic District
Vassar-Warner Row
Historic Sites
Hudson River
POUGHKEEPSIE RAILROAD BRIDGE
POUGHKEEPSIE RAILROAD
PULASKI PARK
GUILFORD DUDLEY MEMORIAL
COLLEGE HILL PARK
Morgan Lake
BALDING AVENUE HISTORIC DISTRICT
MILL STREET-NORTH CLOVER STREET HISTORIC DISTRICT
UPPER MILL STREET HISTORIC DISTRICT
CLARENCE LOWN MEMORIAL ROCK GARDEN
Fall Kill
MADER HOUSE
UNION STREET HISTORIC DISTRICT
CHURCH STREET ROW
ALMSHOUSE & CITY INFIRMARY
GARFIELD PLACE HISTORIC DISTRICT
VASSAR-WARNER ROW
GLEBE HOUSE
ACADEMY STREET HISTORIC DISTRICT
SITE
DWIGHT STREET-HOOKER AVE HISTORIC DISTRICT
MOORE HOUSE
MORSCHAUSER HOUSE
SPRINGSIDE PORTER'S LODGE
SAGUE HOUSE
ETHOL HOUSE
GREY HOOK
Fonteynkill
SPRINGSIDE MATTHEW VASSAR ESTATE
CEDARCLIFF GATEHOUSE
POUGHKEEPSIE MEETING HOUSE (HOOKER AVE)
Casperkill
THOMPSON HOUSE
FREER HOUSE
ROMBOUT HOUSE
MAPLE GROVE
SPRATT PARK
CLARK HOUSE
VASSAR FARM AND ECOLOGICAL PRESERVE
TOWN OF POUGHKEEPSIE
CITY OF POUGHKEEPSIE
EAST-WEST ARTERIAL
MAIN ST
HAMILTON ST
N CLINTON ST
SMITH ST
WILTON ST
HOOKER
9
44
55
This map is intended for general planning and educational purposes. Corrections or updates may be submitted to the City of Poughkeepsie. Map produced by the Environmental Cooperative at the Vassar Barns for the City of Poughkeepsie, August 2018.
Data Sources:
Hillshade: NLDC DEM, NYS GIS Clearinghouse, 2018.
Waterbodies/Wetlands/Streams: USGS, 2017.
Roads: Duchess County, 2017, 2010; Ulster County, 2010.
Parks: Duchess County, 2015.
Parcels: Dutchess County, 2017.
City Boundary: NYS Civil Boundaries, 2018.
Walkway Over the Hudson: Dutchess County, 2017.
Historic Sites and Districts: Holly Wahlberg, 2018; Dutchess County, 2016; National Historic Register, 2017; Dutchess County Historic Resource Survery,1986; updates: Harvey Flad & Addison Tate, 2018.
N
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Miles
1:19,500

George Brandt

From: Schreyer, Jessica (PARKS) <Jessica.Schreyer@parks.ny.gov>
Sent: Wednesday, December 20, 2023 2:18 PM
To: George Brandt
Cc: aricoassociates@gmail.com; Lauran O'Neill
Subject: RE: 39LTP6D6EV93 Accepted for Project 23PR09978

Hi George,

Sloane and Marianna are not yet done with their review. The archaeology unit has no concerns and is not requesting an archaeological survey.

Jessica Schreyer
Archaeology Unit Program Coordinator
Division for Historic Preservation

New York State Parks, Recreation & Historic Preservation
Peebles Island State Park, P.O. Box 189, Waterford, NY 12188
Office: (518) 268-2205 / Mobile: (518) 948-7050
Jessica.Schreyer@parks.ny.gov
https://parks.ny.gov/shpo



From: George Brandt <gbrandt@onekeyllc.com>
Sent: Wednesday, December 20, 2023 1:59 PM
To: Schreyer, Jessica (PARKS) <Jessica.Schreyer@parks.ny.gov>
Cc: aricoassociates@gmail.com; Lauran O'Neill <loneill@onekeyllc.com>
Subject: 39LTP6D6EV93 Accepted for Project 23PR09978

You don't often get email from gbrandt@onekeyllc.com. Learn why this is important

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Good afternoon Jessica –

I am the owner rep for the project associated with the initial consultation number noted above. The project consultant is copied here along with the property principal.

A new submission number: 23PR09978.001 was issued on 11/30/23.

We have not received any requests for additional information and believe all the required documentation for the consultation was provided.

In connection with the consultation, in the submissions tab, it is indicated as follows:

Jessica Schreyer (Archaeology): Complete
Tabitha O'Connell (Survey and Evaluation): Complete
Sloane Bullough (Technical Services): Incomplete
Mariana Montes Staines (Technical Services): Incomplete

I emailed Sloane earlier, unfortunately she is out ill today.

Can you assist me in resolving the incompleteness issue?

Lastly, are you able to share any information on archeology? The Mapper indicates the site is in an archeologically sensitive area.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

FOR THE DEVELOPMENT OF

SOUTH HAMILTON

CITY OF POUGHKEEPSIE
DUTCHESS COUNTY, NEW YORK

PREPARED FOR:

O'NEILL GROUP HAMILTON, LLC
241 HUDSON AVENUE
HACKENSACK, NEW JERSEY 07601

OCTOBER 3, 2023
LAST REVISED: OCTOBER 10, 2024

PREPARED BY:

Arico Associates
1407 Route 9, Bld.2, Suite 6
Clifton Park, New York 12065

ARICO ASSOCIATES PROJECT ID: 22.10



ARICO ASSOCIATES
ENGINEERS LAND PLANNERS & CONSULTANTS

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1.0 INTRODUCTION

1.1 Background

In 1972, Congress passed the Federal Water Pollution Control Act (FWPCA), also known as the Clean Water Act (CWA), to restore and maintain the quality of the nation's waterways. The ultimate goal was to ensure that rivers and streams were fishable, swimmable, and drinkable. In 1987, the Water Quality Act (WQA) added provisions to the CWA that allowed the United States Environmental Protection Agency (EPA) to govern stormwater discharges from construction sites. In 1998, EPA published the final notice for General Permits for Stormwater Discharges from Construction Activities Disturbing 5 Acres or Greater (63 Federal Register 7898, February 14, 1998). The general permit includes provisions for development of a SWPPP to maximize the potential benefits of pollution prevention and sediment and erosion control measures at construction sites.

Development, implementation, and maintenance of the SWPPP will provide the General Contractor with the framework for reducing soil erosion and minimizing pollutants in stormwater during site work construction of South Hamilton (Project).

The SWPPP will:

- Define the characteristics of the site and the type of construction which will occur;
- Describe the site plan for the development to be constructed;
- Describe the practices that will be implemented to control erosion and the release of pollutants in stormwater;
- Create an implementation schedule to ensure that the practices described in this SWPPP are implemented and to evaluate the plan's effectiveness in reducing erosion, sediment, and pollutant levels in stormwater discharged from the site; and
- Describe the final stabilization/termination design to minimize erosion and prevent stormwater impacts after construction is complete.

1.2 SWPPP Content

This SWPPP has been prepared, based on the current level of design, in accordance with the regulations, guidelines, and conditions set forth in the Construction Stormwater General Permit, NYS Stormwater Pollution Prevention Plan (SWPPP) Design Manual, January 2015 and NYSDEC GP-0-20-001 Permit Requirements. The report is divided into sections with several appendices that include stormwater related reference materials.

This SWPPP includes the following:

- Identification of the SWPPP coordinator with a description of this person's duties;
- Description of the existing site conditions include existing land use for the site (i.e., wooded areas, open grassed areas, pavement, buildings, etc.), and if applicable the location of surface waters which are located on or immediately adjacent to the site (wetlands, streams, rivers, lakes, ponds, etc.);
- Identification of the water bodies which will receive runoff from the construction site, including the ultimate body of water that receives the stormwater;
- Identification of drainage areas and potential stormwater contaminants;
- Description of stormwater management controls and various Best Management Practices (BMP) necessary to reduce erosion, sediment and pollutants in stormwater discharge;
- Description of the facility monitoring plan and how controls will be coordinated with construction activities;
- Description of the implementation schedule and provisions for amendment of the plan.

Supporting documentation and standard forms are provided in the following Appendices:

- APPENDIX A: Certification Statements
- APPENDIX B: Site Location and USGS Quadrangle Maps
- APPENDIX C: Inspection Report and Miscellaneous Forms
- APPENDIX D: General Permit Copy of SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-20-001.
- APPENDIX E: Copy of MS4, Notice of Intent & Notice of Termination
- APPENDIX F: Site Maps and Figures
- APPENDIX G: Supporting Data and Calculations
- APPENDIX H: Hydrographs and Supporting Data
- APPENDIX I: Soil Data and Classification Summary
- APPENDIX J: Construction BMP's
- APPENDIX K: Alternative Construction BMP's
- APPENDIX L: Operational and Maintenance Manual

1.3 SWPPP COORDINATOR AND DUTIES

The construction site SWPPP coordinator will be determined following the acceptance of a General Contractor. Once the construction site SWPPP Coordinator is selected, the SWPPP will be revised and clearly detail the implementation responsibilities for each part of the site.

The SWPPP coordinator's duties include, but are not necessarily limited to the following:

- Implement the SWPPP plan with the aid of the SWPPP team;
- Oversee maintenance practices identified as BMPs in the SWPPP;
- Implement and oversee employee training;
- Conduct or provide for inspection and monitoring activities;
- Identify other potential pollutant sources and make sure they are added to the plan;
- Identify any deficiencies in the SWPPP and make sure they are corrected;
- Ensure that any changes in construction plans are addressed in the SWPPP; and
- To aid in the implementation of the SWPPP plan, the SWPPP coordinator will assign additional SWPPP team members as necessary.

2.0 PROJECT DESCRIPTION, GOALS AND ASSESSMENT

2.1 Site Location and Existing Conditions

The project applicant and current owner is O'Neill Group Hamilton LLC, located at 241 Hudson Avenue, Hackensack, New Jersey 07601. The applicant is pursuing approvals for a 58-unit multi-family residential apartment building to be known as South Hamilton.

The Project site is 3.378± acres, located on the east side of South Hamilton Street in the City of Poughkeepsie, Dutchess County, New York in the south-western portion of the City of Poughkeepsie. The site is bounded mostly by single-family residences and a community house to the south. The parcel is identified as Tax Map Number 13130-6161-30-151783 (NYSDEC Stormwater Mapper Coordinates: LAT 41.6952, LONG -73.9247).

The 3.378± acres site is currently wooded vacant land and was home to a single-family residence until 1973 when a fire completely destroyed the building and it was demolished. In the winter of 2021, the site was partially cleared and is now mainly covered with small brush and trees.

The Project is presently accessible from South Hamilton Street. Municipal water and sanitary sewer utilities are located within South Hamiliton Street and are still available.

2.2 Soils and Topography

A geotechnical study and analysis were prepared by Kevin L. Patton. P.E., 36 Patton Road, Newburgh, N.Y. 12550, (845) 275-7732 on July 6, 2023. In summary, the observed subsurface conditions are described in the test pit logs and are summarized in the drawing attached under separate cover to this report. Most of the native soils and most of the existing fill consisted of fine-sandy silt with traces gravel, few cobbles and boulders. Some of the native soils were identified as glacial till, but most of the native material appears to be till that has been significantly reworked by frost, soil creep and similar factors. Well-graded granular soil (gravelly silty clayey sand) was only encountered in test pits below elevation 205. Bedrock was encountered in five of the six building area test pits at elevation of 200 to 207 feet. The other test pits indicate rock near elevation 200 becoming shallower toward the south and east.

The topography of the site is varied, with steep sections and flatter plateaus. Approximately 70% of the site drains to the east and the remaining area to the west. According to regulatory mapping, the project site is not located in the 100-year flood plain area, have state or federal wetlands and no endangered species have been identified.

2.3 Proposed Site Conditions

South Hamilton proposes the development of fifty-eight (58) apartment units consisting of one-bedroom and two-bedroom units. The Project will contain one (1) three-story apartment building, accessory parking for 103 parking spaces, open common space, sidewalks, landscaping, lighting, public water and sewer, stormwater management areas and utilities.

Access to the site will be from Hamilton Street connecting a 103-space open parking area. Municipal water and sanitary sewer utilities are located along South Hamilton Street and are owned and operated by the City of Poughkeepsie.

The infrastructure development for the project will consist of the construction of approximately 2,700± linear feet of a private access drive leading to a 103-sapce parking area, together with utility extensions for water, sanitary, electric, gas, telephone and cable improvements. On-site improvement and developments will additionally include of stormwater conveyance and management facilities, general landscaping, lighting, walking trail and other amenities that can complement the project.

The proposed water distribution system will consist of an eight (8) inch DIP water main as an extension of the existing municipal infrastructure connecting Dwight Street and Hamilton Street water mains. A 4-inch lateral from the 8-inch main will service the building. The pipes will be installed with a minimum of 5.5 feet of cover with provisions for proper thrust restraint and separation from sanitary and storm sewers.

The proposed sanitary sewer for the project will be a 6-inch gravity sewer connecting into the existing gravity system along S. Hamilton Street.

3.0 STORMWATER MANAGEMENT AND RUNOFF CHARACTERISTICS

3.1 Introduction

In order to accommodate the proposed expansion, it is necessary to add on-site stormwater collection system and management areas. The stormwater collection system will be provided using sheet drainage, catch basin drains and piping. Proposed control structures and basins will regulate the discharge rate by not exceeding the peak flows for existing development conditions. The following data has been generated and based on the Rational Runoff & Storage-Induction Methods for both existing and expansion conditions for the Water Quality and Quantity Controls according to the NYS Stormwater Pollution Prevention Plan (SWPPP) Design Manual, January 2015 and NYSDEC GP-0-20-001 Permit Requirements.

The stormwater management model used for the design of the stormwater management areas is based upon 1-year, 10-year, 50-year and 100-year peak frequency twenty-four-hour storm events for pre-development and 1-year, 10-year, 50-year and 100-year peak frequency twenty-four-hour storm events for post-development. The control structures, ponds, and direct runoff will be regulated to the discharge rates and volumes by not exceeding the peak flows and volumes for pre-developed conditions at a 1-year, 10-year, 50-year and 100-year storm frequency. The post-developed flows will be stored and released over time through Stormwater Management Practices. The following data has been generated and based on the SCS Runoff & Storage-Induction Methods for both pre-developed and post-developed conditions.

Runoff rates based on post-construction site conditions have been calculated for a 1-year, 10- year, 50-year and 100-year storm event, and are shown below. The site contains primarily Hydrological Soil Group B soils that are considered to be moderately-drained soils. The calculated weighted SCS Runoff Curve Number (CN) is 76 for the pre-development site and the resulting post-development weighted CN is 83 based on the underlying soils types and post-construction cover.

3.2 Stormwater Management & Drainage

The proposed land use will modify the existing site by increasing impervious area. Accordingly, 1.72± acres, or 50.9% of the entire project parcel area of 3.378± acres, will contain impervious area (buildings, concrete walks and asphalt pavement). To reduce the storm water run-off and provide stormwater quality control near the source, a series of Green Infrastructure Practices (GIP) are planned for this project for removal of stormwater pollutants. The intended GIP include detention area and membrane filters (Jellyfish by Contech). All or nearly all the new impervious area from roofs, pavement and other impervious areas will be directed to the storm sewer collection system and management areas. The discharge from the stormwater management basin and all pre-development flow will be tributary to the same discharge point locations that are tributary to the surrounding area.

The flow data is generated and based on the Rational Runoff & Storage-Induction Methods for both pre-developed and post-developed conditions and the Water Quality and Quantity Controls according to the NYS Stormwater Pollution Prevention Plan (SWPPP) Design Manual, January 2015 and NYSDEC General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) guidelines and regulations.

In the post-development condition, the overall drainage pattern does not change significantly, and reflects the pre-development patterns. Water quality management and stormwater detention will be provided by the Stormwater Management Areas, (SMA). There are four (4) proposed drainage areas identified as DA1, DA2, DA3 and DA4 for pre- and post-development areas. In assessing the drainage areas, the points of analysis (POA) for each discharge point will remain the same for the pre- and post-development areas, identified as POA1, POA2, POA3 and POA4. See Appendices for maps depicting the Pre-Development Drainage Areas and Post-Development Drainage Areas. There are no tributary areas to the project.

3.3 Green Infrastructure Techniques

Under the guidance of the Design Manual, proprietary stormwater treatment practices were selected to provide the Water Quality controls for the proposed project. Proprietary practices for consideration of Green Infrastructure Practices were considered for use or not implemented as follows:

- *Planning.* Practice and techniques used in the site design and layout were used to incorporate pavement reduction; and soil restoration for areas that will remain as open/landscaped areas.
- *Conservation of Natural Areas.* Due to the nature of the project, this practice is not practical.
- *Sheet Flow to Riparian Buffers or Filter Strips.* Due to the nature of the project site as developed, the proposed configuration does not allow for the use of riparian buffers or filter strips.
- *Vegetative Open Swale.* Some vegetative swales are proposed to direct runoff, this was considered and was not taken for RRv calculations.
- *Tree Planting/Tree Boxes.* Although tree plantings will occur on the project site, this is considered insignificant and no credit was taken for RRv calculations.
- *Disconnection of Rooftop Runoff.* Due to the nature of the project, this practice is not practical.
- *Soil Restoration.* There is existing pavement on the property, therefore as well as these areas and those that will receive heavy machinery and traffic during construction shall be restored prior to placement of topsoil.
- *Stream Day-lighting for Redevelopment Projects.* There are not existing drainage structures; therefore, there is not opportunity for stream day-lighting.
- *Rain Garden/Bioretention.* The nature of the projects site the proposed configuration does allow not allow for the use of Bioretention Basin as a filtration practice and credits are being used for RRv and WQv calculations.
- *Green Roof.* Due to the nature of the project, this practice is not practical.
- *Stormwater Planter.* The site design and nature of the project it was acceptable for Filtration Stormwater Planter and credits are being used for RRv and WQv calculations.
- *Rain Tank/Cistern.* Due to the nature of the project, this practice is not practical.
- *Porous Pavement.* The site design and nature of the project it not acceptable for porous pavements and no credit was taken for RRv calculations.
- *Alternate SMP.* The site design and nature of the project it acceptable for Hydrodynamic devices and/or Media Filters, and are being used for RRv and WQv calculations.

3.4 Proposed Management Practice(s)

Water quality management utilizing bioretention basins, stormwater planters and membrane filters (Jellyfish®) for runoff-reduction (RRv) and water quality (WQv) will be provided in combination with stormwater management subsurface storage pipe to control water quantity controls for Overbank Flow (Qp) and Extreme Flood (Qf) from the site.

Strategically located catch basins and storm manholes will collect sheet runoff from the paved parking roofs and concrete walkways. The discharge will be the subsurface storage pipe then directed to the Jellyfish filtering system. The combination of these runoff areas will collect all the impervious areas except for a small portion of the access drive at S. Hamilton Street.

In combination, the bioretention basin, stormwater planters and Jellyfish filtering system will reduce the Water Quality Volume (WQv) and add Runoff Reduction (RRv) credits to meet or exceed the required WQv of 0.190 ac-ft (8,276 cf) and the minimum RRv to be provided of 0.064 ac-ft (2,806 cf). Based on design data, the WQv+RRv of 8,841 cf (5,500 cf + 2,981 cf) provided meets the criteria for no further water quality management practices to be implemented. (See Appendix G – Supportive Data and Calculations.)

The stormwater outlet control is a plated weir located in a 48-inch outlet pipe from the subsurface storage pipe outlet. The welded plate is comprised of rectangular, circular and broad-crested weirs to maintained lower than the pre-development discharge rate for the 10-year (Qp) and 100-year (Qf) storm event and no further storage practice is implemented. The Channel Protection volume (CPv) is reduced to pre-developed volumes within the WQv and RRv techniques.

3.5 Hydrologic & Hydraulic Model Input Parameters

The hydrologic parameters and runoff rates for pre- and post-construction site conditions have been calculated for a 1-year, 10- year, 50-year and 100-year storm event, and are shown below. The site contains primarily Hydrological Soil Group B soils that are considered to be moderately-drained soils. The calculated weighted SCS Runoff Curve Number (CN) is 76 for the pre-development site and the resulting post-development weighted CN is 84 based on the underlying soils types and post-construction cover.

To provide an evaluation of pre- and post- development flow rates and volumes, each drainage area is described below in more detail showing the comparison of the proposed development and surrounding areas to existing conditions. See Appendix H – Hydrographs & Supporting Data.

As depicted on the drainage area maps, the analysis point is POA1 and is to the eastern portion of the property. It should also be noted that there is a pre-existing condition, outside of the property limits, that creates off-site ponding during storm events due to grades that are lower than surrounding grades. The pre-development area for DA1 is 1.78± acres and the post-development area is broken down into two (2) sub-areas of DA1.1 (2.42± acres) and DA1 (0.27± acres). In pre-development conditions, the entire 1.78± acres contributed to the runoff, where the post-development conditions, the area is being collected, reducing the drainage area to 0.0 acres. The post-development area (DA1.1+DA1) is collected, treated and detained in the stormwater management subsurface pipe. The discharge from the basin will be added to POA2 (see below) and discharge directly to the City of Poughkeepsie storm collection system in Dwight Street. In summary the total water volume to POA1 is reduced by 100%, see Table POA1 below.

TABLE POA1

Storm Event	$Q_{1\text{-yr}}$		$Q_{10\text{-yr}}$		$Q_{100\text{-yr}}$	
Runoff	**cfs**	**cf**	**cfs**	**cf**	**cfs**	**cf**
Pre-Developed	0.62	3,598	2.23	11,882	5.60	30,026
Post-Developed*	0.0	0.0	0.0	0.0	0.0	0.0
% change	-100	-100	-100	-100	-100	-100

*Based on reduction in drainage area

As depicted on the drainage area maps, the analysis point is POA2 is to the south and west portion of the property. The pre-development area for DA2 is 3.31± acres and the post-development area is broken down into three (3) sub-areas of 0.27± (DA1), 2.42± acres (DA1.1) and 2.68± acres (DA2). In order to reduce the discharge to POA2, the drainage areas for DA1 and DA1.1 is collected, treated and stored in the subsurface storage pipe. As noted above, the discharge from the stormwater management storage pipe will be added to POA2 and discharge directly to the City of Poughkeepsie storm collection system in Dwight Street. In summary, the total water volume to POA2 will be reduced utilizing the outlet control structure and storage volume to reduce the discharge at POA2, see Table POA2 below.

TABLE POA2 + POA 1

Storm Event	$Q_{1\text{-yr}}$		$Q_{10\text{-yr}}$		$Q_{100\text{-yr}}$	
Runoff	**cfs**	**cf**	**cfs**	**cf**	**cfs**	**cf**
Pre-Developed	3.04	10,011	8.54	28,040	19.00	64,601
Post-Developed*	3.21	18,235	8.52	45,751	18.39	101,055
% change	+5.3	+45.1	~0.00	+38.7	-3.2	+36.1

*Based on release rate through SMP and discharge culverts

As depicted on the drainage area maps, the analysis point is POA3 and is to the eastern portion of the property. The pre-development area for DA3 is 0.05± acres and the post-development area is broken down into two (2) sub-areas of 0.03± acres (DA3) and 0.13± acres (portion of DA3.1). In pre-development conditions, the entire 0.05± acres contributed to the runoff, where the post-development conditions, only 0.03± acres contribute to POA3. The remaining post-development area is part of DA3.1 will be collected by a catch basin and combined with the discharge from the detention basin. As noted above, this discharge from the basin will be added to POA2 and discharge directly to the City of Poughkeepsie storm collection system in Dwight Street. In summary the total water volume to POA3 is significantly reduced, see Table POA3 below.

TABLE POA3

Storm Event	$Q_{1\text{-yr}}$		$Q_{10\text{-yr}}$		$Q_{100\text{-yr}}$	
Runoff	**cfs**	**cf**	**cfs**	**cf**	**cfs**	**cf**
Pre-Developed	0.04	103	0.13	338	0.33	852
Post-Developed	0.03	66	0.08	211	0.20	524
% change	-0.25	-31.2	-38.5	-35.1	-37.5	-37.0

*Based on reduction in drainage area

As depicted on the drainage area maps, the analysis point is POA4 and is to the northern portion of the property. The pre-development area for DA4 is 0.75± acres and the post-development area is 0.37± acres. In post-development conditions, 0.38± acres are now contributing to POA1.1. The remaining 0.37± acres of the project site will continue to be tributary to POA4. In summary the total water volume to POA4 is significantly reduced, see Table POA4 below.

TABLE POA4

Storm Event	$Q_{1\text{-yr}}$		$Q_{10\text{-yr}}$		$Q_{100\text{-yr}}$	
Runoff	**cfs**	**cf**	**cfs**	**cf**	**cfs**	**cf**
Pre-Developed	0.29	1,522	1.05	5,021	2.62	12,681
Post-Developed	0.24	813	0.82	2,598	2.00	6,449
% change	-20.6	-46.6	-21.9	-48.2	-23.7	-49.1

*Based on reduction in drainage area

For Channel Protection Volume (CPv), the DEC design manual states "reduction of runoff for meeting stream protection objectives, where site conditions allow, is encouraged and the volume reduction achieved through green infrastructure can be deducted from the CPv". Therefore, based on calculated RRv+WQv provided for each drainage area and the total CPv differential from pre- to post-development, the CPv required for a 1-year 24-hour event is summarized below:

DA	Pre CPv	Post CPv	WQv+RRv	CPv Req'd*	Release Rate**
1	0.083 AF	0.014 AF	0.000 AF	-0.069 AF	0.000 cfs
2	0.230 AF	0.504 AF	0.190 AF	0.083 AF	0.042 cfs
3	0.002 AF	0.000 AF	0.000 AF	-0.002 AF	0.000 cfs
4	0.035 AF	0.019 AF	0.002 AF	-0.018 AF	0.000 cfs

(* - CPv Req'd = (Post CPv-(WQv+RRv) – Pre CPv)

(** - Release Rate is time to release CPv Req'd over a 24-hour period; 1AF=0.504cfs/day)

It should be noted that in the NYSDEC Design Manual, issued July 31, 2024, Chapter 4, page 4-6 it is further simplified by CPv is not required at sites where the 1-year post-development peak discharge is less than or equal to 2.0 cfs without detention or velocity controls.

Additionally, it should be noted that in the NYSDEC Design Manual, issued January 2015, Chapter 4, page 4-6 it is further simplified by "The CPv control orifice should be designed to reduce the potential to clog with debris. An individual orifice may not be required for CPv at sites where the resulting diameter of the ED orifice is too small, to prevent clogging. Alternatively, a minimum 3" orifice with a trash rack or 1" if the orifice is protected by a standpipe, having slots with an area less than the internal orifice are recommended". Based on release rates noted above the orifice size would be 1/2" for DA2 and 0.0" for DA1, DA3 and DA4.

Therefore, based on the data provided above the release rates are considered insignificant cannot cause erosion on surrounding stream channels and no further controls for the release of the Post-Developed CPv should be analyzed.

In conclusion, based on drainage patterns and peak flows compared relatively to pre-developed and

post-developed conditions, it is believed that the improvements being proposed will not affect present or future downstream conditions relative to flow or sedimentation.

4.0 CONSTRUCTION SEQUENCING AND PHASING

Soil disturbing activities associated with the site development will be phased according to the construction schedule. The Project is not a phased project, though the sequence of major activities is shown on Erosion and Sedimentation Control Plans found in Appendix F and is expected to be as follows:

Site Preparation. The limits of disturbance shall be identified. Erosion and sedimentation control systems shall be placed in accordance with the plans and/or where erosion and sedimentation may occur. Erosion and sediment control systems will be placed as dictated by site conditions in order to maintain the intent of the specifications of the SWPPP and/or contract documents. Clearing and grubbing and removal of any trees, other vegetation and/or excavation from areas to be disturbed may begin only when erosion and sediment control systems are in place and fully functional. Place construction trailers (if any) and portable toilets.

Erosion & Sediment Control Systems. A number of stormwater controls are proposed for both construction and permanent/long-term measures. During construction, stormwater management areas will be used in conjunction with silt fence, soil berms, silt bags and stone check dams. Detention basins will be installed as a permanent water quality measure. For dust and debris control, construction traffic must enter and exit the site at the stabilized construction entrance(s).

Excavation & Rough Grading. Large scale earth moving will occur in this phase in order to construct the proposed roadway, proposed stormwater management areas, underground utilities, and building pad locations. The topsoil stripping and stockpiling will occur during this phase. The topsoil will be used later in landscaped areas. Erosion and sediment controls including, but not limited to, silt fencing will be installed prior to, during and after earthwork activities. The stormwater detention basins and the storm sewer drainage system shall be constructed and be fully operational. Material(s) resulting from clearing, grubbing and excavation activities shall be stockpiled and protected up-slope from erosion and sediment control systems. Excavation and rough grading for lots will not be started prior to the completion of the road construction.

Decompaction of Existing Soils. Upon removal of any existing pavement areas, heavily traveled areas and/or areas that appear to be over compacted shall undergo a de-compaction application to restore soil porosity and permeability.

Installation of Utilities. Utilities will be installed once rough grading activities are completed and all exposed slopes are temporarily stabilized. Fill areas shall be compacted and stabilized.

Foundation Site Preparation. The building pad locations will be final graded to establish the finished floor elevation.

Access Drive & Pavement Preparation. Finished subgrade elevation and subbase course grades will be established and verified before any roadway asphalt courses are installed.

Landscaping. Topsoil shall be spread on areas to be landscaped and disturbed areas will be planted/seeded in accordance with approved plans.

Temporary Seeding. Within 7-days after construction activity ceases on any particular area, all disturbed ground where there will not be construction for longer than 21-days must be seeded with fast-germinating temporary seed and protected with mulch.

Permanent Seeding. All areas at final grade must be seeded within 7-days after completion of the major construction activity. Except for small level spots, seeded areas should generally be protected with mulch. Permanently seed and mulch cut slopes as excavation proceeds to extent considered desirable and practicable. Slopes exposed by the Road Construction Phase are deemed fully stabilized and complete when turf grass cover provides permanent stabilization for at least 80% of the disturbed soil surface, exclusive of pavement areas.

5.0 EROSION AND SEDIMENT CONTROLS & POLLUTION PREVENTION

During construction, the Operator will comply with the measures provided in this SWPPP and conduct construction activities in such a manner that is in accordance with GP-0-20-001 conditions. It is the Operator's responsibility not to undertake more than that magnitude of work that can be safely and adequately controlled by the methods at their disposal. The Operator's approach must emphasize preventing erosion before it occurs as opposed to treating sediment- laden storm water runoff.

The Erosion Control Plans show the direction of storm water flow and approximate slopes before and after grading activities, areas of soil disturbance and areas that will not be disturbed, natural features to be preserved, locations of non-structural BMPs identified in the SWPPP and locations where storm water discharges to a surface water (where applicable.)

The Erosion Control Plan represents the suggested best management practices proposed for the project. The Contractor's approach to controlling storm water runoff from the site may vary; however, they must update this SWPPP to reflect the changes and appropriate corresponding erosion control measures using the Progress Maps and the SWPPP Amendment form (provided in Appendix C).

The use of erosion and sedimentation controls is mandatory and must be employed to minimize impacts to adjacent areas during the construction. If sediment escapes the construction site, off- site accumulations of sediment must be removed at a frequency sufficient to minimize off-site impacts.

The control practices which are required to control storm water pollution during construction must remain functional until disturbed areas have been stabilized. Erosion control products are to be installed and maintained in accordance with manufacturer's specifications and good engineering practices. Stabilization measures must be instituted on disturbed areas as soon as practicable, but no more than 14 days after construction activity has temporarily or permanently ceased on any portion of the site.

5.1 Site Maps

Site Maps are located in Appendix F of this report. The Operator must update these plans in accordance (but not limited to) the following:

- Locations where earth-disturbing activities will occur, noting changes in phases.
- Approximate slopes before and after major grading activities. Note sloped areas greater than 15%.
- Locations where sediment, soils or other construction materials, demolitions debris will be

stockpiled.
- Locations of any crossing of surface waters.
- Designated points on the site where vehicles will exit onto paved roads.
- Locations of structures and impervious surfaces upon completion of construction.
- Locations of construction support activity areas covered by this permit.
- Locations of all surface waters, wetlands on or in the immediate vicinity of the Site.
- Boundary of any natural buffers (some work will, or may, occur inside of 50-foot buffer.)
- Areas of federally listed critical habitat for endangered or threatened species.
- Topography of the site, existing vegetative cover (e.g., forest, pasture, pavement, structures), and drainage pattern(s) of stormwater and authorized non-stormwaterflow onto, over, and from the site property before and after major grading activities.
- Stormwater and allowable non-stormwater discharge locations, including:
- Locations of any inlets to municipal separate storm sewer systems (MS4s).
- Locations where stormwater or allowable non-stormwater will be discharged to surface waters on or near the site.
- Locations of all potential pollutant-generating activities.
- Locations of stormwater control measures.
- Locations where polymers, flocculants, or other treatment chemicals will be used and stored.

5.2 Progress Site Maps.

GP-0-20-001 requires that as conditions change at the construction site (such as the location of BMPs) the Contractor must update the SWPPP to reflect suchchanges. Progress Maps (11 x 17) are provided in Appendix F. In addition to tracking the changes associated with the BMPs, the Contractor will indicate and track the location of thefollowing:

- Portable toilets
- Material storage areas
- Concrete washout areas
- Refueling areas
- Off-site material, waste, borrow, or equipment storage areas
- Dumpster or other trash and debris containers
- Spill kits
- Stockpiles
- Any other non-structural non-storm water management BMPs
- Any changes to structural BMPs
- Areas where final stabilization has been accomplished

If the Progress Maps become too full to easily read, it should be dated, folded, and put into the SWPPP in Appendix F for documentation and a new Progress Map should bestarted.

5.3 Construction Phasing and Best Management Practices (BMPS)

Construction activities will be sequenced in order to minimize site disturbance, protect sensitive natural features, and prevent soil erosion and sediment transport. The intended construction sequence and timing of major activities are identified below.

Stabilized Construction Exit: At the beginning a stabilized construction exit must be installed at the location where vehicles are expected to enter and/or exit the site in order to prevent the off-site tracking of sediment onto adjacent public roadways. The stabilized construction entrances will consist of compacted two to three inch (2"-4" thickness) crushed stone, placed over a layer of geotextile fabric (to provide separation from the underlying soil and prevent the stone from being ground down into the

soil). The stabilized construction entrance must be wide enough to cover the entire width of the entrance/exit and allow two vehicles to pass comfortably, and it should be flared where it meets the public roadway to accommodate longer construction vehicles. The stabilized construction entrance must be long enough to allow mud and sediment to become dislodged from vehicle tires, and/or a minimum of fifty (50') in length.

Over the course of construction, the stabilized construction entrance will become filled with accumulated sediment. The Contractor must inspect the stabilized construction entrance and adjacent public roadways for off-site sediment tracking and repair the entrance as necessary (remove accumulated sediment and add new stone as necessary). If tracking onto public roadways does occur, the streets in the vicinity of the stabilized construction entrance shall be swept immediately. The stabilized construction entrance shall not be removed until just prior to project completion.

Mulch Tube/Silt Fence: At the beginning a combination of mulch tube and silt fence or just silt fence shall be installed to prevent sediment laden runoff from leaving the site. In addition, silt fence will be used on the down gradient sides of material stockpile areas.

The mulch tubes consist of a tube of mulch placed along a contour if possible. The tubes intercept and slow sheet flow runoff. Mulch tubes shall be firmly staked. Accumulated sediment must be removed from the tubes when it reaches ½ of the height of the tube. Silt fence is a sediment control BMP consisting of a length of geotextile fabric stretched between anchoring posts spaced at regular intervals along the site at low/down-slope areas. The geotextile fabric must be entrenched in the ground between the support posts. Silt fence is effective in treating low velo sheet flow and is not intended for use in areas of concentrated or channelized flow. Silt fence must be inspected for rips, tears, and gaps between the fence and the ground. An adequate reserve of silt fence must be kept on site at all times for emergency and/or routine replacement. Silt fence shall be entirely removed only after exposed soils in the contributing drainage area are stabilized. Silt fence can also be used as an effective perimeter control to contain stockpiles of topsoil or other erodible material.

Stockpile Management: Stockpiles of erodible material, including any topsoil salvaged during construction, must be surrounded by a perimeter sediment control such as silt fence to prevent storm water runoff from being contaminated by eroded sediment. Stockpiles of erodible material must be stabilized utilizing a temporary stabilization technique if they remain inactive for more than fourteen (14) days. Stockpiles must be located at least 100 feet from wetland resource areas (i.e. bordering vegetated wetlands and Buffer zone). Stockpile locations must be tracked using the Site Maps included in Appendix A.

Dust Control: Dust control BMPs are various means and methods of preventing soil erosion by wind. During all stages of the project generation of dust must be minimized to prevent air and water pollution as well as minimize risks to human health. Earthmoving activities are the primary source of dust 'generation during construction, but traffic on un-stabilized access roads and sediment transport by wind blowing across exposed soil surfaces can also be contributing factors. The most effective dust control BMPs for preventing wind erosion involve stabilizing (temporary or permanent) exposed soils. However, where soil stabilization is not practical techniques that increase soil moisture and encourage the formation of soil clods or reduce wind velo at the soil surface are also effective. The following dust

control BMPs are typically used on construction sites:

- Watering/Irrigation: Sprinkling the ground surface with water until it is moist.
- Soil Stabilization: Vegetative cover, mulch, riprap or any method that covers the soil surface reduces the potential for soil particles to become airborne.
- Wind Breaks: Wind breaks are barriers (either natural or constructed) that reduce wind velo across exposed soil surfaces and reduces the potential for soil particles become airborne. Wind breaks can be trees or shrubs left in place during site clearing or constructed barriers such as a wind fence.
- Soil Roughening: Deep tillage in large areas of exposed soil brings soil clods to the surface preventing soil particles from becoming airborne.

Temporary Sediment Basins/Traps: If temporary sediment basins/traps/swales are needed at the beginning, basins must provide 3,600 cubic feet of storage per acre drained and disturbed. Temporary sediment basins are a sediment control BMP that consist of an excavated or natural depression that detains/retains storm water runoff allowing sediments to settle out of suspension prior to discharge via a suitably stabilized outlet. They also provide an opportunity for storm water infiltration. The temporary sediment basin's side-slopes and bottom must be appropriately stabilized prior to directing runoff to it. Accumulated sediment must be removed when it reaches 33% of the design volume capacity of the basin in order to maximize sediment settling potential and minimize the possibility of sediment washout during high intensity/long duration storm events. The basins will include a controlled outlet structure consisting of a perforated riser pipe packed in gravel which allow for further reduction of sediment prior to discharge. Traps will include a rip rap spillway.

Temporary Stabilization: Stabilization measures must be initiated as soon as practicable on portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Temporary stabilization refers to a variety of erosion control BMPs that protect exposed soils from the erosive forces of precipitation (raindrop and sheet erosion) and/or prevent the formation of channelized flow (rill, gully and channel erosion). The Contractor must inspect temporarily stabilized areas to assess the effectiveness of temporary stabilization BMPs and replace/repair then as necessary. The following temporary stabilization BMPs are typically used on construction sites and may be used by the Contractor for this project:

Erosion Control Blankets: Erosion control blankets are erosion control BMPs consisting of natural or synthetic geotextile fabrics formed into long sheets or mats that are rolled out over exposed soils and fastened with stakes, pegs or staples. They are used in areas where high runoff velo makes traditional mulching ineffective. Blankets are highly effective at stabilizing steep slopes (3:1 or greater) and can be used to stabilize areas of concentrated flow such as swales.

Soil Roughening: Soil roughening is an erosion control BMP that involves creating grooves or impressions in exposed soil surfaces with tracked construction equipment (bulldozer, excavator, etc.). Slopes that are not fine graded or smoothed but left in a roughened condition reduce erosion by decreasing slope length and runoff velo, increasing infiltration, trapping sediment, and allowing seed to take hold and grow. It is critically important that the impressions be made perpendicular to the slope contours (never parallel to the contour); improper use of this technique can actually accelerate erosion. Soil roughening shall be used as a last resort.

Temporary Seeding: Temporary seeding is an erosion control BMP that consists of using select varieties of grasses to establish vegetative cover. Temporary seeding utilizes annual species that establish quickly, are not persistent or invasive, but provide long term temporary cover (as opposed to the perennial species used in permanent seeding for final stabilization).

Temporary Diversion Ditches: Temporary diversion ditches are an option to divert runoff away from construction area. Temporary drainage ditches are a runoff control BMP consisting of a ditch or excavation installed as a means of conveying storm water runoff to temporary sediment basins/traps (or other sediment control BMPs) while soil disturbing construction activities are ongoing. The temporary drainage ditch side-slopes and bottom must be appropriately stabilized prior to directing runoff to it. The temporary ditches will include stone check dams (see below). Temporary drainage ditches may be constructed as needed at locations determined by the Operator. This is done to account for unanticipated on-site field conditions.

Concrete Washout Area: Concrete washout areas consist of a prefabricated or site-built impermeable containment area sized to hold concrete wastes and wash water (including one (1) foot freeboard). Concrete washouts are used to contain concrete and liquids when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after delivery. The washout facility consolidates solids for easier disposal and prevent runoff of liquids. The wash water is alkaline and contains high levels of chromium, which can leach into the ground and contaminate groundwater. It can also migrate to a storm drain, which can increase the pH of area waters and harm aquatic life. Solids that are improperly disposed of can clog storm drain pipes and cause flooding. The concrete washouts must be constructed prior to placement of concrete on-site. The concrete washout area must be located in an area where its likelihood of contributing to storm water discharges is negligible. Washouts shall be located outside of any wetland resource area and 100' from buffer zones to wetlands.

These specially designated areas should be properly signed, and onsite personnel instructed in their proper use. The hardened residue from the concrete wash out area will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used onsite as appropriate. It is the responsibility of the Contractor to ensure that these procedures are followed. The Contractor must track concrete washout locations on the Progress Map if they are moved or if additional concrete washouts need to be constructed.

Permanent Stabilization: Permanent stabilization refers to a variety of erosion control BMPs that allow a construction project to achieve "final stabilization." Final stabilization is defined in Appendix A of GP-0-20-001 as: a uniform, perennial vegetative cover with a density of eighty percent (80%) over the entire pervious surface has been established, or other equivalent permanent stabilization measures have been employed.

6.0 STORMWATER MANAGEMENT CONTROLS

The purpose of this section is to identify the types of temporary and permanent erosion and sediment controls that will be used during construction activities. The controls will provide soil stabilization for disturbed areas and structural controls to divert runoff and remove sediment. This section will also address control of other potential stormwater pollutant sources such as construction materials (paints, concrete dust, solvents, plaster), waste disposal, control of vehicle traffic, and sanitary waste disposal. A

number of the BMPs included in this plan have been developed to serve as stormwater controls. Project wide erosion control measures are illustrated on the site plans.

6.1 Site Wide Control Measures

To prevent soil from washing into undisturbed areas of the site, the following BMPs will be implemented:

- Construction vehicles will be directed to avoid wetlands, steep slopes and areas to remain vegetated to the maximum extent practicable.
- Silt fencing and hay bale barriers will be placed along the perimeter of the area to be cleared and graded before any clearing or grading takes place. Super silt fencing will be used on steep slopes at appropriate locations.
- Within 14-days after clearing and grading, agricultural limestone and fertilizer will be applied to each acre to be stabilized.
- After fertilizing, all areas which will not be impacted by construction will be seeded.
- After seeding, each area will be mulched with straw. The straw mulch is to be tacked into place by a disk with blades set nearly straight.
- Top soil stock piles will be stabilized with temporary seed and mulch no later than 14-days from the last construction activities in that area.
- Areas of the site which are to be paved will be temporarily stabilized by applying geotextile where required and/or stone sub-base until asphalt is applied.

6.2 Construction Practices to Minimize Stormwater Contamination

All waste materials will be collected and stored in a securely lidded metal dumpster. All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied a minimum of twice per week and the trash will be hauled to a nearby solid waste landfill. No construction materials will be buried on site. All personnel will be instructed regarding the correct procedure for waste disposal. Good housekeeping and spill control practices will be followed during construction to minimize stormwater contamination from petroleum products, fertilizers, paints and concrete. Any housekeeping practices for each drainage area are listed below:

To prevent stormwater contamination, the following BMPs will be implemented:

- All vehicles on site will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage.
- Petroleum products will be stored in tightly sealed containers which are clearly labeled.
- Spill kits will be included with all fueling sources and maintenance activities.
- Any asphalt substances used on site will be applied according to the manufacturer's recommendation.
- Sanitary waste will be collected from portable units as necessary to avoid overfilling.
- A covered dumpster will be used for all waste materials.
- All paint containers and curing compounds will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the environment but will be properly disposed according to the manufacturer's instructions.
- Materials and equipment necessary for spill cleanup will be kept in the temporary material storage trailer onsite. Equipment will include, but not be limited to, brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, saw dust and plastic and metal trash containers.

- Spray guns will be cleaned on a removable tarp.
- All spills will be cleaned up immediately upon discovery. Significant spills will be reported to the NYSDEC Spill Response Hotline at 1-800-457-7362. All spills will be detailed in the Spill Response Reports (**Appendix D**).
- Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water on the site.
- All ruts caused by equipment used for cutting and removing of trees will be graded.
- Form release oil used for decorative stone work will be applied over a pallet covered with an absorbent material to collect excess fluid. The absorbent material will be replaced and disposed of properly when saturated.
- When testing/cleaning of water supply lines, the discharge from the tested pipe will be collected and disposed of appropriately.

To prevent stormwater contamination at the site entrance, the following BMPs will be implemented:

- A stabilized construction entrance will be constructed to reduce vehicle tracking of sediments.
- Dump trucks hauling material from the construction site will be covered with a tarpaulin.

6.3 Coordination of BMPs with Construction Activities

Structural BMPs will be coordinated with construction activities so the BMP is in place before construction begins. The following BMPs will be coordinated with construction activities:

- The temporary perimeter controls (silt fences and hay bales) will be installed before any clearing and grading begins.
- Clearing and grading will not occur in an area until it is necessary for construction to proceed.
- Sandbag trench plugs will be placed in sloping open trenches during utility installation.
- The stabilized construction site entrance will be built before clearing and grading begins.
- Once construction ceases permanently in an area, that area will be stabilized with permanent seed and mulch.
- The temporary perimeter controls (silt fencing and hay bales) will not be removed until all construction activities at the site are complete and soils have been stabilized.

6.4 Certification of Compliance with Federal, State and Local Regulations

This SWPPP reflects the EPA, the New York State Department of Environmental Conservation (NYSDEC) regulations, and the City of Poughkeepsie requirements for stormwater management, erosion and sediment control.

7.0 MAINTENANCE & INSPECTION PROCEEDURES

7.1 Inspections

Following the start of construction, site inspections will be conducted by a qualified professional at least every seven (7) days. The inspection will verify that the structural BMPs described in Section 4 of the SWPPP are in good condition and are minimizing erosion. The inspection will also verify that the procedures used to prevent stormwater contamination from construction materials and petroleum

products are effective. The following inspection and maintenance practices will be used to maintain erosion and sediment controls:

- Built up sediment will be removed from silt fencing when it has reached one-third the height of the fence.
- Silt fences will be inspected for depth of sediment, for tears, to examine if the fabric is securely attached to the fence posts, and to ensure that the fence posts are firmly in the ground.
- Temporary and permanent seeding will be inspected for bare spots, washouts, and healthy growth.
- The stabilized construction entrance will be inspected for sediment tracked on the road, for clean gravel and to make sure that all traffic uses the stabilized entrance when leaving the site.

The maintenance inspection reports will be made after each inspection. Copies of the report forms to be completed by the SWPPP coordinator, or qualified SWPPP team member, are provided in **Appendix C** of this SWPPP. Completed forms will be maintained on site during the entire construction project. Following construction, the completed forms will be retained at the general contractor's office for a minimum of 5 years.

If construction activities or design modifications are made to the site plan which could impact stormwater, this SWPPP will be amended appropriately. The amended SWPPP will have a description of the new activities that contribute to the increased pollutant loading and the planned source control activities. The Plan Changes, Authorization and Change Certification is included in **Appendix C**.

7.2 Contractor/Employee Inspection Training

The contracting (construction) company will have employee(s) receive four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

Additionally, the contracting (construction) company can utilize a *qualified inspector* qualifications (e.g. licensed Professional, Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day-to-day implementation of the SWPPP.

7.3 Final stabilization and Notice of Termination

Once construction activity has been completed a Notice of Termination must be filed with the DEC within 30 days of final stabilization on all portions of the site for which the Operator was responsible. A blank NOT has been provided in Appendix D. However, before terminating permit coverage, the following items must be accomplished:

- Remove any construction debris and trash

- Remove temporary BMPs (such as silt fence). Remove any residual sediment as needed. Seed and mulch any small bare spots. BMPs that will decompose, including some fiber rolls and blankets, may be left in place.
- Check areas where erosion-control blanket or matting was installed. Cut away and remove all loose, exposed material, especially in areas where walking or mowing will occur. Reseed all bare soil areas.
- Ensure that 80 percent of vegetation coverage has been achieved or equivalent stabilization measures have been applied.
- Repair any remaining signs of erosion
- Inspect storm drain system and any permanent sedimentation/detention basins and clean accumulated sediment or debris
- Ensure that post-construction BMPs are in place and operational. Provide written maintenance requirements for all post-construction BMPs to the appropriate party.
- Check all drainage conveyances and outlets to ensure they were installed correctly and are operational. Inspect inlet areas to ensure complete stabilization and remove any brush or debris that could clog inlets.
- Seed and mulch or otherwise stabilize any areas where runoff flows might converge, or high velocity flows are expected.
- Ensure subcontractors have repaired their work areas before final closeout.

7.5 Post-Construction Maintenance

General

The Owner/Operating Manager of O'Neill Group Hamilton LLC shall overtake and become responsible for all inspecting, monitoring and maintaining erosion control features and drainage structures over the lifetime of the feature. Any SMP's that will be located within the city right-of-way or individual parcel of land that will be dedicated to the City of Poughkeepsie. The inspection of on-site stabilization measures will become part of routine and preventive maintenance practices developed by the owner and/or his representatives.

Inspection

The entire site should be inspected regularly for the presence of erosion gullies, cracking and wash-outs caused by heavy storm events. The cause of any irregularities should be identified and addressed in a timely manner. At minimum, eroded areas should be top soiled, seeded and mulched, as necessary, depending upon the identified irregularity.

The stormwater management system (i.e., roadway drainage ditches, stormwater management ponds, pipe inlets and outlets, etc.) shall be inspected at least yearly for sediment build-up, debris and structural integrity. Stormwater management pond outlet control structures should be checked more frequently for debris blockages. Vacuum truck services should be secured by the owner for periodic removal of sediment within the pond system, the outlet control structure and drainage structures.

The inspection should include, but not be limited to the following:

- Accumulation of pollutants such as grease and oils
- Stabilization and condition of vegetative ground cover areas
- Cracking, settlement, sliding or gully erosions of embankments

- Sedimentation of downstream water bodies, culvert or swales
- Sedimentation of lawns, pavement areas or catch basin sumps
- Presences of animal borrows, clogging or sedimentation at inlets or outlets
- Erosion or disruption of flow paths from stormwater management areas
- Structural integrity of spillways and obstruction of overflow
- Inlet and outlet riprap for scouring or dislodged stones or obstructions
- Forebays and aquatic benches to ensure proper and structural integrity.

Any sediment build-up should be removed and disposed of utilizing acceptable practices. Care should be exercised to avoid storing snow on any stormwater facilities, including the outfall swale.

Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control, as well as related appurtenances, which are installed or to be used by the permittee to achieve compliance with the conditions of this permit and within the requirements of the SWPPP. Maintenance shall occur on a regular basis and should include, but not be limited to the following:

- Mowing of lawn areas at least three times per year to prevent over and vigorous growth
- Mowing of steep slopes, embankments, overflow spillways at least three times per year to prevent overgrowth
- Sweeping common paved areas at least three times per year, especially during early spring to remove excessive deicing material and sediment
- Removing litter and debris that has accumulated during mowing and sweeping operations
- Repairing catch basins, storm sewer components upon immediately addressing and identifying structural deficiency
- Clean catch basin sumps once accumulation is within six inches of the outlet pipe invert
- Repair of riprap lined swales, inlets and outlets, replacing stone where signs of scouring have occurred
- Remove trees and excessive growth from inlets and outlets
- Infiltration basins, bio-retention and rain gardens shall be monitored periodically for sediment accumulations. Once the accumulations have reduced the water quality volume by more than 25%, sediment shall be removed. Removal of sediment shall be in a manner to re-establish original grades as shown on the original construction plans.
- A simple maintenance agreement should identify where Soil Restoration is applied, where newly restored areas are/cannot be cleared, who the responsible parties are to ensure that routine vegetation improvements are made (i.e., thinning, invasive plant removal, etc.). Soil compost amendments within a filter strip or grass channel should be located in public right of way, or within a dedicated Stormwater or drainage easement.
- First year maintenance operations include:
    - Initial inspections for the first six months (once after each storm greater than half- inch)
- Reseeding to repair bare or eroding areas to assure grass stabilization
    - Water once every three days for first month, and then provide a half inch of water per week during first year. Irrigation plan may be adjusted according to the rain event.
    - Fertilization may be needed in the fall after the first growing season to increase plant vigor

7.6 Signatory Requirements and Certifications

All NOIs, NOTs SWPPPs, reports, certifications or information required by this permit or submitted pursuant to this permit shall be signed as follows:

1. All NOIs and NOTs shall be signed as follows:
   a. For a corporation: by (1) a president, secretary, trustee, or vice president of the corporation in charge of a principal business function, or any other person authorized to and who performs similar policy or decision making functions for the corporation; or (2) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars) if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
   b. For a partnership or sole proprietorship; by general partner or the proprietor, respectively; or
   c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking official. For purposes of this section, a principal executive officer of a federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and all reports required by the permit and other information requested by the department or local agency shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
   a. The authorization is made in writing by a person described above and submitted to the Department
   b. The authorization specifies either an individual or a position having responsibilities for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named person)
   c. Certification Statement – Except for NOIs and NOTs, any person signing documents in accordance with this Part shall make the certifications as attached in **Appendix A**.

◊ ◊ ◊ ◊ ◊ ◊ ◊ ◊ ◊

APPENDIX A

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: South Hamilton

eNOI Submission Number: _____

eNOI Submitted by: ☐ **Owner/Operator** ☑ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

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

Owner/Operator First Name M.I. Last Name

_____

Signature

_____

Date

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges From Construction Activity (GP-0-20-001)

Project Site Information

Project/Site Name

South Hamilton

Owner/Operator Information

Owner/Operator (Company Name/Private Owner/Municipality Name)

O'Neill GTroup Hamilton, LLC

Certification Statement – SWPPP Preparer

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

Dominick	F	Arico
First name	MI	Last Name

	10.03.23
Signature	Date

Revised: January 2020

CONTRACTOR/SUNCONTRACTOR CERTIFICATION

STORMWATER POLLUTION PREVENTION PLAN

SPDES Project Number: _____

Project Title: _____

_____

Operator: _____

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I hereby certify under penalty of law 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 am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment of knowing violations.

This certification is hereby signed in reference to the above-named project:

Company: _____

Address: _____

Telephone Number: _____

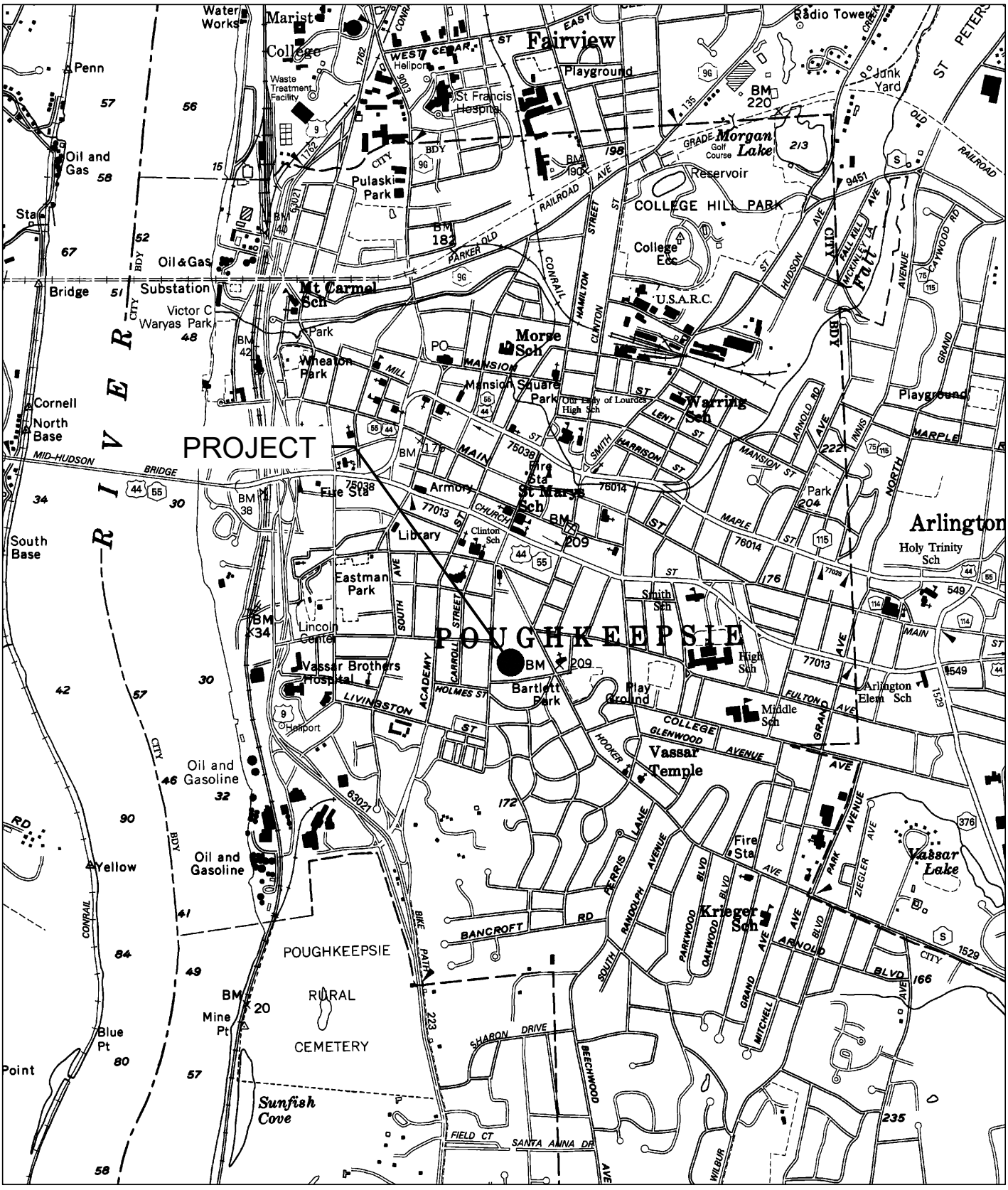
Description of Work: _____

Trained Contractor's Signature: _____

Title: _____

Date: _____

APPENDIX B



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518.573.6989 aricoassociates@gmail.com

CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

LOCATION MAP

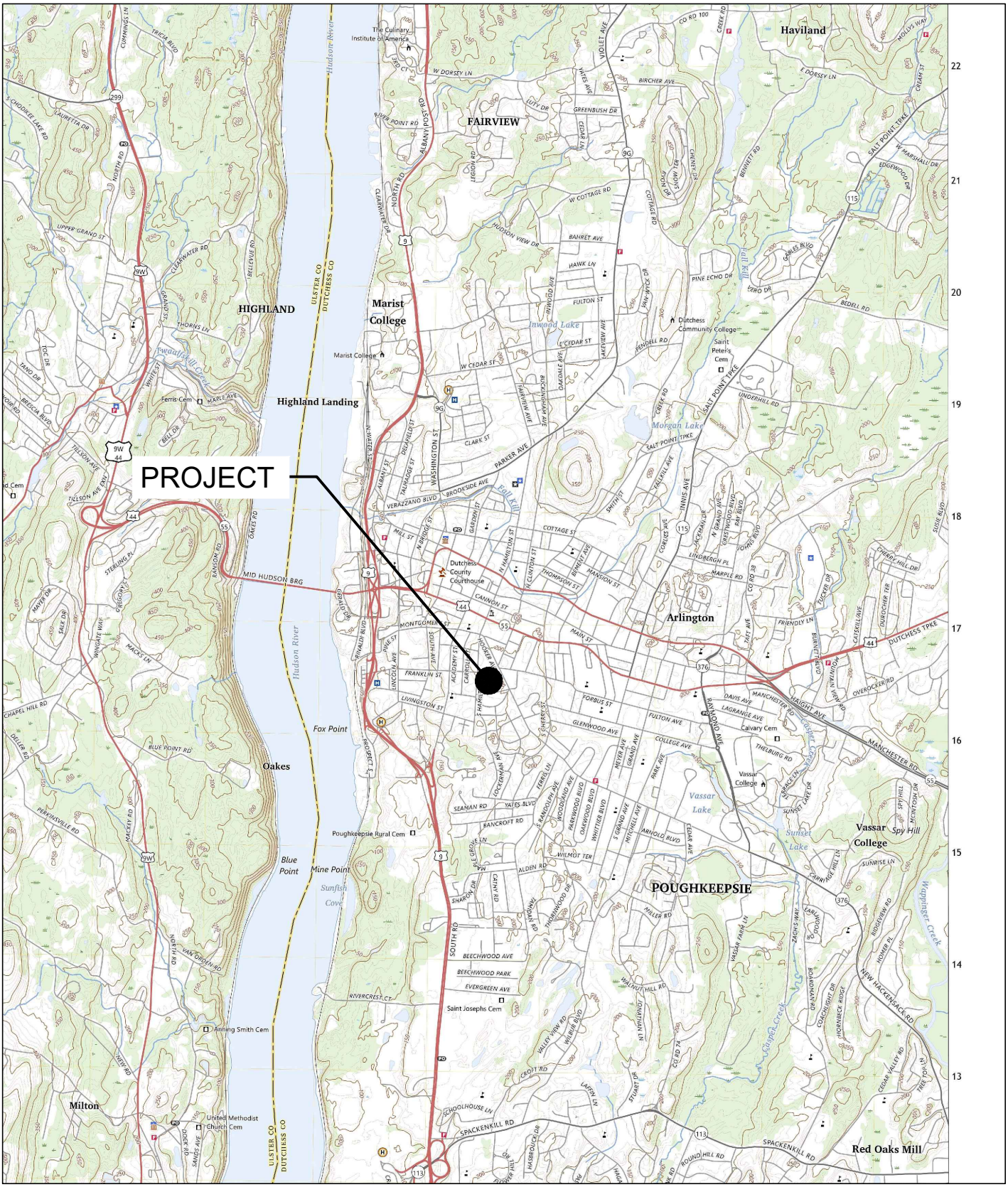
SOUTH HAMILTON

LOCATED AT

S. HAMILTON STREET

DATE: OCTOBER 2023

SCALE: 1"=2000'±



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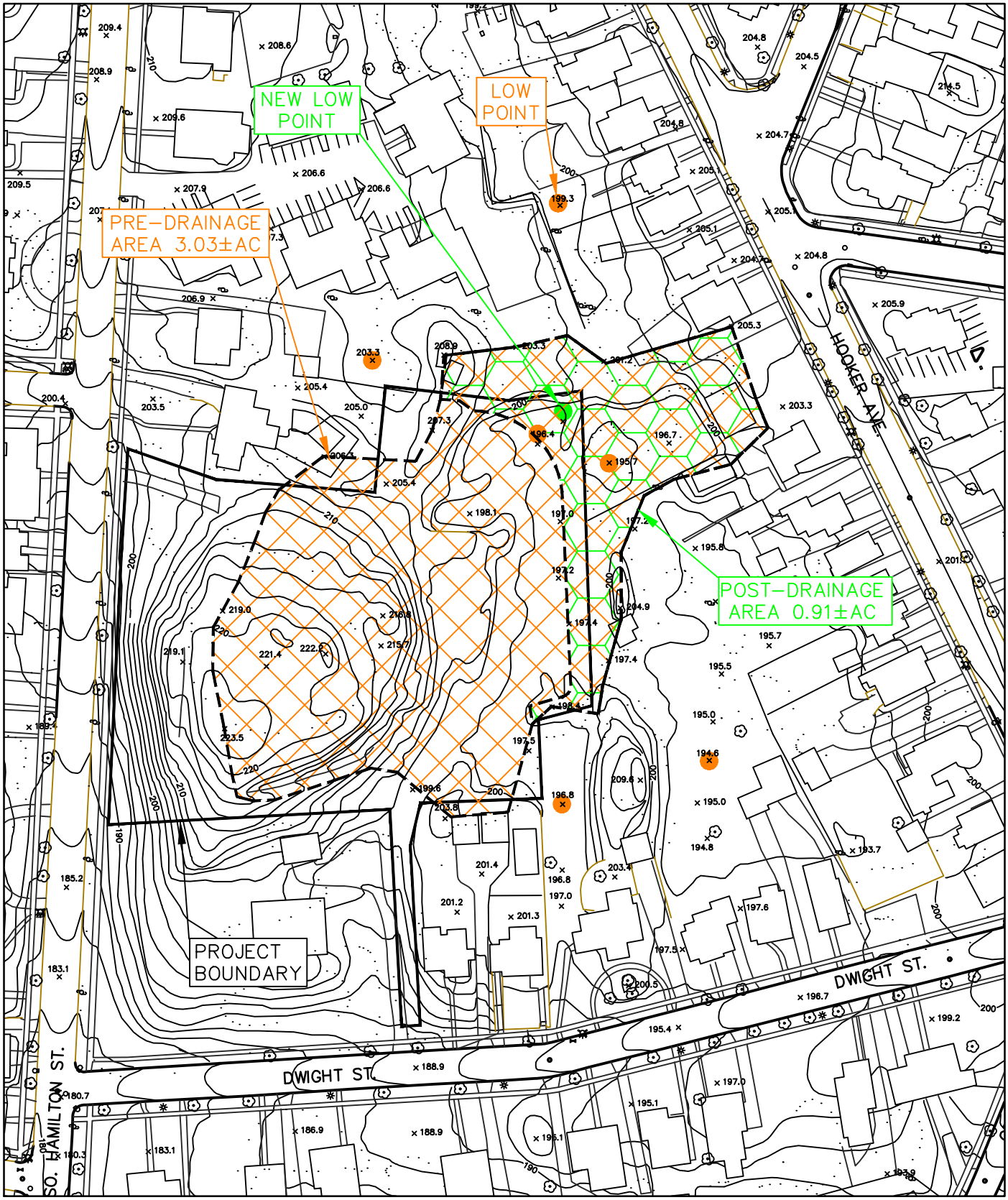
518.573.6989 aricoassociates@gmail.com

CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

U.S.G.S MAP
SOUTH HAMILTON
LOCATED AT
S. HAMILTON STREET

DATE: OCTOBER 2023
SCALE: 1"=4000'±



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CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

TRIBUTARY DRAINAGE AREAS

SOUTH HAMILTON

TAX MAP NO. 13130-6161-30-151783

DATE: JULY 2024
SCALE: AS NOTED

D1

APPENDIX C

SITE INSPECTION REPORT REQUIREMENTS

This information is to be provided on contracts covered by SPDES General Permit for Construction Activity (GP-0-20-001). The completed inspection form must be filed in the Engineer's Field Office.

1. Describe the condition of the runoff at all points of discharge from the construction site. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow.

2. Describe condition of any waterbodies within or adjacent to the construction site. Identify any sediment discharges to the surface waterbody.

3. Identify all erosion and sediment control practices that need repair or maintenance.

4. Identify all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced.

5. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection.

6. Identify current phase of construction of all post-construction stormwater management practices and identify all construction that is not in conformance with the SWPPP and technical standards.

7. Identify corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s).

8. Digital photographs, with date stamp, that show the condition of all practices that have been identified as needing corrective actions.

    a. Photographs must also be taken that show the practice(s) after the corrective action has been completed.

    b. Color paper copies of the photographs must be included in the inspection report within 7 calendar days.

9. Inspection Notification:
   Within One Business day of the inspection, the qualified inspector shall notify the owner or operator and appropriate contractor or subcontractor of any corrective actions required. .

STORMWATER POLLUTION PREVENTION PLAN INSPECTION REPORT

Project Name: _____ Project Number: _____

Date of Inspection: _____ Time: _____ Day of the Week: Mon | Tue | Wed | Thur | Fri | Sat | Sun

Weather Conditions: _____ Soil Conditions: ☐ Dry ☐ Wet ☐ Saturated

Temperature: _____ Reason for Visit: ☐ Weekly ☐ Special ☐ 5+ acres exposed

Inspector Name: _____ Inspector's Signature: _____

Codes for erosion and sedimentation controls to be inspected:

(1) Mulch
(2) Seeding and Mulch
(3) Check Dams
(4) Triangular Silt Dike
(5) Silt Fence
(6) Sediment Trap
(7) Turbidity Curtains
(8) Sedimentation Basins
(9) Drain Structure Inlet Protection
(10) Rolled Erosion Control Products
(11) Soil Stabilizers
(12) Construction Entrance
(13) Pipe inlet/outlet protection
(14) Water bars
(15) Other Control Measures

Location	**Disturbance**		**Measure**		**Remarks**	**Approximate Sediment Accumulation** (%) of Depth	**Maintenance Required Y or N (if Y describe)**
	Existing Y or N	Next 7 days Y or N	Code #	Temp or Perm (T,P or NA)	Describe structure integrity and any erosion		

Comments: _____

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM
FOR CONSTRUCTION ACTIVITIES

CONSTRUCTION SITE LOG BOOK

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Properly completing forms such as those contained in this document meet the inspection requirement of NYSDEC SPDES GP for Construction Activities. 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 and within 24 hours of the end of a storm event of 0.5 inches or greater (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. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The operator shall also prepare a written summary of compliance with this general permit at a minimum frequency of every three months (Operator's Compliance Response Form), while coverage exists. The summary should address the status of achieving each component of the SWPPP.

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. 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?

Pre-construction Site Assessment Checklist (continued)

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 14-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:

III. Monthly Summary of Site Inspection Activities

Name of Permitted Facility:	Today's Date:	Reporting Month:
Location:	Permit Identification #:	
Name and Telephone Number of Site Inspector:		

Date of Inspection	Regular / Rainfall based Inspection	Name of Inspector	Items of Concern

Owner/Operator 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. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

_____ _____

Signature of Permittee or Duly Authorized Representative Name of Permittee or Duly Authorized Representative date

Duly authorized representatives must have written authorization, submitted to DEC, to sign any permit documents.

Bioretention Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

BR Drainage Area

Look for areas that are uphill from the Bioretention cell.

Problem (Check if Present)	**Follow-Up Actions**
 ☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Seed and mulch areas of bare soil to establish vegetation. ☐ Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. ☐ If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. ☐ Other:

BR Drainage Area

Look for areas that are uphill from the Bioretention cell.

Problem (Check if Present)	Follow-Up Actions
	☐ Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.
 ☐ Piles of grass clippings, mulch, dirt, salt, or other materials	☐ Remove or cover piles of grass clippings, mulch, dirt, etc. ☐ Other:
 ☐ Open containers of oil, grease, paint, or other substances	☐ Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. ☐ Other:

BR Inlets

Stand in the Bioretention cell itself and look for all the places where water flows in. Often there will be multiple points of inflow to the practice.

Problem (Check if Present)	Follow-Up Actions
 ☐ Inlets collect grit and debris or grass/weeds. Some water may not be getting into the Bioretention cell. The objective is to have a clear pathway for water to flow into the cell.	☐ Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots. ☐ Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. ☐ Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. ☐ For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Bioretention cell. ☐ Dispose of all material properly where it will not re-enter the Bioretention cell. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the Bioretention cell.
 ☐ Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Bioretention cell.	☐ For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. ☐ In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets, and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified.

BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 ☐ Mulch (if used) needs to be replaced or replenished. The mulch layer had decomposed or is less than 1-inch thick.	☐ Add new mulch to a total depth (including any existing mulch that is left) of 2 to 3 inches. The mulch should be shredded hardwood mulch that is less likely to float away during rainstorms. ☐ Avoid adding too much mulch so that inlets are obstructed or certain areas become higher than the rest of the Bioretention surface. ☐ Other:
 ☐ Minor areas of sediment, grit, trash, or other debris are accumulating on the bottom.	☐ Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Bioretention cell . ☐ If removing the material creates a hole or low area, fill with soil mix that matches original mix and cover with mulch so that the Bioretention surface area is as flat as possible. ☐ Remove trash, vegetative debris, and other undesirable materials. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2-inches deep and covers 25% or more of the Bioretention surface. ☐ Kick-Out to Level 2 Inspection: The Bioretention cell is too densely vegetated to assess sediment accumulation or ponding; see BR-4, Vegetation.

BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 ☐ There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows across the Bioretention surface or on the slopes, or sinkholes are forming in certain areas. ☐ Source: Stormwater Maintenance, LLC.	☐ Try filling the eroded areas with clean topsoil or sand, and cover with mulch. ☐ If the problem recurs, you may have to use stone (e.g., river cobble) to fill in problem areas. ☐ If the erosion is on a side slope, fill with clay that can be compacted and seed and mulch the area. ☐ Other: ☐ Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the Bioretention cell. ☐ Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., “sinkhole”) due to some underground problem.
 ☐ The bottom of the Bioretention cell is not flat, and the water pools at one end, along an edge, or in certain pockets. The whole bottom is not uniformly covered with water. See design plan to verify that bioretention surface is intended to be flat. Check during or immediately after a rainstorm.	☐ If the problem is minor (just small, isolated areas are not covered with water), try raking the surface OR adding mulch to low spots to create a more level surface. You may need to remove and replace plantings in order to properly even off the surface. ☐ Check the surface with a string and bubble level to get the surface as flat as possible. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Ponding water is isolated to less than half of the Bioretention surface area, and there seem to be elevation differences of more than a couple of inches across the surface.

BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 ☐ Water stands on the surface more than 72 hours after a rainstorm and /or wetland-type vegetation is present. The Bioretention cell does not appear to be draining properly.	☐ Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.

BR Vegetation

Examine all Bioretention cell vegetation.

Problem (Check if Present)	Follow-Up Actions
 ☐ Vegetation requires regular maintenance—pulling weeds, removing dead and diseased plants, replacing mulch around plants, adding plants to fill in areas that are not well vegetated, etc.	☐ If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling. ☐ If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water. ☐ Even vegetation that is intended to be present can become large, overgrown, and/or crowd out surrounding plants. Prune and thin accordingly. ☐ If weeds or invasive plants have overtaken the whole Bioretention cell , bush-hog the entire area before seedheads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above. ☐ Re-plant with species that are aesthetically pleasing and seem to be doing well in the Bioretention cell. ☐ Other: ☐ Kick-Out to Level 2 Inspection: You are unsure of the original planting design, or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.

BR Vegetation

Examine all Bioretention cell vegetation.

Problem (Check if Present)	Follow-Up Actions
 ☐ Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.	☐ The original plants are likely not suited for the actual conditions within the Bioretention cell . If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season. ☐ Other: ☐ Kick-Out to Level 2 Inspection: For all but small practices (e.g., rain gardens), this task will likely require a landscape design professional or horticulturalist.

BR Outlets

Examine outlets that release water out of the Bioretention cell.

Problem (Check if Present)	Follow-Up Actions
☐ Erosion at outlet	☐ Add stone to reduce the impact from the water flowing out of the outlet pipe or weir during storms. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Rills have formed and erosion problem becomes more severe.
 ☐ Outlet obstructed with mulch, sediment, debris, trash, etc.	☐ Remove the debris and dispose of it where it cannot re-enter the Bioretention cell . ☐ Other: ☐ Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.

Additional Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

Bioretention Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Level 2 Inspection: BIORETENTION NOTE: Key Source for this Information *(CSN, 2013)*	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Water Stands on Surface for More than 72 Hours after Storm	
☐ Condition 1: Small pockets of standing water Use a soil probe or auger to examine the soil profile. If isolated areas have accumulated grit, fines, or vegetative debris or have bad soil media, try scraping off top 3 inches of media and replacing with clean material. Also check to see that surface is level and water is not ponding selectively in certain areas. ☐ Condition 2: Standing water is widespread or covers entire surface Requires diagnosis and resolution of problem: • Clogged underdrain? • Filter fabric between soil media and underdrain stone? • Need to install underdrain if not present? • Too much sediment/grit washing in from drainage area? • Too much ponding depth? • Improper soil media?	• Soil media is clogged and problem is not evident from Level 2 inspection. • Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice. ☐ Level 3 inspection necessary
Observed Condition: Vegetation is sparse or out of control	
☐ Condition 1: Original design planting plan seems good but has not been maintained, so there are many invasives and/or dead plants Will require some horticultural experience to restore vegetation to intended condition by weeding, pruning, removing plants, and adding new plants. ☐ Condition 2: Original design planting plan is unknown or cannot be actualized A landscape architect or horticulturalist will be needed to redo the planting plan. Will likely require analysis of soil pH, moisture, organic content, sun/shade, and other conditions to make sure plants match conditions. Plan should include invasive plant management and maintenance plan to include mulching, watering, disease intervention, periodic thinning/pruning, etc.	• Vegetation deviates significantly from original planting plan; Bioretention has been neglected and suffered from deferred maintenance. • Owner/responsible party does not know how to maintain the practice. ☐ Level 3 inspection necessary
Observed Condition: Bioretention does not conform to original design plan in surface area or storage	
☐ Condition 1: Level 2 Inspection reveals that practice is too small based on design dimension, does not have adequate storage (e.g., ponding depth) based on the plan, and/or does not treat the drainage area runoff as indicated on the plan Small areas of deviation can be corrected by the property owner or responsible party, but it is likely that a Qualified Professional will have to revisit the design and attempt a redesign that meets original objectives or that can be resubmitted to the municipality for approval.	• More than a 25% departure from the approved plan in surface area, storage, or drainage area; sometimes less than this threshold at the discretion of the Level 2 inspector. ☐ Level 3 inspection necessary

Level 2 Inspection: BIORETENTION NOTE: Key Source for this Information *(CSN, 2013)*	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Severe erosion of filter bed, inlets, or around outlets	
☐ Condition 1: Erosion at inlets The lining (e.g., grass, matting, stone, rock) may not be adequate for the actual flow velocities coming through the inlets. First line of defense is to try a more non-erosive lining and/or to extend the lining further down to where inlet slopes meet the Bioretention surface. If problem persists, analysis by a Qualified Professional is warranted. ☐ Condition 2: Erosion of Bioretention filter bed This is often caused by "preferential flow paths" through and along the Bioretention surface. The source of flow should be analyzed and methods employed to dissipate energy and disperse the flow (e.g., check dams, rock splash pads). ☐ Condition 3: Erosion on side slopes Again, the issue is likely linked with unanticipated flow paths down the side slopes (probably overland flow that concentrates as it hits the edge of the slope). For small or isolated areas, try filling, compacting, and re-establishing healthy ground cover vegetation. If the problem is more widespread, further analysis is required to determine how to redirect the flow.	• Erosion (rills, gullies) is more than 12 inches deep at inlets or the filter bed or more than 3 inches deep on side slopes. • If the issue is not caused by moving water but some sort of subsurface defect. This may manifest as a sinkhole or linear depression and be associated with problems with the underdrain stone or pipe or underlying soil. ☐ Level 3 inspection necessary
Observed Condition: Significant sediment accumulation, indicating an uncontrolled source of sediment	
☐ Condition 1: Isolated areas of sediment accumulation, generally less than 3-inches deep Sediment source may be from a one-time or isolated event. Remove accumulated sediment and top 2 to 3 inches of Bioretention soil media; replace with clean material. Check drainage area for any ongoing sources of sediment. ☐ Condition 2: Majority of the surface is caked with "hard pan" (thin layer of clogging material) or accumulated sediment that is 3-inches deep or more This can be caused by an improper construction sequence (drainage area not fully stabilized prior to installation of Bioretention soil media) or another chronic source of sediment in the drainage area. Augering several holes down through the media can indicate how severe the problem is; often the damage is confined to the first several inches of soil media. Removing and replacing this top layer (or to the depth where sediment incursion is seen in auger holes) can be adequate, as long as the problem does not recur.	• More than 2 inches of accumulated sediment cover 25% or more of the Bioretention surface area. • "Hard pan" of thin, crusty layer covers majority of Bioretention surface area and seems to be impeding flow of water down through the soil media. • New sources of sediment seem to be accumulating with each significant rainfall event. ☐ Level 3 inspection necessary

Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

Sand and Organic Filter Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

SF Drainage Area

Look for both pervious and impervious areas that are uphill from the filter.

Problem (Check if Present)	**Follow-Up Actions**
☐ Bare soil, erosion of the ground (rills washing out the dirt; reference below)	☐ Seed and straw areas of bare soil to get vegetation established. ☐ Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. ☐ If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. ☐ Other:

SF Drainage Area

Look for both pervious and impervious areas that are uphill from the filter.

Problem (Check if Present)	Follow-Up Actions
 ☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.
 ☐ Piles of grass clippings, mulch, dirt, salt, or other materials	☐ Remove or cover piles of grass clippings, mulch, dirt, etc. ☐ Other:
 ☐ Open containers of oil, grease, paint, or other substances	☐ Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. ☐ Other:

SF Inlets

Look for all the places where water flows into the filter practice.

Problem (Check if Present)	Follow-Up Actions
 ☐ Inlets are collecting grit and debris or grass/weeds growing. Some water may not be getting into the filter practice.	☐ Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that accumulates at these spots. ☐ Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. ☐ Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. ☐ For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Filter practice. ☐ Dispose of all material properly in an area where it will not re-enter the practice. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the filter practice.
 ☐ Some or all of the inlets are eroding so that rills, gullies, and other erosion are present, or there is dirt washing into the filter practice.	☐ For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. ☐ In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets and it looks like there is too much water concentrating at these points. The inlet design may have to be modified.
 ☐ For an underground filter, water is ponding and doesn't seem to be getting through the filter.	☐ Kick-Out to Level 2 Inspection: This is generally a more serious problem and should be referred for a Level 2 Inspection because it will require opening up the filter vault to check for clogging.

SF Filter Area (for Surface Sand Filters)

Examine the surface of the filter and the observation well, if present.

Problem (Check if Present)	Follow-Up Actions
 ☐ Filter has grass and vegetation growing on more than 25% of the filter bed, threatening to clog the filter.	☐ Vegetation growing in the filter bed should be removed either manually or with a water-safe herbicide (e.g., glysophate without surfactants). ☐ Other: ☐ Kick-Out to Level 2 Inspection: The filter seems clogged, or vegetation and weeds have proliferated past the point where the Level 1 person can manage it.
☐ Minor amounts of sediment, grit, trash, or other debris are accumulating on the surface.	☐ Use a shovel to scoop out minor amounts of sediment or grit, especially in the spring after winter sanding materials wash in and accumulate. Dispose of the material where it cannot re-enter the filter. ☐ If removing the material creates a hole or low area, rake the surface smooth and level. ☐ Remove trash, debris, and other undesirable materials. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Sediment (other than sand) has accumulated more than 2-inches deep and covers 25% or more of the surface of the filter area.
 ☐ There is erosion on the surface; water seems to be carving out rills as it flows across the filter surface, or sinkholes are forming in certain areas.	☐ For minor areas of erosion, try filling the eroded areas with clean, coarse construction sand. ☐ Other: ☐ Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the filter area. ☐ Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water but by a collapse or sinking of the surface (e.g., “sinkhole”) due to some underground problem.

SF Filter Area (for Surface Sand Filters)

Examine the surface of the filter and the observation well, if present.

Problem (Check if Present)	Follow-Up Actions
 ☐ Water is still visible on the surface and/or the standpipe (if present) more than 72 hours after a rainstorm. The filter practice drains very slowly or is completely clogged.	☐ Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.

Additional Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

Sand and Organic Filter Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Table 3.12.1 Level 2 Inspection: SAND AND ORGANIC FILTERS

Recommended Repairs	Triggers for Level 3 Inspection
Observed Condition: Water Stands on Surface for More than 72 Hours after Storm	
☐ Condition 1: Small pockets of standing water Use a soil probe or auger to examine the sand or filter profile. If isolated areas have accumulated grit, fine silt, vegetative debris, oily sludge or bad sand media, try scraping off top 3 inches of media and replacing with clean, coarse construction sand. ☐ Condition 2: Standing water is widespread or covers entire surface Look in the underdrain cleanout (if present) and use a tape measure to estimate the depth of water standing in the sand layer. Requires diagnosis and resolution of problem: • Clogged underdrain • Filter fabric between the sand layer and underdrain gravel OR on top of the sand filter layer (usually held in place by a thin layer of gravel) • Too much sediment/grit/vegetative debris/oily sludge washing in from drainage area • Too much ponding depth • Improper sand media	• Sand or organic media is clogged, but problem was not evident from Level 2 inspection. • Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice. • The problem seems to be filter fabric placement, but this is specified in the original design. • The entire filter media layer or filter cartridges need to be replaced. • The problem is associated with improper configuration of underdrain pipes or outlet structures. ☐ Level 3 Inspection necessary

Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

APPENDIX D

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020 Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

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Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State.*

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s;

   (ii) Control stormwater *discharge*s, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharge*s from the site;

   (vi) Provide and maintain *natural buffer*s around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharge*s, unless *infeasible*;

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;

   (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

   (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

(i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

(ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

(iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited *Discharges*.** The following *discharge*s are prohibited:

(i) Wastewater from washout of concrete;

(ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

(i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharge*s from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharge*s after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharge*s that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
      (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
      (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
      (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharge*s from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

   a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (http://www.dec.ny.gov/) for more information,

   b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

c. the final SWPPP has been prepared, and

d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

   a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4,* the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.

2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:

    a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;

c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* the Department or other regulatory authority; and

d. to document the final construction conditions.

5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

   The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

   "I hereby certify under penalty of law 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 *discharge*s from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

    a. Background information about the scope of the project, including the location, type and size of project

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge*(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;

k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. A Stormwater Modeling and Analysis Report that includes:
   (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed*;* and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

    a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

   It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge*(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner’s or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.

4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "*Construction Activity(ies)*" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for "*Commence (Commencement of) Construction Activities"* and "*Larger Common Plan of Development or Sale" also.*

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State*;*
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a *combined sewer*; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint source*s, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover,* and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River **-** Figure 1
- Onondaga Lake Watershed **-** Figure 2
- Greenwood Lake Watershed **-**Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

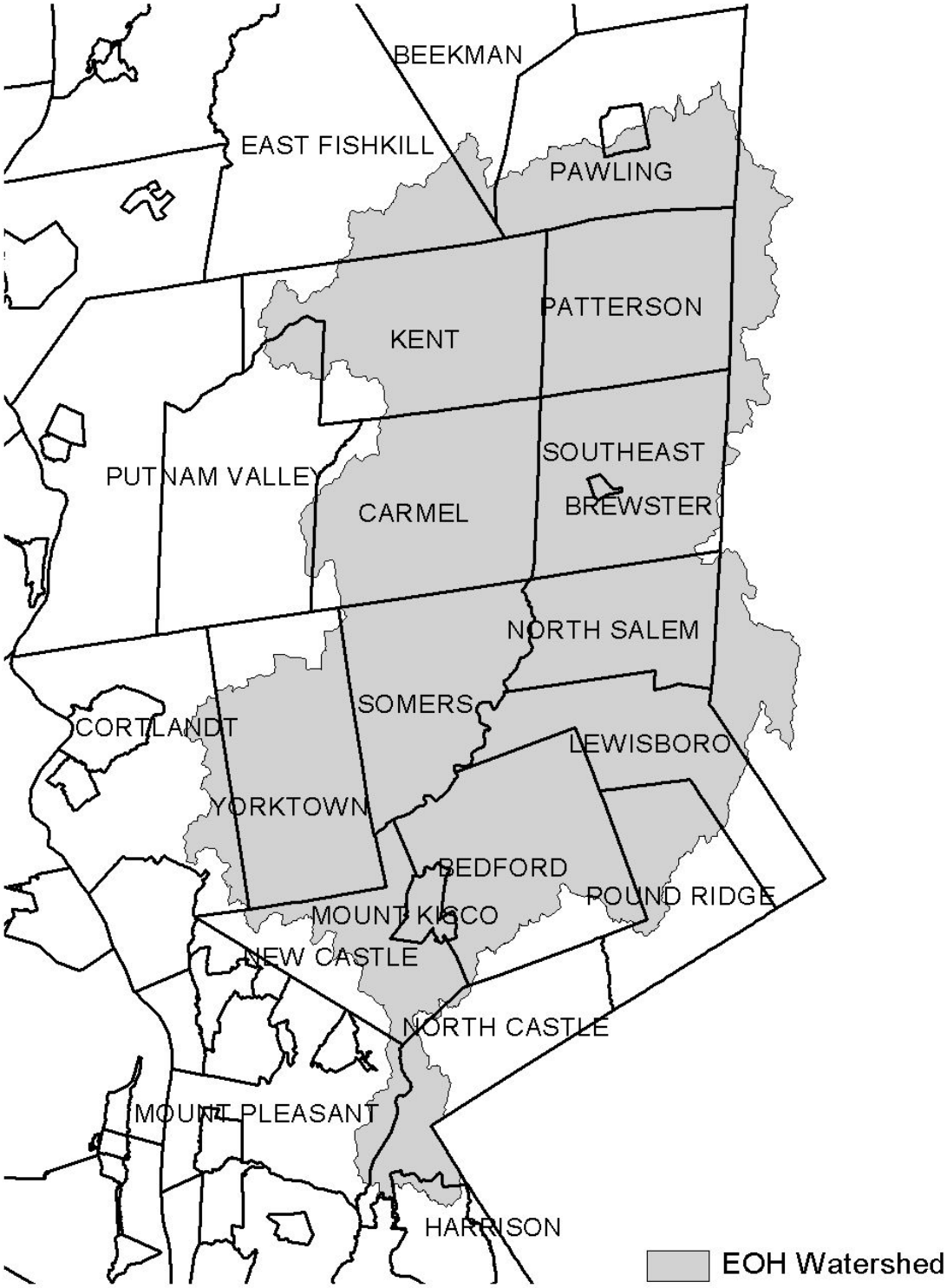


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed

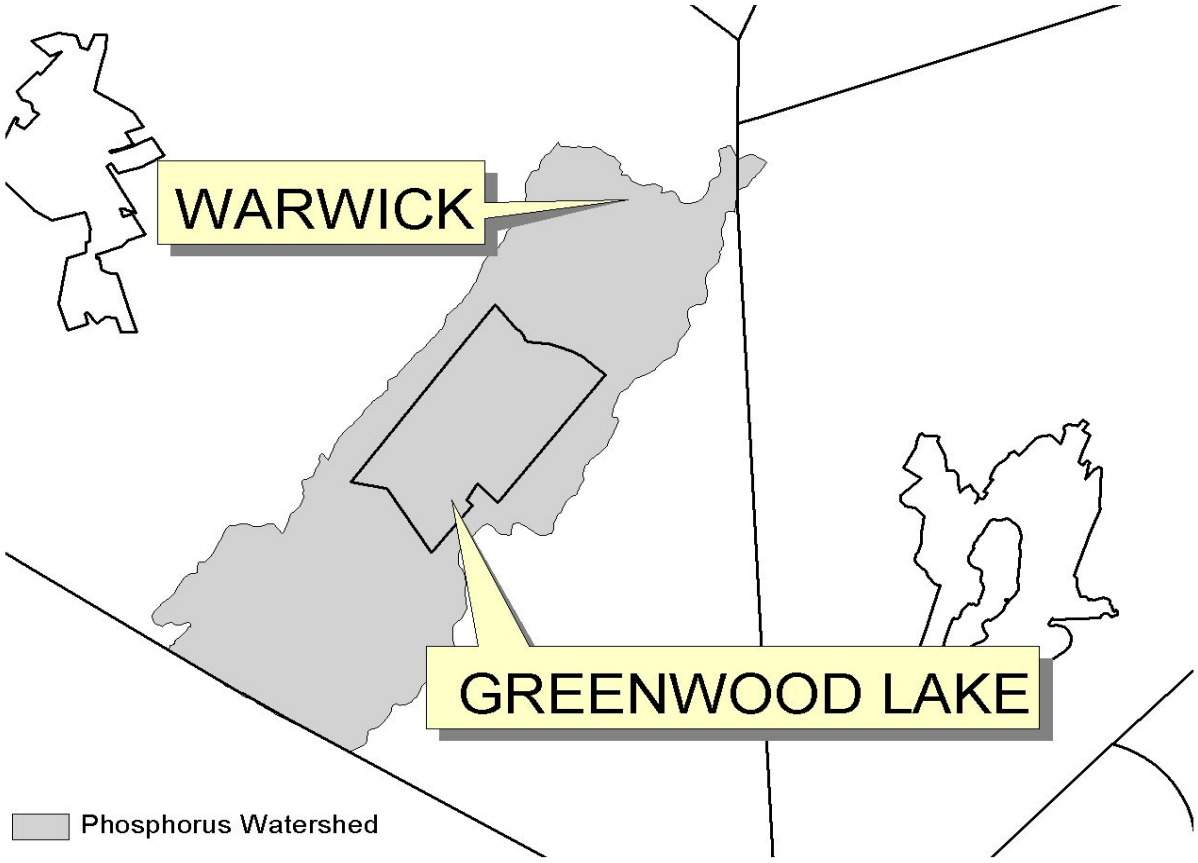


Figure 4 - Oscawana Lake Watershed

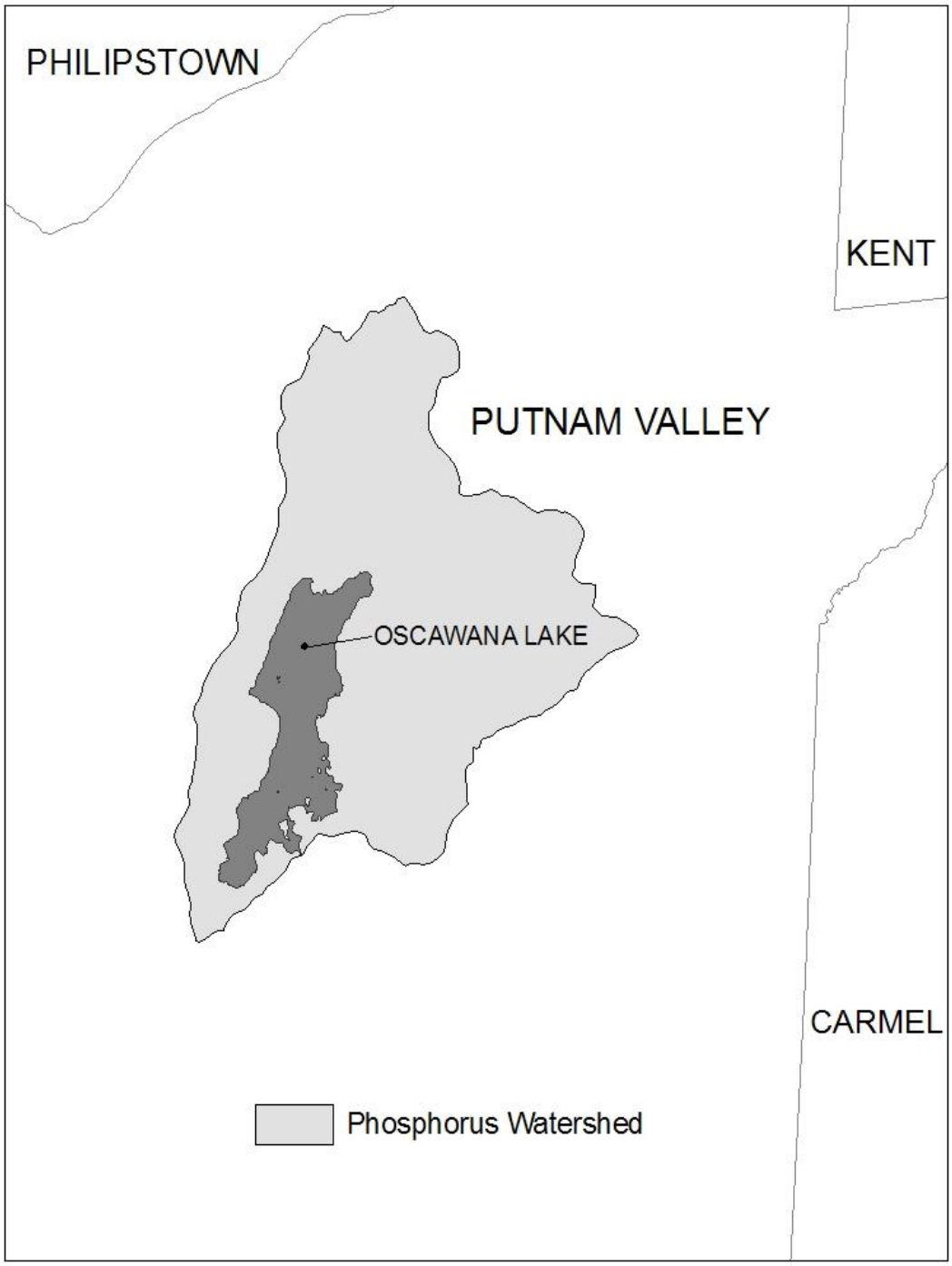
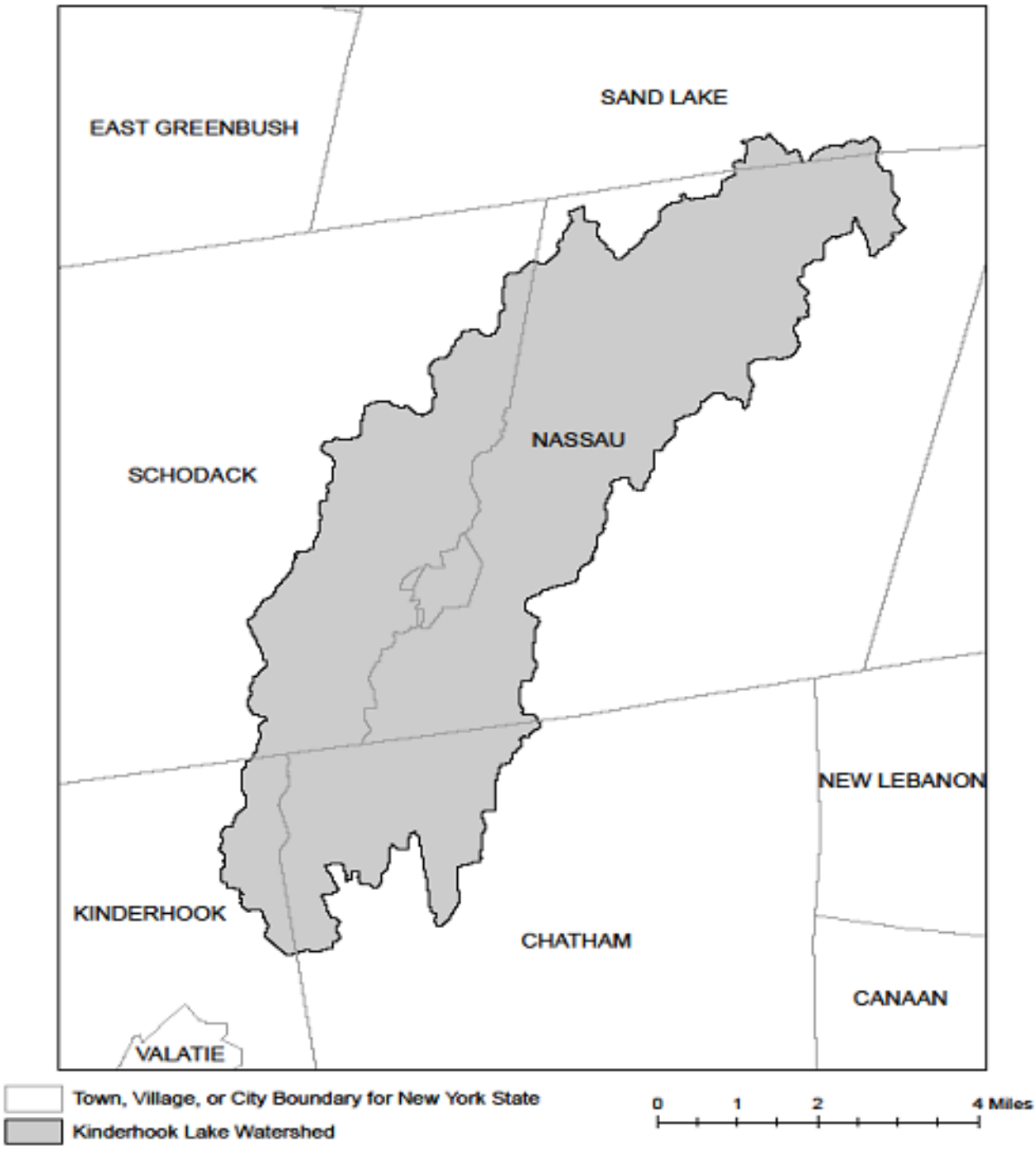


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River **-** See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	100 Hillside Avenue, Suite 1w White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX E

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

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

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

I. Project Owner/Operator Information	
1. Owner/Operator Name:	O'Neill Group Hamilton, LLC
2. Contact Person:	George Brandt
3. Street Address:	241 Hudson Avenue
4. City/State/Zip:	Hackensack, New Jersey 07601
II. Project Site Information	
5. Project/Site Name:	South Hamilton
6. Street Address:	South Hamilton Street
7. City/State/Zip:	South Hamilton
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	City of Poughkeepsie
9. Title/Position:	Stormwater Coordinator
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4:	City of Poughkeepsie
12. MS4 SPDES Permit Identification Number: NYR20A	
13. Contact Person:	
14. Street Address:	
15. City/State/Zip:	
16. Telephone Number:	

MS4 SWPPP Acceptance Form - continued

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

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

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

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

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NOI for coverage under Stormwater General Permit for Construction Activity

version 1.40

(Submission #: HPX-ZJ97-QP52N, version 1)

Details

Originally Started By	Dominick Arico
Alternate Identifier	South Hamilton
Submission ID	HPX-ZJ97-QP52N
Submission Reason	New
Status	Draft
Active Steps	Form Submitted

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)
O'Neill Group Hamilton, LLC

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

Owner/Operator Contact Person First Name
George

Owner/Operator Mailing Address
241 Hudson Avenue

City
Hackensack

State
NJ

Zip
07601

Phone
2014884455

Email
gbrandt@onekeyllc.com

Federal Tax ID
N/A

If the owner/operator is an organization, provide the Federal Tax ID number, or Employer Identification Number (EIN), in the format xx-xxxxxxx. If the owner/operator is an individual and not an organization, enter "Not Applicable" or "N/A" and do not provide the individual's social security number.

Project Location

Project/Site Name
South Hamilton

Street Address (Not P.O. Box)
South Hamilton Street

Side of Street
South

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

State
NY

Zip
12061

DEC Region
3

The DEC Region must be provided. Please use the NYSDEC Stormwater Interactive Map (https://gisservices.dec.ny.gov/gis/stormwater/) to confirm which DEC Region this site is located in. To view the DEC Regions, click on ﷺOther Useful Reference Layersﷺ on the left side of the map, then click on ﷺDEC Administrative Boundary.ﷺ Zoom out as needed to see the Region boundaries.

For projects that span multiple Regions, please select a primary Region and then provide the additional Regions as a note in Question 39.

County
DUTCHESS

Name of Nearest Cross Street
Dwight Street

Distance to Nearest Cross Street (Feet)
500

Project In Relation to Cross Street
North

Tax Map Numbers Section-Block-Parcel
6161-30-151783

Tax Map Numbers
NONE PROVIDED

If the project does not have tax map numbers (e.g. linear projects), enter ﷺNot Applicableﷺ or "N/A".

1. Coordinates

Provide the Geographic Coordinates for the project site. The two methods are:
- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

Navigate to your location and click on the map to get the X,Y coordinates
41.694363468328106,-73.92530493836605

Project Details

2. What is the nature of this project?
New Construction

> For the purposes of this eNOI, ﷺNew Construction refers to any project that does not involve the disturbance of existing impervious area (i.e. 0 acres). If existing impervious area will be disturbed on the project site, it is considered redevelopment with either increase in impervious area or no increase in impervious area.

3. Select the predominant land use for both pre and post development conditions.

Pre-Development Existing Landuse
Single Family Home

Post-Development Future Land Use
Multifamily Residential

3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.
NONE PROVIDED

---

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

*** ROUND TO THE NEAREST TENTH OF AN ACRE. ***

Total Site Area (acres)
3.4

Total Area to be Disturbed (acres)
3.4

Existing Impervious Area to be Disturbed (acres)
0.0

Future Impervious Area Within Disturbed Area (acres)
1.6

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

---

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

A (%)
0

B (%)
50

C (%)
50

D (%)
0

7. Is this a phased project?
No

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

Start Date
06/01/2024

End Date
06/12/2025

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

Drainage ditches and storm sewer systems are not considered surface waterbodies. Please identify the surface waterbody that they discharge to. If the nearest surface waterbody is unnamed, provide a description of the waterbody, such as, "Unnamed tributary to Niagara River."

9a. Type of waterbody identified in question 9?
River Off Site

Other Waterbody Type Off Site Description
NONE PROVIDED

9b. If "wetland" was selected in 9A, how was the wetland identified?
NONE PROVIDED

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

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

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?
No

Please use the DEC Stormwater Interactive Map (https://gisservices.dec.ny.gov/gis/stormwater/) to confirm if this site is located in one of the watersheds of an AA or AA-S classified water. To view the watershed areas, click on "Permit Related Layers" on the left side of the map, then click on "Class AA AAS Watersheds."

If No, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as D (provided the map unit name is inclusive of slopes greater than 25%), E or F on the USDA Soil Survey?
NONE PROVIDED

If Yes, what is the acreage to be disturbed?
NONE PROVIDED

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

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
Yes

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

17. Does any runoff from the site enter a sewer classified as a Combined Sewer?
No

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

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

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

Required SWPPP Components

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
Yes

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?
Yes

If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the 2015 or 2024 NYS Stormwater Management Design Manual?
Yes

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

SWPPP Preparer
Arico Associates

Contact Name (Last, First)
Arico, Dominick

Mailing Address
1407 Route 9

City
Halfmoon

State
NY

Zip
12065

Phone
5185736989

Email
darico@aricoassociates.net

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form
3) Scan the signed form
4) Upload the scanned document
Download SWPPP Preparer Certification Form

Please upload the SWPPP Preparer Certification
Appendix A - SWPPP Preparer Certification Statements.pdf - 02/13/2024 01:27 PM
Comment
NONE PROVIDED

Erosion & Sediment Control Criteria

25. Has a construction sequence schedule for the planned management practices been prepared?
Yes

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

Temporary Structural
Dust Control
Sediment Traps
Silt Fence
Stabilized Construction Entrance
Storm Drain Inlet Protection

Biotechnical
None

Vegetative Measures
None

Permanent Structural
Land Grading

Other
NONE PROVIDED

Post-Construction Criteria

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

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
Parking Reduction
Preservation of Undisturbed Area
Building Footprint Reduction

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual.
All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)
0.190

29. Post-construction SMP Identification

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet)
0.068

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?
No

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

32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)
0.064

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

If Yes, go to question 33.

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)
0.126

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

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).
0.195

Question 34 appears to be incorrect. Please review the responses to Questions 30 and 33a to ensure the correct values were provided, or update Question 34.

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?
Yes

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

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

CPv Required (acre-feet)
0

CPv Provided (acre-feet)
0

36a. The need to provide channel protection has been waived because:
Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

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

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)
9.96

Post-Development (CFS)
8.97

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
23.42

Post-Development (CFS)
19.21

37a. The need to meet the Qp and Qf criteria has been waived because:
NONE PROVIDED

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?
Yes

If Yes, Identify the entity responsible for the long term Operation and Maintenance
O'Neill Group Hamilton, LLC

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.
NONE PROVIDED

Post-Construction SMP Identification

Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs

Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

Total Contributing Impervious Acres for Vegetated Swale (RR-5)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Garden (RR-6)
NONE PROVIDED

Total Contributing Impervious Acres for Stormwater Planter (RR-7)
0.82

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)
NONE PROVIDED

Total Contributing Impervious Acres for Porous Pavement (RR-9)
NONE PROVIDED

Total Contributing Impervious Acres for Green Roof (RR-10)
NONE PROVIDED

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)
NONE PROVIDED

Total Contributing Impervious Acres for Infiltration Basin (I-2)
NONE PROVIDED

Total Contributing Impervious Acres for Dry Well (I-3)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
NONE PROVIDED

Total Contributing Impervious Acres for Bioretention (F-5)
0.56

Total Contributing Impervious Acres for Dry Swale (O-1)
NONE PROVIDED

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Pond (P-2)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Extended Detention (P-3)
NONE PROVIDED

Total Contributing Impervious Acres for Multiple Pond System (P-4)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Pond (P-5)
NONE PROVIDED

Total Contributing Impervious Acres for Surface Sand Filter (F-1)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Sand Filter (F-2)
NONE PROVIDED

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)
NONE PROVIDED

Total Contributing Impervious Acres for Organic Filter (F-4)
NONE PROVIDED

Total Contributing Impervious Acres for Shallow Wetland (W-1)
NONE PROVIDED

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)
NONE PROVIDED

Total Contributing Impervious Acres for Pond/Wetland System (W-3)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Wetland (W-4)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Swale (O-2)
NONE PROVIDED

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

Total Contributing Impervious Area for Hydrodynamic
NONE PROVIDED

Total Contributing Impervious Area for Wet Vault
NONE PROVIDED

Total Contributing Impervious Area for Media Filter
1.31

"Other" Alternative SMP?
NONE PROVIDED

Total Contributing Impervious Area for "Other"
NONE PROVIDED

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

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

Manufacturer of Alternative SMP
Contech

Name of Alternative SMP
Jellyfish

Other Permits

40. Identify other DEC permits, existing and new, that are required for this project/facility.
None

If SPDES Multi-Sector GP, then give permit ID
NONE PROVIDED

If Other, then identify
NONE PROVIDED

41. Does this project require a US Army Corps of Engineers Wetland Permit?
No

If "Yes," then indicate Size of Impact, in acres, to the nearest tenth
NONE PROVIDED

42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.
no

MS4 SWPPP Acceptance

43. Is this project subject to the requirements of a regulated, traditional land use control MS4?
Yes - Please attach the MS4 Acceptance form below

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?
Yes

MS4 SWPPP Acceptance Form Download

Download form from the link below. Complete, sign, and upload.
MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload
MS4 SWPPP Acceptance Form.pdf - 02/13/2024 01:43 PM
Comment
NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.
Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form
Appendix A - Owner Operator Certification Statements.pdf - 02/13/2024 01:43 PM
Comment
NONE PROVIDED

Attachments

Date	Attachment Name	Context	User
2/13/2024 1:43 PM	Appendix A - Owner Operator Certification Statements.pdf	Attachment	Dominick Arico
2/13/2024 1:43 PM	MS4 SWPPP Acceptance Form.pdf	Attachment	Dominick Arico
2/13/2024 1:27 PM	Appendix A - SWPPP Preparer Certification Statements.pdf	Attachment	Dominick Arico

Status History

	User	Processing Status
9/27/2023 3:45:32 PM	Dominick Arico	Draft

Processing Steps

Step Name	Assigned To/Completed By	Date Completed
Form Submitted		
Under Review	Daniel von Schilgen	

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: South Hamilton

eNOI Submission Number: _____

eNOI Submitted by: ☐ **Owner/Operator** ☑ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

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

Owner/Operator First Name M.I. Last Name

_____

Signature

_____

Date

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges From Construction Activity (GP-0-20-001)

Project Site Information

Project/Site Name

South Hamilton

Owner/Operator Information

Owner/Operator (Company Name/Private Owner/Municipality Name)

O'Neill Group Hamilton, LLC

Certification Statement – SWPPP Preparer

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

Dominick	F	Arico
First name	MI	Last Name

	10.03.23
Signature	Date

Revised: January 2020

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name: O'Neill Group Hamilton, LLC

2. Street Address: 241 Hudson Avenue

3. City/State/Zip: Hackensack, New Jersey 07601

4. Contact Person: George Brandt | 4a. Telephone: 201-488-4455

4b. Contact Person E-Mail: gbrandt@onekeyllc.com

II. Project Site Information

5. Project/Site Name: South Hamilton

6. Street Address: South Hamilton Street

7. City/Zip: City of Poughkeepsie, NY 12061

8. County: Dutchess

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? □ yes □ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

□ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

□ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

□ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

□ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? □ yes □ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:	
Title/Position:	
Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. 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.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. 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.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. 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.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

APPENDIX F

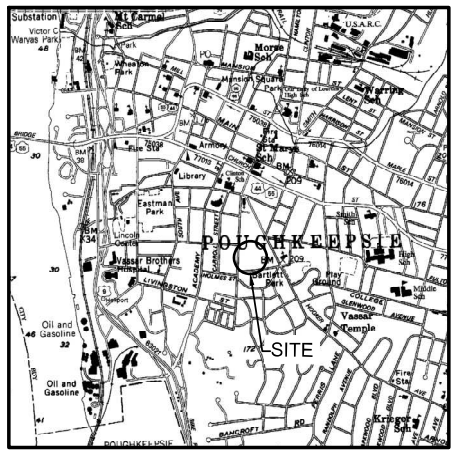
SOUTH HAMILTON

CITY OF POUGHKEEPSIE

COUNTY OF DUTCHESS STATE OF NEW YORK

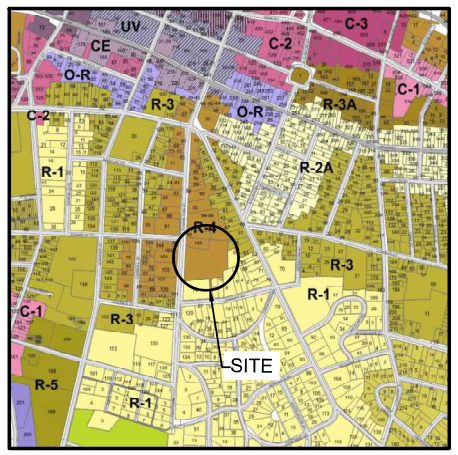
OCTOBER 3, 2023

LAST REVISED: OCTOBER 10, 2024



SITE LOCATION MAP

SCALE: 1"=2000'±



ZONING MAP

SCALE: 1"=2000'±

MAP REFERENCE: BOUNDARY AND TOPOGRAPHIC INFORMATION GENERATED FROM AUSFELD & WALDRUFF LAND SURVEYORS LLP DATED JANUARY 5, 2010 ENTITLED" BOUNDARY &TOPOGRAPHIC SURVEY OF THE LANDS OF STEVEN REIFLER.

CITY OF POUGHKEEPSIE
ZONING DISTRICT INFORMATION

DESCRIPTION	REQUIREMENT	PROPOSED
R4 - MEDIUM-HIGH DENSITY RESIDENTIAL		
MINIMUM LOT AREA	145,000 SF* (+ 3 BEDROOM UNITS)	147,145.7* SF (58 UNITS)
MINIMUM LOT WIDTH	50 FT	346.3 FT
MINIMUM LOT FRONTAGE	30 FT	346.3 FT
FRONT SETBACK	35 FT	39.0± FT
SIDE SETBACK	20 FT (0.5 MAX HEIGHT OF 40 FT).	20.5 FT (LEFT SIDE) 65.0± FT. (RIGHT SIDE)
REAR SETBACK	20 FT (0.5 MAX HEIGHT OF 40 FT).	215.4± FT
MAX. BUILDING HEIGHT	40 FT	40.0 FT
LOT COVERAGE	40%	15.4%
* - SEE SITE AREA CALCULATIONS TABLE		

SITE STATISTICS

TOTAL PROJECT AREA 147,145.7± SF 3.378± AC	EXISTING			PROPOSED		
	SQUARE FEET	ACRES	COVERAGE	SQUARE FEET	ACRES	COVERAGE
BUILDING AREA	0.00	0.00	0.00%	36,758.0 SF	0.844±	25.0%
PAVEMENT AREA	2,000.0±	0.050±	1.5%	38,090.3±	0.874±	25.9%
GREEN/OPEN AREA	145,145.7±	3.328±	98.5%	72,297.4±	1.660±	49.1%

PROJECT INFORMATION

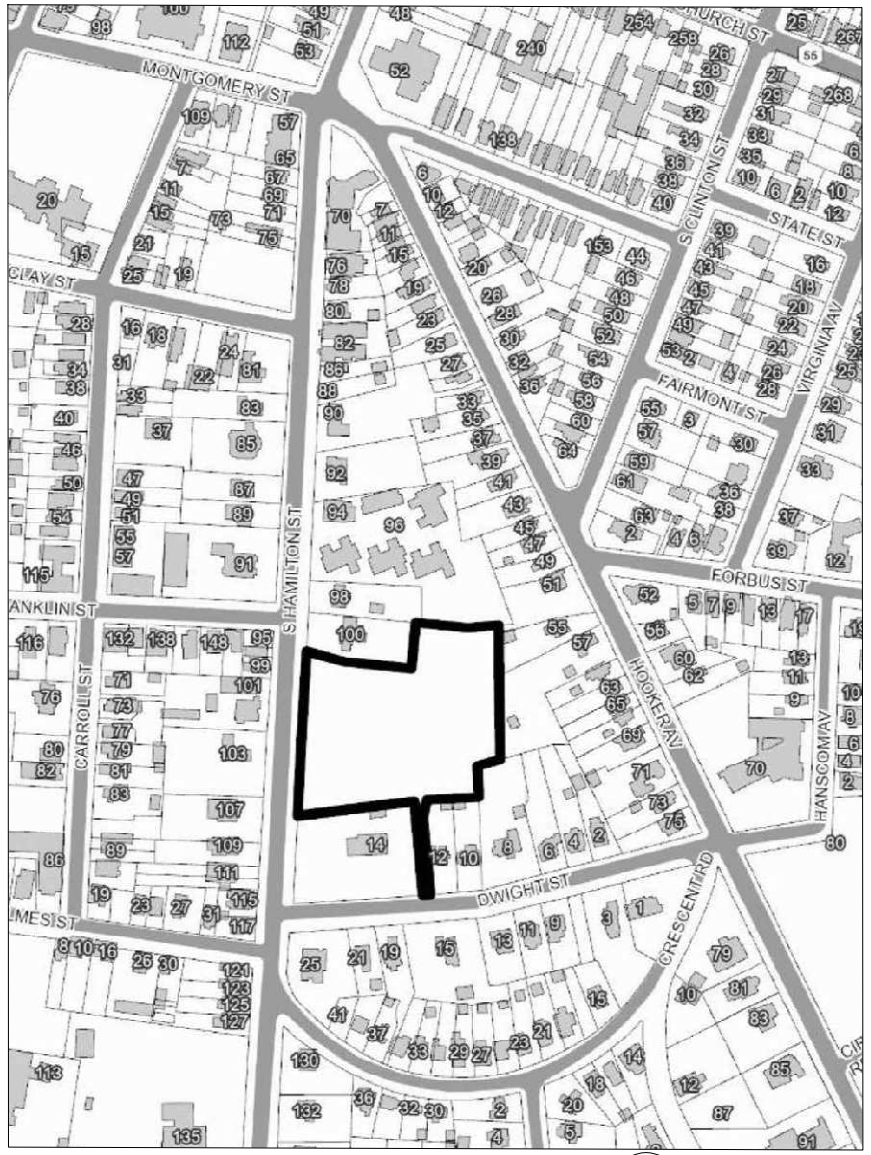
ADDRESS	SOUTH HAMILTON STREET
TAX MAP No.	6161-30-151783
ZONING DISTRICT	R-4 MEDIUM HIGH DENSITY RESIDENTIAL
SITE COORDINATES	N 41°41'42.82" W 73°55'28.39"
TOTAL PROJECT AREA	3.378± ACRES
EXISTING USE	RESIDENTIAL / VACANT
PROPOSED USE	MULTI-FAMILY
PARCEL FRONTAGE	346.3 LF (S. HAMILTON STREET) 17.0 LF (DWIGHT STREET)
WATER SUPPLY	CITY OF POUGHKEEPSIE
SANITARY SERVICE	CITY OF POUGHKEEPSIE
FIRE PROTECTION	CITY OF POUGHKEEPSIE
SCHOOL DISTRICT	CITY OF POUGHKEEPSIE
PROPSED DENSITY	58 UNITS

SITE AREA CALCULATIONS

PARKING REQUIREMENTS
1.5 SPACES PER 1-BEDROOM UNIT @ 29 UNITS = 43.5 SPACES
2.0 SPACES PER 2-BEDROOMM UNIT @ 29 UNITS = 58.0 SPACES
TOTAL PARKING REQUIRED = 102 SPACES
TOTAL PARKING PROVIDED = 103 SPACES

MIMIMUM LOT AREA
2,200 SF PER 1-BEDROOM UNIT @ 29 UNITS = 81,200 SF
2,800 SF PER 2-BEDROOMM UNIT @ 29 UNITS = 63,800 SF
TOTAL LOT AREA REQUIRED = 145,000 SF
TOTAL LOT AREA PROVIDED = 147,145.7 SF

USUABLE OPEN SPACE
300 SF PER 1-BEDROOM UNIT @ 29 UNITS = 8,700 SF
400 SF PER 2-BEDROOMM UNIT @ 29 UNITS = 11,600 SF
TOTAL OPEN SPACE REQUIRED = 20,300 SF
TOTAL OPEN SPACE PROVIDED = 21,800± SF



OVERALL SITE LOCATION

SCALE: 1"= 200'

INDEX TO DRAWINGS

SHEET No.	DWG. NO.	DESCRIPTION
0	–	COVER
1	–	BOUNDARY & TOPOGRAPHIC SURVEY (BY OTHERS)
2	S1	SITE LAYOUT PLAN
3	S2	WATER AND SEWER UTILITY PLAN
4	S3	GRADING AND DRAINAGE PLAN
5	S4	EROSION CONTROL PLAN
6	D1	STANDARD DETAILS
7	D2	STANDARD CITY DETAILS
8	D2.1	STANDARD CITY DETAILS
9	D3	STANDARD DETAILS
10	D4	STANDARD DETAILS
11	CT1	STORMWATER MANAGEMENT PLAN (CONTECH)
12	CT2	STORMWATER MANAGEMENT PLAN (CONTECH)
13	L1	LANDSCAPING PLAN (BOICE)
14	L2	LANDSCAPING PLAN (BOICE)
15	L3	LANDSCAPING PLAN (BOICE)
16	LP	LIGHTING/PHOTOMETRIC PLAN (BY OTHERS)

GENERAL NOTES:

1. THE APPLICANT SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL RULES AND REGULATIONS, INCLUDING BUT NOT LIMITED TO THE SEQR, FRESHWATER WETLAND PERMIT REGULATIONS, THE TOWN GRADING LAW AND THE TOWN FLOOD PLAIN MANAGEMENT.

2. THE APPLICANT SHALL BEAR THE SOLE RESPONSIBILITY FOR ENSURING THAT ALL IMPROVEMENTS ARE COMPLETED AND MAINTAINED IN ACCORDANCE WITH APPROVED PLANS, SPECIFICATIONS AND STANDARDS.

3. NO CERTIFICATE OF OCCUPANCY SHALL BE ISSUED UNTIL ALL REQUIRED IMPROVEMENTS ARE SATISFACTORILY COMPLETED, AND THE PLANNING BOARD HAS PROVIDED WRITTEN AUTHORIZATION TO THE BUILDING DEPARTMENT.

4. THE APPLICANT SHALL BE RESPONSIBLE FOR KEEPING EXISTING PUBLIC HIGHWAYS AND ADJACENT LANDS FREE OF DEBRIS, SOIL AND OTHER MATTER WHICH MAY ACCUMULATE DUE TO CONSTRUCTION RELATED TO THE SITE.

5. ALL PLANT MATERIALS INSTALLED PURSUANT TO THIS SITE DEVELOPMENT PLAN SHALL CONFORM TO THE AMERICAN STANDARD NURSERY STOCK (ANSI Z60.1–1986) OF THE AMERICAN ASSOCIATION OF NURSERYMEN OR EQUIVALENT RECOGNIZED STANDARD, AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH ACCEPTED INDUSTRY PRACTICE.

6. NO PORTION OF THIS SITE SHALL BE USED FOR STORAGE OR DISPLAY OF ANY PRODUCT OR MATERIAL, OR FOR PARKING OF ANY VEHICLES, OR FOR THE CONDUCT OF ANY OTHER BUSINESS OPERATIONS, UNLESS SPECIFICALLY DESIGNATED FOR SUCH USE ON THIS SITE DEVELOPMENT PLAN.

7. ALL REQUIRED EROSION & SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND THE BUILDING DEPARTMENT SHALL BE NOTIFIED PRIOR TO ANY SOIL DISTURBANCE OR ISSUANCE OF ANY GRADING PERMIT.

8. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON–SITE.

9. THE CONTRACTOR AND/OR HIS REPRESENTATIVE(S) ARE ENTIRELY RESONSIBLE FOR EXECUTING THE WORK AND MAINTAINING THE WORK SITE IN ACCORDANCE WITH ALL APPLICABLE SAFETY CODES AND STANDARDS.

10. THE CONTRACTOR SHALL CLEAN–UP AT THE END OF EACH WORK DAY AND LEAVE THE WORK SITE CLEAN, WITH ALL ITEMS ATTENDED TO; NO FASTENERS, TOOLS AND/OR ANY OTHER ITEM MAY NOT BE LEFT UNATTENDED.

11. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL CONSTRUCTION MATERIALS AND DEBRIS FROM THE WORK SITE ON A DAILY BASIS.

12. ON–SITE VERIFICATION OF ALL DIMENSIONS AND CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

13. THE ENGINEER SHALL BE NOTIFIED, IN WRITING, OF ANY ANY DISCREPANCIES OF CONFLICTS THAT MAY ARISE PERTAINING TO THESE DRAWINGS. NO DECISION SHALL BE MADE WITHOUT APPROVAL OR CONSENT FROM THE ENGINEER.

14. ALL CONSTRUCTION SHALL COMPLY WITH NYS FIRE PREVENTION AND BUILDING CODES, LOCAL BUILDING CODES AND REQUIREMENTS, AS WELL AS FEDERAL PLUMBING AND ELECTRICAL CODES.

15. THE CONTRACTOR SHALL PERFORM ALL WORK IN A PROFESSIONAL AND SKILLED MANNER.

16. ANY EXISTING CONDITIONS DAMAGED OR DESTROYED DURING THE COURSE OF WORK SHALL BE RESTORED AT THE CONTRACTORS EXPENSE TO "AS GOOD AS CONDITION" AS DETERMINED BY THE ENGINEER.

17. ACCESS TO ALL PUBLIC UTILITIES INCLUDING FIRE HYDRANTS AND ALARMS, POLICE CALL BOXES, STREET LIGHTS, MANHOLES, ETC. SHALL BE KEPT UNOBSTRUCTED DURING CONSTRUCTION.

18. ALL MATERIALS AND EQUIPMENT USED FOR THIS PROJECT AND/OR KEPT ON–SITE SHALL COMPLY WITH NYS ENERGY CONSERVATION CONSTRUCTION CODE.

19. THESE PLANS ARE CERTIFIED TO BE IN ACCORDANCE WITH NYS BUILDING CODES; THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE FINISHED PRODUCT.

20. THE CONTRACTOR SHALL PROVIDE PROTECTIVE BARRICADES, PROPER SIGNAGE AND LIGHTING TO PREVENT UNAUTHORIZED ENTRY TO THE WORK–SITE.

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OSHA REGULATIONS AND NYS LABOR COMPLIANCE.

22. THE CONTRACTOR SHALL COMPLY WITH ALL DRAWING NOTES.

23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING HIGHWAY WORK PERMIT BEFORE PERFORMING ANY WORK WITHIN RIGHT–OF–WAY.

24. APPROPRIATE TRAFFIC CONTROL DEVICES & PERSONEL SHALL BE PROVIDED IN ACCORDANCE WITH FEDERAL, STATE OR LOCAL REGULATIONS TO REGULATE, WARN & GUIDE TRAFFIC THROUGH THE WORK SITE.

OWNER / APPLICANT:

O'NEILL GROUP HAMILTON, LLC
241 HUDSON STREET
HACKENSACK, NEW JERSEY 07601

PREPARED BY:

ARICO ASSOCIATES
ENGINEERS
LAND PLANNERS
& CONSULTANTS

N O T E

UNAUTHORIZED ALTERATION OR ADDITION TO THESE PLANS IS A VIOLAITON OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

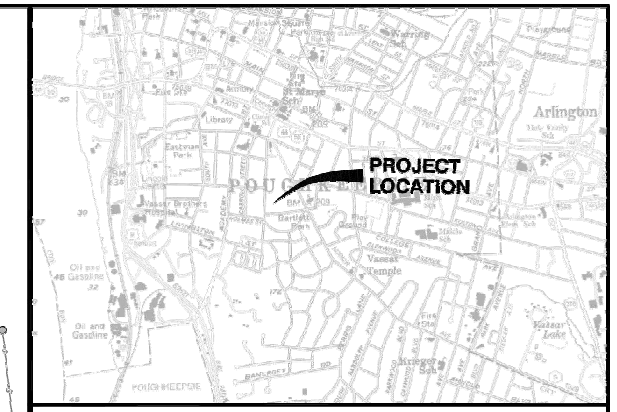
SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

LEGEND:

- CB — CATCH BASIN
- HYD — HYDRANT
- LP — LIGHT POLE
- SMH — SANITARY MANHOLE
- DMH — STORM MANHOLE
- EMH — ELECTRIC MANHOLE
- WV — WATER VALVE
- TP — TELEPHONE PEDESTAL
- EBX — ELECTRIC BOX
- XFMR — ELECTRIC TRANSFORMER
- UP — UTILITY POLE
- TMH — TELEPHONE MANHOLE
- TCB — TRAFFIC CONTROL BOX
- TSP — TRAFFIC SIGNAL POLE
- G — GAS LINE
- S — SANITARY LINE
- ST — STORM LINE
- W — WATER LINE
- T — TELEPHONE LINE
- OH — OVERHEAD WIRES
- 365.52 — SPOT ELEVATION
- CIPF — CAPPED IRON ROD FOUND
- IRF — IRON ROD FOUND
- IPF — IRON PIPE FOUND
- LA — LANDSCAPED AREA
- RD — ROOF DRAIN
- SB — SOIL BORING
- MW — MONITORING WELL
- GMP — GAS MARKER POST
- UM — UNKNOWN MH/BOX
- GV — GAS METER





SITE LOCATION PLAN: 1"=2000'

TAX PARCEL NUMBER:

CITY OF POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK
TAX PARCEL 6161-30-151783

MAP REFERENCES:

1. "SURVEY OF PROPERTY PREPARED FOR STEPHEN REIFLER," PREPARED BY JOHN MARANO, DATED JUNE 6, 1997.
2. SANITARY SEWER MAP NO. 18 ON FILE AT THE CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT.
3. STORM SEWER MAP NO. 18 ON FILE AT THE CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT.
4. WATER MAPS PAGE NOS. 116 AND 178 ON FILE AT THE CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT.

DEED REFERENCES:

1. STEVEN REIFLER TO ONEILL GROUP HAMILTON LLC, DATED SEPTEMBER 13, 2022 AND RECORDED IN THE DUTCHESS COUNTY CLERKS OFFICE IN DEED INSTR. 22022-53570.

GENERAL NOTES:

NORTH IS ORIENTED TO DEED REFERENCE 1.

VERTICAL DATUM IS ASSUMED. ADD 1.0 FEET TO ALL ELEVATIONS TO NAVD88 DATUM.

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S INKED SEAL, OR HIS EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

SURVEYED FROM RECORD DESCRIPTION AND AS IN POSSESSION.

SUBJECT TO COVENANTS, EASEMENTS, RESTRICTIONS, CONDITIONS AND AGREEMENTS OF RECORD.

SURVEY SUBJECT TO ANY RIGHT, TITLE OR INTEREST THE PUBLIC MAY HAVE FOR HIGHWAY USE.

SURVEY SHOWN IS SUBJECT TO ANY SUBSURFACE CONDITIONS THAT MAY EXIST, IF ANY.

UNDERGROUND FACILITIES AND STRUCTURES SHOWN HEREON WERE TAKEN FROM DATA OBTAINED FROM PREVIOUS MAPS AND RECORD DRAWINGS. ALL ABOVE GROUND STRUCTURES AND SURFACE FEATURES SHOWN HEREON ARE THE RESULT OF A FIELD SURVEY UNLESS OTHERWISE NOTED. THERE MAY BE OTHER UNDERGROUND UTILITIES, THE EXISTENCE OF WHICH ARE NOT KNOWN OR CERTIFIED BY THE UNDERSIGNED. THE SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES. THE UNDERGROUND FACILITIES PROTECTIVE ORGANIZATION MUST BE NOTIFIED PRIOR TO CONDUCTING TEST BORINGS, EXCAVATION AND CONSTRUCTION.

30 0 30
SCALE IN FEET
1"=30'

SHEET 1 OF 16

SOUTH HAMILTON STREET

BOUNDARY & TOPOGRAPHIC SURVEY OF THE LANDS OF ONEILL GROUP HAMILTON LLC

CITY OF POUGHKEEPSIE	DUTCHESS COUNTY, N.Y.
SCALE: 1"=30'	SEPTEMBER 28, 2023
DRAWN BY: KDW	PROJECT NO:

REVISION:
DATE:

Ausfeld & Waldruff Land Surveyors LLP
323 CLINTON STREET, SCHENECTADY NY
Phone: (518) 346-1595 Fax: 518-770-1655
VINCENT P. AUSFELD P.L.S.
LICENSE NUMBER
www.awsllp.com

Drawing Name: Z:\PROJECTS\2023\23-3540\dwg\23-3540-BM.dwg
Xref's Attached:
Date Printed: Sep 28, 2023, 6:20pm



SITE LAYOUT PLAN

SCALE: 1"= 30'

PRIOR TO START OF CONSTRUCTION OR EXCAVATION, TREES TO BE RETAINED SHALL BE PROTECTED BY SILT FENCE, SNOW FENCE, CONSTRUCTION FENCE, OR EQUAL, WHICH WILL BE PLACED AT THE DRIP LINE OR SEVERAL FEET BEYOND. HOWEVER, THE FENCING SHALL NOT CROSS PUBLIC SIDEWALKS. NO STORAGE OR STOCKPILING OF CONSTRUCTION MATERIALS, DEBRIS OR EQUIPMENT SHALL OCCUR WITHIN THE FENCED AREA.

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2___
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED: OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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ALTERATION OF THIS DOCUMENT, EXCEPT BY A LICENSED ENGINEER ACTING UNDER HIS LEGAL ACCORDING TO SUB PARAGRAPH 7209, SECTION 7209, OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145.

DONALD A. FERRIS, P.E.
NYSPE NO. 066525

ARICO ASSOCIATES
ENGINEERS
LAND PLANNERS
& CONSULTANTS
1407 Route 9, Bldg 2 Suite 6, Clifton Park, New York 12065
518.373.6989
aricoassociates@gmail.com

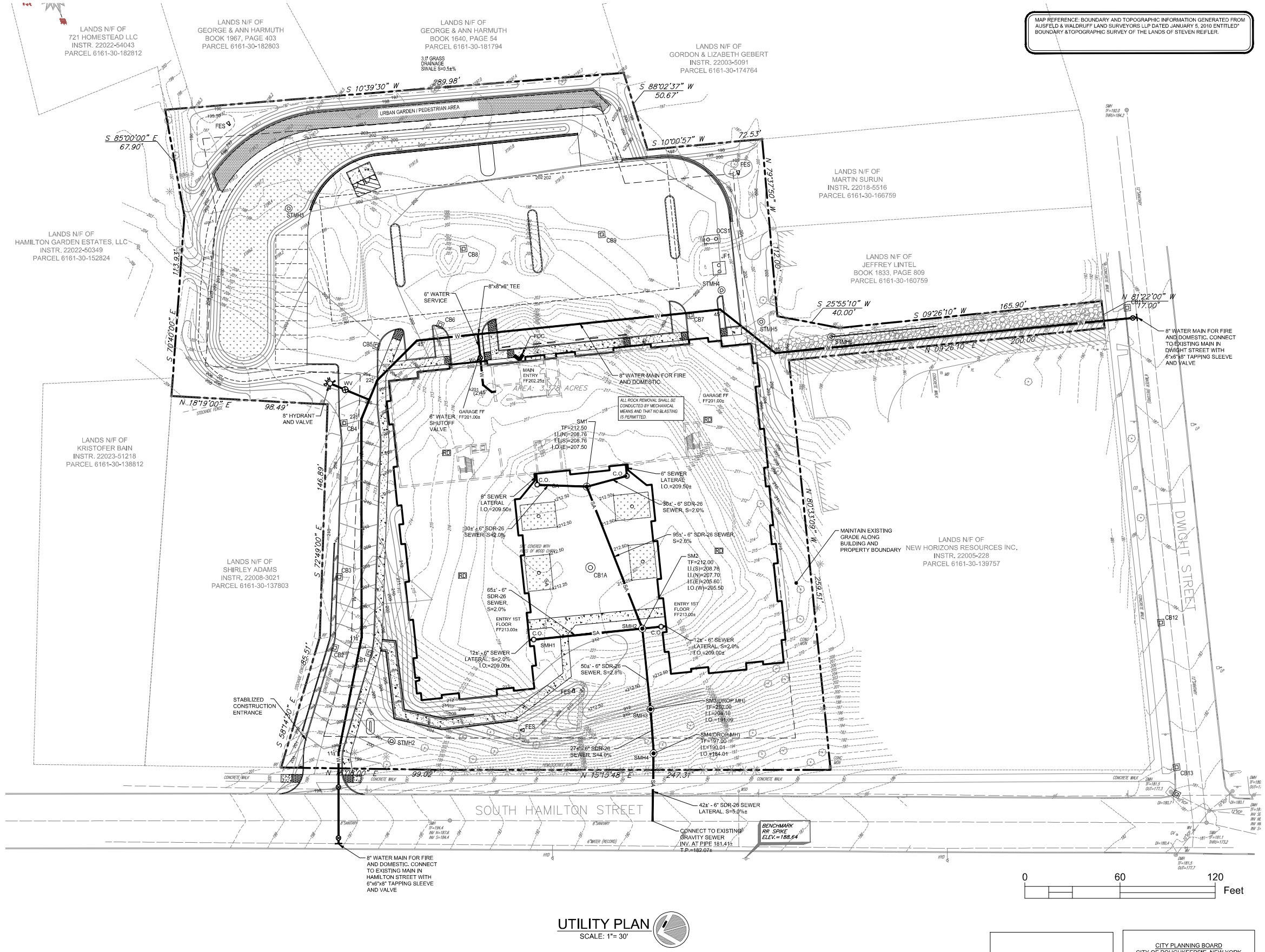
CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

LAYOUT PLAN
SOUTH HAMILTON

TAX MAP - 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

DRAWING NO.
S1
SHEET 2 OF 16



UTILITY PLAN
SCALE: 1"= 30'

Fire Chief
Police Chief
Building Inspector
City Engineer
Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED: OTHER APPROPRIATE ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

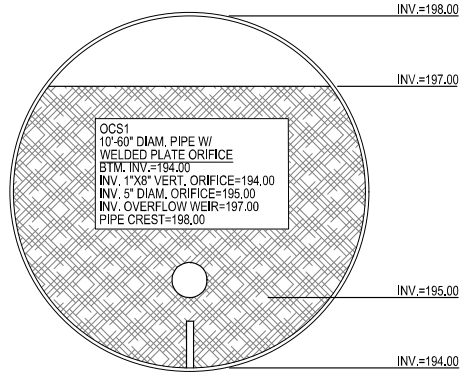
WATER & SEWER UTILITY PLAN
SOUTH HAMILTON

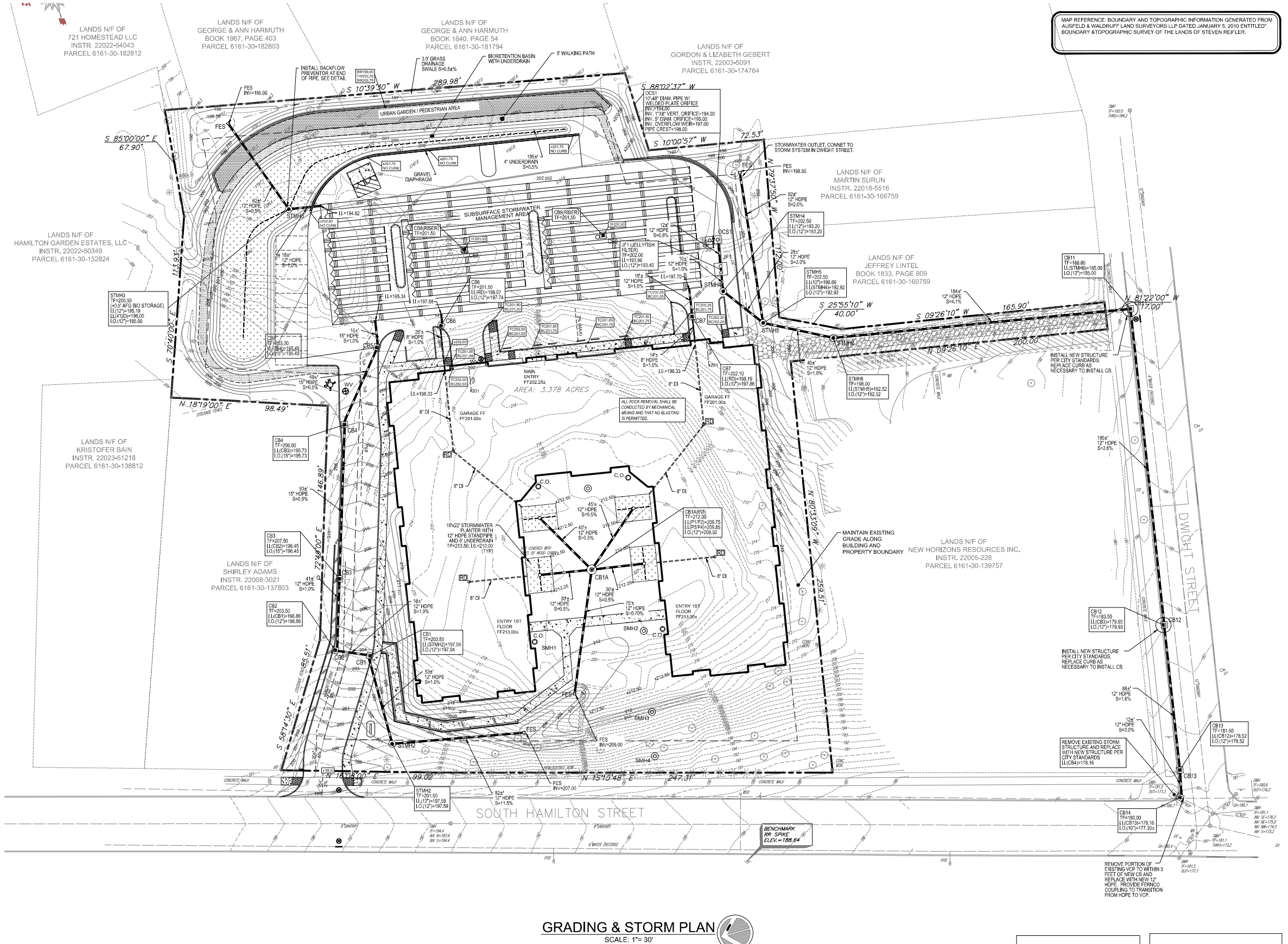
TAX MAP - 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

DRAWING NO.
S2

SHEET 3 OF 16





GRADING & STORM PLAN
SCALE: 1"= 30'

Fire Chief	
Police Chief	
Building Inspector	
City Engineer	
Commissioner of Public Works	

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2__
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

NO.	DESCRIPTION	BY	DATE
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED: OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

GRADING & DRAINAGE PLAN
SOUTH HAMILTON

TAX MAP - 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

DRAWING NO.
S3
SHEET 4 OF 16

GENERAL NOTES:

BEFORE UNDERTAKING ANY CONSTRUCTION ACTIVITY, ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH SITE WORK THAT INVOLVES PHYSICAL GROUND DISTURBANCE ON THE PROJECT SITE SHALL SIGN AND DATE A COPY OF THE CERTIFICATION STATEMENT, WHICH IS LOCATED IN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), PREPARED FOR THIS PROJECT.

1. ALL EROSION & SEDIMENT CONTROL MEASURES SHALL ADHERE TO THE PROJECT'S STORMWATER POLLUTION PREVENTION PLAN (SWPPP). ALL APPROPRIATE STORMWATER CONTROL MEASURES IDENTIFIED IN THE SWPPP SHALL BE IN PLACE BEFORE COMMENCING CONSTRUCTION OF ANY SEGMENT OF THE PROJECT THAT REQUIRES THESE MEASURES.

2. INSPECTIONS: THE OPERATOR SHALL HAVE A QUALIFIED PROFESSIONAL CONDUCT AN ASSESSMENT OF THE SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION & CERTIFY IN AN INSPECTION REPORT THAT THE APPROPRIATE EROSION & SEDIMENT CONTROLS DESCRIBED IN THE SWPPP HAVE BEEN ADEQUATELY INSTALLED OR IMPLEMENTED TO ENSURE OVERALL PREPAREDNESS OF THE SITE FOR THE COMMENCEMENT OF CONSTRUCTION. FOLLOWING THE COMMENCEMENT OF CONSTRUCTION, SITE INSPECTIONS SHALL BE CONDUCTED BY THE QUALIFIED PROFESSIONAL AT LEAST EVERY 7 CALENDAR DAYS. INSPECTIONS SHALL LOOK FOR EVIDENCE OF SOIL EROSION ON THE SITE, POTENTIAL OF POLLUTANTS ENTERING DRAINAGE SYSTEMS, PROBLEMS AT DISCHARGE POINTS, I.E., TURBIDITY IN RECEIVING WATERS, & SIGNS OF SOIL & MUD TRANSPORT FROM THE SITE ONTO PUBLIC ROADWAYS. REPAIRS & CLEANING SHALL BE MADE IMMEDIATELY.

3. SITE LOG/CERTIFICATION: THE OPERATOR MUST MAINTAIN A RECORD OF ALL INSPECTION REPORTS IN A SITE LOG BOOK. THE SITE LOG BOOK MUST BE MAINTAINED ON-SITE & BE MADE AVAILABLE TO THE PERMITTING AUTHORITY UPON REQUEST.

4. STABILIZATION: THE OPERATOR SHALL INITIATE STABILIZATION MEASURES AS SOON AS PRACTICABLE ON PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.

5. MAINTENANCE: SEDIMENT SHALL BE REMOVED FROM TEMPORARY SEDIMENT TRAPS OR PONDS WHENEVER THEIR CAPACITY HAS BEEN REDUCED BY 50% OF THE DESIGN CAPACITY. INSTALL ADDITIONAL SEDIMENT TRAPS & BARRIERS AS NEEDED DURING CONSTRUCTION.

6. CONTRACTOR SHALL ESTABLISH A TEMPORARY STABILIZED CONSTRUCTION ENTRANCE TO CAPTURE MUD & DEBRIS FROM CONSTRUCTION VEHICLES BEFORE THEY ENTER A PUBLIC ROADWAY, AS DETAILED. SEDIMENT TRACKED ONTO THE ROADWAYS SHALL BE REMOVED OR CLEANED ON A DAILY BASIS. ALL BARE AREAS, E.G., ENTRANCES, CONSTRUCTION ROUTES, & EQUIPMENT PARKING AREAS, SHALL BE STABILIZED IMMEDIATELY AS CONSTRUCTION TAKES PLACE. PLACE GRAVEL ON THESE AREAS OR MAINTAIN THE EXISTING VEGETATIVE COVER.

7. TEMPORARY CONSTRUCTION SILT FENCES, STRAW BALE DIKES, OR TRIANGULAR SILT DIKES SHALL BE PLACED ON OR PARALLEL TO CONTOURS WHERE THERE IS NO CONCENTRATION OF STORMWATER RUNOFF FLOWING TO THEM & WHERE EROSION OCCURS IN THE FORM OF SHEET EROSION, AS DETAILED. THE AREA BELOW THESE TEMPORARY STRUCTURAL MEASURES SHOULD BE UNDISTURBED/UNEXCAVATED EARTH.

TEMPORARY STABILIZATION MEASURES SHALL START AS SOON AS PRACTICAL ON PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT NOT MORE THAN (7) DAYS AFTER WORK HAS CEASED. ACCEPTABLE TEMPORARY STABILIZATION MEASURES INCLUDE, BUT MAY NOT BE LIMITED TO SEEDING MULCH, STRAW, EROSION CONTROL BLANKETS, SOIL STABILIZING EMULSION PRODUCTS, OR SOME FUNCTIONALLY EQUIVALENT MEASURE. TEMPORARY SEEDING SHALL BE ANNUAL RYE GRASS, APPLIED AT A RATE OF 30 LBS./ACRE.

8. DIVERT OFFSITE OR CLEAN STORMWATER RUNOFF FROM DISTURBED AREAS. CONVEY RUNOFF FROM HIGHLY ERODIBLE SOILS & STEEP SLOPES TO MORE SUITABLE STABLE AREAS. INSTALL TRIANGULAR SILT DIKES TO REDUCE THE VELOCITY OF CONCENTRATED RUNOFF.

9. LIMIT ALL CLEARING & EXCAVATION ACTIVITIES TO MAINTAIN EXISTING VEGETATIVE COVER AS MUCH AS PRACTICABLE. TOPSOIL SHALL BE STOCKPILED, PROTECTED, & STABILIZED IN AN AREA LOCATED AWAY FROM DRAINAGE CHANNELS.

10. WHEN ACTIVITIES TEMPORARILY CEASE DURING CONSTRUCTION, SOIL STOCKPILES & EXPOSED SOIL SHALL BE STABILIZED BY SEED, MULCH, OR OTHER APPROPRIATE MEASURES AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS CEASED. PERMANENT VEGETATION & LANDSCAPING SHALL BE INSTALLED IMMEDIATELY FOLLOWING FINAL GRADING.

11. NO GRADING, FILLING, OR OTHER DISTURBANCE IS ALLOWED WITHIN EXISTING DRAINAGE SWALES, UNLESS INDICATED ON THE GRADING PLANS.

12. BACKFILL & STABILIZE ALL UTILITY TRENCHES DAILY.

13. SEEDING:
A. SOW GRASS SEED BETWEEN APRIL 1 & MAY 15TH OR BETWEEN AUGUST 15TH & OCTOBER 15TH, EXCEPT AS OTHERWISE APPROVED IN WRITING BY THE ENGINEER. NO SEEDING SHALL OCCUR ON FROZEN GROUND, HIGHLY MUDDY SOILS, OR DURING EXTREME HEAT OR DROUGHT CONDITIONS.
B. SEED MIXTURE: 40% FENWAY RED FESCUE, 30% ABBEY KENTUCKY BLUEGRASS BLEND, 20% DEVINE PERENNIAL RYE, & 10% ENCHANTED PERENNIAL RYE. PROVIDE SEED MIXTURE EQUAL TO SCOTT'S PURE PREMIUM SUN & SHADE NORTH GRASS SEED MIXTURE, OR APPROVED EQUIVALENT. VARIETY MAY BE ALTERED DEPENDING ON AVAILABILITY OF SEED FROM MANUFACTURER.

14. TOPSOIL:
A. PROVIDE TOPSOIL FROM EXISTING STOCKPILES STRIPPED FROM THE PROJECT SITE & APPROVED BY THE ENGINEER. IF REQUIRED, PROVIDE ADDITIONAL TOPSOIL CONFORMING TO THE FOLLOWING:
B. ORIGINAL LOAM TOPSOIL, WELL DRAINED HOMOGENEOUS TEXTURE & OF UNIFORM GRADE, WITHOUT THE ADMIXTURE OF SUBSOIL MATERIAL & ENTIRELY FREE OF DENSE MATERIAL, HARDPAN, SOD, OR ANY OTHER OBJECTIONABLE FOREIGN MATERIAL.
C. CONTAINING NOT LESS THAN 4% NOR MORE THAN 20% ORGANIC MATTER IN THAT PORTION OF A SAMPLE PASSING A 1/4 INCH SIEVE WHEN DETERMINED BY THE WET COMBUSTION METHOD ON A SAMPLE DRIED AT 105 DEGREES C.
D. CONTAINING A PH VALUE WITHIN THE RANGE OF 4.5 TO 7 ON THAT PORTION OF THE SAMPLE THAT PASSES A 1/4 INCH SIEVE.

15. FERTILIZER:
A. MIXED COMMERCIAL FERTILIZERS SHALL CONTAIN TOTAL NITROGEN, AVAILABLE PHOSPHORIC ACID & SOLUBLE POTASH IN THE RATIO OF 10-6-4 (50% N/UF). 50% OF TOTAL NITROGEN SHALL BE DERIVED FROM UREAFORM FURNISHING A MINIMUM OF 3.5% WATER INSOLUBLE NITROGEN (3.5% WIN). THE BALANCE OF THE NITROGEN SHALL BE PRESENT AS METHYLENE UREA, WATER-SOLUBLE UREA, NITRATE & AMMONIACAL COMPOUNDS. OTHER FERTILIZERS MEETING NYSDOT SPECIFICATION SECTION 713-03 FERTILIZER CAN BE USED.

16. MULCH:
A. DRY APPLICATION, STRAW: STALKS OF OATS, WHEAT, RYE OR OTHER APPROVED CROPS THAT ARE FREE OF NOXIOUS WEED SEEDS. WEIGHT SHALL BE BASED ON A 15% MOISTURE CONTENT.
B. HYDRO APPLICATION: COLORED WOOD CELLULOSE FIBER PRODUCT SPECIFICALLY DESIGNED FOR USE AS A HYDRO-MECHANICAL APPLIED MULCH, BY CONWED HYDRO MULCH, CONWED FIBERS, OR APPROVED EQUIVALENT.

17. JUTE MESH:
A. HEAVY JUTE EROSION CLOTH WITH 12 INCH LENGTHS OF NO. 11 GAGE WIRE BENT TO FORM A "U" WIRE STAPLE, BY JUTE PRODUCTS, INC., OR APPROVED EQUIVALENT.

18. EROSION CONTROL BLANKETS:
A. FOR USE IN REPLACE OF MULCH ON SLOPES GREATER THAN 5% AS SHOWN ON THE PLANS. CONSISTING OF LIGHTWEIGHT PHOTODEGRADABLE POLYPROPYLENE NETS WITH AN APPROXIMATE WEIGHT OF 1.64 LBS/1,000 SQUARE FEET, DEGRADABLE THREAD, STRAW FIBER WITH AN APPROXIMATE WEIGHT OF 0.5 LBS/SQUARE YARD, WITH MANUFACTURER'S DOT STAPLE SYSTEM & 6 INCH BIOSTAKE'S BIODEGRADABLE BLANKET PIN FASTENERS. USE DEGRADABLE DOUBLE NET STRAW BLANKET, PRODUCT NO. S150 BY NORTH AMERICAN GREEN, OR APPROVED EQUIVALENT.

19. DUST SUPPRESSION MEASURES MAY INCLUDE: 1) USING A DEDICATED ON-SITE WATER TRUCK FOR ROAD AND SOILS WETTING, CAPABLE OF SPRAYING WATER DIRECTLY ONTO OFF-ROAD AREAS, INCLUDING EXCAVATIONS AND STOCKPILES; 2) CLEARING AND GRUBBING OF LARGER SITES WILL BE DONE IN STAGES TO LIMIT THE AREA OF EXPOSED, UNVEGETATED SOILS VULNERABLE TO DUST PRODUCTION; AND 3) GRAVEL WILL BE USED ON ROADWAYS TO PROVIDE A CLEAN AND DUST-FREE ROAD SURFACE.

20. IF TEMPORARY SEDIMENT BASINS/TRAPS/SWALES ARE NEEDED AT THE BEGINNING, BASINS MUST PROVIDE 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED AND DISTURBED

21. DECOMPACTION OF EXISTING SOILS. UPON REMOVAL OF ANY EXISTING PAVEMENT AREAS, HEAVILY TRAVELED AREAS AND/OR AREAS THAT APPEAR TO BE OVER COMPACTED SHALL UNDERGO A DE-COMPACTION APPLICATION TO RESTORE SOIL POROSITY AND PERMEABILITY.

SILT FENCE NOTES:

1. SILT FENCE SHALL BE PLACED ON THE DOWNSLOPE SIDE OF DISTURBED AREAS AND AROUND THE PERIMETER OF SOIL STOCKPILES.
2. SILT FENCE SHALL BE PLACED AROUND THE BOUNDARY OF WETLANDS ADJACENT TO THE WORK AREA, AND AT THE EDGE OF WETLANDS AFTER CONSTRUCTION IS COMPLETED.
3. SILT FENCE SHALL BE REPAIRED OR REPLACED WHEN THE ENDS ARE FRAYED OR WORN, AND WHEN THE FENCE IS NOT ANCHORED 6" INTO THE GROUND. WHEN THE ACCUMULATED SEDIMENT REACHES 30% OF THE SILT FENCE HEIGHT, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROPRIATE UPLAND AREA.

DUST CONTROL NOTES:

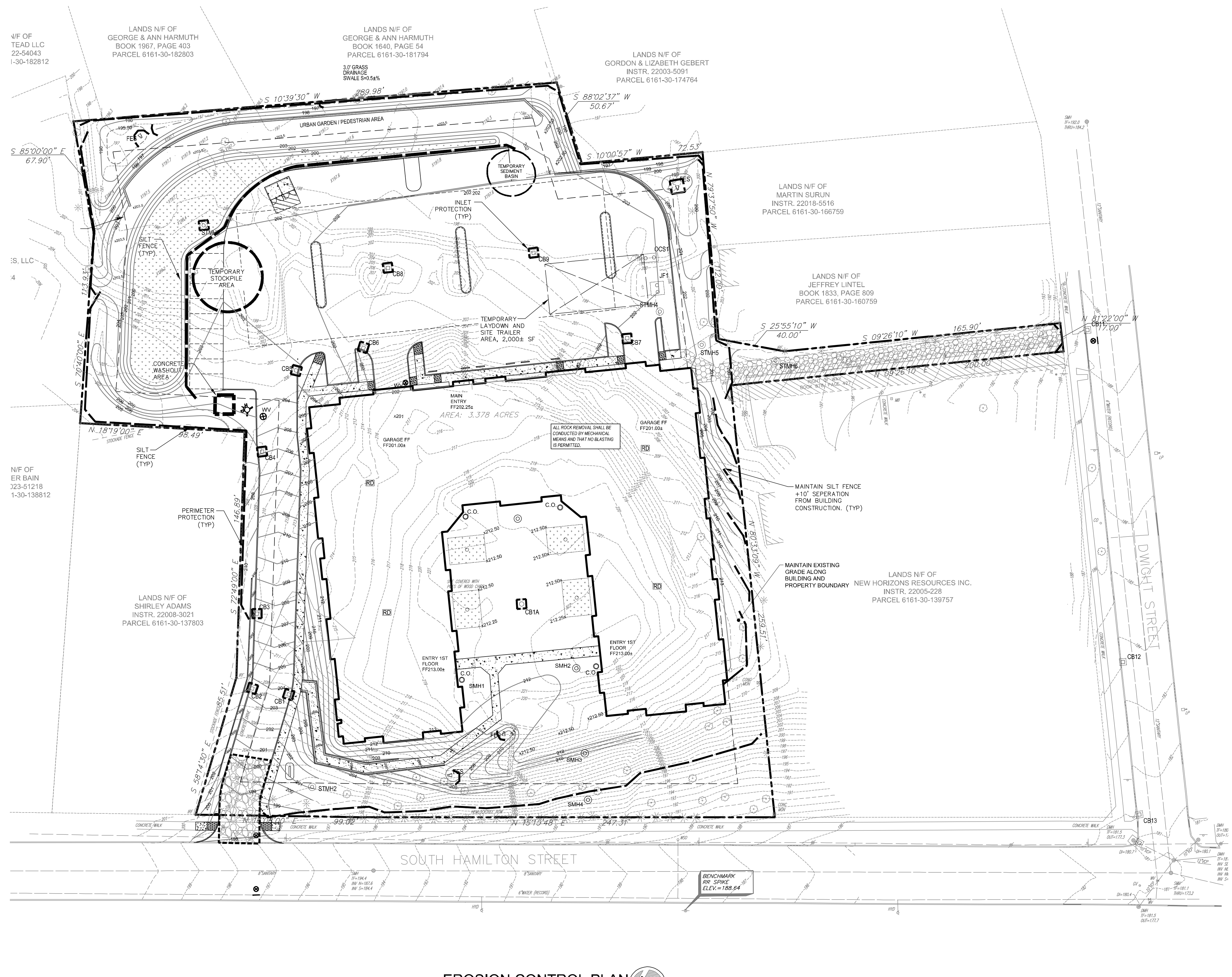
1. DUST SHALL BE CONTROLLED ON THIS PROJECT BY USE OF A WATER TRUCK.
2. THE QUALIFIED INSPECTOR WILL DETERMINE THE FREQUENCY OF WATER APPLICATION IN ORDER TO CONTROL DUST.
3. CHEMICALS OR OTHER METHODS OF DUST CONTROL ARE PROHIBITED TO BE USED ON THIS PROJECT, UNLESS APPROVED BY NYSDEC REGION 3.

STABILIZED CONSTRUCTION ACCESS NOTES:

1. STABILIZED CONSTRUCTION ACCESS SHALL BE INSTALLED WHERE NECESSARY TO PREVENT SEDIMENT FROM BEING TRACKED ONTO ROADWAYS.
2. PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED. CONSTRUCTION TRAFFIC SHALL NOT CROSS STREAMS OR DITCHES EXCEPT AT SUITABLE CROSSING FACILITIES, AND SHALL NOT OPERATE UNNECESSARILY WITHIN WATERWAYS OR DRAINAGE DITCHES.
3. IF INTERNAL CONSTRUCTION ROADS ARE DETERMINED TO BE A SOURCE OF SEDIMENT-LADEN RUNOFF TO SENSITIVE AREAS, THEY SHALL BE STABILIZED AS SOON AS PRACTICABLE.

TEMPORARY SEEING AND MULCHING NOTES:

1. AREAS TO RECEIVE TEMPORARY SEEDING AND MULCHING SHALL RECEIVE BOTH GRASS SEED AND MULCH.
2. A JUTE MESH SHALL BE PLACED OVER THE MULCH IN AREAS WHERE WIND OR WATER EROSION PREVENTS ESTABLISHMENT OF GRASS COVER.



EROSION CONTROL PLAN
SCALE: 1"= 30'

SEQUENCE OF CONSTRUCTION NOTES:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE, PERIMETER PROTECTION, INLET PROTECTION, ETC. AS SHOWN ON E&SC PLAN.
2. INSTALL TEMPORARY SEDIMENT TRAP(S) TO PROVIDE A MINIMUM 3,600 CUBIC FEET VOLUME. SEDIMENT TRAPS CAN BE REMOVED/RELOCATED ONCE TRIBUTARY AREAS ARE STABILIZED.
3. ONCE THE ABOVE EROSION AND SEDIMENT CONTROL DEVICES ARE INSTALLED, CONTRACTOR TO BEGIN CONSTRUCTION ON PROPOSED BUILDING TOGETHER WITH REMAINING SITE WORK INCLUDING ROUGH GRADING, STORMWATER MANAGEMENT, SEWER, WATER AND OTHER UTILITIES.
4. PERFORM BULK SITE EARTH MOVING OPERATIONS.
5. CONTRACTOR SHALL PAVE (BASE COURSE) PARKING LOTS.
6. TOP COURSE OF PAVING TO BE INSTALLED ON PARKING AREAS AS SOON AS PRACTICAL. PRIOR TO PLACING PAVEMENT, CLEAN STORM SEWER SUMPS AND PIPING OF ANY ACCUMULATED SEDIMENT.
7. REMOVAL OF EROSION AND SEDIMENT CONTROL PRACTICES WHEN CONTRIBUTING AREAS ACHIEVE PERMANENT STABILIZATION UPON RECOMMENDATION BY THE PROJECT ENGINEER AND APPROVAL BY THE TOWN ENGINEER.

0 60 120 Feet

Fire Chief
Police Chief
Building Inspector
City Engineer
Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of ________ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED: BLD. FOOTPRINT; GRADING; UTILITIES; OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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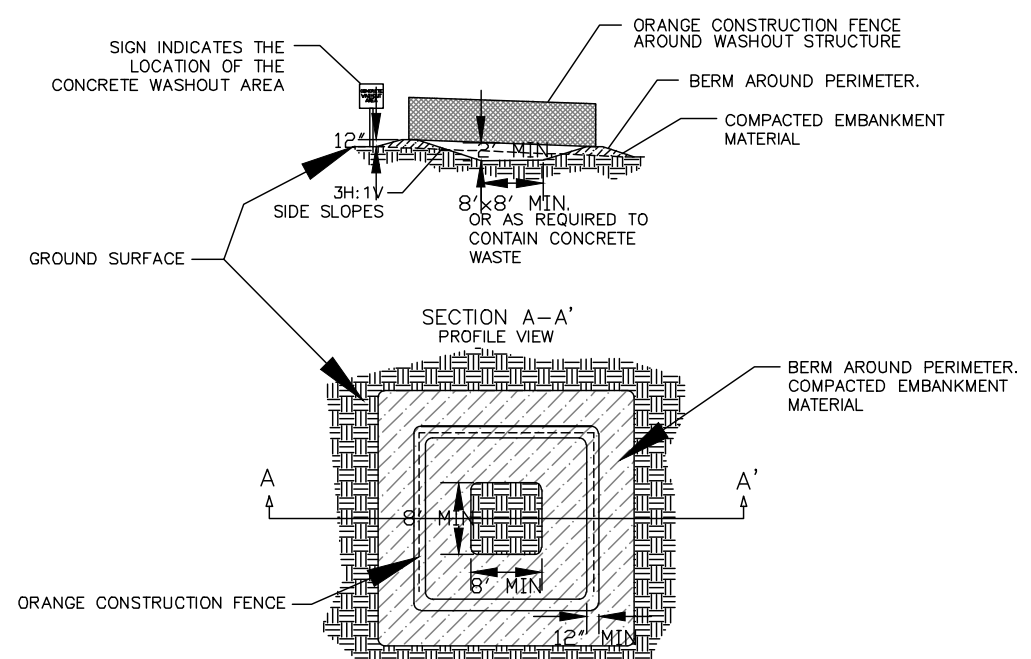
TAX MAP : 6161-30-151783

CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
EROSION CONTROL PLAN
SOUTH HAMILTON

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA
DRAWING NO.
S4
SHEET 5 OF 16

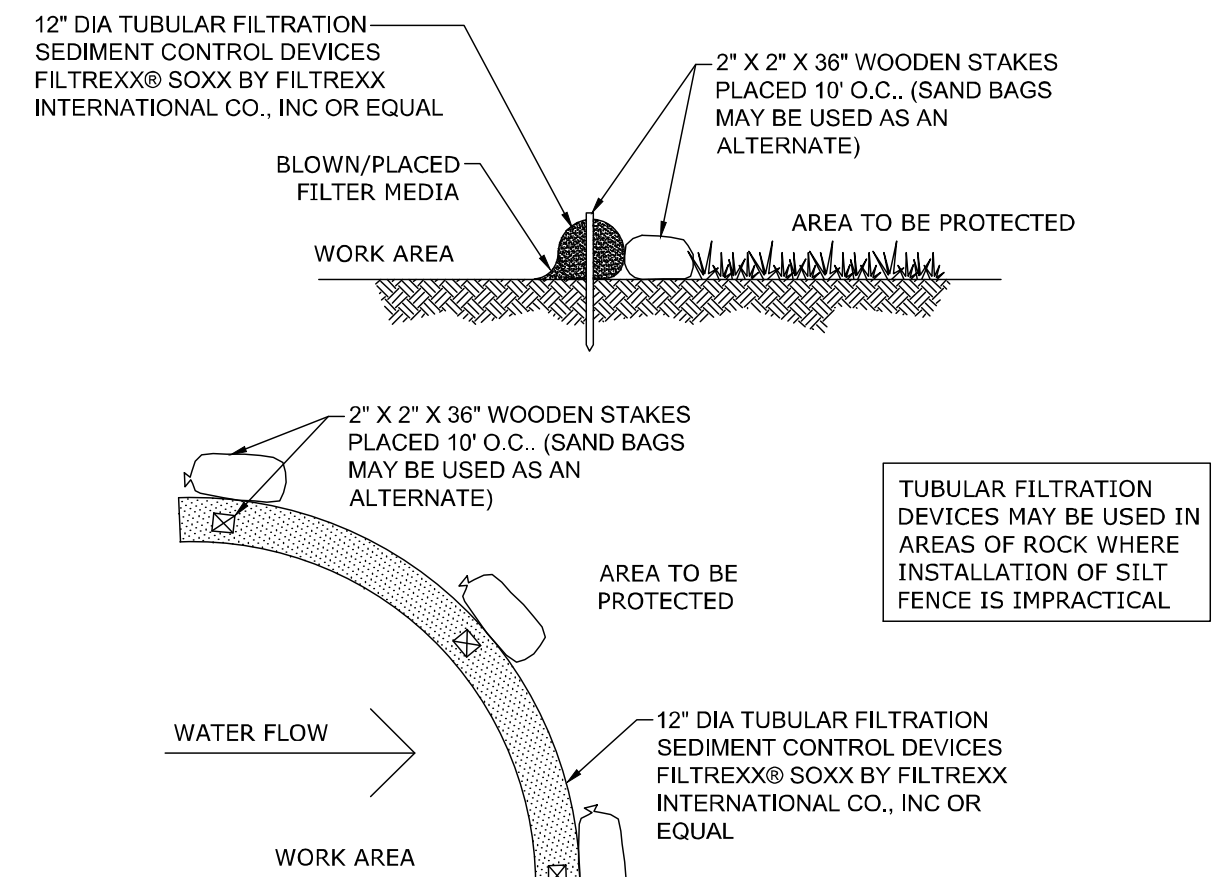


NOTES:

1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. VEHICLE TRACKING CONTROL IS REQUIRED AT CONCRETE WASHOUT ENTRANCE IF ACCESS TO CONCRETE WASHOUT AREA IS OFF PAVEMENT.
3. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND/OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTE CONCRETE.
4. WASTE MATERIAL FROM CONCRETE WASHOUT OPERATIONS MUST BE REMOVED AND LEGALLY DISPOSED OF WHEN IT HAS ACCUMULATED TWO-THIRDS OF THE WET STORAGE CAPACITY OF THE STRUCTURE.
5. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF AT AN APPROVED WASTE SITE.
6. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE TOWN.

CONCRETE WASHOUT AREA DETAIL

SCALE: NO SCALE

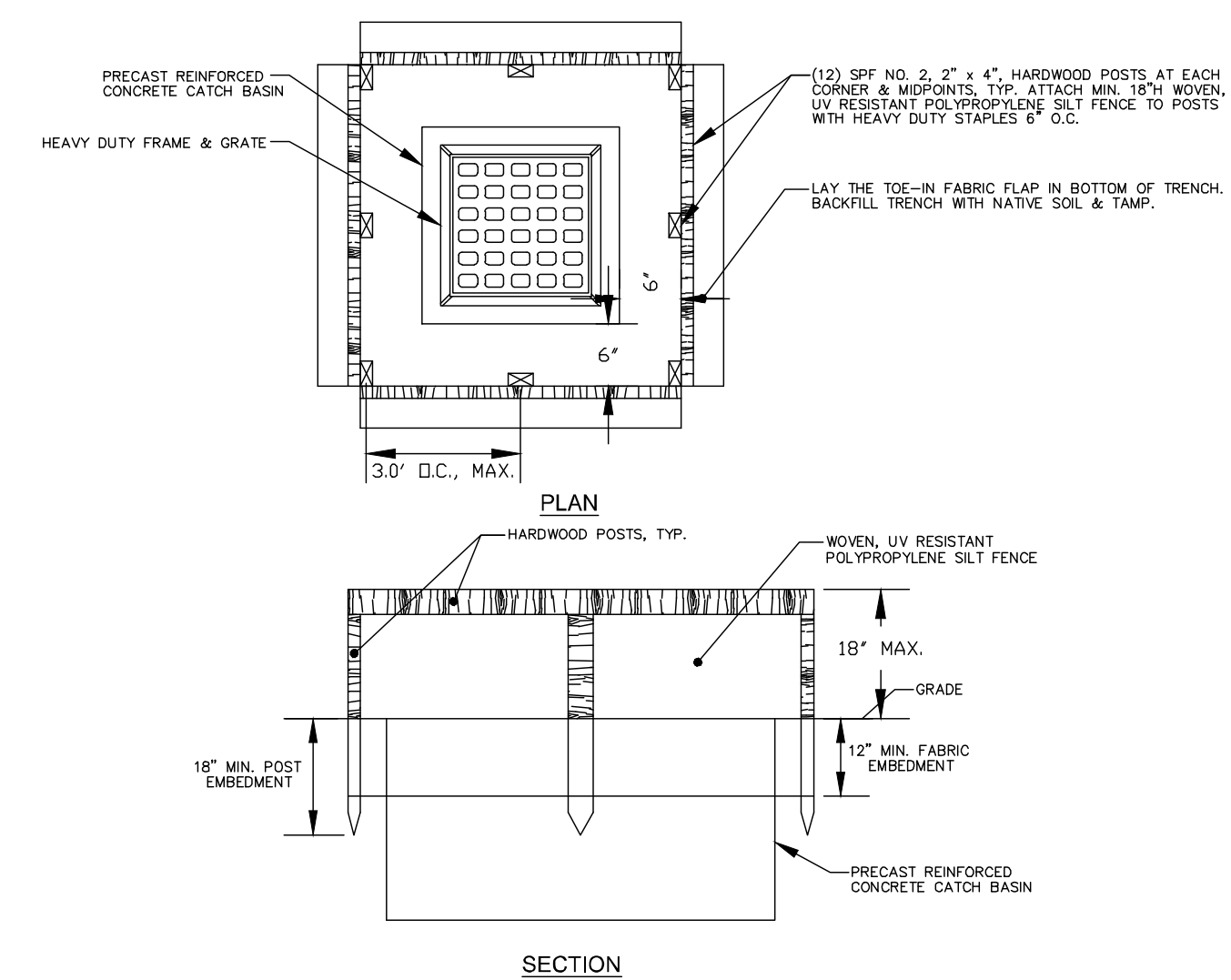


NOTE:

1. FILL TUBULAR FILTRATION SEDIMENT CONTROL DEVICE WITH FILTER MEDIA APPROVED BY NYSDEC FOR THIS APPLICATION.

TUBULAR FILTRATION SEDIMENT CONTROL DEVICE

SCALE: NO SCALE

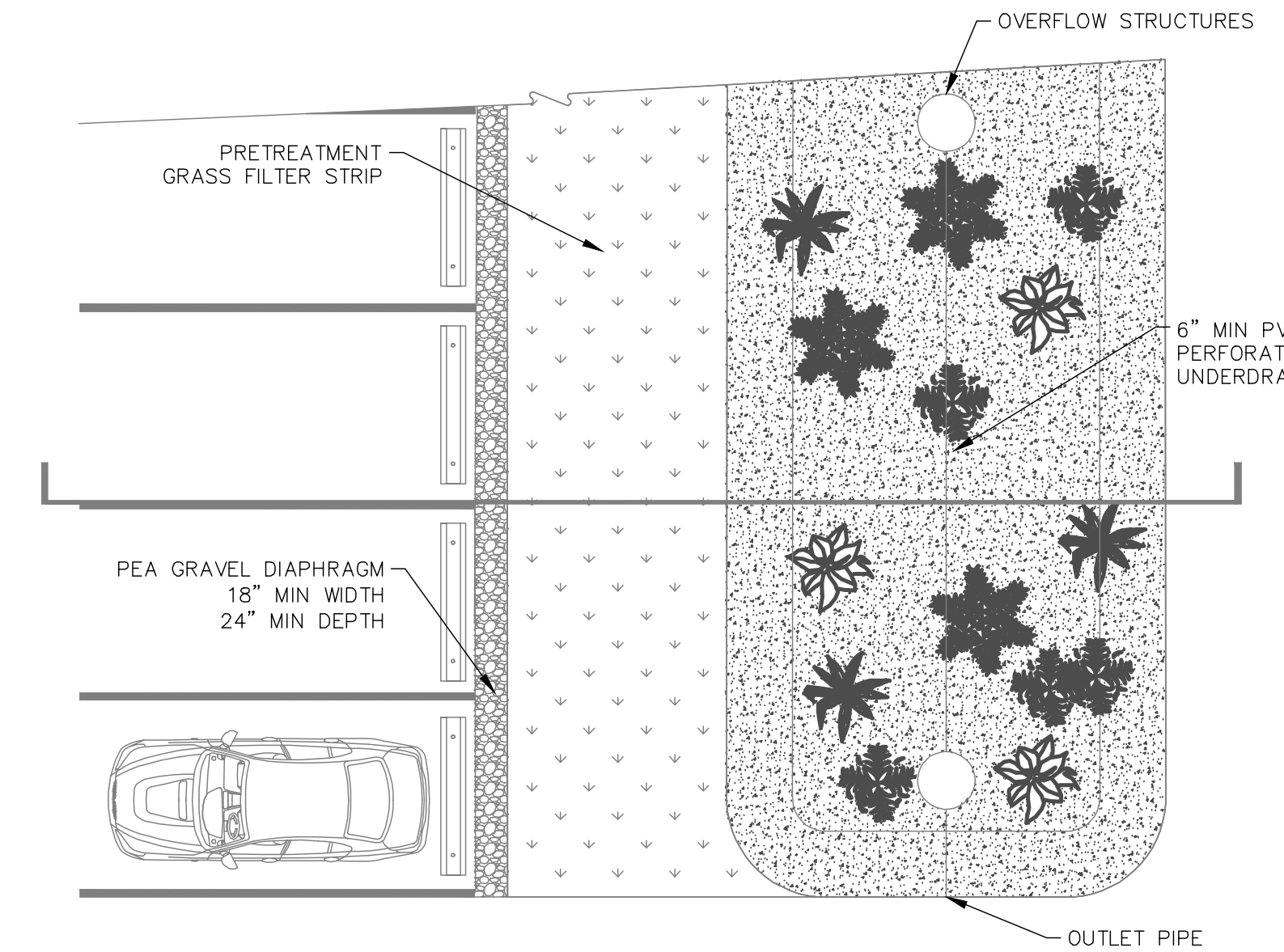


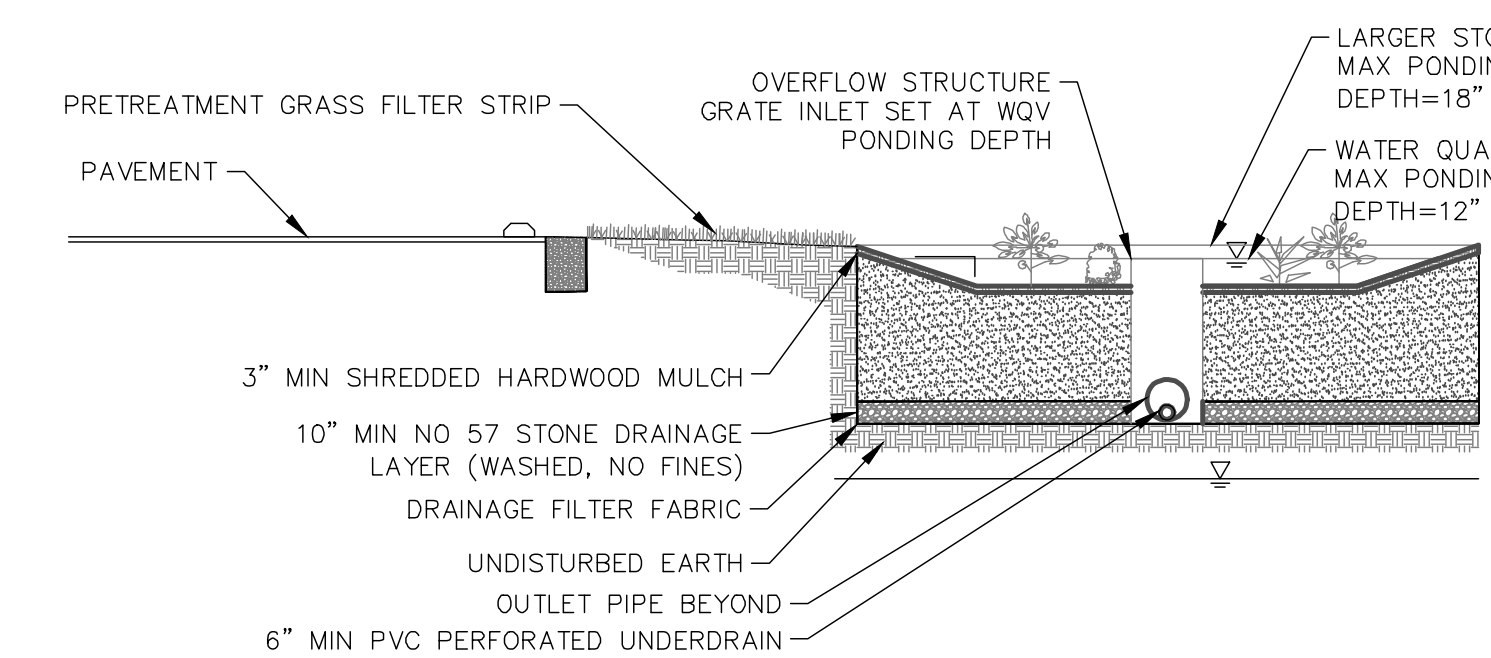
NOTES:

1. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY MUST BE OVERLAPPED TO THE NEXT STAKE.
2. 1 ACRE MAXIMUM DRAINAGE AREA PER PROTECTION DEVICE.
3. LAND AREA SLOPE IMMEDIATELY SURROUNDING THE PROTECTION DEVICE SHOULD NOT EXCEED 1%.
4. REMOVE SEDIMENT FROM THE POOL AREA AS NECESSARY WITH CARE TO PREVENT UNDERCUTTING OR DAMAGING THE FILTER FABRIC.
5. PROTECTION DEVICE SHALL BE KEPT IN PLACE UNTIL ASPHALT CONCRETE PLACEMENT IS COMMENCED.

TEMPORARY FILTER FABRIC CATCH BASIN PROTECTION DETAIL

SCALE: NO SCALE





NOTES:

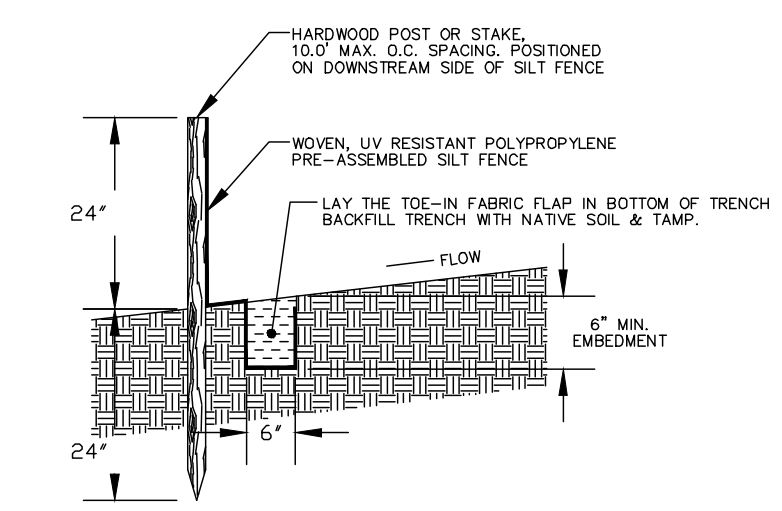
1. BIORETENTION FACILITIES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH "VOLUME 5 – LOW IMPACT DEVELOPMENT STORMWATER MANAGEMENT MANUAL" AS PREPARED BY THE MRETOPOLITAN GOVERNMENT NASHVILLE AND DAVIDSON COUNTY (MWS).
2. DRAINAGE AREA TRIBUTARY TO THE BIORETENTION MUST BE FULLY STABILIZED, PRIOR TO CONSTRUCTION OF BIORETENTION AREAS.
3. BACK FILLING OF BIORETENTION FACILITY SHALL BE PLACED IN 12" LIFTS.
4. PLANTING SOIL MATERIAL SHALL BE USDA SOIL TYPES LOAMY SAND, SANDY LOAM OR LOAM, CONTAINING 60% SAND, LESS THAN 30% SILT, 5 TO 10% ORGANIC MATTER AND LESS THAN 10% CLAY. FINAL MATERIAL SHALL BE APPROVED BY THE ENGINEER AND SHALL MEET THE FOLLOWING CRITERIA:

PH RANGE	5.2–7.0
ORGANIC MATTER	5–10%
MAGNESIUM	35 LB/AC
PHOSPHOROUS P_2O_5	75LB/AC
POTASSIUM K_2O	85LB/AC
SOLUBLE SALTS	NOT TO EXCEED 500PPM
CEC	> 10 meq/100 mL

5. PLANTING SOIL MATERIAL SHALL NOT CONTAIN THE FOLLOWING:
   - 5.1. UNACCEPTABLE MATERIALS: CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, BUILDING DEBRIS, ASPHALT, BRICKS, OILS, GASOLINE, DIESEL FUEL, PAIN THINNER, TURPENTINE, TAT, ROOFING COMPOUND, ACID, SOLID WASTE, AND OTHER EXTRANEOUS MATERIALS THAT ARE HARMFUL TO PLANT GROWTH.
   - 5.2. UNSUITABLE MATERIALS: STONES, ROOTS, PLANTS, SOD, CLAY LUMPS, AND POCKETS OF COARSE SAND THAT EXCEED A COMBINED MAXIMUM OF 5 PERCENT BY DRY WEIGHT OF THE MANUFACTURED SOIL.
   - 5.3. LARGE MATERIALS: STONES, CLODS, ROOTS, CLAY LUMPS, AND POCKETS OF COARSE SAND EXCEEDING 0.187" (7.76 mm) IN ANY DIMENSION.
6. HARDWOOD MULCH SHALL BE AGED FOR A MINIMUM OF 6 MONTHS, PRIOR TO INSTALL.
7. ROTOTILL 2–3" OF SAND BASE INTO THE BASE OF THE BIORETENTION FACILITY.
8. NON-WOVEN GEOTEXTILE SHALL HAVE FLOW RATE > 100 GAL./MIN./FT SQUARE

BIORETENTION BASIN

SCALE: NO SCALE



NOTES:

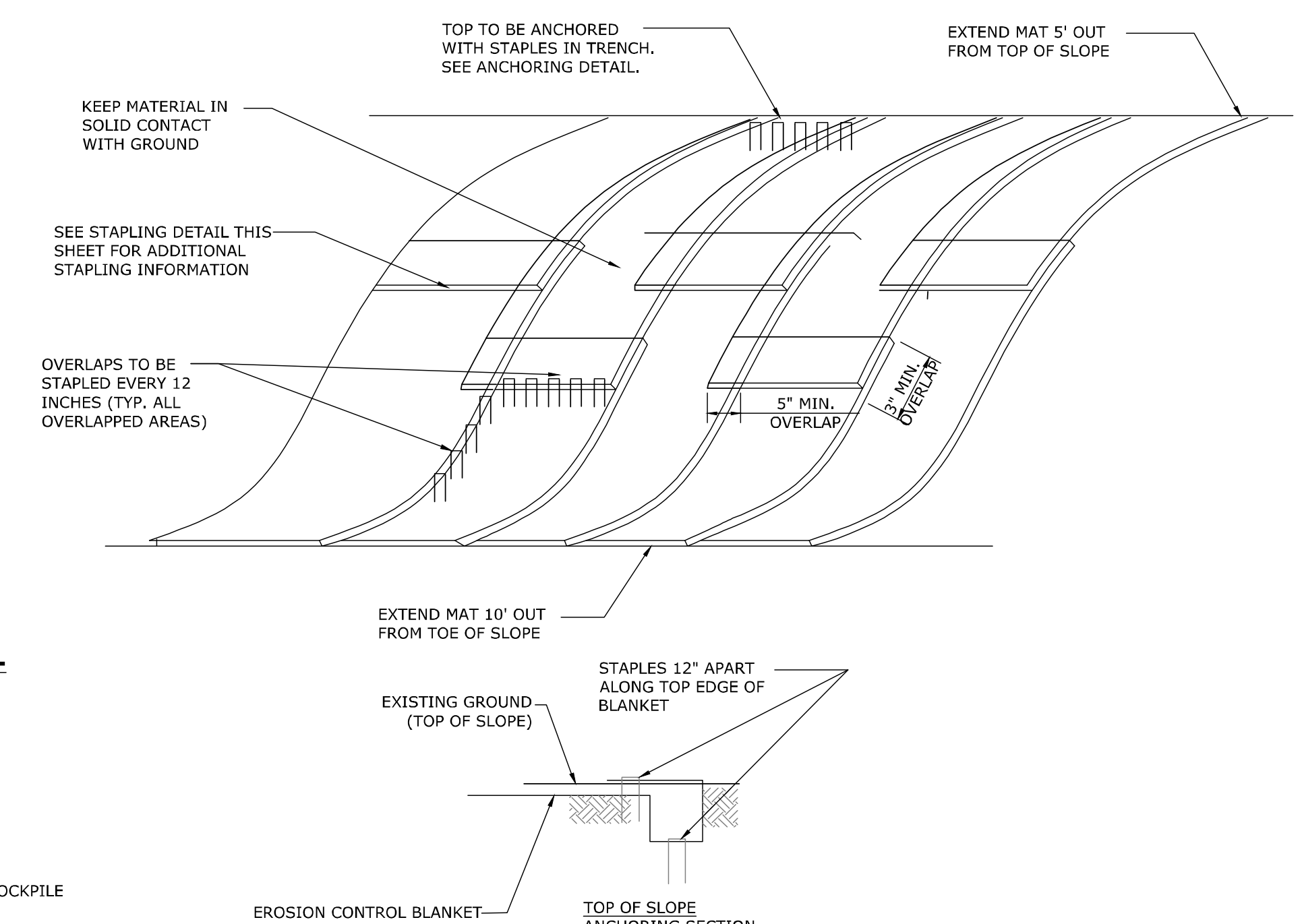
1. THE LENGTH OF SLOPE ABOVE THE SILT FENCE SHALL NOT EXCEED THE FOLLOWING LIMITS:

SLOPE	MAX. SLOPE LENGTH
1V:2H (50%)	50 FEET
1V:3H (33%)	75 FEET
1V:4H (25%)	125 FEET
1V:5H (20%)	175 FEET
FLATTER THAN 1V:5H (20%)	200 FEET

2. DRAINAGE AREA SHALL NOT BE GREATER THAN 0.25 ACRES PER 100 L.F. OF SILT FENCE.
3. ALL SILT FENCES SHALL BE PLACED AS CLOSE TO THE WORK AREA AS POSSIBLE, AND THE AREA BELOW THE SILT FENCE MUST BE UNDISTURBED OR STABILIZED.
4. WHERE ENDS OF FILTER CLOTH COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.
5. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS TO PREVENT BLOCKING OR IMPEDING STORMWATER RUNOFF.

TEMPORARY SILT FENCE DETAIL

SCALE: NO SCALE



NOTES:

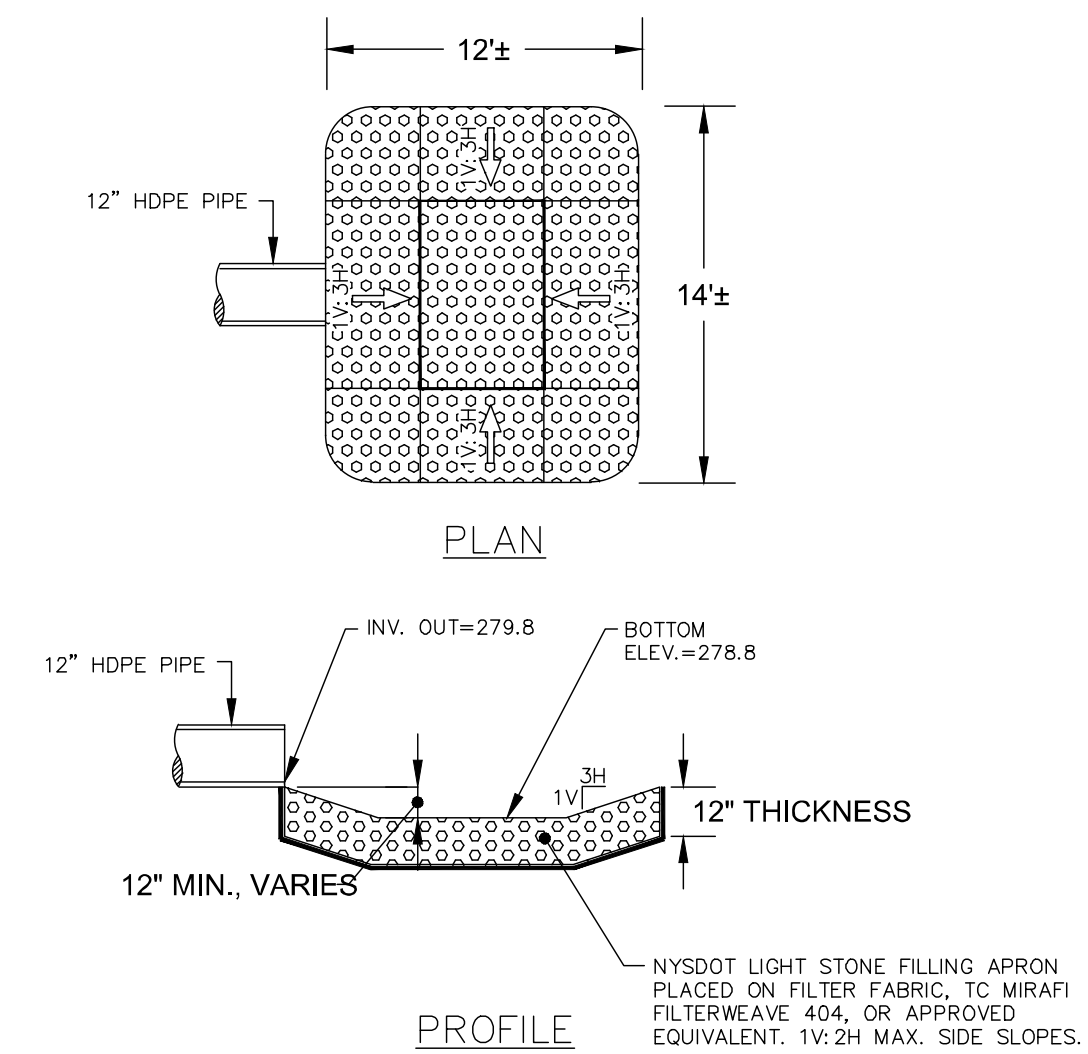
1) APPLY APPLICATION OF ANY LIME, FERTILIZER, AND SEED BEFORE INSTALLING TURF REINFORCEMENT MAT.

2) INSTALL USING ALL MANUFACTURERS INSTALLATION RECOMMENDATIONS AND GUIDLINES.

3) BLANKET FOR 5:1 SLOPES - S75 BY NORTH AMERICAN GREEN
BLANKET FOR 2:1 TO 3:1 SLOPES - HYDRAMAX STEEP SLOPE MATRIX - NORTH AMERICAN GREEN

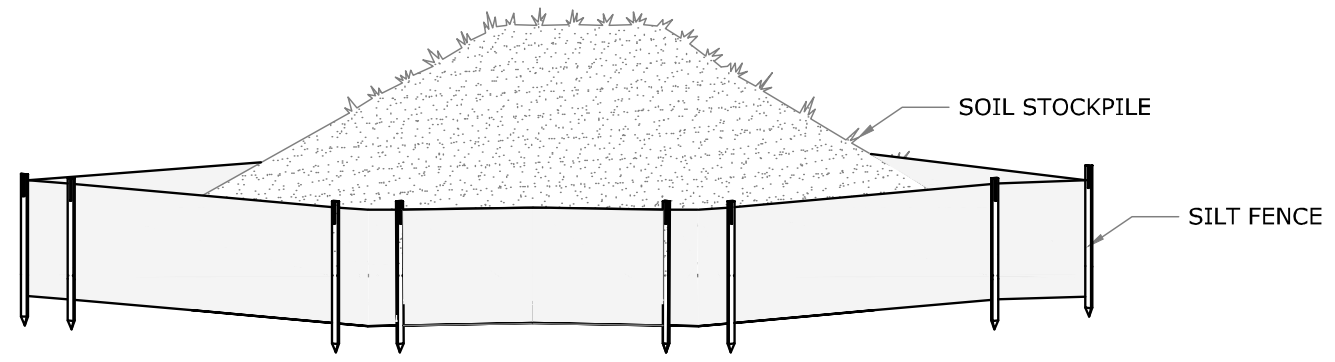
EROSION CONTROL BLANKET DETAIL

SCALE: NONE



EXPANDED SCOUR HOLE DETAIL FOR DETENTION POND OUTLET

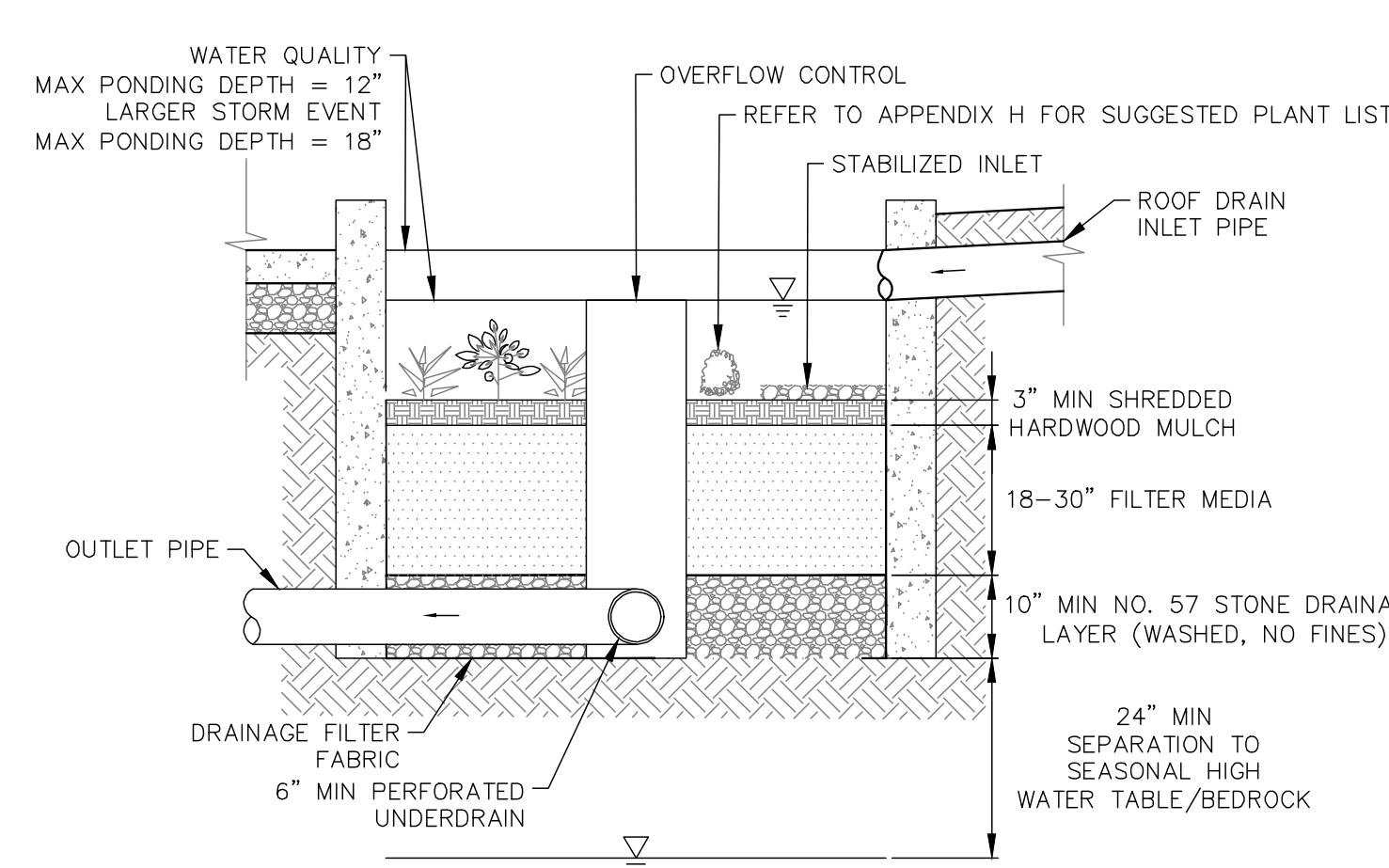
SCALE: NO SCALE



1. TOPSOIL AND FILL THAT IS ANTICIPATED TO REMAIN STOCKPILED ON-SITE FOR PERIODS GREATER THAN 30 DAYS SHALL BE STABILIZED BY SEEDING. PRIOR TO THE SEEDING OPERATION, THE STOCKPILED MATERIAL SHALL BE GRADED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. IN NO CASE SHALL ERODIBLE MATERIALS BE STOCKPILED WITHIN 25 FT OF ANY DITCH, STREAM, OR OTHER SURFACE WATERBODY.
2. SILT FENCE SHALL BE CONSTRUCTED AROUND ALL STOCKPILES OF FILL, TOPSOIL AND EXCAVATED OVERBURDEN THAT ARE TO REMAIN EXPOSED FOR PERIODS LESS THAN 30 DAYS. SILT FENCE SHALL BE ANCHORED AND MAINTAINED IN GOOD CONDITION UNTIL SUCH TIME AS SAID STOCKPILES ARE REMOVED AND STOCKPILING AREAS ARE BROUGHT TO FINAL GRADE AND PERMANENTLY STABILIZED.
3. TEMPORARY STABILIZATION MEASURES SHALL START AS SOON AS PRACTICAL ON PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT NOT MORE THAN 14 DAYS AFTER WORK HAS CEASED.

SOIL STOCKPILE DETAIL

SCALE: NONE



FILTRATION STORMWATER PLANTER SECTION VIEW

Fire Chief
Police Chief
Building Inspector
City Engineer
Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of __________ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED: BLD. FOOTPRINT; GRADING; UTILITIES; OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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DOMINICK F. ARICO, P.E.
LIC. NO. 066515

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ENGINEERS LAND PLANNERS & CONSULTANTS
1407 Route 9, Bldg 2 Suite 6, Clifton Park, New York 12065
518.573.6989 aricoassociates@gmail.com

CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
STANDARD DETAILS
SOUTH HAMILTON

TAX MAP : 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA
DRAWING NO.
D4
SHEET 10 OF 16

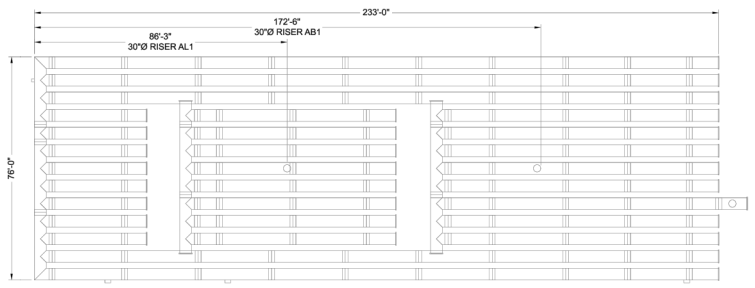
PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20/HS25
- APPROX. LINEAR FOOTAGE = 2,919 LF

STORAGE SUMMARY
- STORAGE VOLUME REQUIRED = 35,073 CF
- PIPE STORAGE VOLUME = 36,681 CF
- BACKFILL STORAGE VOLUME = 0 CF
- TOTAL STORAGE PROVIDED = 36,681 CF

PIPE DETAILS
- DIAMETER = 48"
- CORRUGATION = 2 2/3x1/2
- GAGE = 16
- COATING = ALT2
- WALL TYPE = SOLID
- BARREL SPACING = 24"

BACKFILL DETAILS
- WIDTH AT ENDS = 12"
- ABOVE PIPE = 0"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 0"



NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN, QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

ASSEMBLY
SCALE: 1" = 30'

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DATE	REVISION DESCRIPTION	BY

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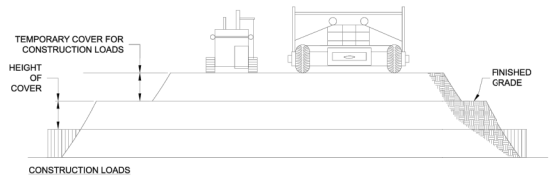
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO53286 Hamilton
48in
Poughkeepsie, NY
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
53890	53286	6/14/2024
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:	1	



CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM
SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

NOTE:
THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS

PIPE
THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

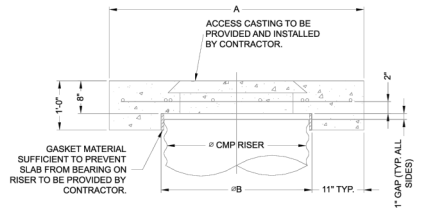
APPLICABLE POLYMER COATED: AASHTO M-245 OR ASTM A-762

ALUMINUM: AASHTO M-196 OR ASTM B-745

APPLICABLE HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSPS (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.

REQUIREMENTS INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

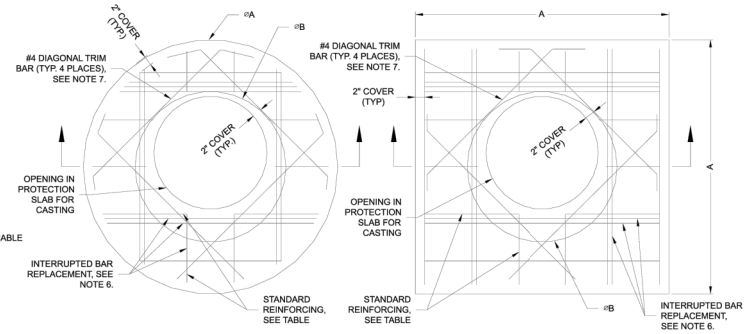
IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.



SECTION VIEW

REINFORCING TABLE				
Ø CMP RISER	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
24"	Ø 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	Ø 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	Ø 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	Ø 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	Ø 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW

SQUARE OPTION PLAN VIEW

NOTES:
1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL
SCALE: N.T.S.

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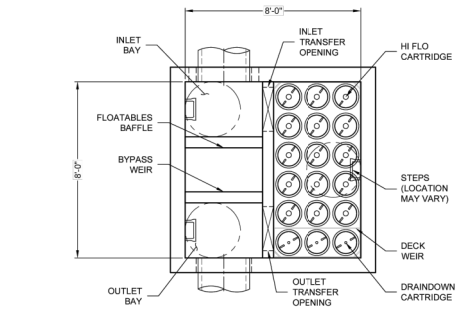
CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

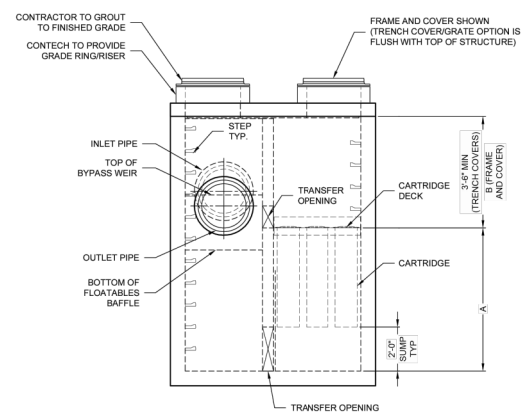
DYO53286 Hamilton
48in
Poughkeepsie, NY
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
53890	53286	6/14/2024
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:	1	

I:\COMMON\CAD\TREATMENT\13 JELLYFISH FILTER\04 STANDARD DRAWINGS\JFPDO\DWG\JFPDO0808.DTL NEW.DWG 10/9/2018 10:50 AM



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)

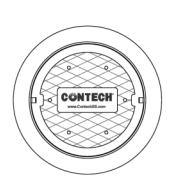


ELEVATION VIEW

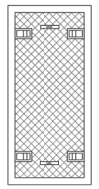
JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION				
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	2.94	2.21	1.47	0.81
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



24" TRENCH COVER
(LENGTH VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID					JF
WATER QUALITY FLOW RATE (cfs)					2.30
PEAK FLOW RATE (cfs)					PER EOR
RETURN PERIOD OF PEAK FLOW (yrs)					PER EOR
# OF CARTRIDGES REQUIRED (HF / DD)					12/3
CARTRIDGE LENGTH					.54
PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	196.50	HDPE	12	*	*
INLET #2	*	*	*	*	*
OUTLET	196.00	HDPE	12	*	*
SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.					
RIM ELEVATION					205
ANTI-FLOTATION BALLAST		WIDTH			HEIGHT
		*			*
NOTES/SPECIAL REQUIREMENTS:					
* PER ENGINEER OF RECORD					

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE: www.ContechES.com.
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE SEAT ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,728; 8,221,618; US & 123,935; OTHER INTERNATIONAL PATENTS PENDING

CONTECH ENGINEERED SOLUTIONS LLC
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9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0808
STANDARD DETAIL
PEAK DIVERSION CONFIGURATION

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the _____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

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NO	DESCRIPTION	BY	DATE
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED: OTHER UTILITIES; ADDED "APPROXIMATE" ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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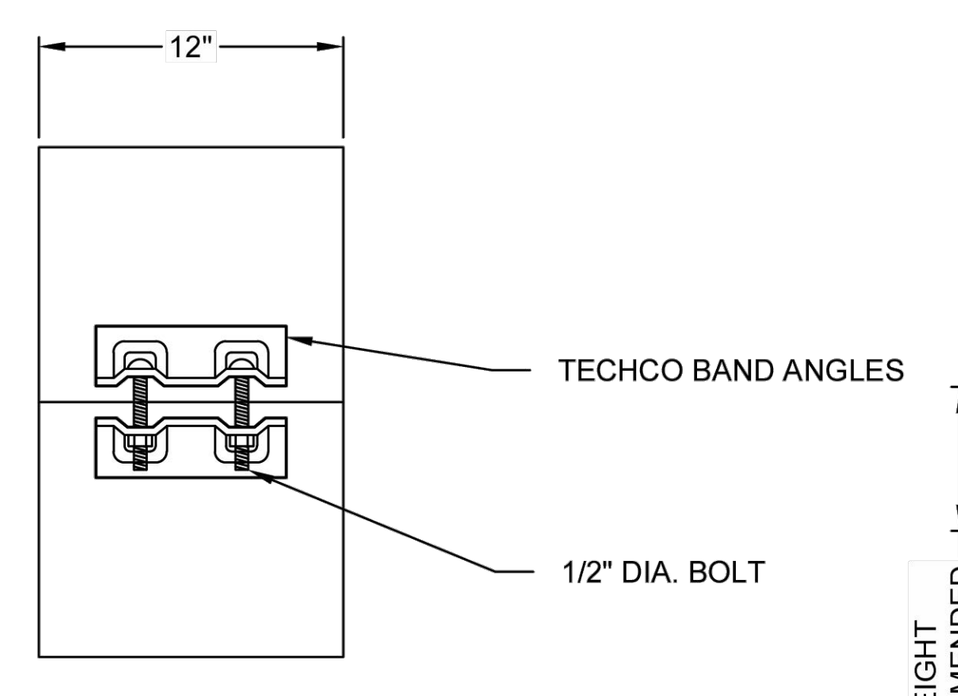
CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
CONTECH STANDARD DETAILS
SOUTH HAMILTON

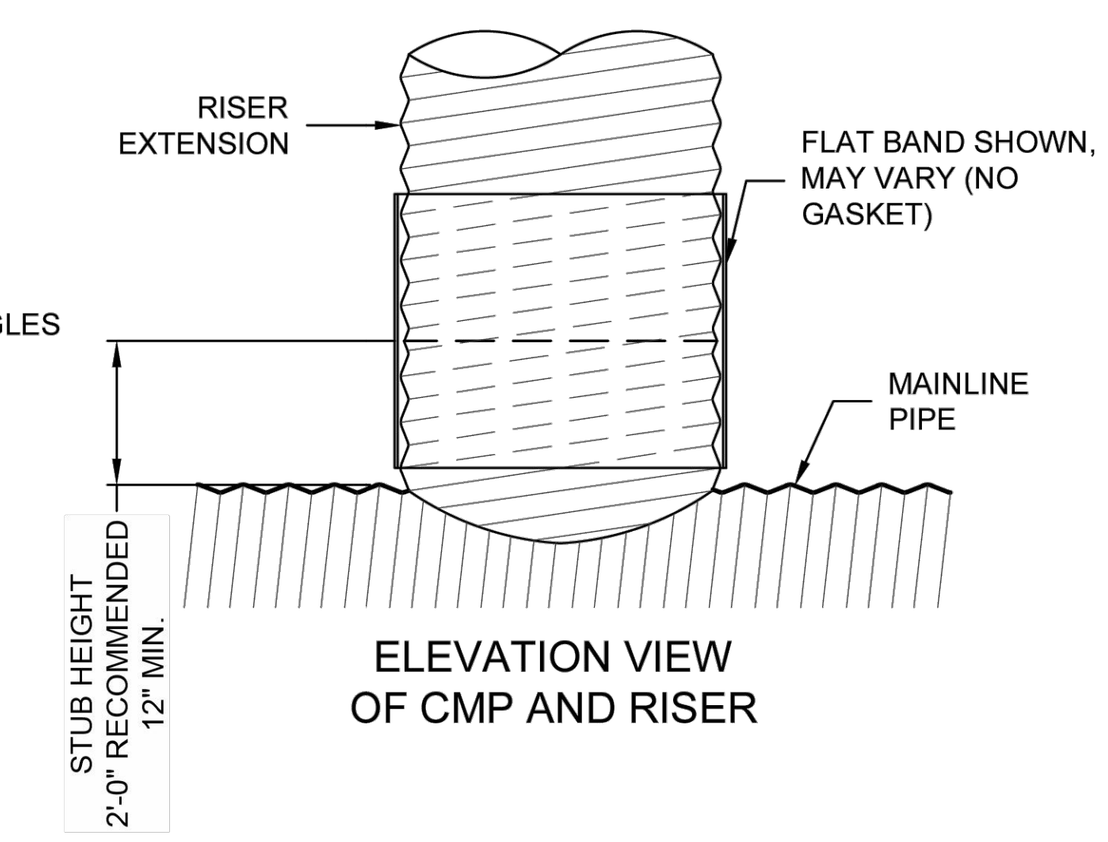
TAX MAP - 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

DRAWING NO.
CT1
SHEET 11 OF 16



CONNECTION DETAIL
7 1/2" TECHCO SHOWN - MAY VARY



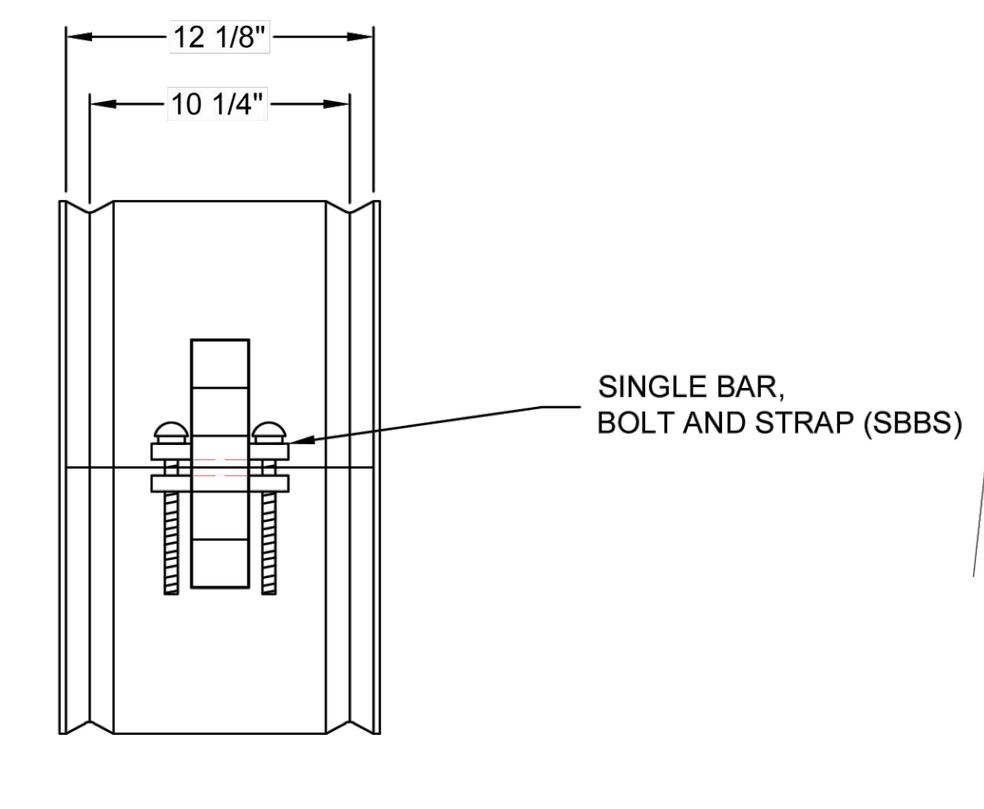
ELEVATION VIEW
OF CMP AND RISER

PLAIN END CMP RISER PIPE

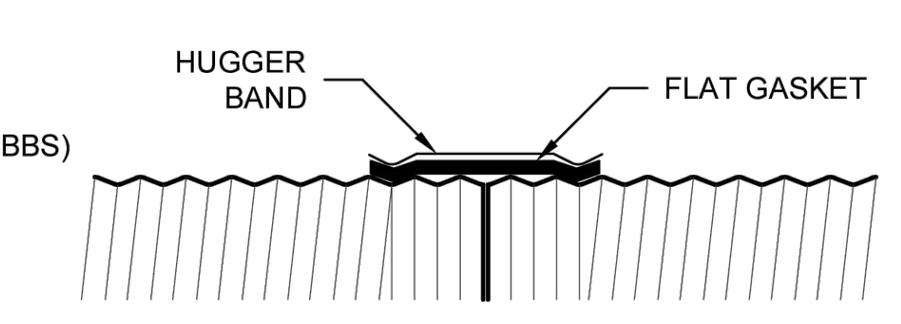
GENERAL NOTES:

1. **DELIVERED BAND STYLE AND FASTENER TYPE MAY VARY BY FABRICATION PLANT.**
2. JOINT IS TO BE ASSEMBLED PER AASHTO BRIDGE CONSTRUCTION SPECIFICATION SEC 26.4.2.4.
3. BAND MATERIAL AND GAGE TO BE SAME AS RISER MATERIAL.
4. IF RISER HAS A HEIGHT OF COVER OF 10' OR MORE, USE A SLIP JOINT.
5. BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
   - 12" THRU 48" 1-PIECE
   - 54" 2-PIECES
6. ALL RISER JOINT COMPONENTS WILL BE FIELD ASSEMBLED.
7. MANHOLE RISERS IN APPLICATIONS WHERE TRAFFIC LOADS ARE IMPOSED REQUIRE SPECIAL DESIGN CONSIDERATIONS.
8. DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES.

12" RISER BAND DETAIL
NOT TO SCALE



CONNECTION DETAIL
(SBBS)



FLAT GASKET

2 2/3"x1/2" RE-ROLLED END HEL-COR PIPE

GENERAL NOTES:

1. JOINT IS TO BE ASSEMBLED PER AASHTO BRIDGE CONSTRUCTION SPECIFICATION SEC 26.4.2.4.
2. BAND MATERIALS AND/OR COATING CAN VARY BY LOCATION. CONTACT YOUR CONTECH REPRESENTATIVE FOR AVAILABILITY.
3. BANDS ARE SHAPED TO MATCH THE PIPE-ARCH WHEN APPLICABLE.
4. BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
   - 12" THRU 48" 1-PIECE
   - 54" THRU 96" 2-PIECES
   - 102" THRU 144" 3-PIECES
5. BAND FASTENERS ARE ATTACHED WITH SPOT WELDS, RIVETS OR HAND WELDS.
6. ALL CMP IS REROLLED TO HAVE ANNULAR END CORRUGATIONS OF 2 2/3"x1/2"
7. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
8. ORDER SHALL DESIGNATE GASKET OPTION, IF REQUIRED (SEE DETAILS ABOVE).

H-12 HUGGER BAND DETAIL
NOT TO SCALE

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CONTECH CMP DETENTION SYSTEMS
CONTECH PROPOSAL DRAWING

UNDERGROUND DETENTION SYSTEM - 786131-015
SOUTH HAMILTON STREET
POUGHKEEPSIE, NY
SITE DESIGNATION: SUBSURFACE STORMWATER MANAGEMENT AREA

PROJECT No.: 786131	SEQ. No.: 015	DATE: 2/14/2024
DESIGNED: SZM		DRAWN: SZM
CHECKED: MSB		APPROVED: SZM
SHEET NO.: P4	OF	5

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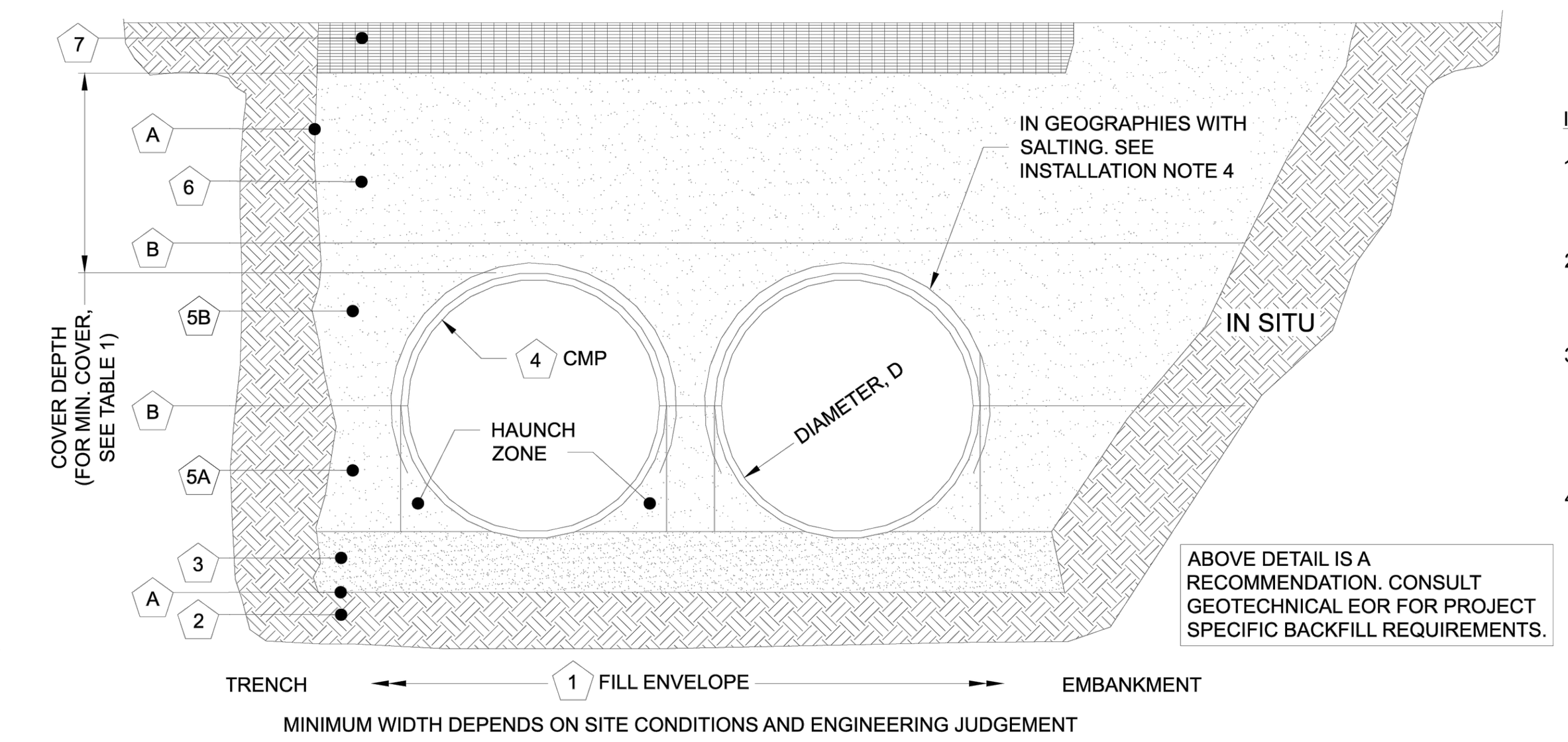
TABLE 1:

DIAMETER, D	MIN. COVER	CORR. PROFILE
6"-10"	12"	1 1/2" x 1/4"
12"-48"	12"	2 2/3" x 1/2"
>48"-96"	12"	3" x 1", 5" x 1"
>96"	D/8	3" x 1", 5" x 1"

- STRUCTURAL BACKFILL MUST EXTEND TO LIMITS OF THE TABLE
- TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT
- ULTRAFLO ALSO AVAILABLE FOR SIZES 18" - 120" WITH 3/4"x 3/4"x 7 1/2" CORRUGATION



INSTALLATION NOTES

1. WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES.
2. OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.
3. BACKFILL USING CONTROLLED LOW-STRENGTH MATERIAL (CLSM, "FLASH FILL" OR "FLOWABLE FILL") MAY BE USED WHEN THE SPACING BETWEEN THE PIPES WILL NOT ALLOW FOR PLACEMENT AND ADEQUATE COMPACTION OF THE BACKFILL. CONTACT CONTECH FOR FURTHER EVALUATION.
4. IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, A GEOMEMBRANE BARRIER IS RECOMMENDED OVER THE UPPER HALF OF THE PIPE. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

TABLE 2: SOLID STANDARD

CMP DETENTION AND CMP DRAINAGE STANDARD BACKFILL SPECIFICATIONS

	MATERIAL LOCATION	MATERIAL SPECIFICATION	DESCRIPTION	
1	FILL ENVELOPE WIDTH	PER ENGINEER OF RECORD	MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE. THE SUGGESTED MINIMUM TRENCH WIDTH, OR EOR RECOMMENDATION: PIPE ≤ 12": D + 16" PIPE > 12": 1.5D + 12"	MINIMUM EMBANKMENT WIDTH (IN FEET) FOR INITIAL FILL ENVELOPE: PIPE < 24": 3.0D PIPE 24" - 144": D + 4'0" PIPE > 144": D + 10'0"
2	FOUNDATION	**AASHTO 26.5.2** OR PER ENGINEER OF RECORD	PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND FOUNDATION BROUGHT BACK TO GRADE WITH A FILL MATERIAL APPROVED BY THE ENGINEER OF RECORD.	
3	BEDDING	**AASHTO M 43: 3, 357, 4, 467, 5, 56, 57** (APPROVED REGIONAL EQUIVALENTS INCLUDE CA-7)	ENGINEER OF RECORD TO DETERMINE IF BEDDING IS REQUIRED. PIPE MAY BE PLACED ON THE TRENCH BOTTOM OF A RELATIVELY LOOSE, NATIVE SUITABLE WELL GRADED GRANULAR MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, 2" MIN DEPTH. THE BEDDING MATERIAL MAY BE SUITABLE FOUNDATION SOILS CONFORMING TO AASHTO SOIL CLASSIFICATIONS A1, A2, OR A3 WITH MAXIMUM PARTICLE SIZE OF 3" PER AASHTO 26.3.8.1	
4			CORRUGATED METAL PIPE	
5A	CRITICAL BACKFILL	**AASHTO M 145: A-1, A-2, A-3 ***	HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION WITHOUT SOFT SPOTS. BACKFILL SHALL BE PLACED IN 8" +/- LOOSE LIFTS AND COMPACTED TO 90% STANDARD PROCTOR PER AASHTO T 99. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A THREE LIFT (24") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHOULD BE ADVANCED ALONG THE LENGTH OF THE SYSTEM TO AVOID DIFFERENTIAL LOADING. WELL GRADED GRANULAR MATERIAL WHICH MAY CONTAIN SMALL AMOUNTS OF SILT OR CLAY AND MAXIMUM PARTICLE SIZE OF 3" (PER AASHTO 26.3.8.1 AND 12.4-1.3).	
5B	BACKFILL	**AASHTO M 145: A-1, A-2, A-3**		
6	COVER MATERIAL	UP TO MIN. COVER - SEE 5A AND 5B ABOVE ABOVE MIN. COVER - PER ENGINEER OF RECORD	COVER MATERIAL MAY INCLUDE NON-BITUMINOUS, GRANULAR ROAD BASE MATERIAL WITHIN MIN COVER LIMITS	
7	RIGID OR FLEXIBLE PAVEMENT (IF APPLICABLE)	PER ENGINEER OF RECORD	FLEXIBLE PAVEMENT SHOULD NOT BE COUNTED AS PART OF THE FILL HEIGHT OVER THE CMP. FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD.	
A	OPTIONAL SIDE GEOTEXTILE	NONE	GEOTEXTILE LAYER IS RECOMMENDED ON SIDES OF EXCAVATION TO PREVENT SOIL MIGRATION.	
B	OPTIONAL GEOTEXTILE BETWEEN LAYERS	NONE	IF SOIL TYPES DIFFER AT ANY POINT ABOVE PIPE INVERT, A GEOTEXTILE LAYER IS RECOMMENDED TO BE PLACED BETWEEN THE LAYERS TO PREVENT SOIL MIGRATION.	

NOTES:
- FOR MULTIPLE BARREL INSTALLATIONS, THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE THE PIPE DIAMETER /2 BUT NO LESS THAN 12" FOR DIAMETERS <72". FOR 72" AND LARGER DIAMETERS, THE MINIMUM SPACING IS 36". CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING.
- * APPROVED REGIONAL EQUIVALENTS FOR SECTION 5A INCLUDE CA-7, CODOT #67, MIDOT 2G, 34G, OR 21AA STONE OR GRAVEL; #8; #57; MIDOT 6A, 2G, 3G, 34G.

MANUFACTURER RECOMMENDED BACKFILL
NOT TO SCALE

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CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO53286 Hamilton
48in
Poughkeepsie, NY
DETENTION SYSTEM

PROJECT No.: 33890	SEQ. No.: 53286	DATE: 6/14/2024
DESIGNED: DYO		DRAWN: DYO
CHECKED: DYO		APPROVED: DYO
SHEET NO.:		1

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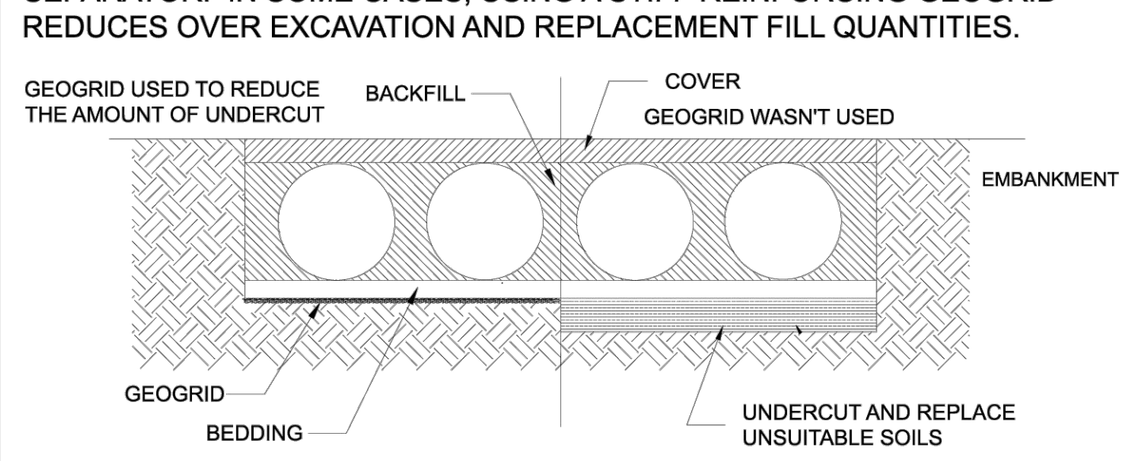
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

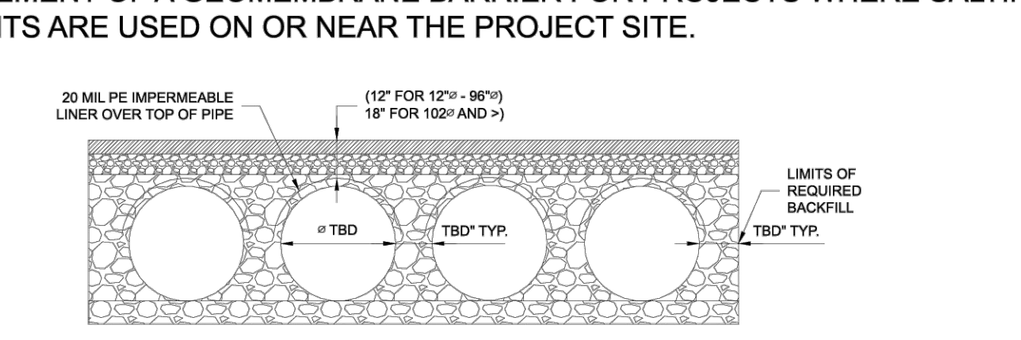


GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

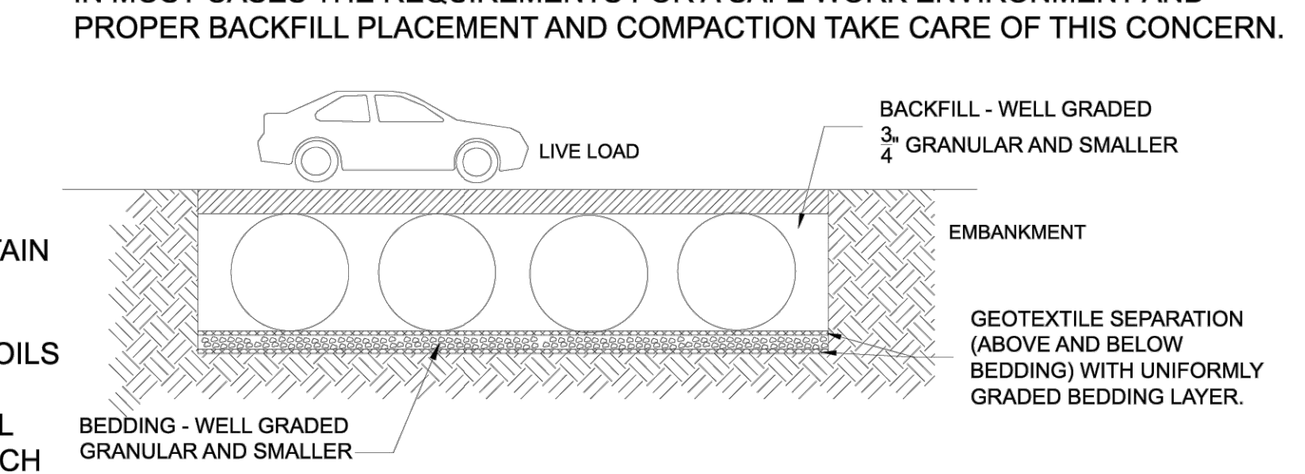
THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



IN-SITU TRENCH WALL

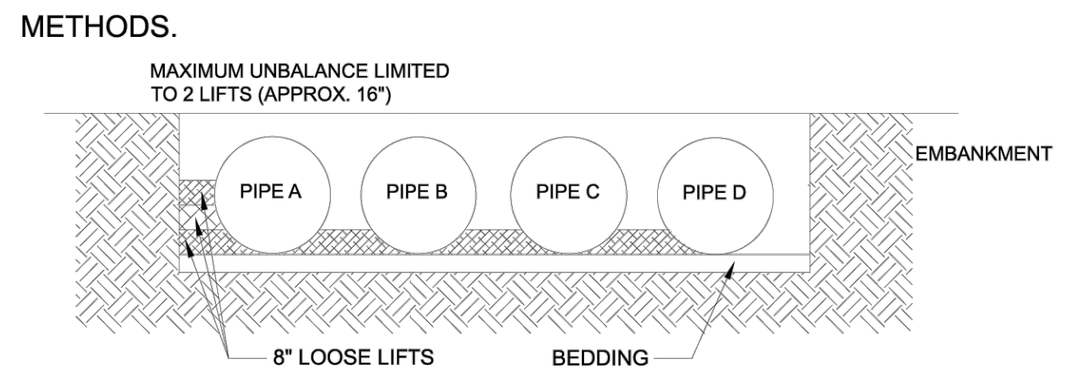
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



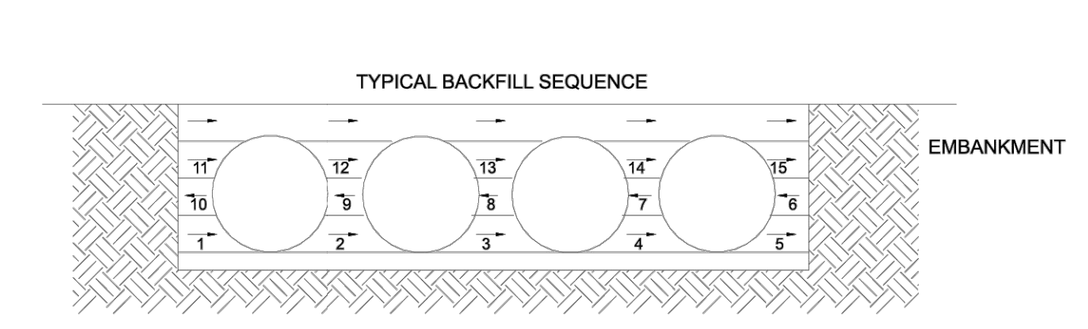
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

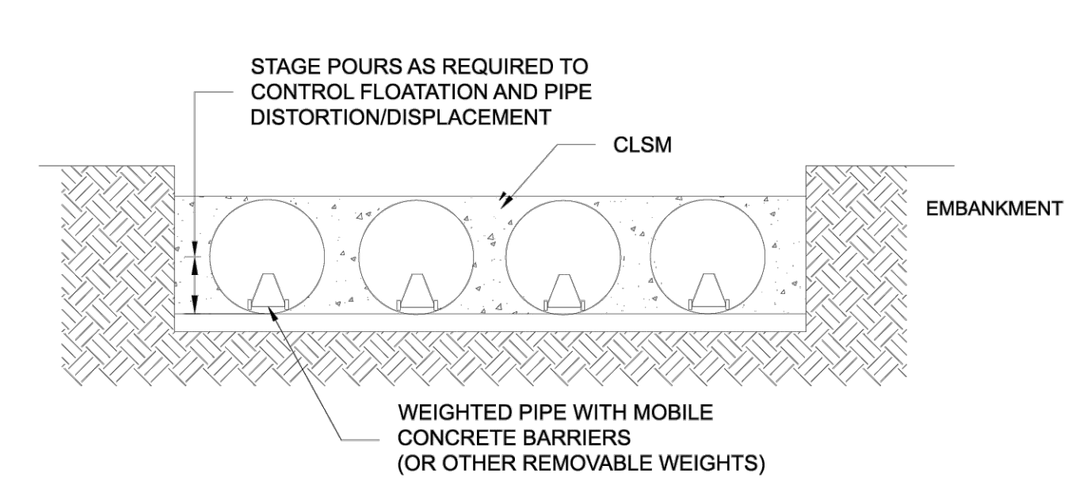


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

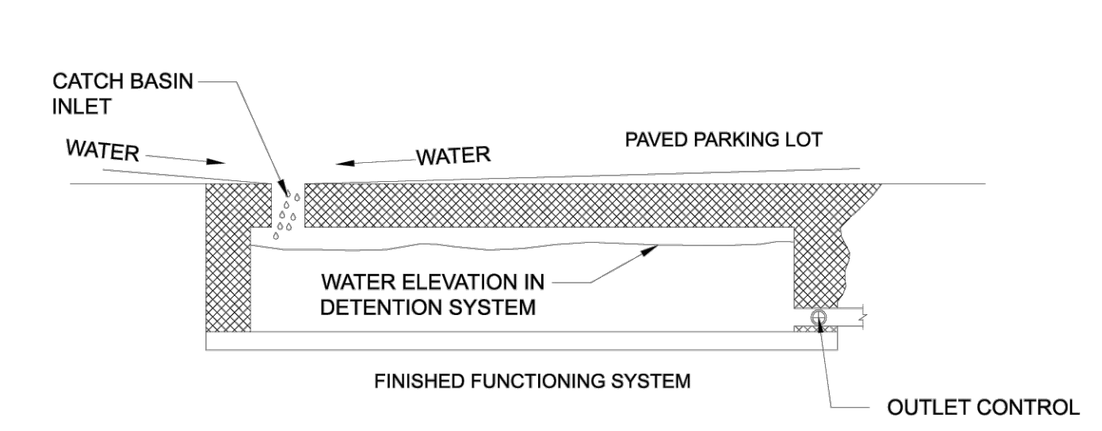


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

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CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO53286 Hamilton
48in
Poughkeepsie, NY
DETENTION SYSTEM

PROJECT No.: 33890	SEQ. No.: 53286	DATE: 6/14/2024
DESIGNED: DYO		DRAWN: DYO
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Fire Chief
Police Chief
Building Inspector
City Engineer
Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of __________ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
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REVISIONS

NO.	DESCRIPTION	BY	DATE
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	02.16.24
5	REVISED: BLD. FOOTPRINT; GRADING; UTILITIES; OTHER APPURTENANT ITEMS	DFA	02.16.24
6	REVISED PER CITY COMMENTS	DFA	07.12.24
7	REVISED PER CITY COMMENTS	DFA	08.13.24
8	REVISED PER CITY COMMENTS	DFA	10.10.24

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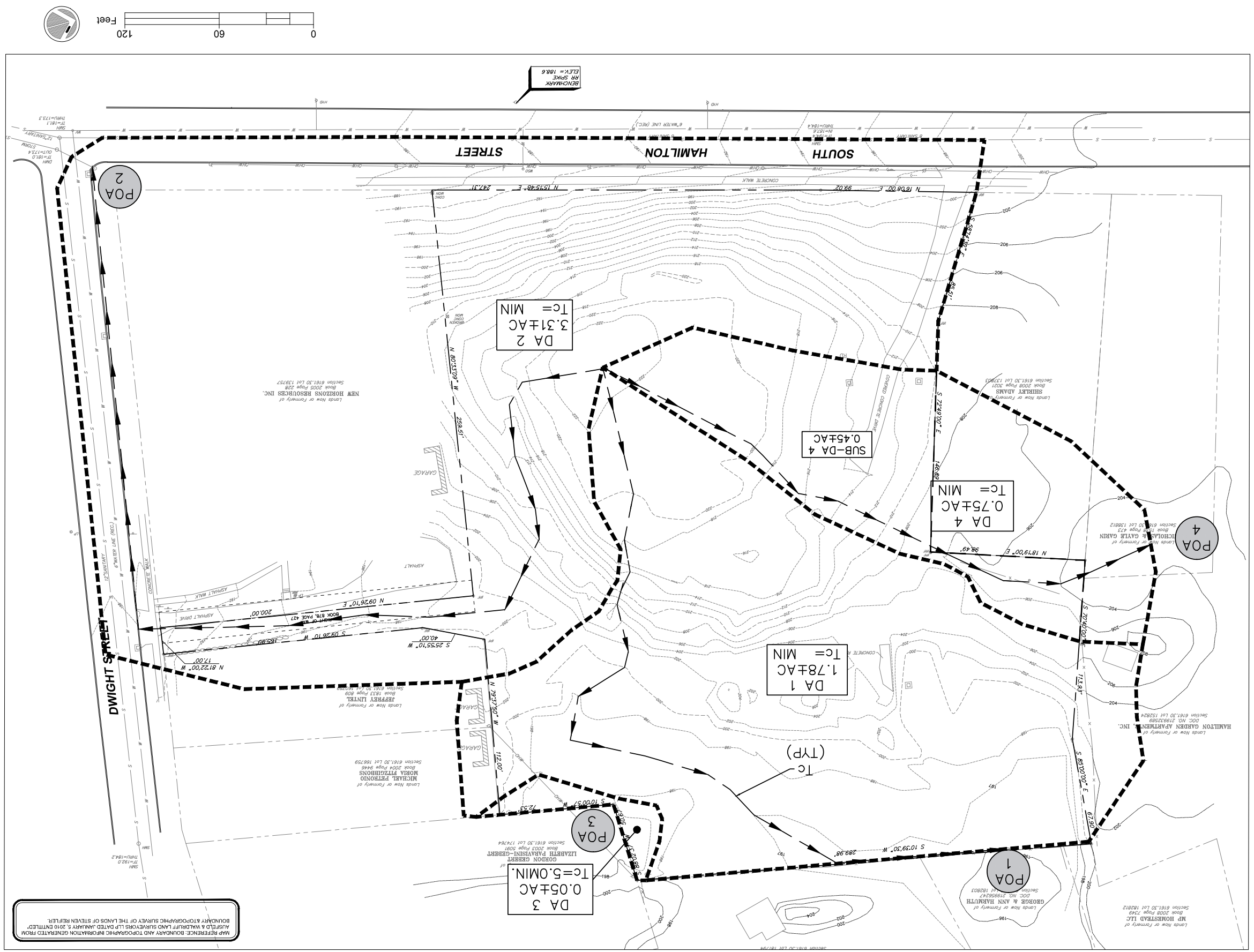
CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
CONTECH STANDARD DETAILS
SOUTH HAMILTON

TAX MAP : 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA
DRAWING NO.
CT2
SHEET 12 OF 16



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CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

PRE-DEVELOPMENT DRAINAGE
SOUTH HAMILTON

LOCATED AT

100 SOUTH HAMILTON STREET

TAX MAP: 6161-30-151783

DATE: AUGUST 2023

JOB NO. 22.10

SCALE: AS NOTED

DRAWN BY: DFA

CHECKED BY: DFA

DRAWING NO.

SWPPP 1.0

SHEET 2 OF 3

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DOMINICK F. ARICO, P.E.
LIC. NO. 096515

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE SUBMITTED:

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

0 60 120 Feet

MAP REFERENCE: BOUNDARY AND TOPOGRAPHIC INFORMATION GENERATED FROM AUSFELD & WALDRUFF LAND SURVEYORS LLP DATED SEPTEMBER 28, 2023 ENTITLED" BOUNDARY & TOPOGRAPHIC SURVEY OF THE LANDS OF ONEILL GROUP HAMILTON LLC

DA 1
0.27±AC
Tc=5.0 MIN

DA 3
0.03±AC
Tc=5.0 MIN

DA 3.1
0.11±AC
Tc=5.0 MIN

DA 4
0.37±AC
Tc=5.0 MIN

DA 1.1
2.42±AC
Tc=6.5 MIN

DA 2
2.68±AC
Tc=10.2 MIN

POA 1
POA 2
POA 3
POA 3.1
POA 4
POA 1.1

Tc PATH (TYP)

LANDS N/F OF
721 HOMESTEAD LLC
INSTR. 22022-54043
PARCEL 6161-30-182812

LANDS N/F OF
GEORGE & ANN HARMUTH
BOOK 1967, PAGE 403
PARCEL 6161-30-182803

LANDS N/F OF
GEORGE & ANN HARMUTH
BOOK 1640, PAGE 54
PARCEL 6161-30-181794

LANDS N/F OF
HAMILTON GARDEN ESTATES, LLC
INSTR. 22022-50349
PARCEL 6161-30-152824

LANDS N/F OF
KRISTOFER BAIN
INSTR. 22023-[illegible]218
PARCEL 6161-30-[illegible]812

LANDS N/F OF
SHIRLEY ADAMS
INSTR. 22008-3021
PARCEL 6161-30-137803

LANDS N/F OF
[illegible]TIN SURUN
INSTR. 22018-5516
PARCEL 6161-30-166759

LANDS N/F OF
JEFFREY LINTEL
INSTR. 22022-[illegible]
PARCEL 6161-30-160759

LANDS N/F OF
NEW HORIZONS RESOURCES INC.
INSTR. 22005-228
PARCEL 6161-30-139757

3.0' GRASS DRAINAGE SWALE S=0.5±%

URBAN GARDEN / PEDESTRIAN AREA

BIORETENTION BASIN

S 10°39'30" W 289.98'
S 88°02'37" W 50.67'
S 85°00'00" W 67.90'
S 70°40'00" E 153.93'
N 18°19'00" E 98.49'
S 72°49'00" E 146.89'
S 58°14'30" E 85.51'
N 18°19'00" E 99.02'
N 15°15'48" E 247.31'
N 79°37'57" W 72.53'
N 05°37'10" W 130.01'
S 25°55'10" W 40.00'
S 09°26'10" W 165.90'
N 09°26'10" E 300.00'
N 80°33'09" W 259.51'
S 09°26'00" W 117.00'

MAIN ENTRY FF202.25±
GARAGE FF FF201.00±
ENTRY 1ST FLOOR FF213.00±
ENTRY 1ST FLOOR FF213.00±

ALL ROCK REMOVAL SHALL BE CONDUCTED BY MECHANICAL MEANS AND THAT NO BLASTING IS PERMITTED.

CONCRETE WITH 2 LAYERS OF WOOD CRIBS

SP1 SP2 SP3 SP4

CB1 CB1A CB2 CB3 CB4 CB5 CB6 CB7 CB8 CB9 CB10 CB11 CB12 CB13 CB14

SMH1 SMH2 SMH3 SMH4 SMH5

JF1 OCS

SOUTH HAMILTON STREET

BENCHMARK RR SPIKE ELEV.=188.64

REVISIONS			
NO.	DESCRIPTION	BY	DATE
1	PER CITY COMMENTS	DFA	05.13.24
2	REVISED DRAINAGE AREAS	DFA	01.19.24
3	REVISED DRAINAGE AREAS, ADDED STORMWATER MANAGEMENT	DFA	08.03.24
4	REVISED DRAINAGE AREAS, UPDATED STORMWATER MANAGEMENT	DFA	10.10.24

☐ ISSUED FOR REVIEW
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☐ RECORD PLANS

DATE SUBMITTED:

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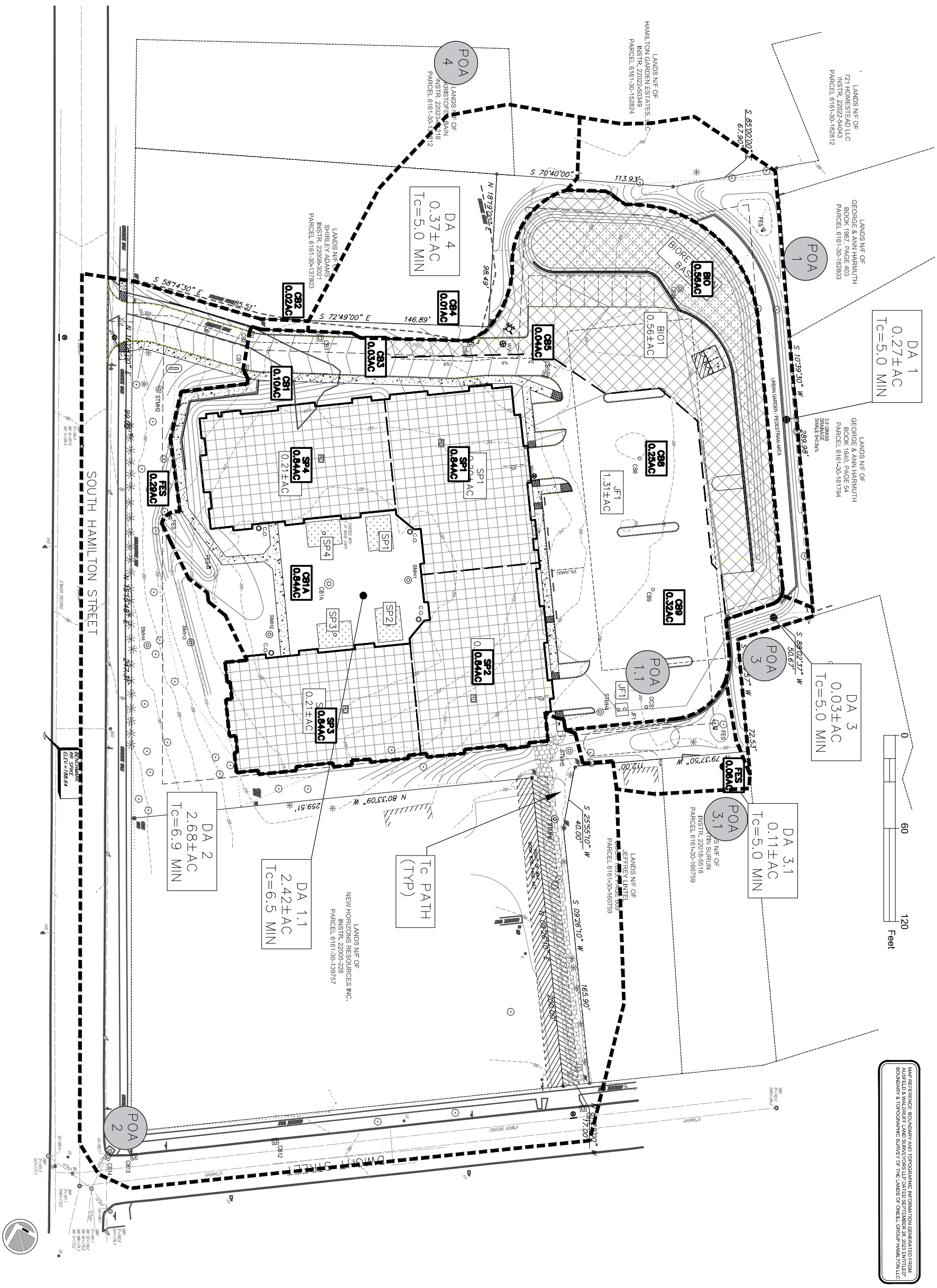
CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
POST-DEVELOPMENT DRAINAGE
SOUTH HAMILTON
LOCATED AT
SOUTH HAMILTON STREET
TAX MAP: 6161-30-151783

DATE: AUGUST 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

DRAWING NO.
SWPPP 2.0
SHEET 1 OF 2



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☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS			
NO.	DESCRIPTION	BY	DATE
1	PER CITY COMMENTS	DFA	05.13.23
2	REVISED DRAINAGE AREAS	DFA	01.19.24
3	REVISED DRAINAGE AREAS; ADDED STORMWATER MANAGEMENT	DFA	08.03.24
4	REVISED DRAINAGE AREAS; UPDATED STORMWATER MANAGEMENT	DFA	10.10.24

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CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

POST-DEVELOPMENT DRAINAGE SOUTH HAMILTON

LOCATED AT

SOUTH HAMILTON STREET

TAX MAP : 6161-30-151783

DATE: AUGUST 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

DRAWING NO.
SWPPP 2.1
SHEET 2 OF 2

APPENDIX G

STORM DRAIN DESIGN CALCULATIONS

PROJECT: S. HAMILTON STREET CITY OF POUGHKEEPSIE **INTENSITY 10-YR** in/hr **CAL. BY: AA** **DATE:** OCTOBER 2024

JOB NO: 22.10 **i= 6.42** **CHK. BY:** **SHEET** 1 **OF** 1

PIPE SECTION				INLET CALCULATIONS						STORM DRAIN CALCULATIONS							ELEVATIONS & COVER				
No.	FROM	TO	LENGTH (FT.)	AREA (ACRES)	RUNOFF COEF.	MANNING n	CONC. TIME (MIN.)	RAIN INTENSITY (IN./HR.)	INLET Q (CFS)	PIPE DISCHARGE Q (CFS)	SLOPE (%)	DIAMETER (IN.)	FULL FLOW CAPACITY (CFS)	FULL FLOW VELOCITY (FT./SEC.)	SHAPE OF PIPE	TRAVEL TIME (MIN.)	GROUND ELEV. AT UPPER END	INVERT UP (FT.)	INVERT DOWN (FT.)	UP COVER (FT.)	TYPE OF PIPE
1	CB1A	FES	75	0.84	0.90	0.01	5	6.42	4.85	4.85	0.7	15	7.02	5.72	CIR	0.22	212.00	209.50	209.00	1.25	HDPE
2	FES	STMH2	82	0.29	0.40	0.01	5	6.42	0.74	5.59	11.5	15	28.50	23.20	CIR	0.28	208.50	207.00	197.59	0.25	HDPE
3	STMH2	CB1	53	0.0	0.00	0.01	0	6.42	0.00	5.59	1.0	15	8.39	6.84	CIR	0.41	201.50	197.59	197.04	2.66	HDPE
4	CB1	CB2	18	0.1	0.80	0.01	5	6.42	0.51	6.11	1.0	15	8.39	6.84	CIR	0.45	203.50	197.04	196.86	5.21	HDPE
5	CB2	CB3	41	0.02	0.90	0.01	5	6.42	0.12	6.22	1.0	15	8.39	6.84	CIR	0.55	203.50	196.86	196.45	5.39	HDPE
6	CB3	CB4	93	0.03	0.95	0.01	5	6.42	0.18	6.41	0.8	15	7.51	6.12	CIR	0.80	207.50	196.45	195.73	9.80	HDPE
7	CB4	CB5	49	0.01	0.95	0.01	5	6.42	0.06	6.47	0.8	15	7.51	6.12	CIR	0.94	206.00	195.73	195.35	9.02	HDPE
8	CB5	SUB	15	0.04	0.90	0.01	5	6.42	0.23	6.70	1.0	15	8.39	6.84	CIR	0.97	203.20	195.35	195.20	6.60	HDPE
9A	SUB	STMH5			DIRECT ENTRY TO STMH5				0.82												
9	FES	STMH5	92	0.06	0.40	0.01	5	6.42	0.15	0.15	2.0	12	6.55	8.34	CIR	0.18	199.50	198.50	196.66	0.00	HDPE
10	STMH5	STMH6	40	0.00	0.00	0.01	5	6.42	0.00	0.97	1.0	12	4.63	5.89	CIR	0.30	202.50	192.92	192.52	8.58	HDPE
11	STMH6	CB11	184	0.00	0.00	0.01	5	6.42	0.00	0.97	4.1	12	9.38	11.94	CIR	0.55	198.00	192.52	185.00	4.48	HDPE
12*	CB11	CB12	196	0.21	0.95	0.01	5	6.42	1.28	2.25	2.6	12	7.47	9.51	CIR	0.90	188.80	185.00	179.93	2.8	HDPE
13*	CB12	CB13	88	0.03	0.95	0.01	5	6.42	0.18	2.44	1.6	12	5.85	7.45	CIR	1.09	183.50	179.93	178.52	2.57	HDPE
14*	CB13	CB14	12	0.01	0.95	0.01	5	6.42	0.06	2.50	3.0	12	8.02	10.21	CIR	1.11	181.50	178.52	178.16	1.98	HDPE

STORM DRAIN DESIGN CALCULATIONS

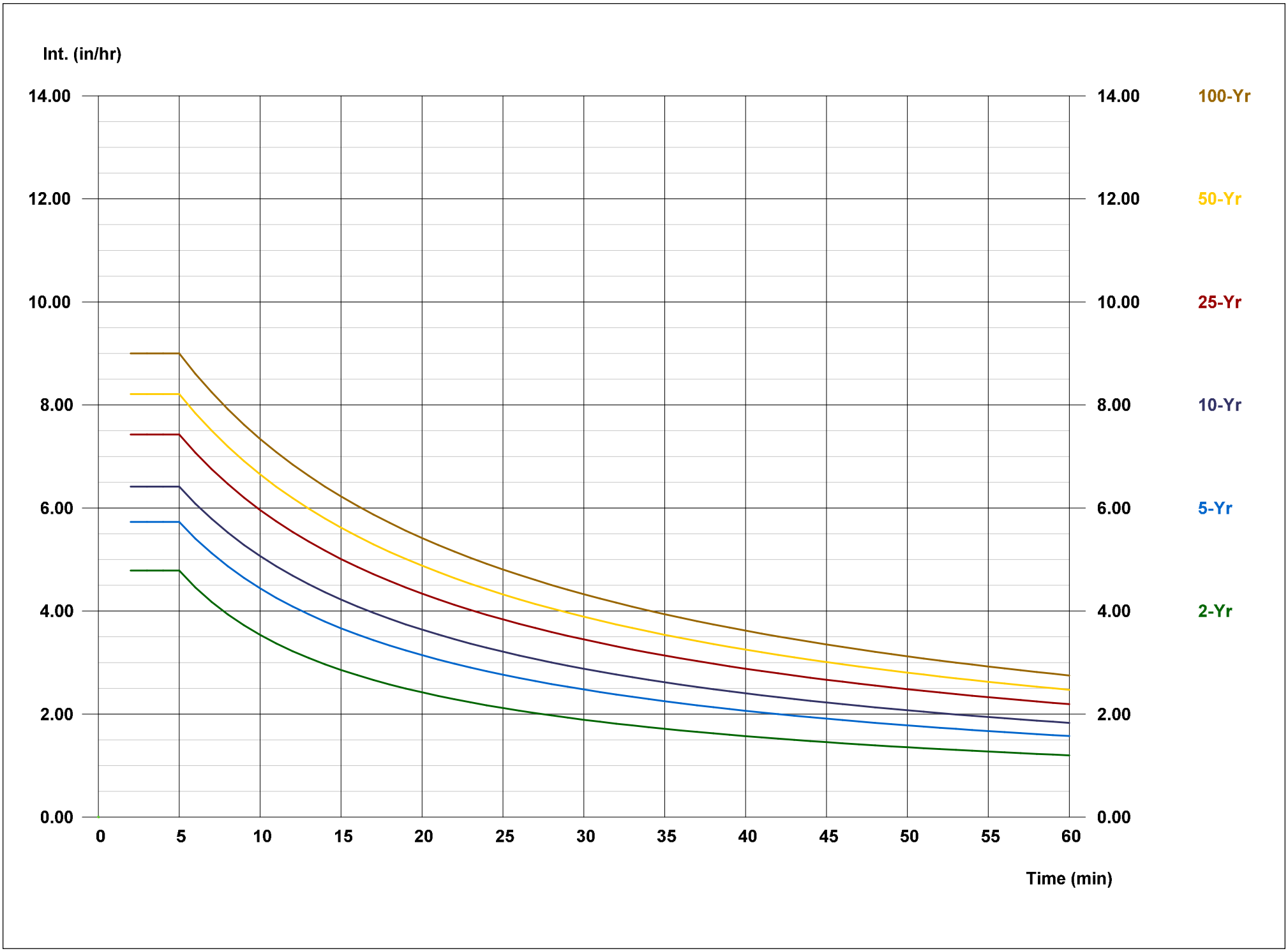
PROJECT: S. HAMILTON STREET CITY OF POUGHKEEPSIE **INTENSITY 25-YR** in/hr **CAL. BY: AA** **DATE:** OCTOBER 2024

JOB NO: 22.10 **i= 7.43** **CHK. BY:** **SHEET** 1 OF 1

PIPE SECTION				INLET CALCULATIONS						STORM DRAIN CALCULATIONS							ELEVATIONS & COVER				
No.	FROM	TO	LENGTH (FT.)	AREA (ACRES)	RUNOFF COEF.	MANNING n	CONC. TIME (MIN.)	RAIN INTENSITY (IN./HR.)	INLET Q (CFS)	PIPE DISCHARGE Q (CFS)	SLOPE (%)	DIAMETER (IN.)	FULL FLOW CAPACITY (CFS)	FULL FLOW VELOCITY (FT./SEC.)	SHAPE OF PIPE	TRAVEL TIME (MIN.)	GROUND ELEV. AT UPPER END	INVERT UP (FT.)	INVERT DOWN (FT.)	UP COVER (FT.)	TYPE OF PIPE
1	CB1A	FES	75	0.84	0.90	0.01	5	7.43	5.62	5.62	0.7	15	7.02	5.72	CIR	0.22	212.00	209.50	209.00	1.25	HDPE
2	FES	STMH2	82	0.29	0.40	0.01	5	7.43	0.86	6.48	11.5	15	28.50	23.20	CIR	0.28	208.50	207.00	197.59	0.25	HDPE
3	STMH2	CB1	53	0.0	0.00	0.01	0	7.43	0.00	6.48	1.0	15	8.39	6.84	CIR	0.41	201.50	197.59	197.04	2.66	HDPE
4	CB1	CB2	18	0.1	0.80	0.01	5	7.43	0.59	7.08	1.0	15	8.39	6.84	CIR	0.45	203.50	197.04	196.86	5.21	HDPE
5	CB2	CB3	41	0.02	0.90	0.01	5	7.43	0.13	7.21	1.0	15	8.39	6.84	CIR	0.55	203.50	196.86	196.45	5.39	HDPE
6	CB3	CB4	93	0.03	0.95	0.01	5	7.43	0.21	7.42	0.8	15	7.51	6.12	CIR	0.80	207.50	196.45	195.73	9.80	HDPE
7	CB4	CB5	49	0.01	0.95	0.01	5	7.43	0.07	7.49	0.8	15	7.51	6.12	CIR	0.94	206.00	195.73	195.35	9.02	HDPE
8	CB5	SUB	15	0.04	0.90	0.01	5	7.43	0.27	7.76	1.0	15	8.39	6.84	CIR	0.97	203.20	195.35	195.20	6.60	HDPE
9A	SUB	STMH5			DIRECT ENTRY TO STMH5				0.82												
9	FES	STMH5	92	0.06	0.40	0.01	5	7.43	0.18	0.15	2.0	12	6.55	8.34	CIR	0.18	199.50	198.50	196.66	0.00	HDPE
10	STMH5	STMH6	40	0.00	0.00	0.01	5	7.43	0.00	1.00	1.0	12	4.63	5.89	CIR	0.30	202.50	192.92	192.52	8.58	HDPE
11	STMH6	CB11	184	0.00	0.00	0.01	5	7.43	0.00	1.00	4.1	12	9.38	11.94	CIR	0.55	198.00	192.52	185.00	4.48	HDPE
12*	CB11	CB12	196	0.21	0.95	0.01	5	7.43	1.48	2.48	2.6	12	7.47	9.51	CIR	0.90	188.80	185.00	179.93	2.8	HDPE
13*	CB12	CB13	88	0.03	0.95	0.01	5	7.43	0.21	2.69	1.6	12	5.85	7.45	CIR	1.09	183.50	179.93	178.52	2.57	HDPE
14*	CB13	CB14	12	0.01	0.95	0.01	5	7.43	0.07	2.76	3.0	12	8.02	10.21	CIR	1.11	181.50	178.52	178.16	1.98	HDPE

Storm Sewer IDF Curves

IDF file: Dutchess_35%HydroData.IDF



Version 1.8
Last Updated: 11/09/2015

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....	No

Design Point:	DA1	
P=	1.40	*inch*

Manually enter P, Total Area and Impervious Cover.

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	0.21	0.21	100%	0.95	1,014	Stormwater Planter
2	0.56	0.23	41%	0.42	1,194	Bioretention
3	1.31	0.61	47%	0.47	3,123	Organic Filter
4	0.21	0.21	100%	0.95	1,014	Stormwater Planter
5	0.20	0.20	100%	0.95	966	Stormwater Planter
6	0.20	0.20	100%	0.95	966	Stormwater Planter
7						
8						
9						
10						
Subtotal (1-30)	2.69	1.66	62%	0.61	**8,276**	**Subtotal 1**
Total	2.69	1.66	62%	0.61	**8,276**	**Initial WQv**	**0.19**	**af**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	0.00	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**0.00**	**0.00**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*		
"<<Initial WQv"	2.69	1.66	62%	0.61	8,276		
Subtract Area	0.00	0.00					
WQv adjusted after Area Reductions	**2.69**	**1.66**	62%	0.61	8,276		
Disconnection of Rooftops		0.00					
Adjusted WQv after Area Reduction and Rooftop Disconnect	2.69	1.66	62%	0.61	**8,276**	**0.19**	**af**
WQv reduced by Area Reduction techniques					0	**0.00**	**af**

Runoff Reduction Volume and Treated volumes						
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**	**WQv Treated**
			(acres)	**(acres)**	**cf**	**cf**
Area/Volume Reduction	Conservation of Natural Areas	RR-1	0.00	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	0.00	0.00		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		0.00		
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.82	0.82	1781	
	Rain Barrel/Cistern	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4				
	Bioretention & Infiltration Bioretention	F-5	0.56	0.23	1200	0
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2				
	Wet Extended Detention (P-3)	P-3				
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4	F-4	1.31	0.61		5500.000
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
	Wet Swale (O-2)	O-2				
	Totals by Area Reduction	→	0.00	0.00	0	
	Totals by Volume Reduction	→	0.82	0.82	1781	
	Totals by Standard SMP w/RRV	→	0.56	0.23	1200	0
	Totals by Standard SMP	→	1.31	0.61		5500
	Totals (Area + Volume + all SMPs)	→	2.69	1.66	2,981	5,500
	Impervious Cover √	okay				
	Total Area √	okay				

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B	1.35	40%
C	1.34	30%
D		20%
Total Area	2.69	
Calculate the Minimum RRv		
S =	**0.35**	
Impervious =	1.66	*acre*
Precipitation	1.4	*in*
Rv	0.95	
Minimum RRv	**2,806**	***ft3***
	0.06	af

NOI QUESTIONS

#	NOI Question	Reported Value	
		cf	af
28	Total Water Quality Volume (WQv) Required	8276	*0.190*
30	Total RRV Provided	2981	*0.068*
31	Is RRv Provided ≥WQv Required?	No	
32	Minimum RRv	2806	*0.064*
32a	Is RRv Provided ≥ Minimum RRv Required?	Yes	
33a	Total WQv Treated	5500	*0.126*
34	Sum of Volume Reduced & Treated	8481	*0.195*
34	Sum of Volume Reduced and Treated	8481	*0.195*
35	Is Sum RRv Provided and WQv Provided ≥WQv Required?	Yes	

35.15%

Apply Peak Flow Attenuation			
36	Channel Protection	*Cpv*	
37	Overbank	*Qp*	
37	Extreme Flood Control	*Qf*	
	Are Quantity Control requirements met?	*Yes*	Plan Completed

Planning

Practice	Description	Application
Preservation of Undisturbed Areas	Delineate and place into permanent conservation undisturbed forests, native vegetated areas, riparian corridors, wetlands, and natural terrain.	Considered & Not Applied
Preservation of Buffers	Define, delineate and preserve naturally vegetated buffers along perennial streams, rivers, shorelines and wetlands.	Considered & Applied
Reduction of Clearing and Grading	Limit clearing and grading to the minimum amount needed for roads, driveways, foundations, utilities and stormwater management facilities.	Considered & Not Applied
Locating Development in Less Sensitive Areas	Avoid sensitive resource areas such as floodplains, steep slopes, erodible soils, wetlands, mature forests and critical habitats by locating development to fit the terrain in areas that will create the least impact.	Considered & Not Applied
Open Space Design	Use clustering, conservation design or open space design to reduce impervious cover, preserve more open space and protect water resources.	Considered & Applied
Soil Restoration	Restore the original properties and porosity of the soil by deep till and amendment with compost to reduce the generation of runoff and enhance the runoff reduction performance of post construction practices.	Considered & Applied
Roadway Reduction	Minimize roadway widths and lengths to reduce site impervious area	N/A
Sidewalk Reduction	Minimize sidewalk lengths and widths to reduce site impervious area	Considered & Applied
Driveway Reduction	Minimize driveway lengths and widths to reduce site impervious area	N/A
Cul-de-sac Reduction	Minimize the number of cul-de-sacs and incorporate landscaped areas to reduce their impervious cover.	N/A
Building Footprint Reduction	Reduce the impervious footprint of residences and commercial buildings by using alternate or taller buildings while maintaining the same floor to area ratio.	Considered & Applied
Parking Reduction	Reduce imperviousness on parking lots by eliminating unneeded spaces, providing compact car spaces and efficient parking lanes, minimizing stall dimensions, using porous pavement surfaces in overflow parking areas, and using multi-storied parking decks where appropriate.	Considered & Applied

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:	**DA1**

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
2	0.56	0.23	0.41	0.42	1194.27	1.40	Bioretention
Enter Impervious Area Reduced by Disconnection of Rooftops		0.00	41%	0.42	1,194	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.					1,194	*ft^3*	

Soil Information			
Soil Group	C		
Soil Infiltration Rate	0.50	*in/hour*	*Design as an infiltration bioretention practice*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		2,388	*ft^3*	
Enter Depth of Soil Media	*df*	2.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.5	*ft*	*6 inches max.*
Enter Filter Time	*tf*	1	*days*	
Required Filter Area	***Af***	**3980**	***ft^2***	

Determine Actual Bio-Retention Area			
Filter Width	20	*ft*	
Filter Length	250	*ft*	
Filter Area	5000	*ft^2*	
Actual Volume Provided	3000	*ft^3*	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?		Yes	Select Practice	Other/Standard SMP
RRv	1,200			
RRv applied	**1,200**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	0	*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	1,188	*ft^3*	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Stormwater Planter Worksheet

Af=WQv*(df)/[k*(hf+df)(tf)]

where:

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft^3)
df	Depth of the Soil Medium (ft)
k	The Hyrdaulic Conductivity (ft/day), usually set at 4 ft/day when soil is loosely
	Sand - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil***
hf	Average Height of Water above planter bed (ft)
tf	The Design Time to Filter the Treatment Volume Through the Filter Media

Design Point:	**DA1**

Enter Site Data For Drainage Area to be Treated by Practice

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Precipitation *(in)*	Description
1	0.21	0.21	1.00	0.95	1013.86	1.40	Stormwater Planter

Calculate the Mimimum Filter Area

Parameter	Value	Units	
WQv	1,014	*ft^3*	*WQv*
Depth of Soil Media	1	*ft*	*df*
Hydraulic Conductivity	3.5	*ft/d*	*k*
Average Height of Ponding	1	*ft*	*hf*
Filter Time	0.5	*d*	*tf*
Required Area of Filter	290	*ft^2*	*Af*

Area of Filter

Width	15	*ft*
Length	20	*ft*
Area Provided	300	*ft^2*
Volume Provided	1050	

Runoff Reduction

Soil Type	C
Flow Through Planter?	*Yes*

Determine the Runoff Reduction

RRv	**1,014**	***ft^3***	
RRv Applied	**456**	***ft^3***	

Stormwater Planter Worksheet

Af=WQv*(df)/[k*(hf+df)(tf)]

where:

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft^3)
df	Depth of the Soil Medium (ft)
k	The Hyrdaulic Conductivity (ft/day), usually set at 4 ft/day when soil is loosely
	Sand - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil***
hf	Average Height of Water above planter bed (ft)
tf	The Design Time to Filter the Treatment Volume Through the Filter Media

Design Point:	**DA1**

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
4	0.21	0.21	1.00	0.95	1013.86	1.40	Stormwater Planter

Calculate the Mimimum Filter Area			
Parameter	**Value**	**Units**	
WQv	1,014	*ft^3*	*WQv*
Depth of Soil Media	1	*ft*	*df*
Hydraulic Conductivity	3.5	*ft/d*	*k*
Average Height of Ponding	1	*ft*	*hf*
Filter Time	0.5	*d*	*tf*
Required Area of Filter	290	*ft^2*	*Af*

Area of Filter		
Width	15	*ft*
Length	20	*ft*
Area Provided	300	*ft^2*
Volume Provided	1050	

Runoff Reduction	
Soil Type	C
Flow Through Planter?	*Yes*

Determine the Runoff Reduction			
RRv	**1,014**	***ft^3***	
RRv Applied	**456**	***ft^3***	

Stormwater Planter Worksheet

Af=WQv*(df)/[k*(hf+df)(tf)]

where:

	Af	Required Surface Area (ft2)
	WQv	Water Quality Volume (ft^3)
	df	Depth of the Soil Medium (ft)
	k	The Hyrdaulic Conductivity (ft/day), usually set at 4 ft/day when soil is loosely
		Sand - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil***
	hf	Average Height of Water above planter bed (ft)
	tf	The Design Time to Filter the Treatment Volume Through the Filter Media

Design Point:	**DA1**

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
5	0.20	0.20	1.00	0.95	965.58	1.40	Stormwater Planter

Calculate the Mimimum Filter Area			
Parameter	**Value**	**Units**	
WQv	966	*ft^3*	*WQv*
Depth of Soil Media	1	*ft*	*df*
Hydraulic Conductivity	3.5	*ft/d*	*k*
Average Height of Ponding	1	*ft*	*hf*
Filter Time	0.5	*d*	*tf*
Required Area of Filter	276	*ft^2*	*Af*

Area of Filter		
Width	15	*ft*
Length	20	*ft*
Area Provided	300	*ft^2*
Volume Provided	1050	

Runoff Reduction		
Soil Type	C	
Flow Through Planter?	*Yes*	

Determine the Runoff Reduction			
RRv	**966**	***ft^3***	
RRv Applied	**435**	***ft^3***	

Stormwater Planter Worksheet

Af=WQv*(df)/[k*(hf+df)(tf)]

where:

	Af	Required Surface Area (ft2)
	WQv	Water Quality Volume (ft^3)
	df	Depth of the Soil Medium (ft)
	k	The Hyrdaulic Conductivity (ft/day), usually set at 4 ft/day when soil is loosely
		Sand - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil***
	hf	Average Height of Water above planter bed (ft)
	tf	The Design Time to Filter the Treatment Volume Through the Filter Media

Design Point:	**DA1**

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
6	0.20	0.20	1.00	0.95	965.58	1.40	Stormwater Planter

Calculate the Mimimum Filter Area			
Parameter	**Value**	**Units**	
WQv	966	*ft^3*	*WQv*
Depth of Soil Media	1	*ft*	*df*
Hydraulic Conductivity	3.5	*ft/d*	*k*
Average Height of Ponding	1	*ft*	*hf*
Filter Time	0.5	*d*	*tf*
Required Area of Filter	276	*ft^2*	*Af*

Area of Filter		
Width	15	*ft*
Length	20	*ft*
Area Provided	300	*ft^2*
Volume Provided	1050	

Runoff Reduction	
Soil Type	C
Flow Through Planter?	*Yes*

Determine the Runoff Reduction			
RRv	**966**	***ft^3***	
RRv Applied	**435**	***ft^3***	

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
82,764	74	>75% Grass cover, Good, HSG C (POA1-PRE, POA2-PRE, POA4-PRE)
30,492	98	Paved roads w/curbs & sewers, HSG C (POA2-PRE)
143,312	72	Woods/grass comb., Good, HSG C (POA1-PRE, POA2-PRE, POA3-PRE, POA4-PRE)
256,568	**76**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
256,568	HSG C	POA1-PRE, POA2-PRE, POA3-PRE, POA4-PRE
0	HSG D	
0	Other	
256,568		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	82,764	0	0	82,764	>75% Grass cover, Good
0	0	30,492	0	0	30,492	Paved roads w/curbs & sewers
0	0	143,312	0	0	143,312	Woods/grass comb., Good
0	**0**	**256,568**	**0**	**0**	**256,568**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-PRE: DA1 Runoff Area=1.780 ac 0.00% Impervious Runoff Depth>0.52"
Flow Length=557' Tc=32.9 min CN=72 Runoff=0.56 cfs 3,349 cf

Subcatchment POA2-PRE: DA2 Runoff Area=3.310 ac 21.15% Impervious Runoff Depth>0.78"
Flow Length=681' Tc=12.3 min CN=78 Runoff=2.79 cfs 9,415 cf

Subcatchment POA3-PRE: DA3 Runoff Area=0.050 ac 0.00% Impervious Runoff Depth>0.53"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=72 Runoff=0.04 cfs 96 cf

Subcatchment POA4-PRE: DA4 Runoff Area=0.750 ac 0.00% Impervious Runoff Depth>0.56"
Flow Length=390' Tc=26.9 min CN=73 Runoff=0.29 cfs 1,522 cf

Link TOTAL PRE: TOTAL PRE Inflow=3.18 cfs 14,381 cf
Primary=3.18 cfs 14,381 cf

Total Runoff Area = 256,568 sf Runoff Volume = 14,381 cf Average Runoff Depth = 0.67"
88.12% Pervious = 226,076 sf 11.88% Impervious = 30,492 sf

Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-PRE: DA1 Runoff Area=1.780 ac 0.00% Impervious Runoff Depth>1.76"
Flow Length=557' Tc=32.9 min CN=72 Runoff=2.14 cfs 11,403 cf

Subcatchment POA2-PRE: DA2 Runoff Area=3.310 ac 21.15% Impervious Runoff Depth>2.25"
Flow Length=681' Tc=12.3 min CN=78 Runoff=8.11 cfs 27,037 cf

Subcatchment POA3-PRE: DA3 Runoff Area=0.050 ac 0.00% Impervious Runoff Depth>1.79"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=72 Runoff=0.13 cfs 325 cf

Subcatchment POA4-PRE: DA4 Runoff Area=0.750 ac 0.00% Impervious Runoff Depth>1.84"
Flow Length=390' Tc=26.9 min CN=73 Runoff=1.05 cfs 5,021 cf

Link TOTAL PRE: TOTAL PRE Inflow=9.96 cfs 43,785 cf
Primary=9.96 cfs 43,785 cf

Total Runoff Area = 256,568 sf Runoff Volume = 43,785 cf Average Runoff Depth = 2.05"
88.12% Pervious = 226,076 sf 11.88% Impervious = 30,492 sf

Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-PRE: DA1 Runoff Area=1.780 ac 0.00% Impervious Runoff Depth>4.53"
Flow Length=557' Tc=32.9 min CN=72 Runoff=5.47 cfs 29,291 cf

Subcatchment POA2-PRE: DA2 Runoff Area=3.310 ac 21.15% Impervious Runoff Depth>5.26"
Flow Length=681' Tc=12.3 min CN=78 Runoff=18.37 cfs 63,196 cf

Subcatchment POA3-PRE: DA3 Runoff Area=0.050 ac 0.00% Impervious Runoff Depth>4.58"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=72 Runoff=0.32 cfs 832 cf

Subcatchment POA4-PRE: DA4 Runoff Area=0.750 ac 0.00% Impervious Runoff Depth>4.66"
Flow Length=390' Tc=26.9 min CN=73 Runoff=2.62 cfs 12,681 cf

Link TOTAL PRE: TOTAL PRE Inflow=23.42 cfs 106,000 cf
Primary=23.42 cfs 106,000 cf

Total Runoff Area = 256,568 sf Runoff Volume = 106,000 cf Average Runoff Depth = 4.96"
88.12% Pervious = 226,076 sf 11.88% Impervious = 30,492 sf

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
148,104	74	>75% Grass cover, Good, HSG C (POA1-POST, POA1.1-POST, POA2-POST, POA3-POST, POA3.1-POST, POA4-POST)
39,204	98	Paved parking/Walks, HSG C (POA1.1-POST)
32,234	98	Paved roads w/curbs & sewers, HSG C (POA2-POST)
36,590	98	Roofs, HSG C (POA1.1-POST)
256,133	**84**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
256,133	HSG C	POA1-POST, POA1.1-POST, POA2-POST, POA3-POST, POA3.1-POST, POA4-POST
0	HSG D	
0	Other	
256,133		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	148,104	0	0	148,104	>75% Grass cover, Good
0	0	39,204	0	0	39,204	Paved parking/Walks
0	0	32,234	0	0	32,234	Paved roads w/curbs & sewers
0	0	36,590	0	0	36,590	Roofs
0	**0**	**256,133**	**0**	**0**	**256,133**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-POST: DA1 Runoff Area=0.270 ac 0.00% Impervious Runoff Depth>0.61"
Flow Length=20' Slope=0.0200 '/' Tc=5.0 min CN=74 Runoff=0.23 cfs 595 cf

Subcatchment POA1.1-POST: DA1.1 Runoff Area=2.420 ac 71.90% Impervious Runoff Depth>1.60"
Flow Length=557' Tc=12.3 min CN=91 Runoff=4.12 cfs 14,093 cf

Subcatchment POA2-POST: DA2 Runoff Area=2.680 ac 27.61% Impervious Runoff Depth>0.94"
Flow Length=589' Tc=6.9 min CN=81 Runoff=3.38 cfs 9,145 cf

Subcatchment POA3-POST: DA3 Runoff Area=0.030 ac 0.00% Impervious Runoff Depth>0.61"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=74 Runoff=0.03 cfs 66 cf

Subcatchment POA3.1-POST: DA3.1 Runoff Area=0.110 ac 0.00% Impervious Runoff Depth>0.61"
Flow Length=85' Slope=0.1000 '/' Tc=6.6 min CN=74 Runoff=0.09 cfs 242 cf

Subcatchment POA4-POST: DA4 Runoff Area=0.370 ac 0.00% Impervious Runoff Depth>0.61"
Flow Length=178' Tc=10.8 min CN=74 Runoff=0.24 cfs 813 cf

Pond SMA1: SMA1-PIPE STORAGE Peak Elev=195.44' Storage=6,297 cf Inflow=4.12 cfs 14,093 cf
Primary=0.28 cfs 8,576 cf Secondary=0.32 cfs 3,409 cf Outflow=0.60 cfs 11,986 cf

Link TOTAL POA2: TOTAL DA2 Inflow=3.92 cfs 21,968 cf
Primary=3.92 cfs 21,968 cf

Link TOTAL POST: TOTAL POST Inflow=4.16 cfs 22,847 cf
Primary=4.16 cfs 22,847 cf

Total Runoff Area = 256,133 sf Runoff Volume = 24,954 cf Average Runoff Depth = 1.17"
57.82% Pervious = 148,104 sf 42.18% Impervious = 108,029 sf

Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-POST: DA1 Runoff Area=0.270 ac 0.00% Impervious Runoff Depth>1.94"
Flow Length=20' Slope=0.0200 '/' Tc=5.0 min CN=74 Runoff=0.75 cfs 1,900 cf

Subcatchment POA1.1-POST: DA1.1 Runoff Area=2.420 ac 71.90% Impervious Runoff Depth>3.44"
Flow Length=557' Tc=12.3 min CN=91 Runoff=8.48 cfs 30,193 cf

Subcatchment POA2-POST: DA2 Runoff Area=2.680 ac 27.61% Impervious Runoff Depth>2.51"
Flow Length=589' Tc=6.9 min CN=81 Runoff=8.87 cfs 24,406 cf

Subcatchment POA3-POST: DA3 Runoff Area=0.030 ac 0.00% Impervious Runoff Depth>1.94"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=74 Runoff=0.08 cfs 211 cf

Subcatchment POA3.1-POST: DA3.1 Runoff Area=0.110 ac 0.00% Impervious Runoff Depth>1.94"
Flow Length=85' Slope=0.1000 '/' Tc=6.6 min CN=74 Runoff=0.29 cfs 774 cf

Subcatchment POA4-POST: DA4 Runoff Area=0.370 ac 0.00% Impervious Runoff Depth>1.93"
Flow Length=178' Tc=10.8 min CN=74 Runoff=0.82 cfs 2,598 cf

Pond SMA1: SMA1-PIPE STORAGE Peak Elev=196.26' Storage=14,870 cf Inflow=8.48 cfs 30,193 cf
Primary=0.37 cfs 12,315 cf Secondary=0.67 cfs 13,529 cf Outflow=1.04 cfs 25,844 cf

Link TOTAL POA2: TOTAL DA2 Inflow=10.59 cfs 52,924 cf
Primary=10.59 cfs 52,924 cf

Link TOTAL POST: TOTAL POST Inflow=11.41 cfs 55,732 cf
Primary=11.41 cfs 55,732 cf

Total Runoff Area = 256,133 sf Runoff Volume = 60,082 cf Average Runoff Depth = 2.81"
57.82% Pervious = 148,104 sf 42.18% Impervious = 108,029 sf

Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-POST: DA1 Runoff Area=0.270 ac 0.00% Impervious Runoff Depth>4.81"
Flow Length=20' Slope=0.0200 '/' Tc=5.0 min CN=74 Runoff=1.81 cfs 4,716 cf

Subcatchment POA1.1-POST: DA1.1 Runoff Area=2.420 ac 71.90% Impervious Runoff Depth>6.69"
Flow Length=557' Tc=12.3 min CN=91 Runoff=15.94 cfs 58,804 cf

Subcatchment POA2-POST: DA2 Runoff Area=2.680 ac 27.61% Impervious Runoff Depth>5.62"
Flow Length=589' Tc=6.9 min CN=81 Runoff=19.01 cfs 54,627 cf

Subcatchment POA3-POST: DA3 Runoff Area=0.030 ac 0.00% Impervious Runoff Depth>4.81"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=74 Runoff=0.20 cfs 524 cf

Subcatchment POA3.1-POST: DA3.1 Runoff Area=0.110 ac 0.00% Impervious Runoff Depth>4.81"
Flow Length=85' Slope=0.1000 '/' Tc=6.6 min CN=74 Runoff=0.70 cfs 1,920 cf

Subcatchment POA4-POST: DA4 Runoff Area=0.370 ac 0.00% Impervious Runoff Depth>4.80"
Flow Length=178' Tc=10.8 min CN=74 Runoff=2.00 cfs 6,449 cf

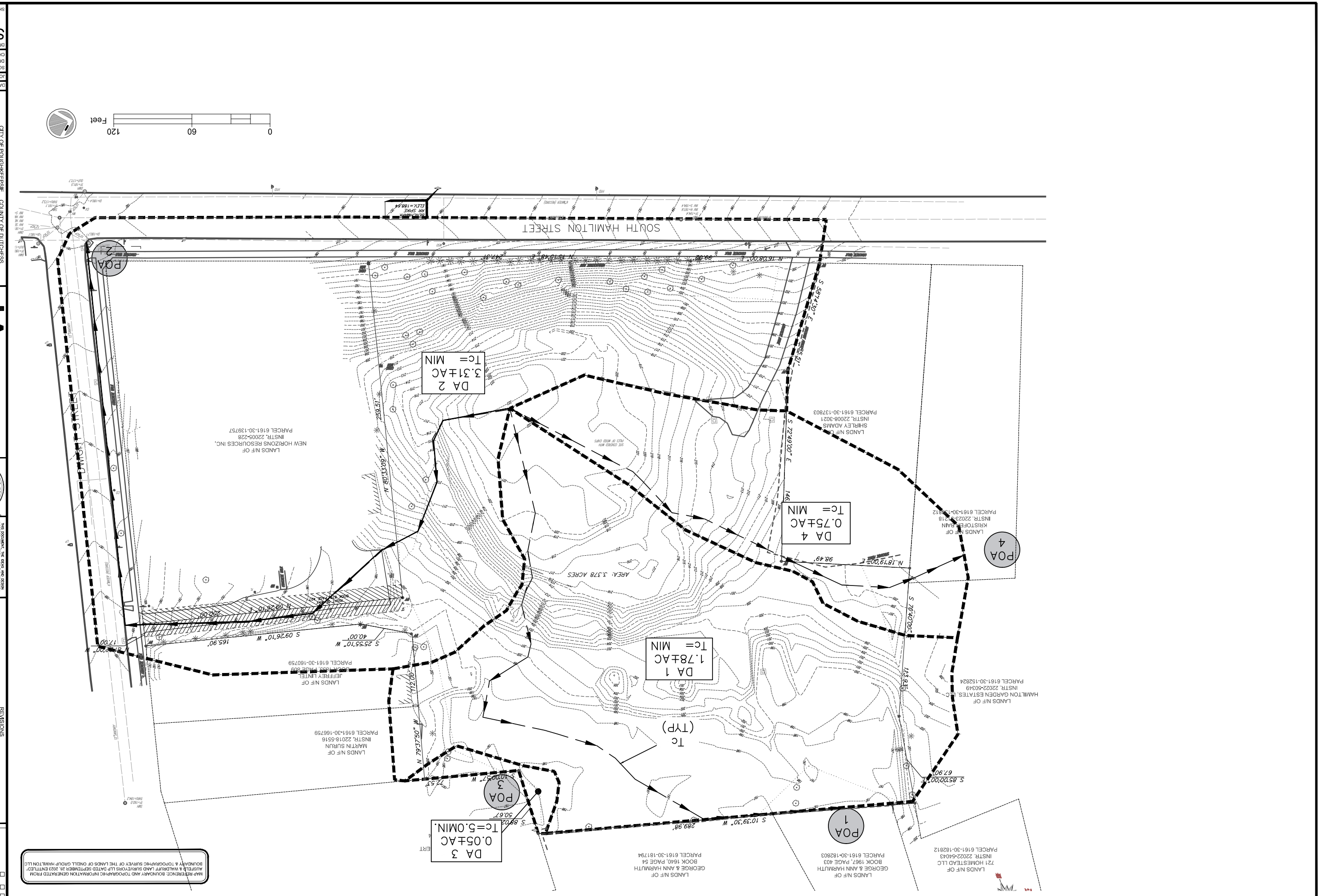
Pond SMA1: SMA1-PIPE STORAGE Peak Elev=197.40' Storage=27,275 cf Inflow=15.94 cfs 58,804 cf
Primary=0.47 cfs 16,505 cf Secondary=3.69 cfs 32,009 cf Outflow=4.16 cfs 48,515 cf

Link TOTAL POA2: TOTAL DA2 Inflow=22.58 cfs 109,778 cf
Primary=22.58 cfs 109,778 cf

Link TOTAL POST: TOTAL POST Inflow=24.57 cfs 116,751 cf
Primary=24.57 cfs 116,751 cf

Total Runoff Area = 256,133 sf Runoff Volume = 127,040 cf Average Runoff Depth = 5.95"
57.82% Pervious = 148,104 sf 42.18% Impervious = 108,029 sf

APPENDIX H



CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

PRE-DEVELOPMENT DRAINAGE
SOUTH HAMILTON
LOCATED AT
SOUTH HAMILTON STREET
TAX MAP: 6161-30-151783

DATE: AUGUST 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA
DRAWING NO.
SWPPP 1.0
SHEET 2 OF 3

ARICO ASSOCIATES
ENGINEERS LAND PLANNERS & CONSULTANTS
1407 Route 9, Bldg 2 Suite 6, Clifton Park, New York 12065
518.573.6989 aricoassociates@gmail.com

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DOMINICK F. ARICO, P.E.
LIC. NO. 066515

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE SUBMITTED:

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

0 60 120 Feet

MAP REFERENCE: BOUNDARY AND TOPOGRAPHIC INFORMATION GENERATED FROM AUSFELD & WALDRUFF LAND SURVEYORS LLP DATED SEPTEMBER 28, 2023 ENTITLED" BOUNDARY & TOPOGRAPHIC SURVEY OF THE LANDS OF ONEILL GROUP HAMILTON LLC

LANDS N/F OF 721 HOMESTEAD LLC INSTR. 22022-54043 PARCEL 6161-30-182812

LANDS N/F OF GEORGE & ANN HARMUTH BOOK 1967, PAGE 403 PARCEL 6161-30-182803

LANDS N/F OF GEORGE & ANN HARMUTH BOOK 1640, PAGE 54 PARCEL 6161-30-181794

LANDS N/F OF HAMILTON GARDEN ESTATES, LLC INSTR. 22022-50349 PARCEL 6161-30-152824

LANDS N/F OF KRISTOFER BAIN INSTR. 22023-[illegible]218 PARCEL 6161-30-[illegible]912

LANDS N/F OF SHIRLEY ADAMS INSTR, 22008-3021 PARCEL 6161-30-137803

LANDS N/F OF [illegible]TIN SURUN INSTR. 22018-5516 PARCEL 6161-30-166759

LANDS N/F OF JEFFREY LINTEL [illegible] PARCEL 6161-30-160759

LANDS N/F OF NEW HORIZONS RESOURCES INC. INSTR. 22005-228 PARCEL 6161-30-139757

DA 1 0.27±AC Tc=5.0 MIN

DA 2 2.68±AC Tc=16.4 MIN

DA 3 0.03±AC Tc=5.0 MIN

DA 3.1 0.11±AC Tc=5.0 MIN

DA 4 0.37±AC Tc=5.0 MIN

DA 1.1 2.42±AC Tc=6.5 MIN

POA 1

POA 2

POA 3

POA 3.1

POA 4

POA 1.1

Tc PATH (TYP)

BIORETENTION BASIN

3.0' GRASS DRAINAGE SWALE S=0.5±%

URBAN GARDEN / PEDESTRIAN AREA

MAIN ENTRY FF202.25±

GARAGE FF FF201.00±

ENTRY 1ST FLOOR FF213.00±

ALL ROCK REMOVAL SHALL BE CONDUCTED BY MECHANICAL MEANS AND THAT NO BLASTING IS PERMITTED.

MAINTAIN EXISTING GRADE ALONG BUILDING AND PROPERTY BOUNDARY

BENCHMARK RR SPIKE ELEV.=188.64

SOUTH HAMILTON STREET

S 10°39'30" W 289.98'

S 88°02'37" W 50.67'

S 85°00'00" E 67.90'

S 70°40'00" E 113.83'

N 18°19'00" E 98.49'

S 72°49'00" E 146.89'

S 58°14'30" E 255.51'

N 18°19'00" E 99.00'

N 15°15'48" E 247.53'

N 79°57'50" W 72.53'

N 79°57'50" W 112.00'

S 25°55'10" W 40.00'

S 09°26'10" W 165.90'

N 69°26'10" E 200.00'

N 80°33'09" W 259.51'

S 20°33'00" W 17.00'

SP1 SP2 SP3 SP4

CB1A CB2 CB3 CB4 CB5 CB6 CB7 CB8 CB9 CB12 CB13

SMH1 SMH2 SMH3 SMH4 SMH5 SMH6

JF1 JF2 JF3 JF4

OCS

RD

CO

FES

INV

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Dominic M. Arico, P.E.
NYSPE No. 066525

REVISIONS

NO	DESCRIPTION	BY	DATE
1	PER CITY COMMENTS	DFA	05.13.23
2	REVISED DRAINAGE AREAS	DFA	01.19.24
3	REVISED DRAINAGE AREAS; ADDED STORMWATER MANAGEMENT	DFA	06.03.24

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

Arico Associates
Engineers
Land Planners
& Consultants
1407 Route 9, Bldg 2 Suite 6, Clifton Park, New York 12065
518.573.6989
dricoassociates@gmail.com

CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

POST-DEVELOPMENT DRAINAGE SOUTH HAMILTON

LOCATED AT

SOUTH HAMILTON STREET

TAX MAP - 6161-30-151783

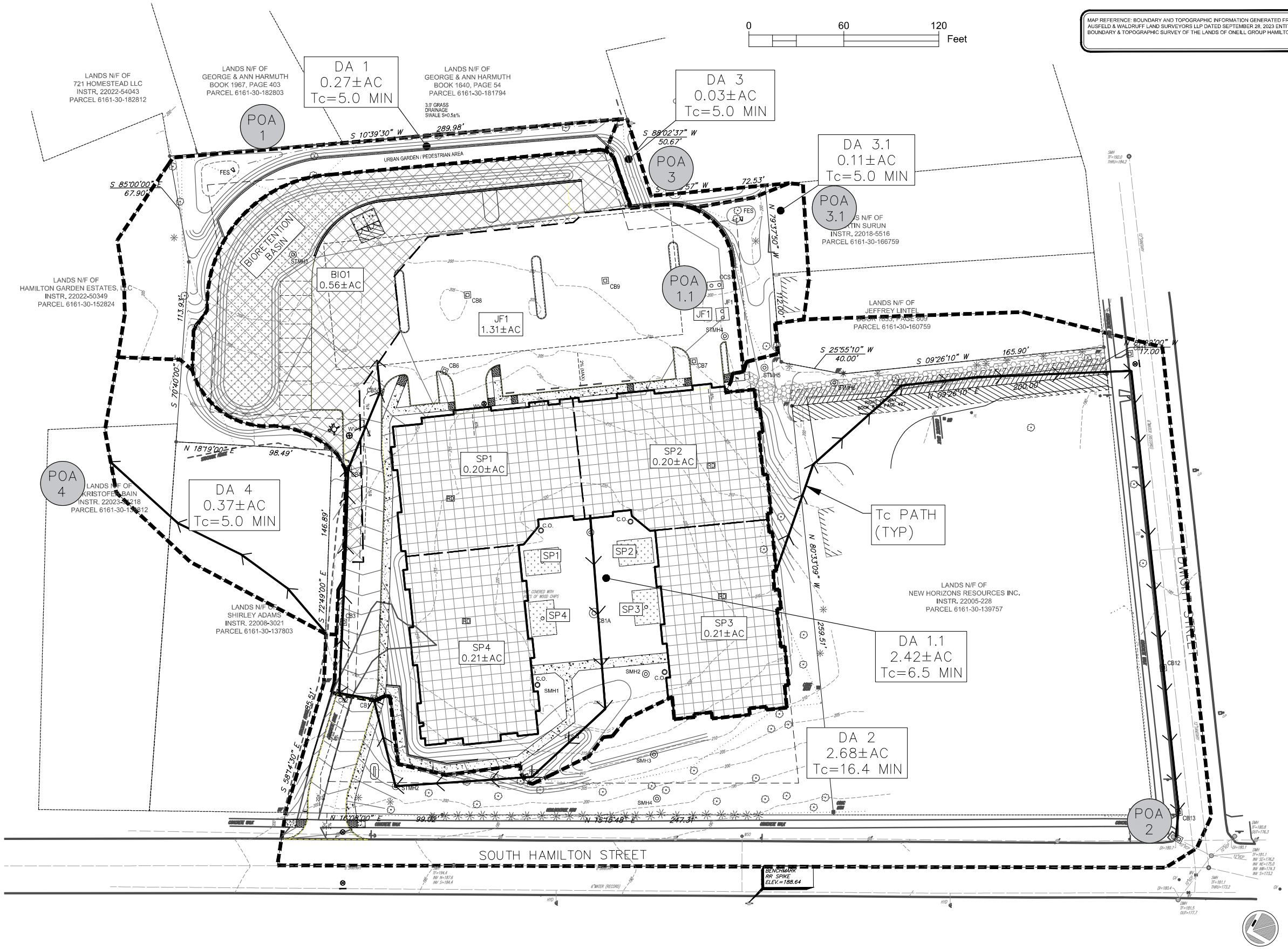
DATE: AUGUST 2023

JOB NO. 22.10

SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA

DRAWING NO.
SWPPP 2.0

SHEET 1 OF 2



MAP REFERENCE: BOUNDARY AND TOPOGRAPHIC INFORMATION GENERATED FROM AUSFELD & WALDRUFF LAND SURVEYORS LLP DATED SEPTEMBER 28, 2023 ENTITLED" BOUNDARY & TOPOGRAPHIC SURVEY OF THE LANDS OF ONEILL GROUP HAMILTON LLC

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☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	PER CITY COMMENTS	DFA	05.13.23
2	REVISED DRAINAGE AREAS	DFA	01.19.24
3	REVISED DRAINAGE AREAS; ADDED STORMWATER MANAGEMENT	DFA	08.03.24

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DOMINICK F. ARICO, P.E. LIC. NO. 066515

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518.573.6989 aricoassociates@gmail.com

CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS
POST-DEVELOPMENT DRAINAGE
SOUTH HAMILTON
LOCATED AT
SOUTH HAMILTON STREET
TAX MAP : 6161-30-151783

DATE: AUGUST 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA
DRAWING NO.
SWPPP 2.1
SHEET 2 OF 2

C:\Users\Dom Arico\Desktop\01 ARICO 2020\1_PROJECTS_2022_Active\22.10 Hamilton Street_Pough_TOG\01_Drawings_PDFs\POST-DEV SWPPP PLAN_08.12.24.dwg, 8/15/2024 9:19:42 AM, DWG To PDF.pc3

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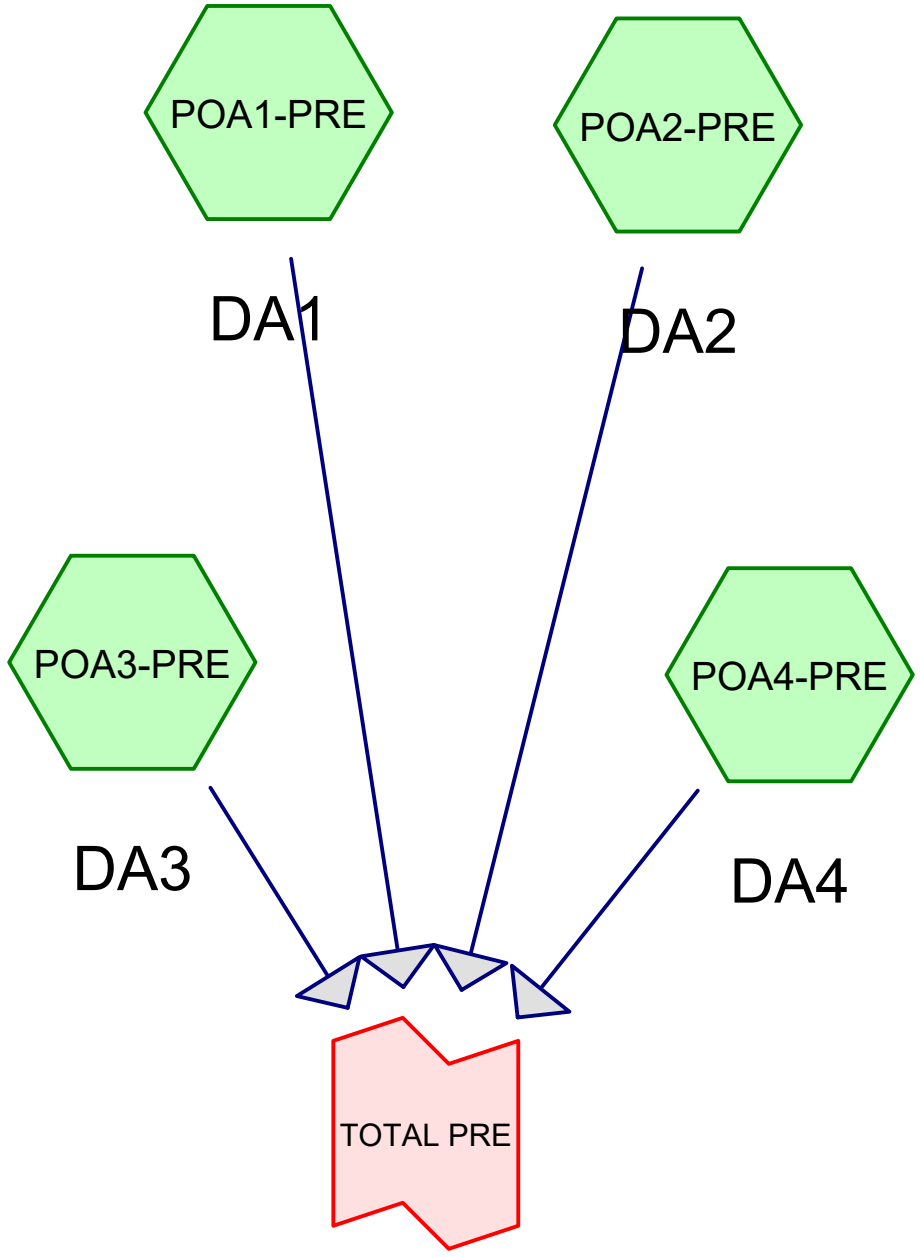


Subcat Reach Pond Link

Routing Diagram for HAMILTON ST_POSTvsPRE_08.12.24_PIPE STORAGE_WEIR PLATE
Prepared by ARICO ASSOCIATES, Printed 8/15/2024
HydroCAD® 10.10-5a s/n 10839 © 2020 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
82,764	74	>75% Grass cover, Good, HSG C (POA1-PRE, POA2-PRE, POA4-PRE)
30,492	98	Paved roads w/curbs & sewers, HSG C (POA2-PRE)
143,312	72	Woods/grass comb., Good, HSG C (POA1-PRE, POA2-PRE, POA3-PRE, POA4-PRE)
256,568	**76**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
256,568	HSG C	POA1-PRE, POA2-PRE, POA3-PRE, POA4-PRE
0	HSG D	
0	Other	
256,568		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	82,764	0	0	82,764	>75% Grass cover, Good
0	0	30,492	0	0	30,492	Paved roads w/curbs & sewers
0	0	143,312	0	0	143,312	Woods/grass comb., Good
0	**0**	**256,568**	**0**	**0**	**256,568**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-PRE: DA1 Runoff Area=1.780 ac 0.00% Impervious Runoff Depth>0.52"
Flow Length=557' Tc=32.9 min CN=72 Runoff=0.56 cfs 3,349 cf

Subcatchment POA2-PRE: DA2 Runoff Area=3.310 ac 21.15% Impervious Runoff Depth>0.78"
Flow Length=681' Tc=12.3 min CN=78 Runoff=2.79 cfs 9,415 cf

Subcatchment POA3-PRE: DA3 Runoff Area=0.050 ac 0.00% Impervious Runoff Depth>0.53"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=72 Runoff=0.04 cfs 96 cf

Subcatchment POA4-PRE: DA4 Runoff Area=0.750 ac 0.00% Impervious Runoff Depth>0.56"
Flow Length=390' Tc=26.9 min CN=73 Runoff=0.29 cfs 1,522 cf

Link TOTAL PRE: TOTAL PRE Inflow=3.18 cfs 14,381 cf
Primary=3.18 cfs 14,381 cf

Total Runoff Area = 256,568 sf Runoff Volume = 14,381 cf Average Runoff Depth = 0.67"
88.12% Pervious = 226,076 sf 11.88% Impervious = 30,492 sf

Summary for Subcatchment POA1-PRE: DA1

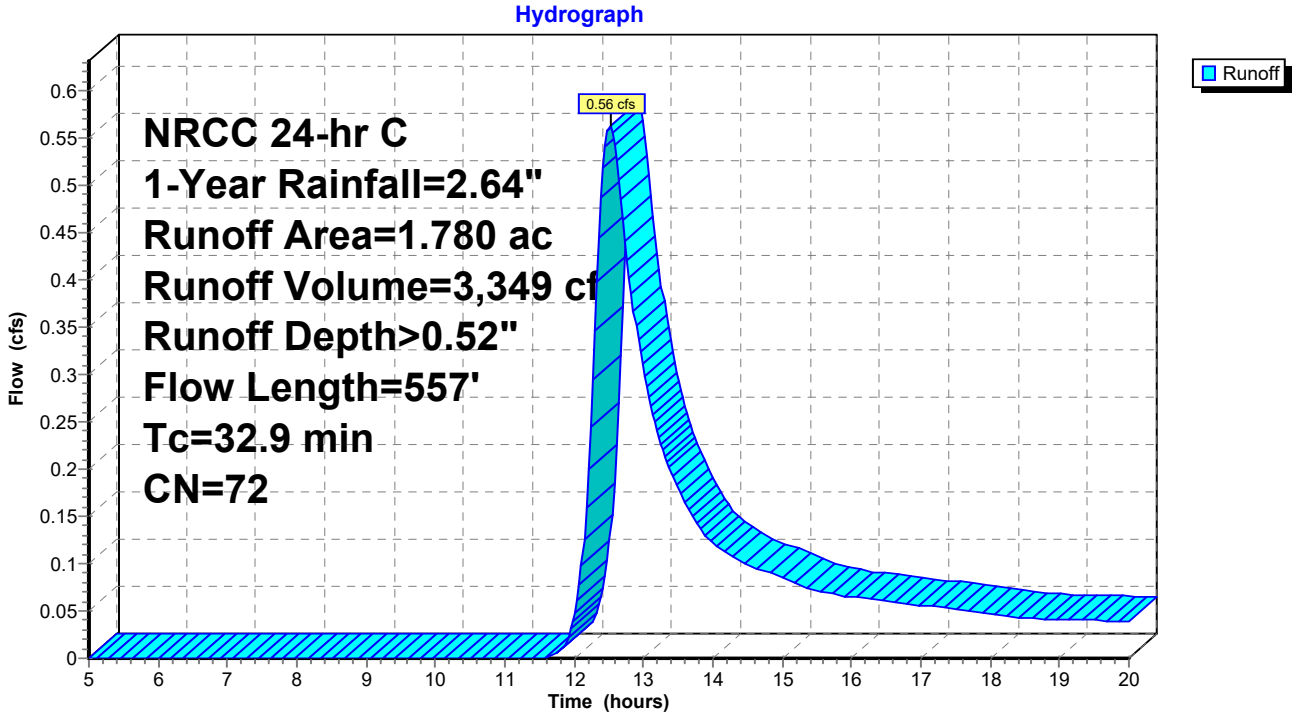
Runoff = 0.56 cfs @ 12.52 hrs, Volume= 3,349 cf, Depth> 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 1-Year Rainfall=2.64"

Area (ac)	CN	Description
1.640	72	Woods/grass comb., Good, HSG C
0.140	74	>75% Grass cover, Good, HSG C
1.780	72	Weighted Average
1.780		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
0.6	86	0.2100	2.29		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.8	371	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.9	557	Total			

Subcatchment POA1-PRE: DA1



Summary for Subcatchment POA2-PRE: DA2

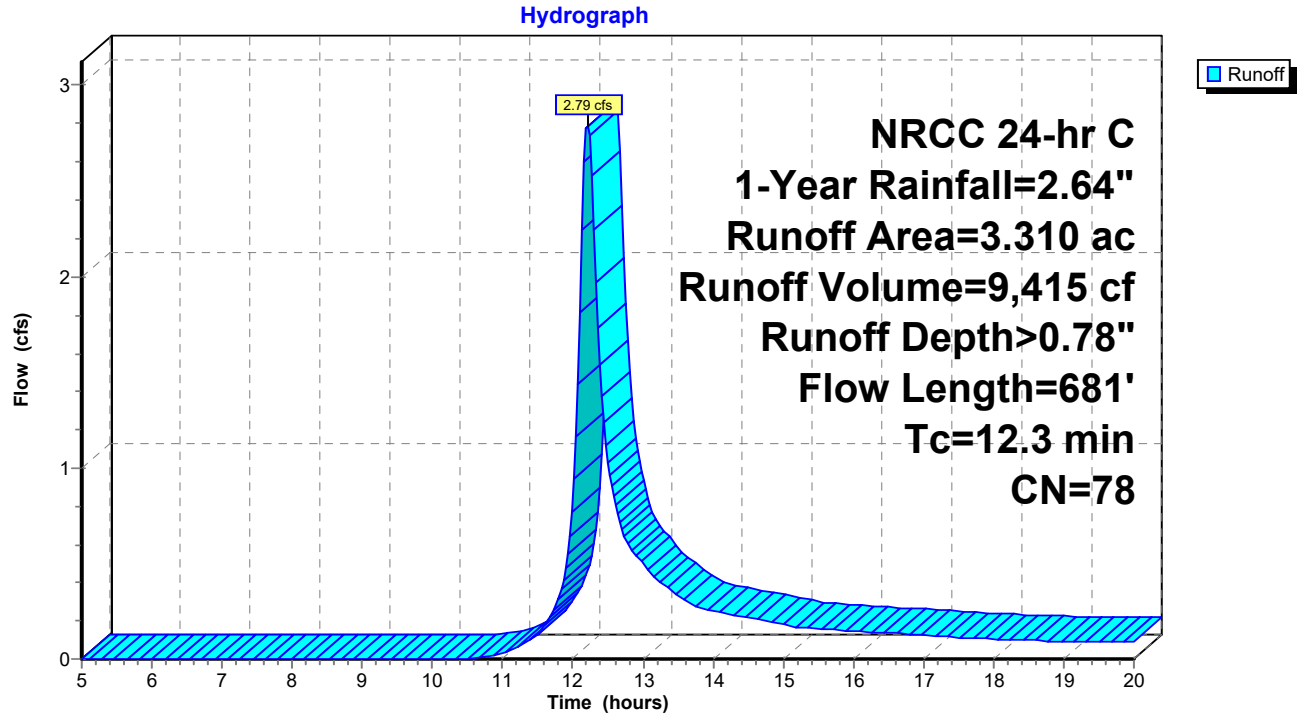
Runoff = 2.79 cfs @ 12.21 hrs, Volume= 9,415 cf, Depth> 0.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 1-Year Rainfall=2.64"

Area (ac)	CN	Description
1.150	72	Woods/grass comb., Good, HSG C
1.460	74	>75% Grass cover, Good, HSG C
0.700	98	Paved roads w/curbs & sewers, HSG C
3.310	78	Weighted Average
2.610		78.85% Pervious Area
0.700		21.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1400	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
0.2	70	0.1860	6.94		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	216	0.0510	4.58		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	295	0.0300	3.52		**Shallow Concentrated Flow, along curb** Paved Kv= 20.3 fps
12.3	681	Total			

Subcatchment POA2-PRE: DA2



Summary for Subcatchment POA3-PRE: DA3

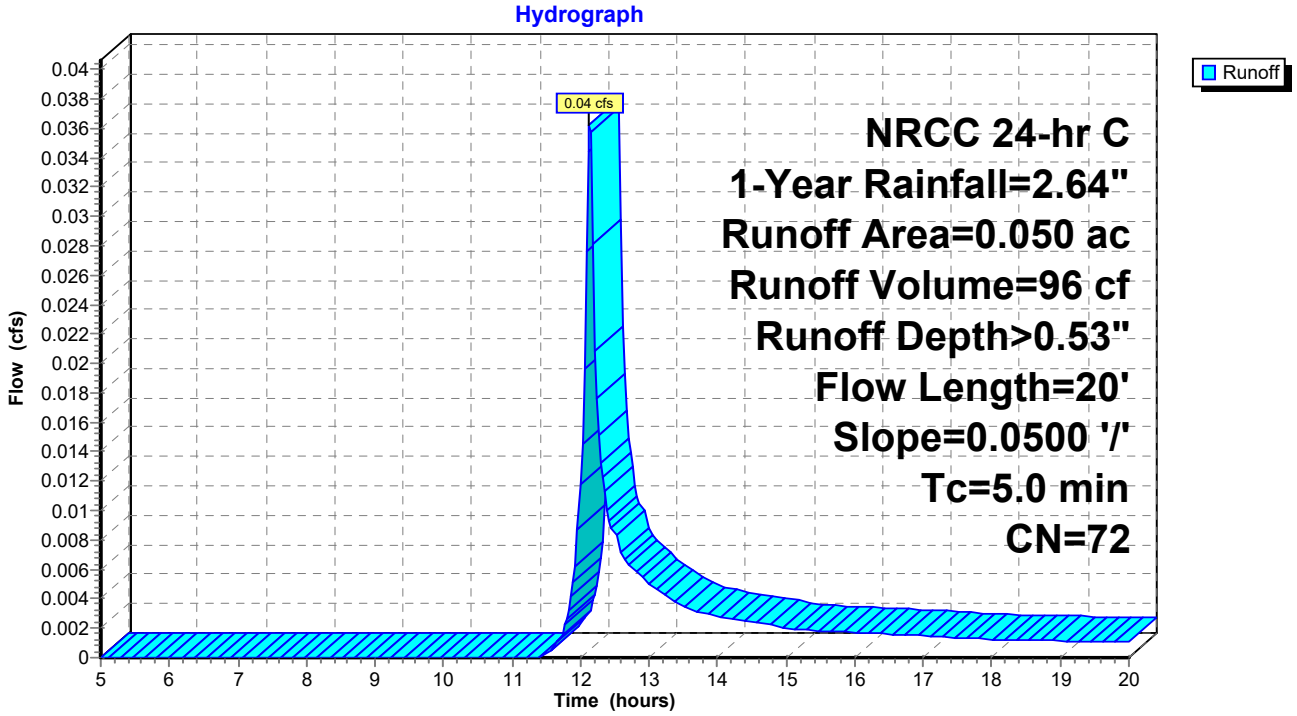
Runoff = 0.04 cfs @ 12.13 hrs, Volume= 96 cf, Depth> 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 1-Year Rainfall=2.64"

Area (ac)	CN	Description
0.050	72	Woods/grass comb., Good, HSG C
0.050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	20	0.0500	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
4.1	20	Total, Increased to minimum Tc = 5.0 min			

Subcatchment POA3-PRE: DA3



Summary for Subcatchment POA4-PRE: DA4

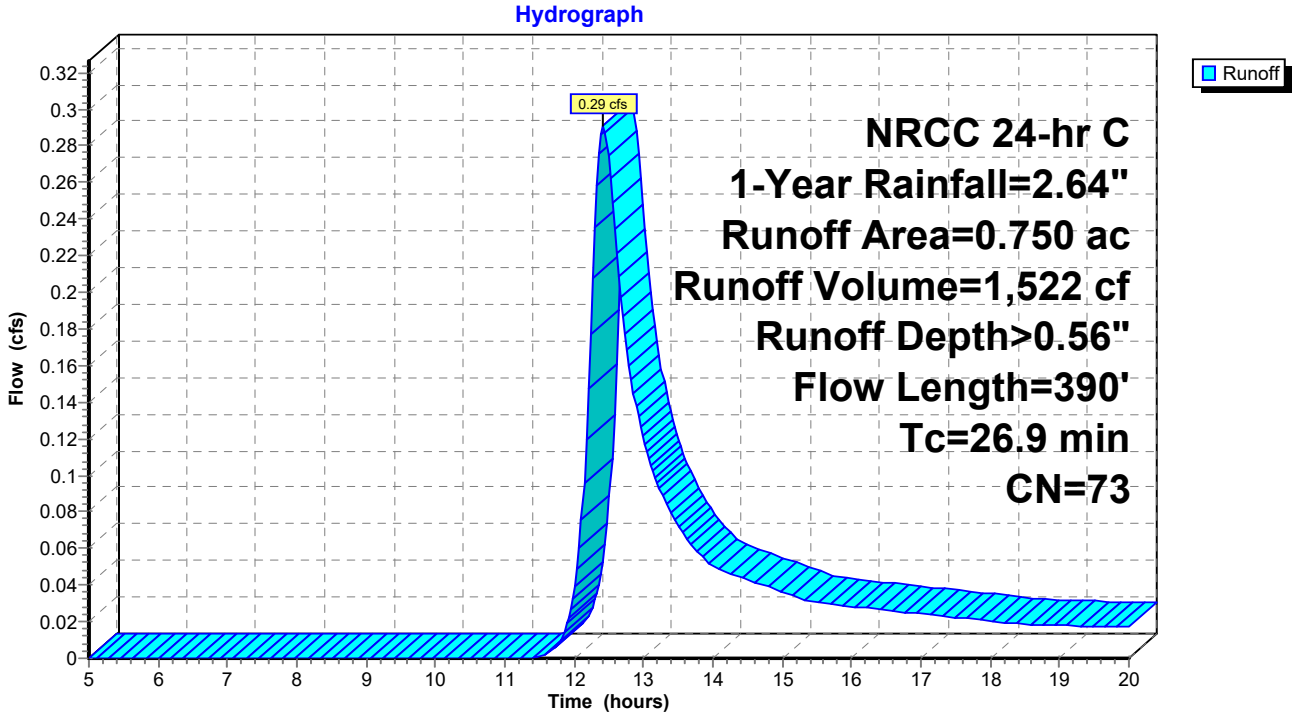
Runoff = 0.29 cfs @ 12.42 hrs, Volume= 1,522 cf, Depth> 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 1-Year Rainfall=2.64"

Area (ac)	CN	Description
0.450	72	Woods/grass comb., Good, HSG C
0.300	74	>75% Grass cover, Good, HSG C
0.750	73	Weighted Average
0.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.2	100	0.0150	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
1.5	140	0.0920	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	150	0.0160	2.04		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
26.9	390	Total			

Subcatchment POA4-PRE: DA4

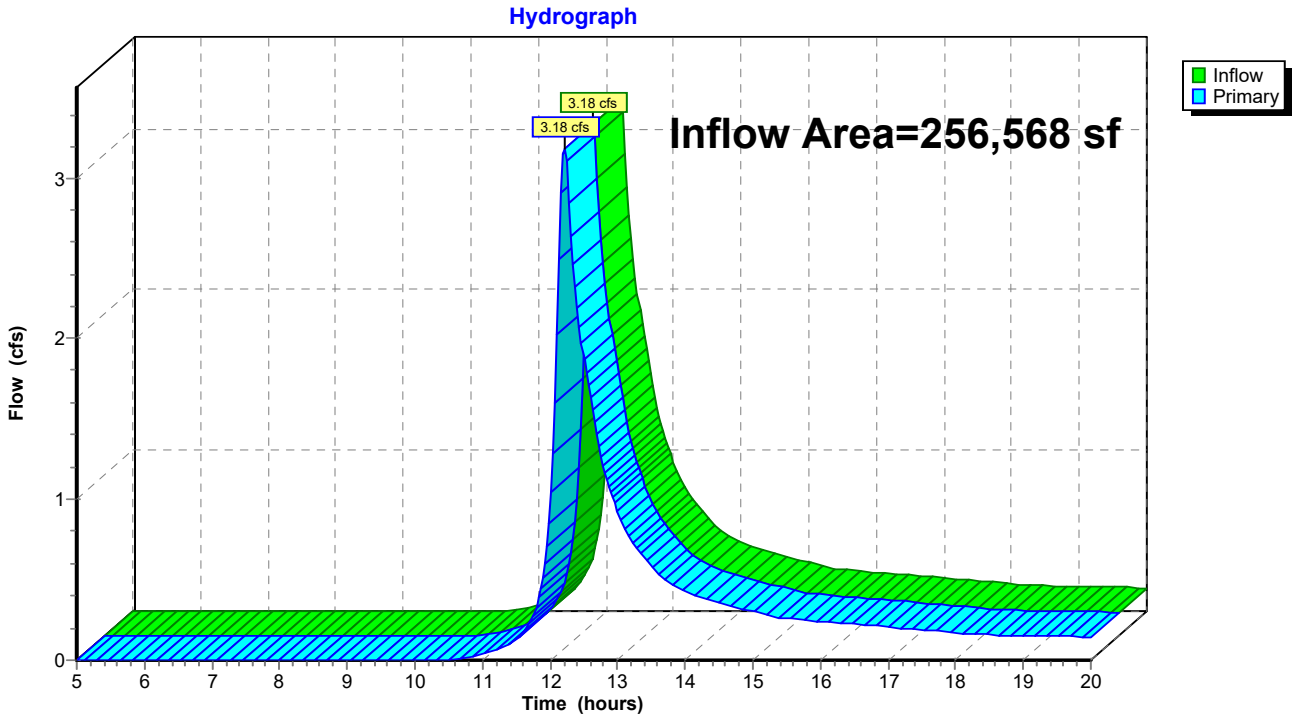


Summary for Link TOTAL PRE: TOTAL PRE

Inflow Area = 256,568 sf, 11.88% Impervious, Inflow Depth > 0.67" for 1-Year event
Inflow = 3.18 cfs @ 12.22 hrs, Volume= 14,381 cf
Primary = 3.18 cfs @ 12.22 hrs, Volume= 14,381 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs

Link TOTAL PRE: TOTAL PRE



Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-PRE: DA1 Runoff Area=1.780 ac 0.00% Impervious Runoff Depth>1.76"
Flow Length=557' Tc=32.9 min CN=72 Runoff=2.14 cfs 11,403 cf

Subcatchment POA2-PRE: DA2 Runoff Area=3.310 ac 21.15% Impervious Runoff Depth>2.25"
Flow Length=681' Tc=12.3 min CN=78 Runoff=8.11 cfs 27,037 cf

Subcatchment POA3-PRE: DA3 Runoff Area=0.050 ac 0.00% Impervious Runoff Depth>1.79"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=72 Runoff=0.13 cfs 325 cf

Subcatchment POA4-PRE: DA4 Runoff Area=0.750 ac 0.00% Impervious Runoff Depth>1.84"
Flow Length=390' Tc=26.9 min CN=73 Runoff=1.05 cfs 5,021 cf

Link TOTAL PRE: TOTAL PRE Inflow=9.96 cfs 43,785 cf
Primary=9.96 cfs 43,785 cf

Total Runoff Area = 256,568 sf Runoff Volume = 43,785 cf Average Runoff Depth = 2.05"
88.12% Pervious = 226,076 sf 11.88% Impervious = 30,492 sf

Summary for Subcatchment POA1-PRE: DA1

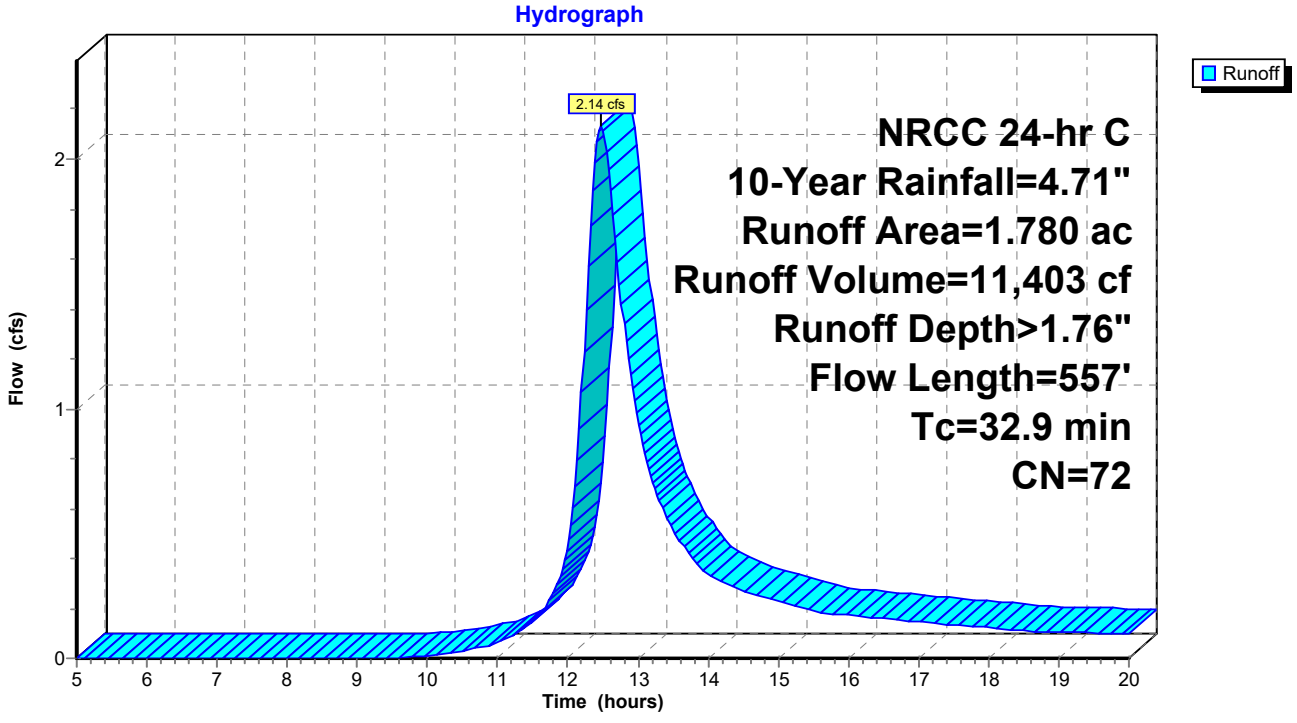
Runoff = 2.14 cfs @ 12.47 hrs, Volume= 11,403 cf, Depth> 1.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 10-Year Rainfall=4.71"

Area (ac)	CN	Description
1.640	72	Woods/grass comb., Good, HSG C
0.140	74	>75% Grass cover, Good, HSG C
1.780	72	Weighted Average
1.780		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
0.6	86	0.2100	2.29		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.8	371	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.9	557	Total			

Subcatchment POA1-PRE: DA1



Summary for Subcatchment POA2-PRE: DA2

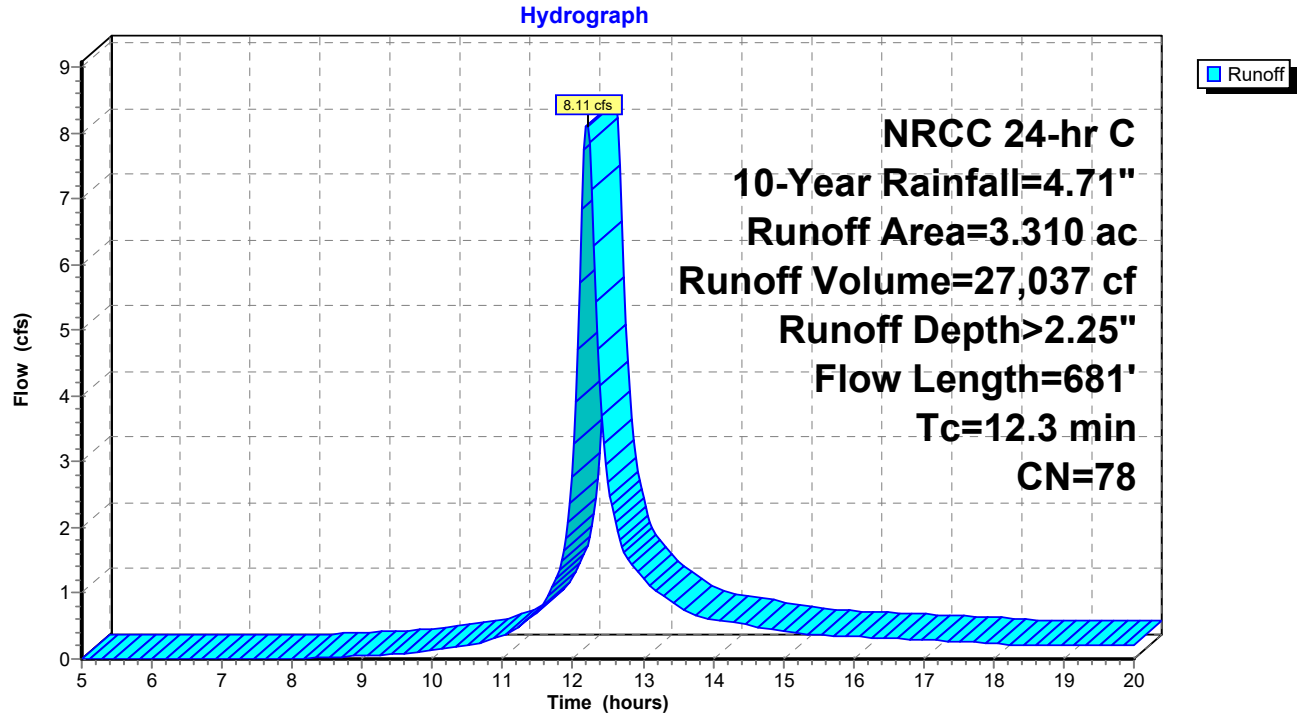
Runoff = 8.11 cfs @ 12.20 hrs, Volume= 27,037 cf, Depth> 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 10-Year Rainfall=4.71"

Area (ac)	CN	Description
1.150	72	Woods/grass comb., Good, HSG C
1.460	74	>75% Grass cover, Good, HSG C
0.700	98	Paved roads w/curbs & sewers, HSG C
3.310	78	Weighted Average
2.610		78.85% Pervious Area
0.700		21.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1400	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
0.2	70	0.1860	6.94		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	216	0.0510	4.58		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	295	0.0300	3.52		**Shallow Concentrated Flow, along curb** Paved Kv= 20.3 fps
12.3	681	Total			

Subcatchment POA2-PRE: DA2



Summary for Subcatchment POA3-PRE: DA3

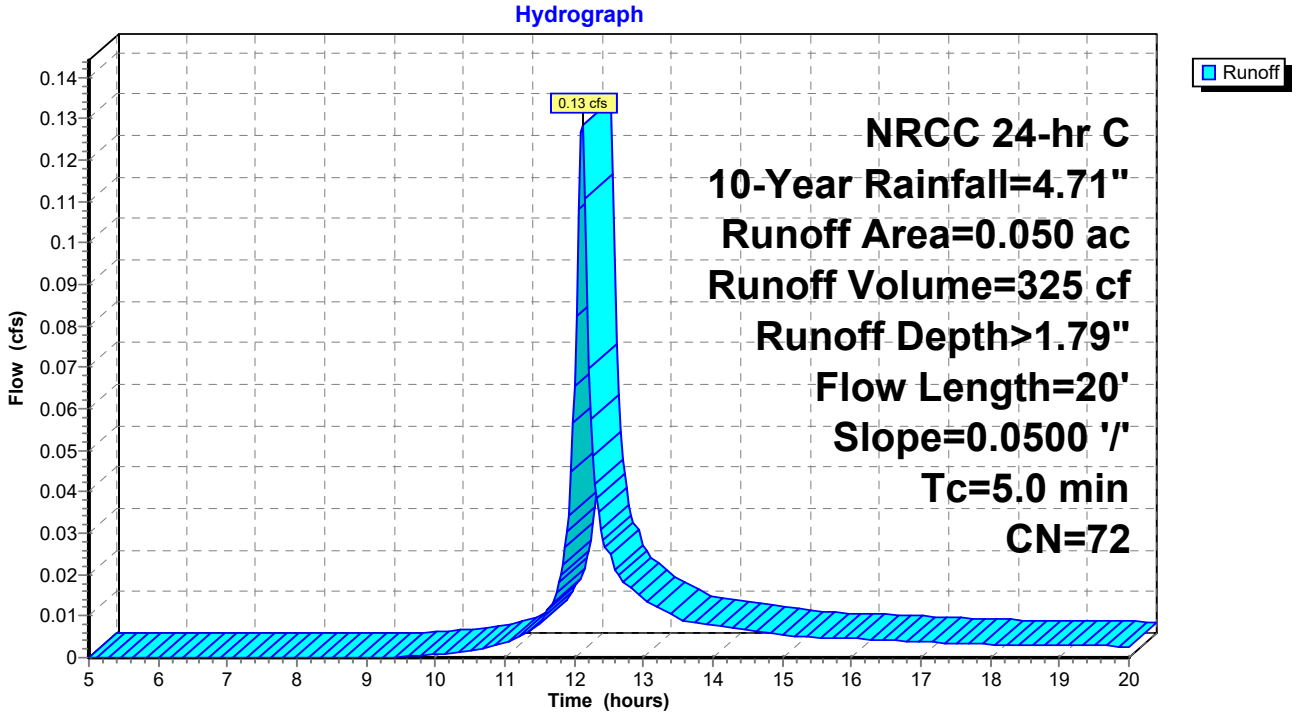
Runoff = 0.13 cfs @ 12.12 hrs, Volume= 325 cf, Depth> 1.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 10-Year Rainfall=4.71"

Area (ac)	CN	Description
0.050	72	Woods/grass comb., Good, HSG C
0.050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	20	0.0500	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
4.1	20	Total, Increased to minimum Tc = 5.0 min			

Subcatchment POA3-PRE: DA3



Summary for Subcatchment POA4-PRE: DA4

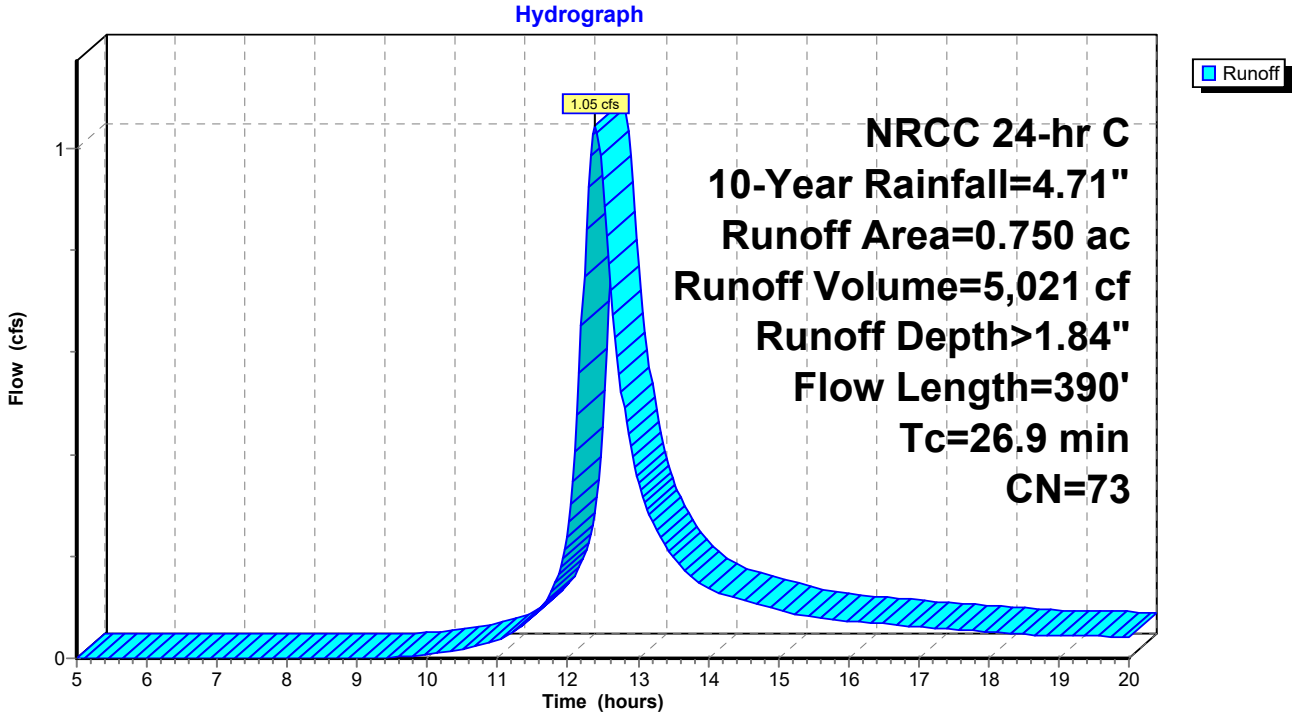
Runoff = 1.05 cfs @ 12.39 hrs, Volume= 5,021 cf, Depth> 1.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 10-Year Rainfall=4.71"

Area (ac)	CN	Description
0.450	72	Woods/grass comb., Good, HSG C
0.300	74	>75% Grass cover, Good, HSG C
0.750	73	Weighted Average
0.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.2	100	0.0150	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
1.5	140	0.0920	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	150	0.0160	2.04		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
26.9	390	Total			

Subcatchment POA4-PRE: DA4

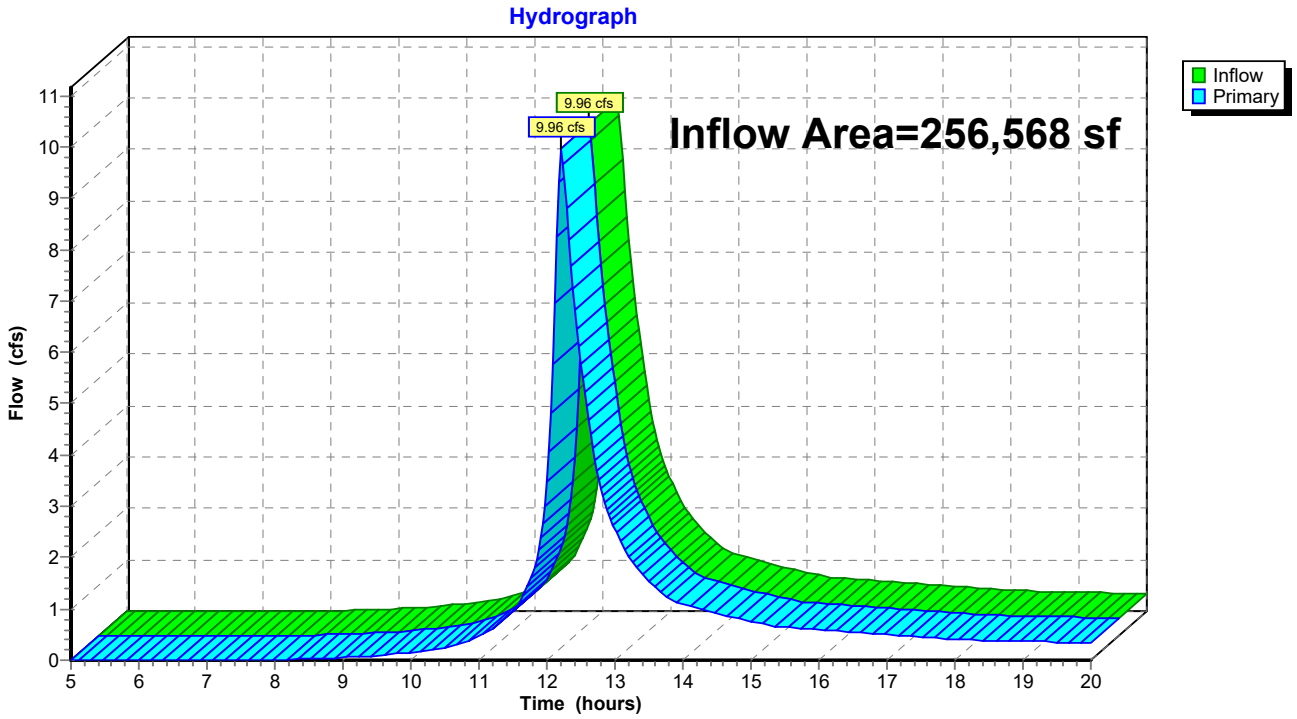


Summary for Link TOTAL PRE: TOTAL PRE

Inflow Area = 256,568 sf, 11.88% Impervious, Inflow Depth > 2.05" for 10-Year event
Inflow = 9.96 cfs @ 12.21 hrs, Volume= 43,785 cf
Primary = 9.96 cfs @ 12.21 hrs, Volume= 43,785 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs

Link TOTAL PRE: TOTAL PRE



Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-PRE: DA1 Runoff Area=1.780 ac 0.00% Impervious Runoff Depth>4.53"
Flow Length=557' Tc=32.9 min CN=72 Runoff=5.47 cfs 29,291 cf

Subcatchment POA2-PRE: DA2 Runoff Area=3.310 ac 21.15% Impervious Runoff Depth>5.26"
Flow Length=681' Tc=12.3 min CN=78 Runoff=18.37 cfs 63,196 cf

Subcatchment POA3-PRE: DA3 Runoff Area=0.050 ac 0.00% Impervious Runoff Depth>4.58"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=72 Runoff=0.32 cfs 832 cf

Subcatchment POA4-PRE: DA4 Runoff Area=0.750 ac 0.00% Impervious Runoff Depth>4.66"
Flow Length=390' Tc=26.9 min CN=73 Runoff=2.62 cfs 12,681 cf

Link TOTAL PRE: TOTAL PRE Inflow=23.42 cfs 106,000 cf
Primary=23.42 cfs 106,000 cf

Total Runoff Area = 256,568 sf Runoff Volume = 106,000 cf Average Runoff Depth = 4.96"
88.12% Pervious = 226,076 sf 11.88% Impervious = 30,492 sf

Summary for Subcatchment POA1-PRE: DA1

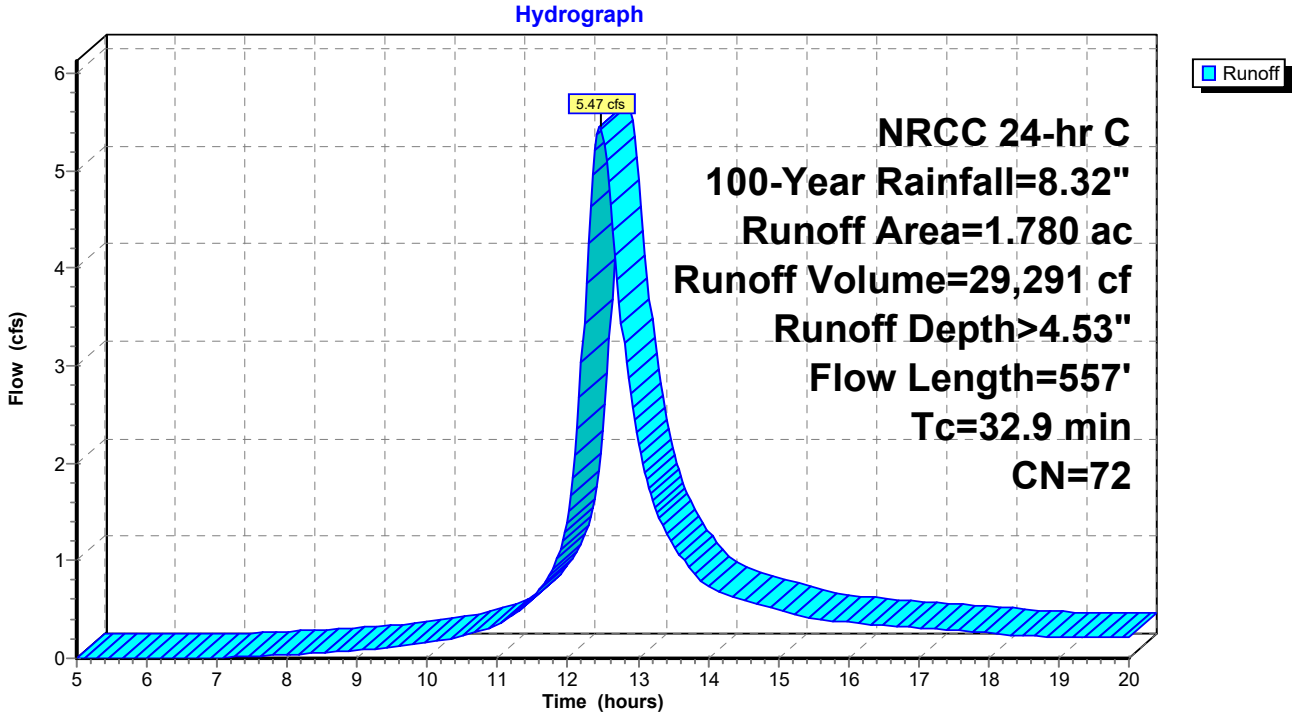
Runoff = 5.47 cfs @ 12.46 hrs, Volume= 29,291 cf, Depth> 4.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 100-Year Rainfall=8.32"

Area (ac)	CN	Description
1.640	72	Woods/grass comb., Good, HSG C
0.140	74	>75% Grass cover, Good, HSG C
1.780	72	Weighted Average
1.780		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
0.6	86	0.2100	2.29		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.8	371	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.9	557	Total			

Subcatchment POA1-PRE: DA1



Summary for Subcatchment POA2-PRE: DA2

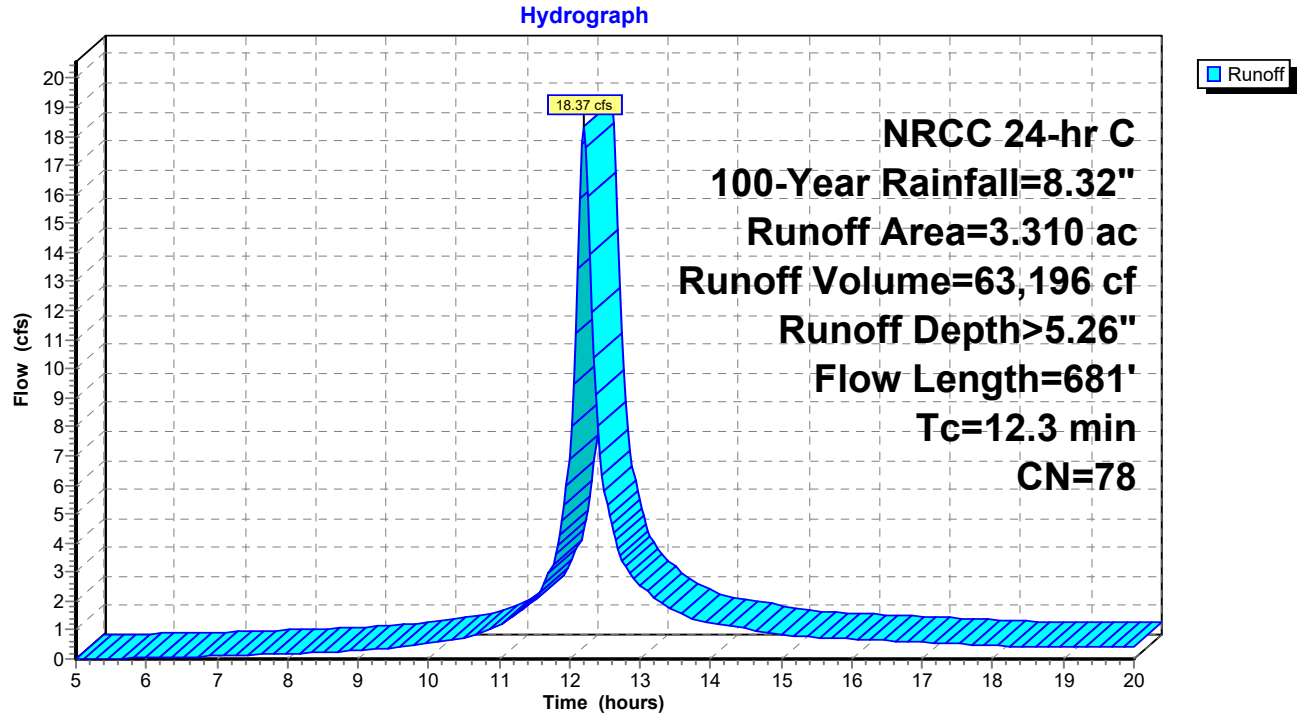
Runoff = 18.37 cfs @ 12.20 hrs, Volume= 63,196 cf, Depth> 5.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 100-Year Rainfall=8.32"

Area (ac)	CN	Description
1.150	72	Woods/grass comb., Good, HSG C
1.460	74	>75% Grass cover, Good, HSG C
0.700	98	Paved roads w/curbs & sewers, HSG C
3.310	78	Weighted Average
2.610		78.85% Pervious Area
0.700		21.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1400	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
0.2	70	0.1860	6.94		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	216	0.0510	4.58		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	295	0.0300	3.52		**Shallow Concentrated Flow, along curb** Paved Kv= 20.3 fps
12.3	681	Total			

Subcatchment POA2-PRE: DA2



Summary for Subcatchment POA3-PRE: DA3

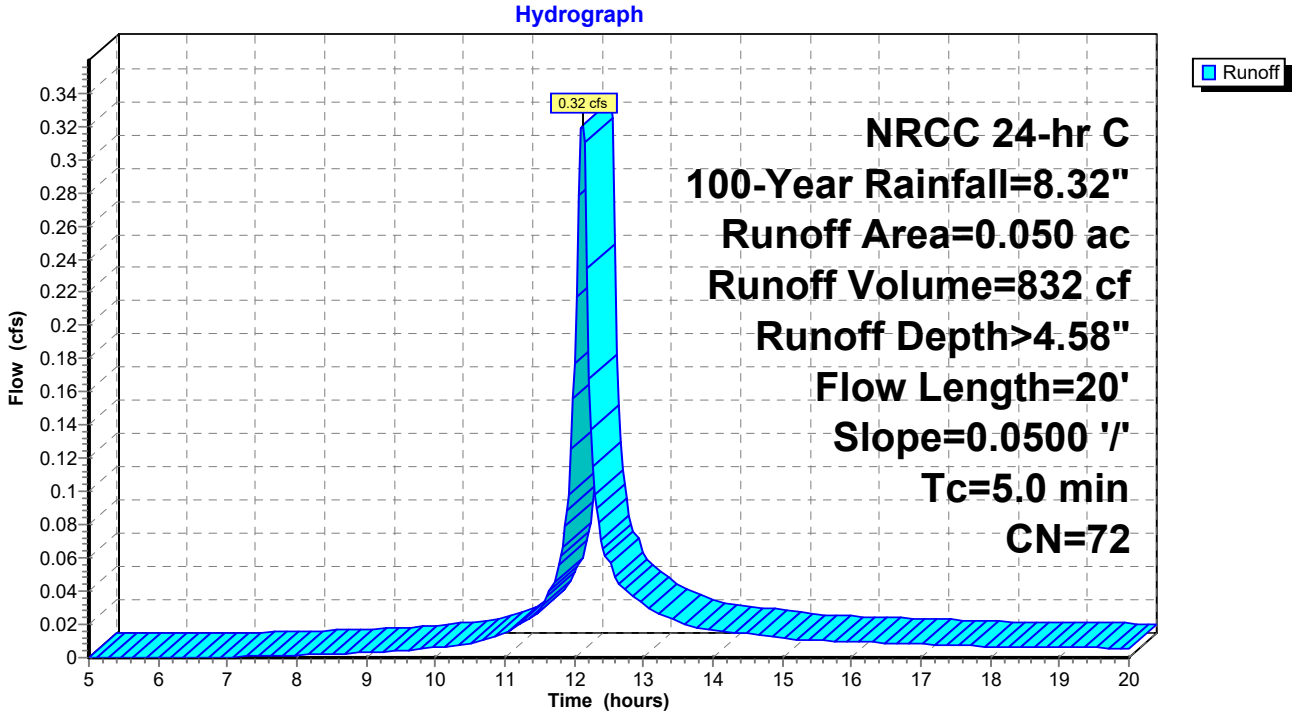
Runoff = 0.32 cfs @ 12.12 hrs, Volume= 832 cf, Depth> 4.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 100-Year Rainfall=8.32"

Area (ac)	CN	Description
0.050	72	Woods/grass comb., Good, HSG C
0.050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	20	0.0500	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
4.1	20	Total, Increased to minimum Tc = 5.0 min			

Subcatchment POA3-PRE: DA3



Summary for Subcatchment POA4-PRE: DA4

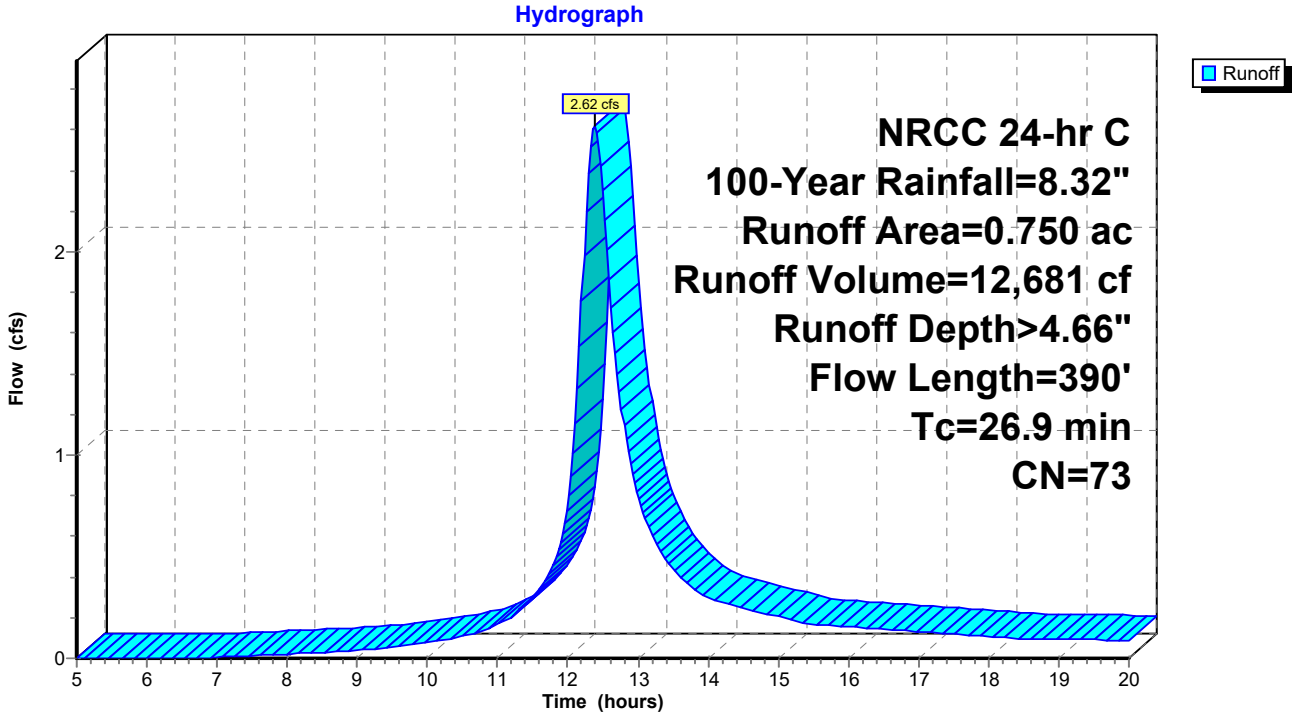
Runoff = 2.62 cfs @ 12.38 hrs, Volume= 12,681 cf, Depth> 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 100-Year Rainfall=8.32"

Area (ac)	CN	Description
0.450	72	Woods/grass comb., Good, HSG C
0.300	74	>75% Grass cover, Good, HSG C
0.750	73	Weighted Average
0.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.2	100	0.0150	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.18"
1.5	140	0.0920	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	150	0.0160	2.04		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
26.9	390	Total			

Subcatchment POA4-PRE: DA4

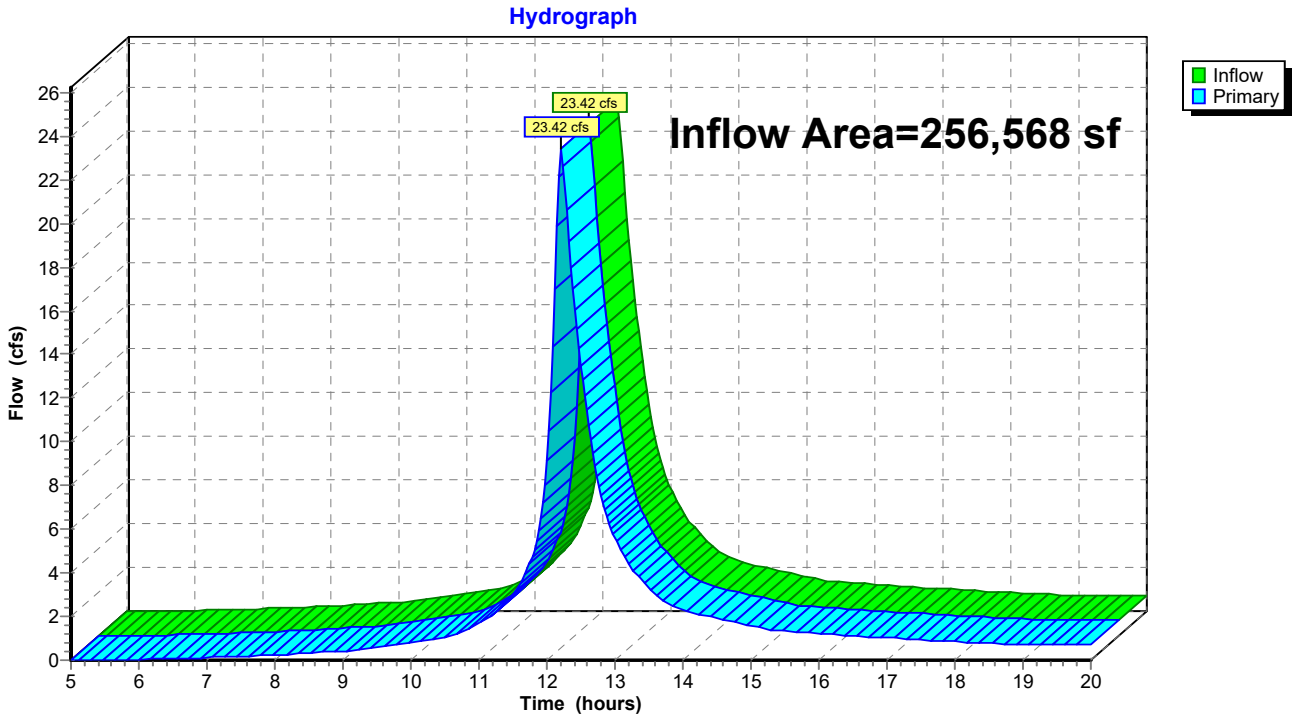


Summary for Link TOTAL PRE: TOTAL PRE

Inflow Area = 256,568 sf, 11.88% Impervious, Inflow Depth > 4.96" for 100-Year event
Inflow = 23.42 cfs @ 12.21 hrs, Volume= 106,000 cf
Primary = 23.42 cfs @ 12.21 hrs, Volume= 106,000 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs

Link TOTAL PRE: TOTAL PRE



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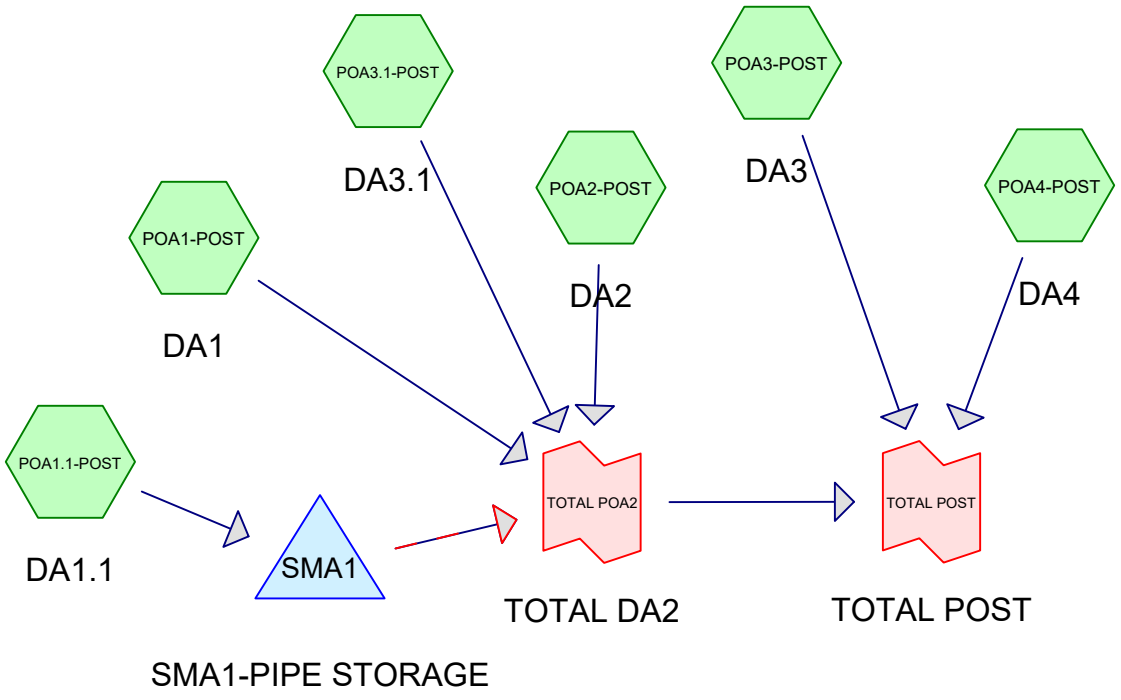


Subcat Reach Pond Link

Routing Diagram for HAMILTON ST_POSTvsPRE_08.12.24_PIPE STORAGE_WEIR PLATE

Prepared by ARICO ASSOCIATES, Printed 8/15/2024

HydroCAD® 10.10-5a s/n 10839 © 2020 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
148,104	74	>75% Grass cover, Good, HSG C (POA1-POST, POA1.1-POST, POA2-POST, POA3-POST, POA3.1-POST, POA4-POST)
39,204	98	Paved parking/Walks, HSG C (POA1.1-POST)
32,234	98	Paved roads w/curbs & sewers, HSG C (POA2-POST)
36,590	98	Roofs, HSG C (POA1.1-POST)
256,133	**84**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
256,133	HSG C	POA1-POST, POA1.1-POST, POA2-POST, POA3-POST, POA3.1-POST, POA4-POST
0	HSG D	
0	Other	
256,133		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	148,104	0	0	148,104	>75% Grass cover, Good
0	0	39,204	0	0	39,204	Paved parking/Walks
0	0	32,234	0	0	32,234	Paved roads w/curbs & sewers
0	0	36,590	0	0	36,590	Roofs
0	**0**	**256,133**	**0**	**0**	**256,133**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-POST: DA1 Runoff Area=0.270 ac 0.00% Impervious Runoff Depth>0.61"
Flow Length=20' Slope=0.0200 '/' Tc=5.0 min CN=74 Runoff=0.23 cfs 595 cf

Subcatchment POA1.1-POST: DA1.1 Runoff Area=2.420 ac 71.90% Impervious Runoff Depth>1.60"
Flow Length=557' Tc=12.3 min CN=91 Runoff=4.12 cfs 14,093 cf

Subcatchment POA2-POST: DA2 Runoff Area=2.680 ac 27.61% Impervious Runoff Depth>0.94"
Flow Length=645' Tc=14.4 min CN=81 Runoff=2.56 cfs 9,112 cf

Subcatchment POA3-POST: DA3 Runoff Area=0.030 ac 0.00% Impervious Runoff Depth>0.61"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=74 Runoff=0.03 cfs 66 cf

Subcatchment POA3.1-POST: DA3.1 Runoff Area=0.110 ac 0.00% Impervious Runoff Depth>0.61"
Flow Length=85' Slope=0.1000 '/' Tc=6.6 min CN=74 Runoff=0.09 cfs 242 cf

Subcatchment POA4-POST: DA4 Runoff Area=0.370 ac 0.00% Impervious Runoff Depth>0.61"
Flow Length=178' Tc=10.8 min CN=74 Runoff=0.24 cfs 813 cf

Pond SMA1: SMA1-PIPE STORAGE Peak Elev=195.44' Storage=6,297 cf Inflow=4.12 cfs 14,093 cf
Primary=0.28 cfs 8,576 cf Secondary=0.32 cfs 3,409 cf Outflow=0.60 cfs 11,986 cf

Link TOTAL POA2: TOTAL DA2 Inflow=3.06 cfs 21,935 cf
Primary=3.06 cfs 21,935 cf

Link TOTAL POST: TOTAL POST Inflow=3.30 cfs 22,814 cf
Primary=3.30 cfs 22,814 cf

Total Runoff Area = 256,133 sf Runoff Volume = 24,921 cf Average Runoff Depth = 1.17"
57.82% Pervious = 148,104 sf 42.18% Impervious = 108,029 sf

Summary for Subcatchment POA1-POST: DA1

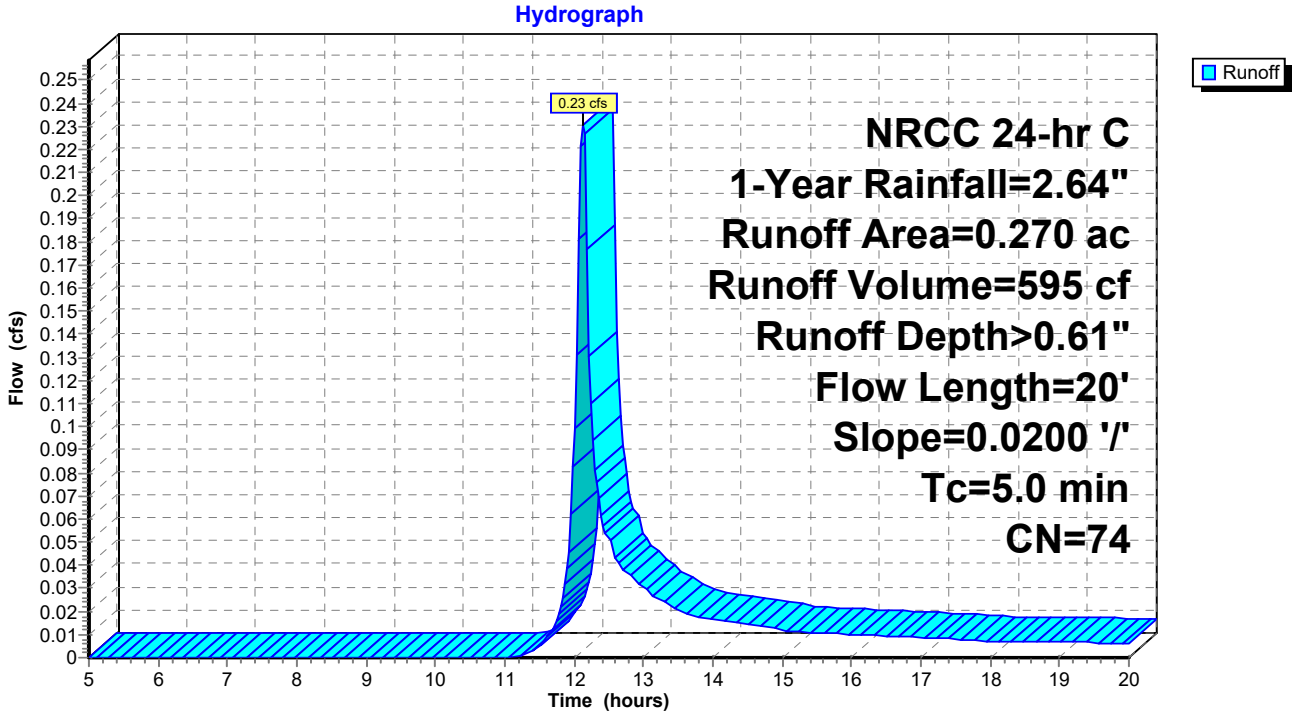
Runoff = 0.23 cfs @ 12.13 hrs, Volume= 595 cf, Depth> 0.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 1-Year Rainfall=2.64"

Area (ac)	CN	Description
0.270	74	>75% Grass cover, Good, HSG C
0.270		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	20	0.0200	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"
4.0	20	Total, Increased to minimum Tc = 5.0 min			

Subcatchment POA1-POST: DA1



Summary for Subcatchment POA1.1-POST: DA1.1

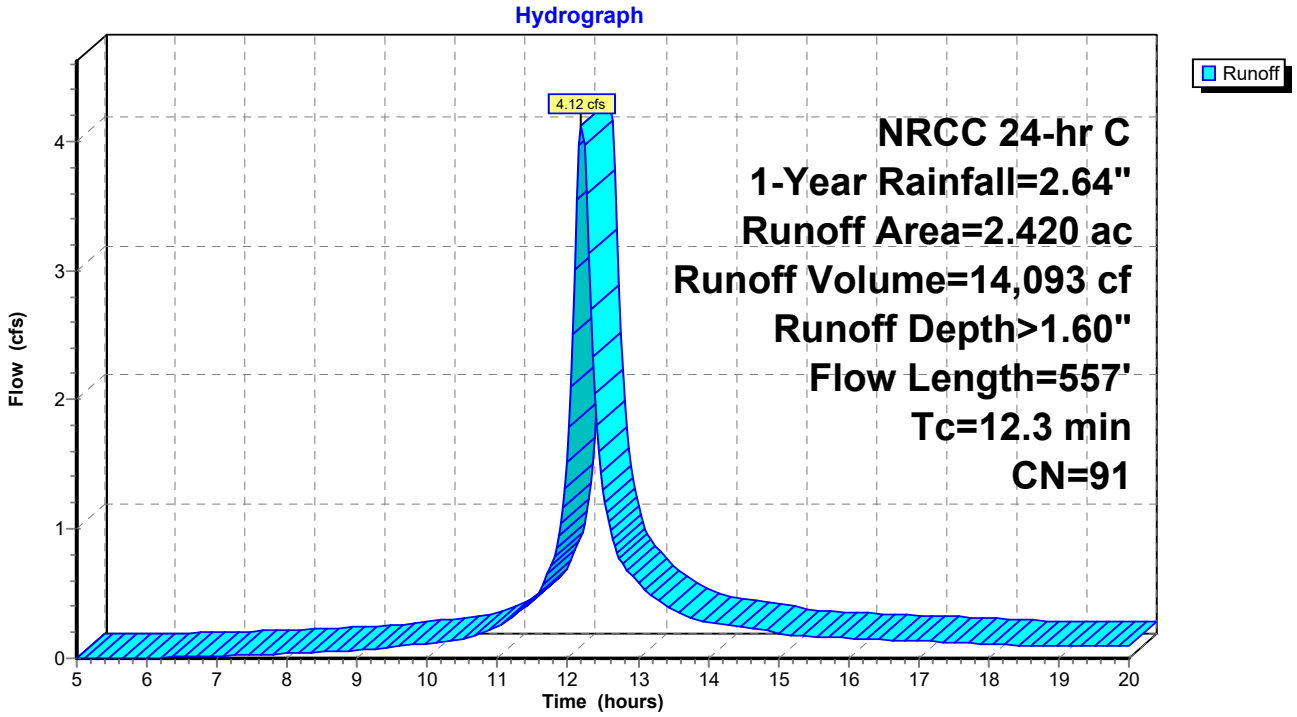
Runoff = 4.12 cfs @ 12.20 hrs, Volume= 14,093 cf, Depth> 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 1-Year Rainfall=2.64"

	Area (ac)	CN	Description
*	0.900	98	Paved parking/Walks, HSG C
	0.840	98	Roofs, HSG C
	0.680	74	>75% Grass cover, Good, HSG C
	2.420	91	Weighted Average
	0.680		28.10% Pervious Area
	1.740		71.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	100	0.0150	0.15		**Sheet Flow, Grassed Courtyard** Grass: Short n= 0.150 P2= 3.18"
0.1	35	0.0600	3.94		**Shallow Concentrated Flow, Grassed Courtyard** Unpaved Kv= 16.1 fps
1.0	357	0.0100	5.90	4.63	**Pipe Channel, HDPE_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.2	65	0.0100	7.03	12.41	**Pipe Channel, HDPE_Round 12"** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
12.3	557	Total			

Subcatchment POA1.1-POST: DA1.1



Summary for Subcatchment POA2-POST: DA2

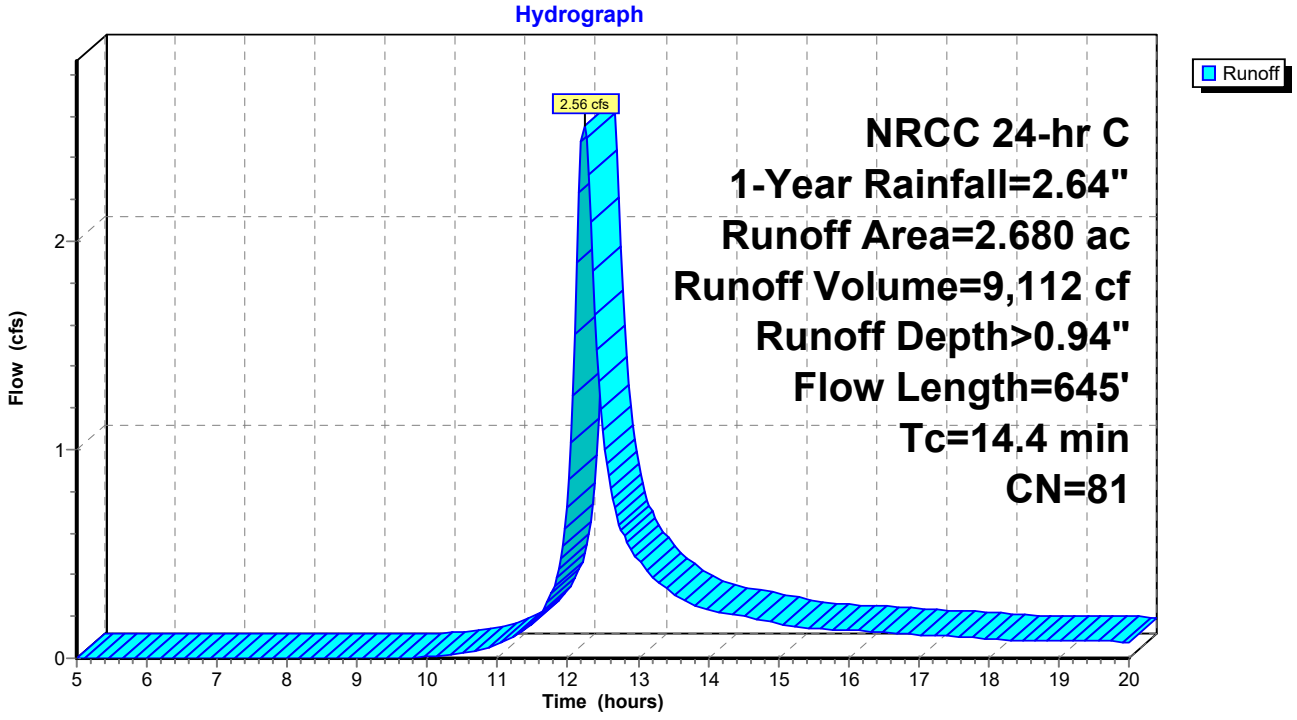
Runoff = 2.56 cfs @ 12.23 hrs, Volume= 9,112 cf, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 1-Year Rainfall=2.64"

Area (ac)	CN	Description
1.940	74	>75% Grass cover, Good, HSG C
0.740	98	Paved roads w/curbs & sewers, HSG C
2.680	81	Weighted Average
1.940		72.39% Pervious Area
0.740		27.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3					**Direct Entry, to subsurface storage**
0.7	200		5.00		**Direct Entry, through storage basiin**
1.4	445		5.20		**Direct Entry, AvgVel from storage pie to Dwight St**
14.4	645	Total			

Subcatchment POA2-POST: DA2



Summary for Subcatchment POA3-POST: DA3

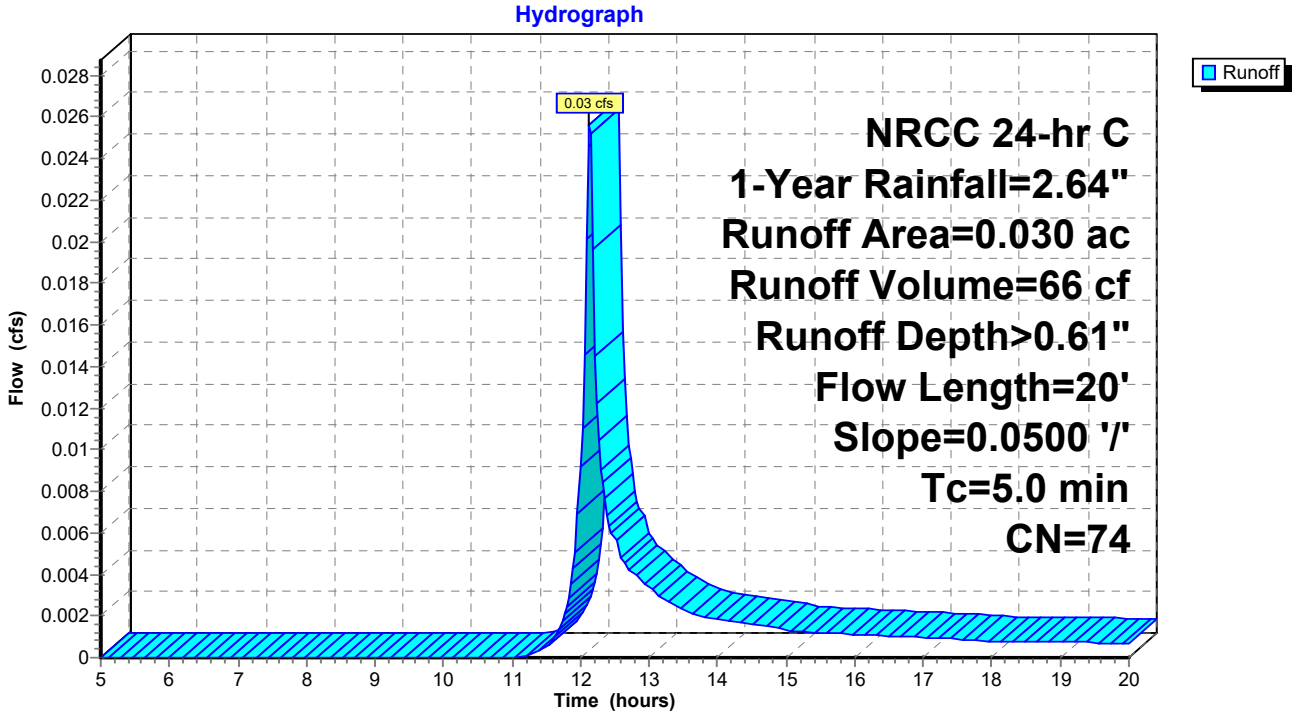
Runoff = 0.03 cfs @ 12.13 hrs, Volume= 66 cf, Depth> 0.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 1-Year Rainfall=2.64"

Area (ac)	CN	Description
0.030	74	>75% Grass cover, Good, HSG C
0.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	20	0.0500	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"
2.7	20	Total, Increased to minimum Tc = 5.0 min			

Subcatchment POA3-POST: DA3



Summary for Subcatchment POA3.1-POST: DA3.1

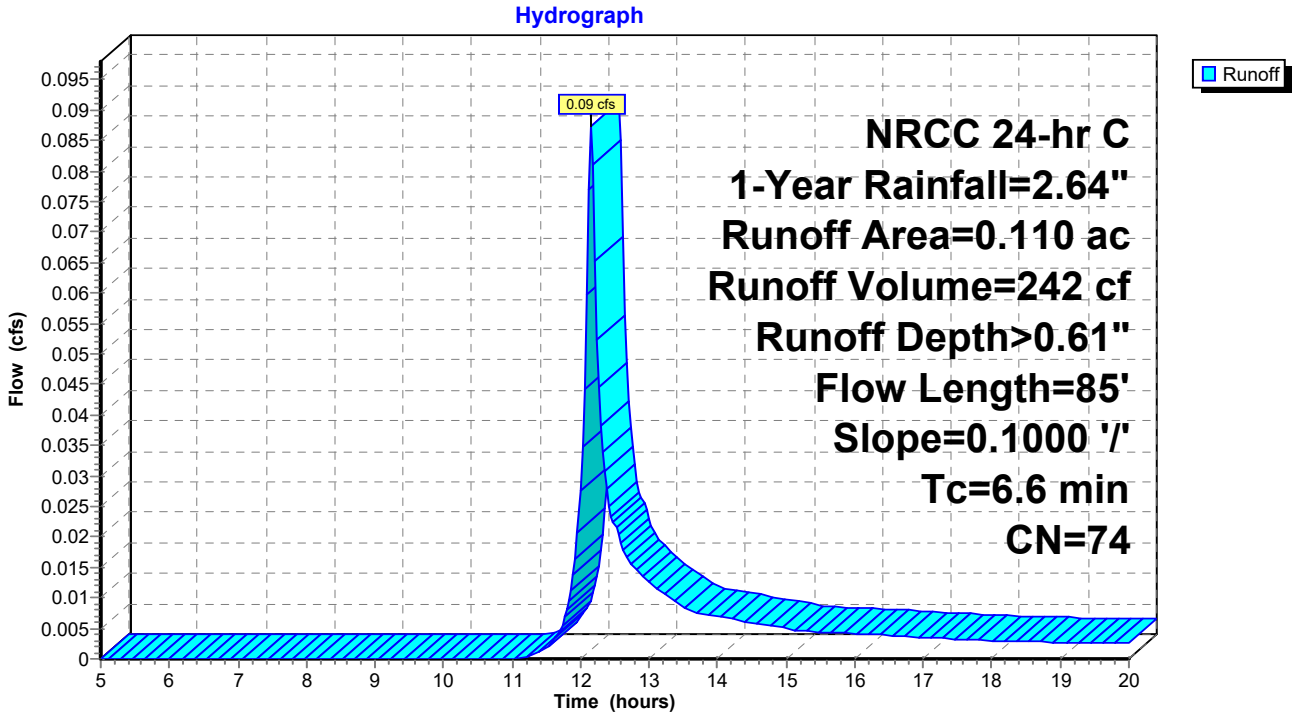
Runoff = 0.09 cfs @ 12.14 hrs, Volume= 242 cf, Depth> 0.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 1-Year Rainfall=2.64"

Area (ac)	CN	Description
0.110	74	>75% Grass cover, Good, HSG C
0.110		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	85	0.1000	0.21		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"

Subcatchment POA3.1-POST: DA3.1



Summary for Subcatchment POA4-POST: DA4

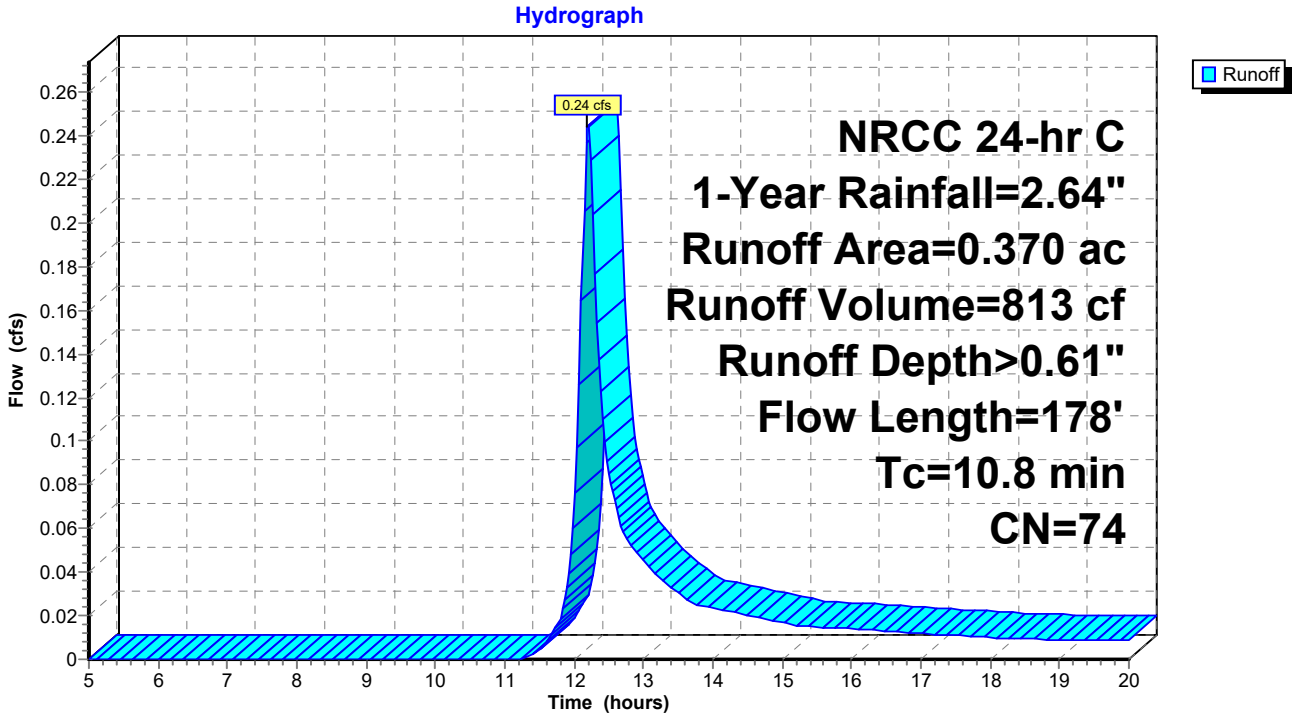
Runoff = 0.24 cfs @ 12.19 hrs, Volume= 813 cf, Depth> 0.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 1-Year Rainfall=2.64"

Area (ac)	CN	Description
0.370	74	>75% Grass cover, Good, HSG C
0.370		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0450	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"
0.5	78	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.8	178	Total			

Subcatchment POA4-POST: DA4



Summary for Pond SMA1: SMA1-PIPE STORAGE

Inflow Area = 105,415 sf, 71.90% Impervious, Inflow Depth > 1.60" for 1-Year event
Inflow = 4.12 cfs @ 12.20 hrs, Volume= 14,093 cf
Outflow = 0.60 cfs @ 12.98 hrs, Volume= 11,986 cf, Atten= 86%, Lag= 46.7 min
Primary = 0.28 cfs @ 12.98 hrs, Volume= 8,576 cf
Secondary = 0.32 cfs @ 12.98 hrs, Volume= 3,409 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
Peak Elev= 195.44' @ 12.98 hrs Surf.Area= 9,473 sf Storage= 6,297 cf

Plug-Flow detention time= 140.2 min calculated for 11,962 cf (85% of inflow)
Center-of-Mass det. time= 95.0 min (877.1 - 782.1)

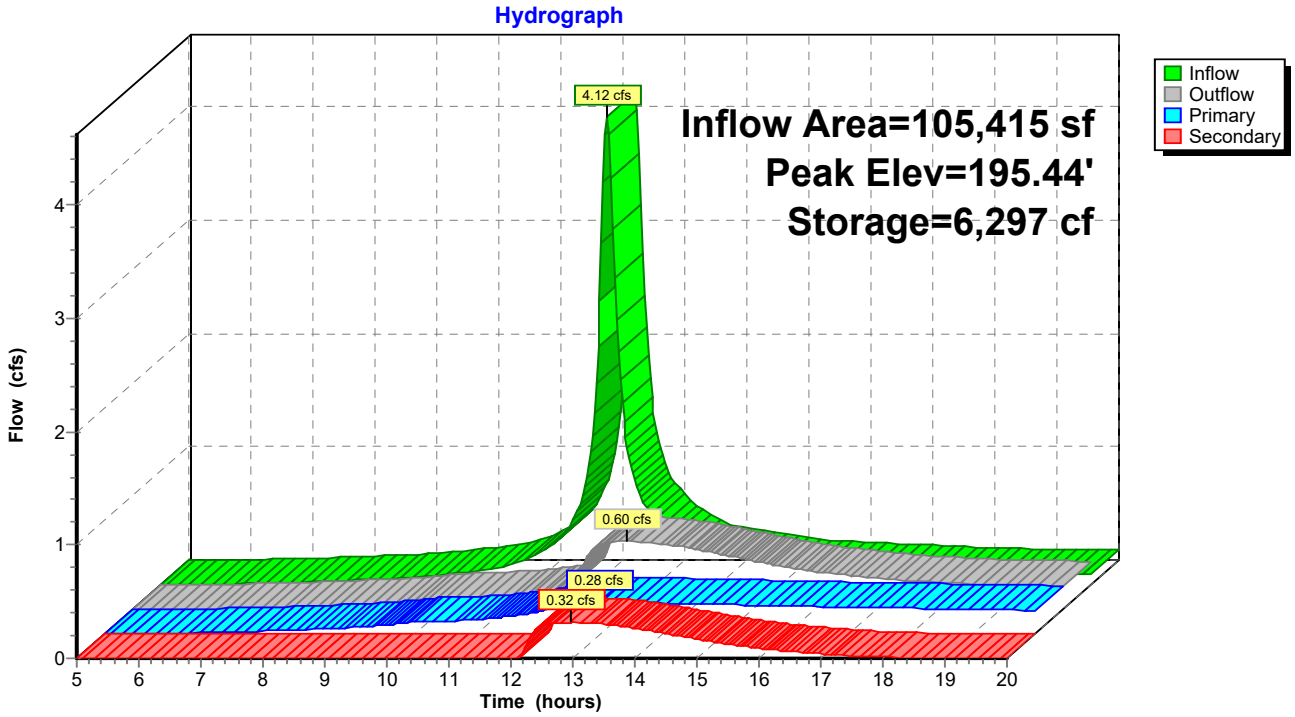
Volume	Invert	Avail.Storage	Storage Description
#1	194.50'	35,073 cf	**48.0" Round CMP_Round 48"** L= 2,791.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	194.00'	**1.0" W x 8.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	195.00'	**5.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	197.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.25 0.50 0.75 1.00 Width (feet) 3.46 3.12 2.65 1.94 0.00

Primary OutFlow Max=0.28 cfs @ 12.98 hrs HW=195.44' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.28 cfs @ 5.05 fps)

Secondary OutFlow Max=0.32 cfs @ 12.98 hrs HW=195.44' (Free Discharge)
├**2=Orifice/Grate** (Orifice Controls 0.32 cfs @ 2.33 fps)
└**3=Custom Weir/Orifice** (Controls 0.00 cfs)

Pond SMA1: SMA1-PIPE STORAGE

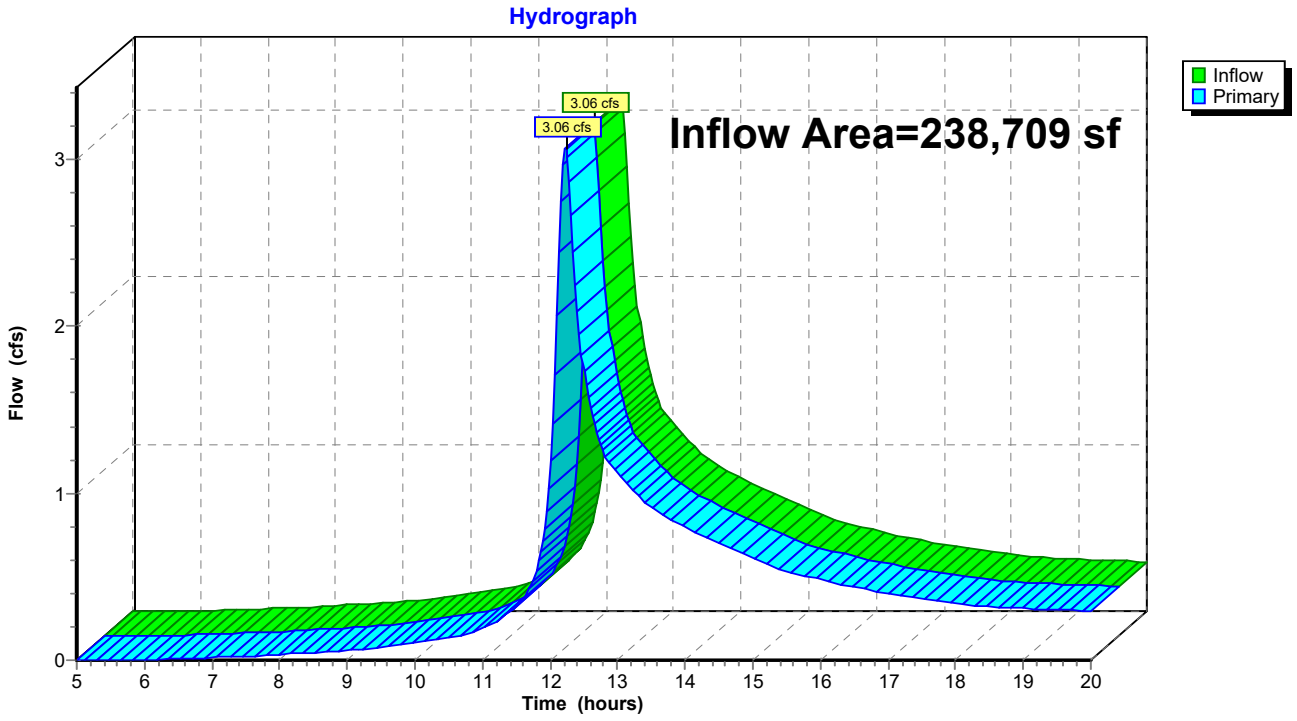


Summary for Link TOTAL POA2: TOTAL DA2

Inflow Area = 238,709 sf, 45.26% Impervious, Inflow Depth > 1.10" for 1-Year event
Inflow = 3.06 cfs @ 12.24 hrs, Volume= 21,935 cf
Primary = 3.06 cfs @ 12.24 hrs, Volume= 21,935 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs

Link TOTAL POA2: TOTAL DA2

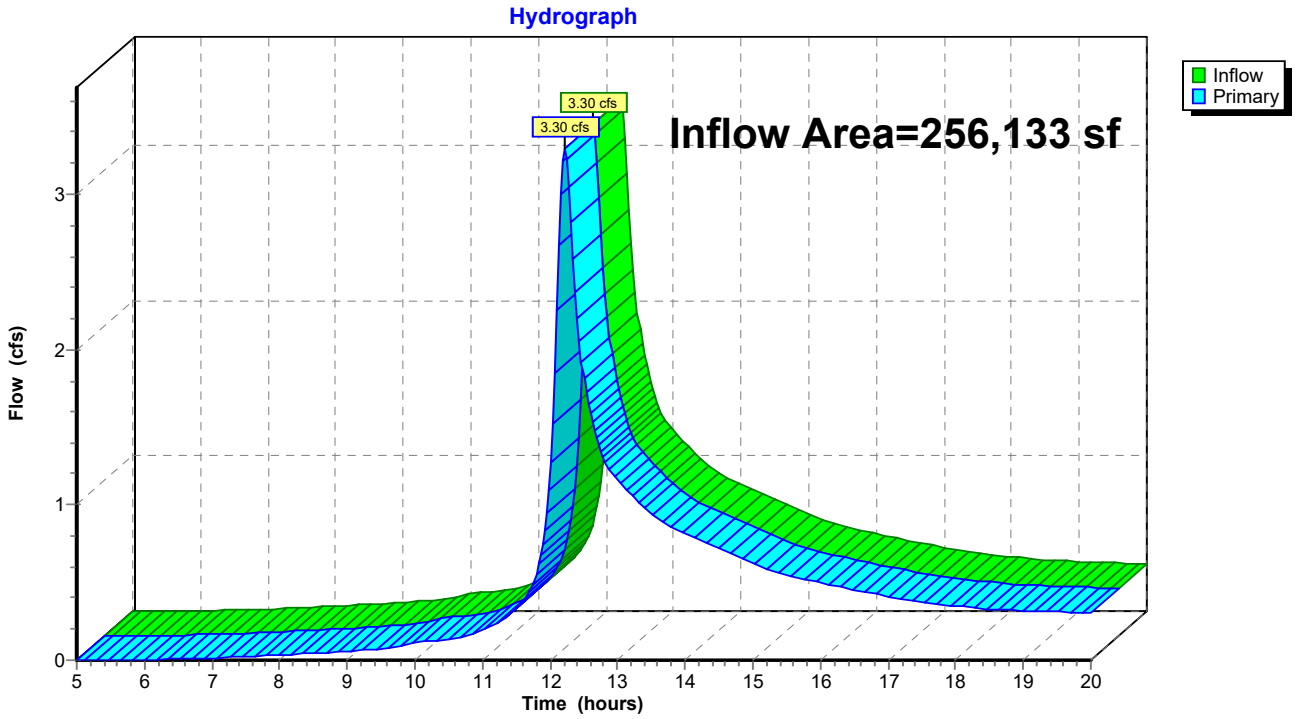


Summary for Link TOTAL POST: TOTAL POST

Inflow Area = 256,133 sf, 42.18% Impervious, Inflow Depth > 1.07" for 1-Year event
Inflow = 3.30 cfs @ 12.23 hrs, Volume= 22,814 cf
Primary = 3.30 cfs @ 12.23 hrs, Volume= 22,814 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs

Link TOTAL POST: TOTAL POST



Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-POST: DA1 Runoff Area=0.270 ac 0.00% Impervious Runoff Depth>1.94"
Flow Length=20' Slope=0.0200 '/' Tc=5.0 min CN=74 Runoff=0.75 cfs 1,900 cf

Subcatchment POA1.1-POST: DA1.1 Runoff Area=2.420 ac 71.90% Impervious Runoff Depth>3.44"
Flow Length=557' Tc=12.3 min CN=91 Runoff=8.48 cfs 30,193 cf

Subcatchment POA2-POST: DA2 Runoff Area=2.680 ac 27.61% Impervious Runoff Depth>2.50"
Flow Length=645' Tc=14.4 min CN=81 Runoff=6.80 cfs 24,334 cf

Subcatchment POA3-POST: DA3 Runoff Area=0.030 ac 0.00% Impervious Runoff Depth>1.94"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=74 Runoff=0.08 cfs 211 cf

Subcatchment POA3.1-POST: DA3.1 Runoff Area=0.110 ac 0.00% Impervious Runoff Depth>1.94"
Flow Length=85' Slope=0.1000 '/' Tc=6.6 min CN=74 Runoff=0.29 cfs 774 cf

Subcatchment POA4-POST: DA4 Runoff Area=0.370 ac 0.00% Impervious Runoff Depth>1.93"
Flow Length=178' Tc=10.8 min CN=74 Runoff=0.82 cfs 2,598 cf

Pond SMA1: SMA1-PIPE STORAGE Peak Elev=196.26' Storage=14,870 cf Inflow=8.48 cfs 30,193 cf
Primary=0.37 cfs 12,315 cf Secondary=0.67 cfs 13,529 cf Outflow=1.04 cfs 25,844 cf

Link TOTAL POA2: TOTAL DA2 Inflow=8.15 cfs 52,852 cf
Primary=8.15 cfs 52,852 cf

Link TOTAL POST: TOTAL POST Inflow=8.97 cfs 55,661 cf
Primary=8.97 cfs 55,661 cf

Total Runoff Area = 256,133 sf Runoff Volume = 60,010 cf Average Runoff Depth = 2.81"
57.82% Pervious = 148,104 sf 42.18% Impervious = 108,029 sf

Summary for Subcatchment POA1-POST: DA1

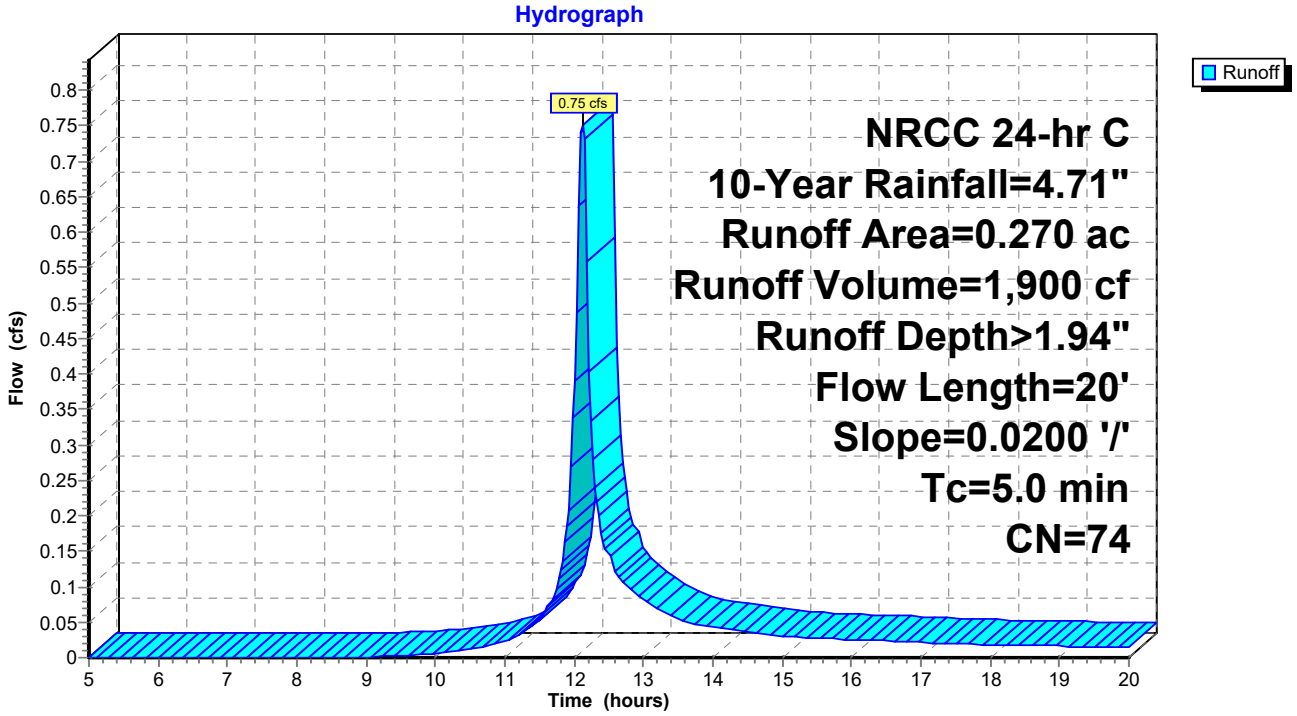
Runoff = 0.75 cfs @ 12.12 hrs, Volume= 1,900 cf, Depth> 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 10-Year Rainfall=4.71"

Area (ac)	CN	Description
0.270	74	>75% Grass cover, Good, HSG C
0.270		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	20	0.0200	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"
4.0	20	Total, Increased to minimum Tc = 5.0 min			

Subcatchment POA1-POST: DA1



Summary for Subcatchment POA1.1-POST: DA1.1

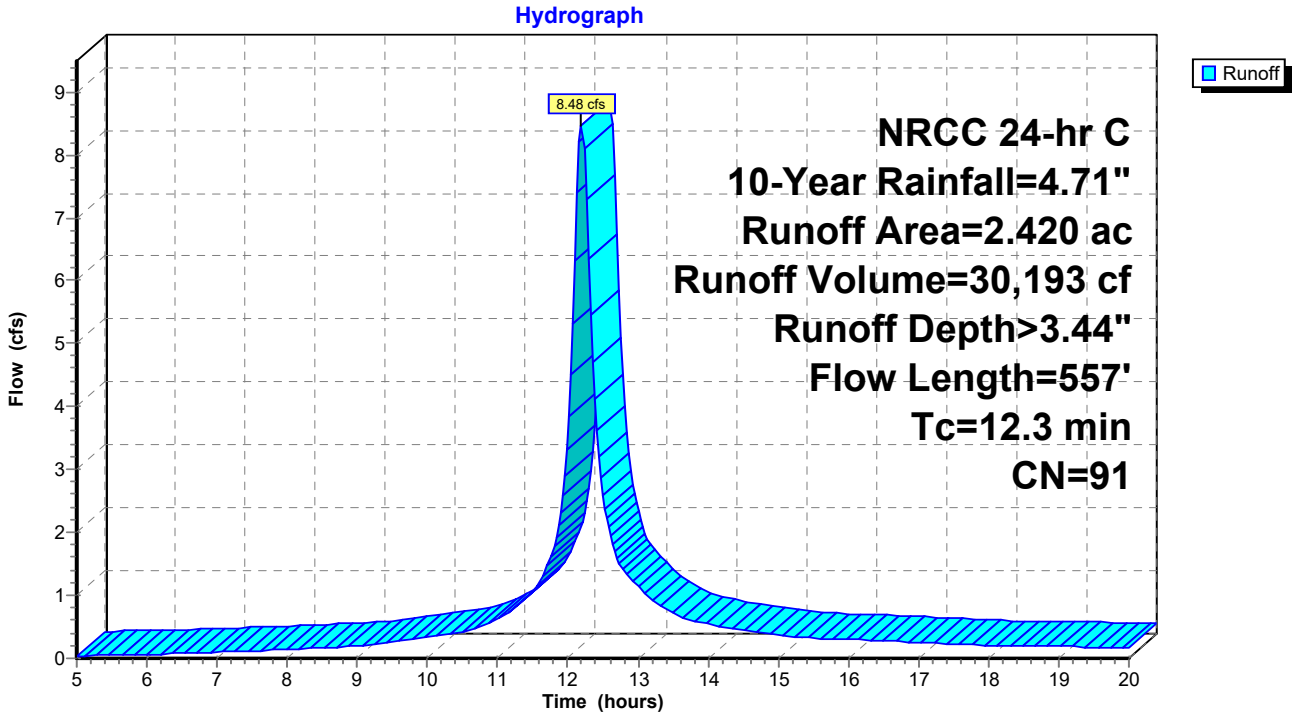
Runoff = 8.48 cfs @ 12.20 hrs, Volume= 30,193 cf, Depth> 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 10-Year Rainfall=4.71"

	Area (ac)	CN	Description
*	0.900	98	Paved parking/Walks, HSG C
	0.840	98	Roofs, HSG C
	0.680	74	>75% Grass cover, Good, HSG C
	2.420	91	Weighted Average
	0.680		28.10% Pervious Area
	1.740		71.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	100	0.0150	0.15		**Sheet Flow, Grassed Courtyard** Grass: Short n= 0.150 P2= 3.18"
0.1	35	0.0600	3.94		**Shallow Concentrated Flow, Grassed Courtyard** Unpaved Kv= 16.1 fps
1.0	357	0.0100	5.90	4.63	**Pipe Channel, HDPE_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.2	65	0.0100	7.03	12.41	**Pipe Channel, HDPE_Round 12"** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
12.3	557	Total			

Subcatchment POA1.1-POST: DA1.1



Summary for Subcatchment POA2-POST: DA2

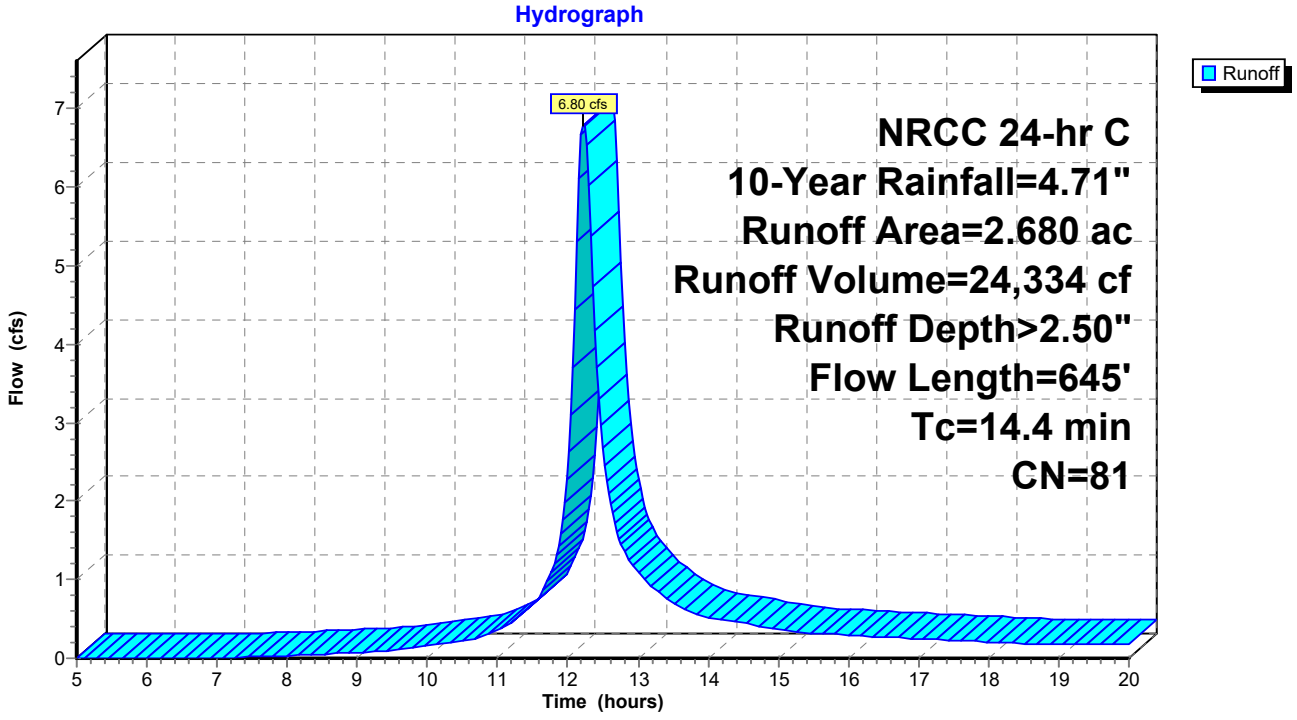
Runoff = 6.80 cfs @ 12.23 hrs, Volume= 24,334 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 10-Year Rainfall=4.71"

Area (ac)	CN	Description
1.940	74	>75% Grass cover, Good, HSG C
0.740	98	Paved roads w/curbs & sewers, HSG C
2.680	81	Weighted Average
1.940		72.39% Pervious Area
0.740		27.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3					**Direct Entry, to subsurface storage**
0.7	200		5.00		**Direct Entry, through storage basiin**
1.4	445		5.20		**Direct Entry, AvgVel from storage pie to Dwight St**
14.4	645	Total			

Subcatchment POA2-POST: DA2



Summary for Subcatchment POA3-POST: DA3

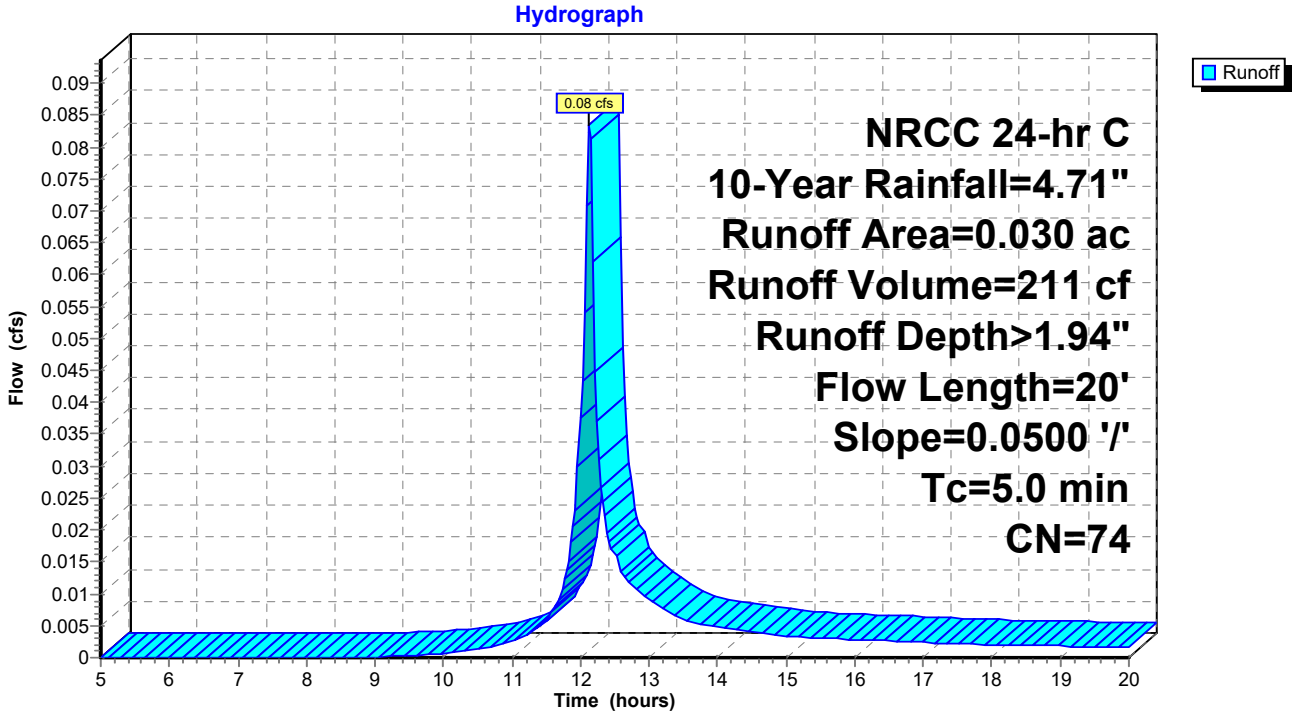
Runoff = 0.08 cfs @ 12.12 hrs, Volume= 211 cf, Depth> 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 10-Year Rainfall=4.71"

Area (ac)	CN	Description
0.030	74	>75% Grass cover, Good, HSG C
0.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	20	0.0500	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"
2.7	20	Total, Increased to minimum Tc = 5.0 min			

Subcatchment POA3-POST: DA3



Summary for Subcatchment POA3.1-POST: DA3.1

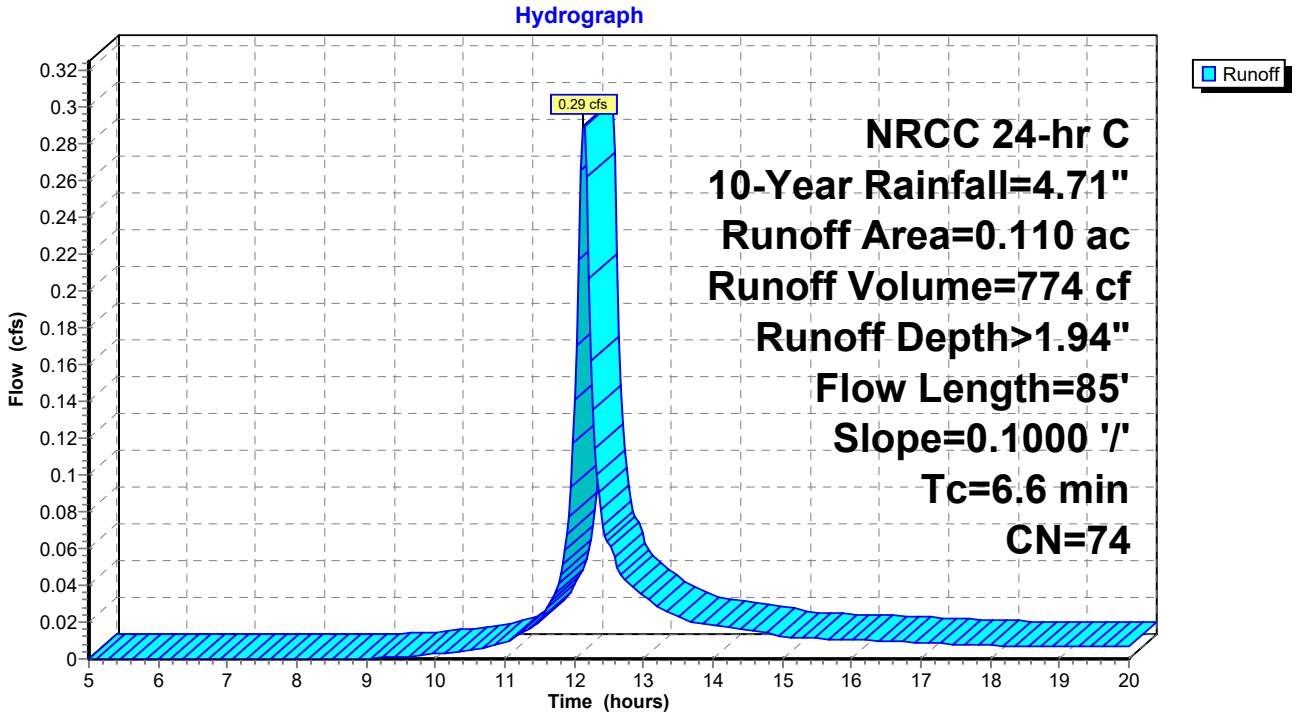
Runoff = 0.29 cfs @ 12.14 hrs, Volume= 774 cf, Depth> 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 10-Year Rainfall=4.71"

Area (ac)	CN	Description
0.110	74	>75% Grass cover, Good, HSG C
0.110		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	85	0.1000	0.21		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"

Subcatchment POA3.1-POST: DA3.1



Summary for Subcatchment POA4-POST: DA4

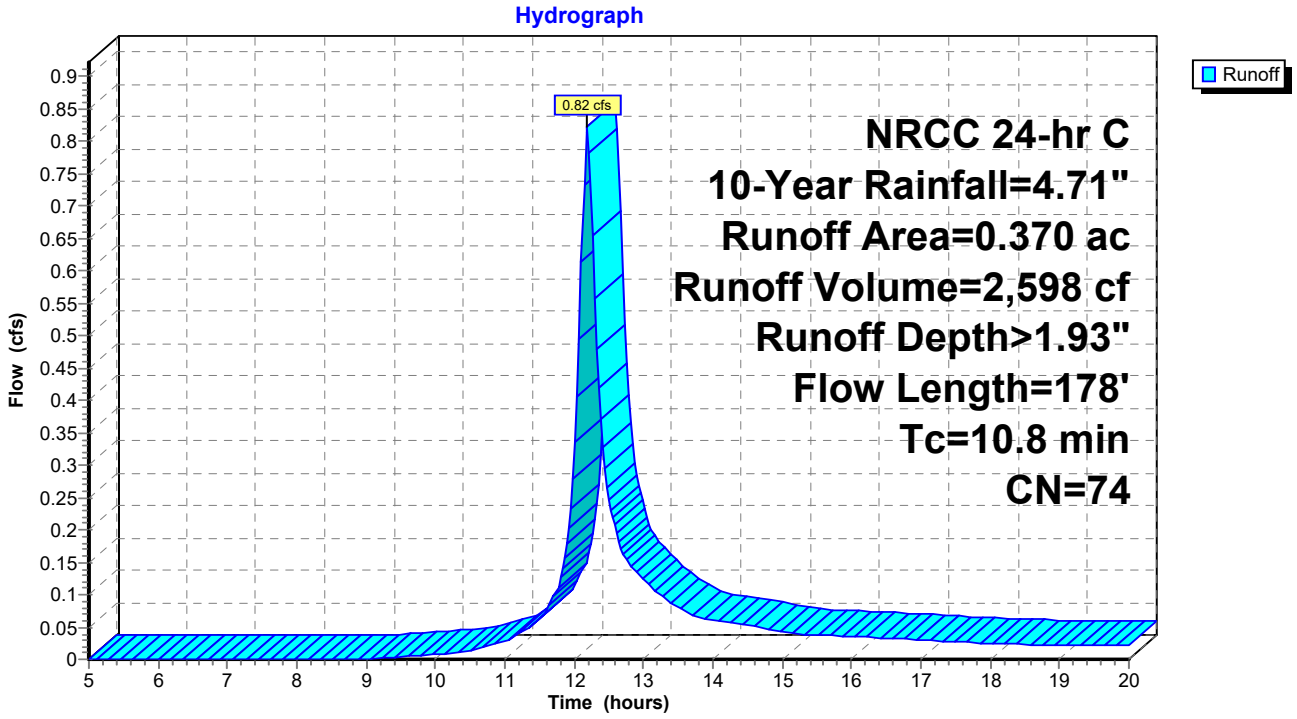
Runoff = 0.82 cfs @ 12.19 hrs, Volume= 2,598 cf, Depth> 1.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 10-Year Rainfall=4.71"

Area (ac)	CN	Description
0.370	74	>75% Grass cover, Good, HSG C
0.370		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0450	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"
0.5	78	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.8	178	Total			

Subcatchment POA4-POST: DA4



Summary for Pond SMA1: SMA1-PIPE STORAGE

Inflow Area = 105,415 sf, 71.90% Impervious, Inflow Depth > 3.44" for 10-Year event
Inflow = 8.48 cfs @ 12.20 hrs, Volume= 30,193 cf
Outflow = 1.04 cfs @ 13.09 hrs, Volume= 25,844 cf, Atten= 88%, Lag= 53.5 min
Primary = 0.37 cfs @ 13.09 hrs, Volume= 12,315 cf
Secondary = 0.67 cfs @ 13.09 hrs, Volume= 13,529 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
Peak Elev= 196.26' @ 13.09 hrs Surf.Area= 11,084 sf Storage= 14,870 cf

Plug-Flow detention time= 163.8 min calculated for 25,842 cf (86% of inflow)
Center-of-Mass det. time= 118.9 min (882.5 - 763.6)

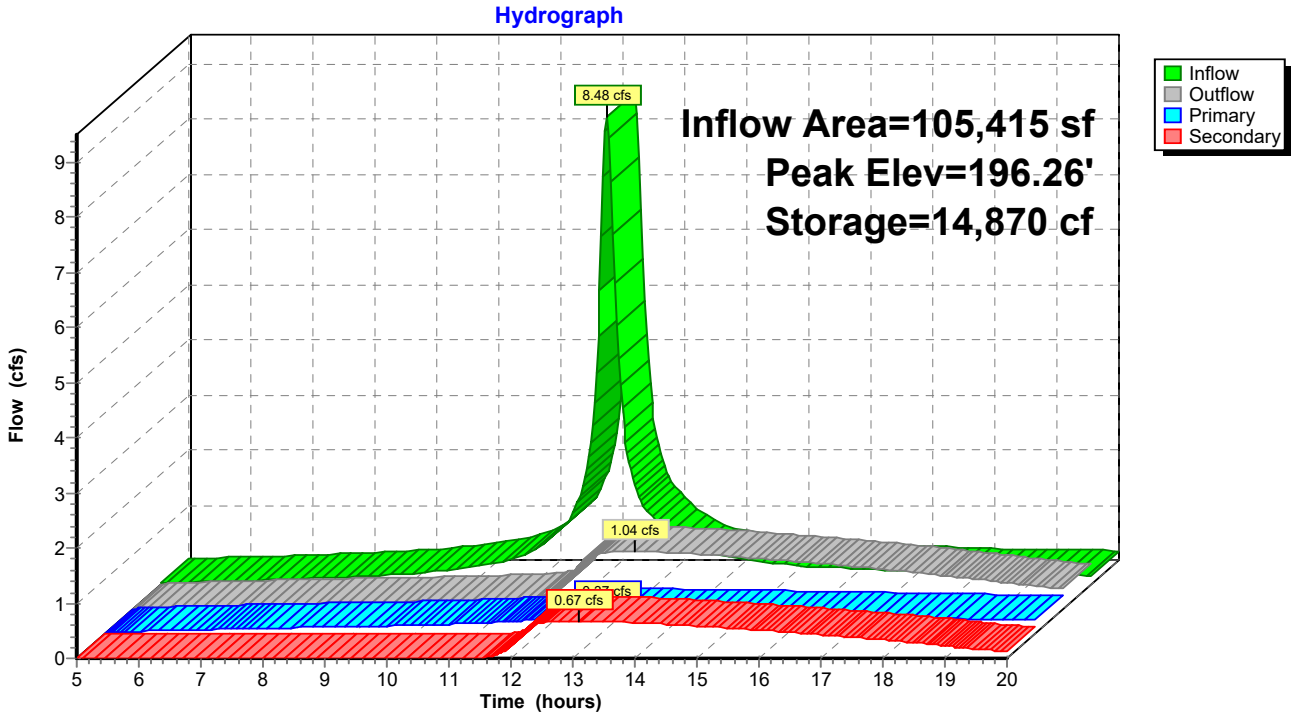
Volume	Invert	Avail.Storage	Storage Description
#1	194.50'	35,073 cf	**48.0" Round CMP_Round 48"** L= 2,791.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	194.00'	**1.0" W x 8.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	195.00'	**5.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	197.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.25 0.50 0.75 1.00 Width (feet) 3.46 3.12 2.65 1.94 0.00

Primary OutFlow Max=0.37 cfs @ 13.09 hrs HW=196.26' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.37 cfs @ 6.68 fps)

Secondary OutFlow Max=0.67 cfs @ 13.09 hrs HW=196.26' (Free Discharge)
├**2=Orifice/Grate** (Orifice Controls 0.67 cfs @ 4.94 fps)
└**3=Custom Weir/Orifice** (Controls 0.00 cfs)

Pond SMA1: SMA1-PIPE STORAGE

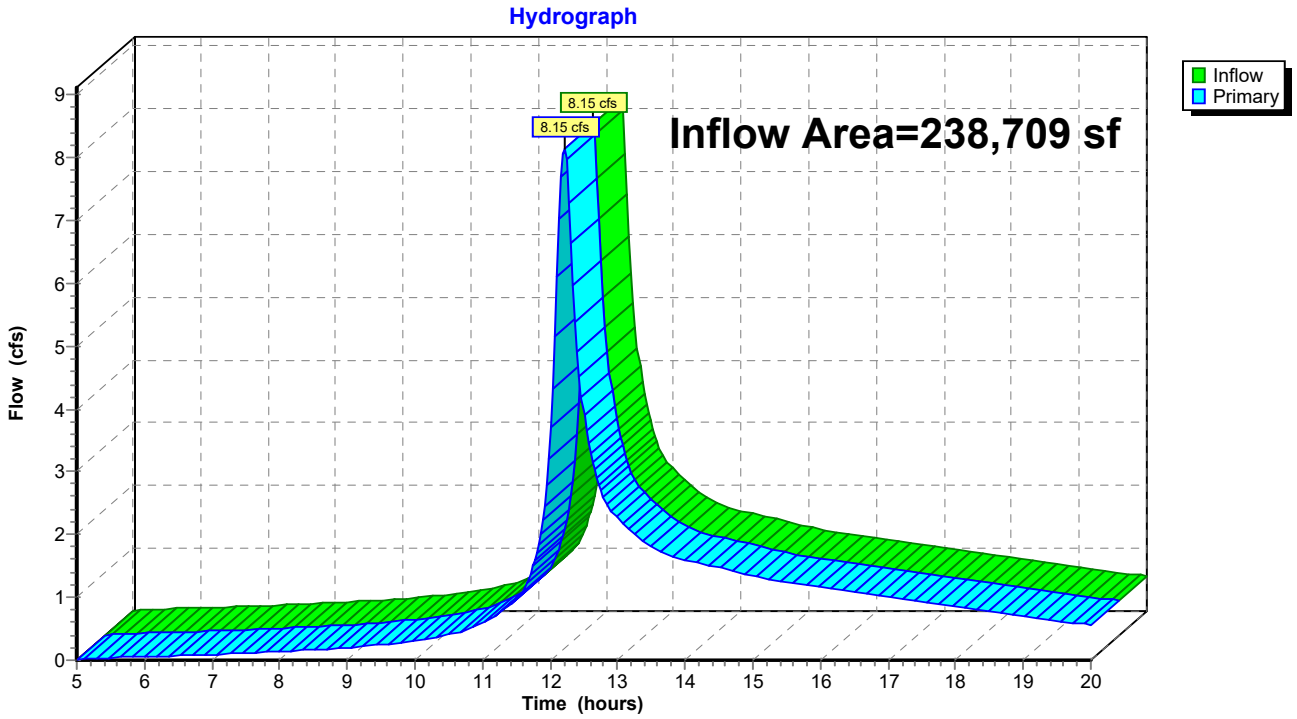


Summary for Link TOTAL POA2: TOTAL DA2

Inflow Area = 238,709 sf, 45.26% Impervious, Inflow Depth > 2.66" for 10-Year event
Inflow = 8.15 cfs @ 12.22 hrs, Volume= 52,852 cf
Primary = 8.15 cfs @ 12.22 hrs, Volume= 52,852 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs

Link TOTAL POA2: TOTAL DA2

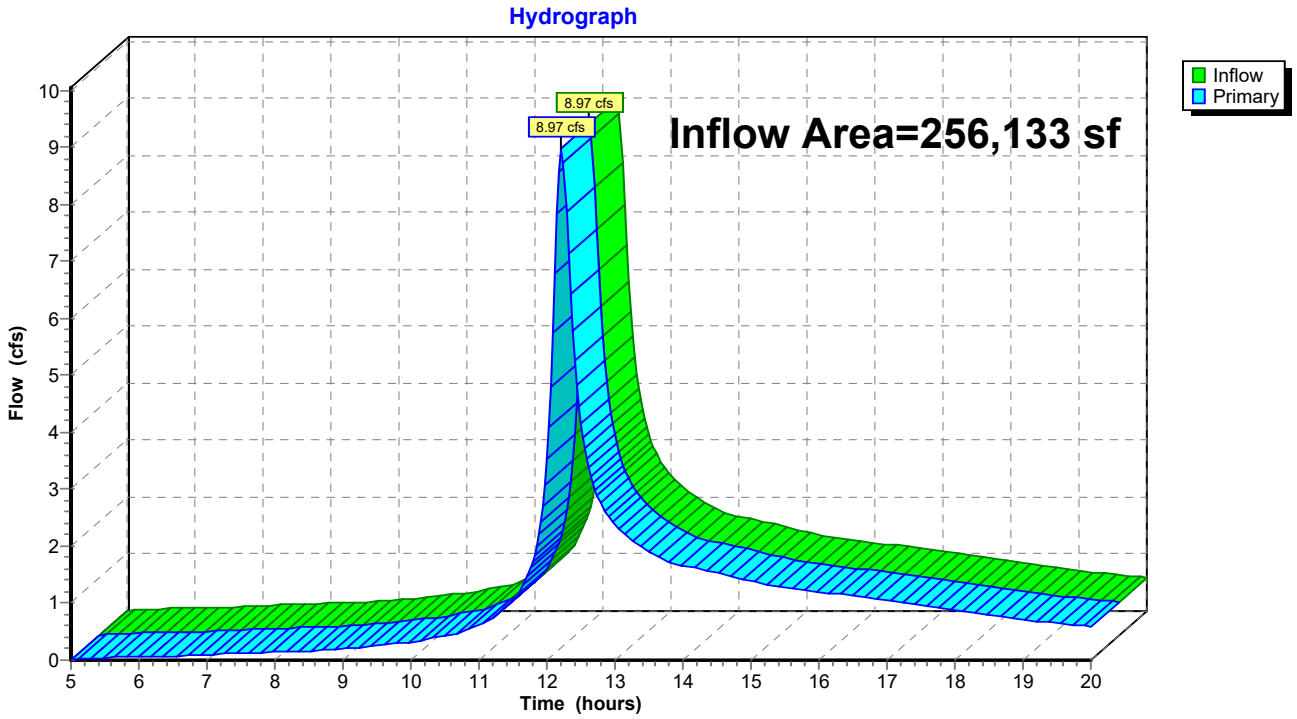


Summary for Link TOTAL POST: TOTAL POST

Inflow Area = 256,133 sf, 42.18% Impervious, Inflow Depth > 2.61" for 10-Year event
Inflow = 8.97 cfs @ 12.21 hrs, Volume= 55,661 cf
Primary = 8.97 cfs @ 12.21 hrs, Volume= 55,661 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs

Link TOTAL POST: TOTAL POST



Time span=5.00-20.00 hrs, dt=0.03 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POA1-POST: DA1 Runoff Area=0.270 ac 0.00% Impervious Runoff Depth>4.81"
Flow Length=20' Slope=0.0200 '/' Tc=5.0 min CN=74 Runoff=1.81 cfs 4,716 cf

Subcatchment POA1.1-POST: DA1.1 Runoff Area=2.420 ac 71.90% Impervious Runoff Depth>6.69"
Flow Length=557' Tc=12.3 min CN=91 Runoff=15.94 cfs 58,804 cf

Subcatchment POA2-POST: DA2 Runoff Area=2.680 ac 27.61% Impervious Runoff Depth>5.60"
Flow Length=645' Tc=14.4 min CN=81 Runoff=14.69 cfs 54,498 cf

Subcatchment POA3-POST: DA3 Runoff Area=0.030 ac 0.00% Impervious Runoff Depth>4.81"
Flow Length=20' Slope=0.0500 '/' Tc=5.0 min CN=74 Runoff=0.20 cfs 524 cf

Subcatchment POA3.1-POST: DA3.1 Runoff Area=0.110 ac 0.00% Impervious Runoff Depth>4.81"
Flow Length=85' Slope=0.1000 '/' Tc=6.6 min CN=74 Runoff=0.70 cfs 1,920 cf

Subcatchment POA4-POST: DA4 Runoff Area=0.370 ac 0.00% Impervious Runoff Depth>4.80"
Flow Length=178' Tc=10.8 min CN=74 Runoff=2.00 cfs 6,449 cf

Pond SMA1: SMA1-PIPE STORAGE Peak Elev=197.40' Storage=27,275 cf Inflow=15.94 cfs 58,804 cf
Primary=0.47 cfs 16,505 cf Secondary=3.69 cfs 32,009 cf Outflow=4.16 cfs 48,515 cf

Link TOTAL POA2: TOTAL DA2 Inflow=17.18 cfs 109,649 cf
Primary=17.18 cfs 109,649 cf

Link TOTAL POST: TOTAL POST Inflow=19.21 cfs 116,622 cf
Primary=19.21 cfs 116,622 cf

Total Runoff Area = 256,133 sf Runoff Volume = 126,911 cf Average Runoff Depth = 5.95"
57.82% Pervious = 148,104 sf 42.18% Impervious = 108,029 sf

Summary for Subcatchment POA1-POST: DA1

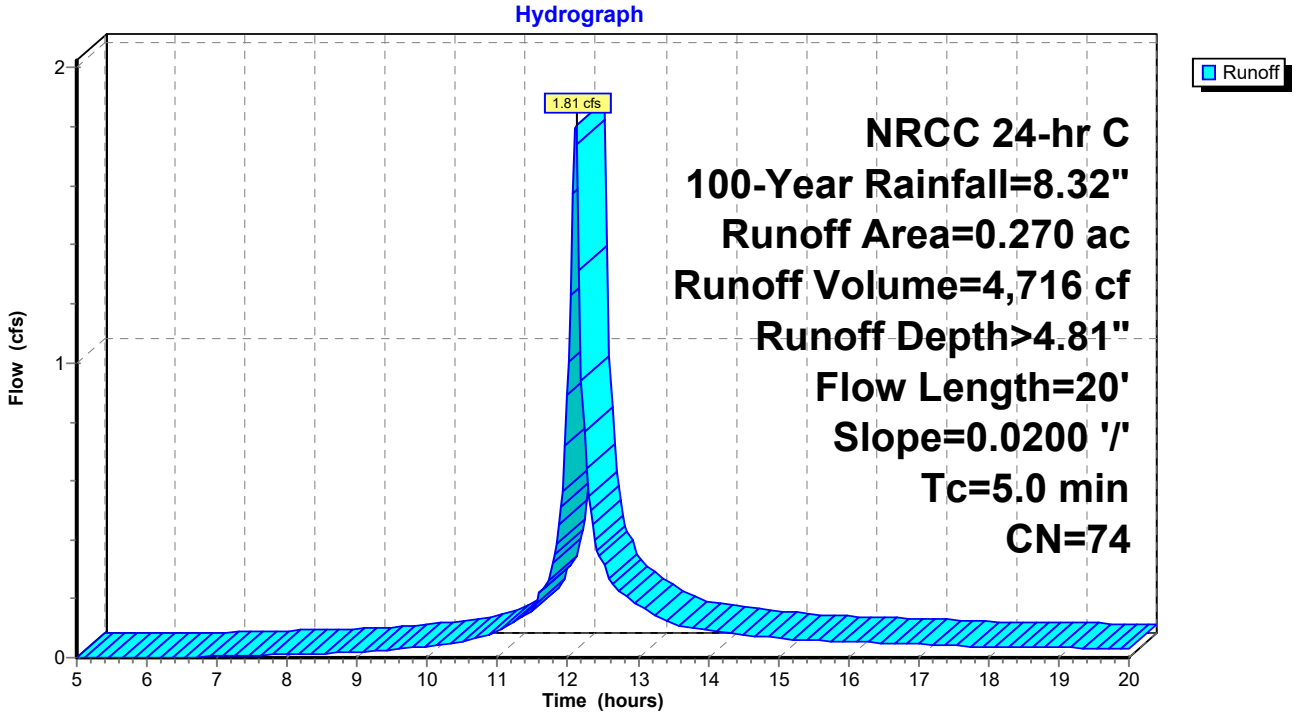
Runoff = 1.81 cfs @ 12.12 hrs, Volume= 4,716 cf, Depth> 4.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 100-Year Rainfall=8.32"

Area (ac)	CN	Description
0.270	74	>75% Grass cover, Good, HSG C
0.270		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	20	0.0200	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"
4.0	20	Total, Increased to minimum Tc = 5.0 min			

Subcatchment POA1-POST: DA1



Summary for Subcatchment POA1.1-POST: DA1.1

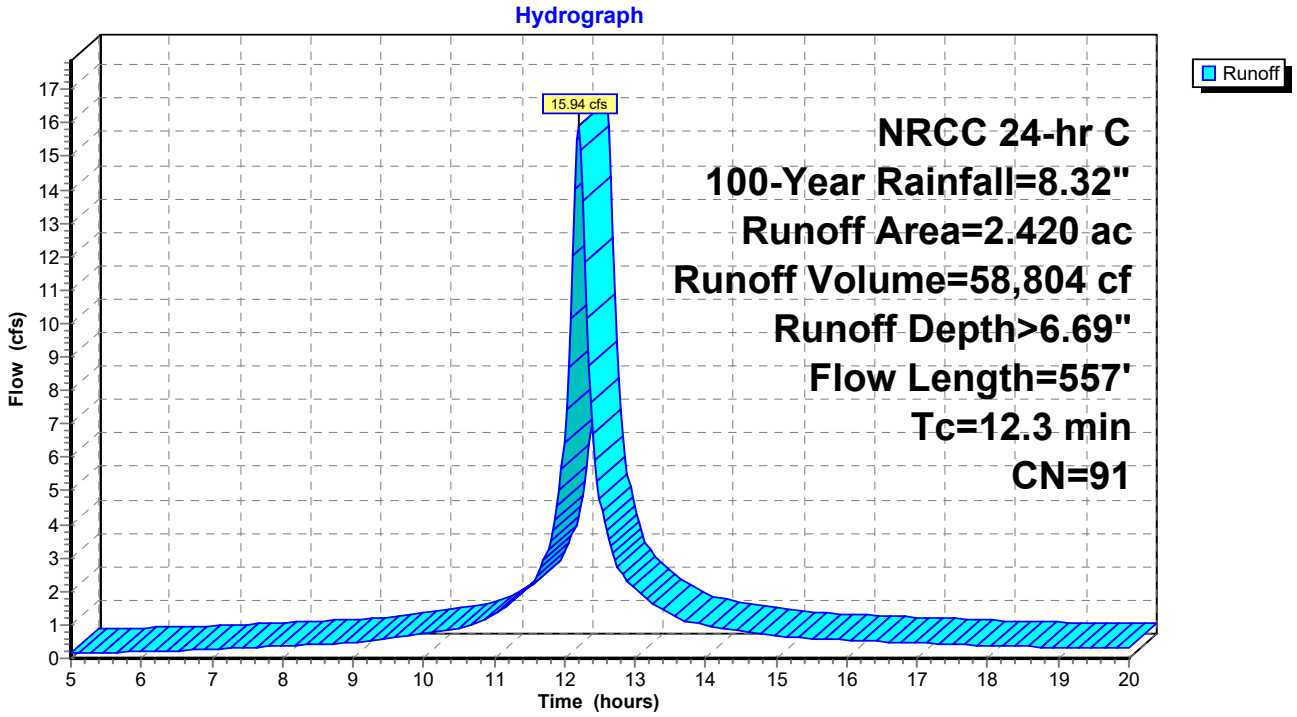
Runoff = 15.94 cfs @ 12.20 hrs, Volume= 58,804 cf, Depth> 6.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 100-Year Rainfall=8.32"

	Area (ac)	CN	Description
*	0.900	98	Paved parking/Walks, HSG C
	0.840	98	Roofs, HSG C
	0.680	74	>75% Grass cover, Good, HSG C
	2.420	91	Weighted Average
	0.680		28.10% Pervious Area
	1.740		71.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	100	0.0150	0.15		**Sheet Flow, Grassed Courtyard** Grass: Short n= 0.150 P2= 3.18"
0.1	35	0.0600	3.94		**Shallow Concentrated Flow, Grassed Courtyard** Unpaved Kv= 16.1 fps
1.0	357	0.0100	5.90	4.63	**Pipe Channel, HDPE_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.2	65	0.0100	7.03	12.41	**Pipe Channel, HDPE_Round 12"** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
12.3	557	Total			

Subcatchment POA1.1-POST: DA1.1



Summary for Subcatchment POA2-POST: DA2

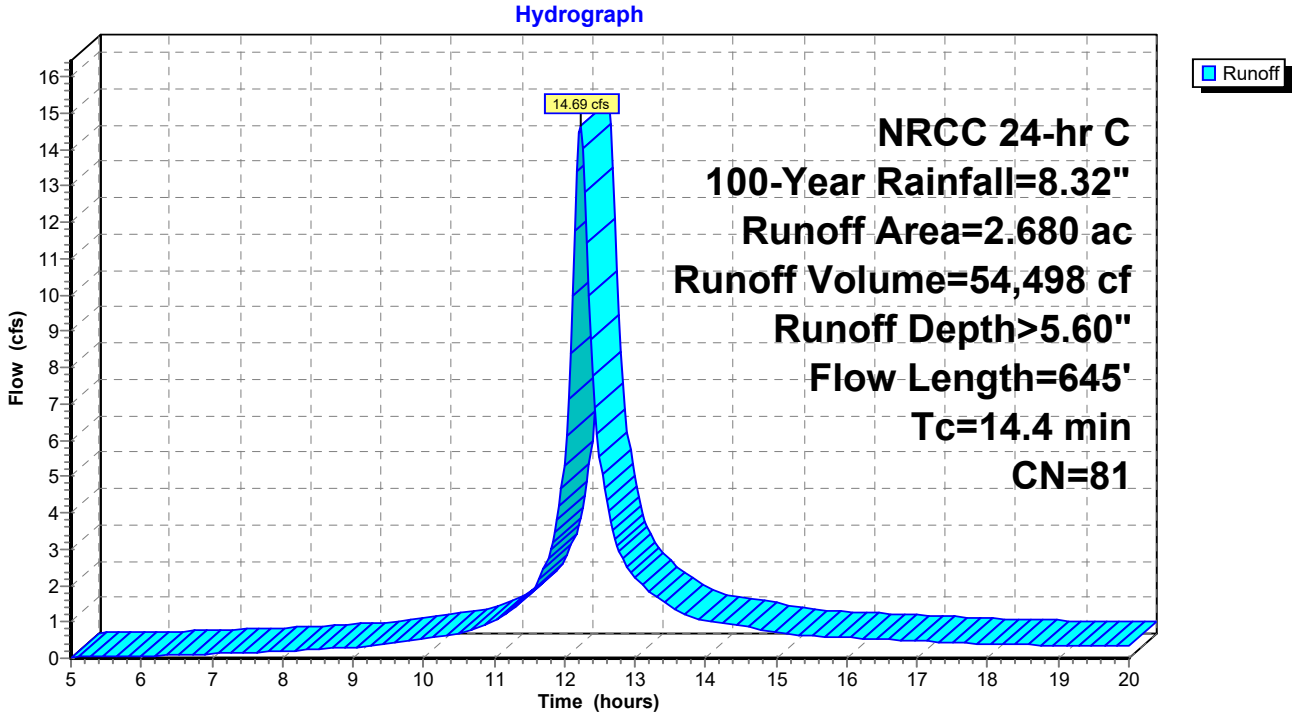
Runoff = 14.69 cfs @ 12.22 hrs, Volume= 54,498 cf, Depth> 5.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 100-Year Rainfall=8.32"

Area (ac)	CN	Description
1.940	74	>75% Grass cover, Good, HSG C
0.740	98	Paved roads w/curbs & sewers, HSG C
2.680	81	Weighted Average
1.940		72.39% Pervious Area
0.740		27.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3					**Direct Entry, to subsurface storage**
0.7	200		5.00		**Direct Entry, through storage basiin**
1.4	445		5.20		**Direct Entry, AvgVel from storage pie to Dwight St**
14.4	645	Total			

Subcatchment POA2-POST: DA2



Summary for Subcatchment POA3-POST: DA3

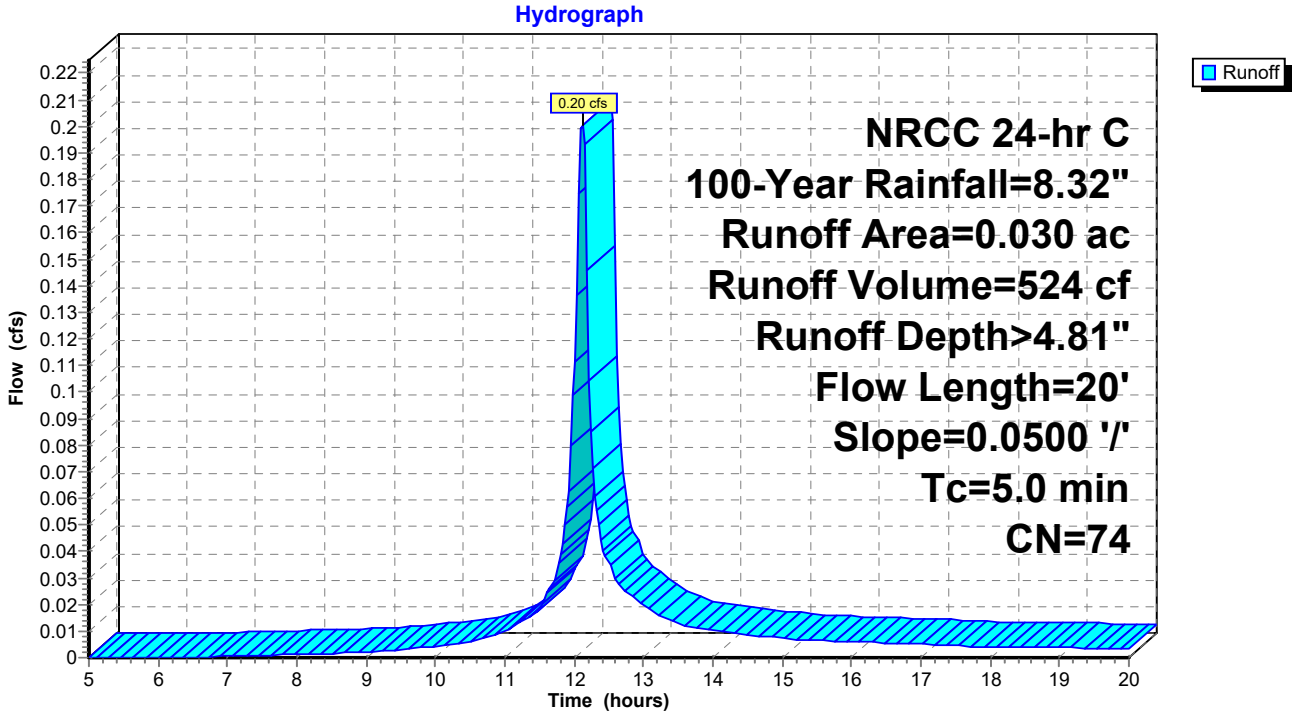
Runoff = 0.20 cfs @ 12.12 hrs, Volume= 524 cf, Depth> 4.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 100-Year Rainfall=8.32"

Area (ac)	CN	Description
0.030	74	>75% Grass cover, Good, HSG C
0.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	20	0.0500	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"
2.7	20	Total, Increased to minimum Tc = 5.0 min			

Subcatchment POA3-POST: DA3



Summary for Subcatchment POA3.1-POST: DA3.1

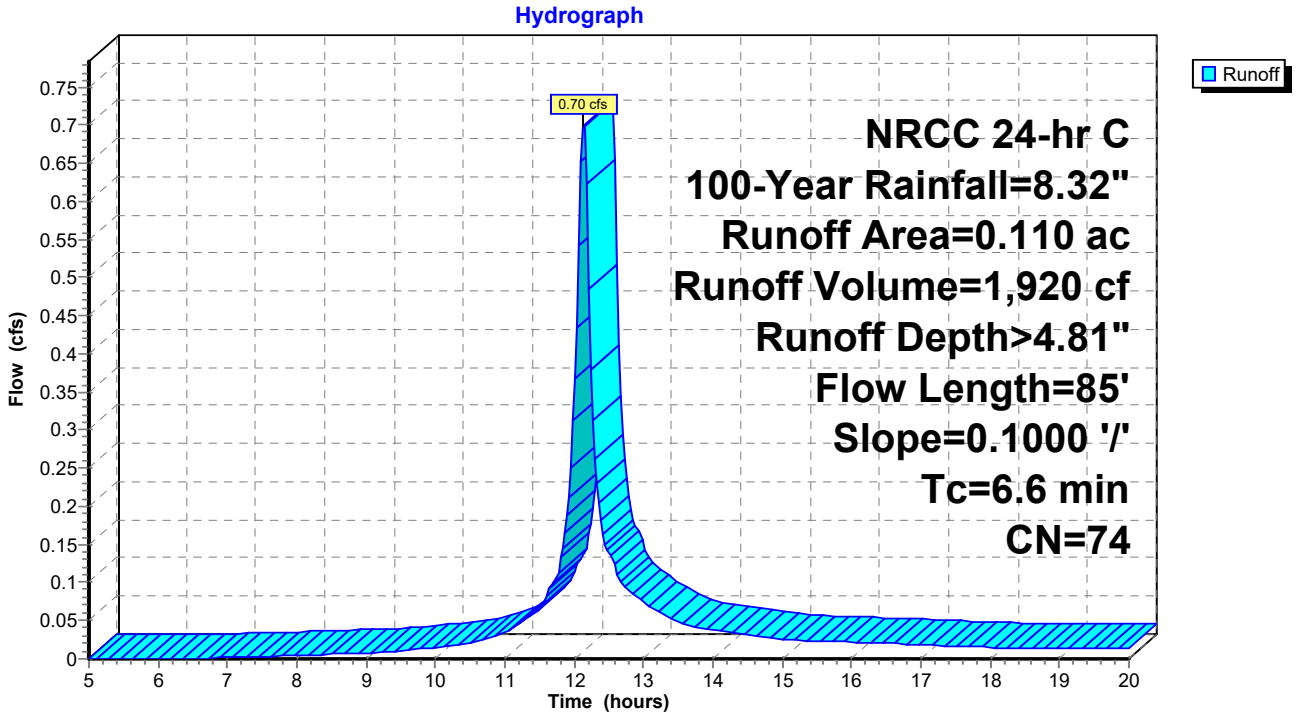
Runoff = 0.70 cfs @ 12.14 hrs, Volume= 1,920 cf, Depth> 4.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 100-Year Rainfall=8.32"

Area (ac)	CN	Description
0.110	74	>75% Grass cover, Good, HSG C
0.110		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	85	0.1000	0.21		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"

Subcatchment POA3.1-POST: DA3.1



Summary for Subcatchment POA4-POST: DA4

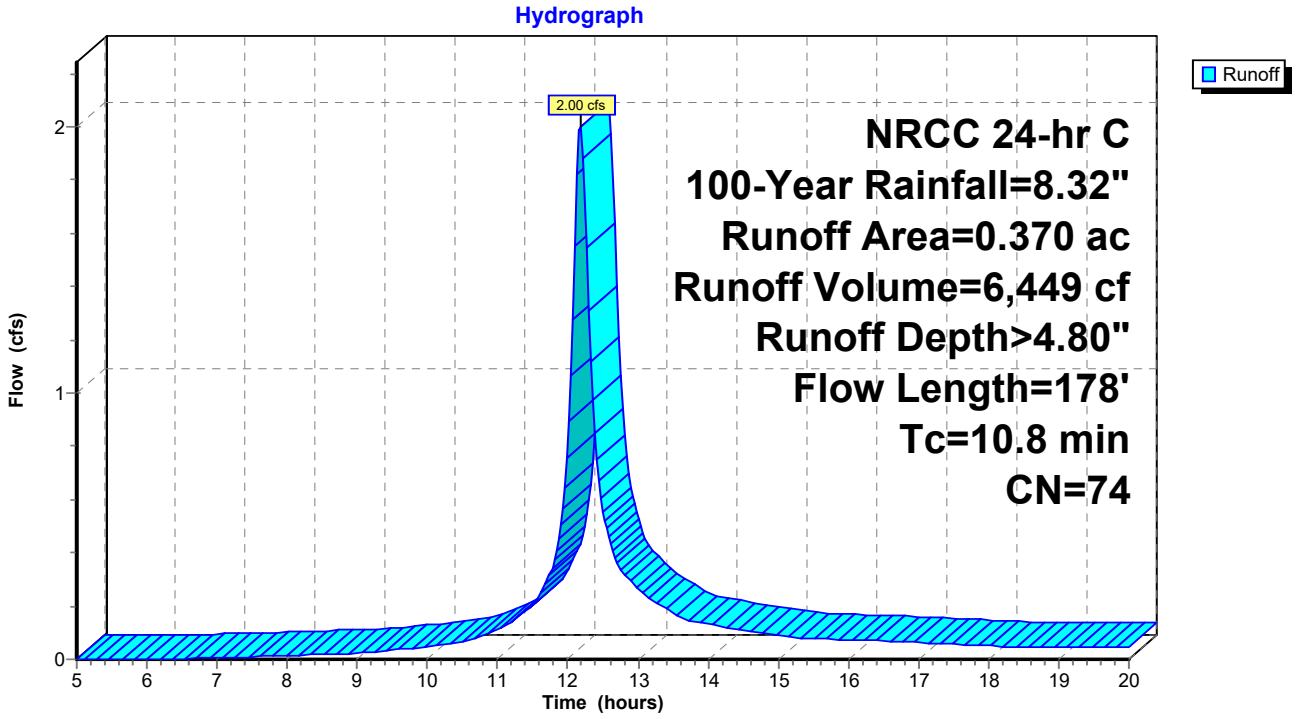
Runoff = 2.00 cfs @ 12.18 hrs, Volume= 6,449 cf, Depth> 4.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
NRCC 24-hr C 100-Year Rainfall=8.32"

Area (ac)	CN	Description
0.370	74	>75% Grass cover, Good, HSG C
0.370		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0450	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.18"
0.5	78	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.8	178	Total			

Subcatchment POA4-POST: DA4



Summary for Pond SMA1: SMA1-PIPE STORAGE

Inflow Area = 105,415 sf, 71.90% Impervious, Inflow Depth > 6.69" for 100-Year event
Inflow = 15.94 cfs @ 12.20 hrs, Volume= 58,804 cf
Outflow = 4.16 cfs @ 12.55 hrs, Volume= 48,515 cf, Atten= 74%, Lag= 21.5 min
Primary = 0.47 cfs @ 12.55 hrs, Volume= 16,505 cf
Secondary = 3.69 cfs @ 12.55 hrs, Volume= 32,009 cf

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs
Peak Elev= 197.40' @ 12.55 hrs Surf.Area= 9,958 sf Storage= 27,275 cf

Plug-Flow detention time= 164.7 min calculated for 48,507 cf (82% of inflow)
Center-of-Mass det. time= 113.3 min (864.7 - 751.4)

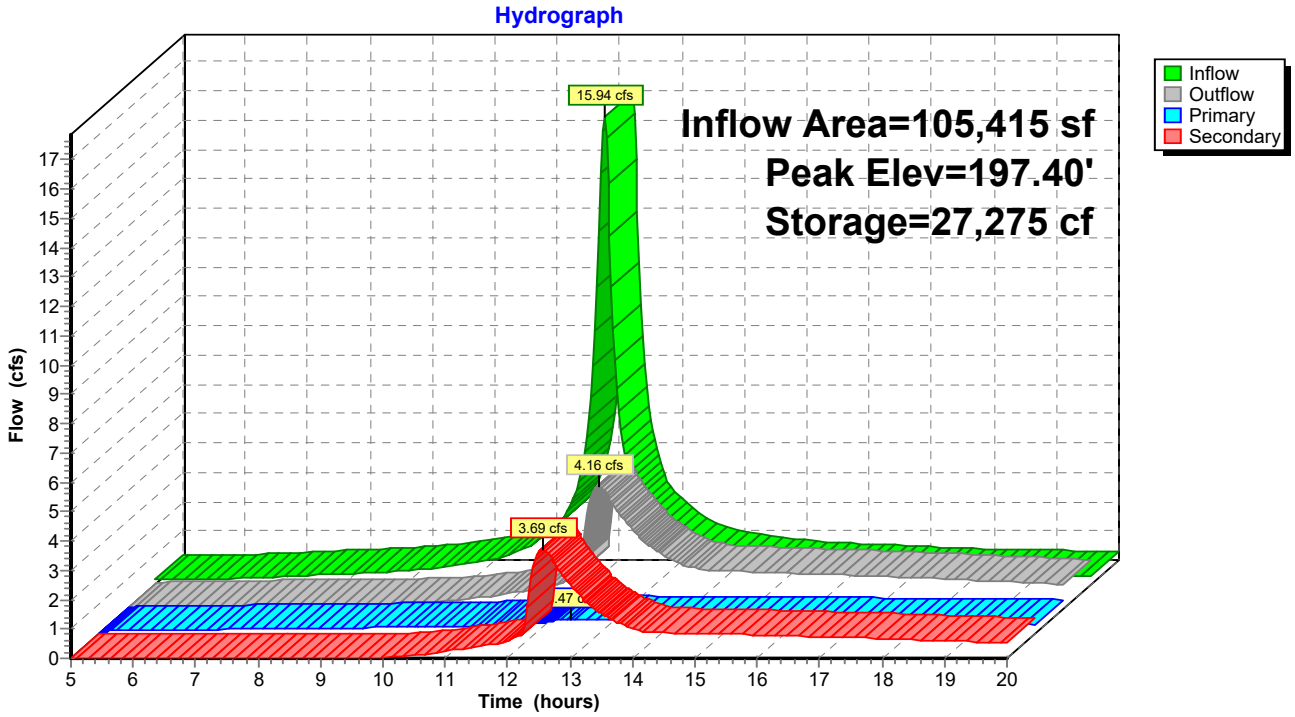
Volume	Invert	Avail.Storage	Storage Description
#1	194.50'	35,073 cf	**48.0" Round CMP_Round 48"** L= 2,791.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	194.00'	**1.0" W x 8.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	195.00'	**5.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	197.00'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.25 0.50 0.75 1.00 Width (feet) 3.46 3.12 2.65 1.94 0.00

Primary OutFlow Max=0.47 cfs @ 12.55 hrs HW=197.40' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.47 cfs @ 8.43 fps)

Secondary OutFlow Max=3.69 cfs @ 12.55 hrs HW=197.40' (Free Discharge)
├**2=Orifice/Grate** (Orifice Controls 0.97 cfs @ 7.13 fps)
└**3=Custom Weir/Orifice** (Weir Controls 2.72 cfs @ 2.12 fps)

Pond SMA1: SMA1-PIPE STORAGE

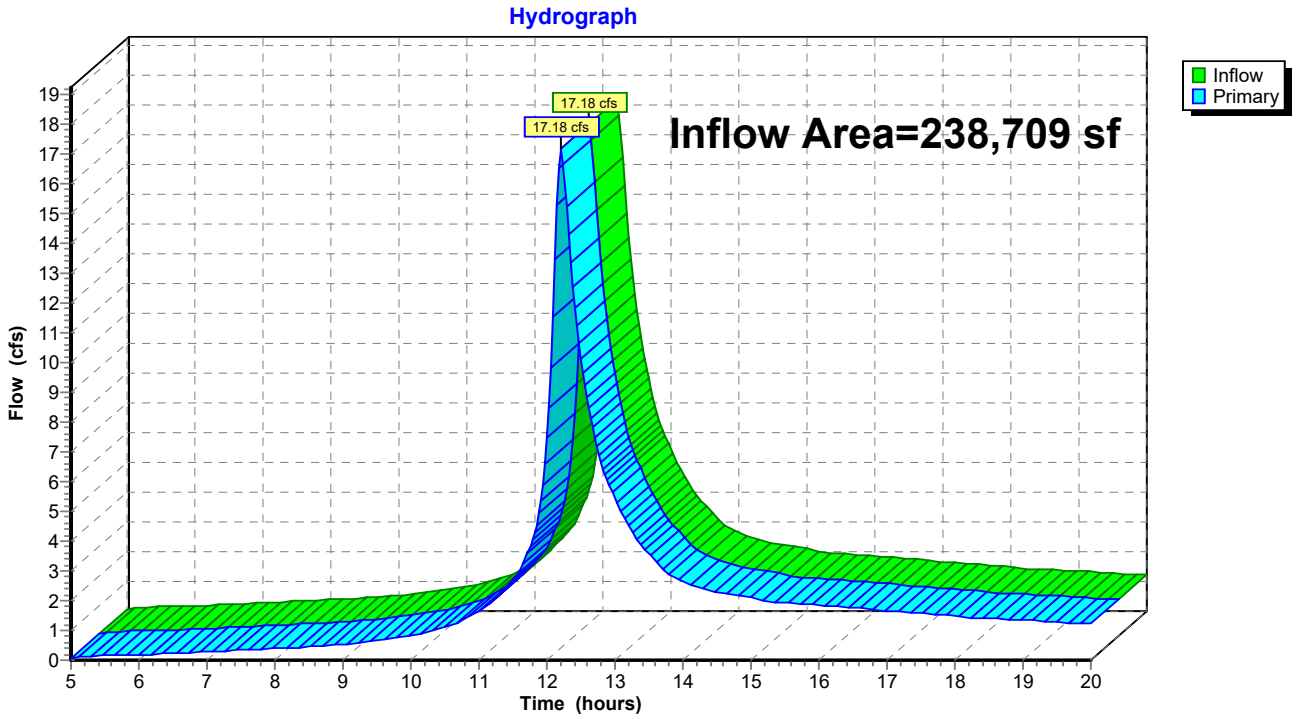


Summary for Link TOTAL POA2: TOTAL DA2

Inflow Area = 238,709 sf, 45.26% Impervious, Inflow Depth > 5.51" for 100-Year event
Inflow = 17.18 cfs @ 12.21 hrs, Volume= 109,649 cf
Primary = 17.18 cfs @ 12.21 hrs, Volume= 109,649 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs

Link TOTAL POA2: TOTAL DA2

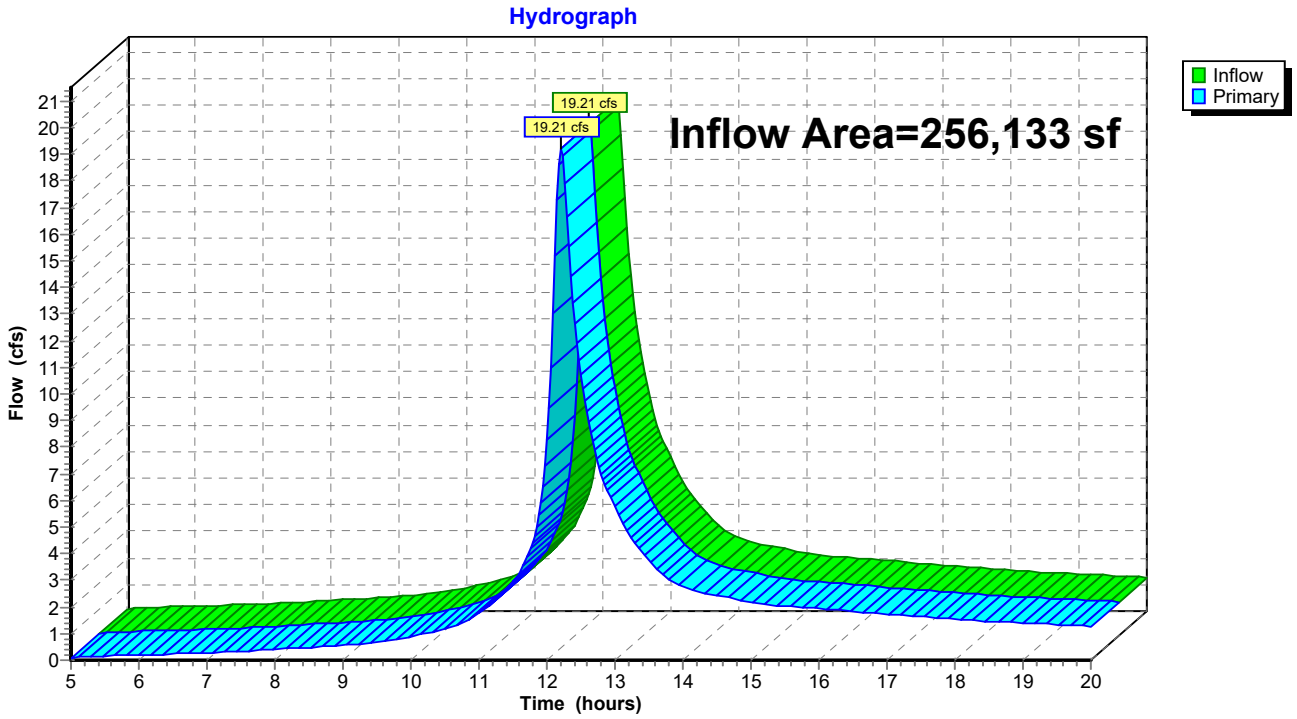


Summary for Link TOTAL POST: TOTAL POST

Inflow Area = 256,133 sf, 42.18% Impervious, Inflow Depth > 5.46" for 100-Year event
Inflow = 19.21 cfs @ 12.21 hrs, Volume= 116,622 cf
Primary = 19.21 cfs @ 12.21 hrs, Volume= 116,622 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.03 hrs

Link TOTAL POST: TOTAL POST



APPENDIX I

KEVIN L. PATTON, P.E.
36 PATTON ROAD
NEWBURGH, N.Y. 12550
845 275-7732 PATTONGEOTECH.COM

CLIENT:	One Key Development 241 Hudson Street Hackensack, NJ 07601	PROJECT: Project No. Date:	Harrington Heights Poughkeepsie, N.Y. 23216 July 6, 2023

SUBSURFACE INVESTIGATION REPORT

PROJECT DESCRIPTION

This geotechnical investigation report was prepared for use in the design and construction of a new three-story multi-family apartment building on a previously-developed lot at 100 South Hamilton Street, as shown on the attached plan. The building will have an L-shaped footprint of approximately 22,800 square feet, with the main section aligned generally north-south, along South Hamilton Street, with a width of approximately seventy feet and a length of about 235 feet. A wing seventy feet in width will extend approximately one hundred feet east from the south part of the building. A stormwater control area is proposed along the east side of the site.

The proposed building is expected to have a first floor elevation of 213 feet, with no basement level. It will straddle the top of a small hill which peaks at about 223 feet in the middle of the building area, most of which is at elevations of 210 to 223 feet, with low points of 206 feet at the northwest corner, 208 feet at the southwest corner and 202 feet at the northeast corner. The existing elevations in the proposed stormwater control area are approximately 197 to 198 feet. Aerial photos indicate that a large residence on the site was demolished approximately forty to fifty years ago, and that since then the site has been idle, and was covered with trees prior to starting the project. Remnants of the driveway are still present, near the northeast corner of the site, minor demolition debris was encountered in the former house area, and some fill materials were noted in the proposed stormwater control area.

The Surficial Geologic Map of New York State (N.Y. State Museum, 1989,) indicates that the site is in a large area of glacial till over shallow bedrock. The USDA Soil Survey indicates that the native topsoil type in the project area is Dutchess-Cardigan-Urban land complex. Dutchess soils typically form over deposits of glacial till composed of sandy silty gravel with few flat (flaggy) cobbles, and are typically more than seven feet thick over bedrock. Cardigan soils typically form in till deposits composed of silt and sand with traces gravel and trace flaggy cobbles, with bedrock at about thirty to 34 inches depth. The soil survey reports that the water table is typically at a depth of six feet or more year-round where these soils are present. The local bedrock is thinly-layered gray siltstone, shale and sandstone of the Ordovician-age Austin Glen formation. Bedrock was encountered in several of the test pits. The soils and rock encountered in the test pits were generally consistent with the reference data. Some minor areas of fill were also noted.

SOIL INVESTIGATION AND TEST RESULTS

Eight test pits were excavated on June 14, 2023, six in the proposed building area and two in the proposed stormwater control area. The two test pits at the north end of the building were offset to the north of the building due to the site conditions. Only the north half of the stormwater area was accessible. The test pits were excavated using a tracked mini-excavator by One Key LLC. The subsurface investigation was supervised and witnessed by Kevin Patton, P.E.

Soils and bedrock were observed and sampled, and laboratory testing was performed on representative soil samples, for moisture content, particle size distribution and Atterberg Limits. USCS classifications of the soil, per ASTM D2487 and D2488, are provided on the logs and on the subsurface profile drawing.

TEST PIT SUMMARY								
	Building Area						Stormwater	
Test Pit No.	TP1	TP2	TP3	TP4	TP5	TP6	TP7	TP8
Elevation, approx.	212	205	214	222	222	209	197.5	197
Depth, feet	12	6	7.5	8	5	4.9	6	8.5
Depth to Rock, feet	-	5.2	6.5	7.5	4.2	4.9	-	-



PHOTO 1. Excavating test pit TP4. All photos were taken on June 14, 2023.

Laboratory Data

Natural Moisture Content, Percent						
Depth, feet	TP1	TP2	TP3	TP4	TP7	TP8
2					16.5	
3		14.1	13.7			
4				13.6		20.6
5					13.5	
8	13.6					
11	14.4					

SOIL TEXTURE					
Particle Size Analysis					
Sample		TP1	TP3	TP7	TP8
Depth		8 feet	3 feet	2 feet	4 feet
Type					
USCS Class		SC-SM	ML	CL	ML
Sieve Size	mm	Percent Passing by Weight			
¾″	19.0	86	100	100	100
#4	4.75	74	92	98	100
#10	2.00	66	88	97	99
#40	0.425	53	82	94	96
#200	0.075	35	54	67	53
Hydrometer	0.050	28	42	54	33
	0.005	5	11	17	1
	0.002	1	5	9	0
Atterberg Limits					
Liquid Limit		22	-	28	-
Plastic Limit		16	-	17	-
Plasticity Index		6	Non-plastic	11	Non-plastic

The moisture content test results were consistent with the observed moist to very moist or wet conditions in well-consolidated soils with negligible organic content. The particle size analyses and Atterberg Limits tests represent some of the typical native soils in the project area. The first sample was composed of 26% gravel, 39% sand and 35% silty clay. The second sample consisted of 8% gravel, 38% sand and 54% silt, the third was 2% gravel, 31% sand and 67% clay, and the fourth sample contained 47% sand and 53% silt, with no gravel. Occasional cobbles and few boulders were present in the soil, as noted in the logs, but were not included in the tests. The Atterberg Limits tests indicate that the fine fraction of the more highly-plastic soils is silty clay or lean clay, making them somewhat moisture-sensitive, but indicating a low potential for detrimental shrink-swell (expansive) behavior. The Atterberg Limits were not tested for the two silty samples; the sample from TP3 had low cohesion; it might have a plastic limit but does not have a liquid limit. The sample from TP8 was fine-sandy cohesionless silt, without an LL or a PL.

SUBSURFACE PROFILE AND SUMMARY OF SOIL CONDITIONS

The observed subsurface conditions are described in the test pit logs and are summarized in the drawing attached to this report. Most of the native soils and most of the existing fill consisted of fine-sandy silt with traces gravel, few cobbles and boulders. Some of the native soils in test pits TP3 and TP4 were identified as glacial till, but most of the native material appears to be till that has been significantly reworked by frost, soil creep and similar factors. Well-graded granular soil (gravelly silty clayey sand) was only encountered in test pit TP1, below elevation 205; this was also the only soil in the building area that was noted as being 'very most,' with moist conditions observed elsewhere.

Bedrock was encountered in five of the six building area test pits. It was not found in test pit TP1, near the northeast building corner, which stopped at twelve feet depth, approximately elevation 200. Near the top of the hill, bedrock was encountered at 7.5 feet depth, approximately elevation 214.5 in test pit TP4, and in TP5 it was at 50 inches depth, elevation 218. Test pit TP2, near the proposed northwest building corner, encountered rock at five feet depth, roughly elevation 200. Test pit TP6, in the low southeast corner area, stopped on rock at about five feet depth, at an approximate elevation of 204 feet. Near the southwest corner, TP3 encountered bedrock at 6.5 feet depth, approximately 207 feet elevation. The bedrock was thin-bedded shale, with near-vertical beds striking northeast observed in test pit TP2. The first six to twelve inches of the bedrock could be ripped easily with the small excavator. The other three test pits in the building area ended in soil at elevation of 200 to 207 feet. The other test pits indicate rock near elevation 200 at the northwest corner (TP2,) becoming shallower toward the south and east (±207 ft southwest, TP3; 214 ft north-center, TP4; 218 feet center, TP5,) then dropping off at the southeast corner (TP6, ±204 feet.)

The soils in test pit TP8, near the north end of the proposed stormwater control area, consisted of approximately thirty inches of moist fill (gravelly silt and sand) over silt and fine sand, which was very moist to sixty inches depth, where it became wet. Test pit TP7, near the center of the proposed practice, encountered two inches of organics over eight inches of silty sandy fill over clay, which was moist from ten inches to 32 inches depth, where it became wet. A rock outcrop projects above grade off-site, just east of the property line in this area.

Fill materials were observed in the two stormwater area test pits as noted above, and in three of the six building area test pits. The fill materials in the stormwater control area were mostly soil, but included minor amounts of debris such as steel, concrete, cinders and glass. In the building area, twelve to eighteen inches of sandy silt fill was noted in test pits TP1 and TP4, with a couple small pipes at the latter location. Test pit TP5, near the location of the former residence, encountered forty inches of sandy silty fill over a ten-inch layer of bricks with soil, over bedrock.

SUBGRADE PREPARATION

The investigation indicates that the subgrade conditions throughout the proposed building area are suitable for the use of shallow spread footing foundations and slabs-on-grade, subject to performing the required subgrade preparation operations, as described below.

The test pits indicate that the top of rock is typically about five feet below existing grade in the building area, deeper near the northeast corner. Using five feet as an average, approximately five-eighths of the slab is expected to be supported on a bedrock subgrade at elevation 212 feet. At the north end and at the southwest and southeast corners of the building the subgrade will transition from rock to native soil, then to fill. Most of the footings will also bear on rock, transitioning to native soil at the north end and at the two south corners, however at the south end the footings may be made deeper as the grade drops off; with close proximity to the property line, this appears to be more practical than building up a fill pad to the same elevation as the rest of the foundation.

Remove all existing pavement, topsoil, soft subsoil, stumps and large roots from the subgrade surface, in all foundation and slab areas. Remove existing slabs and foundations, if encountered, in their entirety from below new foundation areas, and to at least twenty-four inches below bottom-of-slab in slab-on-grade areas, and as needed to prevent interference with the new construction. Remove uncontrolled fill in its entirety from below new foundation areas and from below slab-on-grade areas unless otherwise approved by the Engineer.

Excavate to the design subgrade elevation, or deeper if required to reach suitable subgrade, which shall be bedrock (hard or weathered) or undisturbed native soils, free from topsoil, fine organics and root masses. Where the subgrade material is soil it shall have a stiff/ medium-dense or harder consistency. Dewatering and draining of the excavation may be required to some extent during excavation, with storms expected to be the main source of water.

Trim soil to the required subgrade elevation using excavation methods that minimize disturbance of the final soil surface. Compact the surface as needed to consolidate any soil that was loosened during excavation. Remove any pockets or small zones of unsuitable materials that are encountered, and replace them with controlled compacted fill. Contact the Engineer prior to performing any significant extra excavation. Where old foundations, stumps or boulders are removed, or where other over-excavation work is performed to prepare subgrade areas, the sides of the excavation shall be trimmed back to stable soil as each lift of backfill is placed. Where deficient soil is removed from below footing locations, the remediated area shall extend at least one foot out from the footing per foot of depth (1 to 1 splay.)

Where bedrock is present and excavation is performed by ripping, hammering or blasting, remove the rock to an approximately level and uniform elevation, with a slope of ten percent or less in areas below footings and slabs. If the rock subgrade surface has open fractures, level and seat the surface by tracking back-and-forth over it with a bulldozer or excavator and/or spade it with the excavator bucket, then compact the surface with several passes of a vibratory trench roller or a single-drum soil roller.

Footings may bear directly on the prepared soil or rock subgrade, or on controlled compacted fill placed over the subgrade. Where bedrock is present, over-excavation of the rock by six to twelve inches is

recommended, with the rock replaced by compacted granular site-borrow soil or Structural Fill, to act as a cushioning layer and as a leveling course for the concrete forms. Where fine-grained native soil is present at the bearing elevation, a layer up to four inches thick of Structural Fill or equivalent site-borrow soil may be placed in the footing bottom to protect the soil surface, after properly preparing the surface to a level and stable condition. This layer shall be thoroughly compacted with a vibratory plate tamper or roller, and its surface shall not extend above the design bearing elevation. Footing bearing surfaces shall be free from frost, mud and loose soil or standing water, when concrete is placed. Rock surfaces should be thoroughly moistened prior to placing concrete.

Protect the prepared subgrade surface from erosion, from frost and from construction damage. Traffic from dump trucks and similar heavy vehicles should be minimized on the exposed surface of the subgrade and on compacted fine-grained fills.

EXCAVATION

The existing fill and native soils may be excavated using conventional heavy equipment, such as tracked excavators and bulldozers. Backhoes and mini-excavators should be suitable for the excavation of shallow trenches in soil, but may require assistance if boulders are encountered. The investigation indicates that the soils which will be encountered in the building excavations are likely to predominately be OSHA Type B, requiring a minimum slope of 1-to-1 in shallow excavations, with benching permitted. Soil types and excavation requirements must be confirmed by a qualified representative of the Contractor during construction.

Rock excavation is expected to be needed in most of the building area. A large bulldozer with a ripper tooth should be able to excavate the shallow rock, provided it can 'bite' into the bedrock surface, which may be smooth on top of the hill. A large excavator with a hydraulic hoe-ram will likely be required to excavate to depths of more than two or three feet into the bedrock. Excavation work in the building area should be practical using conventional methods, without blasting. Blasting could, however, be used to facilitate the removal of bedrock. The project area is sufficiently distant from existing structures, roads and other public areas to perform shallow blasting without causing adverse impacts to them. There is sufficient overburden present to use small, lightly-loaded blast holes to fracture the bedrock, so that it can be more easily removed by conventional excavation, although some ripping and hammering could still be required.

Little or no shoring of excavations should be required for building construction, as there appears to be sufficient distance from the property line to the estimated limits of the foundation work area to allow the use of conventional excavation slopes. Trench boxes or other temporary shoring will be required for work in deep trenches, other than trenches in rock, and may be required when excavating trenches in wet areas, regardless of depth. The design of any necessary shoring or other support-of-excavation is the responsibility of the Contractor and is not included in this report.

Groundwater seepage rates in the building excavations are expected to be slow, but may be persistent during the wet season. Groundwater seepage and stormwater should be removed promptly from the excavations, and the groundwater elevation should be maintained at a depth of at least one foot below the soil surface in active construction areas. When dewatering excavations, the water level should be drawn

down at a controlled rate to minimize sloughing, allowing the water to drain from the soil in the sides of the excavation. Gravity drainage and conventional shallow sump pits installed in the excavation should be adequate for the control of groundwater seepage and stormwater.

FILL MATERIALS

All fill placed below foundations and slabs shall consist of Structural Fill or Structural Fill HD, as described below, or shall be suitable site-borrow soil or rock, as described below, or shall be other imported fill of a quality at least equal to that of the site-borrow fill.

Soils excavated from the site are expected to be of suitable quality for re-use as fill and backfill for foundations, slabs and pavement areas. Exclude topsoil and wet, organic otherwise deficient soils from the excavated soil, which should be blended as much as practical, to produce a uniformly compactible fill material. The site-borrow soil will likely require some require drying prior to compaction. Boulders and large cobbles must be removed from the borrow fill. Clumps of clayey soil should be excluded from the fill, but if included they must be thoroughly broken up and mixed in.

Rock excavated from the site may also be used as fill in building and pavement areas. If the rock is excavated by ripping or hammering, it should be processed by crushing and/or screening to approximately the grading of Structural Fill, below. Blasted rock will likely be suitable for use as fill after removing the oversize pieces, without further processing.

Open-graded gravel or crushed stone should not be placed directly against the silty native soils for most applications, as the soil may erode into the stone. The gravel should be separated from the soil by a geotextile layer or by a layer of well-graded soil. Pipe bedding in utility trenches may also act as a drainage path for groundwater seepage. If coarse granular bedding is used in sloping trenches, it should be interrupted periodically by sections of well-graded bedding, to regulate the flow of this seepage.

Structural Fill, if imported for use below foundations and slabs, shall be good-quality bank-run sand and gravel or crushed stone, and should be a well-graded product complying with the gradation limits below. Structural Fill may also be used as foundation backfill. Structural Fill HD (Heavy Duty) should be used in areas to be protected from heavy construction traffic and where subgrade stabilization and/or enhanced drainage is needed and is suitable for use as fill during winter conditions.

Sieve size		Structural Fill	Structural Fill HD
Inch	mm	Percent Passing by Weight	
4″	100	100	100
1½″	37.5	60-100	50-95
#4	4.75	20-85	20-50
#40	0.425	5-50	5-25
#200	0.075	0-30	0-10
Plasticity Index		12 max.	4 max.

All fill materials shall be composed of sound, durable particles, shall be free from frost or snow, garbage, construction debris or other deleterious material, and shall be substantially free from organic matter and roots. Recycled crushed concrete and masonry from a registered source may be acceptable for some applications above the water table, subject to approval by the Designer of Record. Fill shall not be placed over frozen or unstable soil, unless approved by the Engineer.

CLSM (Controlled Low-Strength Material, aka flowable fill) may be used under footings and foundations when specifically approved by the Engineer, and may also be used to backfill trenches or other excavations, typically where rapid fill placement is required, fill areas are narrow, or the use of conventional compaction methods is not practical. For support of footings, a CLSM mix consisting of sand, cement and water, with a 56-day compressive strength of 75 to 200 psi, is appropriate. CLSM may produce high fluid pressures during placement, and caution must be used for placements against foundation walls, near unbraced cuts, etc. Pipes or tanks can also float if not properly restrained during placement. CLSM should not be placed against unprotected aluminum; CLSM containing flyash should not be used in contact with cast iron or ductile iron. Hardened CLSM masses may also adversely affect groundwater flow, possibly causing erosion under or along the CLSM, particularly in sloping trenches.

Other Fill Materials:

- Crushed stone base course for slabs-on-grade should consist of ASTM C33 #56 or #57 stone (⅜- to ¾-inch size,) or as required by the slab system design.
- Crushed stone or gravel for footing drains should consist of ASTM C33 #5, #56 or #57 stone (¾-inch or ⅜-¾-inch size.)
- Well-graded granular subbase material (NYSDOT Item 733-04 'Item 4' or similar) should be used under sidewalks and exterior slabs.

FILL PLACEMENT AND COMPACTION

Soil surfaces, including the surface of the subgrade and of previously-placed fill materials, shall be prepared to a stiff and essentially unyielding condition prior to placing each new lift of fill. Bedrock surfaces to receive fill shall be free from voids or loose areas and the rock surface shall be free from large loose pieces of stone. Use mid-size equipment to compact the site-borrow fill or similar materials. Vibratory trench rollers, and single-drum soil rollers with a nominal size of three to five tons, should be appropriate for the observed soil conditions. Larger rollers may be used when compacting well-graded granular fill over essentially unyielding surfaces. In areas with limited access, vibratory plate tampers or jumping-jack tampers may be used. Avoid over-compacting the shallow soils in landscaped areas.

Soil fill and processed rock fill shall be placed in controlled lifts, with each lift compacted to the required density at a moisture content close to optimum moisture, as determined by the ASTM D1557 Modified Proctor Method. When the moisture content of fill which will support footings or slabs is within two percent of optimum, fill may be placed in lifts with compacted thicknesses of up to eight inches. If the moisture content is two to 2.5 percent from optimum, reduce the maximum thickness to six inches, and if it is more than 2.5 percent from optimum, discontinue compaction. In roadway, embankment and other non-structural locations, fill may be placed in lifts with a compacted thickness of up to twelve inches when the moisture content of the fill is within two percent of optimum, and up to eight inches thick when it is

two to 2.5 percent from optimum. Use a reduced lift thickness if required to obtain the specified percent compaction and when using small compaction equipment.

When placing fill during freezing temperatures, use Structural Fill HD or similar fill material containing less than ten percent non-plastic fines. Fill produced from natural sand and gravel is preferable to crushed stone or concrete fill for winter work, for ease of compaction. Compact the fill with a maximum lift thickness of six inches and do not compact fill whose moisture content is more than two percent above or below optimum. Do not place or compact fill when the air temperature is less than 25°F. Do not place frozen fill materials.

Mass rock fills may be constructed using well-graded shot-rock from blasting. The design lift thicknesses should be approximately twelve to eighteen inches, depending on the dimensions of the fill, the fill placement method and the compaction method, and may require adjustment based on the actual size and grading of the rock after it is blasted. Rock fill should be placed in a manner that minimizes segregation and which creates an initially-dense state. Allowing the rock fill to free-fall into place from a belt or bucket can be an effective method, but dust, noise and flying particles are of concern. Lifts of rock fill may be acceptably placed with a bulldozer, but a moving pile of fill should be maintained in front of the blade, rather than running the pile out completely. Re-work any boulder pockets to a dense, well-graded condition, and level the surface of the fill prior to compaction. The rock fill should be compacted in a wet condition when practical, but may also be compacted when dry or moist. Rock fills should be placed in conformance with an engineered design which includes any necessary requirements for drainage; for geotextiles and/or aggregate filter zones between the rock fill and the subgrade, adjacent and/or overlying soils; the clearance depth for utilities, etc.

Where fill will be placed against slopes, bench the fill into the slope to create a stair-step interface, for improved stability and groundwater control. Lightly scarify the surface of the existing soil prior to placing the fill, and key the fill into the subgrade at the toe of the slope. When the fill is more than five feet high against a slope of twenty percent or more, the key should be at least two feet deep and ten feet wide.

Backfill placed against foundation walls should be compacted with trench rollers or with similar equipment which will not produce damaging stresses on the wall. Place backfill equally on opposite sides of the foundation unless otherwise indicated by the specifications or drawings. Foundation walls acting as retaining walls should be braced (i.e. by installation of the floor framing) before placing backfill, unless otherwise indicated on the drawings or approved by the Engineer.

Open-graded stone base course material for slabs-on-grade should be graded level and seated with one or more compaction passes, to help resist displacement during slab area preparation and concrete placement.

Compaction Requirements

Compact each lift of soil fill supporting slabs or foundations with at least six one-way compaction passes, even if the required compaction percentage is obtained with fewer passes. Each compaction pass shall be made at a slow walking speed (less than four feet per second,) with the equipment passing completely over all areas of the fill. Fill materials shall be compacted to at least the following percentage of the ASTM D1557

maximum dry density. For coarse-graded fill materials with more than thirty percent retained on the ¾-inch sieve, the ASTM D4253 Maximum Index Density test may be substituted for the D1557 test.

Location	Percent Compaction
Below Footings, Foundations, Slabs and Pavements	95% minimum
Exterior Foundation Backfill in Landscaped Areas	90% minimum

Mass rock fills must be compacted with the largest vibratory single-drum soil roller that is available and appropriate for the site, typically in the ten-ton to sixteen-ton size range. Compact each lift with at least six vibratory roller passes, with the passes applied in two perpendicular directions, or in multiple directions, when possible. Vary the vibration frequency to maximize compaction, using the high-frequency mode for the final passes, for increased compaction depth with less surface disturbance. Continue compaction until the fill surface is in an unyielding condition.

TESTING

The prepared subgrade shall be inspected to verify that it has been prepared in conformance with the requirements of this report, prior to placing fill or foundations. Recommended test procedures and frequencies are provided below.

PROOF-ROLLING: Proof-rolling of the prepared subgrade soil is not required, but may be performed to determine the limits of a soft area. Use an appropriately–sized vehicle, to avoid damaging wet and/or fine-grained, but otherwise acceptable soils. Observe the effects of the moving vehicle; if the soil exhibits excessive deflection, rutting or cracking, additional excavation or drying of the subgrade may be required.

BEARING CAPACITY: The prepared subgrade surface throughout the foundation and slab areas area shall be probed thoroughly to check for soft spots. The foundation subgrade shall be in a dense and unyielding condition, substantially free from soft areas and/or loose material. If these conditions are not encountered at the bearing elevation, testing shall be performed with a Static Cone Penetrometer or equivalent device in foundation bearing areas. If the design bearing capacity is not indicated within three inches of the bearing surface, the soil conditions shall be corrected and/or, if approved by the Engineer, the footing depth may be increased to reach acceptable soil. The slab subgrade areas shall be densely consolidated and sufficiently stiff to prevent rutting or displacement during slab base course and concrete placement operations. Where fractured rock or bedrock is present at the subgrade surface, it shall be visually inspected to verify that it is generally level and free from accumulations of loose material, and that in areas where it is fractured, the fractured mass is in a dense and stable condition, free from large open voids.

COMPACTION TESTING: Compaction testing shall be performed for each lift of soil fill supporting foundations, with testing performed while the work is in progress. Testing is also recommended for the fill supporting slabs or pavement, exterior backfill and for fill placed in embankments. Compaction testing is recommended for all retaining wall construction, with requirements to be determined by the wall designer. Compaction tests of fill and backfill supporting foundations and slabs should be performed in at least one location per 50 linear feet or per 1000 square feet of fill surface, per lift. At least one test per 100 linear feet

or per 2500 square feet should be performed for each lift of fill in embankment, roadway and other non-structural areas. Compaction tests should be performed with a nuclear moisture-density gauge, per ASTM Test Method D6938, unless otherwise approved. Required percent compaction values are provided above. Rock fill placement shall be visually monitored for fill quality and grading and for conformance with the requirements for lift thickness and placement methods and for application of the specified compaction effort.

CLSM: When flowable fill is used to support footings or foundations, at least one set of three 6x12-inch test cylinders shall be cast from each day's placement, per ASTM D4832. Test the cylinders for unit weight and for compliance with the specified strength requirements. Cast additional cylinders if early tests are needed.

GEOSYNTHETIC MATERIALS

Geosynthetic materials are expected to be used for reinforcement and drainage applications at the site on an as-needed basis, or where required by Code, such as for footing drains. Geosynthetic materials shall be installed over a smooth and evenly shaped subgrade, to avoid 'tenting' of the material over voids or high points. The geosynthetic shall be installed substantially free from wrinkles, and fill material shall be placed and spread in a manner which pushes the wrinkles out but which does not otherwise displace the geosynthetic material. Vehicles shall not drive on the exposed geosynthetics. The following material types are recommended.

Drainage Separation: For footing drains and similar applications, a woven drainage geotextile with at least 4% open area, with an apparent opening size of 0.21mm (#70) or smaller, should be installed around the open-graded drainage stone. Non-woven geotextiles are not recommended for use in this application, due to the presence of fine particles in the native soil that will tend to clog the fabric. If stone drains are installed in areas of fine sand or cohesionless silt, provide a zone of clean sand at least three inches thick between the geotextile and the soil.

Subgrade Reinforcement: Typically, a woven reinforcing geotextile with a grab tensile strength of at least 200 pounds should be used where needed to improve the stability of soft subgrade soils. Geogrids may be used instead of woven geotextiles, especially if free drainage is desired. A minimum of twelve inches of granular fill cover is typically required to fully mobilize the strength of the reinforcing geosynthetic.

Subgrade Separation: Where fines from the subgrade may infiltrate into an overlying granular layer, and strengthening of the subgrade and some vertical drainage is desirable, a non-woven geotextile should be used. A four-ounce nominal weight fabric is suitable for light- to moderate-duty applications; heavier fabric should be used where it will be subjected to heavy traffic, especially when it is placed in contact with sharp or very coarse-graded materials.

Woven reinforcement geotextiles will usually act as an infiltration barrier when installed in a continuous horizontal layer, and non-woven separation geotextile may also work as a barrier; this may or may not be desirable, depending on the installation location and conditions, and should be considered when specifying or using these products.

ENGINEERING DESIGN VALUES AND RECOMMENDATIONS

Soil engineering properties and recommendations for design are provided in this section; additional important design considerations are also discussed in the other sections of this report. The design values assume that the building will be supported by a conventional spread footing foundation with slab-on-grade floor, as described in the previous sections, and will be provided with proper drainage.

Bearing Capacity and Soil Pressure

Allowable Bearing Capacity, q_a	
Footings on Soil, bearing at least 42 inches below finished grade, with a minimum width of 12 inches	4000 psf
Footings on Soil, bearing at least 24 inches below finished grade, with a minimum width of 36 inches	4000 psf
Minor Footings on Soil, bearing at least 12 inches below finished grade, with a minimum width of 12 inches	2000 psf
Footings on Fractured and/or Weathered Rock, bearing at least 12 inches below finished grade, with a minimum width of 12 inches	4000 psf

Soil Properties	Native Soils	Rock, fractured
Moist Density, γ, lbs/cu ft	130	160
Effective Internal Angle of Friction, $\emptyset$	32°	42°
Coefficient of Active Earth Pressure, k_a	0.31	0.20
Coefficient of Passive Earth Pressure, k_p	3.25	5.0
Coefficient of At-Rest Earth Pressure, k_o	0.47	0.33
Lateral Bearing Capacity (psf per ft below grade)	210	400
Coefficient of Friction (vs. concrete)	0.35	0.60
Modulus of Subgrade Reaction, k, psi per inch	175	550

Footings subject to frost shall bear at least 42 inches below finished grade, or shall be otherwise protected from frost. Footings not exposed to frost, or bearing on non-frost susceptible subgrade material (e.g. fractured bedrock) shall bear at least one foot below finished grade. Bearing elevations of footings shall be established such that a line drawn between the bottoms of two adjacent footings is not steeper than 30 degrees between the closest points on the footings. (Slope of 1 vertical to 1.75 horizontal.)

Settlement of the foundation elements over the course of construction, due to normal elastic compression of the underlying soils, is expected to be one half inch or less in the well-consolidated soils at this site. Up to one inch of settlement and ¾-inch of differential settlement should be assumed for design purposes. No measurable settlement is expected where foundations bear on rock. If fill is placed below footings, an additional quarter inch of settlement should be expected per five feet of fill thickness.

If encountered above the design bearing depth, undisturbed bedrock and rock that has been fractured by excavation are non-frost-susceptible subgrade materials, and frost-protected shallow footings, as specified

in ASCE 32, may bear on rock at depths as shallow as twelve inches when the required vertical foundation wall insulation is also provided. Where footing depths are reduced, pinning to rock may be required if the footing will be subjected to significant uplift or lateral forces. These installation conditions must be reviewed and approved on a case-by-case basis.

Control of Groundwater and Soil Gases

Minor groundwater seepage should be expected in excavations and below-grade areas during and after construction. It is understood that the building will not have a basement and the first floor slab will be entirely above grade. Adequate drainage must be provided to maintain the groundwater at an elevation below the slab base course; footing drains may be helpful, but are not required by Code for the above-grade slab condition. Construction dewatering is discussed elsewhere in this report. For the completed construction, the elevations shown on the plans indicate that a foundation drain, if used, should be able to discharge by gravity.

Soil gases that could normally be expected to impact the structure are water vapor and radon. The interior spaces should be adequately protected from these gases by providing drainage and moisture protection measures as described above, and by sealing all wall-to-slab joints, concrete cracks, pipe penetrations, drainage sumps, etc. If an open-graded base course is used under the slab, a passive or powered vapor mitigation system using small-diameter PVC pipes can be included or can be added retroactively. The potential for these gases to adversely impact the use of the building is estimated to be low, if the above recommended practices are used, and normal interior ventilation is provided.

Seismic and Expansive Properties

Seismic Design Values: The Seismic Site Class and Seismic Design Category for the proposed construction were determined per section 1613 of the New York State Building Code and ASCE 7-16. Seismic values for the site were obtained from the current database maintained by the Applied Technology Council, Redwood City, Cal., and are consistent with the published maps in the Building Code. Values were as follow.

Occupancy Category	I/II/III	
Seismic Site Class	C- Very Dense Soil and Soft Rock D – Stiff Soil	
IBC Seismic Design Category	**SDC - B**	
Maximum Acceleration	0.2 sec S_S 1.0 sec S_1	0.195 g 0.055 g
Maximum Spectral Response Acceleration	0.2 sec S_{MS} 1.0 sec S_{M1}	0.254 g 0.082 g
5% Damped Spectral Response	0.2 sec S_{DS} 1.0 sec S_{D1}	0.169 g 0.055 g

The seismic design values are based on the "risk adjusted maximum probable earthquake." These are not the maximum values that *could* occur, they are values that are not likely to be exceeded during the service life of a typical structure.

Liquefaction Potential: The soils encountered in the investigation have very low liquefaction susceptibility. Liquefaction is typically associated with thick deposits of loose poorly-graded sand situated below the water table, and may also occur in loose, poorly-graded cohesionless silt. A similar phenomenon, cyclic softening, can occur in saturated soft clays. Those soils are also prone to shifting or spreading during seismic events when they are situated near a slope, even if the slope is gentle. The soils encountered in the test pits had textures, drainage conditions, locations and/or sufficient consolidation (density) to resist liquefaction or unusual movement during the design seismic event. No special mitigation measures are required.

Expansive Soils and Frost Heave: The soils encountered in the investigation have a very low potential for expansion due to shrinking and swelling resulting from moisture changes. This behavior is typically associated with high-plasticity silt and clay soils. Physical testing and qualitative examination indicate that the soil properties do not meet the criteria for potentially expansive soils as defined in section 1803.5.3 of the Code. No mitigation measures are required. The on-site soils are moderately to highly susceptible to frost heave. Frost heave can be minimized by providing good drainage and by thoroughly compacting the soil. Well-graded granular fill should be used in areas where frost heave could result in damage.



PHOTO 2. The slope along the west side of the site, overlooking South Hamilton Street.

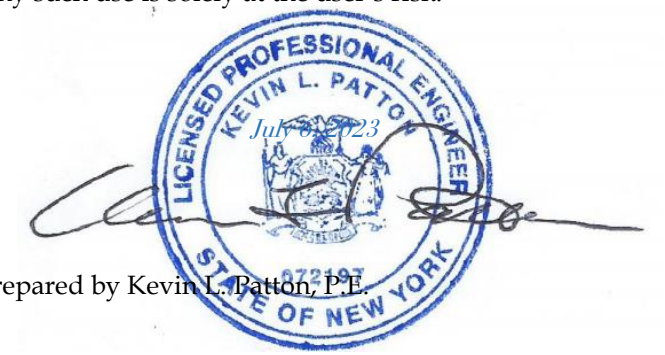


PHOTO 3. The proposed stormwater control area on the east side of the site. A rock outcrop forms a long knob on the far side of the fence.

NOTES AND LIMITATIONS

Please see the attached pages for additional information. Subsurface conditions encountered during construction shall be compared to the test pit logs and to this report; any significant variations from anticipated conditions must be evaluated for their effect on the design. This report summarizes the results of a limited investigation and does not purport to predict every variation in subsurface conditions. Elevations, slopes, contours, project layout and similar or related data provided in this report were interpreted from the drawings, from field data or from other information which was provided, unless otherwise noted.

This geotechnical investigation was conducted to evaluate the engineering properties of the soils at the site, to aid in the design and construction of the proposed work. The investigation did not include evaluation of the potential effects of the proposed construction on other properties, nor did it include inspection of, or sampling for, items of environmental concern such as the presence of soil contaminants or of regulated wetlands, and did not include review of local zoning regulations, codes, floodplain boundaries or similar matters, unless specifically referenced in the report. This investigation was conducted solely for the use of the Client, the Client's Project Designers and Agents and the Authorities Having Jurisdiction; this report should not be used by others, nor for any use other than its stated purpose, without contacting the Engineer. Any such use is solely at the user's risk.



Prepared by Kevin L. Patton, P.E.

Attachments:

- Soil Technical Notes
- Test Pit Location Plan
- Test Pit Logs
- Laboratory Test Reports
- Bedrock Geologic Map
- Surficial Geologic Map
- USDA Soil Survey Data

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Soil Technical Notes:
Soil Classifications, Descriptions and Properties

The USCS (Unified Soil Classification System) was used to classify the soils in this report. The USCS is described in ASTM D2487 (laboratory test method) and D2488 (visual-manual method.) The USCS classification gives a 'Group Symbol' and 'Group Name' based on particle size distribution (gradation,) clay properties (Atterberg Limits) and basic composition (mineral or organic.)

USCS Soil Classes

Soils with less than 5% passing the #200 sieve:

GW, GP, SW, SP – Well-graded gravel, Poorly-graded gravel, Well-graded sand, Poorly-graded sand.

Soils with 12% to 50% passing the #200 sieve:

GC, GM, GC-GM, SC, SM, SC-SM – Clayey gravel, Silty gravel, Silty clayey gravel, Clayey sand, Silty sand, Silty clayey sand.

Soils with 5% to 12% passing the #200 sieve use a dual symbol, such as SW-SC (Clayey well-graded sand.)

Soils with more than 50% passing the #200 sieve:

CL-ML, ML, CL, MH, CH, OL, OH – Silty clay, Silt, Lean clay, Elastic silt, Fat clay, Organic silt, Organic clay.

Highly organic soils:

PT – Peat.

The soil group name is modified with the term 'with sand' or 'with gravel' added if the soil contains more than 15% of these materials; clays and silts with 30% or more plus-#200 material are described as 'sandy' or 'gravelly' (whichever is predominate.) Examples – GM, Silty gravel with sand; CL, Gravelly lean clay.

Particle size

>12" (300mm)	Boulders
12" to 3" (300-75mm)	Cobbles
3" to #4 (75-4.75mm)	Gravel
#4 to #200 (4.75-0.075mm)	Sand
<#200 (0.075mm)	Silt & Clay

Organic Soils

Highly organic soils such as peat are visually classified. Partly organic soils, with a mix of organic and mineral matter, are classified visually and by Atterberg Limits tests.

Moisture Content

Moisture is visually estimated and samples are usually tested. Soil moisture capacity varies with texture and compaction.

Typical examples:
GW, moist at 3%, saturated at 9%
SP, moist at 6%, saturated at 20%.
CL, moist at 12%, saturated at 33%.

Fine- and Coarse-grained Soils

The USCS classification applies to the material smaller than the 3-inch sieve.

'Fine-Grained Soils' (silts and clays) have more than 50% passing the #200 sieve and are classified by their Atterberg Limits.

'Coarse-Grained Soils' (sands and gravels) have less than 50% passing the #200 sieve. When more than 50% of the plus-200 material is retained on the #4 sieve the general soil type is gravel, and if more than 50% is finer than the #4 sieve, it is sand.

Clean coarse-grained soils are classified as well-graded (Classes GW, SW) or poorly-graded (GP, SP.) Well-graded soils have a wider range of sizes and are typically more stable. Poorly-graded soils are usually more permeable.

Atterberg Limits

Test is performed on the clay, silt and fine sand fraction of the soil:
Liquid Limit (LL) – moisture content (%) at which soil becomes very soft.
Plastic Limit (PL) – moisture content at which soil crumbles.
Plasticity Index (PI) = LL minus PL

Higher PI values may indicate reduced permeability and increased drying shrinkage.

LL > 50 indicates soil with a higher potential to shrink and swell due to changing moisture content.

Silts have lower PI values, and behave like very fine sand; most silts also contain some clay. Behavior of clays is partly controlled by electrochemical forces and varies among the several clay minerals.

Color

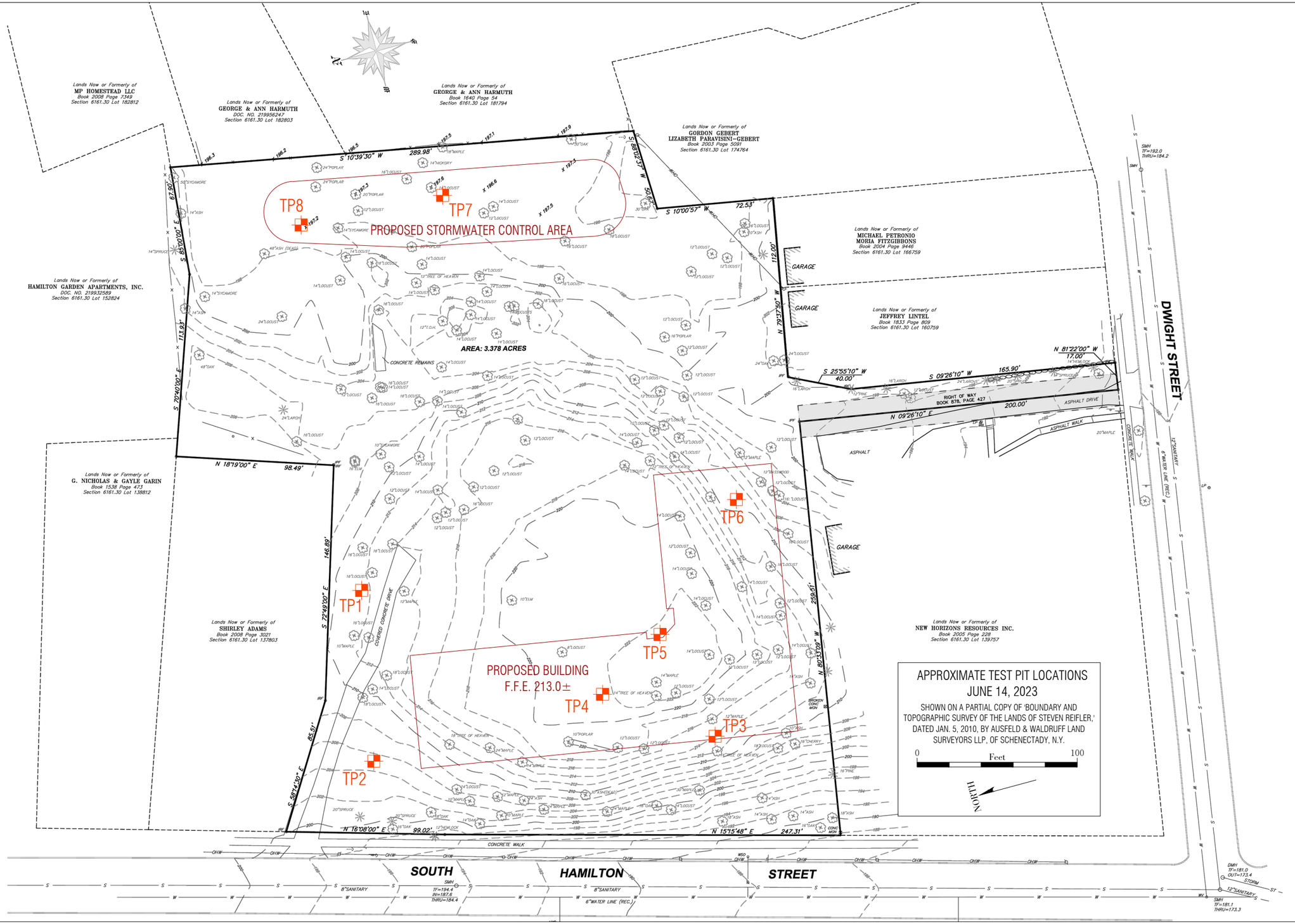
Soil color sometimes indicates groundwater conditions, with subdued colors below the water table and mottled (mixed) colors in the zone of seasonal water table fluctuation. Color changes tend to be more prominent in fine-grained soils.

Relative Quantities

Estimated percentages in descriptions:
<5% - Trace
5-10% - Traces
10-25% - Little
25-35% - Some
'And' - Approx. equal amounts
'Few' - <10% (cobbles and boulders)

USDA Soil Classification

USDA classifications are based on the relative amounts of sand, silt and clay in the soil fraction passing the #10 (2mm) sieve. 'Gravelly' indicates more than 15% of #10 to 3" size. 'Channery' indicates 15 to 35% thin flat pieces up to 6" long.



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HARRINGTON HEIGHTS

100 SOUTH HAMILTON ST., POUGHKEEPSIE, N.Y.

TEST PIT LOCATIONS

REV.	DATE	BY
0	7/5/2023	KLP

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CLIENT:	One Key LLC		
PROJECT:	Harrington Heights, Poughkeepsie, N.Y.		
DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	50 ft NE from NE corner of proposed building	**TEST PIT NUMBER**	**TP1**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	212+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-12"	ML	Slightly moist	Fill. Loose. Grayish brown sandy silt with trace brick, glass, few small roots.	
12-24"	ML	Moist	Native soil. Loose to medium-dense. Mottled brown silt loam.	
24-42"	ML	Moist	Dense. Slightly mottled brown silt with little sand, trace gravel and cobbles.	
42" to 7ft	ML	Moist	Dense. Mottled pale brown silt with little sand, trace gravel and cobbles, few boulders to 24" size.	
7ft - 12ft	SC-SM	Very Moist	Dense. Mottled pale brown sand and silty clay with little gravel, few cobbles and boulders to 24" size.	
12 ft	-	-	Stopped at 12 feet in soil.	



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DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	30 ft N from NW corner of proposed building	**TEST PIT NUMBER**	**TP2**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	205+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-6"	ML	Slightly moist.	Loose. Grayish brown silt loam with some small roots.	
6-24"	ML	Moist	Medium-dense. Pale orangeish brown silt with some sand, traces gravel, few cobbles.	
24-62"	ML	Moist	Dense. Slightly mottled olive brown silt with some sand, little gravel and few cobbles.	
62"-72"	Rock	-	Top of shale bedrock. Beds nearly vertical, strike northeast. Ripped 12 inches into rock, which was still somewhat soft at this depth.	
72"	-	-	Stopped in rock at 6 feet.	



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DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	50 ft N from SW corner of proposed building	**TEST PIT NUMBER**	**TP3**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	214+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-4"	ML	Moist	Loose. Topsoil. Brown silt loam with fine roots.	
4"-22"	ML	Moist	Medium-dense. Pale orangeish brown silt with some fine-graded sand, trace gravel and cobbles.	
22"-48"	ML	Moist	Dense. Pale orangeish brown silt and fine-graded sand, trace gravel and cobbles, with few small boulders.	
48"-6.5ft	ML	Moist	Very dense. Till. Mottled olive brown silt with little sand, little gravel, few cobbles and boulders.	
6.5-7.5 ft	Rock	-	Top of shale bedrock. Ripped 12 inches into rock with ease.	
7.5 ft	-	-	Stopped in rock.	



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DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	North wing of proposed building, S from center	**TEST PIT NUMBER**	**TP4**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	222+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-18"	ML	Moist	Loose. Fill. Silt with some sand, trace gravel and cobbles, few small boulders. Buried pipes (+/- 1.5"diameter steel, 2" lead.)	
18"-48"	ML	Moist	Dense. Till. Olive brown silt with little sand, little gravel, few cobbles and small boulders.	
48"-7.5ft	ML	Moist	Same, Very dense.	
7.5ft - 8ft	Rock	-	Shale bedrock. Ripped six inches into the surface, with effort.	
8 ft	-	-	Stopped in rock.	



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DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	Inside corner of proposed building	**TEST PIT NUMBER**	**TP5**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	222+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-40"	ML	Moist	Loose. Fill. Grayish brown silt with some sand, little gravel, few cobbles, bricks and shale fragments.	
40-50"	Bricks	Moist	Loose. Fill. Mostly bricks with little soil mixed in.	
50-60"	Rock	-	Shale bedrock. Ripped to 12", becoming hard.	
60"	-	-	Stopped in rock.	



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PROJECT:	Harrington Heights, Poughkeepsie, N.Y.		
DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	East wing of proposed building, near east end	**TEST PIT NUMBER**	**TP6**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	209+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-10"	ML	Moist	Loose. Grayish brown silt with little sand, trace gravel, few cobbles. Few roots.	
10"-36"	ML	Moist	Medium-dense. Pale orangeish brown silt with little sand, traces gravel, few cobbles, few small boulders.	
36"-58"	ML	Moist	Dense. Pale yellowish brown silt with little sand, trace gravel, few cobbles.	
58"	Rock	-	Top of bedrock. Flat, hard.	
58"	-	-	Stopped on top of rock.	



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DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	Proposed stormwater control area, center	**TEST PIT NUMBER**	**TP7**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	197.5+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-2"	PT	Moist	Decomposed organics and leaf-litter. Dusky brown.	
2"-10"	SM	Moist	Loose. Fill. Brownish gray sand with some silt, little gravel, trace glass, small pocket of coal cinders.	
10"-32"	CL	Moist	Native Soil. Medium-dense. Pale yellowish brown, mottled orange. Lean Clay with some fine-graded sand, trace gravel. Massive structure, no significant joints or pores.	
32"-6ft	CL	Wet	Dense. Mottled olive brown-orange-gray Lean Clay with trace gravel, traces sand, trace roots. Dense.	
6 ft	-	-	Stopped in soil.	

No photo available.

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NEWBURGH, NY 12550
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CLIENT:	One Key LLC		
PROJECT:	Harrington Heights, Poughkeepsie, N.Y.		
DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	Proposed stormwater control area, north end	**TEST PIT NUMBER**	**TP8**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	197+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-30"	ML	Moist	Loose. Fill. Dusky brown silt and sand with little gravel, trace concrete, two streetcar rails.	
30"-60"	ML	Very Moist	Native soil. Loose to Medium-dense. Mottled olive brown and gray silt and fine sand. Massive structure. Trace concretions (cemented sand,) 3/8" size, noted in lab sample.	
60"-8.5ft	ML	Wet	Same, wet.	
8.5 ft	-	-	Stopped in soil.	

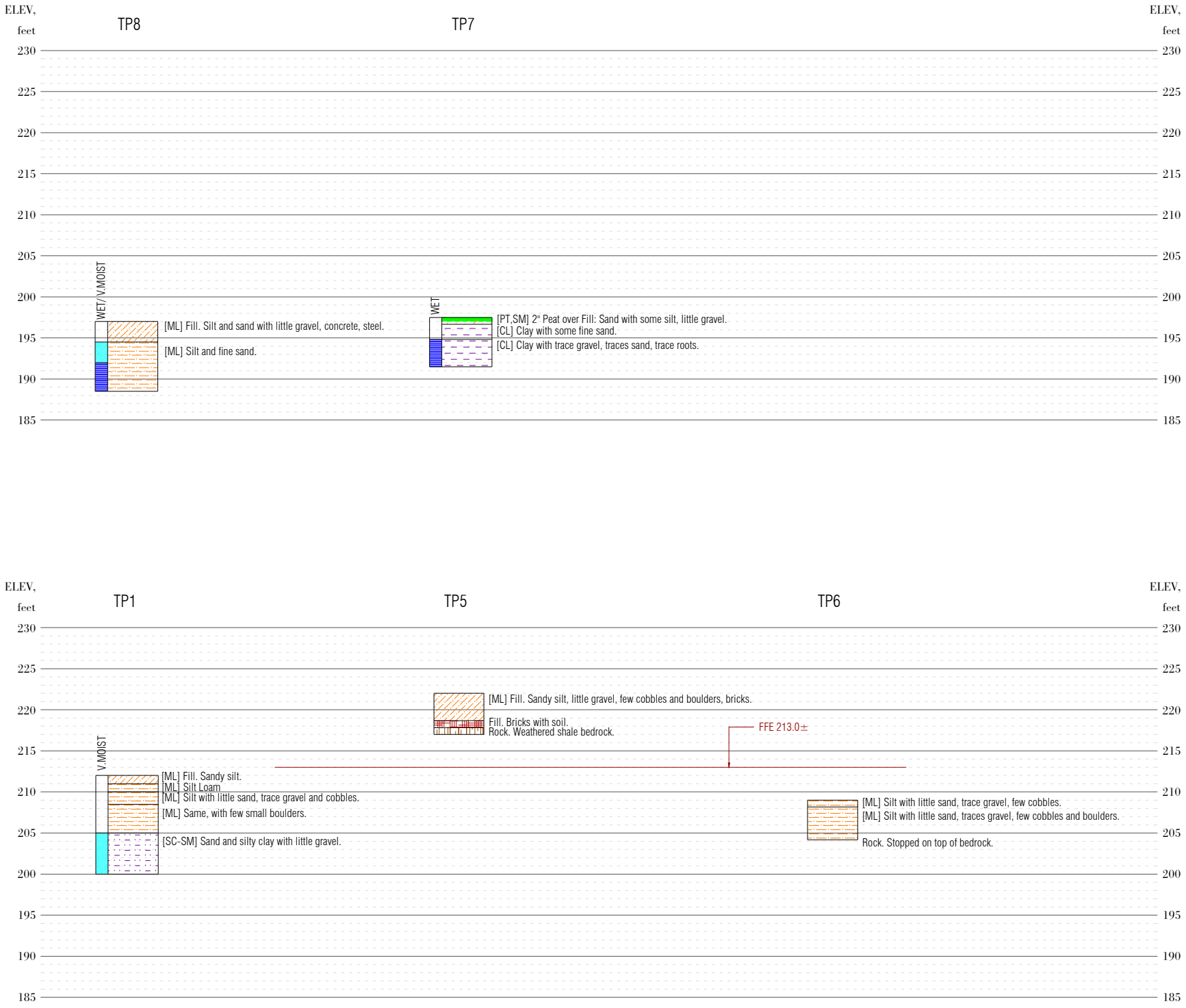


GENERALIZED SUBSURFACE PROFILE

NO HORIZONTAL SCALE.
USCS SOIL CLASSIFICATIONS ARE IN BRACKETS.

IN GENERAL, RED PATTERNS INDICATE RELATIVELY CLEAN SANDY OR GRAVELLY SOILS, PURPLE PATTERNS INDICATE SOILS WITH SIGNIFICANT CLAY CONTENT AND ORANGE PATTERNS INDICATE SOILS WITH A SIGNIFICANT SILT CONTENT.

THESE SECTIONS ARE GENERALIZED REPRESENTATIONS OF THE SUBSURFACE PROFILE, BASED ON THE SUBSURFACE EXPLORATION DATA, OBSERVATIONS, RESEARCH, AND OTHER RELEVANT INFORMATION. THE SOILS INFORMATION PRESENTED HEREIN SHOULD BE INTERPRETED IN CONJUNCTION WITH THE INFORMATION FROM THE TEST PIT LOGS AND THE GEOTECHNICAL INVESTIGATION REPORT. SITE CONDITIONS MAY DIFFER FROM THOSE ENCOUNTERED AT THE TEST PIT LOCATIONS.



			HARRINGTON HEIGHTS
			100 SOUTH HAMILTON ST., POUGHKEEPSIE, N.Y.
0	7/5/2023	KLP	SUBSURFACE PROFILE
REV.	DATE	BY	

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KEVIN L. PATTON, P.E.
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CLIENT:	One Key LLC		
PROJECT:	Harrington Heights, South Hamilton St., Poughkeepsie		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

MOISTURE CONTENT OF SOIL

TEST METHOD: ASTM D2216

Location	DEPTH,FT.	% MOISTURE
TP1	8'	13.6
TP1	11'	14.4
TP2	3'	14.1
TP3	3'	13.7
TP4	4'	13.6
TP7	2'	16.5
TP7	5'	13.5
TP8	4'	20.6

Moisture content is expressed as a percent of the dry mass of the soil.

Reviewed by: *Kevin Patton*

Form NMC

KEVIN L. PATTON, P.E.

36 PATTON ROAD

NEWBURGH, NY 12550

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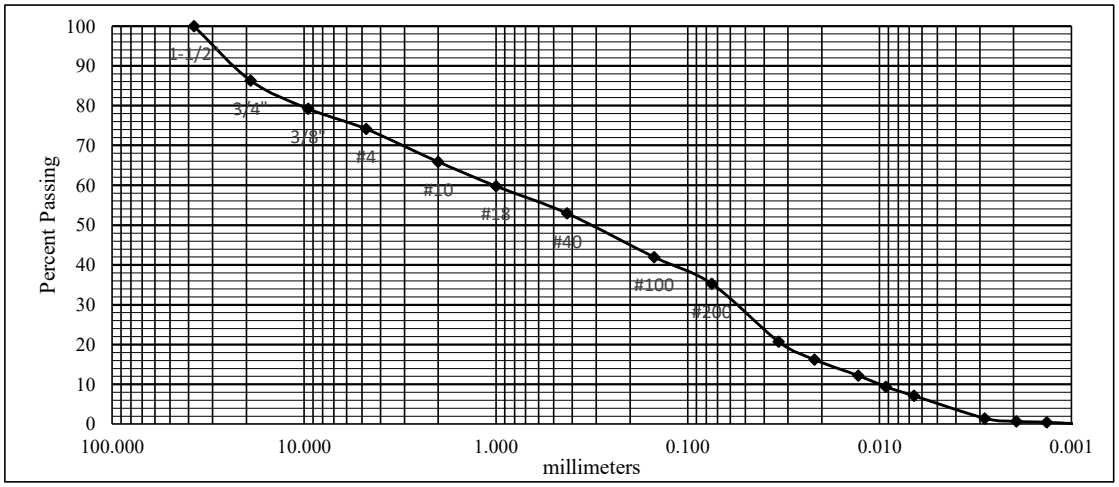
CLIENT:	One Key LLC		
PROJECT:	Harrington Heights, South Hamilton St., Poughkeepsie		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

SIEVE-AND-HYDROMETER ANALYSIS TEST REPORT

TEST METHOD(s): ASTM D422, AASHTO T88

Sample Location	TP1
Depth	8 feet

Sieve Size		Percent Retained	Percent Passing	Specification
inches	mm			
1-1/2"	37.5	0	100	
3/4"	19.0	14	86	
3/8"	9.5	7	79	
#4	4.75	5	74	
#10	2.00	8	66	
#18	1.00	6	60	
#40	0.425	7	53	
#100	0.150	11	42	
#200	0.075	7	35	
Hydrometer Analysis	0.050	7	28	
	0.020	13	15	
	0.010	5	10	
	0.005	5	5	
	0.002	4	1	
	0.001	1	0	



USDA Particle Size Classification:		**USDA Textural Class:** Gravelly Sandy Loam
Gravel, 3" to 2.00mm	34	
Sand, 2.00 to 0.050mm:	38	**USCS Classification (ASTM D2487/D2488):**
Silt, 0.050 to 0.002mm:	27	SC-SM, Silty Clayey Sand with Gravel
Clay, <0.002mm	1	
Total	100	Atterberg Limits were determined by: Test

Reviewed by: *Kevin Patton*

Form HYD

KEVIN L. PATTON, P.E.

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NEWBURGH, NY 12550

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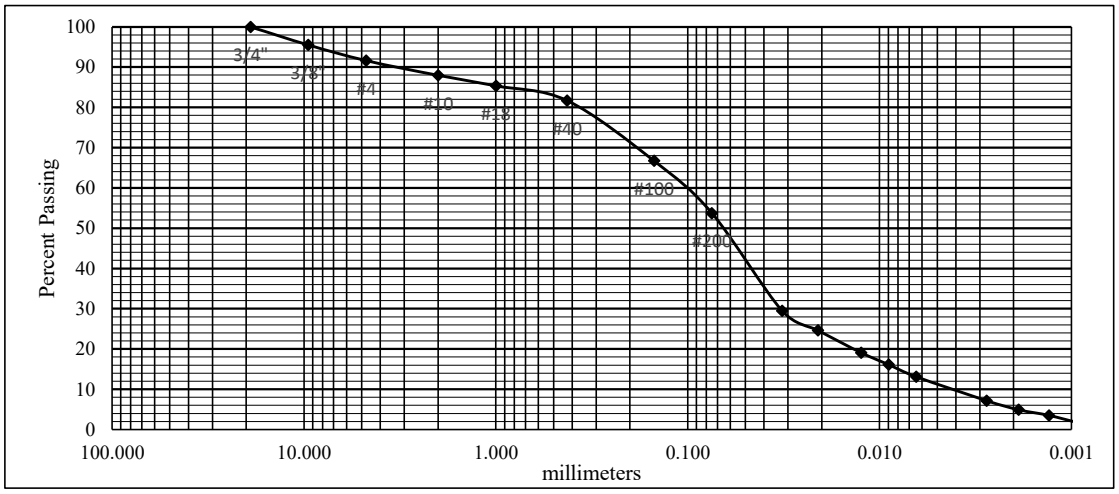
CLIENT:	One Key LLC		
PROJECT:	Harrington Heights, South Hamilton St., Poughkeepsie		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

SIEVE-AND-HYDROMETER ANALYSIS TEST REPORT
TEST METHOD(s): ASTM D422, AASHTO T88

Sample Location	TP3
Depth	3 feet

Sieve Size		Percent Retained	Percent Passing	Specification
inches	mm			
3/4"	19.0	0	100	
3/8"	9.5	5	95	
#4	4.75	3	92	
#10	2.00	4	88	
#18	1.00	3	85	
#40	0.425	3	82	
#100	0.150	15	67	
#200	0.075	13	54	
Hydrometer Analysis	0.050	12	42	
	0.020	18	24	
	0.010	7	17	
	0.005	6	11	
	0.002	6	5	
	0.001	3	2	



USDA Particle Size Classification:		**USDA Textural Class:** Sandy Loam
Gravel, 3" to 2.00mm	12	
Sand, 2.00 to 0.050mm:	46	**USCS Classification (ASTM D2487/D2488):**
Silt, 0.050 to 0.002mm:	37	ML, Sandy Silt
Clay, <0.002mm	5	
Total	100	Atterberg Limits were determined by: Estimated (ASTM D2488)

Reviewed by: *Kevin Patton* Form HYD

KEVIN L. PATTON, P.E.

36 PATTON ROAD

NEWBURGH, NY 12550

845 275-7732 PATTONGEOTECH.COM

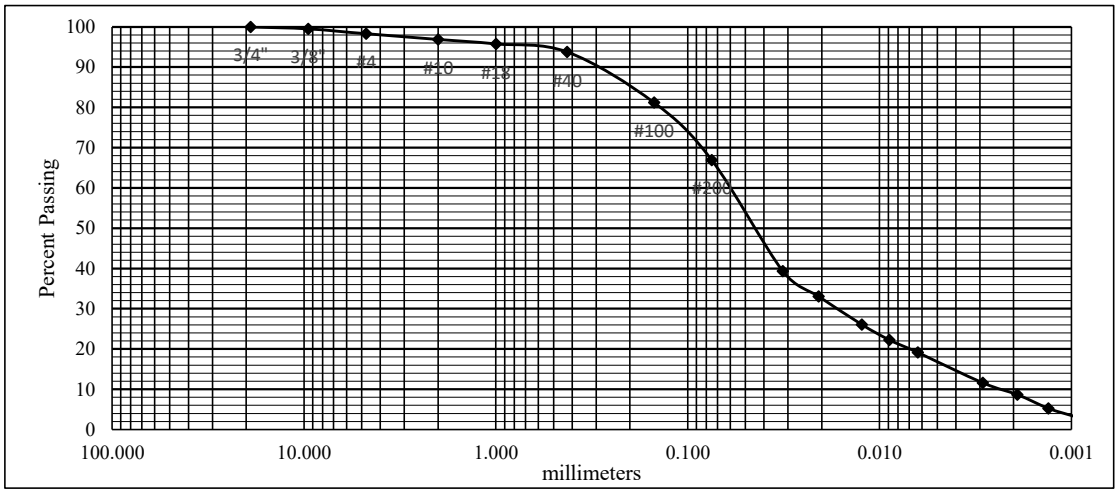
CLIENT:	One Key LLC		
PROJECT:	Harrington Heights, South Hamilton St., Poughkeepsie		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

SIEVE-AND-HYDROMETER ANALYSIS TEST REPORT

TEST METHOD(s): ASTM D422, AASHTO T88

Sample Location	TP7
Depth	2 feet

Sieve Size		Percent Retained	Percent Passing	Specification
inches	mm			
3/4"	19.0	0	100	
3/8"	9.5	1	99	
#4	4.75	1	98	
#10	2.00	1	97	
#18	1.00	1	96	
#40	0.425	2	94	
#100	0.150	13	81	
#200	0.075	14	67	
Hydrometer Analysis	0.050	13	54	
	0.020	22	32	
	0.010	9	23	
	0.005	6	17	
	0.002	8	9	
	0.001	6	3	



USDA Particle Size Classification:		**USDA Textural Class:** Loam
Gravel, 3" to 2.00mm	3	
Sand, 2.00 to 0.050mm:	43	**USCS Classification (ASTM D2487/D2488):**
Silt, 0.050 to 0.002mm:	45	CL, Sandy Clay
Clay, <0.002mm	9	
Total	100	Atterberg Limits were determined by: Test

Reviewed by: *Kevin Patton*

Form HYD

KEVIN L. PATTON, P.E.

36 PATTON ROAD

NEWBURGH, NY 12550

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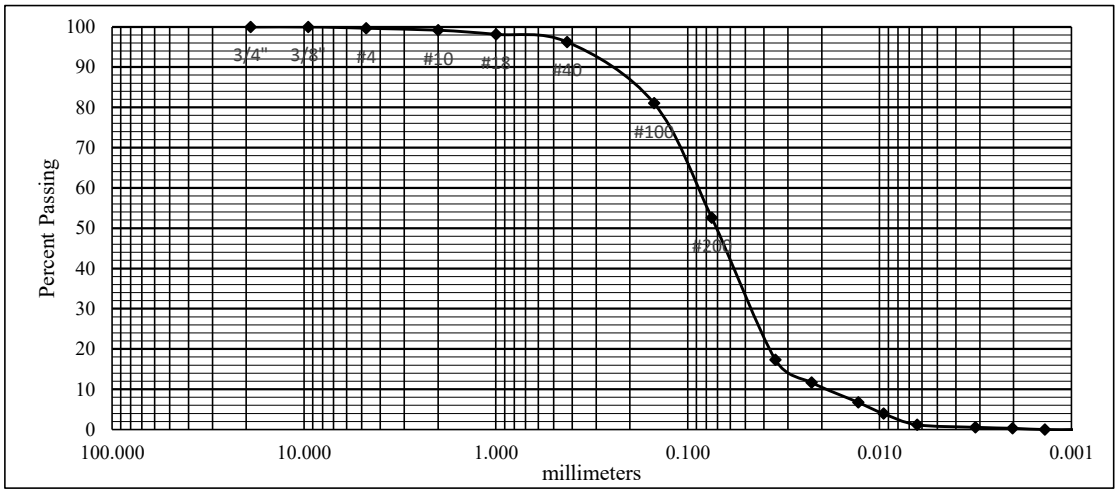
CLIENT:	One Key LLC		
PROJECT:	Harrington Heights, South Hamilton St., Poughkeepsie		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

SIEVE-AND-HYDROMETER ANALYSIS TEST REPORT

TEST METHOD(s): ASTM D422, AASHTO T88

Sample Location	TP8
Depth	4 feet

Sieve Size		Percent Retained	Percent Passing	Specification
inches	mm			
3/4"	19.0	0	100	
3/8"	9.5	0	100	
#4	4.75	0	100	
#10	2.00	1	99	
#18	1.00	1	98	
#40	0.425	2	96	
#100	0.150	15	81	
#200	0.075	28	53	
Hydrometer Analysis	0.050	20	33	
	0.020	23	10	
	0.010	6	4	
	0.005	3	1	
	0.002	1	0	
	0.001	0	0	



USDA Particle Size Classification:		**USDA Textural Class:** Sandy Loam
Gravel, 3" to 2.00mm	1	
Sand, 2.00 to 0.050mm:	66	**USCS Classification (ASTM D2487/D2488):**
Silt, 0.050 to 0.002mm:	33	ML, Sandy Silt
Clay, <0.002mm	0	
Total	100	Atterberg Limits were determined by: Estimated (ASTM D2488)

Reviewed by: *Kevin Patton*

Form HYD

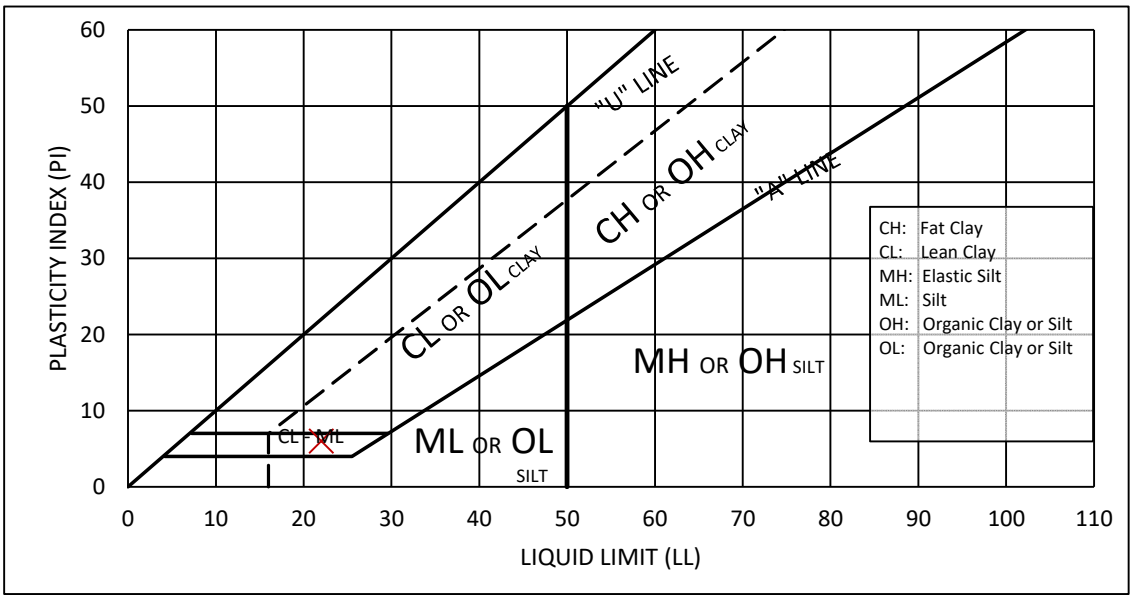
KEVIN L. PATTON, P.E.
36 PATTON ROAD
NEWBURGH, NY 12550
845 275-7732 PATTONGEOTECH.COM

CLIENT:	One Key LLC		
PROJECT:	Harrington Heights, South Hamilton St., Poughkeepsie		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

ATTERBERG LIMITS TEST

TEST METHODS: ASTM D4318/ AASHTO T89, T90

Sample Location	TP1
Depth	8 feet
Percent Passing #40	53
Liquid Limit (LL)	**22**
Plastic Limit (PL)	**16**
Plasticity Index (PI)	**6**
USCS Class of -#40	CL-ML, Silty Clay



LL, PL and PI values are percent moisture of the soil by dry mass.

Test is performed on the 'matrix' fraction of the soil, finer than the #40 (0.425mm) sieve.

The Liquid Limit is the moisture content at which the matrix fraction of the soil changes from a stiff to a flowing consistency. The plastic limit is the moisture content at which it changes from cohesive to crumbly. The Plasticity Index is the Liquid Limit minus the Plastic Limit.

Reviewed by: *Kevin Patton*

Form ABL

KEVIN L. PATTON, P.E.
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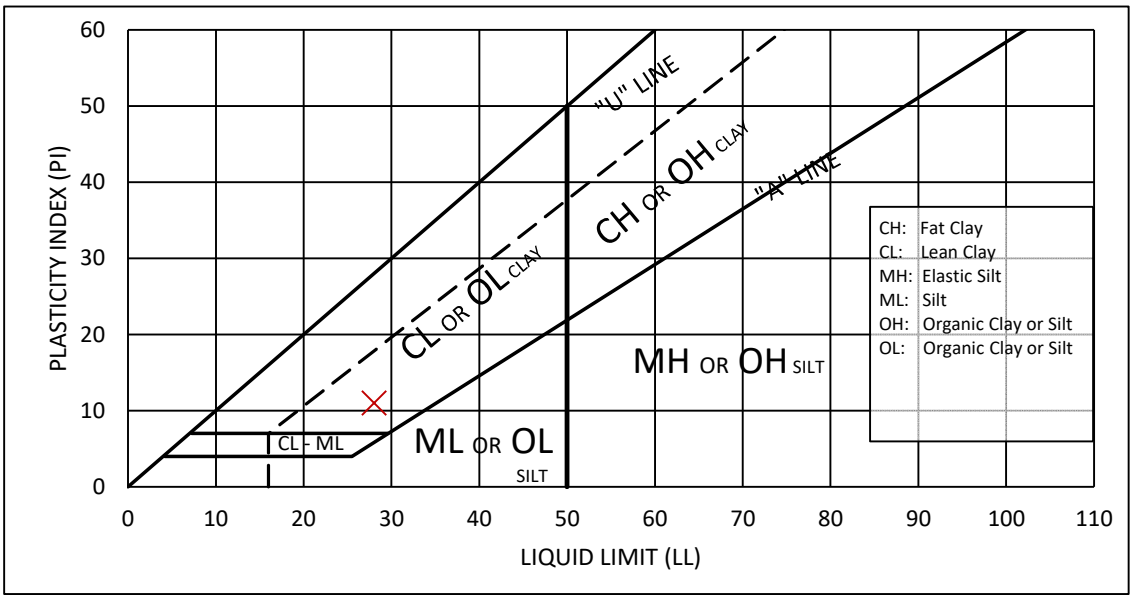
NEWBURGH, NY 12550
845 275-7732 PATTONGEOTECH.COM

CLIENT:	One Key LLC		
PROJECT:	Harrington Heights, South Hamilton St., Poughkeepsie		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

ATTERBERG LIMITS TEST

TEST METHODS: ASTM D4318/ AASHTO T89, T90

Sample Location	TP7
Depth	2 feet
Percent Passing #40	94
Liquid Limit (LL)	**28**
Plastic Limit (PL)	**17**
Plasticity Index (PI)	**11**
USCS Class of -#40	CL, Lean Clay



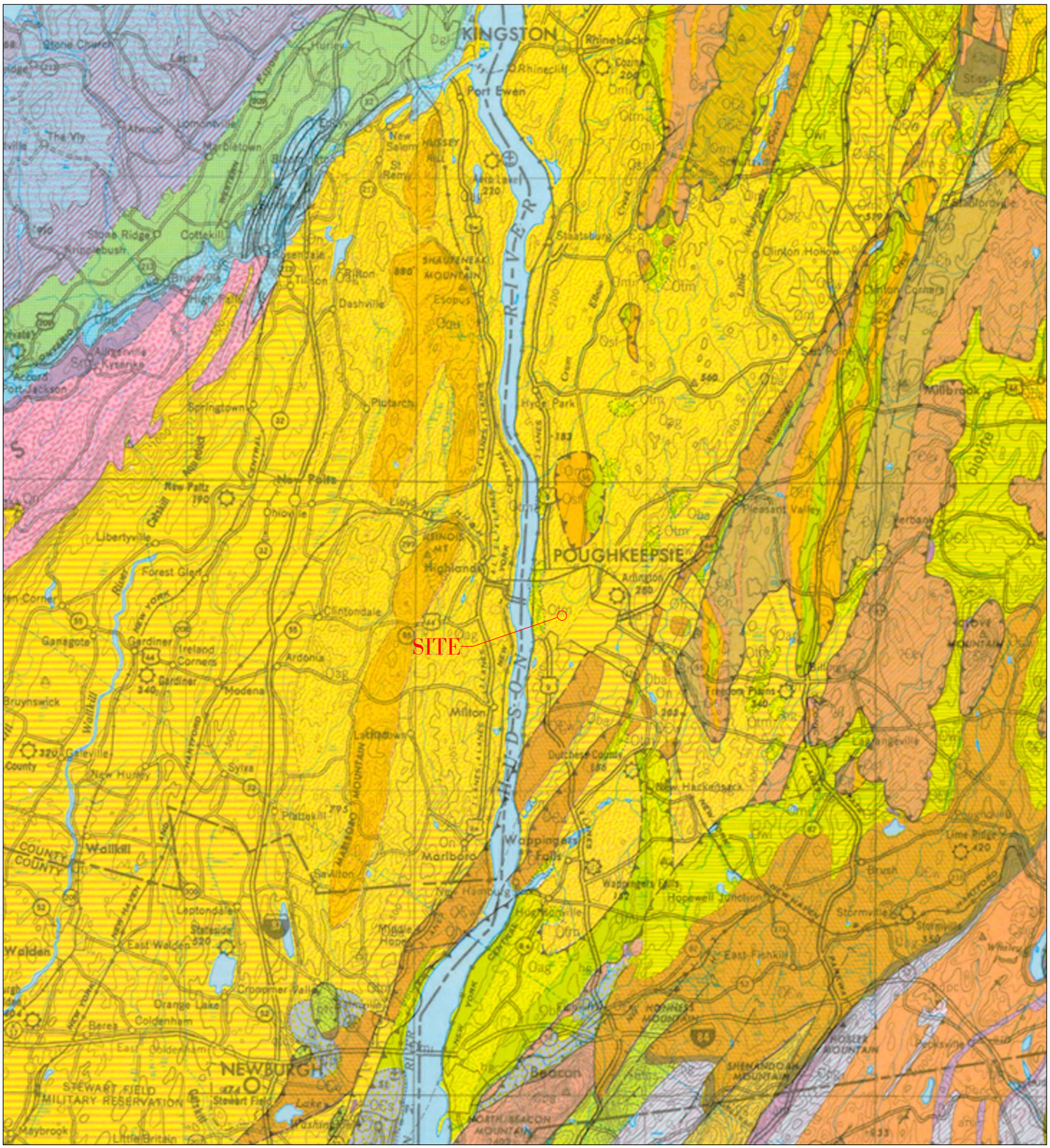
LL, PL and PI values are percent moisture of the soil by dry mass.

Test is performed on the 'matrix' fraction of the soil, finer than the #40 (0.425mm) sieve.

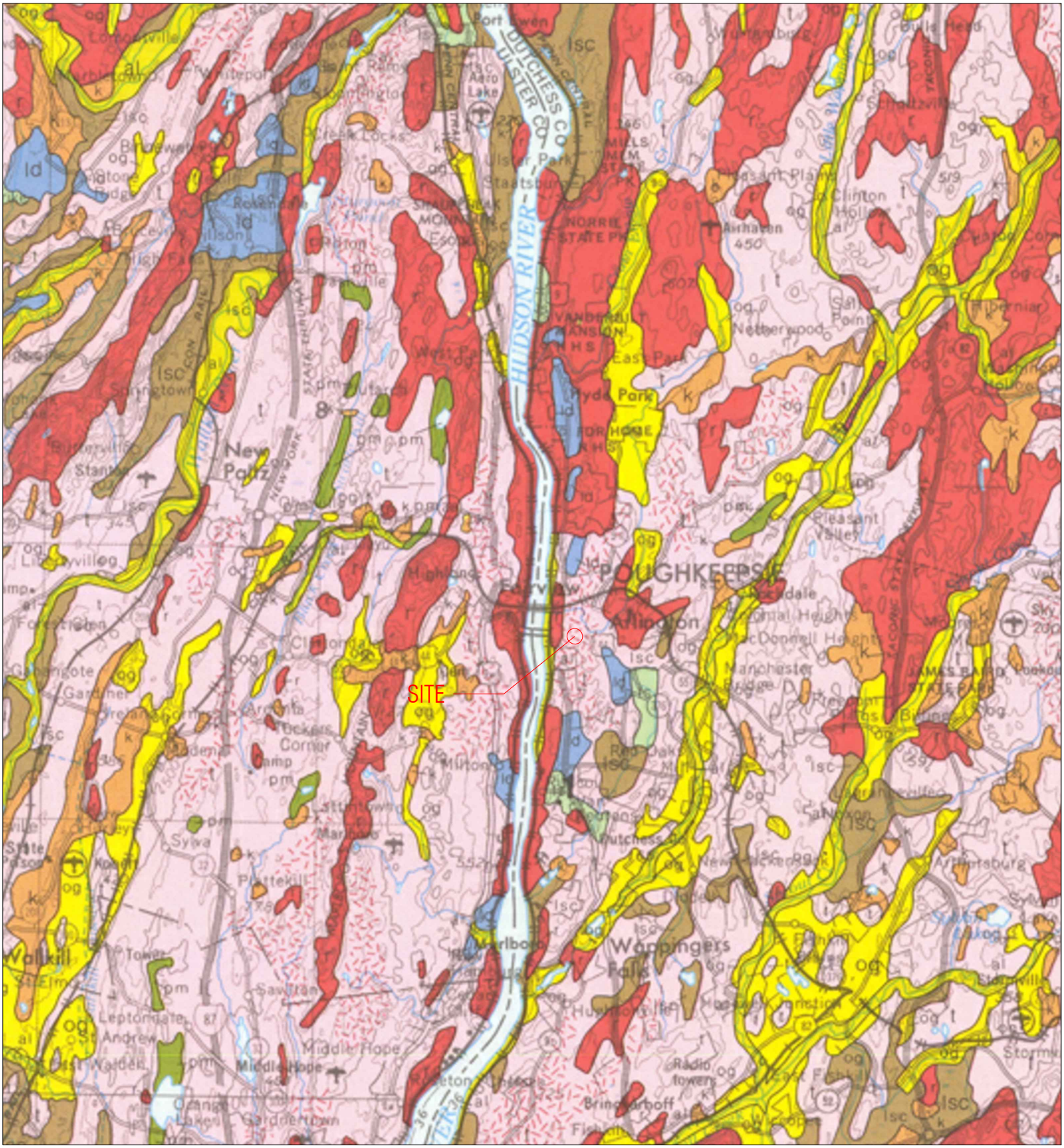
The Liquid Limit is the moisture content at which the matrix fraction of the soil changes from a stiff to a flowing consistency. The plastic limit is the moisture content at which it changes from cohesive to crumbly. The Plasticity Index is the Liquid Limit minus the Plastic Limit.

Reviewed by: *Kevin Patton*

Form ABL



Approximate location of the project site, shown on part of the Bedrock Geologic Map of New York (1970.) The site is in an area of Ordovician-age sedimentary bedrock consisting mostly of gray siltstone, shale and greywacke sandstone. The bedrock at the site is shown as Austin Glen Formation (yellow, symbol Oag,) which is generally bounded to the east and west by the somewhat older Normanskill shale (yellow with red stripes, On,) and is overlain by the younger Quassaic quartzite in the high areas (orange, Oqu.) Taconic melange (green, Otm) is indicated along the Hudson River in Poughkeepsie, to the west of the site; it is composed of slaty, sheared Austin Glen bedrock. To the southeast, the older Wappinger dolostone (brown, OCw,) is down-faulted against the Normanskill Formation bedrock.



Approximate location of the project site, shown on a partial copy of the Surficial Geologic Map of New York (N.Y. State Museum, 1989.) The map indicates that the soils at and near the site are glacial till, shown in pink with the symbol 't.' A red stipple pattern is also shown, indicating that bedrock is generally within three to ten feet of the surface. Areas where bedrock is mostly very shallow or is exposed are indicated by red. Thee map units are generalized; alluvium, outwash and lacustrine deposits have all been encountered in parts of the City of Poughkeepsie where till is indicated by the map.

EXPLANATION

al — **Recent deposits**
Generally confined to floodplains within a valley,
oxidized, non-calcareous, fine sand to gravel,
in larger valleys may be overlain by silt,
subject to frequent flooding, thickness 1–10 meters.

alf — **Alluvial fan**
Fan shaped accumulations,
poorly stratified silt, sand and boulders,
at the foot of steep slopes,
generally permeable.

b — **Beach**
Sand and gravel deposit at marine shoreline,
thickness variable.

bi — **Barrier island**
Sand and gravel deposit as barrier island,
south shore of Long Island,
may have associated dunes,
thickness variable.

pm — **Swamp deposits**
Peat-muck, organic silt and sand in poorly drained areas,
un-oxidized,
may be overlying marl and lake silts,
potential land instability,
thickness generally 2-20 meters.

ld — **Lacustrine delta**
Coarse to fine gravel and sand,
stratified, generally well sorted,
deposited at a lake shoreline,
thickness variable (3-15 meters).

lsc — **Lacustrine silt and clay**
Generally laminated silt and clay,
deposited in proglacial lakes,
generally calcareous,
potential land instability,
thickness variable (up to 100 meters).

ls — **Lacustrine sand**
Sand deposits associated with large bodies of water,
generally a near-shore deposit or near a sand source,
well sorted, stratified,
generally quartz sand,
thickness variable (2-20 meters).

og — **Outwash sand and gravel**
Coarse to fine gravel with sand,
proglacial fluvial deposition,
well rounded and stratified,
generally finer texture away from ice border,
thickness variable (2-20 meters).

fg — **Fluvial sand and gravel**
Deposits of sand and gravel,
occasional laterally continuous lenses of silt,
deposition farther from glacier,
age uncertain.

k — **Kame deposits**
Includes kames, eskers, kame terraces, kame deltas,
coarse to fine gravel and/or sand,
deposition adjacent to ice,
lateral variability in sorting, coarseness and thickness,
locally firmly cemented with calcareous cement,
thickness variable (10-30 meters).

km — **Kame moraine**
Variable texture (size and sorting) from boulders to sand,
deposition at an ice margin during deglaciation,
positive constructional relief,
locally cemented with calcareous cement,
thickness variable (10-30 meters).

tm — **Till moraine**
More variably sorted than till,
generally more permeable than till,
deposition adjacent to ice,
more variably drained,
may include ablation till,
thickness variable (10-30 meters).

t — **Till**
Variable texture (e.g. clay, silt-clay, boulder clay),
usually poorly sorted diamict,
deposition beneath glacier ice,
relatively impermeable (loamy matrix),
variable clast content — ranging from abundant well-rounded
diverse lithologies in valley tills to relatively
angular, more limited lithologies in upland tills,
tends to be sandy in areas underlain by gneiss or sandstone,
potential land instability on steep slopes,
thickness variable (1-50 meters).

af — **Artificial fill**

r — **Bedrock**
Exposed or generally within 1 meter of surface.

Bedrock stipple overprint
Bedrock may be within 1-3 meters of surface,
may sporadically crop out,
variable mantle of rock debris and glacial till.

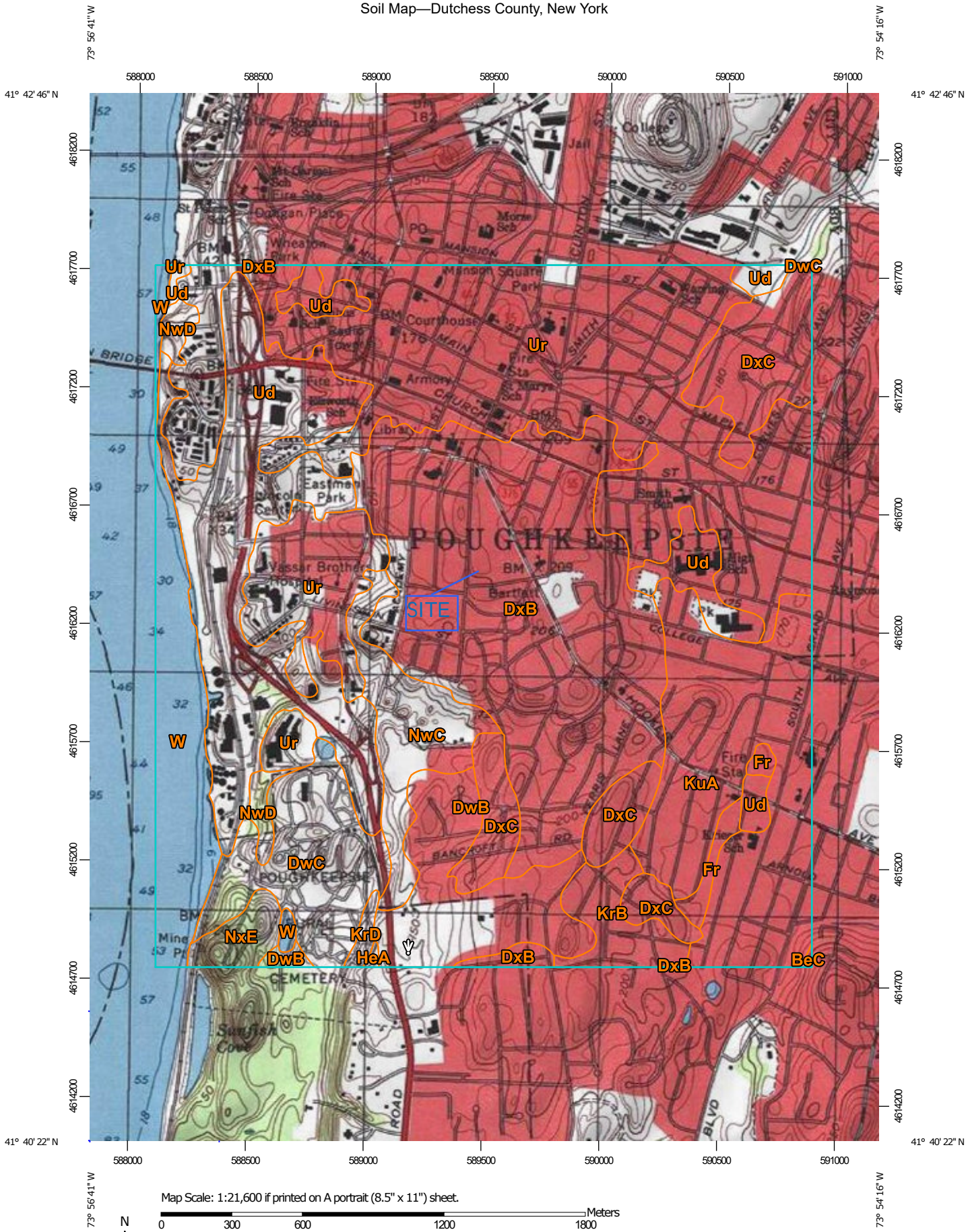
MAP SYMBOLS

Contact

.3 Dated radiocarbon locality

MAP KEY
NEW YORK STATE SURFICIAL GEOLOGIC MAP

KEVIN L. PATTON, P.E.


73° 56' 41" W
73° 54' 16" W
41° 42' 46" N
41° 40' 22" N
588000
588500
589000
589500
590000
590500
591000
4618200
4617700
4617200
4616700
4616200
4615700
4615200
4614700
4614200
Ur
DxB
Ud
W
NwD
DwC
DxC
SITE
NwC
Fr
KuA
DwB
KrB
NxE
KrD
HeA
BeC
POUGHKEEPSIE
CEMETERY
Map Scale: 1:21,600 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0
300
600
1200
1800
Feet
0
1000
2000
4000
6000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Background

- Topographic Map

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 19, Sep 10, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BeC	Bernardston silt loam, 8 to 15 percent slopes	0.6	0.0%
DwB	Dutchess-Cardigan complex, undulating, rocky	102.3	5.0%
DwC	Dutchess-Cardigan complex, rolling, rocky	96.6	4.7%
DxB	Dutchess-Cardigan-Urban land complex, undulating, rocky	399.6	19.5%
DxC	Dutchess-Cardigan-Urban land complex, rolling, rocky	123.4	6.0%
Fr	Fredon silt loam	12.3	0.6%
HeA	Haven loam, nearly level	1.0	0.1%
KrB	Knickerbocker fine sandy loam, undulating	36.0	1.8%
KrD	Knickerbocker fine sandy loam, hilly	5.2	0.3%
KuA	Knickerbocker-Urban land complex, nearly level	214.3	10.5%
NwC	Nassau-Cardigan complex, rolling, very rocky	68.8	3.4%
NwD	Nassau-Cardigan complex, hilly, very rocky	14.7	0.7%
NxE	Nassau-Rock outcrop complex, steep	19.6	1.0%
Ud	Udorthents, smoothed	286.3	14.0%
Ur	Urban land	565.5	27.6%
W	Water	104.2	5.1%
Totals for Area of Interest		**2,050.6**	**100.0%**

Dutchess County, New York

DxB—Dutchess-Cardigan-Urban land complex, undulating, rocky

Map Unit Setting

National map unit symbol: 9rfr
Elevation: 20 to 1,000 feet
Mean annual precipitation: 41 to 47 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Dutchess and similar soils: 30 percent
Cardigan and similar soils: 25 percent
Urban land: 20 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dutchess

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till derived mainly from phyllite, slate, schist, and shale

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 28 inches: silt loam
H3 - 28 to 86 inches: channery silt loam

Properties and qualities

Slope: 1 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Cardigan

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till or colluvium derived from phyllite, slate, shale, and schist

Typical profile

H1 - 0 to 8 inches: channery silt loam
H2 - 8 to 20 inches: channery loam
H3 - 20 to 30 inches: channery silt loam
H4 - 30 to 34 inches: unweathered bedrock

Properties and qualities

Slope: 1 to 6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Urban Land

Typical profile

H1 - 0 to 6 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components

Udorthents

Percent of map unit: 10 percent
Hydric soil rating: No

Georgia
Percent of map unit: 5 percent
Hydric soil rating: No

Nassau
Percent of map unit: 5 percent
Hydric soil rating: No

Massena
Percent of map unit: 4 percent
Hydric soil rating: No

Sun
Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 19, Sep 10, 2022

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

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

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

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

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

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties–Dutchess County, New York														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
DxB—Dutchess-Cardigan-Urban land complex, undulating, rocky														
Dutchess	30	B	0-8	Silt loam	ML	A-4	0- 0- 0	0- 8- 15	95-98-100	90-93-95	80-88-95	55-70-85	15-24-33	NP-2 -4
			8-28	Silt loam, channery silt loam, gravelly loam	GM, ML, SM	A-4	0- 0- 0	0- 0- 20	70-92-95	65-90-95	55-80-95	40-70-85	15-24-33	NP-2 -4
			28-86	Channery silt loam, very channery fine sandy loam, very gravelly sandy loam	GM, ML, SM	A-1-b, A-4, A-2-4	0- 0- 0	5-15- 25	55-68-80	50-63-75	30-53-75	15-40-65	15-20-25	NP-2 -4
Cardigan	25	C	0-8	Channery silt loam	ML, SM	A-4	0- 0- 0	0- 3- 5	80-88-95	70-83-95	60-68-75	35-53-70	15-24-33	NP-3 -5
			8-20	Silt loam, channery silt loam, channery loam	ML, SM	A-4	0- 0- 0	0- 5- 10	80-88-95	70-83-95	60-68-75	35-53-70	15-24-33	NP-3 -5
			20-30	Silt loam, loam, channery silt loam	ML, SM	A-1, A-4, A-2	0- 0- 0	0- 5- 10	80-88-95	60-75-90	40-58-75	20-45-70	15-24-33	NP-3 -5
			30-34	Unweathered bedrock	—	—	0- 0- 0	0- 0- 0	—	—	—	—	—	—
Urban land	20		0-6	Variable	—	—	0- 0- 0	0- 0- 0	—	—	—	—	—	—

Data Source Information

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 19, Sep 10, 2022

APPENDIX J

New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Better Site Design

April 2008

New York State
Department of Environmental Conservation

Document Prepared by:

Horsley Witten Group
with assistance from the
Center for Watershed Protection

BETTER SITE DESIGN

1 INTRODUCTION

1.1 Purpose

The purpose of this document is to provide guidance to developers and designers to plan for and implement better site-design practices for new development and redevelopment projects. While reducing the effects of stormwater runoff may be achieved through both regulatory and non-regulatory techniques, this document focuses on the site-level planning and design tools available to the development community.

As research, technology and information transfer have improved over recent years, alternative approaches are being sought by the public and regulatory boards to reduce the effects of stormwater runoff from new development and redevelopment. Developers and designers also are seeking alternatives to expedite permitting processes, reduce construction costs, reduce long-term operation and maintenance costs and increase property values.

What is better site design, and how does it differ from conventional design? Better site design incorporates non-structural and natural approaches to new and redevelopment projects to reduce effects on watersheds by conserving natural areas, reducing impervious cover and better integrating stormwater treatment. For the purposes of this document, conventional design can be viewed as the style of suburban development that has evolved during the past 50 years and generally involves larger lot development, clearing and grading of significant portions of a site, wider streets and larger cul-de-sacs, enclosed drainage systems for stormwater conveyance and large “hole-in-the-ground” detention basins.

The aim of better site design is to reduce the environmental-impact “footprint” of the site while retaining and enhancing the owner/developer’s purpose and vision for the site. Many of the better site-design concepts employ non-structural on-site treatment that can reduce the cost of infrastructure while maintaining or even increasing the value of the property relative to conventional designed developments.

The goals of better site design include:

- Prevention of stormwater effects rather than having to mitigate for them
- Management of stormwater (quantity and quality) as close to the source as possible and minimization of the use of large or regional collection and conveyance
- Preservation of natural areas, native vegetation and reduction of the effect of on watershed hydrology
- Usage of natural drainage pathways as a framework for site design
- Utilization of simple, non-structural methods for stormwater management that are lower cost and lower maintenance than structural controls
- Creation of a multifunctional landscape

1.2Scope and Context/How to Use this Document

The scope and context of this document is to present developers and site designers with a series of alternatives to conventional stormwater management practices to reduce the effect development has on the watershed (e.g., peak stream flow, stormwater runoff, habitat, etc.). The information presented is intended to provide guidance during the site-planning process on how to "re-think" the traditional site layout and design approach for both new and redevelopment projects.

This document provides an overview of the broad categories of better site design, the specific practices under each category, guidance on evaluating appropriate practices by weighing the benefits and risks of each practice and further guidance on each individual practice. Two case studies are also presented, one for a residential development and one for a commercial development, that illustrate conventional site designs versus "better" site designs. This document provides general guidance on how to choose the appropriate design technique but does not provide detailed design requirements and specifications for each of these practices. A list of resources on where to find this information is provided in the profile sheets in Section 2.4.

1.3 Key Terminology

Better site design - Incorporates non-structural and natural approaches to new and redevelopment projects to reduce effects on watersheds by conserving natural areas, reducing impervious cover and better integrating stormwater treatment.

Conservation design - Includes laying out the elements of a development project in such a way that the site design takes advantage of a site's natural features, preserves the more sensitive areas and identifies any site constraints and opportunities to prevent effects.

Conventional site design - For the purposes of this document, conventional design can be viewed as the style of suburban development that has evolved during the past 50 years and generally involves larger lot development, clearing and grading of significant portions of a site, wider streets and larger cul-de-sacs, enclosed drainage systems for stormwater conveyance and large "hole-in-the-ground" detention basins.

Total impervious area - This is the total area within a watershed of all materials or structures on or above the ground surface that prevents water from infiltrating into the underlying soils. Impervious surfaces include, without limitation: paved parking lots, sidewalks, rooftops, patios, and paved, gravel and compacted-dirt surfaced roads. Gravel parking lots and/or compacted urban soils are often not included in total impervious area but may have hydrologic characteristics that closely resemble paved areas.

Natural areas - This is undisturbed land or previously disturbed land that has recovered and that retains pre-development hydrologic and water quality characteristics.

New development – Any construction or disturbance of a parcel of land that is currently undisturbed or unaltered by human activities and in a natural state.

Non-structural stormwater control – Natural measures that reduce pollution levels, do not require extensive construction or engineering efforts and/or promote pollutant reduction by eliminating the pollutant source.

Redevelopment – Any land disturbance for construction, alteration or improvement where the existing land use is commercial, industrial, institutional or multi-family residential.

Structural stormwater control – Devices that are engineered and constructed to provide temporary storage and treatment of stormwater runoff.

1.4 The Benefits of Better Site Design

The use of better site design can have a number of benefits that extend beyond improving water quality and stormwater runoff management, including:

- Reduced construction costs
- Reduced long-term operation and maintenance costs
- Increased property values
- Easier compliance with wetland and other resource protection regulations
- More open space for recreation
- More pedestrian-friendly neighborhoods
- Protection of sensitive forests, wetlands and habitats
- More aesthetically pleasing and naturally attractive landscape

1.5 The Obstacles of Better Site Design

Some obstacles exist or are perceived in the implementation of better site-design practices. Such as:

- Public perception of a particular practice may not be favorable
- Local codes may not allow for particular design elements
- Capital costs and/or operation and maintenance costs for some practices may not always be less expensive than conventional designs.

Typical perceived obstacles and realities specific to each practice are presented in the individual practice profile sheets in Section 2.4.

2 STORMWATER BETTER SITE DESIGN PRACTICES

2.1 Better Site-Design Categories and Listing of Practices

Stormwater better site-design practices and techniques covered in this document are grouped into the following three categories:

Preservation of Natural Features and Conservation Design: Preservation of natural features includes techniques to foster the identification and preservation of natural areas that can be used in the protection of water resources. Conservation design includes laying out the elements of a development project in such a way that the site design takes advantage of a site's natural features, preserves the more sensitive areas and identifies any site constraints and opportunities to prevent or reduce effects.

***Reduction of Impervious Cover*:** Reduction of impervious cover includes methods to reduce the amount of rooftops, parking lots, roadways, sidewalks and other surfaces that do not allow rainfall to infiltrate into the soil, in order to reduce the volume of stormwater runoff, increase groundwater recharge, and reduce pollutant loadings that are generated from a site.

***Use of Natural Features and Source Control for Stormwater Management*:** Use of natural features for stormwater management includes design strategies rather than structural stormwater controls to help manage and mitigate runoff. Source control for stormwater management includes elements to mitigate or manage stormwater in a natural or lower-impact manner.

Table 1 lists the specific better site-design practices and techniques presented in this document for each of the three categories. An evaluation of each practice is presented in Table 2, and further detail on each site-design practice is provided in the profile sheets in section 2.4.

Table 1: Better Site-Design General Categories and Specific Practices
Preservation of Natural Features and Conservation Design
1. Preservation of Undisturbed Areas 2. Preservation of Buffers 3. Reduction of Clearing and Grading 4. Locating Sites in Less Sensitive Areas 5. Open Space Design
Reduction of Impervious Cover
6. Roadway Reduction 7. Sidewalk Reduction 8. Driveway Reduction 9. Cul-de-sac Reduction 10. Building Footprint Reduction 11. Parking Reduction
Use of Natural Features and Source Control for Stormwater Management
12. Vegetated Buffer/Filter Strips 13. Open Vegetated Channels 14. Bioretention and Raingardens 15. Infiltration 16. Rooftop Runoff Reduction Mitigation 17. Stream Daylighting for Redevelopment Projects 18. Tree Planting

2.2 Better Site-Design Planning Process

Site design should be done in unison with the design and layout of stormwater infrastructure in attaining stormwater management and land use goals. The stormwater better site-design process used a three-step process as follows:

1. **Avoiding the Impacts** – Preserving natural features and use conservation design techniques
2. **Reducing the Impacts** – Reducing impervious cover.
3. **Managing the Impacts** – Using natural features and natural low-impact techniques to manage stormwater

The first step in the planning and design process is to avoid or minimize disturbance by preserving natural areas or strategically locating development based on the location of resource areas and physical conditions at a site. Once sensitive resource areas and site constraints have been avoided, the next step is to minimize the impact of land alteration by reducing impervious areas. Finally, for the areas that must be impervious, alternative and natural stormwater management techniques are chosen as opposed to the more routine structural, "pipe-to-pond," approach.

2.3 Evaluating and Selecting Better Site Design Practices

Part of the planning process for better site design includes choosing the appropriate practice or practices for a given site. Table 2 illustrates the various criteria and factors used to evaluate the feasibility of a particular design practice and are ranked as either good, fair or poor, or as often, sometimes or rarely. The factors presented in Table 2 that will help a developer decide which practices to choose include:

How the Practice Applies To Meeting New York State Stormwater Criteria – Does the practice help meet the water quality volume (WQv) criteria? Does the practice help provide the quantity controls such as channel protection (Cp_v), overbank flood (Qp), and extreme flooding (Qf)? For descriptions of the criteria, see the New York State Stormwater Management Design Manual. (www.dec.state.ny.us/website/dow/toolbox/swmanual/#Downloads)

Economics – Does the practice decrease capital construction/infrastructure costs and decrease long-term operation and maintenance costs? Does the practice increase property values?

Public Perception – Is the practice well received by the public and something people will want to live with?

Local Codes – Do local codes, ordinances and regulations typically allow implementation of the practice?

Table 2: Better Site Design Practice Evaluation

Category	Technique	Applies To SW Criteria[1]			Economics			Public Per-ception	Allowed by Local Codes[4]
		WQv	Cp_v, Qp, Qf	How Applies To Criteria	Lowers Capital Costs[2]	Lowers O&M[3] Costs	Raises Property Value		
Preservation of Natural Features and Conservation Design	1. Preservation of Undisturbed Areas	◉	◉	Increases times of concentration, reduces CN[5]	●	●	◉	◉	◉
	2. Preservation of Buffers	◉	◉	Increases times of concentration, reduces CN	●	●	◉	◉	●
	3. Reduction of Clearing and Grading	◉	◉	Increases times of concentration, reduces CN	●	●	●	●	◉
	4. Locating Sites in Less Sensitive Areas	◉	◉	Increases times of concentration, reduces CN	●	●	◉	◉	◉
	5. Open-Space Design	◉	◉	Increases times of concentration, reduces CN	●	●	○	◉	◉
Reduction of Impervious Cover	6. Roadway Reduction	●	●	Reduces impervious area, which reduces WQv & flows	●	●	●	◉	○
	7. Sidewalk Reduction	●	●	Reduces impervious area, which reduces WQv & flows	●	●	◉	◉	○
	8. Driveway Reduction	●	●	Reduces impervious area, which reduces WQv & flows	●	●	◉	◉	◉
	9. Cul-de-sac Reduction	●	●	Reduces impervious area, which reduces WQv & flows	●	●	◉	◉	○
	10. Building-Footprint Reduction	●	●	Reduces impervious area, which reduces WQv & flows	●	●	◉	●	●
	11. Parking Reduction	●	●	Reduces impervious area, which reduces WQv & flows	●	●	◉	◉	◉
Use of Natural Features and Source Control for Stormwater Management	12. Vegetated Buffer/Filter Strips	◉	◉	Increases times of concentration, reduces CN	●	●	◉	●	◉
	13. Open Vegetated Channels	●	●	Stores WQv & Peak Flows	●	◉	◉	◉	●
	14. Bioretention	●	●	Stores WQv & Peak Flows	●	◉	◉	●	●
	15. Infiltration	●	●	Stores WQv & Peak Flows	●	◉	◉	●	●
	16. Rooftop Runoff Reduction Mitigation	●	●	Stores WQv & Peak Flows	●	●	◉	◉	●
	17. Stream Daylighting for Redevelopment Projects	○	○	Increases travel times, decreases peak flows	○	◉	●	●	●
	18. Tree Planting	◉	◉	Reduces volume of runoff, reduces CN	◉	◉	●	●	●

Key: ● = good/often ◉ = fair/sometimes ○ = poor/rarely

1 - WQv = Water Quality Volume, Cp_v = Channel Protection, Qp = Overbank Flood, Qf = Extreme Flood

2 - "Lowers Capital Costs" is intended for general purposes. Capital costs may vary on a site-by-site basis.

3 - Operation and Maintenance

4 - "Allowed by Local Code" is intended for general purposes. User should consult with actual local planning codes.

5 - CN = Runoff Coefficient "Curve Number"

2.4 Better Site Design Practice Profile Sheets

2.4.1 Preservation of Natural Features and Conservation Design

Preservation of natural features includes the techniques to foster the identification and preservation of natural areas that can be used in the protection of water resources by reducing stormwater runoff, providing runoff storage, reducing flooding, preventing soil erosion, promoting infiltration and removing stormwater pollutants. Conservation Design includes laying out the elements of a development project in such a way that the site design takes advantage of a site's natural features, including areas to be protected as conservation areas, preserves the more sensitive areas and identifies any site constraints and opportunities (e.g., topography, soils, natural vegetation, wetlands, floodplains, shallow bedrock, high water table, etc.) to prevent both on-site and downstream stormwater effects.

2.4.2 Reduction of Impervious Cover

Reduction of impervious cover includes methods to reduce the amount of rooftops, parking lots, roadways, sidewalks and other surfaces that do not allow rainfall to infiltrate into the soil, in order to reduce the volume of stormwater runoff, increase groundwater recharge and reduce pollutant loadings that are generated from a site.

2.4.3 Utilization of Natural Features and Source Control for Stormwater Management

Use of natural features for stormwater management includes design strategies that use existing or recreate natural features to help manage and mitigate runoff, rather than structural stormwater controls. Source control for stormwater management includes elements to mitigate or manage stormwater in a natural or lower-impact manner.

Better Site Design Practice #1:

Preservation of Undisturbed

Preservation of Natural Features and Conservation

Description: Important natural features and areas such as undisturbed forested and native vegetated areas, natural terrain, riparian corridors, wetlands and other important site features should be delineated and placed into permanent conservation areas.

Key Benefits

- Helps to preserve a site's natural hydrology and water balance
- Can act as a non-structural stormwater feature to promote additional filtration and infiltration
- Can help to preserve a site's natural character, habitat and aesthetic appeal
- Has been shown to increase property values for adjacent parcels
- Can reduce structural stormwater management storage requirement and may be used as a "stormwater credit

Typical Perceived Obstacles and Realities

- Preserved conservation areas may limit the development potential of a site – *With clustering and other development incentives, development yield can be maintained.*
- Preserved habitats may harbor undesirable wildlife and insects – *Most people enjoy viewing wildlife; native vegetation does not provide a food source for most vermin; continued education is necessary to show that humans and wildlife can co-exist, even at the neighborhood level.*
- Preserved areas may represent a fire hazard – *Clearing setbacks and target vegetation around residential structures can reduce property damage potential*.

USING THIS PRACTICE

- Delineate and define natural conservation areas before performing site layout and design.
- Ensure that conservation areas and native vegetation are protected in an undisturbed state through the design, construction and occupancy stages.

Discussion

Conservation of natural areas such as undisturbed forested and native-vegetated areas, natural terrain, riparian corridors and wetlands on a development project can help to preserve pre-development hydrology of the site and aid in reducing stormwater runoff and pollutant load. Undisturbed vegetated areas also promote soil stabilization and provide for filtering and infiltration of runoff.

Natural conservation areas are typically identified through a site-analysis stage using mapping and field-reconnaissance assessments. Areas proposed for protection should be delineated early in the planning stage, long before any site design, clearing or construction begins. When done before the concept-plan phase, the planned conservation areas can be used to guide the layout of a project. Figure 1 shows components of a natural resources inventory map with proposed conservation areas delineated.

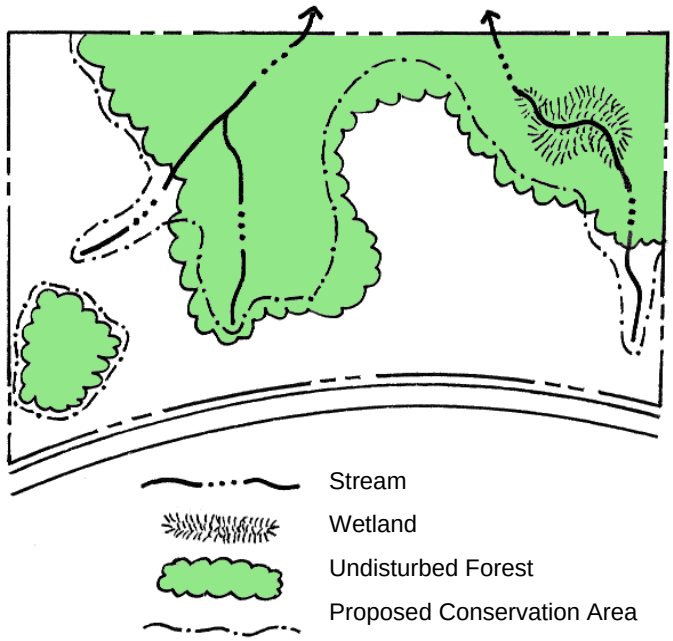


Figure 1: Example of Natural Resource Inventory Plan
(Source: Georgia Stormwater Manual, 2001)

Preservation areas should then be incorporated into site-development plans and clearly marked on all construction and grading plans to ensure that construction activities are kept out of these areas and that native vegetation is undisturbed. The boundaries of each conservation area should be mapped by carefully determining the limit which should not be crossed by construction activity.

Once established, natural conservation areas must be protected during construction and managed after occupancy by a responsible party able to maintain the areas in a natural state in perpetuity. Typically, conservation areas are protected by legally enforceable deed restrictions, conservation easements and a maintenance agreement. When all of these measures are applied, a permanently protected natural area can be applied as a "stormwater credit" to reduce the structural stormwater management measures (see Figure 2 for a representative project illustrating natural resource area protection).



Figure 2: Aerial Photograph of Development Project Illustrating Preservation of Undisturbed Natural Areas
(Source: Arendt, 1996)

Additional Guidance

Arendt, Randall. 1996. *Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks.* American Planning Association. Chicago, IL. Available from the American Planning Association at www.planning.org

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Better Site Design Practice #2:
Preservation of Buffers

Preservation of Natural Features and Conservation Design

Description: Naturally vegetated buffers should be defined, delineated and preserved along perennial streams, rivers, shorelines and wetlands.

Key Benefits	Typical Perceived Obstacles and Realities
• Riparian buffers treat stormwater and improve water quality • Can be used as nonstructural stormwater infiltration zones • Keep structures out of the floodplain and provide a right-of-way for large flood events • Help to preserve riparian ecosystems and habitats • Can serve as recreational areas • A buffer credit can be taken if allowed by the local review authority.	• Buffers may result in a potential loss of developable land – *Regulatory tools or other incentives may be available to protect the interests of property owners* • Private landowners may be required to provide public access to privately held stream buffers – *Effective buffers can be maintained in private ownership through deed restrictions and conservation easements* • Excessive nuisance species will be present due to the natural buffer area - *Forested buffers do not encourage nuisance vegetative species, and animal habitation can be controlled at the outer zone of the buffer.*

USING THIS PRACTICE

- Delineate and preserve naturally vegetated riparian buffers (define the width, identify the target vegetation, designate methods to preserve the buffer indefinitely)
- Ensure that buffers and native vegetation are protected throughout planning, design, construction and occupancy
- Consult local planning authority for minimum buffer width and/or recommended width.

Discussion

A riparian buffer is a special type of natural conservation area along a stream, wetland or shoreline where development is restricted or prohibited. The primary function of buffers is to protect and physically separate a stream, lake, coastal shoreline or wetland from future disturbance or encroachment. If properly designed, a buffer can provide stormwater management functions, can act as a right-of-way during floods, and can sustain the integrity of water-resource ecosystems and habitats. An example of a riparian stream buffer is shown in Figure 3.



Figure 3: Riparian Stream Buffer
(Source: Georgia Stormwater Manual, 2001)

Forested riparian buffers should be maintained and reforestation should be encouraged where no wooded buffer exists. Proper restoration should include all layers of the forest plant community, including understory, shrubs and groundcover, not just trees. A riparian buffer can be of fixed or variable width but should be continuous and not interrupted by impervious areas that would allow stormwater to concentrate and flow into the stream without first flowing through the buffer.

Ideally, riparian buffers should be sized to include the 100-year floodplain as well as steep banks and freshwater wetlands. The buffer depth needed to perform properly will depend on the size of the stream and the surrounding conditions, but a minimum 25-foot undisturbed vegetative buffer is needed for even the smallest perennial streams, and a 50-foot or larger undisturbed buffer is ideal. Even with a 25-foot undisturbed buffer, additional zones can be added to extend the total buffer to at least 75 feet from the edge of the stream. The three distinct zones within the 75-foot depth are shown in Figure 4. The function, vegetative target and allowable uses vary by zone as described in Table 3.

These recommendations are minimum standards for most streams. Some streams and watersheds may benefit from additional measures to ensure adequate protection. In some areas, specific state laws or local ordinances already require stricter buffers than are described here. The buffer widths discussed are not intended to modify or supersede wider or more restrictive buffer requirements that are already in place.

Table 3: Riparian Buffer Management Zones ***(Source: Adapted from Schueler, 1995)***

	Streamside Zone	Middle Zone	Outer Zone
Width	Minimum 25 feet plus wetlands and critical habitat	Variable, depending on stream order, slope, and 100-year floodplain (min. 25 ft.)	25-foot minimum setback from structures
Vegetative Target	Undisturbed mature forest. Reforest if necessary.	Managed forest, some clearing allowed.	Forest encouraged, but usually turfgrass.
Allowable Uses	Very restricted (e.g., flood control, utility easements, footpaths)	Restricted (e.g., some recreational uses, some stormwater controls, bike paths)	Unrestricted (e.g., residential uses, including lawn, garden, most stormwater controls)

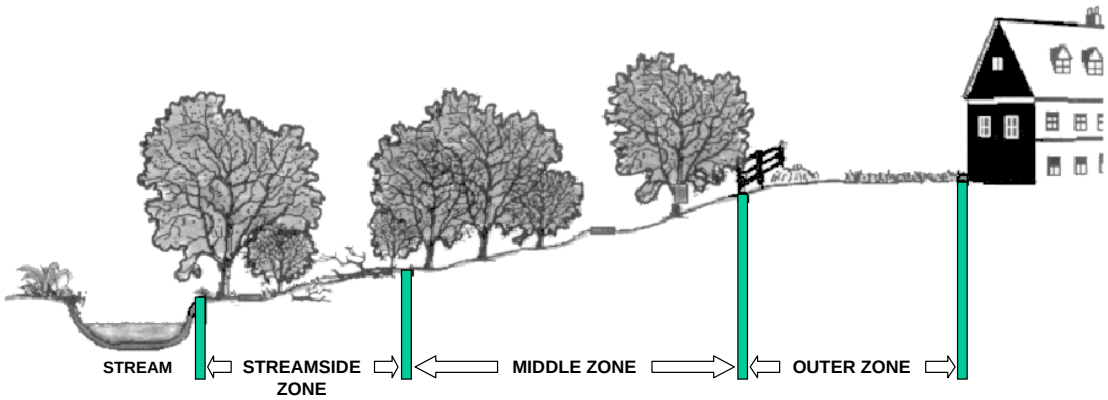

Figure 4: Three-Zone Stream Buffer System
(Source: Adapted from Schueler, 1995)

As stated above, the streamside or inner zone should consist of a minimum of 25 feet of undisturbed mature forest. In addition to runoff protection, this zone provides bank stabilization as well as shading and protection for the stream. This zone should also include wetlands and any critical habitats, and its width should be adjusted accordingly. The middle zone provides a transition between upland development and the inner zone and should consist of managed woodland that allows for infiltration and filtration of runoff. An outer zone allows more clearing and acts as a further setback for impervious surfaces. It also functions to prevent encroachment and filter runoff. It is here that flow into the buffer should be transformed from concentrated flow into sheet flow to maximize ground contact with the runoff.

Development within the riparian buffer should be limited only to those structures and facilities that are absolutely necessary. Such limited development should be specifically identified in any codes or ordinances enabling the buffers. When construction activities do occur within the riparian corridor, specific mitigation measures should be required, such as deeper buffers or riparian buffer improvements.

Generally, the riparian buffer should remain in its natural state. However, some maintenance is periodically necessary, such as planting to minimize concentrated flow, removal of exotic plant species when these species are detrimental to the vegetated buffer and removal of diseased or damaged trees.

Additional Guidance

Center for Watershed Protection. 1998. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Available from www.cwp.org

Berkshire Regional Planning Commission. 2003. *The Massachusetts Buffer Manual: Using Vegetated Buffers to Protect our Lakes and Rivers*. Prepared for the Massachusetts Department of Environmental Protection. Boston, MA. Available from www.berkshireplanning.org

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Schueler, T. 1995. *Site Planning for Urban Stream Protection.* Prepared for: Metropolitan Washington Council of Governments. Washington, DC. Center for Watershed Protection, Ellicott City, MD. Available from www.cwp.org

Better Site Design Practice #3:
Reduction of Clearing and Grading

Preservation of Natural Features and Conservation Design

Description: Clearing and grading of the site should be limited to the minimum amount needed for the development function road access and infrastructure (e.g., utilities, wastewater disposal, stormwater management). Site foot-printing should be used to disturb the smallest possible land area on a site.

Key Benefits

- Preserves more undisturbed natural areas on a development site
- Areas of a site that are conserved in their natural state retain their natural hydrology and do not contribute to construction erosion
- Native trees, shrubs and grasses are important contributors to the overall quality and viability of the environment.

Typical Perceived Obstacles and Realities

- Preserving trees during construction is expensive – *Minimizing clearing during construction can reduce earth movement and erosion and sediment control costs*
- People prefer large lawns – *Lots with trees tend to have a higher value than those without*
- Vegetation near homes can be a fire risk – *Even if clearing is required near homes, this can be accommodated while minimizing clearing on the entire site*
- Native vegetation may harbor undesirable wildlife or insects - *Most people enjoy viewing wildlife; native vegetation does not provide a food source for most vermin; continued education is necessary to show that humans and wildlife can co-exist, even at the neighborhood level.*

USING THIS PRACTICE

- Restrict clearing to the minimum area required for building footprints, construction access, and safety setbacks
- Establish limits of disturbance for all development activities
- Use site foot-printing to minimize clearing and land disturbance
- Limit site mass grading approach.
- Use alternative site designs that use open-space or “cluster” developments.

Discussion

Minimal disturbance methods should be used to limit the amount of clearing and grading that takes place on a development site, preserving more of the undisturbed vegetation and natural hydrology of a site.

A limit of disturbance (LOD) should be established based on the maximum disturbance zone. These maximum distances should reflect reasonable construction techniques and equipment needs, together with the physical situation of the development site, such as slopes or soils. LOD

distances may vary by type of development, size of lot or site and by the specific development feature involved.

Site "foot-printing" should be used which maps all of the limits of disturbance to identify the smallest possible land area on a site which requires clearing or land disturbance. An example of site foot-printing is illustrated in figures 5 and 6.

Sites should be designed so that they fit the terrain (see practice #4). During construction, special procedures and equipment that reduce land disturbance should be used. Alternative site designs should be considered to minimize limits of clearing, such as “cluster” developments (see practice #5).

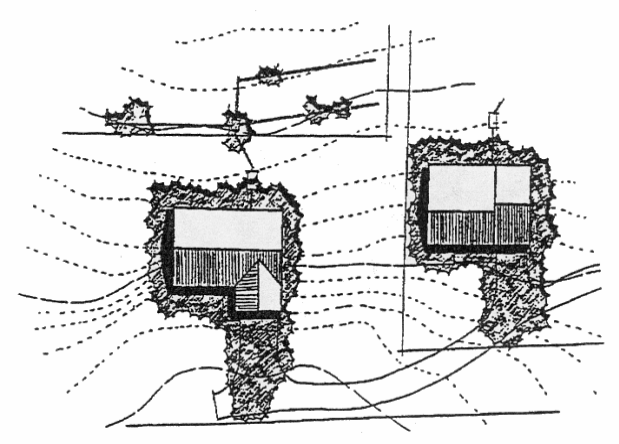

Figure 5: Establishing Limits of Clearing
(Source: DDNREC, 1997)



Figure 6: Example of Site Foot-Printing
(Source: Georgia Stormwater Manual, 2001)

Additional Guidance

Arendt, Randall. 1996. *Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks.* American Planning Association. Chicago, IL. Available from the American Planning Association at www.planning.org

Center for Watershed Protection. 1998. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Available from www.cwp.org

Schueler, T. 1995. *Site Planning for Urban Stream Protection.* Prepared for: Metropolitan Washington Council of Governments. Washington, DC. Center for Watershed Protection, Ellicott City, MD. Available from www.cwp.org

Better Site Design Practice #4:
Locating Sites in Less Sensitive Areas

Preservation of Natural Features and Conservation Design

Description: Development sites should be located to avoid sensitive resource areas such as floodplains, steep slopes, erodible soils, wetlands, mature forests and critical habitat areas. Buildings, roadways and parking areas should be located to fit the terrain and in areas that will create the least impact.

Key Benefits

- Preserving floodplains provides a natural right-of-way and temporary storage for large flood events; keeps people and structures out of harm's way and helps to preserve riparian ecosystems and habitats.
- Preserving steep slopes and building on flatter areas helps to prevent soil erosion and minimizes stormwater runoff; helps to stabilize hillsides and soils and reduces the need for cut-and-fill and grading.
- Avoiding development on erodible soils can prevent sedimentation problems and water-quality degradation. Areas with highly permeable soils can be used as nonstructural stormwater infiltration zones
- Fitting the design to the terrain and in less sensitive areas helps to preserve the natural hydrology and drainageways of a site; reduces the need for grading and land disturbance, and provides a framework for site design and layout.

Typical Perceived Obstacles and Realities

- Costs will be higher for developments due to increased planning and design, localized construction and less developable land - *Developments that protect sensitive areas will likely have higher market value, less liability for potential natural disasters, such as flooding or slope failures and lower construction costs for areas that require less earthwork or difficult terrain, such as steep slopes or wetland areas to work around.*

USING THIS PRACTICE

- Ensure all development activities do not encroach on designated floodplain and/or wetland areas
- Avoid development on steep slope areas and minimize grading and flattening of hills and ridges
- Leave areas of porous or highly erodible soils as undisturbed conservation areas

- Develop roadway patterns to fit the site terrain, and locate buildings and impervious surfaces away from steep slopes, drainageways and floodplains
- Locate site in areas that are less sensitive to disturbance or have a lower value in terms of hydrologic function.

Discussion

Development in floodplain areas can reduce the ability of the floodplain to convey stormwater, potentially causing safety problems or significant damage to the site in question, as well as to both upstream and downstream properties. Ideally, the entire 100-year full-buildout floodplain should be avoided for clearing or building activities and should be preserved in a natural, undisturbed state where possible.

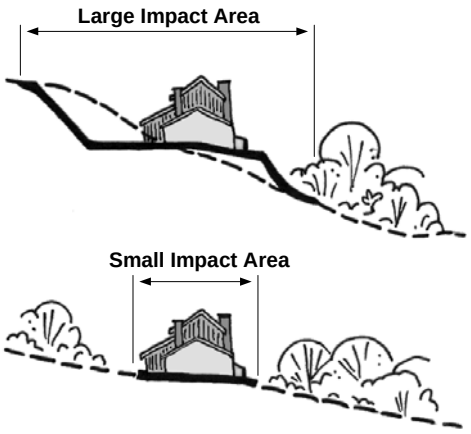

Figure 7: Grading that Creates Large Construction "Pads" Effects more Land than Contoured Grading on Smaller Areas at Flatter Slopes
(Source: MPCA, 1989)

Development on slopes with a grade of 15% or greater should be avoided, if possible, to limit soil loss, erosion, excessive stormwater runoff and the degradation of surface water. Excessive grading should be avoided on all slopes, as should the flattening of hills and ridges. Steep slopes should be kept in an undisturbed natural condition to help stabilize hillsides and soils. On slopes greater than 25%, no development, regarding or stripping of vegetation should be considered.

Areas of a site with hydrologic soil group A and B soils, such as sands and sandy loam soils, should be conserved as much as possible, and these areas should ideally be incorporated into undisturbed natural or open-space areas (Figure 8). Conversely, buildings and other impervious surfaces should be located on those portions of the site with the *least* permeable soils. Similarly, areas on a site with highly erodible or unstable soils should be avoided for land-disturbing activities and buildings to prevent erosion and sedimentation problems as well as potential structural problems. These areas should be left in an undisturbed and vegetated condition.

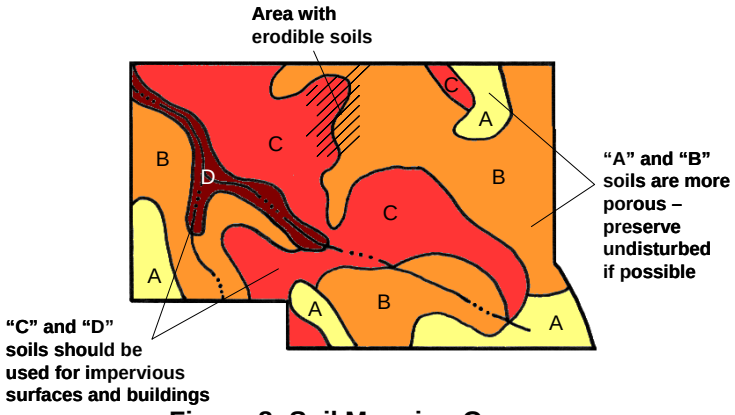

Figure 8: Soil Mapping Can Be Used to Guide Development
(Source: Georgia Stormwater Manual, 2001)

The layout of roadways and buildings on a site should generally conform to the landforms on a site (Figure 9). Natural drainageways and stream buffer areas should be preserved by designing road layouts around them. Buildings should be sited to use the natural grading and drainage system and avoid the unnecessary disturbance of vegetation and soils. Roadway patterns on a site should be chosen to provide access schemes which match the terrain. In rolling or hilly terrain, streets should be designed to follow natural contours to reduce clearing and grading. In flatter areas, a traditional grid pattern of streets or "fluid" grids which bend and may be interrupted by natural drainageways may be more appropriate.

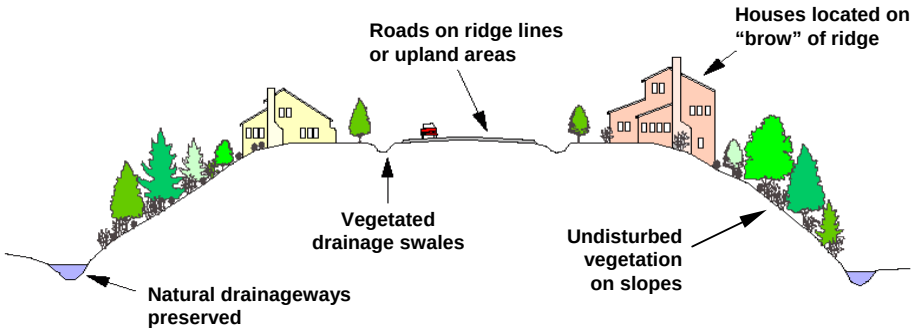

Figure 9: Preserving the Natural Topography of a Site
(Source: Adapted from Prince George's County, 1999)

In much the same way that a development should be designed to conform to the terrain of the site, layout should also be designed so that the areas of development are placed in the locations of the site that minimize the hydrologic impact of the project. This is accomplished by steering development to areas of the site that are less sensitive to land disturbance or have a lower value in terms of hydrologic function. Figure 10 shows a development site where the natural features have been mapped in order to delineate the hydrologically sensitive areas. Through careful site planning, sensitive areas can be set aside as natural open space areas. In many cases, such areas can be used as buffer spaces between land uses on the site or between adjacent sites.

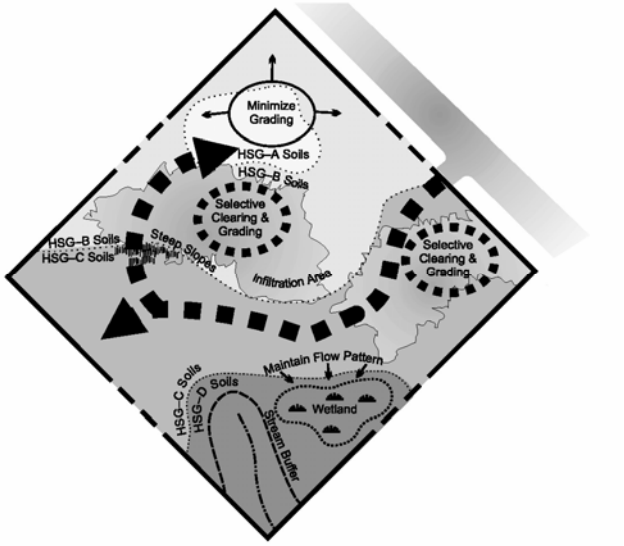

Figure 10: Guiding Development to Less Sensitive Areas of a Site
(Source: Adapted from Prince George's County, 1999)

Additional Guidance

Arendt, Randall. 1996. *Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks.* American Planning Association. Chicago, IL. Available from the American Planning Association at www.planning.org

Environmental Protection Agency (EPA)
site on smart growth including a focus on community-based approaches to reducing sprawl.
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Better Site Design Practice #5:
Open-Space Design

Preservation of Natural Features and Conservation Design

Description: Open-space site designs (also referred to as conservation development or clustering) incorporate smaller lot sizes to reduce overall impervious cover while providing more undisturbed open space and protection of water resources.

Key Benefits

- Preserves conservation areas on a development site
- Can be used to preserve natural hydrology and drainageways
- Can be used to help protect natural conservation areas and other site features
- Reduces the need for grading and land disturbance
- Reduces infrastructure needs and overall development costs
- Allows flexibility for developers to implement creative site designs, including better stormwater management practices

Typical Perceived Obstacles and Realities

- Smaller lot sizes and compact development may be perceived by developers as less marketable – *Open space designs are in fact highly desirable and have economic advantages such as cost savings and higher market appreciation*
- Lack of speed and certainty in the review process may be of concern – *Consult with the local review authority to review requirements; some communities are moving toward open-space design as a "by right" form of subdivision*
- Prospective homebuyers may be reluctant to purchase homes due to concerns regarding management of the community open space – *Proper methods and implementation of maintenance agreements are available; natural open space reduces maintenance costs and can help keep association fees down*
- Open-space developments appear incompatible with adjacent land uses and are equated with increased noise and traffic – *Open-space design allows preservation of natural areas, using less space for streets, sidewalks, parking lots and driveways; incorporating buffers into the design can help alleviate incompatibility with other competing land uses.*

USING THIS PRACTICE

- Use a site design which concentrates development and preserves open space and natural areas of the site
- Locate the developed portion of the cluster areas in the least sensitive areas of the site (see practice #4).
- Use reduced setbacks and frontages and narrower right-of-way widths to design non-traditional lot layouts within the cluster.

Discussion

Open-space development, also known as “open space residential design” (OSRD), or *conservation development* or *clustering*, is a better site-design technique that concentrates structures and impervious surfaces in a compact area in one portion of the development site in exchange for providing open space and natural areas elsewhere on the site. Typically smaller lots and/or nontraditional lot designs are used to cluster development and create more conservation areas on the site.

Open-space developments have many benefits compared with conventional commercial developments or residential subdivisions: they can reduce impervious cover, stormwater pollution, construction costand the need for grading and landscaping, while providing for the conservation of natural areas. Figures 11 and 12 show examples of open space developments.

Along with reduced imperviousness, open-space designs provide a host of other environmental benefits lacking in most conventional designs. These developments reduce potential pressure to encroach on conservation and buffer areas because enough open space is usually reserved to accommodate these protection areas. As less land is cleared during the construction process, alteration of the natural hydrology and the potential for soil erosion are also greatly diminished. Perhaps most importantly open space design reserves 25 to 50 percent of the development site in conservation areas that would not otherwise be protected.

Open-space developments can also be significantly less expensive to build than conventional projects. Most of the cost savings are due to reduced infrastructure cost for roads and stormwater management controls and conveyances. While open-space developments are frequently less expensive to build, developers find that these properties often command higher prices than those in more conventional developments. Several studies estimate that residential properties in open-space developments garner premiums that are higher than conventional subdivisions and moreover, sell or lease at increased rates. Once established, common open-space and natural conservation areas must be managed by a responsible party able to maintain the areas in a natural state in perpetuity. Typically, the conservation areas are protected by legally enforceable deed restrictions, conservation easements and maintenance agreements.

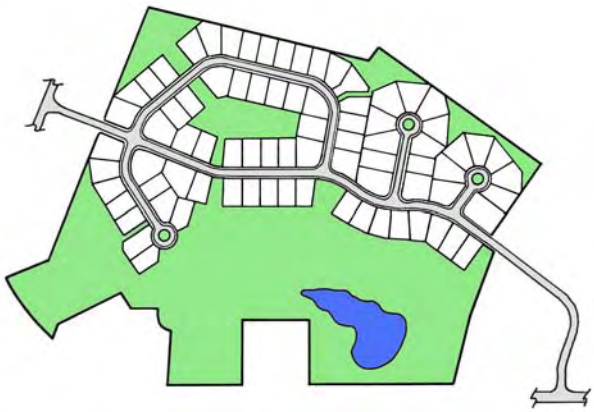

Figure 11: Example of an Open Space or “Cluster” Subdivision
(Source: Georgia Stormwater Manual, 2001)



Figure 12: Aerial View of an Open Space or “Cluster” Subdivision
(Source: Georgia Stormwater Manual, 2001)

Flexible lot shapes and setback and frontage distances allow site designers to create attractive and unique lots that provide homeowners with enough space while allowing for the preservation of natural areas in a residential subdivision. A narrower right-of-way will consume less land that may be better used for housing lots and allow for a more compact site design. Figure 13 illustrates various nontraditional lot designs, and Figure 14 illustrates reduced front and side setbacks.

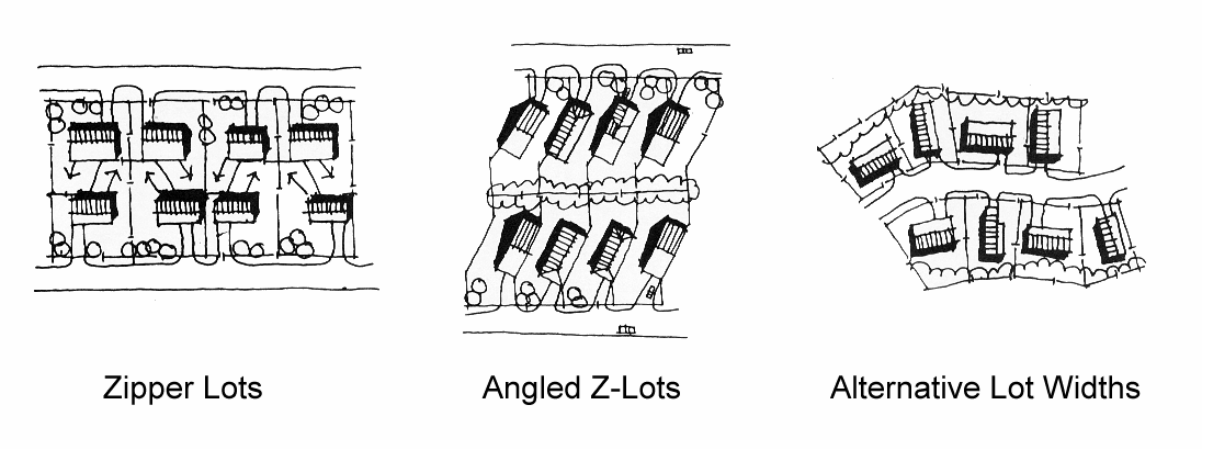

Figure 13: Nontraditional Lot Designs
(Source: ULI, 1992)



Figure 14: Lots with Reduced Front and Side Setbacks
(Source: Georgia Stormwater Manual, 2001)

Additional Guidance

Arendt, Randall. 1994. *Designing Open Space Subdivisions: A Practical Step-by-Step Approach*. Natural Lands Trust, Inc. Media, PA. Available from www.natlands.org or www.greenerprospects.com

Arendt, Randall. 1996. *Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks*. American Planning Association. Chicago, IL. Available from the American Planning Association at www.planning.org

Center for Watershed Protection. 1998. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Available from www.cwp.org

A non-profit Massachusetts organization dedicated to educating people about OSRD development and implementation. http://www.greenneighborhoods.org/site/Index.htm

University of Michigan study finds homebuyers want view of woods, not large lawns. www.umich.edu/news/index.html?Releases/2004/Jun04/r062904a

Environmental Protection Agency (EPA)
site on smart growth including a focus on community based approaches to reducing sprawl.
www.epa.gov/ebtpages/envismartgrowth.html

Better Site Design Practice #6:

Roadway Reduction

Reduction of Impervious Cover

Description: Roadway lengths and widths should be minimized on a development site where possible to reduce overall imperviousness.

Key Benefits

- Reduces the amount of impervious cover and associated runoff and pollutants generated
- Reduces the costs associated with road construction and maintenance

Typical Perceived Obstacles and Realities

- Local codes may not permit shorter or narrower roads – *Meet with local officials to discuss waivers for alternative designs that will address concerns of access, snow stockpiling, and parking.*
- The public may view narrow roads as unsafe – *Narrower roads in fact reduce the speeds at which vehicles drive; many maintenance and emergency vehicles can in fact access narrow roads*
- Narrow and shorter roads do not have enough parking – *Provisions can be made in the design of a site to accommodate off-street parking.*

USING THIS PRACTICE

- Consider different site and road layouts that reduce overall street length
- Minimize street width by using narrower street designs that are a function of land use, density and traffic demand.
- Use smaller side-yard setbacks to reduce total road length.

Discussion

The use of alternative road layouts that reduce the total linear length of roadways can significantly reduce overall imperviousness of a development site. Site designers are encouraged to analyze different site and roadway layouts to see if they can reduce overall street length.

In addition, residential streets and private streets within commercial and other development should be designed for the minimum required pavement width needed to support travel lanes, on-street parking and emergency access. Figure 15 shows options for narrower street designs. In many instances, on-street parking can be reduced to one lane or eliminated on local access roads with less than 200 average daily trips (ADT) and on short cul-de-sacs street. One-way, single-lane, loop roads are another way to reduce the width of lower-traffic streets.

Further, reducing side yard setbacks and using narrower frontages can reduce total street length, which is especially important in cluster and open-space designs.

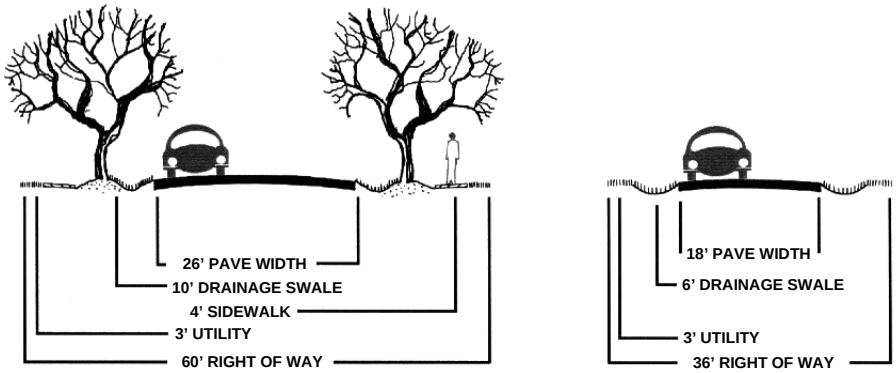

Figure 15: Potential Design Options for Narrower Roadway Widths
(Source: Georgia Stormwater Manual, 2001)

Additional Guidance

Arendt, Randall. 1994. *Designing Open Space Subdivisions: A Practical Step-by-Step Approach*. Natural Lands Trust, Inc. Media, PA. Available from www.natlands.org or www.greenerprospects.com

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Better Site Design Practice #7:

Sidewalk Reduction

Reduction of Impervious Cover

Description: Sidewalk lengths and widths should be minimized on a development site where possible to reduce overall imperviousness.

Key Benefits

- Reduces the amount of impervious cover and associated runoff and pollutants generated
- Reduces the costs associated with construction and maintenance
- Reduces the individual homeowner's responsibility for maintenance, such as snow clearance

Typical Perceived Obstacles and Realities

- Sidewalks on only one side of the street may be perceived as unsafe – *Accident research shows sidewalks on one side are nearly as safe as sidewalks on both*
- Homebuyers are perceived to want sidewalks on both sides – *Some actually prefer not to have a sidewalk in front of their home, and there is no market difference between homes with and without sidewalks directly in front.*
- Local codes may not permit narrower, alternative, or the elimination of a sidewalk – *Meet with local officials to discuss waivers for alternative designs that will address concerns of accessibility and safety issues.*

USING THIS PRACTICE

- Locate sidewalks on only one side of the street.
- Provide common walkways linking pedestrian areas.
- Use alternative sidewalk and walkway surfaces.
- Shorten front setbacks to reduce walkway lengths.

Discussion

Most codes require that sidewalks be placed on both sides of residential streets (e.g., double sidewalks) and be constructed of impervious concrete or asphalt. Many subdivision codes also require sidewalks to be 4 to 6 feet wide and 2 to 10 feet from the street. These codes are enforced to provide sidewalks as a safety measure.

Developers may wish to consider allowing sidewalks on only one side of the street or eliminating them where they don't make sense. Sidewalks should be designed with the goal of improving pedestrian movement and diverting it away from the street. Developers may also consider reducing sidewalk widths and placing them farther from the street. In addition, sidewalks should be graded to drain to front yards rather than the street.

Alternative surfaces for sidewalks and walkways should be considered to reduce impervious cover (figures 16 and 17). In addition, building and home setbacks should be shortened to reduce the amount of impervious cover from entry walks.



Figure 16: Sidewalk with a permeable paver surface
(Source: MA EOEA, 2005)



Figure 17: Sidewalk with Common Walkways Linking Pedestrian Areas
(Source: MA EOEA, 2005)

Additional Guidance

Center for Watershed Protection. 1998. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Available from www.cwp.org

Website for Walkable Communities, Inc. www.walkablecommunities.org

Litman, Todd Alexander. 2004. *The Economic Value of Walkability*. Victoria Transport Policy Institute. Victoria, British Columbia. Available from http://www.vtpi.org/walkability.pdf

Better Site Design Practice #8:

Driveway Reduction

Reduction of Impervious Cover

Description: Where driveway lengths and widths should be minimized on a development site possible, to reduce overall imperviousness.

Key Benefits

- Reduces the amount of impervious cover and associated runoff and pollutants generated

Typical Perceived Obstacles and Realities

- Alternative driveway surfaces make snow removal more difficult – *Careful site design, material selection and homeowner education can help alleviate the concern*
- Developers perceive alternative surfaces as less marketable – "*Green" development projects are increasingly being sought by consumers.*
- Homeowners have concerns regarding access with shared driveways – *Proper site design and homeowner education will alleviate access issues.*
- Local codes may not permit shorter or narrower driveways or driveways with porous surfaces – *Meet with local officials to discuss waivers for alternative designs.*

USING THIS PRACTICE

- Use shared driveways that connect two or more homes.
- Use alternative driveway surfaces.
- Use smaller lot front building setbacks to reduce total driveway length.

Discussion

Most local subdivision codes are not very explicit as to how driveways must be designed. Most simply require a standard apron to connect the street to the driveway but do not specify width or surface material for driveways. Typical residential driveways range from 12 feet wide for one-car driveways to 20 feet for two.

Shared driveways are discouraged or prohibited by many communities. Shared driveways can reduce impervious cover and should be encouraged with enforceable maintenance agreements and easements.

Secondly, the typical 400-800 square feet of impervious cover per driveway can be minimized by using narrower driveway widths, reducing the length of driveways, or using alternative surfaces such as double-tracks, reinforced grass or permeable paving materials.

Building and home setbacks should be shortened to reduce the amount of impervious cover from driveways and entry walks. A setback of 20 feet is more than sufficient to allow a car to park in a driveway without encroaching into the public right of way and reduces driveway and walk pavement by more than 30 percent compared with a setback of 30 feet (see Figure 18).

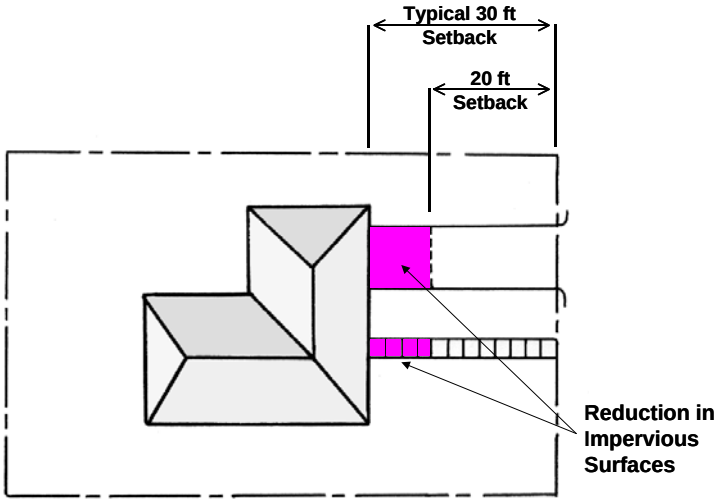


Figure 18: Reduced Driveway and Walkway Lengths by Using Reduced Setbacks
(Adapted from: MPCA, 1989)



Figure 19: Reduced Driveway Lengths by Using Shared Driveways
(Source: MA EOEA, 2005)



Figure 20: Permeable Pavers as an Alternative Driveway Surface
(Source: MA EOEA, 2005)

Additional Guidance

Center for Watershed Protection. 1998. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Available from www.cwp.org

Prince George's County, MD. June 1999. *Low-Impact Development Design Strategies: An Integrated Design Approach.* Prince George's County, Maryland, Department of Environmental Resources, Largo, Maryland. Available from www.epa.gov

Massachusetts Executive Office of Environmental Affairs (EOEA). 2005. *Smart Growth Toolkit*. Boston, MA. Available from http://www.mass.gov/envir/

Better Site Design Practice #9:

Cul-de-sac Reduction

Reduction of Impervious Cover

Description: Minimize the number of cul-de-sacs and incorporate landscaped areas to reduce their impervious cover. The radius of a cul-de-sac should be the minimum required to accommodate emergency and maintenance vehicles. Alternative turnarounds should also be considered.

Key Benefits	Typical Perceived Obstacles and Realities
• Reduces the amount of impervious cover, associated runoff and pollutants generated • Increases aesthetics by allowing for natural or landscaped areas rather than pavement	• Emergency and maintenance vehicles require a large turning radius – *Many newer vehicles are available with small turning radii.* • School buses require a large turning radius - *Verify school bus pick-up plans. Not every cul-de-sac will need to accommodate school bus turning radii.* • Homeowners like the "end of the road" appeal of cul-de-sacs – *This appeal can be accommodated using loop roads or lots that back onto open space areas.* • Local codes may not permit smaller or alternative cul-de-sac designs – *Meet with local officials to discuss waivers for alternative designs that will address concerns of access.*

USING THIS PRACTICE

- Reduce the radius of the turnaround bulb or consider alternative cul-de-sac design, such as "tee" turn-a-rounds or looping lanes.
- Apply site design strategies that minimize dead-end streets.
- Create a pervious island or a stormwater bioretention area in the middle of the cul-de-sac to reduce impervious area.

Discussion

Alternative turnarounds are end of the street designs that replace fully-paved cul-de-sacs and reduce the amount of impervious cover created in developments. Cul-de-sacs are local access streets with a closed circular end that allows for vehicle turnarounds. Many of these cul-de-sacs can have a radius of more than 40 feet. From a stormwater perspective, cul-de-sacs create a huge bulb of impervious cover, increasing the amount of runoff. For this reason, reducing the size of cul-de-sacs through the use of alternative turnarounds or eliminating them altogether can reduce the amount of impervious cover created at a site.

Numerous alternatives create less impervious cover than the traditional 40-foot cul-de-sac. These alternatives include reducing cul-de-sacs to a 30-foot radius and creating hammerheads, loop roads and pervious islands in the cul-de-sac center (see figures 21, 22 and 23 below).

Sufficient turnaround area is a significant factor to consider in the design of cul-de-sacs. In particular, the types of vehicles entering the cul-de-sac should be considered. Firetrucks, service vehicles and schoolbuses are often cited as needing large turning radii. However, some firetrucks are designed for smaller turning radii. In addition, many newer largeservice vehicles are designed with a tri-axle (requiring a smaller turning radius), and many school buses usually do not enter individual cul-de-sacs.

Another option for designing cul-de-sacs involves the placement of a pervious island in the center. Vehicles only travel along the outside of the cul-de-sac when turning, leaving an unused "island" of pavement in the center. These islands can be attractively landscaped and also designed as bioretention areas to treat stormwater (see practice #14).

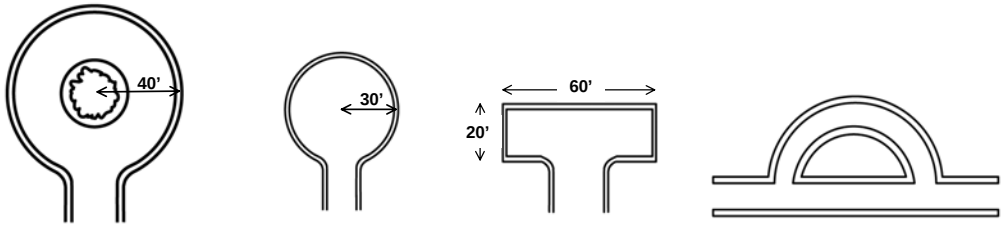


Figure 21: Turnaround Options for Residential Streets
(Source: Adapted from Schueler, 1995)



Figure 22: Loop Road Option
(Source: Center for Watershed Protection, 2005)



Figure 23: T-Shaped Turnaround Option
(Source: Center for Watershed Protection, 2005)

Additional Guidance

Center for Watershed Protection. 1998. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Available from www.cwp.org

Schueler, T. 1995. *Site Planning for Urban Stream Protection.* Prepared for: Metropolitan Washington Council of Governments. Washington, DC. Center for Watershed Protection, Ellicott City, MD. Available from www.cwp.org

Massachusetts Executive Office of Environmental Affairs (EOEA). 2005. *Smart Growth Toolkit*. Boston, MA. Available from http://www.mass.gov/envir/

Better Site Design Practice #10:

Building Footprint Reduction

Reduction of Impervious Cover

Description: The impervious footprint of residences and commercial buildings can be reduced by using alternate or taller buildings while maintaining the same floor to area ratio.

Key Benefits

- Reduces the amount of impervious cover and associated runoff and pollutants generated

Typical Perceived Obstacles and Realities

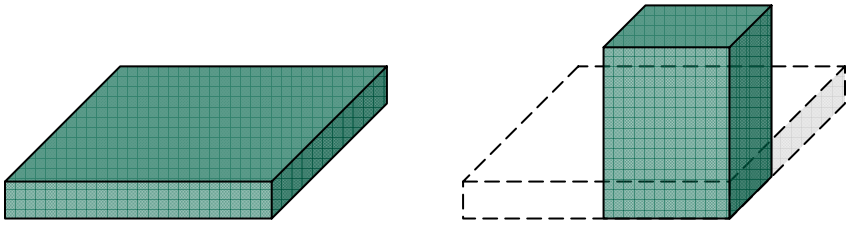
- Taller buildings are perceived to have higher construction and maintenance costs – *Costs for taller buildings and associated parking may be offset by land costs.*
- Local codes may not permit taller buildings – *Consider alternative locations that do allow taller buildings, or meet with local officials to discuss waivers for alternative designs.*

USING THIS PRACTICE

- Use alternate or taller building designs to reduce the impervious footprint of buildings.
- Consolidate functions and buildings or segment facilities to reduce footprints of structures.
- Reduce directly connected impervious areas.

Discussion

In order to reduce the imperviousness associated with the footprint and rooftops of buildings and other structures, alternative and/or vertical (taller) building designs should be considered. Consolidate functions and buildings, as required, or segment facilities to reduce the footprint of individual structures. Figure 24 shows the reduction in impervious footprint by using a taller building design, and figures 25 and 26 show residential examples of reduced footprints.



Single Story Building

Four Story Building (75% Less Impervious Cover)

Figure 24: Reduction of Impervious Cover by Building Up Rather than Out
(Source: Georgia Stormwater Manual, 2001)



Figure 25: Taller Houses Create a Smaller Impervious Footprint
(Source: Center for Watershed Protection, 2005)



Figure 26: Taller Apartments Create a Smaller Impervious Footprint
(Source: City of Portland, OR, 2001)

Additional Guidance

Environmental Protection Agency (EPA)
site on smart growth including a focus on community based approaches to reducing sprawl.
www.epa.gov/ebtpages/envismartgrowth.html

Hart, Leslie. 1994. *Guiding Principles of Sustainable Design*. Prepared for the U.S Department of the Interior and the National Parks Service. Available from http://www.nps.gov/dsc/dsgncnstr/gpsd

Better Site Design Practice #11:

Parking Reduction

Reduction of Impervious Cover

Description: Reduce the overall imperviousness associated with parking lots by eliminating unneeded spaces, providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, using multi-storied parking decks and using porous paver surfaces or porous concrete in overflow parking areas where feasible.

Key Benefits

- Reduces the amount of impervious cover, associated runoff and pollutants generated
- Reduces construction costs, long-term operation and maintenance costs, and the need for larger stormwater facilities
- Improves aesthetics of an area by increasing vegetative surfaces and reducing the feeling a large, paved urban area

Typical Perceived Obstacles and Realities

- Developers desire excess parking and fear losing customers during peaks – T*he potential loss of customers due to reduced parking is unknown however, often times parking areas are not full during peak periods.*
- Parking may spill over into residential or commercial areas when full – I*nclude preferential parking provisions for residents or parking enforcement with meters.*
- Trend to larger vehicles such as SUVs – *Stall width requirements in most local parking codes are much larger than the widest SUVs.*
- Structured parking is more expensive than surface lots – *Costs for structured parking may be offset by land costs or by constructing garages above or below an actual building.*
- Porous pavement surfaces are more expensive to install and maintain – *Alternative surfaces may alleviate the need for larger stormwater treatment elsewhere on the site*.

USING THIS PRACTICE

- Reduce the number of unnecessary parking spaces by examining minimum parking ratio requirements, and set a maximum number of spaces.
- Reduce the number of un-needed parking spaces by examining the site's accessibility to mass transit.
- Minimize individual parking stall dimensions.
- Examine the traffic flow of the parking lot design to eliminate un-needed lanes / drive aisles
- Consider parking structures and shared parking arrangements between non-competing uses
- Use alternative porous surface for overflow areas or main parking areas if not a high-traffic parking lot.
- Use landscaping or vegetated stormwater practices in parking lot islands.
- Provide incentives for compact and hybrid cars.

Discussion

Setting maximums for parking spaces, minimizing stall dimensions, using structured parking, encouraging shared parking and using alternative porous surfaces can all reduce the overall parking footprint and site imperviousness.

Many parking lot designs result in far more spaces than actually required. This problem is exacerbated by a common practice of setting parking ratios to accommodate the highest hourly parking during the peak season. By determining average parking demand instead, a lower maximum number of parking spaces can be set to accommodate most of the demand. Table 4 provides examples of conventional parking requirements and compares them to average parking demand. In addition, the number of parking spaces needed may be reduced by a site's accessibility to public transportation.

Table 4: Conventional Minimum Parking Ratios *(Source: CWP, 1998)*

Land Use	Parking Requirement		Actual Average Parking Demand
	Parking Ratio	Typical Range	
Single family homes	2 spaces per dwelling unit	1.5–2.5	1.11 spaces per dwelling unit
Shopping center	5 spaces per 1000 ft^2 GFA	4.0–6.5	3.97 per 1000 ft^2 GFA
Convenience store	3.3 spaces per 1000 ft^2 GFA	2.0–10.0	--
Industrial	1 space per 1000 ft^2 GFA	0.5–2.0	1.48 per 1000 ft^2 GFA
Medical/dental office	5.7 spaces per 1000 ft^2 GFA	4.5–10.0	4.11 per 1000 ft^2 GFA

GFA = Gross floor area of a building without storage or utility spaces

Another technique to reduce the parking footprint is to minimize the dimensions of the parking spaces. This can be accomplished by reducing both the length and width of the parking stall. Parking stall dimensions can be further reduced if compact spaces are provided. Another method to reduce the parking area is to incorporate efficient parking lanes such as using one-way drive aisles with angled parking rather than the traditional two-way aisles.

Structured parking decks are another method for significantly reducing the overall parking footprint by minimizing surface parking. Figure 27 shows a parking deck used for a commercial development.

Shared parking in mixed-use areas and structured parking are techniques that can further reduce the conversion of land to impervious cover. A shared parking arrangement could include usage of the same parking lot by an office space that experiences peak parking demand during the weekday with a church that experiences parking demands during the weekends and evenings.



Figure 27: Structured Parking at an Office Park
(Source: Georgia Stormwater Manual, 2001)

Using alternative surfaces such as porous pavers or porous concrete is an effective way to reduce the amount of runoff generated by parking lots. They can replace conventional asphalt or concrete in both new developments and redevelopment projects. Figure 28 is an example of porous pavers used at an overflow lot. Alternative pavers can also capture and treat runoff from other sites area.



Figure 28: Grass Paver Used for Parking
(Source: Georgia Stormwater Manual, 2001)

When possible, expanses of parking should be broken up with landscaped islands which could include shade trees and shrubs (see Figure 29) or landscaped stormwater management "islands" such as filter strips, swales and bioretention areas (see practice #s 12, 13 & 14)



Figure 29: Expanses of Parking Area "Broken-Up" with Landscape Features
(Source: MA EOEA, 2005)

Additional Guidance

Center for Watershed Protection. 1998. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Available from www.cwp.org

Prince George's County, MD. June 1999. *Low-Impact Development Design Strategies: An Integrated Design Approach.* Prince George's County, Maryland, Department of Environmental Resources, Largo, Maryland. Available from www.epa.gov

Massachusetts Executive Office of Environmental Affairs (EOEA). 2005. *Smart Growth Toolkit*. Boston, MA. Available from http://www.mass.gov/envir/

Institute of Traffic Engineers (ITE). 1997. *The Aesthetics of Parking*. Institute of Traffic Engineers, Publication No. LP-090A. Available from www.ite.org

Institute of Traffic Engineers (ITE). 1994. *Guidelines for Parking Facility Location and Design*. Institute of Traffic Engineers, Publication No. RP-022A. Available from www.ite.org

U.S. Environmental Protection Agency. 1999. *Parking Alternatives: Making Way for Urban Infill and Brownfields Redevelopment.* U.S. EPA Urban and Economic Development Division. Washington, DC. Available from http://www.epa.gov/smartgrowth/publications.htm#articles

Better Site Design Practice #12: Use of Natural Features and Source Control for Stormwater Management

Vegetated Buffer/Filter Strips

Description: Undisturbed natural areas such as forested conservation areas and stream buffers or vegetated filter strips can be used to treat and control stormwater runoff from some areas of a development project.

Key Benefits

- Riparian buffers and undisturbed vegetated areas can be used to filter and infiltrate stormwater runoff
- Natural depressions can provide inexpensive storage and detention of stormwater flows
- A stormwater site design credit can be taken if allowed by the local review authority.

Typical Perceived Obstacles and Realities

- Require space – *Use in areas where land is available and land costs are not significantly high.*
- May be inappropriate in areas of higher pollutant loading due to direct infiltration of pollutants– *Integrate with other practices to ensure adequate treatment prior to discharge.*
- Channelization and premature failure can occur – *This can be alleviated with proper design, construction and maintenance.*

USING THIS PRACTICE

- Direct runoff towards buffers and undisturbed areas using sheet flow or a level spreader to ensure sheet flow.
- Use natural depressions for runoff storage.
- Direct runoff and nature of runoff (sheet flow versus shallow concentrated flow) to buffer/filter strip areas.
- Examine the slope, soils and vegetative cover of the buffer/filter strip.
- Disconnect impervious areas to these areas.

Discussion

Runoff can be directed towards riparian buffers and other undisturbed natural areas delineated in the initial stages of site planning to infiltrate runoff, reduce runoff velocity and remove pollutants. Natural depressions can be used to temporarily store (detain) and infiltrate water, particularly in areas with more permeable (hydrologic soil groups A and B) soils.

The objective in using natural areas for stormwater infiltration is to intercept runoff before it has become substantially concentrated and then distribute this flow evenly (as sheet flow) to the buffer or natural area. This can typically be accomplished using a level spreader, as seen in Figure 30. A mechanism for the bypass of higher-flow events should be provided to reduce erosion or damage to a buffer or undisturbed natural area.

Carefully constructed berms can be placed around natural depressions and below undisturbed vegetated areas with porous soils to provide for additional runoff storage and/or infiltration of flows.

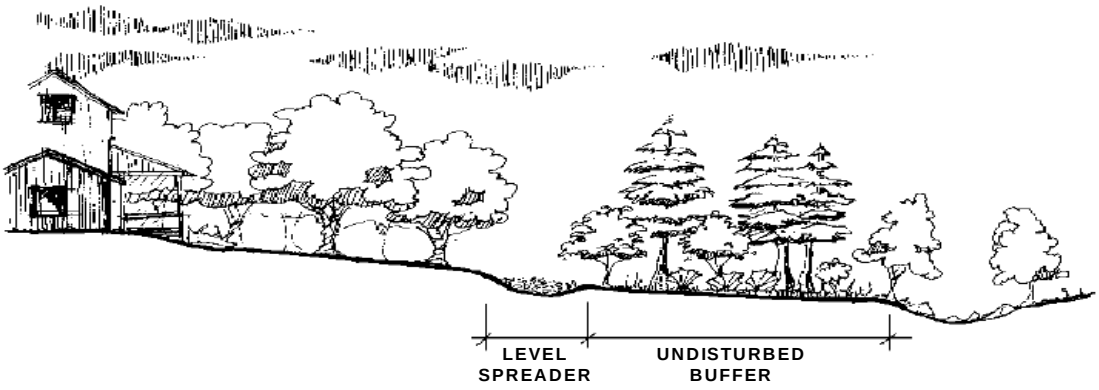


Figure 30: Use of a Level Spreader with a Riparian Buffer
(Source: Georgia Stormwater Manual, 2001)



Figure 31: Use of a Grassed Filter Strip
(Source: MA EOEA, 2005)



Figure 32: Use of a Vegetated Filter Strip
(Source: MA EOEA, 2005)

Additional Guidance

Center for Watershed Protection. 1998. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Available from www.cwp.org

Prince George's County, MD. June 1999. *Low-Impact Development Design Strategies: An Integrated Design Approach.* Prince George's County, Maryland, Department of Environmental Resources, Largo, Maryland. Available from www.epa.gov

City of Portland, Oregon. September 2004. *Stormwater Management Manual*. Bureau of Environmental Services, Portland, OR. Available from http://www.portlandonline.com/bes/

Better Site Design Practice #13: Use of Natural Features and Source Control for Stormwater Management

Open Vegetated Channels

Description: The natural drainage paths of a site, or properly designed and constructed vegetated channels can be used instead of constructing underground storm sewers or concrete open channels. Where density, topography, soils, slope and safety issues permit, vegetated open channels can be used in the street right-of-way to convey and treat stormwater runoff from roadways.

Key Benefits

- Reduces the cost of road and storm sewer construction
- Provides for some runoff storage and infiltration, as well as treatment of stormwater
- A stormwater site design credit can be taken if allowed by the local review authority.
- Increases stormwater travel times and lowers peak discharges.

Typical Perceived Obstacles and Realities

- Local codes may not allow swales instead of curb and gutter or closed drainage pipes – *Meet with local officials to discuss waivers for alternative designs.*
- There is a strong perception that swales require more maintenance than curb and gutter or closed drainage pipes – *With the proper design, swales require less maintenance and are less prone to failure.*
- Lack of curbing may increase potential for failure of the pavement at the grass interface – *The potential for failure can be alleviated by hardening the interface by installing grass pavers, geosynthetics or placing a low-rising concrete strip along the pavement edge.*

USING THIS PRACTICE

- Preserve natural flow paths in the site design.
- Direct runoff to natural drainage ways, ensuring that peak flows and velocities will not cause channel erosion.
- Use vegetated open channels (enhanced wet or dry swales or grass channels) and pipes in place of curb and gutter, to convey and treat stormwater runoff.
- Ensure runoff volumes and velocities provide adequate residence times and non-erosive conditions (i.e., use of check dams).

Discussion

Open vegetated channels (see figures 33 and 34) remove pollutants by allowing infiltration and filtration to occur, unlike curb-and-gutter systems or closed piping systems which move water with virtually no treatment. Curb-and-gutter and storm drain systems allow for the quick transport of stormwater, which results in increased peak flow and flood volumes and reduced runoff infiltration. Curb-and-gutter systems also do not provide treatment of stormwater that is often polluted from vehicle emissions, pet waste, lawn runoff and litter. Engineering techniques have advanced the roadside ditches of the past, which suffered from erosion, standing water and

breakup of the road edge. Grass channels and enhanced dry swales are two such alternatives, and with proper installation under the right site conditions, they are excellent methods for treating stormwater on site. In addition, open vegetated channels can be less expensive to install than curb-and-gutter systems. Complete descriptions and design criteria for open channels are included in the New York State Stormwater Management Manual.

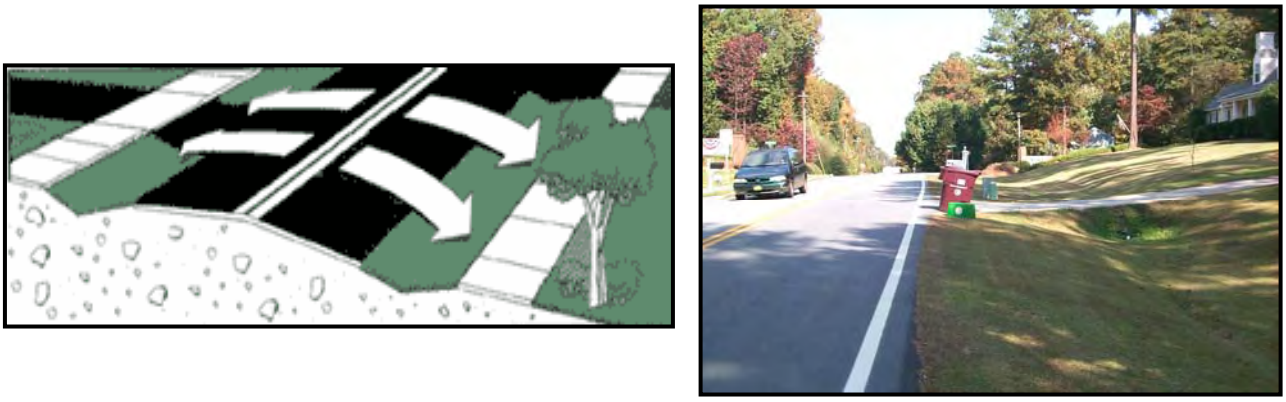


Figure 33: Examples of Open Vegetated Channels
(Source: Georgia Stormwater Manual, 2001)



Figure 34: Another Example of an Open Vegetated Channel
(Source: MA EOEA, 2005)

Additional Guidance

Center for Watershed Protection. 1998. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Available from www.cwp.org

Center for Watershed Protection. August 2003. *New York State Stormwater Management Design Manual*. Prepared for New York State Department of Environmental Conservation, Albany, NY. http://www.dec.state.ny.us/website/dow/toolbox/swmanual/#Downloads

Prince George's County, MD. June 1999. *Low-Impact Development Design Strategies: An Integrated Design Approach.* Prince George's County, Maryland, Department of Environmental Resources, Largo, Maryland. Available from www.epa.gov

City of Portland, Oregon. September 2004. *Stormwater Management Manual.* Bureau of Environmental Services, Portland, OR. Available from http://www.portlandonline.com/bes/

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Better Site Design Practice #14: Use of Natural Features and Source Control for Stormwater Management

Bioretention and Rain Gardens

Description: Provide stormwater treatment for runoff from impervious surfaces using bioretention areas or rain gardens that can be integrated into required landscaping areas and traffic islands.

Key Benefits

- Breaks up impervious cover, thus allowing for better infiltration and treatment from smaller drainage areas.
- Combines landscaping with stormwater treatment.
- Improves aesthetics.
- Reduces thermal impacts.

Typical Perceived Obstacles and Realities

- Bioretention areas require regular maintenance – *Regular maintenance amounts to general landscaping duties such as trash removal, mulching, weeding and irrigation.*
- Bioretention areas may be expensive – *Using bioretention and other on-site treatment can significantly reduce the need for storm drain,s thus reducing stormwater infrastructure costs*

USING THIS PRACTICE

- Integrate bioretention into a parking lot or roadway design.
- Integrate bioretention, or raingardens, into on-lot residential designs.
- Closely examine runoff volumes and velocities to ensure runoff enters bioretention in a distributed manner and in a non-erosive condition.
- Ensure the bioretention has proper pre-treatment.
- Carefully select the landscaping materials required.
- Use as a retrofit or in redevelopment projects.

Discussion

Bioretention areas are naturally vegetated, structural, stormwater-treatment practices that offer an aesthetically pleasing alternative to pavement or traditional detention stormwater facilities. Bioretention areas resemble landscaped depressions and can contain grasses, wildflowers or trees, depending on the size of the facility. Stormwater runoff is routed by slopes, curb cuts or piping into these depressions, where it is allowed to pond temporarily. Eventually, the retained runoff will seep through an organic underground filter system before discharging to an underdrain or infiltrating to the underlying soils. Treatment of stormwater includes attenuation of sediment, metals, bacteria and nutrients. Complete descriptions and design criteria for bioretention are included in the New York State Stormwater Management Manual (http://www.dec.state.ny.us/website/dow/toolbox/swmanual/#Downloads)

Bioretention facilities can receive runoff from areas as small as residential lawns or as large as commercial parking areas. These facilities are often used to replace conventional landscaping in parking areas or along roadways. Site limitations include steep slopes, high water tables or

excessively cold climates. Where unusually high sediment loading is expected, proper pretreatment, such as a sediment forebay designed for settling sediments, should be used to reduce the probability of clogging the subsurface filter.

Parking lots should be designed with landscaped stormwater management “islands” which reduce the connected impervious cover of the lot as well as provide for runoff treatment and control in stormwater facilities. Bioretention can be incorporated into roadway design as well, such as in the center of a cul-de-sac or within roadway rights-of-way or easements following sheet flow from the road surface.



Figure 35: Example of a Bioretention Facility in a Parking Lot Island



Figure 36: Example of a Bioretention Facility Along Roadway

Rain gardens are smaller versions of bioretention, typically considered for on-lot residential designs. Rain gardens can be landscaped depressions on the lot used to mitigate rooftop runoff, or can be designed as the low point of a lot to treat on-site stormwater. Rain gardens are constructed as shallow depressions where stormwater runoff will collect during and shortly after a rain event. These areas are vegetated with plants that are both aesthetically pleasing and well suited to an environment periodically inundated with water. Rain gardens can be designed at different scales to suit different levels of runoff. Adequate sizing of these gardens will allow for infiltration of the most common rain events, while runoff from larger events will overflow into other stormwater infrastructure or a receiving water body. Rain gardens are an appropriate practice as long as certain potential site constraints have been considered. Drainage areas cannot be too extensive for rain gardens, and slopes leading to them cannot be too steep because large volumes of rain or runoff moving at excessive velocities will simply overwhelm these facilities. Also, where subsurface soils do not naturally allow for good drainage, these soils should be replaced or mixed with sandier varieties.



Figure 37: Example of an On-Lot Rain Garden
Source (MA EOEA, 2005)

Additional Guidance

Center for Watershed Protection. August 2003. *New York State Stormwater Management Design Manual*. Prepared for New York State Department of Environmental Conservation, Albany, NY. http://www.dec.state.ny.us/website/dow/toolbox/swmanual/#Downloads

Prince George's County, MD. June 1999. *Low-Impact Development Design Strategies: An Integrated Design Approach.* Prince George's County, Maryland, Department of Environmental Resources, Largo, Maryland. Available from www.epa.gov

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Massachusetts Executive Office of Environmental Affairs (EOEA). 2005. *Smart Growth Toolkit*. Boston, MA. Available from http://www.mass.gov/envir/

Low Impact Development (LID) Center website: http://www.lowimpactdevelopment.org/

Better Site Design Practice #15:
Infiltration

Use of Natural Features and Source Control for Stormwater Management

Description: Use infiltration trenches, basins or leaching chambers to provide groundwater recharge, mimic existing hydrologic conditions and reduce runoff and pollutant export. Permeable paving surfaces may also be used where site conditions are appropriate.

Key Benefits

- Increases recharge to the groundwater.
- Reduces stormwater runoff volume and peak runoff rates; therefore, pipes and basins are smaller.
- Can increase effective developable area on a site because portions of the stormwater system are located underneath the paved areas.
- Grass pavers can improve site appearance by providing vegetation where there would otherwise be only pavement.

Typical Perceived Obstacles and Realities

- Infiltration trenches and dry wells cannot receive untreated stormwater runoff, except rooftop runoff – *Provide proper pretreatment such as grass swales or filter strip.*
- Rehabilitation of failed infiltration trenches and dry wells requires complete reconstruction – *Proper system design, construction and ongoing operation and maintenance will prevent failure.*
- Permeable paving can be prone to clogging from sand and fine sediments that fill void spaces and the joints between pavers – *Avoid permeable paving in high traffic areas where frequent winter sanding is necessary; provide periodic maintenance.*
- Snow plows can catch the edge of grass pavers and some paving stones – *Avoid using in high traffic areas; and attach rollers to the bottom edge of a snowplow to prevent this problem.*

USING THIS PRACTICE

- May be used for roadway or parking impervious areas if adequate pre-treatment is. provided;Rooftop runoff may discharge directly to drywells or infiltration chambers.
- The site must have soils with moderate to high infiltration capacities and must have adequate depth to groundwater.
- Certain sites (i.e., pollutant hotspots) require additional pretreatment prior to infiltration.
- Use porous pavers only in low-traffic areas or for pedestrian walkways/plazas.
- Poor soils may preclude aggressive infiltration.

Discussion

Infiltration trenches, dry wells and chambers are standard stormwater management structures that can play an important role in lower-impact site design. Dispersed around the site, these infiltration structures can recharge groundwater and help to maintain or restore the site's natural hydrology. Dry wells, infiltration trenches, and chambers all store water in the void between crushed stone or gravel; the water slowly percolates downward into the subsoil. An overflow outlet is needed for runoff from large storms that cannot be fully infiltrated by the trench or dry well. Complete descriptions and design criteria for infiltration trenches, basins, and drywells are included in the New York State Stormwater Management Manual. (http://www.dec.state.ny.us/website/dow/toolbox/swmanual/#Downloads)

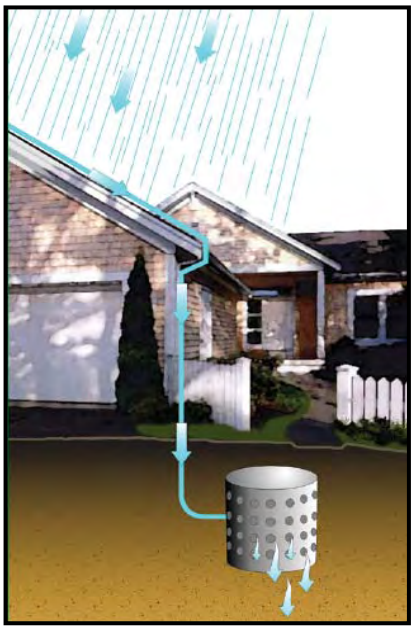

Figure 38: Dry Well
(Source: MA EOEA, 2005)



Figure 39: Infiltration Trench
(Source: MA EOEA, 2005)



Figure 40: Infiltration Chambers
(Source: MA EOEA, 2005)

Because impervious pavement is the primary source of stormwater runoff, better site-design strategies offer permeable paving as an option for parking areas and other hard surfaces. Permeable paving allows rainwater to percolate through the paving and into the ground before it runs off. This approach reduces stormwater runoff volumes and minimizes the pollutants introduced into stormwater runoff from parking areas. All permeable paving systems consist of a durable, load bearing, pervious surface overlying a crushed-stone base that stores rainwater before it infiltrates into the underlying soil.

Permeable paving techniques include porous asphalt, pervious concrete, paving stones and manufactured "grass pavers" made of concrete or plastic. Permeable paving may be used for walkways, patios, plazas, driveways, parking stalls and overflow parking areas.

Permeable paving is appropriate for pedestrian-only areas and for low-volume, low-speed areas such as overflow parking areas, residential driveways, alleys and parking stalls. It can be constructed where the underlying soils have a permeability of at least 0.5 inch per hour. Permeable paving is an excellent technique for dense urban areas because it does not require any additional land. With proper design, cold climates are not a major limitation; porous pavement has been used successfully in Norway, incorporating design features to reduce frost heave.



Figure 41: Examples of Permeable Pavers
(Source: MA EOEA, 2005)

Additional Guidance

Center for Watershed Protection. August 2003. *New York State Stormwater Management Design Manual*. Prepared for New York State Department of Environmental Conservation, Albany, NY. http://www.dec.state.ny.us/website/dow/toolbox/swmanual/#Downloads

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Better Site Design Practice #16: Use of Natural Features and Source Control for Stormwater Management

Rooftop Runoff Reduction Mitigation

Description: Direct runoff from residential rooftop areas to pervious areas, lower-impact practices or use "green-roof" (specially designed vegetated rooftops) strategies to reduce rooftop runoff volumes and rates.

Key Benefits

- Sending runoff to pervious areas, lower-impact practices or using green roofs increases overland flow time and reduces peak flows.
- Vegetated and pervious areas can filter and infiltrate stormwater runoff, thus increasing water quality.
- A stormwater site design credit can be taken if allowed by the local review authority.

Typical Perceived Obstacles and Realities

- Wet basements will result from re-directing rooftop runoff – C*areful design and construction inspection will minimize this condition.*
- Re-directed rooftop runoff may increase a property owner's maintenance burden – *When designed properly, on-lot rain gardens do not require supplemental water.*
- Alternative rooftop runoff mitigation may be costly – *Rain barrels, in fact, are inexpensive and will reduce water-use costs; green roofs reduce heating and cooling costs and roof replacement costs.*

USING THIS PRACTICE

- Direct rooftop runoff to pervious areas such as yards, open channels or vegetated areas.
- Direct rooftop runoff to lower-impact practices such as rain barrels, cisterns, drywells, rain gardens, or stormwater planters.
- Use "green roofs" to reduce stormwater runoff from rooftops.

Discussion

Stormwater quantity and quality benefits can be achieved by routing the runoff from rooftop areas to pervious areas such as lawns, landscaping, filter strips and vegetated channels. Much like the use of undisturbed buffers and natural areas (see practices #1 & 2), revegetated areas such as lawns and engineered filter strips and vegetated channels can act as biofilters for stormwater runoff and provide for infiltration in more permeable soils (hydrologic groups A and B).

Cisterns and rain barrels are designed to retain water that runs off of roofs for an extended period. Rain barrels are smaller structures ranging generally from 20 to 100 gallons, while cisterns can store thousands of gallons, depending on the design. Construction material for rain barrels is generally plastic although other materials such as wooden barrels have been used. Cisterns can be constructed of metal, wood, concrete or plastic. Stormwater stored in these structures is generally used for irrigation,



Figure 42: Rain Barrel
(Source: MA EOEA, 2005)

although more complex designs incorporate that water into everyday uses such as toilet and shower water. Rain barrels and cisterns have historically been used in more arid climates where water is scarce for much of the year. More recently, however, these technologies have been applied in less arid climates because of the savings in water costs and overall increases in water demands.

Drywells, as described under practice #15, are underground chambers surrounded by crushed stone, typically used to infiltrate runoff from rooftops. Drywells are well suited for residential applications or small buildings.

Rain gardens, as described under practice #14, are constructed as shallow depressions where stormwater runoff will collect during and shortly after a rain event. These areas are vegetated with plantings that are both aesthetically pleasing and well suited to an environment periodically inundated with water. Rain gardens are well suited for small drainage areas such as residential building rooftops.



Figure 43: Stormwater Planters
(Source: MA EOEA, 2005)

Stormwater planters are a small-scale engineered management strategy designed to treat limited volumes of stormwater runoff in discrete areas. Planters generally look like large vaulted plant boxes and can contain anything from basic wildflower communities to complex arrangements of trees and flowering shrubs. Other stormwater planters, known as "tree boxes," are simply modified side tree enclosures that are installed below the surface of the sidewalk. Stormwater is generally routed into these systems from roofs via downspouts, where it runs through various filtering media and is also subject to uptake from vegetation. Because of the compact and self-contained nature of these practices, they are best suited to handling rooftop runoff. Multiple units can be used to treat large-scale commercial developments.

Green rooftops are rooftop areas that have been landscaped with grasses, shrubs and, in some cases, trees. "Intensive" rooftops are designed with pedestrian access and deep soil layers to provide for complex planting schemes. "Extensive" rooftops are designed with a more shallow soil foundation and generally do not incorporate pedestrian access. Stormwater runoff is either retained until uptake can occur, or eventually runs off the roof with considerably less pollution than would be contained in runoff from a standard impervious rooftop. Beyond stormwater pretreatment, benefits of green rooftops include reduction of the "heat island" effect, extended life of the rooftop, aesthetic appeal and increased useable area. Green rooftops are best suited for

the construction of new buildings because the special structural considerations necessary for these applications can be incorporated early in the design phase. Retrofits to older buildings are often possible, however, owing to the fact that the rooftops were designed well beyond the minimum necessary support capacity.



Figure 44: Green Roof
(Source: MA EOEA, 2005)

Additional Guidance

Prince George's County, MD. June 1999. *Low-Impact Development Design Strategies: An Integrated Design Approach.* Prince George's County, Maryland, Department of Environmental Resources, Largo, Maryland. Available from www.epa.gov

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Green Roofs for Healthy Cities website - www.greenroofs.org

The international greenroof industry's resource and online information portal. www.greenroofs.com

Better Site Design Practice #17:

Stream Daylighting for Redevelopment Projects

Utilization of Natural Features and Source Control for Stormwater Management

Description: Stream Daylight previously-culverted/piped streams to restore natural habitats, better attenuate runoff and help reduce pollutant loads where feasible and practical.

Key Benefits

- The aesthetic appeal of daylighted streams can be expected to add appeal to neighborhoods or urban areas.
- Improves water quality.
- Prevents flooding by increasing storage and reducing peak flows.
- Increases habitat and wildlife value.
- Increases pedestrian traffic and general public use.
- Increases property values.

Typical Perceived Obstacles and Realities

- Daylighting a stream can be expensive - *Costs for daylighting streams are often comparable to costs for replacing culverts.*
- Maintenance of daylighted stream areas can be intensive during the first years the stream is established – *Once the banks are well established, regular maintenance is similar to that required in any public green spac,e such as trash removal, mowing and general housekeeping.*
- Finding the original stream channel may be difficult – *examine historic records, soils, and up and downstream channel characteristics.*
- Political backing and public support is more difficult for daylighting streams than for surface restoration because the culvert is not seen – *Provide proper public education and outreach about the benefits and how safety issues will be addressed.*

USING THIS PRACTICE

- Daylighting should be considered when a culvert replacement is scheduled.
- Restore historic drainage patterns by removing closed drainage systems and constructing stabilized, vegetated streams.
- Carefully examine flooding potential, utility impacts and/or prior contaminated sites.
- Consider runoff pretreatment and erosion potential of restored streams/rivers.

Discussion

Stream daylighting involves uncovering a stream or a section of a stream that had been artificially enclosed in the past to accommodate development. The original enclosure of rivers and streams often took place in urbanized areas through the use of large culvert operations that often integrated the stormsewer system and combined sanitary sewers. The daylighting operation, therefore, often requires overhauls or updating of storm-drain systems and re-

establishing stream banks where culverts once existed. When the operation is complete, what was once a linear pipe of heavily polluted water can become a meandering stream with dramatic improvements to both aesthetics and water quality. In some cases, instead of creating a natural channel for the daylighted stream, the culvert is simply replaced with a concrete channel.

Where combined sewer overflow (CSO) separation and other upgrades to storm-sewer systems are part of a daylighting project, significant water-quality improvements can be expected during wet-weather events. Also, as ultraviolet radiation is one of the most effective ways to eliminate pathogens in water, exposing these streams to sunlight could significantly decrease pathogen counts in the surface water.

Stream daylighting can play an integral role in neighborhood restoration and site redevelopment efforts. Aside from improvements to infrastructure, stream daylighting can restore floodplain and aquatic habitat areas, reduce runoff velocities and be integrated into pedestrian walkway or bike-path design.

Stream daylighting can generally be applied most successfully to sites with considerable open or otherwise vacant space. This space is required to: 1) Potentially reposition the stream in its natural stream bed; 2) Accommodate the meandering that will be required if a natural channel is being designed and 3) Provide adjacent floodplain area to store water in large storm-flow situations. However, where a concrete channel will replace a culverted stream, these projects require significantly less space than those designed for a natural streambed.

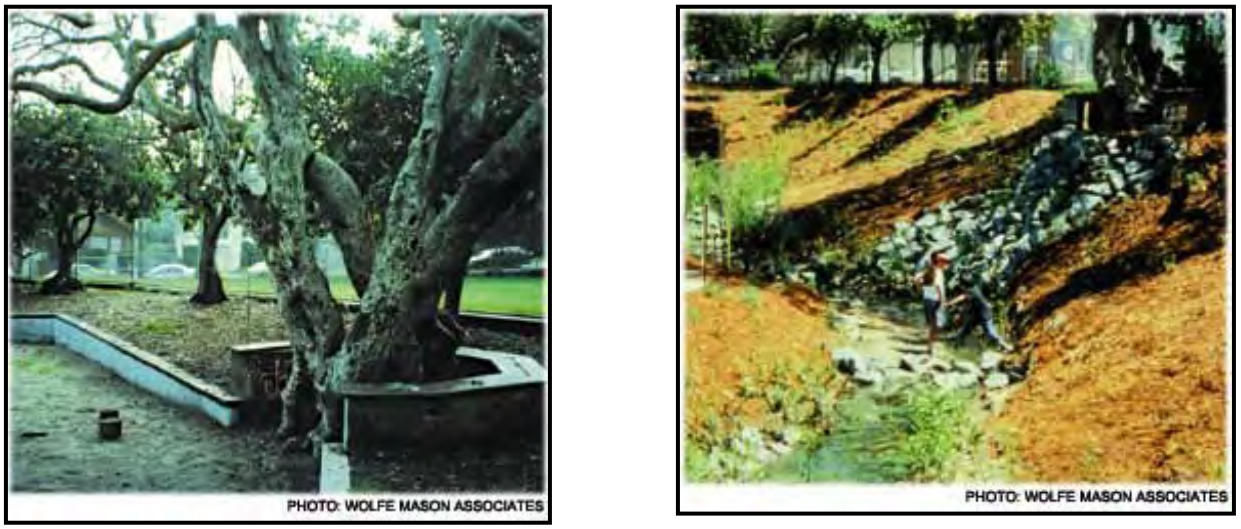

Figure 45: Before and After Daylighting
Blackberry Creek in Berkeley, CA
(Source: Stormwater Magazine, Nov/Dec 2001)



Figure 46: Daylighting Arcadia Creek in an Urban Area in Kalamazoo, MI
(Source: Stormwater Magazine, Nov/Dec 2001)

Additional Guidance

Rhode Island Department of Environmental Management. January 2005. *The Urban Environmental Design Manual*. Rhode Island Department of Environmental Management, Providence, Rhode Island. Available from http://www.dem.state.ri.us/programs/bpoladm/suswshed/pubs.htm

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Pinkham, Richard. Nov/Dec 2001. *Daylighting: New Life for Buried Streams.* Article from Stormwater Magazine Vol. 2, No. 6. Forester Communications. Caledonia, MI. Available from www.stormh2o.com

Better Site Design Practice #18:
Tree Planting

Description: Plant or conserve trees at new or redevelopment sites to reduce stormwater runoff, increase nutrient uptake, provide bank stabilization, provide shading and provide wildlife habitat. Trees can be used for applications such as landscaping, stormwater management practice areas, conservation areas and erosion and sediment control.

Key Benefits

- Reduces construction and maintenance costs.
- Increases property values.
- Reduces urban heat island, decreases heating and cooling costs, blocks UV radiation.
- Buffers wind and noise.
- Planting trees in stormwater management practices can increase nutrient uptake, reduce runoff through rainfall interception and evapotranspiration (ET), aid infiltration, provide wildlife habitat, provide shading, discourage geese and reduce mowing costs.
- Tree planting can be applied to stormwater credit #6, "Riparian Reforestation."

Typical Perceived Obstacles and Realities

- Local codes may restrict trees in certain areas *– Consult with local officials to discuss waivers for alternative designs.*
- Trees may not survive through construction or in certain urban environments *– Trees will survive with proper tree selection, landscape design and protection during construction.*
- Planting or preserving trees may be expensive *– Conserving or planting trees increases property values.*
- Native vegetation may harbor undesirable wildlife and insects - *Most people enjoy viewing wildlife; native vegetation does not provide a food source for most vermin; continued education is necessary to show that humans and wildlife can co-exist, even at the neighborhood level.*

USING THIS PRACTICE

- Conserve existing trees during construction by performing an inventory of the existing forest and identifying trees to protect.
- Design the development with tree conservation in mind, protect trees during construction and protect trees after construction.
- Plant trees at development sites by first selecting the planting sites and then evaluate and improve the planting sites. Trees should be planted in stormwater-management practices and other open spaces.
- Tree types and locations should be chosen to withstand the constraints of an urban setting.

Discussion

Few communities require that trees and native vegetation be conserved during the development process. However, native trees, shrubs, and grasses are important contributors to the overall quality and viability of the environment. Some tools that can be used for tree conservation include open space development practices, planting of vegetation in street, clearing and grading restrictions that include preservation of trees and native vegetation and the addition of vegetation to parking-lot islands.

Developers, engineers or landscape architects can incorporate more trees into a development site, using a three-prong approach: Conserving existing trees during construction; planting trees in stormwater management practices; and Planting trees in other open spaces.

Trees can be conserved and planted at both new development and redevelopment or infill projects. On currently forested development sites, it is most important to conserve existing trees, particularly high-quality stands or large, mature trees (Figure 47). To conserve existing trees, developers should inventory existing forest at the site to identify the best trees and forest to protect, design the development around these trees and take measures to ensure the protection of trees both during and after construction.



Figure 47: Mature Trees Conserved During Development
(Photo Sources: Randall Arendt and Ed Gilman)

Where tree conservation is not an option, urban development sites provide many opportunities to plant new trees, such as in stormwater management practices (SMPs) and other pervious areas of the site. Some SMPs are not traditionally considered appropriate for tree planting; however, planting trees and shrubs in certain areas of specific SMPs can enhance the aesthetic appeal and even improve their performance.

The remaining pervious areas of the site that make good candidates for tree planting and are often overlooked and include local road rights-of-way, landscaped islands in cul-de-sacs or traffic circles and parking lots. Private lawns may also constitute a significant portion of green space at the site, and the developer should certainly strive to conserve or plant trees in these areas

as well. These urban planting sites may have harsh soil and environmental conditions that should be addressed through appropriate species selection or proper site preparation prior to planting.

Conserving or planting trees at development sites can be done to meet forest conservation, landscaping or other site-design requirements to enhance the appeal of the development and, therefore, increase land and housing values, to reduce costs of construction and stormwater management and to provide many additional benefits summarized above.

Additional Guidance

Cappiella, K., T. Schueler, T. Wright. 2004. *Urban Watershed Forestry Manual.* Available from www.cwp.org

American Forests website: www.americanforests.org

City of Toronto Tree Advocacy Planting Program website:
http://www.city.toronto.on.ca/parks/treeadvocacy.htm

2.3 BETTER SITE DESIGN CASE STUDIES

The following case studies illustrate how better site-design practices can be successfully incorporated into site planning. A comparison to a conventional design approach illustrates the opportunities presented by better site-design practices to meet stormwater management criteria in addition to identifying the obstacles for implementing such practices.

2.3.1 Medium Density Residential Subdivision Case Study

A conventional residential subdivision design on a parcel is shown in Figure 48. The entire parcel, except for the subdivision amenity area (clubhouse and tennis courts), is used for lots. The entire site is cleared and mass graded, and no attempt is made to fit the road layout to the existing topography. Because of the clearing and grading, all of the existing tree cover and vegetation and topsoil are removed, dramatically altering both the natural hydrology and drainage of the site. The wide residential streets create unnecessary impervious cover and a curb-and-gutter system that carries stormwater flows to the storm sewersystem. No provision for non-structural stormwater treatment is provided on the subdivision site.

A residential subdivision employing stormwater better site design practices is presented in Figure 49. This subdivision configuration preserves a quarter of the property as undisturbed open space and vegetation. The road layout is designed to fit the topography of the parcel, following the high points and ridgelines. The natural drainage patterns of the site are preserved and are used to provide natural stormwater treatment and conveyance. Narrower streets reduce impervious cover, and open vegetated channels provide for treatment and conveyance of roadway and driveway runoff. Bioretention islands at the ends of cul-de-sacs also reduce impervious cover and provide stormwater treatment functions. When constructing and building homes, only the building envelopes of the individual lots are cleared and graded, further preserving the natural hydrology of the site.

2.3.2 Commercial Development Case Study

Figure 50 shows a conventional commercial development containing a supermarket, drugstore, smaller shops and a restaurant on an adjacent lot. The majority of the parcel is a concentrated parking-lot area. The only pervious area is a small, replanted vegetation area acting as a buffer between the shopping center and adjacent land uses. Stormwater quality and quantity control are provided by a wet, extended-detention pond in the corner of the parcel.

A better site-design commercial development can be seen in Figure 51. Here the retail buildings are dispersed on the property, providing more of an “urban village” feel, with pedestrian access between the buildings. The parking is broken up, and bioretention areas for stormwater treatment are built into parking-lot islands. A large bioretention area which serves as open green space is located at the main entrance to the shopping center. A larger undisturbed buffer has been preserved on the site. Because the bioretention areas and buffer provide water-quality treatment, only a dry, extended-detention basin is needed for water-quantity control.

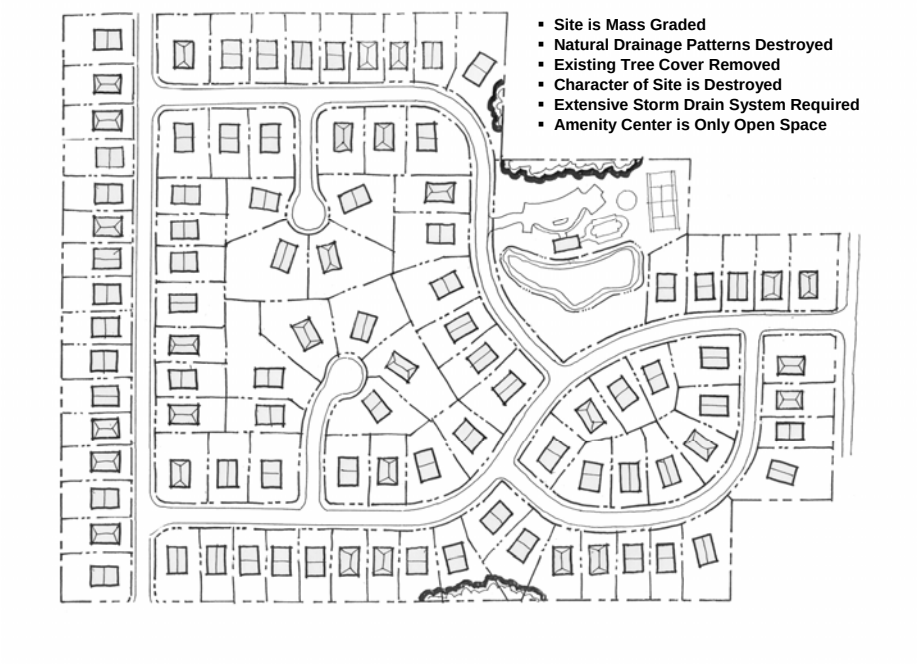

Figure 48: Residential Subdivision - Conventional Design
(Source: Georgia Stormwater Manual, 2001)

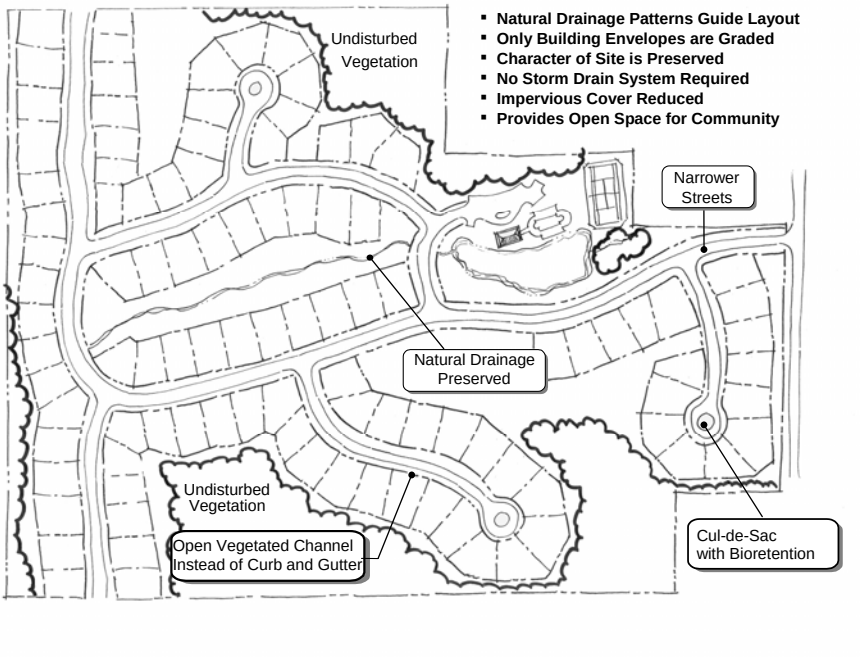

Figure 49: Residential Subdivision - Better Site Design
(Source: Georgia Stormwater Manual, 2001)

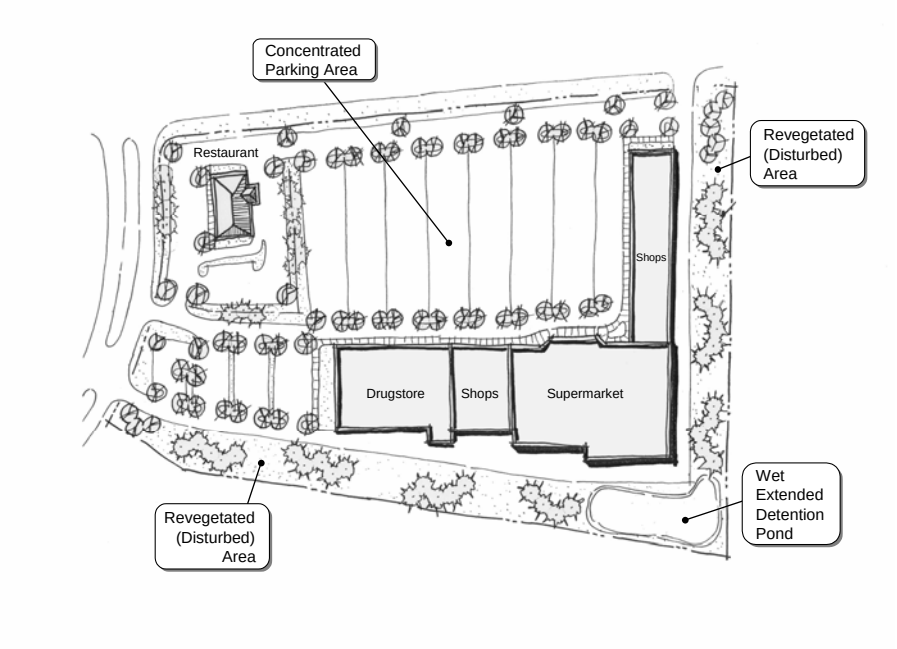

Figure 50: Commercial Development - Conventional Design
(Source: Georgia Stormwater Manual, 2001)

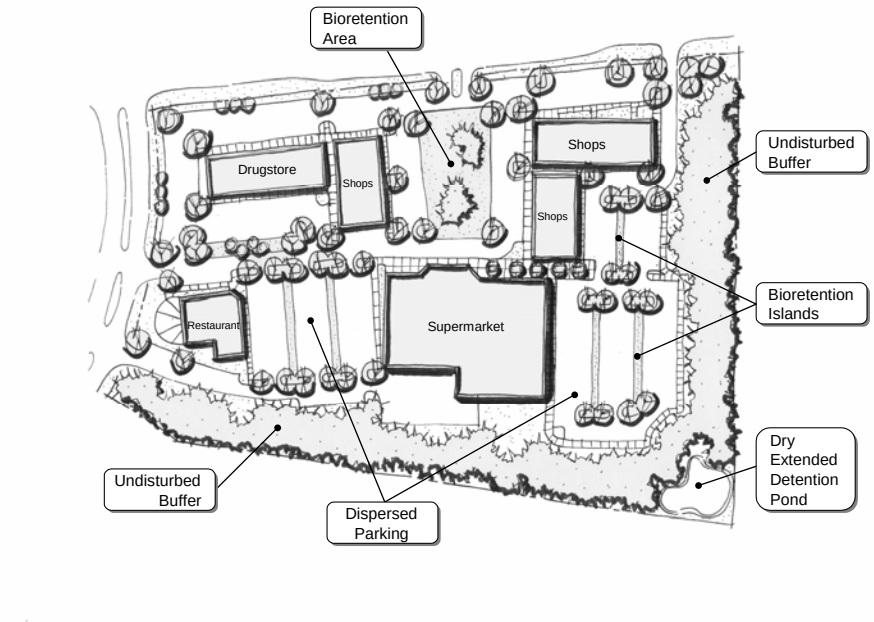

Figure 51: Commercial Development - Better Site Design
(Source: Georgia Stormwater Manual, 2001)

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New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Deep-Ripping and Decompaction

April 2008

New York State
Department of Environmental Conservation

Document Prepared by:

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Alternative Stormwater Management
Deep-Ripping and Decompaction

Description

The two-phase practice of 1) “Deep Ripping;” and 2) “Decompaction” (deep subsoiling), of the soil material as a step in the cleanup and restoration/landscaping of a construction site, helps mitigate the physically induced impacts of soil compression; i.e.: soil compaction or the substantial increase in the bulk density of the soil material.

Deep Ripping and Decompaction are key factors which help in restoring soil pore space and permeability for water infiltration. Conversely, the physical actions of cut-and-fill work, land grading, the ongoing movement of construction equipment and the transport of building materials throughout a site alter the architecture and structure of the soil, resulting in: the mixing of layers (horizons) of soil materials, compression of those materials and diminished soil porosity which, if left unchecked, severely impairs the soil’s water holding capacity and vertical drainage (rainfall infiltration), from the surface downward.

In a humid climate region, compaction damage on a site is virtually guaranteed over the duration of a project. Soil in very moist to wet condition when compacted, will have severely reduced permeability. Figure 1 displays the early stage of the deep-ripping phase (Note that all topsoil was stripped prior to construction access, and it remains stockpiled until the next phase – decompaction – is complete). A heavy-duty tractor is pulling a three-shank ripper on the first of several series of incrementally deepening passes through the construction access corridor's densely compressed subsoil material. Figure 2 illustrates the approximate volumetric composition of a loam surface soil when conditions are good for plant growth, with adequate natural pore space for fluctuating moisture conditions.



Fig. 1. A typical deep ripping phase of this practice, during the first in a series of progressively deeper “rips” through severely compressed subsoil.

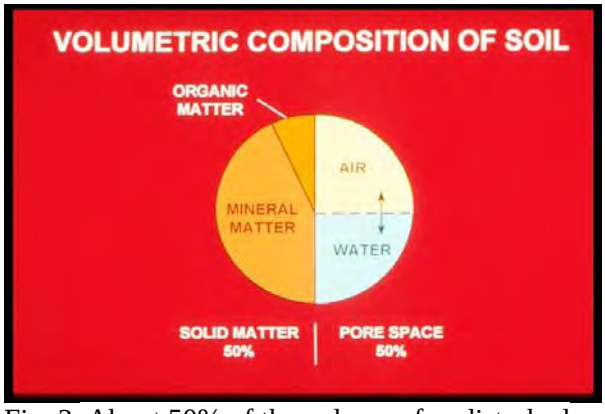

Fig. 2. About 50% of the volume of undisturbed loam surface soil is pore space, when soil is in good condition for plant growth. Brady, 2002.

Recommended Application of Practice

The objective of Deep Ripping and Decompaction is to effectively fracture (vertically and laterallly) through the thickness of the physically compressed subsoil material (see Figure 3), restoring soil porosity and permeability and aiding infiltration to help reduce runoff. Together with topsoil stripping, the "two-phase" practice of Deep Ripping and Decompaction first became established as a "best management practice" through ongoing success on commercial farmlands affected by heavy utility construction right-of-way projects (transmission pipelines and large power lines).



Fig. 3. Construction site with significant compaction of the deep basal till subsoil extends 24 inches below this exposed cut-and-fill work surface.

Soil permeability, soil drainage and cropland productivity were restored. For broader construction application, the two-phase practice of Deep Ripping and Decompaction is best adapted to areas impacted with significant soil compaction, on contiguous open portions of large construction sites and inside long, open construction corridors used as temporary access over the duration of construction. Each mitigation area should have minimal above-and-below-ground obstructions for the easy avoidance and maneuvering of a large tractor and ripping/decompacting implements. Conversely, the complete two-phase practice is not recommended in congested or obstructed areas due to the limitations on tractor and implement movement.

Benefits

Aggressive "deep ripping" through the compressed thickness of exposed subsoil before the replacement/respreading of the topsoil layer, followed by "decompaction," i.e.: "sub-soiling," through the restored topsoil layer down into the subsoil, offers the following benefits:

- Increases the project (larger size) area's direct surface infiltration of rainfall by providing the open site's mitigated soil condition and lowers the demand on concentrated runoff control structures

- Enhances direct groundwater recharge through greater dispersion across and through a broader surface than afforded by some runoff-control structural measures

- Decreases runoff volume generated and provides hydrologic source control

- May be planned for application in feasible open locations either alone or in

conjunction with plans for structural practices (e.g., subsurface drain line or infiltration basin) serving the same or contiguous areas

- Promotes successful long-term revegetation by restoring soil permeability, drainage and water holding capacity for healthy (rather than restricted) root-system development of trees, shrubs and deep rooted ground cover, minimizing plant drowning during wet periods and burnout during dry periods.

Feasibility / Limitations

The effectiveness of Deep Ripping and Decompaction is governed mostly by site factors such as: the original (undisturbed) soil's hydrologic characteristics; the general slope; local weather/timing (soil moisture) for implementation; the space-related freedom of equipment/implement maneuverability (noted above in **Recommended Application of Practice**), and by the proper selection and operation of tractor and implements (explained below in **Design Guidance**). The more notable site-related factors include:

Soil

In the undisturbed condition, each identified soil type comprising a site is grouped into one of four categories of soil hydrology, Hydrologic Soil Group A, B, C or D, determined primarily by a range of characteristics including soil texture, drainage capability when thoroughly wet, and depth to water table. The natural rates of infiltration and transmission of soil-water through the undisturbed soil layers for Group A is "high" with a low runoff potential while soils in Group B are moderate in infiltration and the transmission of soil-water with a moderate runoff potential, depending somewhat on slope. Soils in Group C have slow rates of infiltration and transmission of soil-water and a moderately high runoff potential influenced by soil texture and slope; while soils in Group D have exceptionally slow rates of infiltration and transmission of soil-water, and high runoff potential.

In Figure 4, the profile displays the undisturbed horizons of a soil in Hydrologic Soil Group C and the naturally slow rate of infiltration through the subsoil. The slow rate of infiltration begins immediately below the topsoil horizon (30 cm), due to the limited amount of macro pores, e.g.: natural subsoil fractures, worm holes and root channels. Infiltration after the construction-induced mixing and compression of such subsoil material is virtually absent; but can be restored back to this natural level with the two-phase practice of deep ripping and decompaction, followed by the permanent establishment of an appropriate, deep taproot

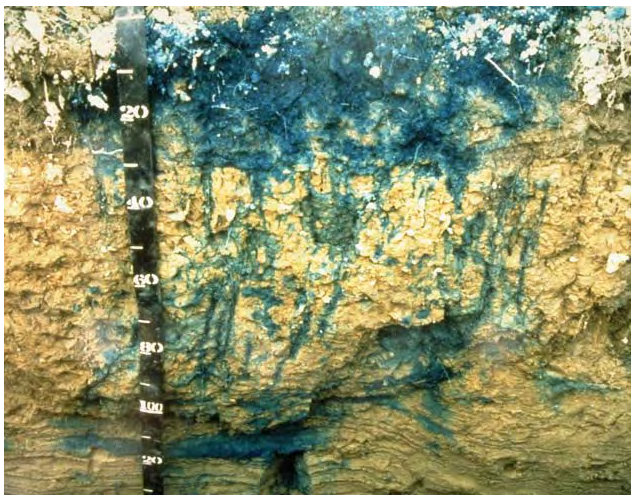

Fig. 4. Profile (in centimeters) displaying the infiltration test result of the natural undisturbed horizons of a soil in Hydrologic Soil Group C.

lawn/ground cover to help maintain the restored subsoil structure. Infiltration after construction-induced mixing and compression of such subsoil material can be notably rehabilitated with the Deep Ripping and Decompaction practice, which prepares the site for the appropriate long-term lawn/ground cover mix including deep taproot plants such as clover, fescue or trefoil, etc. needed for all rehabilitated soils.

Generally, soils in Hydrologic Soil Groups A and B, which respectively may include deep, well-drained, sandy-gravelly materials or deep, moderately well-drained basal till materials, are among the easier ones to restore permeability and infiltration, by deep ripping and decompaction. Among the many different soils in Hydrologic Soil Group C are those unique glacial tills having a natural fragipan zone, beginning about 12 to 18 inches (30 – 45cm), below surface. Although soils in Hydrologic Soil Group C do require a somewhat more carefully applied level of the Deep Ripping and Decompaction practice, it can greatly benefit such affected areas by reducing the runoff and fostering infiltration to a level equal to that of pre-disturbance.

Soils in Hydrologic Soil Group D typically have a permanent high water table close to the surface, influenced by a clay or other highly impervious layer of material. In many locations with clay subsoil material, the bulk density is so naturally high that heavy trafficking has little or no added impact on infiltration; and structural runoff control practices rather than Deep Ripping and Decompaction should be considered.

The information about Hydrologic Soil Groups is merely a general guideline. Site-specific data such as limited depths of cut-and-fill grading with minimal removal or translocation of the inherent subsoil materials (as analyzed in the county soil survey) or, conversely, the excavation and translocation of deeper, unconsolidated substratum or consolidated bedrock materials (unlike the analyzed subsoil horizons' materials referred to in the county soil survey) should always be taken into account.

Sites made up with significant quantities of large rocks, or having a very shallow depth to bedrock, are not conducive to deep ripping and decompation (subsoiling); and other measures may be more practical.

Slope

The two-phase application of 1) deep ripping and 2) decompaction (deep subsoiling), is most practical on flat, gentle and moderate slopes. In some situations, such as but not limited to temporary construction access corridors, inclusion areas that are moderately steep along a project's otherwise gentle or moderate slope may also be deep ripped and decompacted. For limited instances of moderate steepness on other projects, however, the post-construction land use and the relative alignment of the potential ripping and decompaction work in relation to the lay of the slope should be reviewed for safety and practicality. In broad construction areas predominated by moderately steep or steep slopes, the practice is generally not used.

Local Weather/Timing/Soil Moisture

Effective fracturing of compressed subsoil material from the exposed work surface, laterally and vertically down through the affected zone is achieved only when the soil material is moderately dry to moderately moist. Neither one of the two-phases, deep ripping nor decompaction (deep

subsoiling), can be effectively conducted when the soil material (subsoil or replaced topsoil) is in either a “plastic” or “liquid” state of soil consistency. Pulling the respective implements legs through the soil when it is overly moist only results in the “slicing and smearing” of the material or added “squeezing and compression” instead of the necessary fracturing. Ample drying time is needed for a “rippable” soil condition not merely in the material close to the surface, but throughout the material located down to the bottom of the physically compressed zone of the subsoil.

The “poor man’s Atterberg field test” for soil plasticity is a simple “hand-roll” method used for quick, on-site determination of whether or not the moisture level of the affected soil material is low enough for: effective deep ripping of subsoil; respreading of topsoil in a friable state; and final decompaction (deep subsoiling). Using a sample of soil material obtained from the planned bottom depth of ripping, e.g.: 20 - 24 inches below exposed subsoil surface, the sample is hand rolled between the palms down to a 1/8-inch diameter thread. (Use the same test for stored topsoil material before respreading on the site.) If the respective soil sample crumbles apart in segments no greater than 3/8 of an inch long, by the time it is rolled down to 1/8 inch diameter, it is low enough in moisture for deep ripping (or topsoil replacement), and decompaction. Conversely, as shown in Figure 5, if the rolled sample stretches out in increments greater than 3/8 of an inch long before crumbling, it is in a “plastic” state of soil consistency and is too wet for subsoil ripping (as well as topsoil replacement) and final decompaction.



Fig. 5. Augered from a depth of 19 inches below the surface of the replaced topsoil, this subsoil sample was hand rolled to a 1/8-inch diameter. The test shows the soil at this site stretches out too far without crumbling; it indicates the material is in a plastic state of consistence, too wet for final decompaction (deep subsoiling) at this time.

Design Guidance

Beyond the above-noted site factors, a vital requirement for the effective Deep Ripping and Decompaction (deep subsoiling), is implementing the practice in its distinct, two-phase process:

1) Deep rip the affected thickness of exposed subsoil material (see Figure 10 and 11), aggressively fracturing it before the protected topsoil is reapplied on the site (see Figure 12); and

2) Decompact (deep subsoil), simultaneously through the restored topsoil layer and the upper half of the affected subsoil (Figure 13). The second phase, “decompaction,” mitigates the partial recompaction which occurs during the heavy process of topsoil spreading/grading. Prior to deep ripping and decompacting the site, all construction activity, including construction equipment and material storage, site cleanup and trafficking (Figure 14), should be finished; and the site closed off to further disturbance. Likewise, once the practice is underway and the area’s soil permeability and

rainfall infiltration are being restored, a policy limiting all further traffic to permanent travel lanes is maintained.

The other critical elements, outlined below, are: using the proper implements (deep, heavy-duty rippers and subsoilers), and ample pulling-power equipment (tractors); and conducting the practice at the appropriate speed, depth and pattern(s) of movement.

Note that an appropriate plan for the separate practice of establishing a healthy perennial ground cover, with deep rooting to help maintain the restored soil structure, should be developed in advance. This may require the assistance of an agronomist or landscape horticulturist.

Implements

Avoid the use of all undersize implements. The small-to-medium, light-duty tool will, at best, only "scarify" the uppermost surface portion of the mass of compacted subsoil material. The term "chisel plow" is commonly but incorrectly applied to a broad range of implements. While a few may be adapted for the moderate subsoiling of non-impacted soils, the majority are less durable and used for only lighter land-fitting (see Figure 6).



Fig. 6. A light duty chisel implement, not adequate for either the deep ripping or decompaction (deep subsoiling) phase.



Fig. 7. One of several variations of an agricultural ripper. This unit has long, rugged shanks mounted on a steel V-frame for deep, aggressive fracturing through Phase 1.

Use a "heavy duty" agricultural-grade, deep ripper (see Figures 7,9,10 and 11) for the first phase: the lateral and vertical fracturing of the mass of exposed and compressed subsoil, down and through, to the bottom of impact, prior to the replacement of the topsoil layer. (Any oversize rocks which are uplifted to the subsoil surface during the deep ripping phase are picked and removed.) Like the heavy-duty class of implement for the first phase, the decompaction (deep subsoiling) of Phase 2 is conducted with the heavy-duty version of the deep subsoiler. More preferable is the angled-leg variety of deep subsoiler (shown in Figures 8 and 13). It minimizes the inversion of the subsoil and topsoil layers while laterally and vertically fracturing the upper half of the previously ripped subsoil layer and all of the topsoil layer by delivering a momentary, wave-like "lifting and shattering" action up through the soil layers as it is pulled.

Pulling-Power of Equipment

Use the following rule of thumb for tractor horsepower (hp) whenever deep ripping and decompacting a significantly impacted site: For both types of implement, have at least 40 hp of tractor pull available for each mounted shank/ leg.

Using the examples of a 3-shank and a 5-shank implement, the respective tractors should have 120 and 200 hp available for fracturing down to the final depth of 20-to-24 inches per phase. Final depth for the deep ripping in Phase 1 is achieved incrementally by a progressive series of passes (see Depth and Patterns of Movement, below); while for Phase 2, the full operating depth of the deep subsoiler is applied from the beginning.

The operating speed for pulling both types of implement should not exceed 2 to 3 mph. At this slow and managed rate of operating speed, maximum functional performance is sustained by the tractor and the implement performing the soil fracturing. Referring to Figure 8, the implement is the 6-leg version of the deep angled-leg subsoiler. Its two outside legs are "chained up" so that only four legs will be engaged (at the maximum depth), requiring no less than 160 hp, (rather than 240 hp) of pull. The 4-wheel drive, articulated-frame tractor in Figure 8 is 174 hp. It will be decompacting this unobstructed, former construction access area simultaneously through 11 inches of replaced topsoil and the upper 12 inches of the previously deep-ripped subsoil. In constricted areas of Phase 1) Deep Ripping, a medium-size tractor with adequate hp, such as the one in Figure 9 pulling a 3-shank deep ripper, may be more maneuverable.



Fig. 8. A deep, angled-leg subsoiler, ideal for Phase 2 decompaction of after the topsoil layer is graded on top of the ripped subsoil.



Fig. 9. This medium tractor is pulling a 3-shank deep ripper. The severely compacted construction access corridor is narrow, and the 120 hp tractor is more maneuverable for Phase 1 deep ripping (subsoil fracturing), here.

Some industrial-grade variations of ripping implements are attached to power graders and bulldozers. Although highly durable, they are generally not recommended. Typically, the shanks or "teeth" of these rippers are too short and stout; and they are mounted too far apart to achieve the well-distributed type of lateral and vertical fracturing of the soil materials necessary to restore soil permeability and infiltration. In addition, the power graders and bulldozers, as pullers, are far less maneuverable for turns and patterns than the tractor.

Depth and Patterns of Movement

As previously noted both Phase 1 Deep Ripping through significantly compressed, exposed subsoil and Phase 2 Decompaction (deep subsoiling) through the replaced topsoil and upper subsoil need to be performed at maximum capable depth of each implement. With an implement's guide wheels attached, some have a "normal" maximum operating depth of 18 inches, while others may go deeper. In many situations, however, the tractor/implement operator must first remove the guide wheels and other non essential elements from the implement. This adapts the ripper or the deep subsoiler for skillful pulling with its frame only a few inches above surface, while the shanks or legs, fracture the soil material 20-to-24 inches deep.

There may be construction sites where the depth of the exposed subsoil's compression is moderate, e.g.: 12 inches, rather than deep. This can be verified by using a ¾ inch cone penetrometer and a shovel to test the subsoil for its level of compaction, incrementally, every three inches of increasing depth. Once the full thickness of the subsoil's compacted zone is finally "pieced" and there is a significant drop in the psi measurements of the soil penetrometer, the depth/thickness of compaction is determined. This is repeated at several representative locations of the construction site. If the thickness of the site's subsoil compaction is verified as, for example, ten inches, then the Phase 1 Deep Ripping can be correspondingly reduced to the implement's minimum operable depth of 12 inches. However, the Phase 2 simultaneous Decompation (subsoiling) of an 11 inch thick layer of replaced topsoil and the upper subsoil should run at the subsoiling implements full operating depth.



Fig. 10. An early pass with a 3-shank deep ripper penetrating only 8 inches into this worksite's severely compressed subsoil.



Fig. 11. A repeat run of the 3-shank ripper along the same patterned pass area as Fig. 9; here, incrementally reaching 18 of the needed 22 inches of subsoil fracture.

Typically, three separate series (patterns) are used for both the Phase 1 Deep Ripping and the Phase 2 Decompaction on significantly compacted sites. For Phase 1, each series begins with a moderate depth of rip and, by repeat-pass, continues until full depth is reached. Phase 2 applies the full depth of Decompation (subsoiling), from the beginning.

Every separate series (pattern) consists of parallel, forward-and-return runs, with each progressive

pass of the implement's legs or shanks evenly staggered between those from the previous pass. This compensates for the shank or leg-spacing on the implement, e.g., with 24-to-30 inches between each shank or leg. The staggered return pass ensures lateral and vertical fracturing actuated every 12 to 15 inches across the densely compressed soil mass.

Large, Unobstructed Areas

For larger easy areas, use the standard patterns of movement:

- The first series (pattern) of passes is applied lengthwise, parallel with the longest spread of the site; gradually progressing across the site's width, with each successive pass.

- The second series runs obliquely, crossing the first series at an angle of about 45 degrees.

- The third series runs at right angle (or 90 degrees), to the first series to complete the fracturing and shattering on severely compacted sites, and avoid leaving large unbroken blocks of compressed soil material. (In certain instances, the third series may be optional, depending on how thoroughly the first two series loosen the material and eliminate large chunks/blocks of material as verified by tests with a ¾-inch cone penetrometer.)



Fig. 12. Moderately dry topsoil is being replaced on the affected site now that Phase 1 deep ripping of the compressed subsoil is complete.



Fig. 13. The same deep, angled-leg subsoiler shown in Fig. 7 is engaged at maximum depth for Phase 2, decompaction (deep soiling), of the replaced topsoil and the upper subsoil materials.

Corridors

In long corridors of limited width and less maneuverability than larger sites, e.g.: along compacted areas used as temporary construction access, a modified series of pattern passes are used.

- First, apply the same initial lengthwise, parallel series of passes described above.

● A second series of passes makes a broad “S” shaped pattern of rips, continually and gradually alternating the “S” curves between opposite edges inside the compacted corridor.

● The third and final series again uses the broad, alternating S pattern, but it is “flip-flopped” to continually cross the previous S pattern along the corridor’s centerline. This final series of the S pattern curves back along the edge areas skipped by the second series.

Maintenance and Cost

Once the two-phase practice of Deep Ripping and Decompation is completed, two items are essential for maintaining a site’s soil porosity and permeability for infiltration. They are: planting and maintaining the appropriate ground cover with deep roots to maintain the soil structure (see Figure 15); and keeping the site free of traffic or other weight loads.

Note that site-specific choice of an appropriate vegetative ground-cover seed mix, including the proper seeding ratio of one or more perennial species with a deep taproot system and the proper amount of lime and soil nutrients (fertilizer mix) adapted to the soil-needs, are basic to the final practice of landscaping, i.e: surface tillage, seeding/planting/fertilizing and culti-packing or mulching is applied. The "maintenance" of an effectively deep-ripped and decompacted area is generally limited to the successful perennial (long-term) landscape ground cover; as long as no weight-bearing force of soil compaction is applied.



Fig. 14. The severely compacted soil of a temporary construction yard used daily by heavy equipment for four months; shown before deep ripping, topsoil replacement, and decompaction.



Fig. 15. The same site as Fig. 14 after deep ripping of the exposed subsoil, topsoil replacement, decompaction through the topsoil and upper subsoil and final surface tillage and revegetation to maintain soil permeability and infiltration.

The Deep Ripping and Decompaction practice is, by necessity, more extensive than periodic subsoiling of farmland.The cost of deep ripping and decompacting (deep subsoiling), will vary according to the depth and severity of soil-material compression and the relative amount of tractor and implement time that is required. In some instances, depending on open maneuverability, two-to-three acres of compacted project area may be deep-ripped in one day. In other situations of more severe compaction and - or less maneuverability, as little as one acre may be fully ripped in a day. Generally, if the Phase 1) Deep Ripping is fully effective, the Phase 2) Decompaction should be completed in 2/3 to 3/4 of the time required for Phase 1.

Using the example of two acres of Phase 1) Deep Ripping in one day, at $1800 per day, the net cost is $900 per acre. If the Phase 2) Decompacting or deep subsoiling takes 3/4 the time as Phase 1, it costs $675 per acre for a combined total of $1575 per acre to complete the practice (these figures do not include the cost of the separate practice of topsoil stripping and replacement). Due to the many variables, it must be recognized that cost will be determined by the specific conditions or constraints of the site and the availability of proper equipment.

Resources

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- US Department of Agriculture in cooperation with Cornell University Agricultural Experiment Station. Various years. *Soil Survey of (various names) County, New York.* USDA.

Internet Access:

- Examples of implements:

V-Rippers. Access by internet search of *John Deere Ag -New Equipment for 915* (larger-frame model) *V-Rippe*; and, *for 913* (smaller-frame model) *V-Ripper*. Deep, angled-leg subsoiler. Access by internet search of: B*igham Brothers Shear Bolt Paratill-Subsoiler.* http://salesmanual.deere.com/sales/salesmanual/en_NA/primary_tillage/2008/feature/rippers/915v_pattern_frame.html?sbu=ag&link=prodcat Last visited March 08.

- Soils data of USDA Natural Resources Conservation Service. *NRCS Web Soil Survey.* http://websoilsurvey.nrcs.usda.gov/app/ and *USDA-NRCS Official Soil Series Descriptions; View by Name.* http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi . *Last visited Jan. 08.*

- Soil penetrometer information. Access by internet searches of: *Diagnosing Soil Compaction using a Penetrometer (soil compaction tester), PSU Extension;* as well as *Dickey-john Soil Compaction Tester*. http://www.dickey-johnproducts.com/pdf/SoilCompactionTest.pdf and http://cropsoil.psu.edu/Extension/Facts/uc178pdf Last visited Sept. 07

APPENDIX K

STANDARD AND SPECIFICATIONS FOR CHECK DAM



Definition

Small barriers or dams constructed of stone, bagged sand or gravel, or other durable material across a drainage way.

Purpose

To reduce erosion in a drainage channel by restricting the velocity of flow in the channel.

Condition Where Practice Applies

This practice is used as a temporary or emergency measure to limit erosion by reducing velocities in small open channels that are degrading or subject to erosion and where permanent stabilization is impractical due to short period of usefulness and time constraints of construction.

Design Criteria

Drainage Area: Maximum drainage area above the check dam shall not exceed two (2) acres.

Height: Not greater than 2 feet. Center shall be maintained 9 inches lower than abutments at natural ground elevation.

Side Slopes: Shall be 2:1 or flatter.

Spacing: The check dams shall be spaced as necessary in the channel so that the crest of the downstream dam is at the elevation of the toe of the upstream dam. This spacing is equal to the height of the check dam divided by the channel slope.

Therefore:

$S = h/s$

Where:

S = spacing interval (ft.)
h = height of check dam (ft.)
s = channel slope (ft./ft.)

Example:

For a channel with a 4% slope and 2 ft. high stone check dams, they are spaced as follows:

$$S = \frac{2 \text{ ft.}}{.04 \text{ ft/ft.}} = 50 \text{ ft.}$$

Stone size: Use a well graded stone matrix 2 to 9 inches in size (NYS – DOT Light Stone Fill meets these requirements).

The overflow of the check dams will be stabilized to resist erosion that might be caused by the check dam. See Figure 5A.9 on page 5A.24 for details.

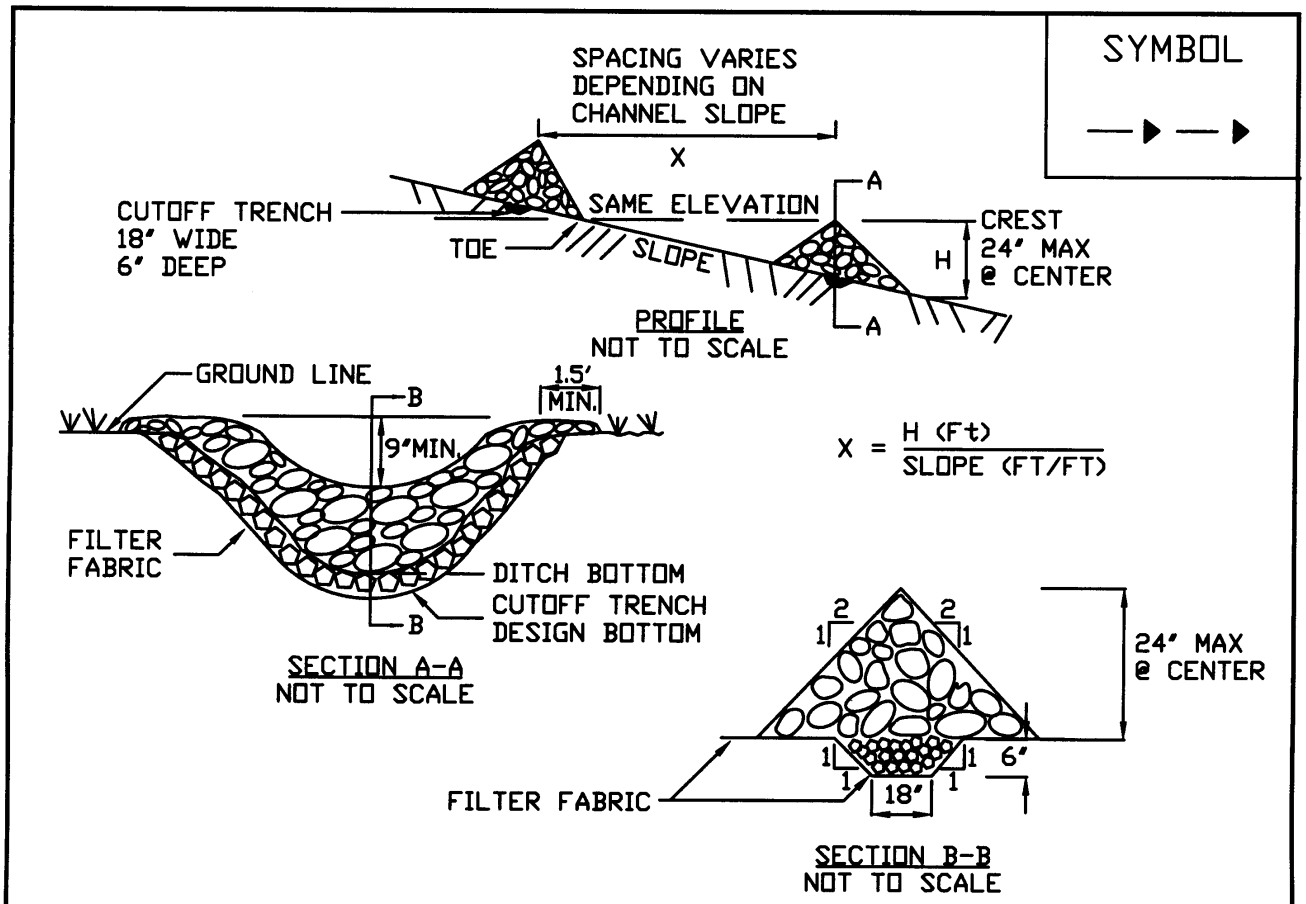
Check dams should be anchored in the channel by a cutoff trench 1.5 ft. wide and 0.5 ft. deep and lined with filter fabric to prevent soil migration.

Maintenance

The check dams should be inspected after each runoff event. Correct all damage immediately. If significant erosion has occurred between structures, a liner of stone or other suitable material should be installed in that portion of the channel.

Remove sediment accumulated behind the dam as needed to allow channel to drain through the stone check dam and prevent large flows from carrying sediment over the dam. Replace stones as needed to maintain the design cross section of the structures.

Figure 5A.9
Check Dam



CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

MAXIMUM DRAINAGE AREA 2 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	CHECK DAM

STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ENTRANCE



Definition

A stabilized pad of aggregate underlain with geotextile located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, alley, sidewalk, or parking area.

Purpose

The purpose of stabilized construction entrance is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Conditions Where Practice Applies

A stabilized construction entrance shall be used at all points of construction ingress and egress.

Design Criteria

See Figure 5A.35 on page 5A.76 for details.

Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.

Thickness: Not less than six (6) inches.

Width: 12-foot minimum but not less than the full width of points where ingress or egress occurs. 24-foot minimum if there is only one access to the site.

Length: As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum would apply).

Geotextile: To be placed over the entire area to be covered with aggregate. Filter cloth will not be required on a single-family residence lot. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

Criteria for Geotextile

The geotextile shall be woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydro-carbons, mildew, rot resistant, and conform to the fabric properties as shown:

Fabric Properties[3]	Light Duty[1] Roads Grade Subgrade	Heavy Duty[2] Haul Roads Rough Graded	Test Method
Grab Tensile Strength (lbs)	200	220	ASTM D1682
Elongation at Failure (%)	50	60	ASTM D1682
Mullen Brust Strength (lbs)	190	430	ASTM D3786
Puncture Strength (lbs)	40	125	ASTM D751 modified
Equivalent Opening Size	40-80	40-80	US Std Sieve CW-02215
Aggregate Depth	6	10	--

[1]Light Duty Road: Area sites that have been graded to subgrade and where most travel would be single axle vehicles and an occasional multi-axle truck. Acceptable materials are Trevira Spunbond 1115, Mirafi 100X, Typar 3401, or equivalent.

[2]Heavy Duty Road: Area sites with only rough grading, and where most travel would be multi-axle vehicles. Acceptable materials are Trevira Spunbond 1135, Mirafi 600X, or equivalent.

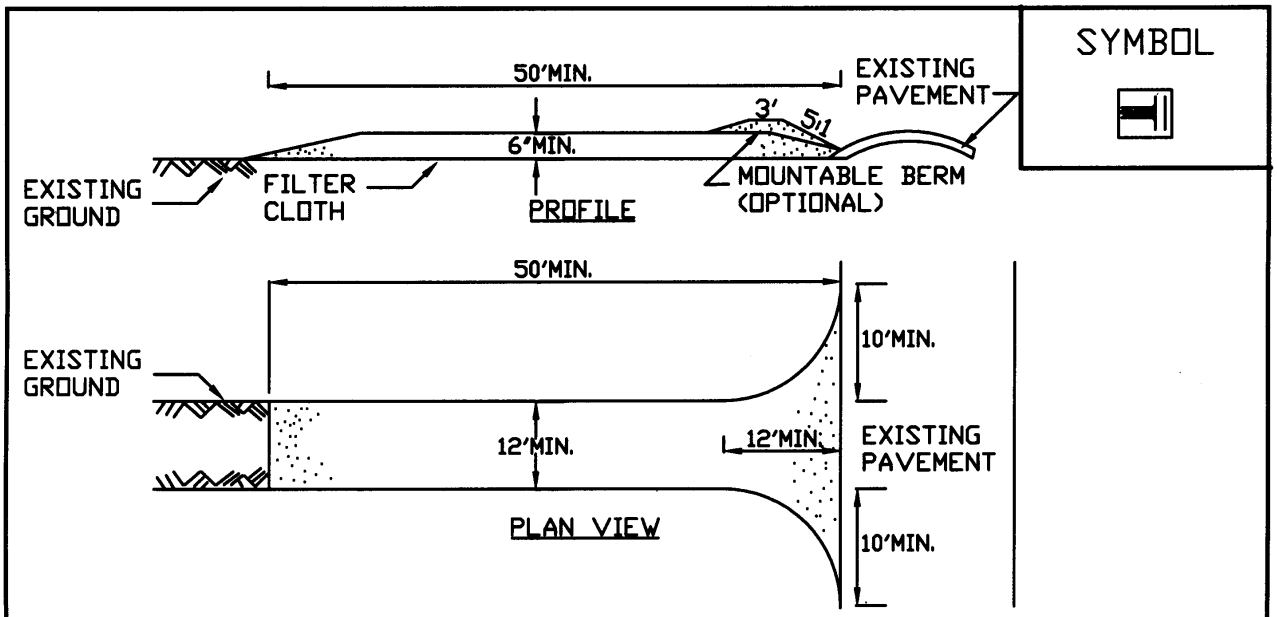
[3]Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

Maintenance

The entrance shall be maintained in a condition which will prevent tracking of sediment onto public rights-of-way or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public rights-of-way must be removed immediately.

When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device. All sediment shall be prevented from entering storm drains, ditches, or watercourses.

Figure 5A.35
Stabilized Construction Entrance



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH 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 RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STABILIZED CONSTRUCTION ENTRANCE

STANDARD AND SPECIFICATIONS FOR CONSTRUCTION ROAD STABILIZATION



Definition

The stabilization of temporary construction access routes, on-site vehicle transportation routes, and construction parking areas.

Purpose

To control erosion on temporary construction routes and parking areas.

Condition Where Practice Applies

All traffic routes and parking areas for temporary use by construction traffic.

Design Criteria

Construction roads should be located to reduce erosion potential, minimize impact on existing site resources, and maintain operations in a safe manner. Highly erosive soils, wet or rocky areas, and steep slopes should be avoided. Roads should be routed where seasonal water tables are deeper than 18 inches. Surface runoff and control should be in accordance with other standards.

Road Grade – A maximum grade of 12% is recommended, although grades up to 15% are possible for short distances.

Road Width – 14 foot minimum for one-way traffic or 24 foot minimum for two-way traffic.

Side Slope of Road Embankment – 2:1 or flatter.

Ditch Capacity – On-site roadside ditch and culvert capacities shall be the 10 yr. peak runoff.

Composition – Use a 6-inch layer of NYS DOT sub-base Types 1,2,3, 4 or equivalent as specified in NYS – Standards and Specifications for Highways.

Construction Specifications

1. Clear and strip roadbed and parking areas of all vegetation, roots, and other objectionable material.

2. Locate parking areas on naturally flat areas as available. Keep grades sufficient for drainage, but not more than 2 to 3 percent.

3. Provide surface drainage and divert excess runoff to stabilized areas.

4. Maintain cut and fill slopes to 2:1 or flatter and stabilized with vegetation as soon as grading is accomplished.

5. Spread 6-inch layer of sub-base material evenly over the full width of the road and smooth to avoid depressions.

6. Provide appropriate sediment control measures to prevent offsite sedimentation.

Maintenance

Inspect construction roads and parking areas periodically for condition of surface. Topdress with new gravel as needed. Check ditches for erosion and sedimentation after rainfall events. Maintain vegetation in a health, vigorous condition. Areas producing sediment should be treated immediately.

STANDARD AND SPECIFICATIONS FOR STORM DRAIN INLET PROTECTION



Definition

A temporary, somewhat permeable barrier, installed around inlets in the form of a fence, berm or excavation around an opening, trapping water and thereby reducing the sediment content of sediment laden water by settling.

Purpose

To prevent heavily sediment laden water from entering a storm drain system through inlets.

Conditions Where Practice Applies

This practice shall be used where the drainage area to an inlet is disturbed, it is not possible to temporarily divert the storm drain outfall into a trapping device, and watertight blocking of inlets is not advisable. **It is not to be used in place of sediment trapping devices.** This may be used in conjunction with storm drain diversion to help prevent siltation of pipes installed with low slope angle.

Types of Storm Drain Inlet Practices

There are four (4) specific types of storm drain inlet protection practices that vary according to their function, location, drainage area, and availability of materials:

I. Excavated Drop Inlet Protection
II. Fabric Drop Inlet Protection
III. Stone & Block Drop Inlet Protection
IV. Curb Drop Inlet Protection

Design Criteria

Drainage Area – The drainage area for storm drain inlets shall not exceed one acre. The crest elevations of these practices shall provide storage and minimize bypass flow.

Type I – Excavated Drop Inlet Protection

See details for Excavated Drop Inlet Protection in Figure 5A.11 on page 5A.29.

Limit the drainage area to the inlet device to 1 acre. Excavated side slopes shall be no steeper than 2:1. The minimum depth shall be 1 foot and the maximum depth 2 feet as measured from the crest of the inlet structure. Shape the excavated basin to fit conditions with the longest dimension oriented toward the longest inflow area to provide maximum trap efficiency. The capacity of the excavated basin should be established to contain 900 cubic feet per acre of disturbed area. Weep holes, protected by fabric and stone, should be provided for draining the temporary pool.

Inspect and clean the excavated basin after every storm. Sediment should be removed when 50 percent of the storage volume is achieved This material should be incorporated into the site in a stabilized manner.

Type II – Fabric Drop Inlet Protection

See Figure 5A.12 for details on Filter Fabric Drop Inlet Protection on page 5A.30.

Limit the drainage area to 1 acre per inlet device. Land area slope immediately surrounding this device should not exceed 1 percent. The maximum height of the fabric above the inlet crest shall not exceed 1.5 feet unless reinforced.

The top of the barrier should be maintained to allow overflow to drop into the drop inlet and not bypass the inlet to unprotected lower areas. Support stakes for fabric shall be a minimum of 3 feet long, spaced a maximum 3 feet apart. They should be driven close to the inlet so any overflow drops into the inlet and not on the unprotected soil. Improved performance and sediment storage volume can be obtained by excavating the area.

Inspect the fabric barrier after each rain event and make repairs as needed. Remove sediment from the pool area as

necessary with care not to undercut or damage the filter fabric. Upon stabilization of the drainage area, remove all materials and unstable sediment and dispose of properly. Bring the adjacent area of the drop inlet to grade, smooth and compact and stabilize in the appropriate manner to the site.

If straw bales are used in lieu of filter fabric, they should be placed tight with the cut edge adhering to the ground at least 3 inches below the elevation of the drop inlet. Two anchor stakes per bale shall be driven flush to bale surface. Straw bales will be replaced every 4 months until the area is stabilized.

Type III – Stone and Block Drop Inlet Protection

See Figure 5A.13 for details on Stone and Block Drop Inlet Protection on page 5A.31.

Limit the drainage area to 1 acre at the drop inlet. The stone barrier should have a minimum height of 1 foot and a maximum height of 2 feet. Do not use mortar. The height should be limited to prevent excess ponding and bypass flow.

Recess the first course of blocks at least 2 inches below the crest opening of the storm drain for lateral support. Subsequent courses can be supported laterally if needed by placing a 2x4 inch wood stud through the block openings perpendicular to the course. The bottom row should have a few blocks oriented so flow can drain through the block to dewater the basin area.

The stone should be placed just below the top of the blocks on slopes of 2:1 or flatter. Place hardware cloth of wire mesh with ½ inch openings over all block openings to hold stone in place.

As an optional design, the concrete blocks may be omitted and the entire structure constructed of stone, ringing the outlet ("doughnut"). The stone should be kept at a 3:1 slope toward the inlet to keep it from being washed into the inlet. A level area 1 foot wide and four inches below the crest will further prevent wash. Stone on the slope toward the inlet should be at least 3 inches in size for stability and 1 inch or smaller away from the inlet to control flow rate. The elevation of the top of the stone crest must be maintained 6 inches lower than the ground elevation down slope from the inlet to ensure that all storm flows pass over the stone into the storm drain and not past the structure. Temporary diking should be used as necessary to prevent bypass flow.

The barrier should be inspected after each rain event and repairs made where needed. Remove sediment as necessary to provide for accurate storage volume for subsequent rains. Upon stabilization of contributing drainage area, remove all materials and any unstable soil and dispose of properly.

Bring the disturbed area to proper grade, smooth, compact and stabilized in a manner appropriate to the site.

Type IV – Curb Drop Inlet Protection

See Figure 5A. 14 for details on Curb Drop Inlet Protection on page 5A.32.

The drainage area should be limited to 1 acre at the drop inlet. The wire mesh must be of sufficient strength to support the filter fabric and stone with the water fully impounded against it. Stone is to be 2 inches in size and clean. The filter fabric must be of a type approved for this purpose with an equivalent opening size (EOS) of 40-85. The protective structure will be constructed to extend beyond the inlet 2 feet in both directions. Assure that storm flow does not bypass the inlet by installing temporary dikes (such as sand bags) directing flow into the inlet. Make sure that the overflow weir is stable. Traffic safety shall be integrated with the use of this practice.

The structure should be inspected after every storm event. Any sediment should be removed and disposed of on the site. Any stone missing should be replaced. Check materials for proper anchorage and secure as necessary.

Figure 5A.11
Excavated Drop Inlet Protection

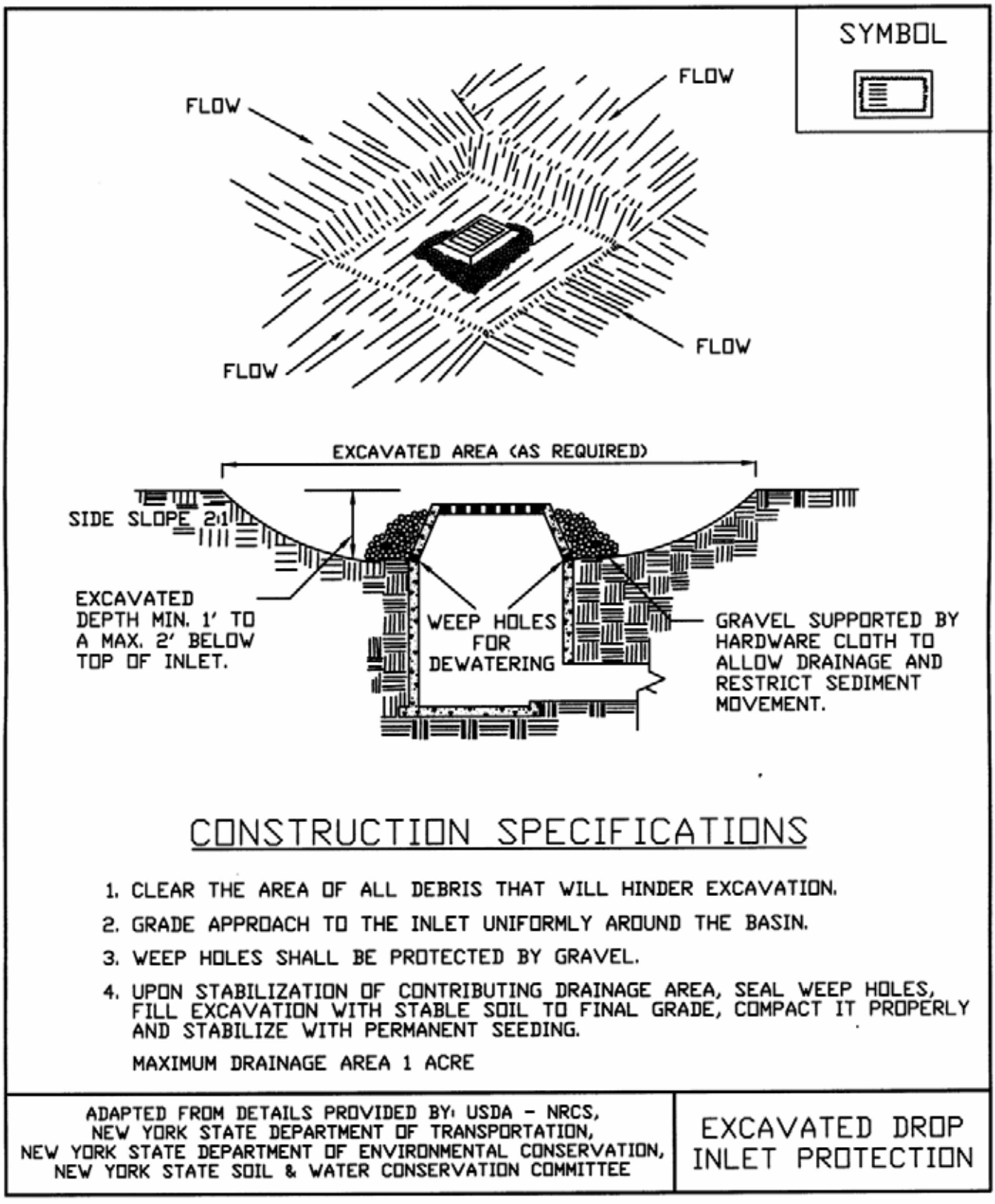
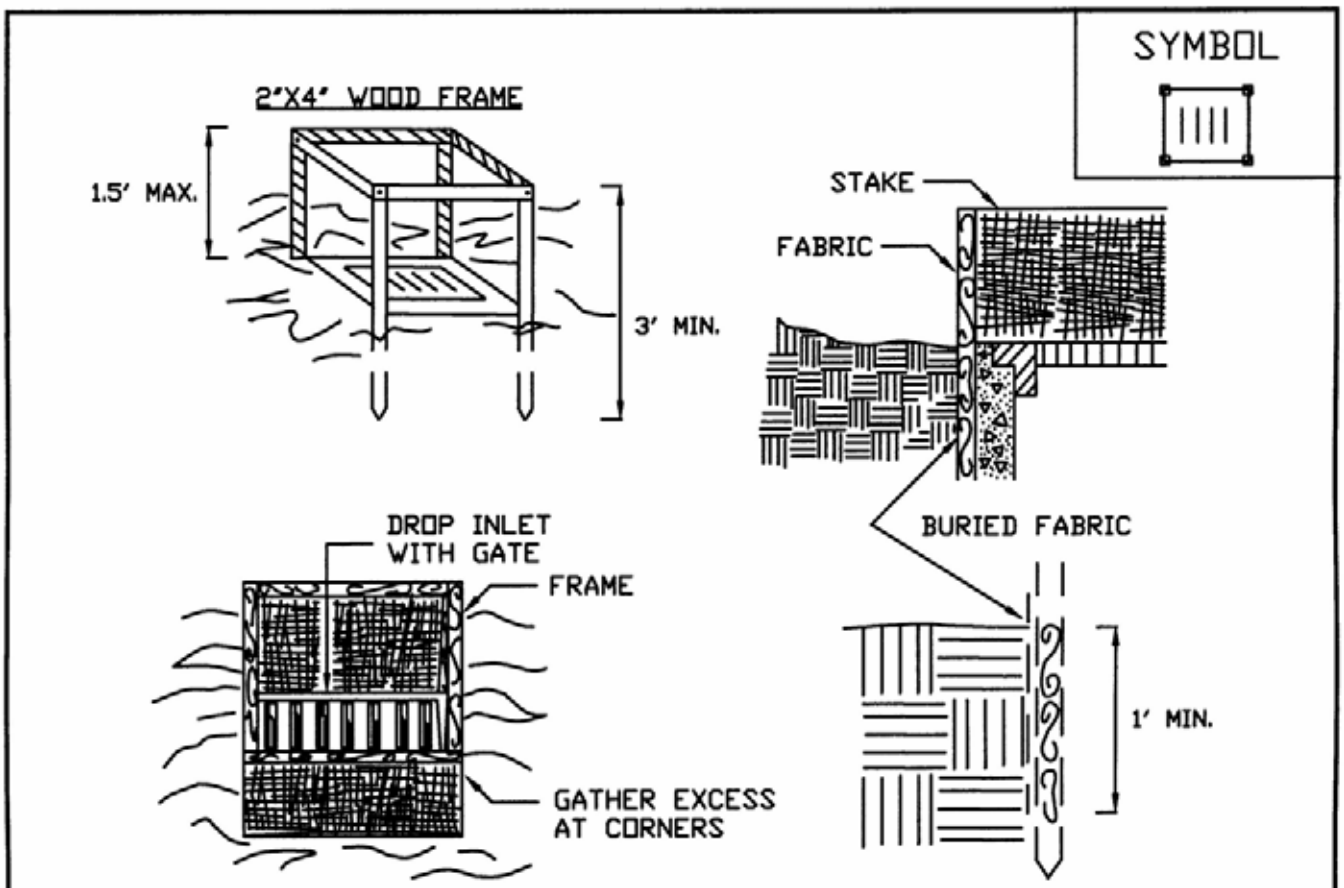


Figure 5A.12
Filter Fabric Drop Inlet Protection



CONSTRUCTION SPECIFICATIONS

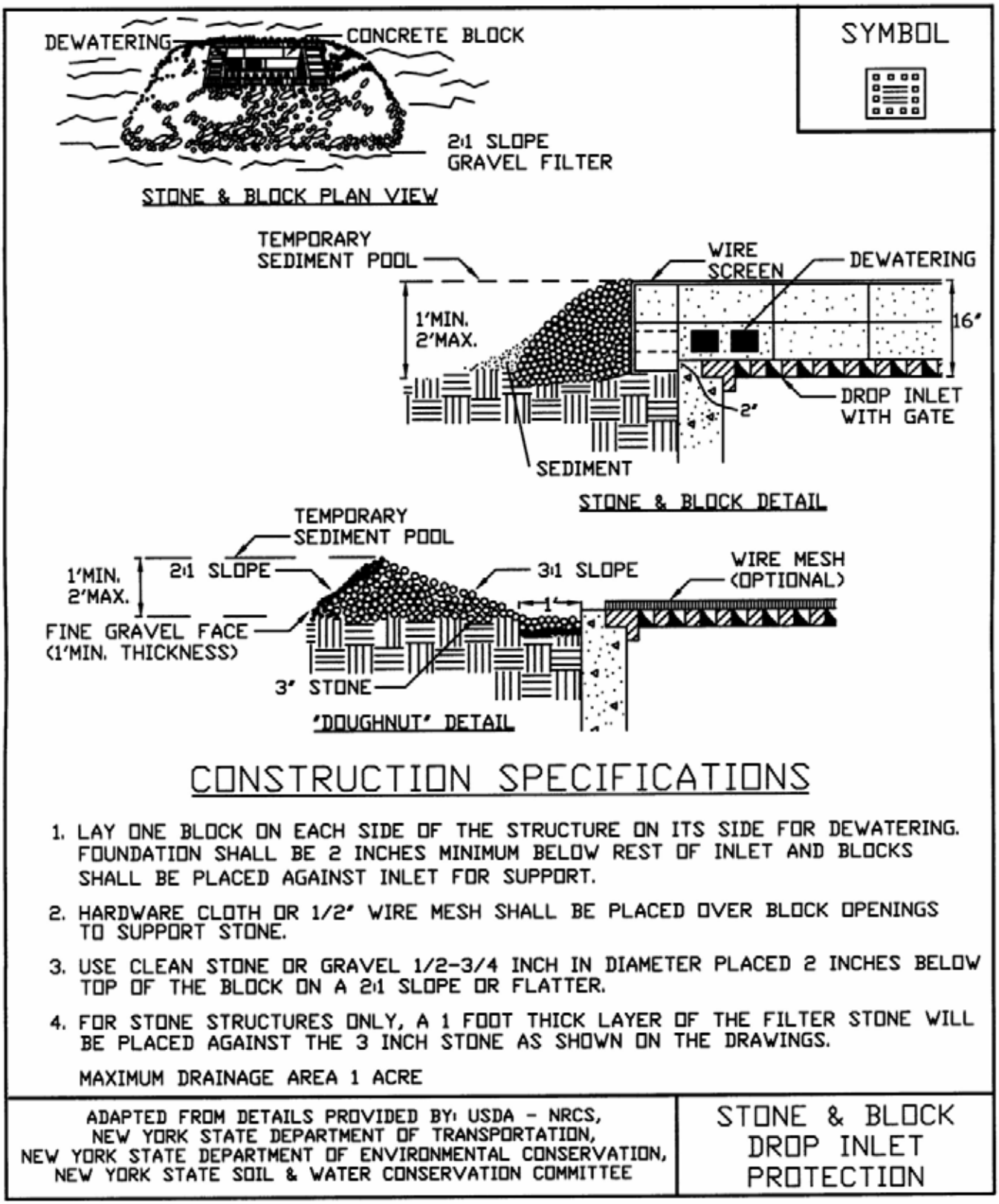
1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE 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 OVER FLOW STABILITY.

MAXIMUN DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

FILTER FABRIC
DROP INLET
PROTECTION

Figure 5A.13
Stone & Block Drop Inlet Protection



CONSTRUCTION SPECIFICATIONS

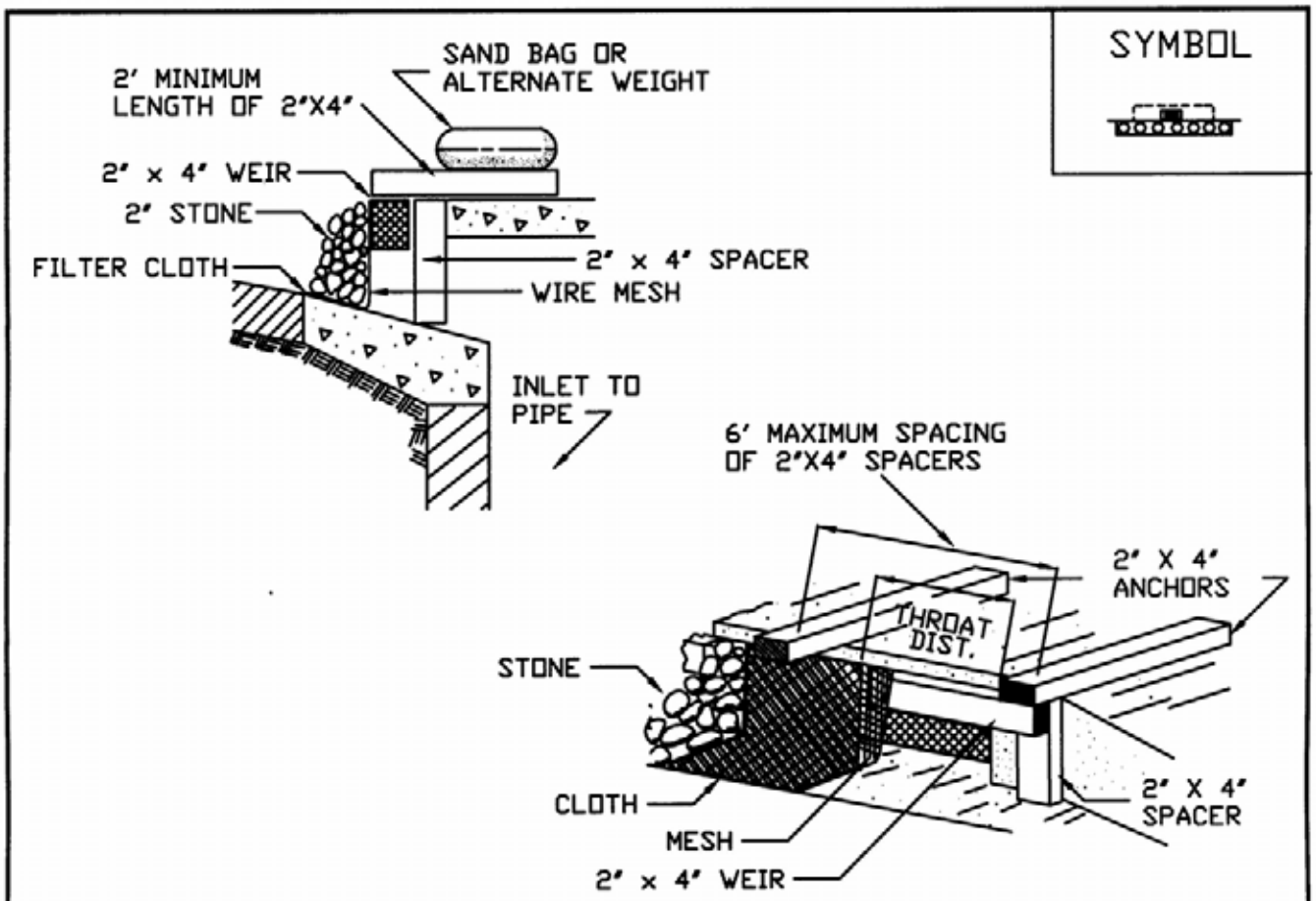
1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL 1/2-3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.

MAXIMUM DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STONE & BLOCK
DROP INLET
PROTECTION

Figure 5A.14
Curb Drop Inlet Protection



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN AOS OF 40-85.
2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2" x 4" CONSTRUCTION GRADE LUMBER.
3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE 30 INCH MINIMUM WIDTH WITH A LENGTH 4 FEET LONGER THAN THE THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO A 2" x 4" WEIR.
4. THE WEIR SHALL BE SECURELY NAILED TO 2" x 4" SPACERS 9 INCHES LONG SPACED NO MORE THAN 6 FEET APART.
5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2" x 4" ANCHORS 2 FEET LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHTS.

MAXIMUM DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

CURB DROP INLET PROTECTION

STANDARD AND SPECIFICATIONS FOR DUST CONTROL



Definition

The control of dust resulting from land-disturbing activities.

Purpose

To prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

Conditions Where Practice Applies

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

Design Criteria

Construction operations should be scheduled to minimize the amount of area disturbed at one time. Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures shall be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

Water quality must be considered when materials are selected for dust control. Where there is a potential for the material to wash off to a stream, ingredient information must be provided to the local permitting authority.

Construction Specifications

A. Non-driving Areas – These areas use products and materials applied or placed on soil surfaces to prevent airborne migration of soil particles.

Vegetative Cover – For disturbed areas not subject to traffic, vegetation provides the most practical method of dust control (see Section 3).

Mulch (including gravel mulch) – Mulch offers a fast effective means of controlling dust. This can also include rolled erosion control blankets.

Spray adhesives – These are products generally composed of polymers in a liquid or solid form that are mixed with water to form an emulsion that is sprayed on the soil surface with typical hydroseeding equipment. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations for the specific soils on the site. In no case should the application of these adhesives be made on wet soils or if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators and others working with the material.

B. Driving Areas – These areas utilize water, polymer emulsions, and barriers to prevent dust movement from the traffic surface into the air.

Sprinkling – The site may be sprayed with water until the surface is wet. This is especially effective on haul roads and access routes.

Polymer Additives – These polymers are mixed with water and applied to the driving surface by a water truck with a gravity feed drip bar, spray bar or automated distributor truck. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations. Incorporation of the emulsion into the soil will be done to the appropriate depth based on expected traffic. Compaction after incorporation will be by vibratory roller to a minimum of 95%. The prepared surface shall be moist and no application of the polymer will be made if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators working with the material.

Barriers – Woven geotextiles can be placed on the driving surface to effectively reduce dust throw and particle migration on haul roads. Stone can also be used for construction roads for effective dust control.

Windbreak – A silt fence or similar barrier can control air currents at intervals equal to ten times the barrier height. Preserve existing wind barrier vegetation as much as practical.

All Stormwater Pollution Prevention Plans must contain the NYS DEC issued “Conditions for Use” and “Application Instructions” for any polymers used on the site. This information can be obtained from the NYS DEC website.

Maintenance

Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

STANDARD AND SPECIFICATIONS
FOR
FIBER ROLL



Definition

A fiber roll is a coir (coconut fiber), straw, or excelsior woven roll encased in netting of jute, nylon, or burlap.

Purpose

To dissipate energy along streambanks, channels, and bodies of water and reduce sheet flow on slopes.

Conditions Where Practice Applies

Fiber rolls are used where the water surface levels are relatively constant. Artificially controlled streams for hydropower are not good candidates for this technique. The rolls provide a good medium for the introduction of herbaceous vegetation. Planting in the fiber roll is appropriate where the roll will remain continuously wet.

Design Criteria

1. The roll is placed in a shallow trench dug below baseflow or in a 4 inch trench on the slope contour and anchored by 2" x 2", 3-foot long posts driven on each side of the roll (see Figure 4.9).

2. The roll is contained by a 9-gauge non-galvanized wire placed over the roll from post to post. Braided nylon rope (1/8" thick) may be used.

3. The anchor posts shall be spaced laterally 4 feet on center on both sides of the roll, staggered, and driven down to the top of the roll.

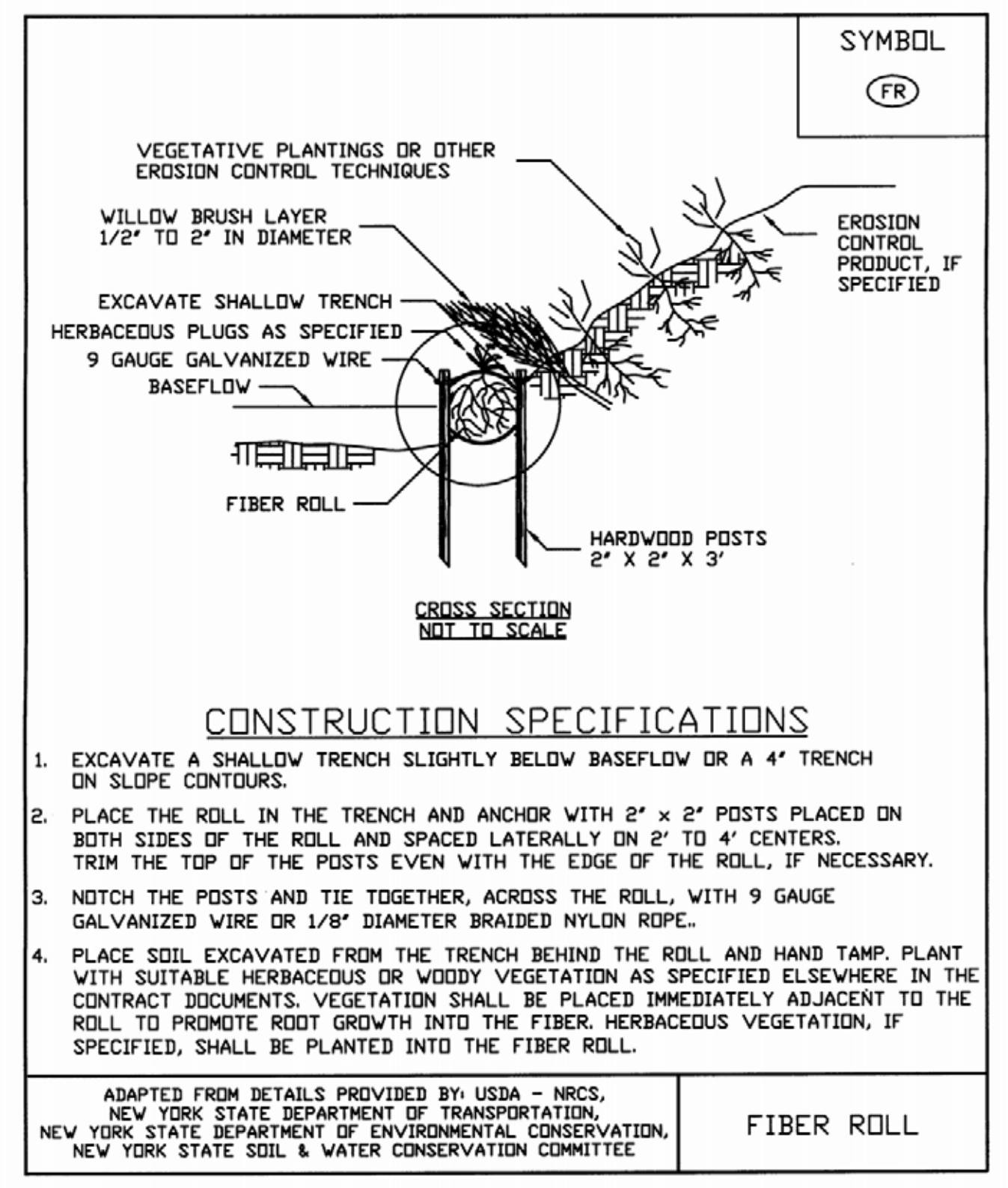
4. Soil is placed behind the roll and planted with suitable herbaceous or woody vegetation. If the roll will be continuously saturated, wetland plants may be planted into voids created in the upper surface of the roll.

5. Where water levels may fall below the bottom edge of the roll, a brush layer of willow should be installed so as to lay across the top edge of the roll.

Maintenance

Due to the susceptibility of plant materials to the physical constraints of the site, climate conditions, and animal populations, it is necessary to inspect installations frequently. This is especially important during the first year or two of establishment. Plant materials missing or damaged should be replaced as soon as possible. Sloughs or breaks in drainage pattern should be reestablished for the site as quickly as possible to maintain stability.

Figure 4.9
Fiber Roll



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4. Dickerson, et. al. 1990. ICEA paper. Obtaining Plant Materials for Biotechnical Work.

STANDARD AND SPECIFICATIONS FOR MULCHING



Definition

Applying coarse plant residue or chips, or other suitable materials, to cover the soil surface.

Purpose

The primary purpose is to provide initial erosion control while a seeding or shrub planting is establishing. Mulch will conserve moisture and modify the surface soil temperature and reduce fluctuation of both. Mulch will prevent soil surface crusting and aid in weed control. Mulch is also used alone for temporary stabilization in non-growing months.

Conditions Where Practice Applies

On soils subject to erosion and on new seedings and shrub plantings. Mulch is useful on soils with low infiltration rates by retarding runoff.

Criteria

Site preparation prior to mulching requires the installation of necessary erosion control or water management practices and drainage systems.

Slope, grade and smooth the site to fit needs of selected mulch products.

Remove all undesirable stones and other debris to meet the needs of the anticipated land use and maintenance required.

Apply mulch after soil amendments and planting is accomplished or simultaneously if hydroseeding is used.

Select appropriate mulch material and application rate or material needs. Determine local availability.

Select appropriate mulch anchoring material.

NOTE: The best combination for grass/legume establishment is straw (cereal grain) mulch applied at 2 ton/ acre (90 lbs./1000sq.ft.) and anchored with wood fiber mulch (hydromulch) at 500 – 750 lbs./acre (11 – 17 lbs./1000 sq. ft.). The wood fiber mulch must be applied through a hydroseeder immediately after mulching.

Table 3.7
Guide to Mulch Materials, Rates, and Uses

Mulch Material	Quality Standards	per 1000 Sq. Ft.	per Acre	Depth of Application	Remarks
Wood chips or shavings	Air-dried. Free of objectionable coarse material	500-900 lbs.	10-20 tons	2-7”	Used primarily around shrub and tree plantings and recreation trails to inhibit weed competition. Resistant to wind blowing. Decomposes slowly.
Wood fiber cellulose (partly digested wood fibers)	Made from natural wood usually with green dye and dispersing agent	50 lbs.	2,000 lbs.	—	Apply with hydromulcher. No tie down required. Less erosion control provided than 2 tons of hay or straw.
Gravel, Crushed Stone or Slag	Washed; Size 2B or 3A—1 1/2”	9 cu. yds.	405 cu. yds.	3”	Excellent mulch for short slopes and around plants and ornamentals. Use 2B where subject to traffic. (Approximately 2,000 lbs./cu. yd.). Frequently used over filter fabric for better weed control.
Hay or Straw	Air-dried; free of undesirable seeds & coarse materials	90-100 lbs. 2-3 bales	2 tons (100-120 bales)	cover about 90% surface	Use small grain straw where mulch is maintained for more than three months. Subject to wind blowing unless anchored. Most commonly used mulching material. Provides the best micro-environment for germinating seeds.
Jute twisted yarn	Undyed, unbleached plain weave. Warp 78 ends/yd., Weft 41 ends/ yd. 60-90 lbs./roll	48” x 50 yds. or 48” x 75 yds.	—	—	Use without additional mulch. Tie down as per manufacturers specifications. Good for center line of concentrated water flow.
Excelsior wood fiber mats	Interlocking web of excelsior fibers with photodegradable plastic netting	8” x 100” 2-sided plastic, 48” x 180” 1-sided plastic	—	—	Use without additional mulch. Excellent for seeding establishment. Tie down as per manufacturers specifications. Approximately 72 lbs./roll for excelsior with plastic on both sides. Use two sided plastic for centerline of waterways.
Compost	Up to 3” pieces, moderately to highly stable	3-9 cu. yds.	134-402 cu. yds.	1-3”	Coarser textured mulches may be more effective in reducing weed growth and wind erosion.
Straw or coconut fiber, or combination	Photodegradable plastic net on one or two sides	Most are 6.5 ft. x 3.5 ft.	81 rolls	—	Designed to tolerate higher velocity water flow, centerlines of waterways, 60 sq. yds. per roll.

Table 3.8
Mulch Anchoring Guide

Anchoring Method or Material	Kind of Mulch to be Anchored	How to Apply
1. Peg and Twine	Hay or straw	After mulching, divide areas into blocks approximately 1 sq. yd. in size. Drive 4-6 pegs per block to within 2" to 3" of soil surface. Secure mulch to surface by stretching twine between pegs in criss-cross pattern on each block. Secure twine around each peg with 2 or more tight turns. Drive pegs flush with soil. Driving stakes into ground tightens the twine.
2. Mulch netting	Hay or straw	Staple the light-weight paper, jute, wood fiber, or plastic nettings to soil surface according to manufacturer's recommendations. Should be biodegradable. Most products are not suitable for foot traffic.
3. Wood cellulose fiber	Hay or straw	Apply with hydroseeder immediately after mulching. Use 500 lbs. wood fiber per acre. Some products contain an adhesive material ("tackifier"), possibly advantageous.
4. Mulch anchoring tool	Hay or straw	Apply mulch and pull a mulch anchoring tool (blunt, straight discs) over mulch as near to the contour as possible. Mulch material should be "tucked" into soil surface about 3".
5. Tackifier	Hay or straw	Mix and apply polymeric and gum tackifiers according to manufacturer's instructions. Avoid application during rain. A 24-hour curing period and a soil temperature higher than 45^0 Fahrenheit are required.

STANDARD AND SPECIFICATIONS FOR ROCK OUTLET PROTECTION



Definition

A section of rock protection placed at the outlet end of the culverts, conduits, or channels.

Purpose

The purpose of the rock outlet protection is to reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving downstream reach.

Scope

This standard applies to the planning, design, and construction of rock riprap and gabions for protection of downstream areas. It does not apply to rock lining of channels or streams.

Conditions Where Practice Applies

This practice applies where discharge velocities and energies at the outlets of culverts, conduits, or channels are sufficient to erode the next downstream reach. This applies to:

1. Culvert outlets of all types.

2. Pipe conduits from all sediment basins, dry storm water ponds, and permanent type ponds.

3. New channels constructed as outlets for culverts and conduits.

Design Criteria

The design of rock outlet protection depends entirely on the location. Pipe outlet at the top of cuts or on slopes steeper than 10 percent, cannot be protected by rock aprons or riprap sections due to re-concentration of flows and high velocities encountered after the flow leaves the apron.

Many counties and state agencies have regulations and design procedures already established for dimensions, type and size of materials, and locations where outlet protection is required. Where these requirements exist, they shall be followed.

Tailwater Depth

The depth of tailwater immediately below the pipe outlet must be determined for the design capacity of the pipe. If the tailwater depth is less than half the diameter of the outlet pipe, and the receiving stream is wide enough to accept divergence of the flow, it shall be classified as a Minimum Tailwater Condition; see Figure 5B.12 on page 5B.25 as an example. If the tailwater depth is greater than half the pipe diameter and the receiving stream will continue to confine the flow, it shall be classified as a Maximum Tailwater Condition; see Figure 5B.13 on page 5B.26 as an example. Pipes which outlet onto flat areas with no defined channel may be assumed to have a Minimum Tailwater Condition; see Figure 5B.12 on page 5B.25 as an example.

Apron Size

The apron length and width shall be determined from the curves according to the tailwater conditions:

Minimum Tailwater – Use Figure 5B.12 on page 5B.25
Maximum Tailwater – Use Figure 5B.13 on page 5B.26

If the pipe discharges directly into a well defined channel, the apron shall extend across the channel bottom and up the channel banks to an elevation one foot above the maximum tailwater depth or to the top of the bank, whichever is less.

The upstream end of the apron, adjacent to the pipe, shall have a width two (2) times the diameter of the outlet pipe, or conform to pipe end section if used.

Bottom Grade

The outlet protection apron shall be constructed with no slope along its length. There shall be no overfall at the end of the apron. The elevation of the downstream end of the apron shall be equal to the elevation of the receiving channel or adjacent ground.

Alignment

The outlet protection apron shall be located so that there are no bends in the horizontal alignment.

Materials

The outlet protection may be done using rock riprap, grouted riprap, or gabions.

Riprap shall be composed of a well-graded mixture of stone size so that 50 percent of the pieces, by weight, shall be larger than the d_{50} size determined by using the charts. A well-graded mixture, as used herein, is defined as a mixture composed primarily of larger stone sizes, but with a sufficient mixture of other sizes to fill the smaller voids between the stones. The diameter of the largest stone size in such a mixture shall be 1.5 times the d_{50} size.

Thickness

The minimum thickness of the riprap layer shall be 1.5 times the maximum stone diameter for d_{50} of 15 inches or less; and 1.2 times the maximum stone size for d_{50} greater than 15 inches. The following chart lists some examples:

D_{50} (inches)	d_{max} (inches)	Minimum Blanket Thickness (inches)
4	6	9
6	9	14
9	14	20
12	18	27
15	22	32
18	27	32
21	32	38
24	36	43

Stone Quality

Stone for riprap shall consist of field stone or rough unhewn quarry stone. The stone shall be hard and angular and of a quality that will not disintegrate on exposure to water or weathering. The specific gravity of the individual stones shall be at least 2.5.

Recycled concrete equivalent may be used provided it has a density of at least 150 pounds per cubic foot, and does not have any exposed steel or reinforcing bars.

Filter

A filter is a layer of material placed between the riprap and the underlying soil surface to prevent soil movement into and through the riprap. Riprap shall have a filter placed under it in all cases.

A filter can be of two general forms: a gravel layer or a plastic filter cloth. The plastic filter cloth can be woven or non-woven monofilament yarns, and shall meet these base requirements: thickness 20-60 mils, grab strength 90-120 lbs; and shall conform to ASTM D-1777 and ASTM D-1682.

Gravel filter blanket, when used, shall be designed by comparing particle sizes of the overlying material and the base material. Design criteria are available in Standard and Specification for Riprap Slope Protection on page 5B.57.

Gabions

Gabions shall be made of hexagonal triple twist mesh with heavily galvanized steel wire. The maximum linear dimension of the mesh opening shall not exceed 4 ½ inches and the area of the mesh opening shall not exceed 10 square inches.

Gabions shall be fabricated in such a manner that the sides, ends, and lid can be assembled at the construction site into a rectangular basket of the specified sizes. Gabions shall be of single unit construction and shall be installed according to manufacturers recommendations.

The area on which the gabion is to be installed shall be graded as shown on the drawings. Foundation conditions shall be the same as for placing rock riprap, and filter cloth shall be placed under all gabions. Where necessary, key, or tie, the structure into the bank to prevent undermining of the main gabion structure.

Maintenance

Once a riprap outlet has been installed, the maintenance needs are very low. It should be inspected after high flows for evidence of scour beneath the riprap or for dislodged stones. Repairs should be made immediately.

Design Procedure

1. Investigate the downstream channel to assure that nonerosive velocities can be maintained.

2. Determine the tailwater condition at the outlet to establish which curve to use.
3. Enter the appropriate chart with the design discharge to

determine the riprap size and apron length required. It is noted that references to pipe diameters in the charts are based on full flow. For other than full pipe flow, the parameters of depth of flow and velocity must be used to adjust the design discharges.

4. Calculate apron width at the downstream end if a flare section is to be employed.

Examples

Example 1: Pipe Flow (full) with discharge to unconfined section.

Given: A circular conduit flowing full.

Q = 280 cfs, diam. = 66 in., tailwater (surface) is 2 ft. above pipe invert (minimum tailwater condition).

Find: Read d_{50} = 1.2 and apron length (L_a) = 38 ft.

Apron width = diam. + L_a = 5.5 + 38 = 43.5 ft.

Use: d_{50} = 15", d_{max} = 22", blanket thickness = 32"

Example 2: Box Flow (partial) with high tailwater

Given: A box conduit discharging under partial flow conditions. A concrete box 5.5 ft. x 10 ft. flowing 5.0 ft. deep,

Q = 600 cfs and tailwater surface is 5 ft. above invert (max. tailwater condition).

Since this is not full pipe and does not directly fit the nomograph assumptions of Figure 7B.13 substitute depth as the diameter, to find a discharge equal to full pipe flow for that diameter, in this case 60 inches.

Since, $Q = AV$ and $A = \frac{\pi D^2}{4}$

First, compute velocity:

V = (Q/A) = (600/(5) (10)) = 12 fps

Then substituting:

$$Q = \frac{\pi D^2}{4} \times V = \frac{3.14\ (5\ ft)^2}{4} \times 12\ fps = 236\ cfs$$

At the intersection of the curve d = 60 in. and Q = 236 cfs, read d_{50} = 0.4 ft.

Then reading the d = 60 in. curve, read apron length (L_a) = 40 ft.

Apron width, W = conduit width + (6.4)(L_a) = 10 + (0.4) (40) = 26 ft.

Example 3: Open Channel Flow with Discharge to Unconfined Section

Given: A trapezoidal concrete channel 5 ft. wide with 2:1 side slopes is flowing 2 ft. deep, Q = 180 cfs (velocity = 10 fps) and the tailwater surface downstream is 0.8 ft. (minimum tailwater condition).

Find: Using similar principles as Example 2, compute equivalent discharge for a 2 foot, using depth as a diameter, circular pipe flowing full at 10 feet per second.

Velocity:

$$Q = \frac{\pi\ (2ft)^2}{4} \times 10\ fps = 31.4\ cfs$$

At intersection of the curve, d = 24 in. and Q = 32 cfs, read d_{50} = 0.6 ft.

Then reading the d = 24 in. curve, read apron length (L_a) = 20 ft.

Apron width, W = bottom width of channel + L_a = 5 + 20 = 25 ft.

Example 4: Pipe flow (partial) with discharge to a confined section

Given: A 48 in. pipe is discharging with a depth of 3 ft. Q = 100 cfs, and discharge velocity of 10 fps (established from partial flow analysis) to a confined trapezoidal channel with a 2 ft. bottom, 2:1 side slopes, n = .04, and grade of 0.6%.

Calculation of the downstream channel (by Manning's Equation) indicates a normal depth of 3.1 ft. and normal velocity of 3.9 fps.

Since the receiving channel is confined, the maximum tailwater condition controls.

Find: discharge using previous principles:

$$Q = \frac{\pi\ (3ft)^2}{4} \times 10\ fps = 71\ cfs$$

At the intersection of d = 36 in. and Q = 71 cfs, read d_{50} = 0.3 ft.

Reading the d = 36" curve, read apron length (L_a) = 30 ft.

Since the maximum flow depth in this reach is 3.1 ft., that is the minimum depth of riprap to be maintained for the entire length.

Construction Specifications

1. The subgrade for the filter, riprap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.

3. Filter cloth shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps, whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.

4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

Figure 5B.12
Outlet Protection Design—Minimum Tailwater Condition (Design of Outlet Protection from a Round Pipe Flowing Full, Minimum Tailwater Condition: $T_w < 0.5D_o$) (USDA - NRCS)

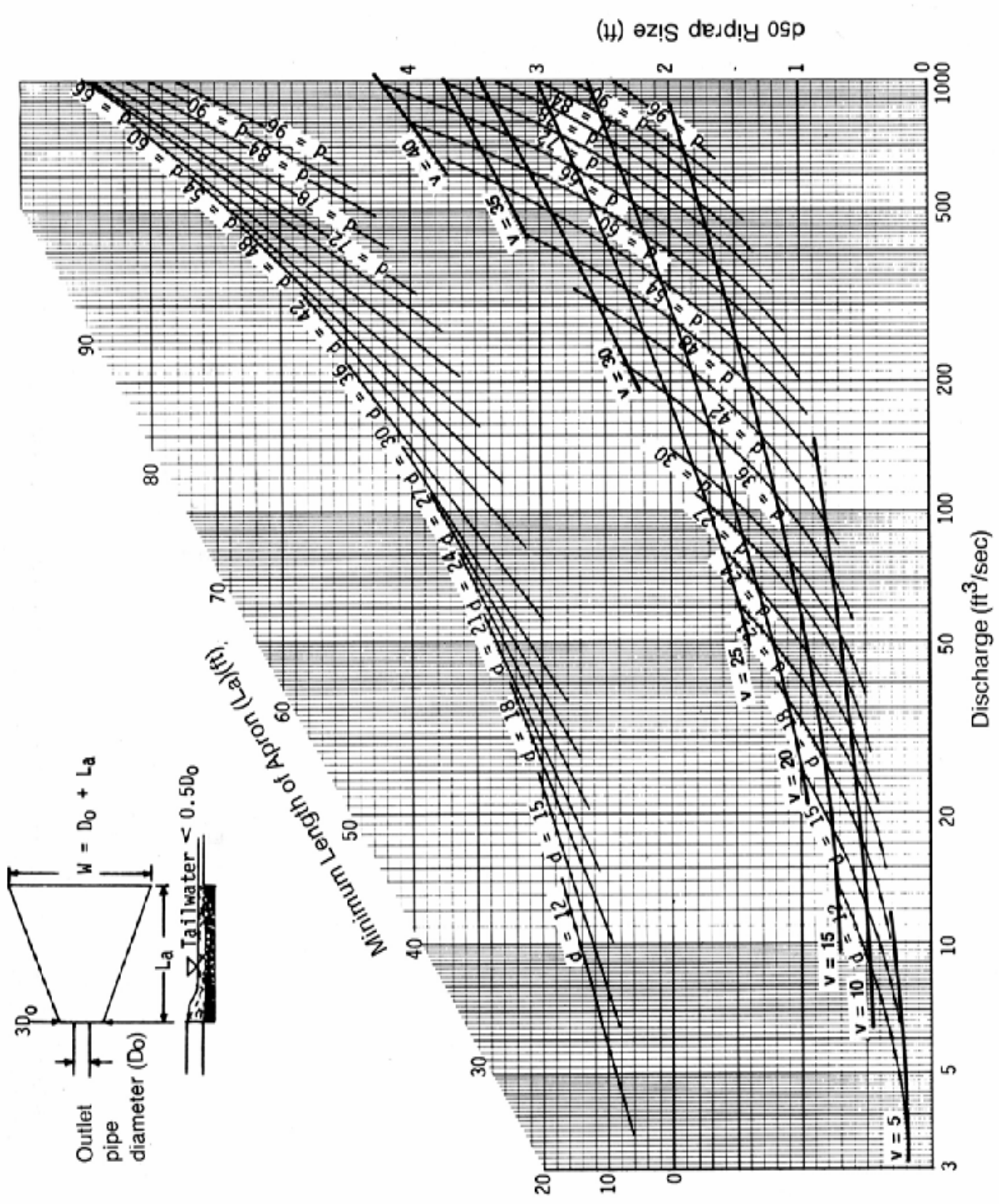


Figure 5B.13
Outlet Protection Design—Maximum Tailwater Condition
(Design of Outlet Protection from a Round Pipe Flowing Full, Maximum Tailwater Condition: $T_w \geq 0.5D_o$) (USDA - NRCS)

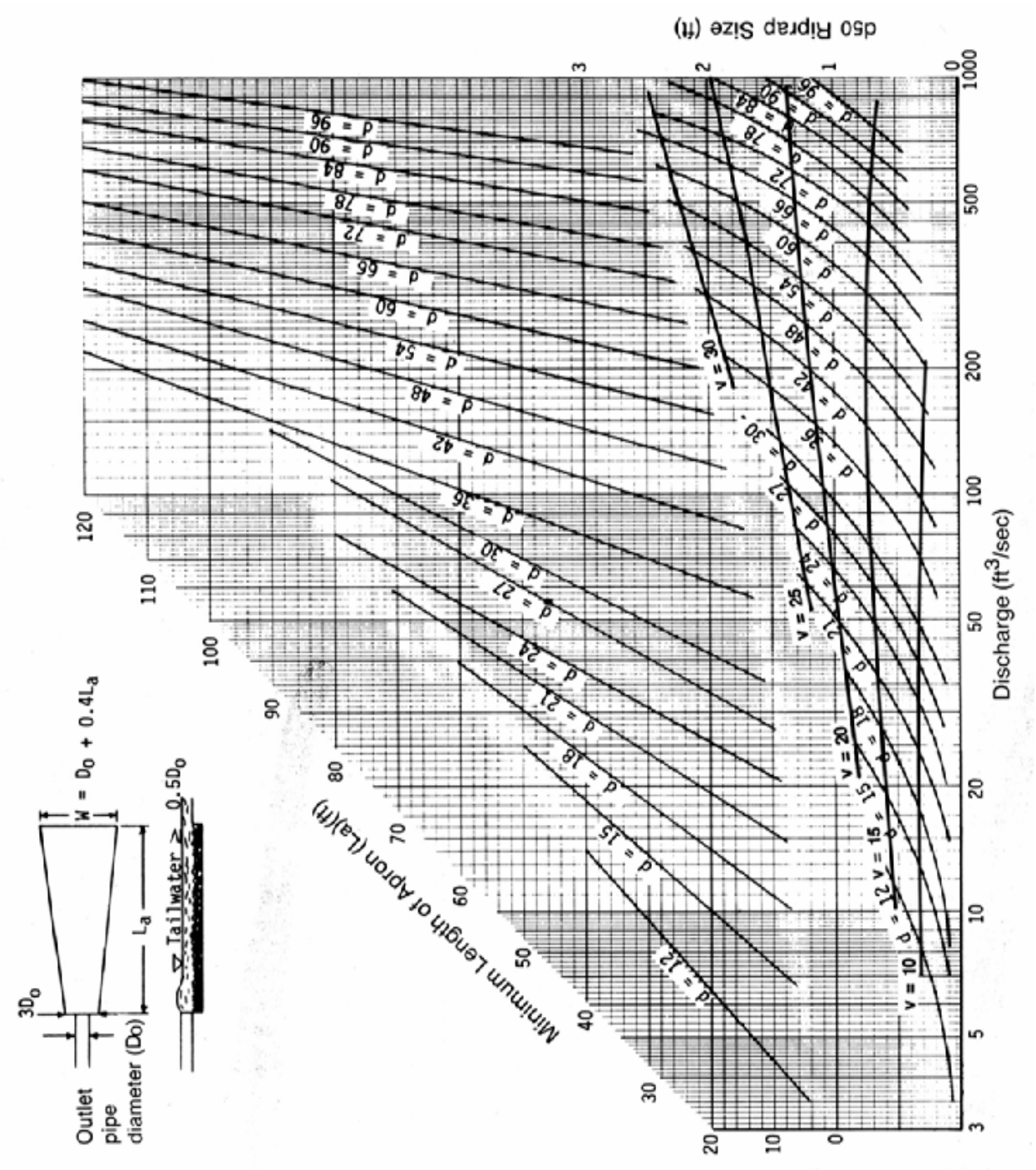


Figure 5B.14
Riprap Outlet Protection Detail (1)

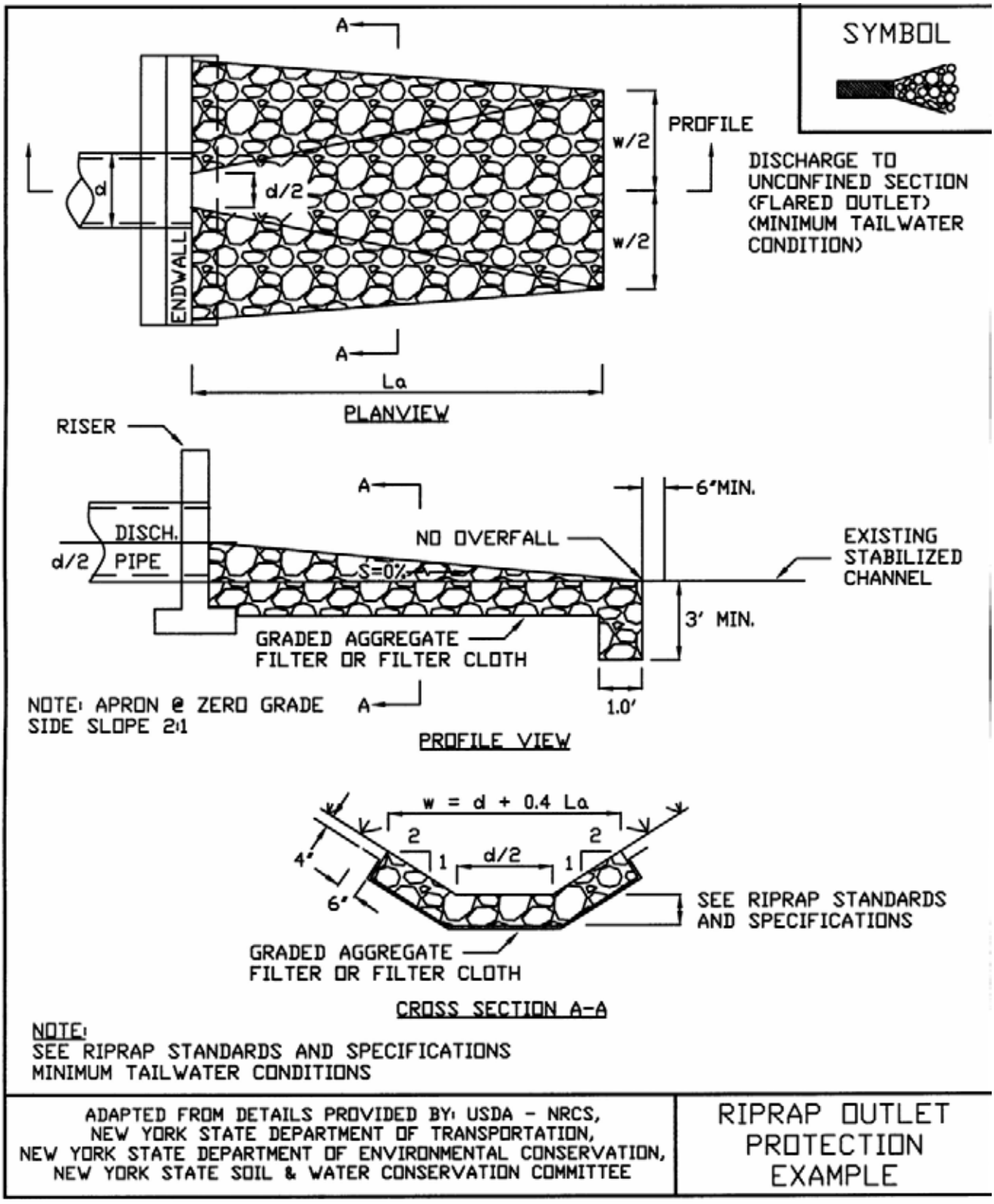


Figure 5B.15
Riprap Outlet Protection Detail (2)

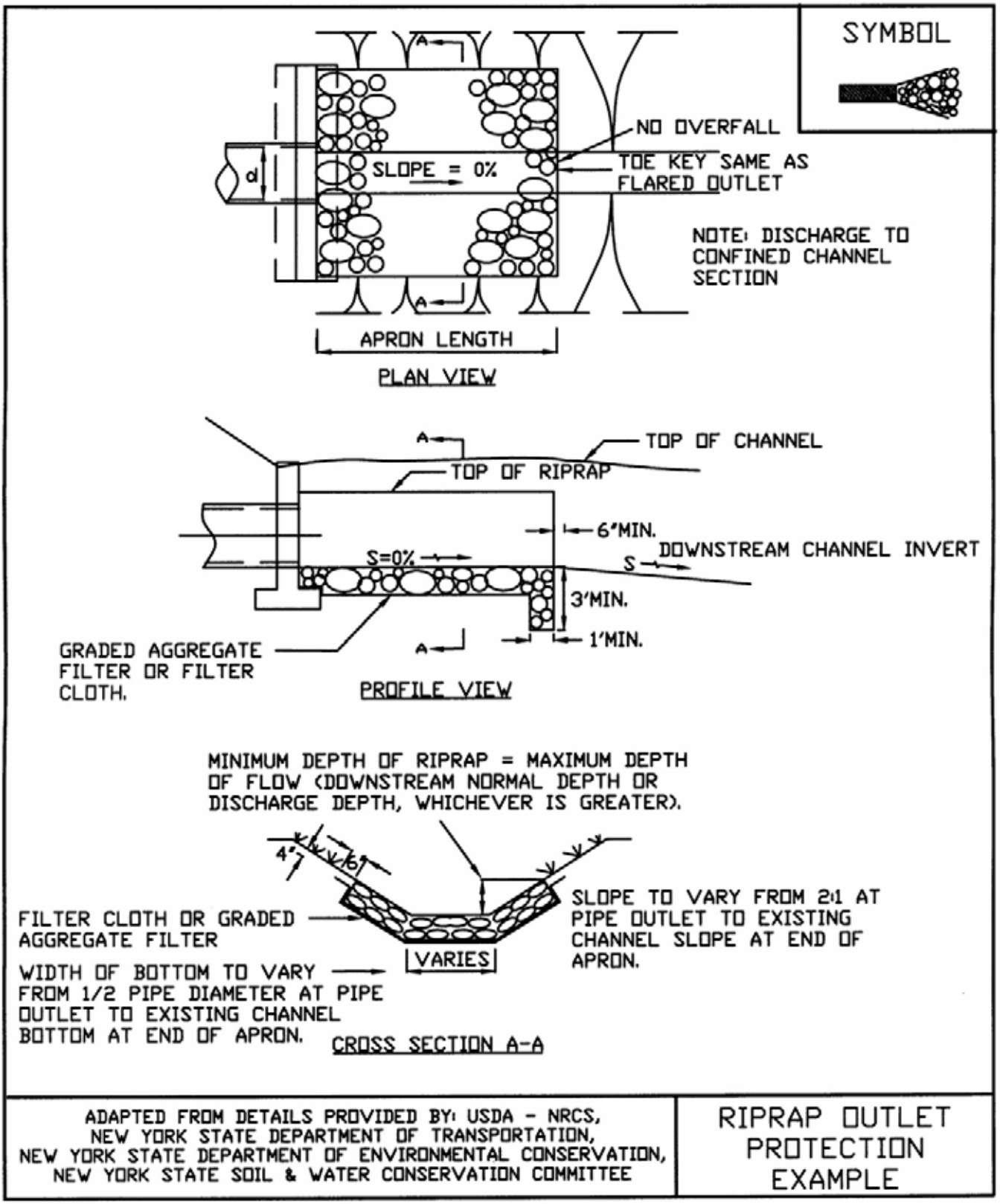
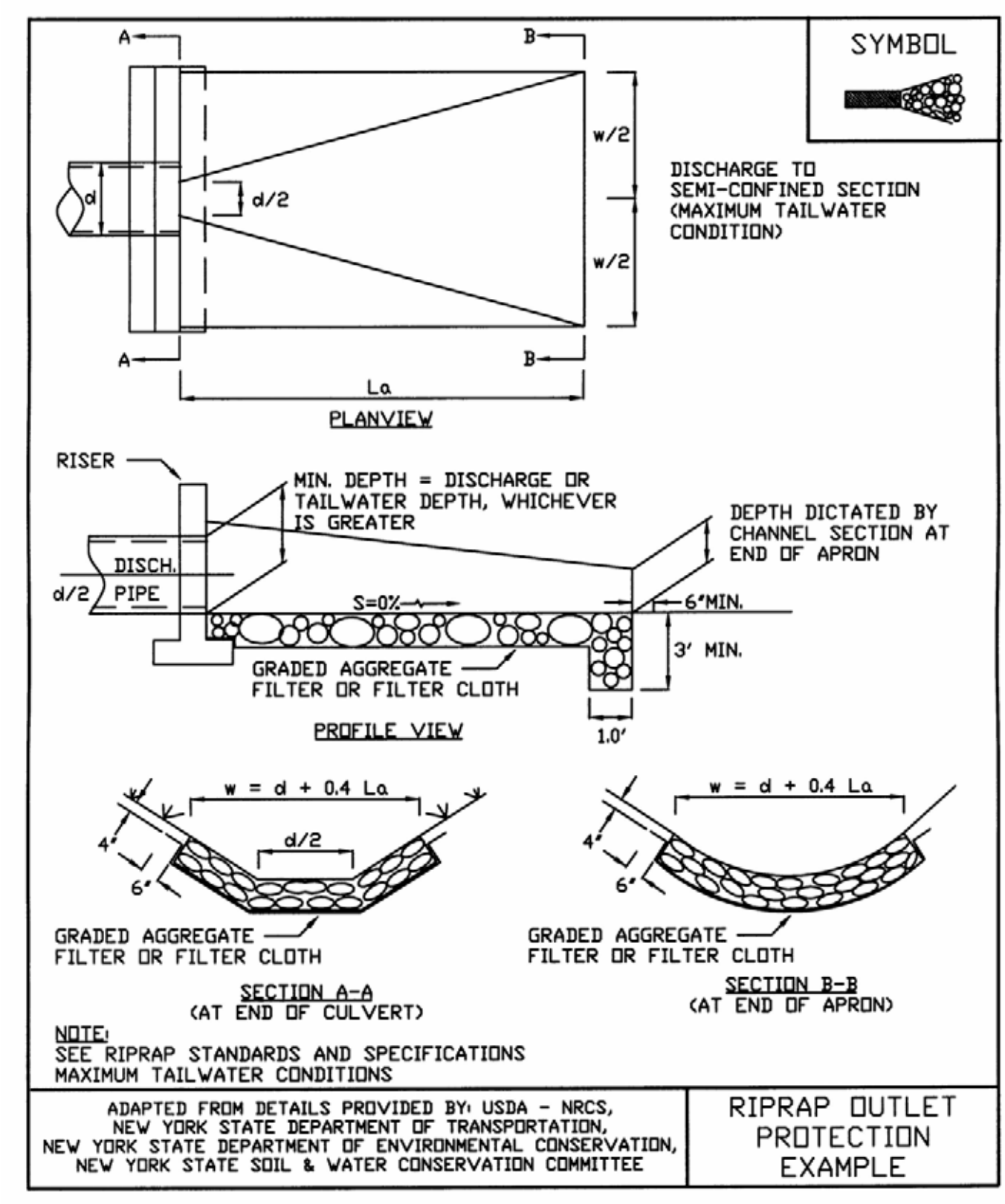


Figure 5B.16
Riprap Outlet Protection Detail (3)



STANDARD AND SPECIFICATIONS FOR SEDIMENT TRAP



Definition

A temporary sediment control device formed by excavation and/or embankment to intercept sediment laden runoff and retain the sediment.

Purpose

The purpose of the structure is to intercept sediment-laden runoff and trap the sediment in order to protect drainage ways, properties, and rights-of-way below the sediment trap from sedimentation.

Conditions Where Practice Applies

A sediment trap is usually installed in a drainage way, at a storm drain inlet, or other points of collection from a disturbed area.

Sediment traps should be used to artificially break up the natural drainage area into smaller sections where a larger device (sediment basin) would be less effective.

Design Criteria

If any of the design criteria presented here cannot be met, see Standard and Specification for Sediment Basin on page 5A.49.

Drainage Area

The drainage area for sediment traps shall be in accordance with the specific type of sediment trap used (Type I through V).

Location

Sediment traps shall be located so that they can be installed prior to grading or filling in the drainage area they are to protect. Traps must not be located any closer than 20 feet from a proposed building foundation if the trap is to function during building construction. Locate traps to obtain maximum storage benefit from the terrain and for ease of cleanout and disposal of the trapped sediment.

Trap Size

The volume of a sediment trap as measured at the elevation of the crest of the outlet shall be at least 3,600 cubic feet per acre of drainage area. The volume of a constructed trap shall be calculated using standard mathematical procedures. The volume of a natural sediment trap may be approximated by the equation: Volume (cu.ft.) = 0.4 x surface area (sq.ft.) x maximum depth (ft.).

Trap Cleanout

Sediment shall be removed and the trap restored to the original dimensions when the sediment has accumulated to ½ of the design depth of the trap. Sediment removed from the trap shall be deposited in a protected area and in such a manner that it will not erode.

Embankment

All embankments for sediment traps shall not exceed five (5) feet in height as measured at the low point of the original ground along the centerline of the embankment. Embankments shall have a minimum four (4) foot wide top and side slopes of 2:1 or flatter. The embankment shall be compacted by traversing with equipment while it is being constructed. The embankment shall be stabilized with seed and mulch as soon as it is completed

The elevation of the top of any dike directing water to any sediment trap will equal or exceed the maximum height of the outlet structure along the entire length of the trap.

Excavation

All excavation operations shall be carried out in such a manner that erosion and water pollution shall be minimal. Excavated portions of sediment traps shall have 1:1 or flatter slopes.

Outlet

The outlet shall be designed, constructed, and maintained in such a manner that sediment does not leave the trap and that erosion at or below the outlet does not occur.

Sediment traps must outlet onto stabilized (preferable undisturbed) ground, into a watercourse, stabilized channel, or into a storm drain system. Distance between inlet and outlet should be maximized to the longest length practicable.

Trap Details Needed on Erosion and Sediment Control Plans

Each trap shall be delineated on the plans in such a manner that it will not be confused with any other features. Each trap on a plan shall indicate all the information necessary to properly construct and maintain the structure. If the drawings are such that this information cannot be delineated on the drawings, then a table shall be developed. If a table is developed, then each trap on a plan shall have a number and the numbers shall be consecutive.

The following information shall be shown for each trap in a summary table format on the plans.

1. Trap number
2. Type of trap
3. Drainage area
4. Storage required
5. Storage provided (if applicable)
6. Outlet length or pipe sizes
7. Storage depth below outlet or cleanout elevation
8. Embankment height and elevation (if applicable)

Type of Sediment Traps

There are five (5) specific types of sediment traps which vary according to their function, location, or drainage area.

I. Pipe Outlet Sediment Trap
II. Grass Outlet Sediment Trap
III. Catch Basin Sediment Trap
IV. Stone Outlet Sediment Trap
V. Riprap Outlet Sediment Trap

I. Pipe Outlet Sediment Trap

A Pipe Outlet Sediment Trap consists of a trap formed by embankment or excavation. The outlet for the trap is through a perforated riser and a pipe through the embankment. The outlet pipe and riser shall be made of steel, corrugated metal or other suitable material. The top of the embankment shall be at least 1 ½ feet above the crest of the riser. The top 2/3 of the riser shall be perforated with one (1) inch nominal diameter holes or slits spaced six (6) inches vertically and horizontally placed in the concave portion of the corrugated pipe.

No holes or slits will be allowed within six (6) inches of the top of the horizontal barrel. All pipe connections shall be watertight. The riser shall be wrapped with ½ to ¼ inch hardware cloth wire then wrapped with filter cloth with a sieve size between #40-80 and secured with strapping or connecting band at the top and bottom of the cloth. The cloth shall cover an area at least six (6) inches above the highest hole and six (6) inches below the lowest hole. The top of the riser pipe shall not be covered with filter cloth. The riser shall have a base with sufficient weight to prevent flotation of the riser. Two approved bases are:

1. A concrete base 12 in. thick with the riser embedded 9 in. into the concrete base, or

2. One quarter inch, minimum, thick steel plate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate shall have 2.5 feet of stone, gravel, or earth placed on it to prevent flotation. In either case, each side of the square base measurement shall be the riser diameter plus 24 inches.

Pipe outlet sediment traps shall be limited to a five (5) acre maximum drainage area. Pipe outlet sediment traps may be interchangeable in the field with stone outlet or riprap sediment traps provided that these sediment traps are constructed in accordance with the detail and specifications for that trap.

Select pipe diameter from the following table:

Minimum Sizes

Barrel Diameter[1] (in.)	Riser Diameter[1] (in.)	Maximum Drainage Area (ac.)
12	15	1
15	18	2
18	21	3
21	24	4
21	27	5

[1] Barrel diameter may be same size as riser diameter.

See details for Pipe Outlet Sediment Trap ST-I in Figure 5A.16 (1) and 5A.16 (2) on pages 5A.38 and 5A.39.

II. Grass Outlet Sediment Trap

A Grass Outlet Sediment Trap consists of a trap formed by excavating the earth to create a holding area. The trap has a discharge point over natural existing grass. The outlet crest width (feet) shall be equal to four (4) times the drainage area (acres) with a minimum width of four (4) feet. The outlet shall be free of any restrictions to flow. The outlet lip must remain undisturbed and level. The volume of this trap shall be computed at the elevation of the crest of the outlet. Grass outlet sediment traps shall be limited to a five (5) acre maximum drainage area.

See details for Grass Outlet Sediment Trap ST-II in Figure 5A.17 on page 5A.40.

III. Catch Basin Sediment Trap

A Catch Basin Sediment Trap consists of a basin formed by excavation on natural ground that discharges through an opening in a storm drain inlet structure. This opening can either be the inlet opening or a temporary opening made by omitting bricks or blocks in the inlet.

A yard drain inlet or an inlet in the median strip of a dual highway could use the inlet opening for the type outlet. The trap should be out of the roadway so as not to interfere with future compaction or construction. Placing the trap on the opposite side of the opening and diverting water from the roadway to the trap is one means of doing this. Catch basin sediment traps shall be limited to a three (3) acre maximum drainage area. The volume of this trap is measured at the elevation of the crest of the outlet (invert of the inlet opening).

See details for Catch Basin Sediment Trap ST-III in Figure 5A.18 on page 5A.41.

IV. Stone Outlet Sediment Trap

A Stone Outlet Sediment Trap consists of a trap formed by an embankment or excavation. The outlet of this trap is over a stone section placed on level ground. The minimum length (feet) of the outlet shall be equal to four (4) times the drainage area (acres).

Required storage shall be 3,600 cubic feet per acre of drainage area.

The outlet crest (top of stone in weir section) shall be level, at least one (1) foot below top of embankment and no more than one (1) foot above ground beneath the outlet. Stone used in the outlet shall be small riprap (4 in. x 8 in.). To provide more efficient trapping effect, a layer of filter cloth should be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.

Stone Outlet Sediment Traps may be interchangeable in the field with pipe or riprap outlet sediment traps provided they are constructed in accordance with the detail and specifications for those traps. Stone outlet sediment traps shall be limited to a five (5) acre maximum drainage area.

See details for Stone Outlet Sediment Trap ST-IV in Figure 5A.19 on page 5A.42.

V. Riprap Outlet Sediment Trap

A Riprap Outlet Sediment Trap consists of a trap formed by an excavation and embankment. The outlet for this trap shall be through a partially excavated channel lined with riprap. This outlet channel shall discharge onto a stabilized area or to a stable watercourse. The riprap outlet sediment trap may be used for drainage areas of up to a maximum of 15 acres.

Design Criteria for Riprap Outlet Sediment Trap

1. The total contributing drainage area (disturbed or undisturbed either on or off the developing property) shall not exceed 15 acres.
2. The storage needs for this trap shall be computed using 3600 cubic feet of required storage for each acre of drainage area. The storage volume provided can be figured by computing the volume of storage area available behind the outlet structure up to an elevation of one (1) foot below the level weir crest.
3. The maximum height of embankment shall not exceed five (5) feet.
4. The elevation of the top of any dike directing water to a riprap outlet sediment trap will equal or exceed the minimum elevation of the embankment along the entire length of this trap.

Riprap Outlet Sediment Trap ST-V
(for Stone Lined Channel)

Contributing Drainage Area (ac.)	Depth of Channel (a) (ft.)	Length of Weir (b) (ft.)
1	1.5	4.0
2	1.5	5.0
3	1.5	6.0
4	1.5	10.0
5	1.5	12.0
6	1.5	14.0
7	1.5	16.0
8	2.0	10.0
9	2.0	10.0
10	2.0	12.0
11	2.0	14.0
12	2.0	14.0
13	2.0	16.0
14	2.0	16.0
15	2.0	18.0

See details for Riprap Outlet Sediment Trap ST-V on Figures 5A.20(1) and 5A.20(2) on pages 5A.43 and 5A.44.

Optional Dewatering Methods

Optional dewatering devices may be designed for use with sediment traps. Included are two methods, which may be used. See Figure 5A.21 on page 5A.45 for details.

Figure 5A.16(1)
Pipe Outlet Sediment Trap: ST-I

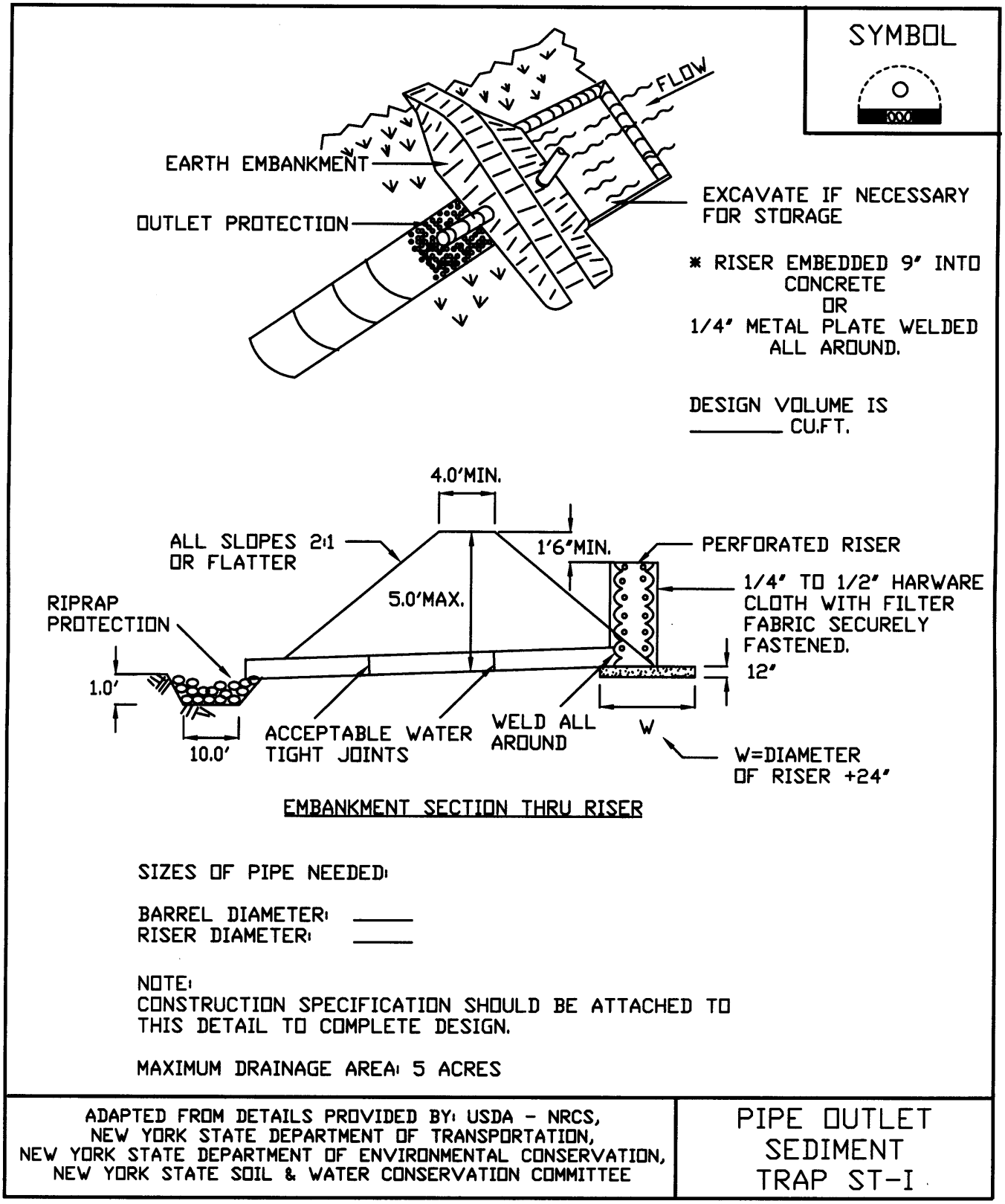


Figure 5A.16(2)
Pipe Outlet Sediment Trap: ST-I—Construction Specifications

SYMBOL

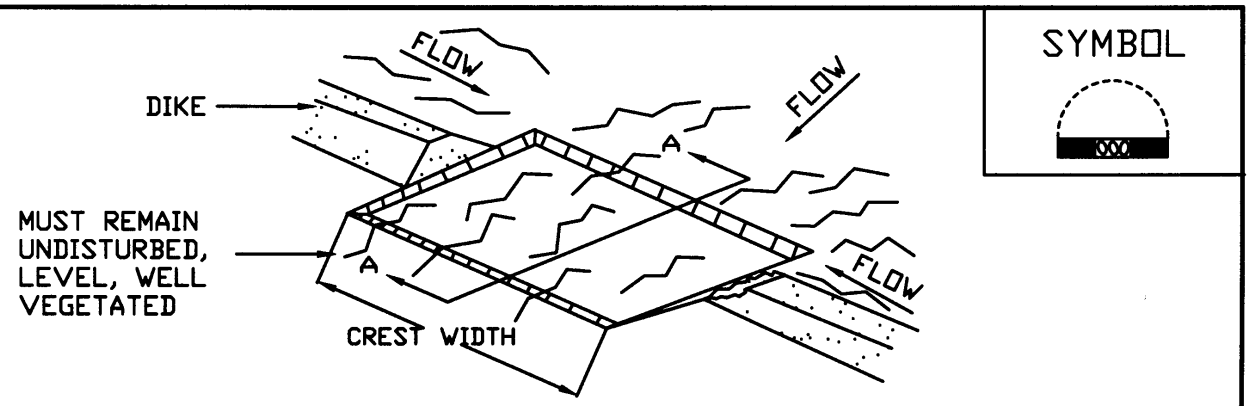


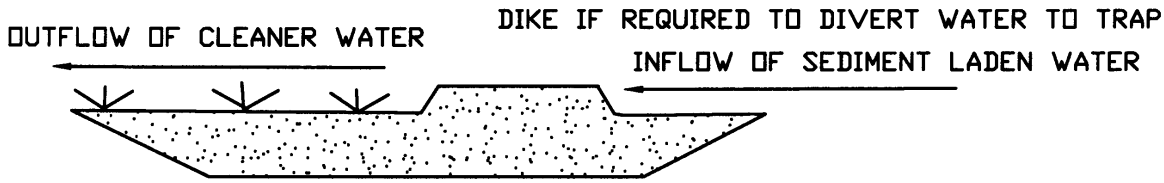
CONSTRUCTION SPECIFICATIONS

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
4. SEDIMENT SHALL BE REMOVED AND 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 STABILIZED.
5. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
7. THE STRUCTURE SHALL BE REMOVED AND AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
8. ALL FILL SLOPES SHALL BE 2:1 OR FLATTER; CUT SLOPES 1:1 OR FLATTER.
9. ALL PIPE CONNECTIONS SHALL BE WATERTIGHT.
10. THE TOP 2/3 OF THE RISER SHALL BE PERFORATED WITH ONE (1) INCH DIAMETER HOLES OR SLITS SPACED SIX (6) INCHES VERTICALLY AND HORIZONTALLY AND PLACED IN THE CONCAVE PORTION OF PIPE. NO HOLES WILL BE ALLOWED WITHIN SIX (6) INCHES OF THE HORIZONTAL BARREL.
11. THE RISER SHALL BE WRAPPED WITH 1/4 TO 1/2 INCH HARDWARE CLOTH WIRE THEN WRAPPED WITH FILTER CLOTH (HAVING AN EQUIVALENT SIEVE SIZE OF 40-80). THE FILTER CLOTH SHALL EXTEND SIX (6) INCHES ABOVE THE HIGHEST HOLE AND SIX (6) INCHES BELOW THE LOWEST HOLE. WHERE ENDS OF THE FILTER CLOTH COME TOGETHER, THEY SHALL BE OVER-LAPPED, FOLDED AND STAPLED TO PREVENT BYPASS.
12. STRAPS OR CONNECTING BANDS SHALL BE USED TO HOLD THE FILTER CLOTH AND WIRE FABRIC IN PLACE. THEY SHALL BE PLACED AT THE TOP AND BOTTOM OF THE CLOTH.
13. FILL MATERIAL AROUND THE PIPE SPILLWAY SHALL BE HAND COMPACTED IN FOUR (4) INCH LAYERS. A MINIMUM OF TWO (2) FEET OF HAND COMPACTED BACKFILL SHALL BE PLACED OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.
14. THE RISER SHALL BE ANCHORED WITH EITHER A CONCRETE BASE OR STEEL PLATE BASE TO PREVENT FLOTATION. FOR CONCRETE BASED THE DEPTH SHALL BE TWELVE (12) INCHES WITH THE RISER EMBEDDED NINE (9) INCHES. A 1/4 INCH MINIMUM THICKNESS STEEL PLATE SHALL BE ATTACHED TO THE RISER BY A CONTINUOUS WELD AROUND THE BOTTOM TO FORM A WATERTIGHT CONNECTION AND THEN PLACE TWO (2) FEET OF STONE, GRAVEL, OR TAMPED EARTH ON THE PLATE.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	PIPE OUTLET SEDIMENT TRAP ST-I

Figure 5A.17
Grass Outlet Sediment Trap: ST-II





CREST WIDTH (FT)=4xDRAINAGE AREA (ACRES)

SECTION A - A
EXCAVATED GRASS OUTLET SEDIMENT TRAP

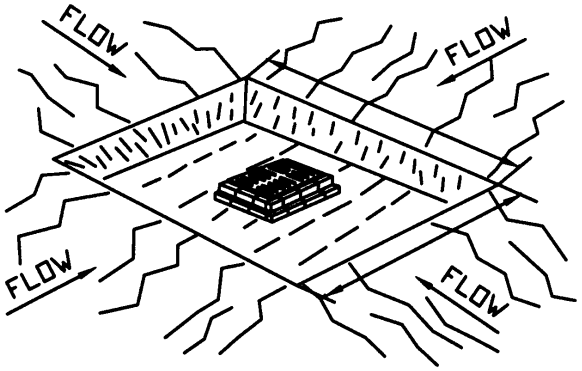
CONSTRUCTION SPECIFICATIONS

1. VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE AREA.
2. MINIMUM CREST WIDTH SHALL BE 4 x DRAINAGE AREA
3. SEDIMENT SHALL BE REMOVED AND 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 STABILIZED.
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
6. THE SEDIMENT TRAP SHALL BE REMOVED AND AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
7. ALL CUT SLOPES SHALL BE 1:1 OR FLATTER.

MAXIMUM DRAINAGE AREA: 5 ACRES

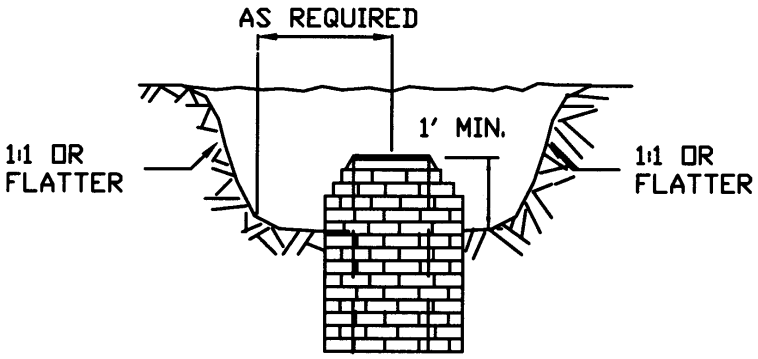
ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	GRASS OUTLET SEDIMENT TRAP ST-II

Figure 5A.18
Catch Basin Sediment Trap: ST-III



SYMBOL

YARD DRAIN



CROSS SECTION

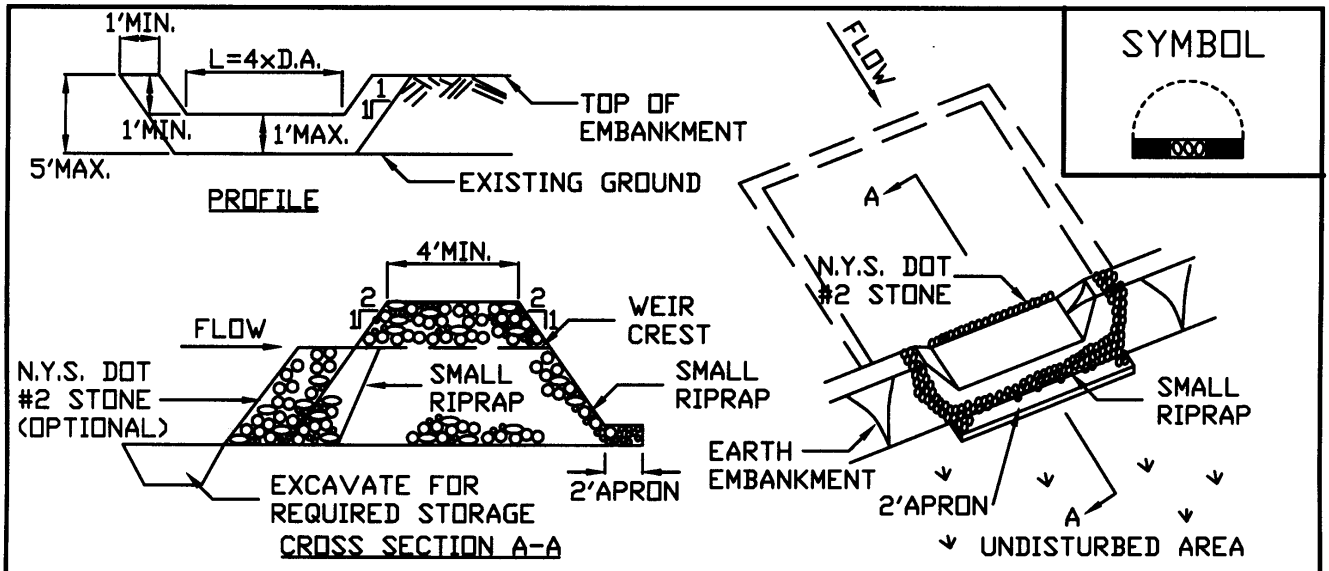
CONSTRUCTION SPECIFICATIONS

1. 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 STABILIZED.
2. THE VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
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 SEDIMENT ARE CONTROLLED.
5. THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTED DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
6. ALL CUT SLOPES SHALL BE 1:1 OR FLATTER.

MAXIMUM DRAINAGE AREA: 3 ACRES

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	CATCH BASIN SEDIMENT TRAP ST-III

Figure 5A.19
Stone Outlet Sediment Trap: ST-IV



OPTION: A ONE FOOT LAYER OF N.Y.S. DOT #2 STONE MAY BE PLACED ON THE UPSTREAM SIDE OF THE RIPRAP INPLACE OF THE EMBEDDED FILTER CLOTH.

CONSTRUCTION SPECIFICATIONS

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4"-8" ALONG WITH A 1' THICKNESS OF 2" AGGREGATE PLACED ON THE UP-GRADE SIDE ON THE SMALL RIPRAP OR EMBEDDED FILTER CLOTH IN THE RIPRAP.
5. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. IT SHALL BE PLACED ON SITE AND STABILIZED.
6. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
7. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
8. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

MAXIMUM DRAINAGE AREA 5 ACRES

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STONE OUTLET SEDIMENT TRAP ST-IV

Figure 5A.20(1)
Riprap Outlet Sediment Trap: ST-V

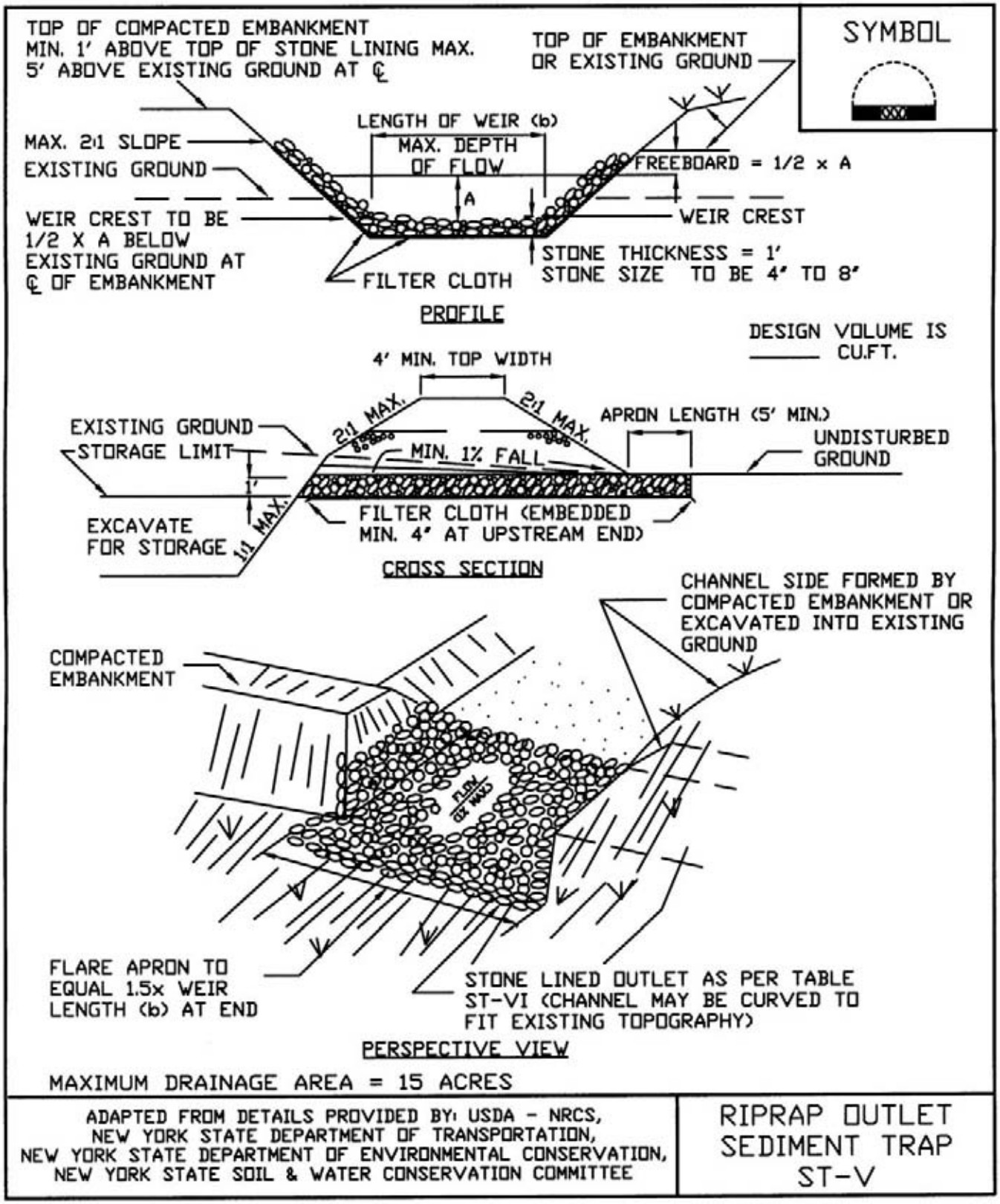


Figure 5A.202)
Riprap Outlet Sediment Trap: ST-V—Construction Specifications

SYMBOL



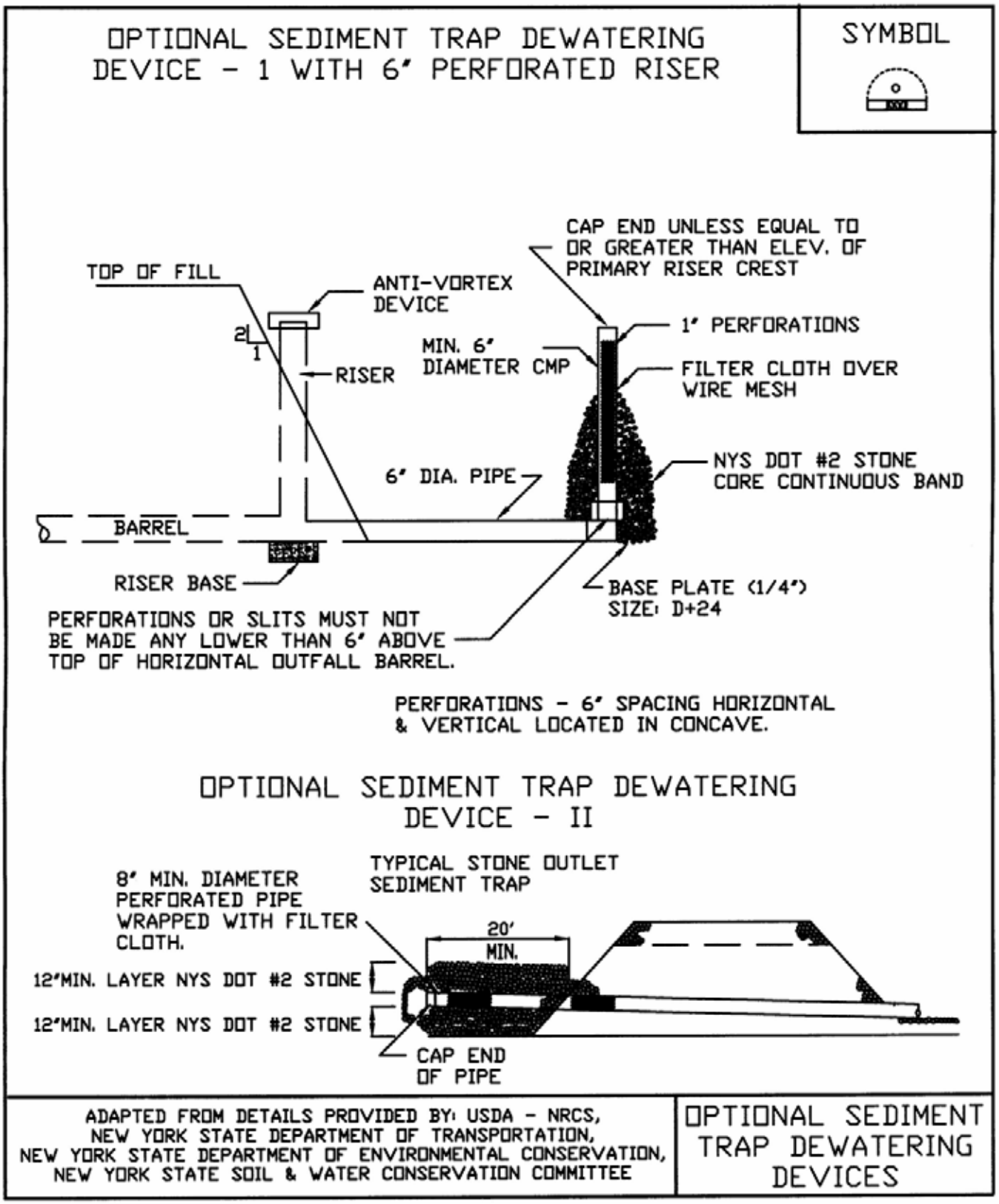
CONSTRUCTION SPECIFICATIONS

1. THE AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. MAXIMUM HEIGHT OF OF EMBANKMENT SHALL BE FIVE (5) FEET, MEASURED AT CENTERLINE OF EMBANKMENT.
3. ALL FILL SLOPES SHALL BE 2:1 OR FLATTER, CUT SLOPES 1:1 OR FLATTER.
4. ELEVATION OF THE TOP OF ANY DIKE DIRECTING WATER INTO TRAP MUST EQUAL OR EXCEED THE HEIGHT OF EMBANKMENT.
5. STORAGE AREA PROVIDED SHALL BE FIGURED BY COMPUTING THE VOLUME AVAILABLE BEHIND THE OUTLET CHANNEL UP TO AN ELEVATION OF ONE (1) FOOT BELOW THE LEVEL WEIR CREST.
6. FILTER CLOTH SHALL BE PLACED OVER THE BOTTOM AND SIDES OF THE OUTLET CHANNEL PRIOR TO PLACEMENT OF STONE. SECTIONS OF FABRIC MUST OVERLAP AT LEAST ONE (1) FOOT WITH SECTION NEAREST THE ENTRANCE PLACED ON TOP. FABRIC SHALL BE EMBEDDED AT LEAST SIX (6) INCHES INTO EXISTING GROUND AT ENTRANCE OUTLET CHANNEL.
7. STONE USED IN THE OUTLET CHANNEL SHALL BE FOUR (4) TO EIGHT (8) INCH RIPRAP. TO PROVIDE A FILTERING EFFECT, A LAYER OF FILTER CLOTH SHALL BE EMBEDDED ONE (1) FOOT WITH SECTION NEAREST ENTRANCE PLACED ON TOP. FABRIC SHALL BE EMBEDDED AT LEAST SIX (6) INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.
8. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN 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.
9. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRED AS NEEDED.
10. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.
11. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
12. DRAINAGE AREA FOR THIS PRACTICE IS LIMITED TO 15 ACRES OR LESS.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

RIPRAP OUTLET
SEDIMENT TRAP
ST-V

Figure 5A.21
Optional Sediment Trap Dewatering Devices



STANDARD AND SPECIFICATIONS FOR SILT FENCE



Definition

A temporary barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil.

Purpose

The purpose of a silt fence is to reduce runoff velocity and effect deposition of transported sediment load. Limits imposed by ultraviolet stability of the fabric will dictate the maximum period the silt fence may be used (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope lengths contributing runoff to a silt fence placed on a slope are:

Slope Steepness	Maximum Length (ft.)
2:1	25
3:1	50
4:1	75
5:1 or flatter	100

2. Maximum drainage area for overland flow to a silt fence shall not exceed ¼ acre per 100 feet of fence, with maximum ponding depth of 1.5 feet behind the fence; and

3. Erosion would occur in the form of sheet erosion; and

4. There is no concentration of water flowing to the barrier.

Design Criteria

Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff. All silt fences shall be placed as close to the areas as possible, but at least 10 feet from the toe of a slope to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.

Sensitive areas to be protected by silt fence may need to be reinforced by using heavy wire fencing for added support to prevent collapse.

Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. A detail of the silt fence shall be shown on the plan. See Figure 5A.8 on page 5A.21 for details.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682

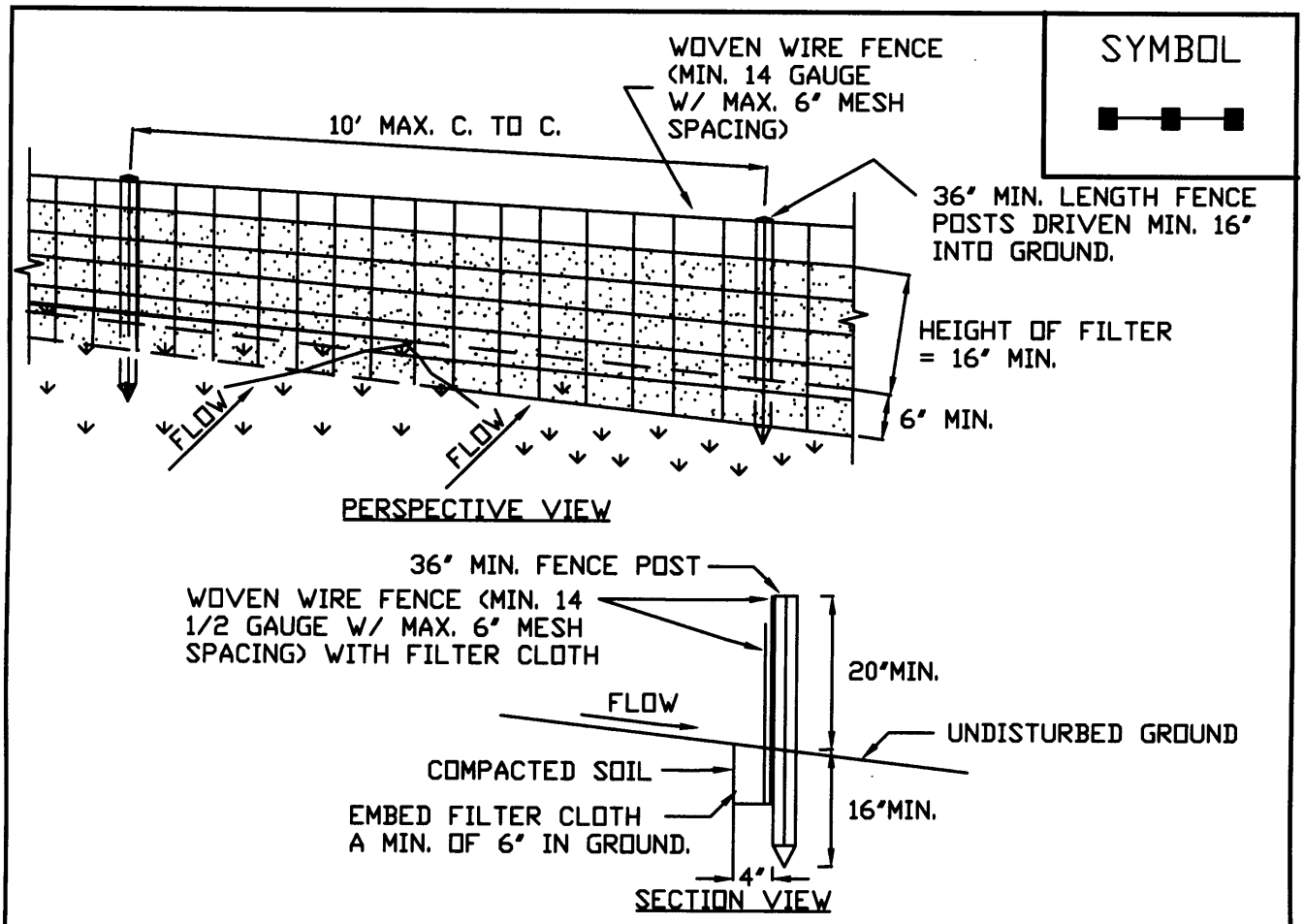
Mullen Burst Strength (PSI)	190	ASTM D3786
Puncture Strength (lbs)	40	ASTM D751 (modified)
Slurry Flow Rate (gal/min/sf)	0.3	
Equivalent Opening Size	40-80	US Std Sieve CW-02215
Ultraviolet Radiation Stability (%)	90	ASTM G-26

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.0 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot.

3. Wire Fence (for fabricated units): Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

4. Prefabricated Units: Envirofence, Geofab, or approved equal, may be used in lieu of the above method providing the unit is installed per details shown in Figure 5A.8.

Figure 5A.8
Silt Fence

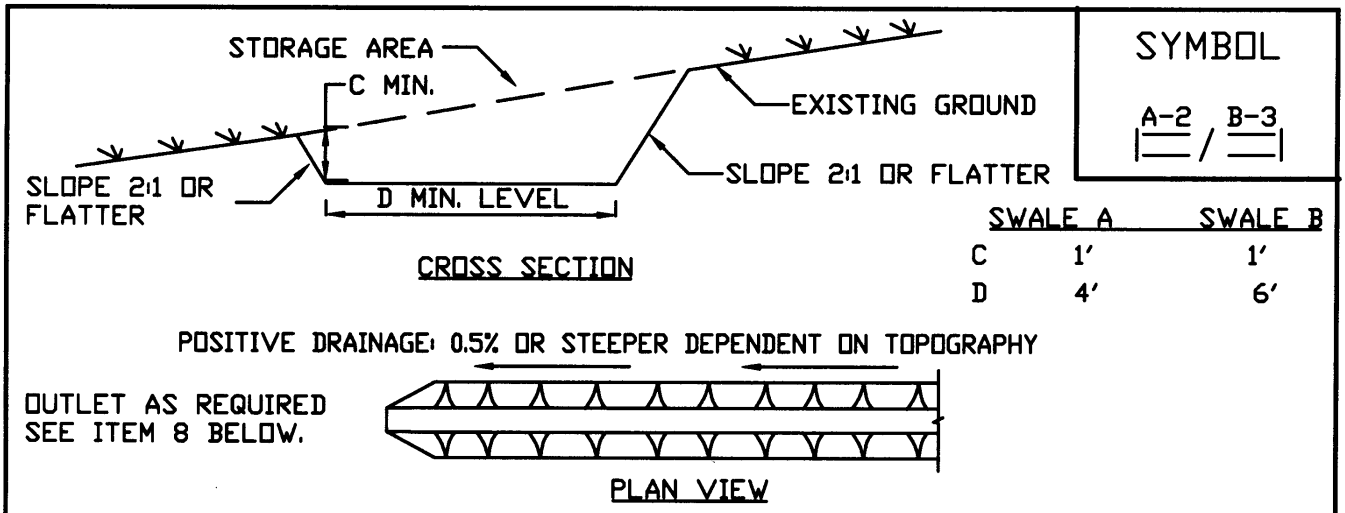


CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	SILT FENCE

Figure 5A.2
Temporary Swale



CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW:

TYPE OF TREATMENT	CHANNEL GRADE	A(5 AC. OR LESS)	B(5 AC -10AC)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED AND COVER USING RECP
3	5.1-8.0%	SEED AND COVER WITH RECP	LINED WITH 4-8" RIP-RAP OR GEOTEXTILE
4	8.1-20.%	LINED WITH 4-8" RIP-RAP OR GEOTEXTILE	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

TEMPORARY SWALE

STANDARD AND SPECIFICATIONS FOR TEMPORARY SWALE



Definition

A temporary excavated drainage way.

Purpose

The purpose of a temporary swale is to prevent runoff from entering disturbed areas by intercepting and diverting it to a stabilized outlet or to intercept sediment laden water and divert it to a sediment trapping device.

Conditions Where Practice Applies

Temporary swales are constructed:

1. to divert flows from entering a disturbed area.

2. intermittently across disturbed areas to shorten overland flow distances.

3. to direct sediment laden water along the base of slopes to a trapping device.

4. to transport offsite flows across disturbed areas such as rights-of-way.

Swales collecting runoff from disturbed areas shall remain in place until the disturbed areas are permanently stabilized.

Design Criteria

See Figure 5A.2 on page 5A.5 for details.

	Swale A	Swale B
Drainage Area	<5 Ac	5-10 Ac
Bottom Width of Flow Channel	4 ft	6 ft
Depth of Flow Channel	1 ft	1 ft
Side Slopes	2:1 or flatter	2:1 or flatter
Grade	0.5% Min. 20% Max.	0.5% Min. 20% Max.

For drainage areas larger than 10 acres, refer to the Standard and Specification for Waterways on page 5B.11.

Stabilization

Stabilization of the swale shall be completed within 7 days of installation in accordance with the appropriate standard and specifications for vegetative stabilization or stabilization with mulch as determined by the time of year. The flow channel shall be stabilized as per the following criteria:

Type of Treatment	Channel Grade[1]	Flow Channel A (<5 Ac.)	Flow Channel B (5-10 Ac)
1	0.5-3.0%	Seed & Straw Mulch	Seed & Straw Mulch
2	3.1-5.0%	Seed & Straw Mulch	Seed and cover with RECP, Sod, or lined with plastic or 2 in. stone
3	5.1-8.0%	Seed and cover with RECP, Sod, or line with plastic or 2 in. stone	Line with 4-8 in. or stone or Recycled Concrete Equivalent[2] or geotextile
4	8.1-20%	Line with 4-8 in. stone or Recycled Concrete Equivalent[2] or geotextile	Site Specific Engineering Design

[1] In highly erodible soils, as defined by the local approving agency, refer to the next higher slope grade for type of stabilization.
[2] Recycled Concrete Equivalent shall be concrete broken into the required size, and shall contain no steel reinforcement.

Outlet

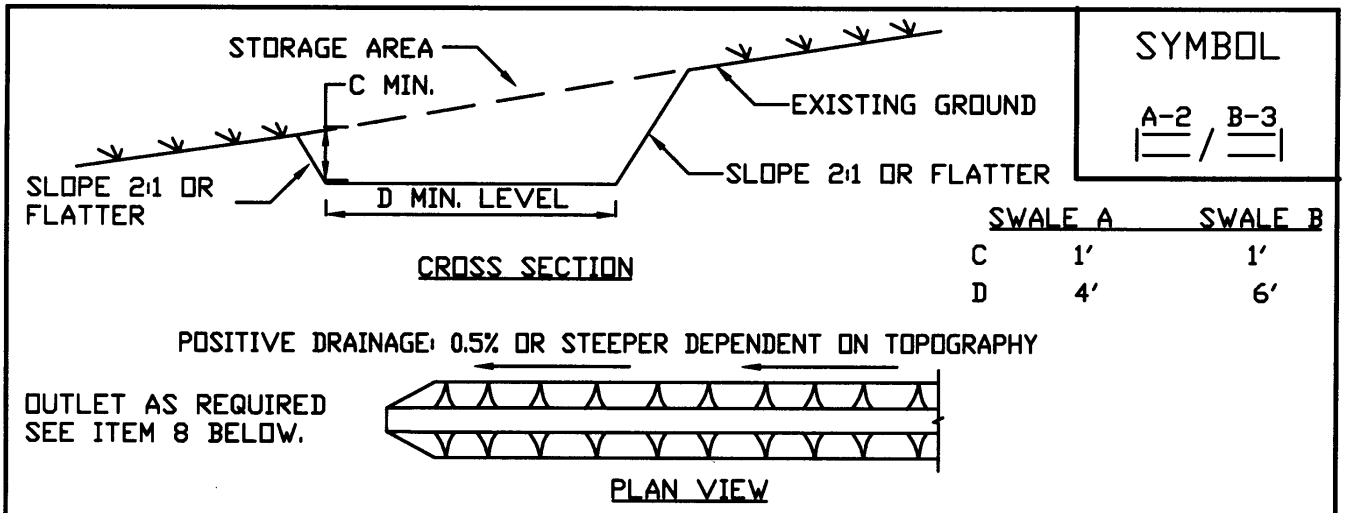
Swale shall have an outlet that functions with a minimum of erosion, and dissipates runoff velocity prior to discharge off the site.

Runoff shall be conveyed to a sediment trapping device such as a sediment trap or sediment basin until the drainage area above the swale is adequately stabilized.

The on-site location may need to be adjusted to meet field conditions in order to utilize the most suitable outlet condition.

If a swale is used to divert clean water flows from entering a disturbed area, a sediment trapping device may not be needed.

Figure 5A.2
Temporary Swale



CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW:

TYPE OF TREATMENT	CHANNEL GRADE	A(5 AC. OR LESS)	B(5 AC -10AC)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED AND COVER USING RECP
3	5.1-8.0%	SEED AND COVER WITH RECP	LINED WITH 4-8" RIP-RAP OR GEOTEXTILE
4	8.1-20.%	LINED WITH 4-8" RIP-RAP OR GEOTEXTILE	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

TEMPORARY SWALE

STANDARD AND SPECIFICATIONS FOR TOPSOILING



Definition

Spreading a specified quality and quantity of topsoil materials on graded or constructed subsoil areas.

Purpose

To provide acceptable plant cover growing conditions, thereby reducing erosion; to reduce irrigation water needs; and to reduce the need for nitrogen fertilizer application.

Conditions Where Practice Applies

Topsoil is applied to subsoils that are droughty (low available moisture for plants), stony, slowly permeable, salty or extremely acid. It is also used to backfill around shrub and tree transplants. This standard does not apply to wetland soils.

Design Criteria

1. Preserve existing topsoil in place where possible, thereby reducing the need for added topsoil.

2. Conserve by stockpiling topsoil and friable fine textured subsoils that must be stripped from the excavated site and applied after final grading where vegetation will be established.

3. Refer to USDA Soil Conservation Service (presently Natural Resource Conservation Service) soil surveys or soil interpretation record sheets for further soil texture information for selecting appropriate design topsoil depths.

Site Preparation

1. As needed, install erosion control practices such as diversions, channels, sediment traps, and stabilizing measures, or maintain if already installed.

2. Complete rough grading and final grade, allowing for depth of topsoil to be added.

3. Scarify all compact, slowly permeable, medium and fine textured subsoil areas. Scarify at approximately right angles to the slope direction in soil areas that are steeper than 5 percent. Areas that have been overly compacted shall be decompacted to a minimum depth of 12 inches with a deep ripper or chisel plow prior to topsoiling.

4. Remove refuse, woody plant parts, stones over 3 inches in diameter, and other litter.

Topsoil Materials

1. Topsoil shall have at least 6 percent by weight of fine textured stable organic material, and no greater than 20 percent. Muck soil shall not be considered topsoil.

2. Topsoil shall have not less than 20 percent fine textured material (passing the NO. 200 sieve) and not more than 15 percent clay.

3. Topsoil treated with soil sterilants or herbicides shall be so identified to the purchaser.

4. Topsoil shall be relatively free of stones over 1 1/2 inches in diameter, trash, noxious weeds such as nut sedge and quackgrass, and will have less than 10 percent gravel.

5. Topsoil containing soluble salts greater than 500 parts per million shall not be used.

Application and Grading

1. Topsoil shall be distributed to a uniform depth over the area. It shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water puddles.

2. Topsoil placed and graded on slopes steeper than 5 percent shall be promptly fertilized, seeded, mulched, and stabilized by “tracking” with suitable equipment.

3. Apply topsoil in the following amounts:

Site Conditions	Intended Use	Minimum Topsoil Depth
1. Deep sand or loamy sand	Mowed lawn	6 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	1 in.
2. Deep sandy loam	Mowed lawn	5 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	none
3. Six inches or more: silt loam, loam, or silt	Mowed lawn	4 in.
	Tall legumes, unmowed	1 in.
	Tall grass, unmowed	1 in.

STANDARD AND SPECIFICATIONS FOR WATER BAR



Definition

A ridge or ridge and channel constructed diagonally across a sloping road or utility right-of-way that is subject to erosion.

Purpose

To limit the accumulation of erosive velocity of water by diverting surface runoff at pre-designed intervals.

Conditions Where Practice Applies

Where runoff protection is needed to prevent erosion on sloping access right-of-ways or either long, narrow sloping areas generally less than 100 feet in width.

Design Criteria

Design computations are not required.

1. The design height shall be minimum of 12 inches measured from channel bottom to ridge top.

2. The side slopes shall be 2:1 or flatter, a minimum of 4:1 where vehicles cross.

3. The base width of the ridge shall be six feet minimum.

4. The spacing of the water bars shall be as follows:

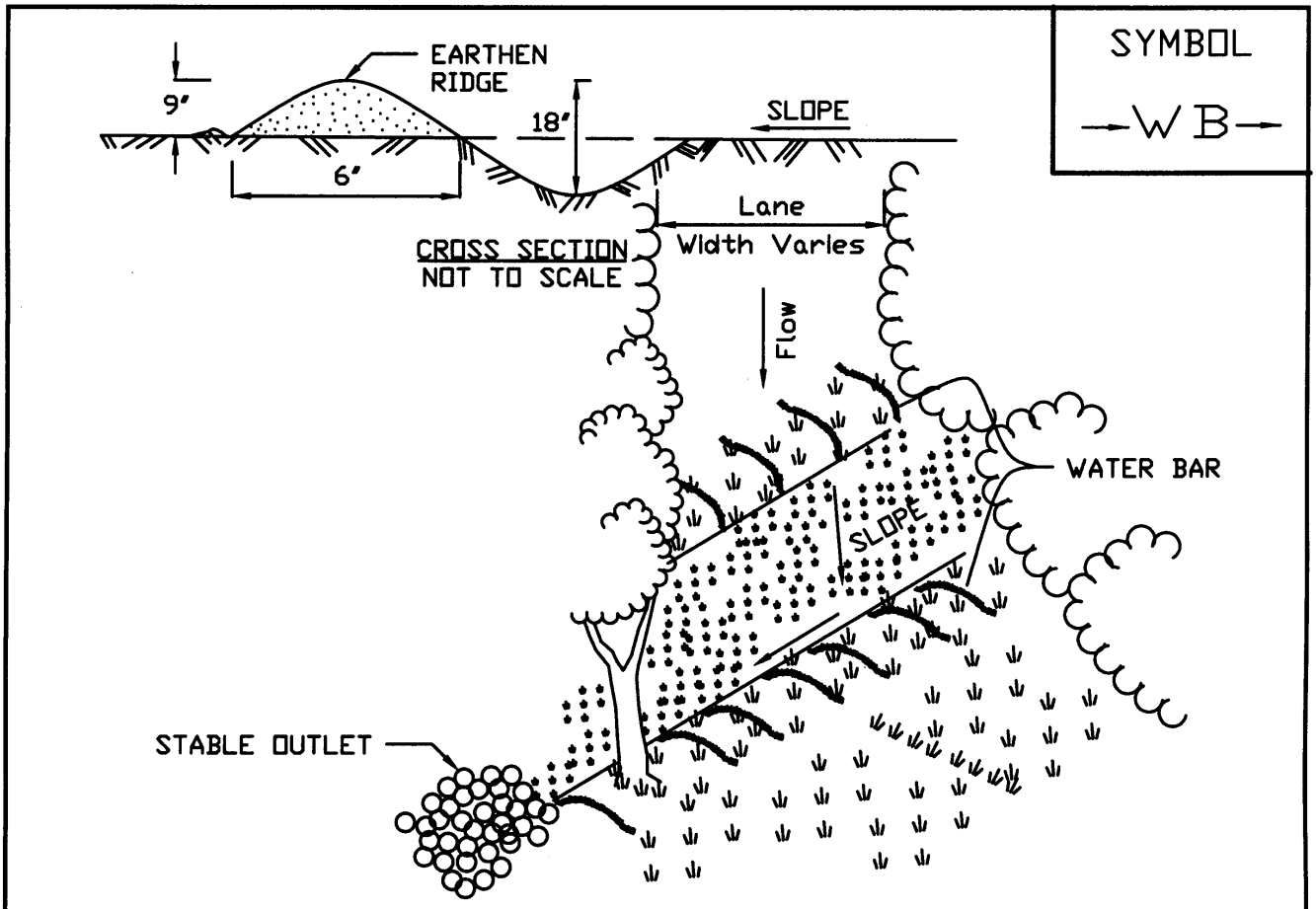
Slope (%)	Spacing (ft)
<5	125
5 TO 10	100
10 TO 20	75
20 TO 35	50
>35	25

5. The positive grade of the water bar shall not exceed 2%. A crossing angle of approximately 60 degrees is preferred.

6. Once diverted, water must be conveyed to a stable system (i.e. vegetated swale or storm sewer system). Water bars should have stable outlets, either natural or constructed. Site spacing may need to be adjusted for field conditions to use the most suitable areas for water disposal.

See Figure 5A.4 for details.

Figure 5A.4
Water Bar



CONSTRUCTION SPECIFICATIONS

1. INSTALL THE WATER BAR AS SOON AS THE RIGHT OF WAY IS CLEARED AND GRADED.
2. DISK OR STRIP THE SOD FROM THE BASE FOR THE CONSTRUCTED RIDGE BEFORE PLACING FILL.
3. TRACK THE RIDGE TO COMPACT IT TO THE DESIGN CROSS SECTION.
4. THE OUTLET SHALL BE LOCATED ON AN UNDISTURBED AREA. FIELD SPACING WILL BE ADJUSTED TO USE THE MOST STABLE OUTLET AREAS. OUTLET PROTECTION WILL BE PROVIDED WHEN NATURAL AREAS ARE NOT ADEQUATE.
5. VEHICLE CROSSING SHALL BE STABILIZED WITH GRAVEL. EXPOSED AREAS SHALL BE IMMEDIATELY SEEDED AND MULCHED.
6. PERIODICALLY INSPECT WATER BARS FOR EROSION DAMAGE AND SEDIMENT. CHECK OUTLET AREAS AND MAKE REPAIRS AS NEEDED TO RESTORE OPERATION.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	WATER BARS

APPENDIX L

EMERGENCY CONTACT LIST

Operator/Owner

Company:
Address:

Emergency Number:
Local Number:
Contact Person:
Email:

Municipal Emergency Agencies

Department:
Address:

Emergency Number: Dial 911
Local Number:
Contact Person:

County Sheriff/Police Authority

Department:
Address:

Emergency Number: Dial 911
Local Number:
Contact Person:

New York Department of Environmental Protection

Regional Office Number:
Contact Person:

United States Environmental Protection Agency

Phone Number: (617) 918-1111
Contact Person:

Additional Contacts or Agency's

Department:
Address:

Emergency Number: Dial 911
Local Number:
Contact Person:

Additional Contacts or Agency's

Department:
Address:

Emergency Number: Dial 911
Local Number:
Contact Person:

STORMWATER POLLUTION PREVENTION PLAN
PLAN CHANGES, AUTHORIZATION AND CHANGE CERTIFICATION

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:

REASONS FOR CHANGES:

REQUESTED BY:_____

DATE:_____

AUTHORIZED BY:_____

DATE:_____

CERTIFICATION OF CHANGES:

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. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

SIGNATURE_____DATE_____

New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

December 29, 2023

George Brandt
Project Manager
O'Neill Group Hamilton LLC
241 Hudson Avenue
Hackensack, Ne 07601

Re: DEC
South Hamilton Residential Development - Apartments
City of Poughkeepsie, Dutchess County, NY
23PR09978

Dear George Brandt:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

We note that the project area is adjacent to the State and National Register-listed Dwight-Hooker Avenue Historic District, and the Reynolds and Corlies-Ritter-Hart Houses, both listed in the State and National Registers of Historic Places. We have reviewed the project description and supporting documentation that was provided to our office on November 30th, 2023.
In order to continue our review, please submit the following additional information and materials:

1. Site photos showing existing conditions, and photos taken from the site towards the S/NR-listed properties noted above.
2. Architectural elevations or renderings showing the proposed new development.

If you have any questions, I am best reached via e-mail.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov

cc: D. Arico via e-mail only

Poughkeepsie NRI Map: Geology and Soils



6/20/2023, 9:58:45 AM

City of Poughkeepsie Boundary

Parcel Boundaries

Soils

Bedrock Geology

Graywacke, shale (Oag)

Taconic melange (Otm)

1:2,257

0 0.02 0.04 0.08 mi

0 0.03 0.07 0.13 km

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Applicant

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Poughkeepsie NRI Map: Habitats



6/20/2023, 9:34:54 AM

- Parcel Boundaries
- City of Poughkeepsie Boundary

Hudsonia Habitats

- Developed
- Cultural
- Upland hardwood forest

1:2,257

0 0.02 0.04 0.08 mi

0 0.03 0.07 0.13 km

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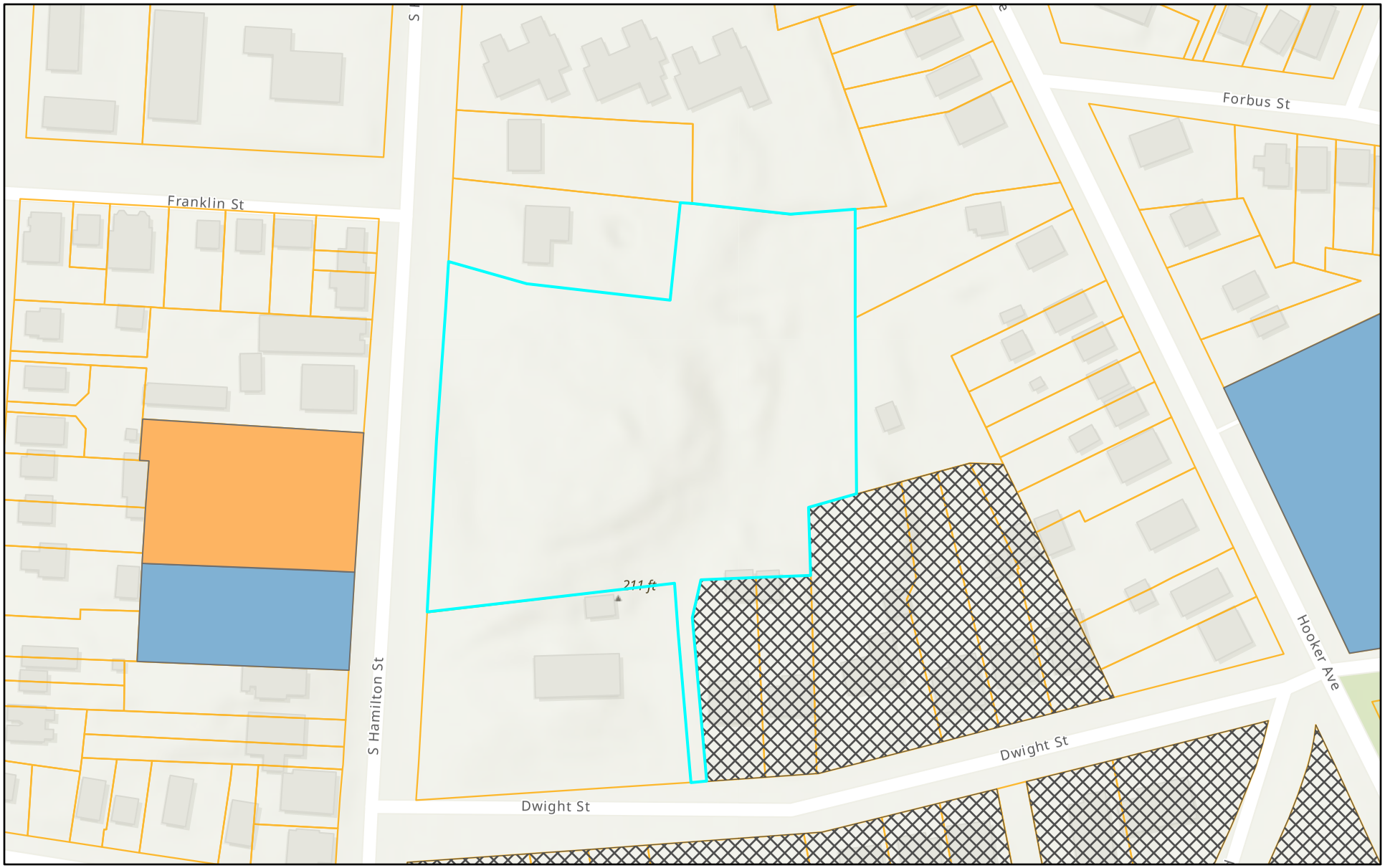
NRI Map: Historic Resources



6/20/2023, 9:47:30 AM

Parcel Boundaries

Historic Districts (2021)

Local, State and National

Historic Sites (2021)

Local, State, and National

State and National

City of Poughkeepsie Boundary

1:2,257

0 0.01 0.03 0.05 mi

0 0.02 0.04 0.09 km

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Poughkeepsie NRI Map: Recreation Resources



6/20/2023, 9:49:52 AM

Parcel Boundaries

City of Poughkeepsie Boundary

Parks and Open Spaces

1:2,257

0 0.02 0.04 0.08 mi

0 0.03 0.07 0.13 km

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Poughkeepsie NRI Map: Water Resources



6/20/2023, 9:41:56 AM

Parcel Boundaries

City of Poughkeepsie Boundary

1:2,257

0 0.02 0.04 0.08 mi

0 0.03 0.07 0.13 km

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APPENDIX M

OPERATIONS AND MAINTENANCE MANUAL

FOR THE DEVELOPMENT OF

SOUTH HAMILTON

CITY OF POUGHKEEPSIE
DUTCHESS COUNTY, NEW YORK

PREPARED FOR:
O'NEILL GROUP HAMILTON, LLC
241 HUDSON AVENUE
HACKENSACK, NEW JERSEY 07601

OCTOBER 3, 2023

PREPARED BY:
Arico Associates
1407 Route 9, Bld.2, Suite 6
Clifton Park, New York 12065

ARICO ASSOCIATES PROJECT ID: 22.10



ARICO ASSOCIATES
ENGINEERS LAND PLANNERS & CONSULTANTS

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General

The owner shall overtake and become responsible for all inspecting, monitoring and maintaining erosions control features and drainage structures over the lifetime of the feature. The inspection of on-site stabilization measures will become part of routine and preventive maintenance practices developed by the owner and/or his representatives.

Inspection

The entire site should be inspected regularly for the presence of erosion gullies, cracking and wash-outs caused by heavy storm events. The cause of any irregularities should be identified and addressed in a timely manner. At a minimum, eroded areas should be topsoiled, seeded and mulched, as necessary, depending upon the identified irregularity.

The stormwater management system (i.e. roadway drainage ditches, stormwater management ponds, pipe inlets and outlets, etc.) shall be inspected at least yearly for sediment build-up, debris and structural integrity. Stormwater management pond outlet control structures should be checked more frequently for debris blockages. Vacuum truck services should be secured by the owner for periodic removal of sediment within the pond system, the outlet control structure and drainage structures.

The inspection should include, but not be limited to the following:

- Accumulation of pollutants such as grease and oils
- Stabilization and condition of vegetative ground cover areas
- Cracking, settlement, sliding or gully erosions of embankments
- Sedimentation of downstream water bodies, culvert or swales
- Sedimentation of lawns, pavement areas or catch basin sumps
- Presences of animal borrows, clogging or sedimentation at inlets or outlets
- Erosion or disruption of flow paths from stormwater management areas
- Structural integrity of spillways and obstruction of overflow
- Inlet and outlet riprap for scouring or dislodged stones or obstructions
- Forebays and aquatic benches to ensure proper and structural integrity.

Any sediment build-up should be removed and disposed of utilizing acceptable practices. Care should be exercised to avoid storing snow on any stormwater facilities, including the outfall swale.

Maintenance

The permittee shall at all time properly operate and maintain all facilities and systems of treatment and control, as well as related appurtenances, which are install or to be used by the permittee to achieve compliance with the conditions of this permit and within the requirements of SWPPP's. Maintenance shall occur on a regular basis and should include, but not be limited to the following:

- Mowing of lawn areas at least three times per year to prevent over and vigorous growth

- Mowing of steep slopes, embankments, overflow spillways at least three times per year to prevent overgrowth
- Sweeping common paved areas at least three times per year, especially during early spring to remove excessive deicing material and sediment
- Removing litter and debris that has accumulated during mowing and sweeping operations
- Repairing catch basins, storm sewer components upon immediately addressing and identifying structural deficiency
- Clean catch basin sumps once accumulation is within six inches of the outlet pipe invert
- Repair of riprap lined swales, inlets and outlets, replacing stone where signs of scouring has occurred
- Remove trees and excessive growth from inlets and outlets
- Basins and forebays shall be monitored periodically for sediment accumulations. Once the accumulations have reduced the water quality volume by more that 25% or when 12" has accumulated around the inlets or outlets, sediment shall be removed. Removal of sediment shall be in a manner to re-establish original grades as shown on the original construction plans.

Preventative Measures to Reduce Maintenance Costs

The most effective way to maintain your water quality facility is to prevent the pollutants from entering the facility in the first place. Common pollutants include sediment, trash & debris, chemicals, dog wastes, runoff from stored materials, illicit discharges into the storm drainage system and many others.

- Educate property owners/residents to be aware of how their actions affect water quality, and how they can help reduce maintenance costs.
- Keep properties, streets and gutters, and parking lots free of trash, debris, and lawn clippings.
- Ensure the proper disposal of hazardous wastes and chemicals.
- Plan lawn care to minimize the use of chemicals and pesticides.
- Sweep paved surfaces and put the sweepings back on the lawn.
- Be aware of automobiles leaking fluids. Use absorbents such as cat litter to soak up drippings – dispose of properly.
- Re-vegetate disturbed and bare areas to maintain vegetative stabilization.
- Clean out the upstream components of the storm drainage system, including inlets, storm sewers and outfalls.
- Do not store materials outdoors (including landscaping materials) unless properly protected from runoff.

Access and Easements

All stormwater management facilities located on the site have both a designated access location As well as a maintenance easement. Refer to the Stormwater Facilities Map located in Appendix G for access and easement locations.

Safety

Keep safety considerations at the forefront of inspection procedures at all times. Likely hazards should be anticipated and avoided. Never enter a confined space (outlet structure, manhole, etc) without proper training or equipment. A confined space should never be entered without at least one additional person present. If a toxic or flammable substance is discovered, leave the immediate area and contact the local Sheriff at 911.

Potentially dangerous (e.g., fuel, chemicals, hazardous materials) substances found in the areas must be referred to the local Sheriff's Office immediately for response by the Hazardous Materials Unit. The emergency contact number is 911.

Vertical drops may be encountered in areas located within and around the facility. Avoid walking on top of retaining walls or other structures that have a significant vertical drop. If a vertical drop is identified within the pond that is greater than 48" in height, make the appropriate note/comment on the maintenance inspection form.

If any hazard is found within the facility area that poses an immediate threat to public safety, contact the local Sheriff's Office immediately.

Field Inspection Equipment

It is imperative that the appropriate equipment is taken to the field with the inspector(s). This is to ensure the safety of the inspector and allow the inspections to be performed as efficiently as possible. Below is a list of the equipment that may be necessary to perform the inspections of all Stormwater Management Facilities:

- Protective clothing and boots.
- Safety equipment (vest, hard hat, confined space entry equipment).
- Communication equipment.
- Operation and Maintenance Manual for the site including stormwater management facility location maps.
- Clipboard.
- Stormwater Facility Maintenance Inspection Forms (See Appendix D).
- Manhole Lid Remover
- Shovel.

Some of the items identified above need not be carried by the inspector (manhole lid remover, shovel, and confined space entry equipment). However, this equipment should be available in the vehicle driven to the site.

Inspection Procedures

All stormwater management facilities are required to be inspected by a qualified individual at a minimum of once per year. Inspections should follow the inspection guidance found in the SOP for the specific type of facility.

Inspection Report

The person(s) conducting the inspection activities shall complete the appropriate inspection report for the specific facility. Inspection reports are located in this Appendix.

The following information explains how to fill out the Inspection Forms:

General Information

This section identifies the facility location, person conducting the inspection, the date and time the facility was inspected, and approximate days since the last rainfall. Property classification is identified as single-family residential, multi-family residential, commercial, or other.

The reason for the inspection is also identified on the form depending on the nature of the inspection. All facilities should be inspected on an annual basis at a minimum. In addition, all facilities should be inspected after a significant precipitation event to ensure the facility is draining appropriately and to identify any damage that occurred as a result of the increased runoff.

Verification of Inspection and Form Submittal

The Stormwater Management Facility Inspection Form provides a record of inspection of the facility. Inspection Forms for each facility type are provided in this appendix. Verification of the inspection of the stormwater facilities, the facility inspection form(s), and Inspector Qualifications shall be provided to the proper authority on an annual basis. The verification and the inspection form(s) shall be reviewed and submitted by the property owner or property manager.

Routine Work

The majority of this work consists of scheduled mowing's and trash and debris pickups for stormwater management facilities during the growing season. This includes items such as the removal of debris/material that may be clogging the outlet structure well screens and trash racks. It also includes activities such as weed control, mosquito treatment, and algae treatment. These activities normally will be performed numerous times during the year.

Restoration Work

This work consists of a variety of isolated or small-scale maintenance and work needed to address Operational problems. Most of this work can be completed by a small crew, with minor tools, and small equipment.

Rehabilitation Work

This work consists of large-scale maintenance and major improvements needed to address failures within the stormwater management facilities. This work requires consultation and may require an Engineering design with construction plans to be prepared for review and approval. This work may also require more specialized maintenance equipment, surveying, construction permits or assistance through private contractors and consultants.

Maintenance Personnel

Maintenance personnel must be qualified to properly maintain stormwater management facilities. Inadequately trained personnel can cause additional problems resulting in additional maintenance costs.

Maintenance Forms

The Stormwater Management Facility Maintenance Form provides a record of maintenance activities. Maintenance Forms for each facility type are provided in this appendix. Maintenance Forms shall be completed by the contractor completing the required maintenance items. The form shall then be reviewed by the property owner or an authorized agent of the property owner and submitted on an annual basis to the proper authority.

ESTIMATED ANNUAL OPERATION AND MAINTENANCE COST

Cost		
6-months	Inspect outlet and inlet control structure openings; Mow extended detention basins	**$3,500.00**
1-year	Inspection & Report by Qualified Professional Groom and repair basin side walls and grass	**$3,500.00**
5-year	Remove and dispose of sediment Repair grass, side slopes and bottom as needed	**$5,500.00**
10-year	Remove and dispose of sediment Repair grass, side slopes and bottom as needed Repair outlet control devices, as needed	**$3,500.00**
30-year	Remove and dispose of sediment Repair grass, side slopes and bottom as needed Repair outlet control devices, misc. repairs as needed	**$4,000.00**

(*****costs are in 2023 dollars. Adjustments should be adjusted for inflation at 3% annually)

February 20, 2024 (Revision #1)

One Key Development LLC
241 Hudson Street
Attn: George Brandt

RE: Traffic Impact Study for Proposed Multi-Family Residential Building, City of Poughkeepsie, Dutchess County, New York; CM Project No. 123-200

Dear Mr. Brandt:

As requested, Creighton Manning Engineering, LLP (CM) has completed a Revised Traffic Impact Study for the proposed residential development located on South Hamilton Street in the City of Poughkeepsie, Dutchess County, NY. The revisions to this study were prepared in response to public comments made during the City of Poughkeepsie Planning Board meeting on December 19, 2023. The revisions include one new study intersection, one additional study period, new turning movement counts at all study intersections, continuous traffic counts on Hooker Avenue and South Hamilton Street, and a review of collision history for the study intersections and roadway segments. This study is based on traffic engineering industry standards and the Concept Plan prepared by Arico Associates, last revised February 16, 2024, which is included under Attachment A.

1.0 Project Description

The subject site is defined on the Dutchess County Tax Map as Section 6161, Block 30, Lot 151782, and undeveloped. The site has an existing curb cut on South Hamilton Street approximately 80 feet south of Franklin Street. The proposed project consists of the construction of a three-story residential building with 58 units comprised of 29 one-bedroom units and 29 two-bedroom units. The site will be accessed via a 24-foot-wide full-movement driveway at the same location as the existing curb cut and a 17-foot-wide emergency access driveway on Dwight Street. The development will be supported by 103 parking spaces inclusive of six ADA-accessible spaces, which exceeds the City of Poughkeepsie's parking requirements. The proposed development is expected to be completed and occupied by 2026. A map illustrating the site location is shown in Exhibit 1.



Exhibit 1 – Site Location

2.0 Existing Conditions

Roadways Serving the Site

- **Hooker Avenue** is classified as an Urban Minor Arterial roadway and is under the jurisdiction of the City of Poughkeepsie. The roadway runs primarily east-west from NYS Route 376 to South Hamilton Street within the City of Poughkeepsie and neighboring Town of Poughkeepsie. In the vicinity of the site, Hooker Avenue provides one 12-foot-wide travel lane in each direction with on-street parking on some sections of the road. Turn lanes are provided at key intersections. Sidewalks are provided on both sides of the roadway.

- **Montgomery Street** is classified as an Urban Minor Arterial roadway and is under the jurisdiction of the City of Poughkeepsie. The roadway runs primarily east-west from South Clinton Street to Lincoln Avenue (beyond which it continues as Pine Street) within the City of Poughkeepsie. In the vicinity of the site, Montgomery Street provides one 12-foot-wide travel lane in each direction with on-street parking on some sections of the road. Turn lanes are provided at key intersections. Sidewalks are provided on both sides of the roadway.

- **South Hamilton Street** is classified as an Urban Major Arterial roadway and is under the jurisdiction of the City of Poughkeepsie. The roadway runs primarily north-south from Main Street (beyond which it continues as North Hamilton Street) to Livingston Street within the City of Poughkeepsie. In the vicinity of the site, Montgomery Street provides one 12-foot-wide travel lane in each direction with on-street parking on some sections of the road. Turn lanes are provided at key intersections. Sidewalks are provided on both sides of the roadway.

- **Dwight Street** is classified as an Urban Local roadway and is under the jurisdiction of the City of Poughkeepsie. The roadway runs east-west from Hooker Avenue to South Hamilton Street for approximately 1,000 feet. In the vicinity of the site, Dwight Street provides one 12-foot-wide travel lane in each direction with on-street parking on both sides of the road. Sidewalks are provided on both sides of the roadway.

Study Intersections

- **Hooker Avenue/Montgomery Street/South Hamilton Street:** This is a four-leg signalized intersection. The eastbound Montgomery Street approach provides an exclusive left-turn lane and a shared through/right-turn lane. The westbound Hooker Avenue approach provides a shared left-turn/through lane and an exclusive right-turn lane. The northbound South Hamilton Street approach provides a shared left-turn/through/right-turn lane. The southbound South Hamilton Street approach provides a shared left-turn/through/right-turn lane. Curb ramps are present on all corners of the intersection. Marked pedestrian crossings are present on all legs of the intersection. Community institutions like Clinton Elementary School and Mid-Hudson Church of Christ are located west of the intersection on Montgomery Street. The level of service analysis herein was conducted using the traffic signal timings and phasing directive obtained from the City of Poughkeepsie Engineering Department. Exhibit 2 is a Nearmap image that shows the study intersection.



Exhibit 2 – Hooker Avenue/Montgomery Street/South Hamilton Street Intersection

- **Hooker Avenue/Dwight Street/Hanscom Avenue:** This is a five-leg signalized intersection. The eastbound Dwight Street approach provides a shared left-turn/right-turn lane. The westbound Hanscom Avenue approach provides an exclusive left-turn lane and a shared through/right-turn lane. The northbound Hooker Ave approach provides a shared left-turn/through lane. The southbound Hooker Avenue approach provides a shared through/right-turn lane. Curb ramps are present on all corners of the intersection. Marked pedestrian crossings are present on all legs of the intersection. Community institutions like Mid-Hudson Russian School Kindergarten and The Reformed Church of Poughkeepsie are located north of the intersection on Hooker Avenue. The level of service analysis herein was conducted using the traffic signal timings and phasing directive obtained from the City of Poughkeepsie Engineering Department. Exhibit 3 is a Nearmap image that shows the study intersection.



Exhibit 3 – Hooker Avenue/Dwight Street/Hanscom Avenue Intersection

- **South Hamilton Street/Dwight Street:** This is a three-leg unsignalized intersection operating with stop control on the westbound approach. The westbound Dwight Street approach provides a shared left-turn/right turn. The northbound South Hamilton Street approach provides one shared through/right-turn lane. The southbound South Hamilton Street approach provides a shared left-turn/through lane. Curb ramps are present on the northeast and southeast corners of the intersection. A marked pedestrian crossing is present on the east leg of the intersection. Exhibit 4 is a Nearmap image that shows the study intersection.



Exhibit 4 – South Hamilton Street/Dwight Street Intersection

- **South Hamilton Street/Livingston Street/Ivy Terrace:** This is a three-leg unsignalized intersection operating with stop control on the northbound and southbound approaches. The eastbound Livingston Street approach provides a shared left-turn/right turn. The northbound Ivy Terrace approach provides one shared left-turn/through lane. The southbound South Hamilton Street approach provides a shared through/right-turn lane. Curb ramps are present on the northwest and southwest corners of the intersection. Exhibit 5 is a Nearmap that shows the study intersection.



Exhibit 5 – South Hamilton Street/Livingston Street/Ivy Terrace Intersection

Motor Vehicle Collision Analysis

Motor vehicle collision data for the aforementioned study intersections was obtained from the NYSDOT for the most recent five-year period (September 1, 2018, to August 31, 2023). Tables 1-7 summarize the collision type and severity of the reported vehicle collision at each intersection and roadway segment.[1]

Table 1 – Summary of Motor Vehicle Collisions: South Hamilton St/Hooker Ave Intersection

Location	Collision Type	Number of Collisions	Number of Collisions Resulting in Injury	Number of Collisions Resulting in Fatalities
South Hamilton St/Hooker Ave Intersection	Rear End	7	1	0
	Overtaking	2	0	0
	Head-on	0	0	0
	Left-Turn	2	0	0
	Right Angle	5	1	0
	Right Turn	1	0	0
	Collision with Fixed Object	2	0	0
	Collision with Pedestrian	0	0	0
	Collision with Bicyclist	0	0	0
	Other	2	1	0
Total		21	3	0

[1] MV-104 forms for collisions involving a pedestrian and bicyclist are included under Attachment B.

Table 2 – Summary of Motor Vehicle Collisions: Hooker Ave/Dwight St/Crescent Rd/Hanscom Ave Intersection

Location	Collision Type	Number of Collisions	Number of Collisions Resulting in Injury	Number of Collisions Resulting in Fatalities
Hooker Ave/Dwight St/Crescent Rd/Hanscom Ave Intersection	Rear End	2	0	0
	Overtaking	0	0	0
	Head-on	0	0	0
	Left-Turn	0	0	0
	Right Angle	0	0	0
	Right Turn	0	0	0
	Collision with Fixed Object	0	0	0
	Collision with Pedestrian	0	0	0
	Collision with Bicyclist	0	0	0
	Other	1	0	0
	Total	3	0	0

Table 3 – Summary of Motor Vehicle Collisions: S. Hamilton St/Dwight St Intersection

Location	Collision Type	Number of Collisions	Number of Collisions Resulting in Injury	Number of Collisions Resulting in Fatalities
S. Hamilton St/Dwight St Intersection	Rear End	1	0	0
	Overtaking	0	0	0
	Head-on	0	0	0
	Left-Turn	0	0	0
	Right Angle	0	0	0
	Right Turn	0	0	0
	Collision with Fixed Object	0	0	0
	Collision with Pedestrian	0	0	0
	Collision with a Bicyclist	1	0	0
	Other	0	0	0
	Total	2	0	0

Table 4 – Summary of Motor Vehicle Collisions: S. Hamilton St/Livingston St/Ivy Terr Intersection

Location	Collision Type	Number of Collisions	Number of Collisions Resulting in Injury	Number of Collisions Resulting in Fatalities
S. Hamilton Ave/Livingston St/Ivy Terr Intersection	Rear End	0	0	0
	Overtaking	0	0	0
	Head-on	1	0	0
	Left-Turn	0	0	0
	Right Angle	0	0	0
	Right Turn	0	0	0
	Collision with Fixed Object	1	0	0
	Collision with Pedestrian	0	0	0
	Collision with a Bicyclist	0	0	0
	Other	0	0	0
	Total	2	0	0

Table 5 – Summary of Motor Vehicle Collisions: South Hamilton St Segment from Hooker Ave to Livingston St

Location	Collision Type	Number of Collisions	Number of Collisions Resulting in Injury	Number of Collisions Resulting in Fatalities
S. Hamilton Ave – From Hooker Ave to Livingston St Segment	Rear End	2	0	0
	Overtaking	3	0	0
	Head-on	1	0	0
	Left-Turn	0	0	0
	Right Angle	1	0	0
	Right Turn	0	0	0
	Collision with Fixed Object	1	1	0
	Collision with Pedestrian	1	1	0
	Collision with a Bicyclist	0	0	0
	Other	4	0	0
	Total	13	2	0

Table 6 – Summary of Motor Vehicle Collisions: Hooker Ave Segment from S. Hamilton to Dwight St

Location	Collision Type	Number of Collisions	Number of Collisions Resulting in Injury	Number of Collisions Resulting in Fatalities
Hooker Avenue – From S. Hamilton St to Dwight St Segment	Rear End	3	1	0
	Overtaking	3	0	0
	Head-on	0	0	0
	Left-Turn	1	0	0
	Right Angle	5	1	0
	Right Turn	1	0	0
	Collision with Fixed Object	2	0	0
	Collision with Pedestrian	1	1	0
	Collision with a Bicyclist	0	0	0
	Other	1	0	0
	Total	17	3	0

Table 7 – Summary of Motor Vehicle Collisions: Dwight St Segment from S. Hamilton to Hooker St

Location	Collision Type	Number of Collisions	Number of Collisions Resulting in Injury	Number of Collisions Resulting in Fatalities
Dwight Street – From S. Hamilton St to Hooker Ave Segment	Rear End	0	0	0
	Overtaking	1	0	0
	Head-on	0	0	0
	Left-Turn	0	0	0
	Right Angle	0	0	0
	Right Turn	0	0	0
	Collision with Fixed Object	0	0	0
	Collision with Pedestrian	0	0	0
	Collision with a Bicyclist	0	0	0
	Other	0	0	0
	Total	1	0	0

South Hamilton Street/Hooker Avenue: Table 1 shows that 21 collisions were reported at the intersection over the five-year period. Three of the collisions resulted in an injury. Zero collisions resulted in fatality and there were no collisions involving a pedestrian or a bicyclist. Approximately 57% of the collisions were rear end and right-

angle collisions, which are the most common at intersections. While investigating this further, the signal timing sheets provided by the City of Poughkeepsie show that the red clearance at this intersection is one second, which may be too short for the size of the intersection. The City could consider evaluating the clearance times at this intersection to improve safety. CM notes that clearance interval changes are not expected to impact delay at the intersection.

Hooker Avenue/Dwight Street/Crescent Road/Hanscom Avenue: Table 2 shows that three collisions were reported at the intersection over the five-year period. None of the collisions resulted in an injury or fatality. Additionally, none of the collisions involved a pedestrian or a bicyclist.

South Hamilton Street/Dwight Street: Table 3 shows that two collisions were reported at the intersection over the five-year period. One of the collisions reported was with a motor vehicle and one collision with a bicyclist. For the collision involving a bicyclist, the reporting officer noted that vehicle involved was traveling northbound on South Hamilton Street and the bicyclist was traveling westbound on Dwight Street. The bicyclist failed to stop at the intersection of South Hamilton Street while making a right-turn onto South Hamilton Street northbound, vehicle operator attempted to avoid bicyclist but was unable to avoid collision. The bicyclist hit the headlight of the passenger side of the vehicle. The collisions at this intersection were reported as property damage only. None of the collisions resulted in an injury or fatality. No collisions involved a pedestrian.

South Hamilton Street/Livingston Street/Ivy Terrace: Table 4 shows that two collisions were reported at the intersection over the five-year period. None of the collisions resulted in an injury or fatality. Additionally, none of the collisions involved a pedestrian or a bicyclist.

South Hamilton Street Segment – From Hooker Avenue to Livingston Street: Table 5 shows that 13 collisions were reported at the road segment over the five-year period. Two of the collisions resulted in an injury and one involved a pedestrian; no collisions involved a bicyclist. For the collision involving a pedestrian, the reporting officer noted that the vehicle left the scene of accident when they arrived, and the pedestrian had pain in the lower left leg. No vehicle description or direction of travel was available. The pedestrian involved was transported to Mid-Hudson Regional Hospital. No collisions for this roadway segment resulted in a fatality. It is important to note that these collisions are mainline and juncture collisions excluding Hooker Avenue and Dwight Street junctures.

Hooker Avenue Segment – From South Hamilton Street to Dwight Street: Table 6 shows that 17 collisions were reported at the road segment over the five-year period. Three of the collisions resulted in an injury and one involved a pedestrian; no collisions involved a bicyclist. For the collision involving a pedestrian, the reporting officer noted that the vehicle involved was traveling west on Hooker Avenue and pedestrian was attempting to cross to the south side of Hooker Avenue. The pedestrian did not see the vehicle approaching due to heavy rain. No collisions resulted in a fatality. It is important to note that these collisions are mainline and juncture collisions excluding Hooker Avenue and Dwight Street junctures.

Dwight Street Segment – From South Hamilton Street to Hooker Avenue: Table 7 shows that one overtaking collision was reported at the road segment over the five-year period. No collisions involved a pedestrian or a bicyclist. No collusions resulted in an injury or fatality. It is important to note that these collisions are mainline and juncture collisions excluding South Hamilton Street and Hooker Avenue junctures.

<u>Data Collection</u>

CM initially collected Turning Movement Counts (TMCs) in July 2023 during three peak periods. Due to the potential effect of summer break on traffic in the subject area, CM recollected TMCs at the study intersections in

January 2024 to capture school-related activity. CM also added the school dismissal peak period to the study. Further, CM included the intersection of South Hamilton Street/Ivy Terrace/Livingston Street, which was not originally counted in July 2023. In general, the January 2024 data is higher than the July 2023 data during the study periods.[2] Table 8 summarizes the intersections where TMCs were conducted during the typical weekday morning peak period (7:00AM – 9:00AM), the typical weekday school dismissal peak period (2:00PM – 4:00PM), the typical weekday evening peak (4:00PM – 7:00PM), and the typical Saturday midday peak period (11:00AM – 2:00PM). These studies periods coincide with the anticipated peak-hour operations times of the proposed use as well as the adjacent street traffic.

Table 8 – Summary of Observed TMC Dates and Peak Hours

	Intersection	Date of Counts	Weekday AM	Weekday School Dismissal	Weekday PM	Saturday Midday
1	Hooker Avenue/Montgomery Street/South Hamilton Street	Thur. 1/10/24 Sat. 01/13/24	7:30 a.m. – 8:30 a.m.	2:30 p.m. – 3:30 p.m.	4:30 p.m. – 5:30 p.m.	12:15 p.m. – 1:15 p.m.
2	Hooker Avenue/Dwight Street/Hanscom Avenue		8:00 a.m. – 9:00 a.m.	2:30 p.m. – 3:30 p.m.	4:30 p.m. – 5:30 p.m.	11:45 p.m. – 12:45 p.m.
3	South Hamilton Street/Dwight Street		7:45 a.m. – 8:45 a.m.	2:30 p.m. – 3:30 p.m.	4:30 p.m. – 5:30 p.m.	12:00 p.m. – 1:00 p.m.
4	South Hamilton Street/Ivy Terrace/Livingston Street		7:45 a.m. – 8:45 a.m.	2:45 p.m. – 3:45 p.m.	4:15 p.m. – 5:15 p.m.	11:00 a.m. – 12:00 p.m.

Figure 1 shows the 2024 Existing traffic volumes for the study area. The raw TMC data is included under Attachment C.

Additionally, CM installed Automatic Traffic Recorders (ATRs) on South Hamilton Street south of Franklin Street and on Hooker Avenue north of Dwight Street. The ATRs collected bi-directional average daily traffic (ADT) volumes and speed data from Wednesday, January 10, 2024, to Saturday, January 13, 2024. Table 9 summarizes the traffic volume and speed data collected, respectively.

Table 9 – 2024 Traffic Volume and Speed Data

Location	Volume/Speed Data	Direction		
		NB	SB	Combined
S. Hamilton St 200' South of Franklin St	ADT	1,051	628	1,679
	Average Speed	29-mph	30-mph	29-mph
	85th – percentile speed	35-mph	35-mph	35-mph
Hooker Avenue 350' North Dwight St	ADT	2,577	2,273	4,850
	Average Speed (mph)	28-mph	32-mph	30-mph
	85th-percentile (mph)	35-mph	38-mph	37-mph

Table 9 shows that the combined average daily traffic on South Hamilton Street is 1,679 vehicles and the combined 85th-percentile speed is 35 miles per hour, which is five miles per hour higher than the posted speed limit. The combined average daily traffic on Hooker Avenue is 4,850 vehicles and the combined 85th-percentile speed of 37 miles per hour because of higher speeds in the southbound direction. The 85thpercentile speed is the speed at or below which 85th percent of motorists travel. In the case of Hooker Avenue, the 85th-percentile speed exceeds the posted speed limit by 20%, which the U.S. Department of Transportation Federal Highway Administration

[2] January 2024 data – Weekday morning +17% | Weekday evening +1% | Saturday midday +4%|

considers excessive speeding.[3] The City of Poughkeepsie could consider implementing speed mitigation measures and/or increasing enforcement to address the issue.

The raw ATR data is included under Attachment C.

3.0 Traffic Assessment

Trip Generation

Trip generation determines the quantity of traffic expected to travel to/from a given site. The Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition, is the industry-standard resource used for estimating trip generation for proposed land uses based on data collected at similar uses. Upon review of the *Trip Generation Manual*, Land Use Code (LUC) 220 "Multifamily Housing (Low-Rise)" most accurately describe the proposed use. Table 10 summarizes the trip generation for the weekday AM, weekday PM, and Saturday Midday peak hours.

Table 10 – Trip Generation Summary for Proposed Use

Land Use	Independent Variable	Weekday AM Peak Hour			Weekday School Dismissal Peak Hour[1]			Weekday PM Peak Hour			Saturday Midday Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Multifamily Housing (Low-Rise) – LUC 220	58 Units	10	31	41	16	12	28	29	16	45	15	9	24

[1]Weekday school dismissal peak hour trip generation was estimated by utilizing the total weekday trip generation and time of day distribution to obtain the trips generated at the site between the school dismissal hours of 2:00 p.m. – 4:00 p.m.

Table 10 shows that the project is expected to generate 41 total trips during weekday AM peak hour, 28 total trips during the weekday school dismissal, 45 total trips during the weekday PM peak hour, and 24 trips during the Saturday midday peak hour. It is important to note that there is no "pass-by" component of the traffic associated with the proposed development. Additionally, the magnitude of the new traffic associated with this development is less than the NYSDOT and ITE threshold of 100-site-generated trips on any one intersection, which is an industry threshold indicating whether a proposed development will have a significant impact on off-site intersections. While the anticipated trip generation falls below that threshold, the study herein analyzes three off-site intersections.

Future Traffic Volumes

To evaluate the impact of the proposed project, traffic projections were prepared for the anticipated year of completion – 2026. Historic traffic volume data on Hooker Avenue and South Hamilton Street indicates that traffic volumes along the roadway have increased by 0.24% annually.[4] In order to conservatively forecast the 2026 traffic volumes, a +0.5% growth rate was applied to the existing traffic volumes and compounded annually for two years. These volumes represent 2026 No-Build conditions. These 2026 No-Build conditions are shown on Figure 2 and represent the expected traffic volumes in 2026 *without* the proposed development.

Traffic generated by the project was distributed on the adjacent roadway network based on existing observed travel patterns in the project area and the likely paths of travel of future residents and visitors. The proximity of the site to US Route 9 and US Route 44/US Route 55 (collectively "The Arterials") are expected to influence trip-making behavior along with the Poughkeepsie Train Station and FDR Mid-Hudson Bridge. The trip distribution of the proposed multifamily residential development is shown on Figure 3. The associated site-generated traffic

[3] US Department of Transportation Federal Highway Administration. "Road Diet Information Guide." November 24, 2014 https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/ch3.cfm#n27, Accessed June 9, 2021.
[4] Based on NYSDOT ATR Station ID 828764 |ID 821080 |ID 828768| ID 821002| ID 821084 |. Study years: 2009, 2012, 2015, 2019.

volumes are shown on Figure 4. The site-generated trips were then added to the 2026 No-Build traffic volumes, resulting in the 2026 Build traffic volumes as shown on Figure 5.

Traffic Operations

Intersection Level of Service (LOS) and capacity analysis relate traffic volumes to the physical characteristics of an intersection. Intersection evaluations were made using Synchro Version 11 software, which automates the procedures contained in the Highway Capacity Manual. Tables 11A and 11B summarizes the results of the level of service calculations for the Existing, No-Build, and Build conditions during the weekday AM peak hour, weekday school dismissal, weekday PM peak hour, and Saturday Midday peak hour. The detailed level of service analyses are included under Attachment D.

Table 11A – Level of Service Summary

Intersection		Control	Weekday AM Peak Hour			Weekday School Dismissal Peak Hour		
			2024 Existing	2026 No-Build	2026 Build	2024 Existing	2026 No-Build	2026 Build
Hooker Ave/Montgomery St/S. Hamilton St		S						
Montgomery St, EB	L		A (4.4)	A (4.6)	A (6.0)	A (4.4)	A (4.4)	A (4.4)
	TR		A (4.7)	A (4.9)	A (6.1)	A (4.6)	A (4.6)	A (4.6)
Hooker Ave, WB	LT		A (9.3)	A (9.6)	B (11.2)	A (9.3)	A (9.5)	A (9.6)
	R		A (8.2)	A (8.3)	A (9.7)	A (8.5)	A (8.5)	A (8.5)
S. Hamilton St, NB	LTR		B (12.6)	B (13.4)	B (12.2)	B (12.9)	B (13.0)	B (13.1)
S. Hamilton St, SB	LTR		B (14.1)	B (15.8)	B (13.3)	B (14.4)	B (14.5)	B (14.6)
Overall			A (9.7)	B (10.2)	B (10.6)	A (9.6)	A (9.6)	A (9.7)
Hooker Ave/Dwight St/Crescent Rd/Hanscom Ave		S						
Dwight St, EB	LTR		B (13.7)	B (14.1)	B (13.7)	B (15.1)	B (15.1)	B (16.1)
Hanscom Ave, WB	L		B (13.7)	B (14.1)	B (13.6)	B (12.3)	B (12.5)	B (12.6)
	R		B (14.4)	B (14.9)	B (13.9)	B (12.4)	B (12.6)	B (12.7)
Hooker Ave, NB	LTR		A (6.7)	A (6.6)	A (7.4)	A (7.8)	A (7.7)	A (7.6)
Hooker Ave, SB	LTR		A (5.8)	A (5.8)	A (6.5)	A (7.3)	A (7.3)	A (7.2)
Crescent Rd, SB	LTR		B (15.2)	B (15.4)	B (16.6)	B (15.5)	B (15.7)	B (15.8)
Overall			A (7.5)	A (7.5)	A (8.1)	A (8.9)	A (8.9)	A (9.0)
S. Hamilton St/Dwight St		U						
Dwight St, WB	LR		A (9.8)	B (10.1)	B (10.3)	B (10.6)	B (10.6)	B (10.8)
S. Hamilton St, SB	L		A (7.6)	A (7.4)	A (7.5)	A (7.8)	A (7.8)	A (7.8)
S. Hamilton St/Livingston St/Ivy Ter		U						
Livingston St, EB	LR		A (8.0)	A (7.9)	A (8.0)	A (8.0)	A (8.0)	A (8.1)
Ivy Ter, NB	LT		A (7.3)	A (7.3)	A (7.3)	A (7.3)	A (7.4)	A (7.3)
S. Hamilton St, SB	TR		A (7.4)	A (7.2)	A (7.3)	A (7.0)	A (7.0)	A (7.0)
S. Hamilton St/Site Driveway		U						
Site Driveway, WB	LR		--	--	A (9.1)	--	--	A (9.3)
S. Hamilton, NB	L		--	--	A (7.4)	--	--	A (7.5)

U = Unsignalized intersection
S = Signalized intersection
EB, WB, NB, SB = Eastbound, Westbound, Northbound, and Southbound intersection approaches
L, T, R = Left-turn, Through, and/or Right-turn movements
X (Y.Y) = Level of service (Average delay in seconds per vehicle)

Table 11B – Level of Service Summary

Intersection		Control	Weekday PM Peak Hour			Saturday Midday Peak Hour		
			2024 Existing	2026 No-Build	2026 Build	2024 Existing	2026 No-Build	2026 Build
Hooker Ave/Montgomery St/S. Hamilton St		S						
Montgomery St, EB	L		A (4.6)	A (4.6)	A (4.7)	A (4.7)	A (4.7)	A (4.7)
	TR		A (4.9)	A (4.8)	A (5.0)	A (4.8)	A (4.8)	A (4.8)
Hooker Ave, WB	LT		A (9.8)	A (9.8)	A (9.9)	A (9.3)	A (9.4)	A (9.5)
	R		A (9.0)	A (9.0)	A (9.0)	A (8.8)	A (8.8)	A (8.8)
S. Hamilton St, NB	LTR		B (12.7)	B (12.7)	B (12.8)	A (9.8)	A (9.8)	A (9.8)
S. Hamilton St, SB	LTR		B (15.9)	B (15.9)	B (16.1)	B (10.9)	B (10.9)	B (10.9)
Overall			B (10.2)	B (10.2)	B (10.4)	A (9.0)	A (8.9)	A (9.0)
Hooker Ave/Dwight St/Crescent Rd/Hanscom Ave		S						
Dwight St, EB	LTR		B (14.8)	B (14.9)	B (15.4)	A (9.8)	A (9.8)	A (8.7)
Hanscom Ave, WB	L		B (12.7)	B (12.8)	B (13.0)	B (10.2)	B (10.1)	A (8.7)
	R		B (12.9)	B (13.0)	B (13.2)	A (9.9)	A (9.9)	A (8.6)
Hooker Ave, NB	LTR		A (7.4)	A (7.4)	A (7.3)	A (8.4)	A (8.5)	B (11.5)
Hooker Ave, SB	LTR		A (7.3)	A (7.3)	A (7.1)	A (7.7)	A (7.8)	A (9.3)
Crescent Rd, SB	LTR		B (15.7)	B (15.8)	B (16.0)	B (11.1)	B (11.0)	B (11.5)
Overall			A (8.5)	A (8.5)	A (8.6)	A (8.6)	A (8.6)	B (10.1)
S. Hamilton St/Dwight St		U						
Dwight St, WB	LR		A (9.7)	A (9.8)	B (10.0)	A (9.5)	A (9.5)	A (9.6)
S. Hamilton St, SB	L		A (7.5)	A (7.5)	A (7.4)	A (7.5)	A (7.5)	A (7.5)
S. Hamilton St/Livingston St/Ivy Ter		U						
Livingston St, EB	LR		A (8.5)	A (8.4)	A (8.5)	A (7.8)	A (7.8)	A (7.8)
Ivy Ter, NB	LT		A (7.4)	A (7.4)	A (7.5)	A (7.4)	A (7.2)	A (7.2)
S. Hamilton St, SB	TR		A (7.1)	A (7.1)	A (7.2)	A (6.9)	A (6.9)	A (6.9)
S. Hamilton St/Site Driveway		U						
Site Driveway, WB	LR		--	--	A (9.3)	--	--	A (9.9)
S. Hamilton, NB	L		--	--	A (7.5)	--	--	A (7.4)

U = Unsignalized intersection
S = Signalized intersection
EB, WB, NB, SB = Eastbound, Westbound, Northbound, and Southbound intersection approaches
L, T, R = Left-turn, Through, and/or Right-turn movements
X (Y.Y) = Level of service (Average delay in seconds per vehicle)

The impact of the project can be described by comparing the analysis of the No-Build and Build operating conditions. The following observation are evident from the analysis:

- **Hooker Avenue/Montgomery Street/S. Hamilton Street:** The level of service analysis indicates that the intersection currently operates at an overall LOS B or better during all peak hours and will continue to do so in the Build conditions.

- **Hooker Avenue/Dwight Street Crescent Road/Hanscom Avenue:** The level of service analysis indicates that the intersection currently operates at an overall LOS B or better. During Saturday midday the intersection is expected to experience a 1.5 second increase, but this is not expected to be noticeable by the drivers.

- **S. Hamilton Street/Dwight Street:** The level of service analysis indicates that the minor approach currently operates at a LOS B or better and will continue to do so in the Build condition during the study peak hours.

- **S. Hamilton Street/Livingston Street/Ivy Terrace:** The level of service analysis indicates that the intersection approaches currently operate at a LOS A and will continue to do so in the Build condition during the study peak hours.

- **S. Hamilton Street/Site Driveway:** The level of service analysis indicates that the intersection will operate at a LOS A during the study peak hours. The 95th-percentile queue at the driveway exit approach is calculated to be one vehicle during the study peak hours.

4.0 Site Access, Circulation, and Parking

CM reviewed the site access, site circulation and parking as shown on the Concept Plan prepared by Arico Associates, last revised February 16, 2024. The site will be accessed via a full-movement driveway on South Hamilton Street. Vehicles will have a minimum 22-foot-wide drive aisle within the site for circulation to parking spaces. The site will be supported by 103 parking spaces inclusive of six ADA-accessible spaces. The proposed number of parking spaces exceeds the City of Poughkeepsie zoning requirements.[5]

Similar to trip generation, the ITE also provides parking generation data in its publication entitled Parking Generation, 5th Edition. Based on the ITE LUC 220, the proposed development would have a peak parking demand of 65 spaces and the 85th percentile demand is 88 spaces. This indicates that the proposed 103 spaces proposed for the residential development would be adequate to accommodate the peak parking demand.

5.0 Conclusion

The subject site is defined on the Dutchess County Tax Map as Section 6161, Block 30, Lot 151782. The proposed project consists of the construction of a three-story residential building with 58 units comprised of 29 one-bedroom units and 29 two-bedroom units. The site will be accessed via a full-movement driveway on South Hamilton Street and a 17-foot-wide emergency access driveway on Dwight Street. The development will be supported by 103 spaces inclusive of six ADA-accessible spaces. The following is noted regarding the proposed project:

- Turning movement counts were collected during a typical weekday and typical Saturday at the study intersections in July 2023 and again in January 2024. The latter encompasses school-related activity given the proximity of schools to the subject site. The January 2024 data, which is higher, was utilized in the traffic analysis herein.
- The weekday evening peak hour was the study period with the highest volume at the study intersections.
- The 85th percentile speed on Hooker Avenue and South Hamilton streets 37-mph and 35-mph, respectively, seven and five miles per hour higher than the posted speed limit. For the former, which amounts to speeds >20% above the posted speed limit, the City of Poughkeepsie could consider implementing speed mitigation measures and/or increasing enforcement to address the issue.
- CM recommends that the City of Poughkeepsie evaluate the red clearance time at the intersection of Hooker Avenue/South Hamilton Street/Montgomery Street based on a review of the collision data.
- The development is expected to generate a total of 41 trips during the AM peak hour, a total of 28 trips during the school dismissal peak hour, a total of 45 trips during the PM peak hour, and a total of 24 trips during the Saturday midday peak hour.
- The level of service analysis indicates that the Build condition of the study intersections will operate at the levels of service consistent with the No-Build conditions. LOS A and LOS B are optimal operating levels and considered acceptable.

[5] Multifamily Dwelling – 1.5 spaces/1-bedroom + 2 spaces/2-bedroom apartment = 1.5*29 + 2 * 29 = 102 spaces required.

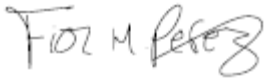
- There is adequate capacity in the adjacent roadways and subject intersections to accommodate the project. The proposed development is expected to have little to no adverse impact on the surrounding roadway network.
- The site provides 103 parking spaces, which exceeds the City of Poughkeepsie parking requirements.

Please do not hesitate to call our office if you have any questions or comments, or require additional information.

Respectfully submitted,
Creighton Manning Engineering, LLP

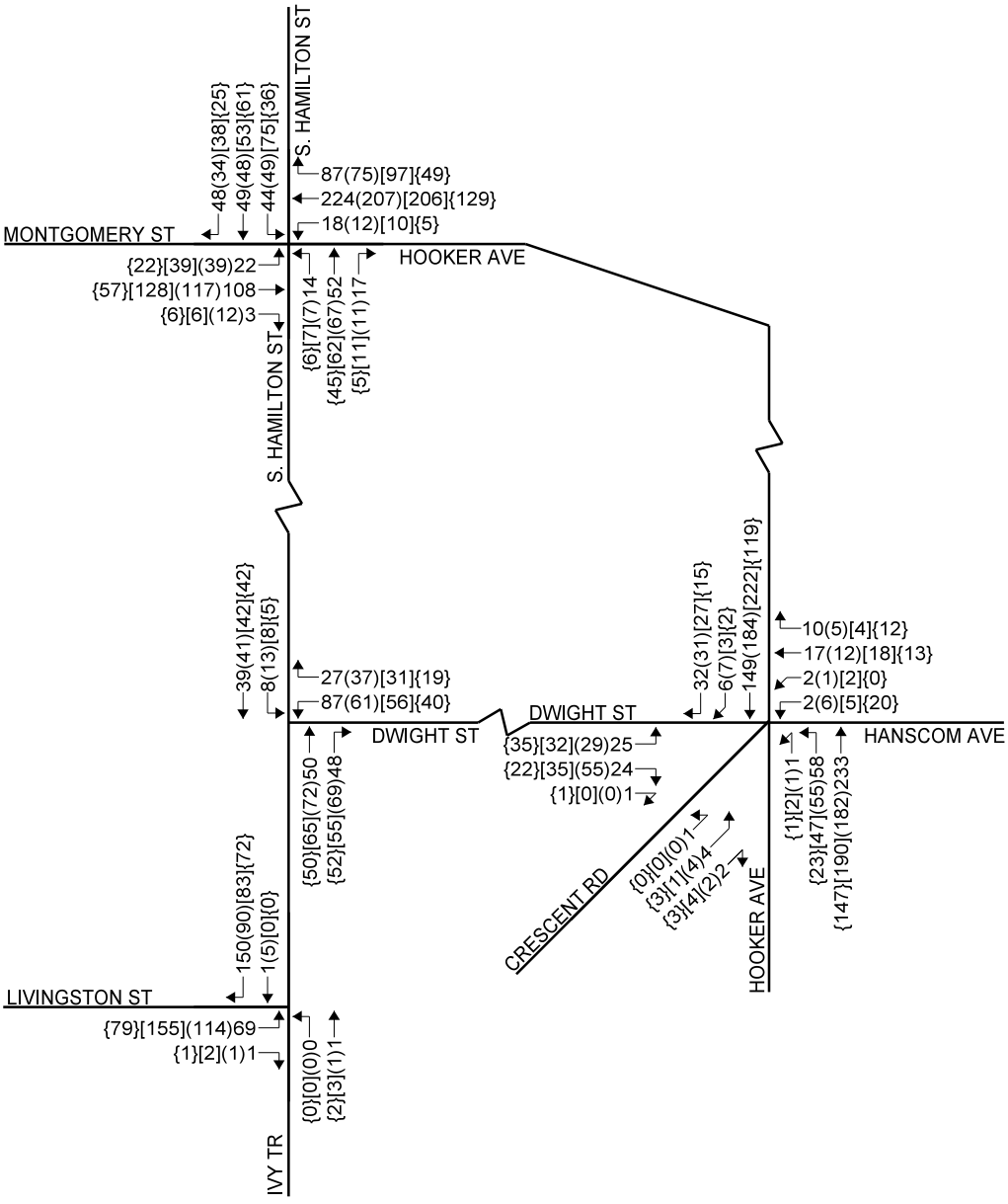


Frank A. Filiciotto, PE
Associate



Fior M. Perez, EIT
Assistant Project Engineer

cc:



WEEKDAY AM (WEEKDAY SCHOOL DISMISSAL) [WEEKDAY PM] {SATURDAY MIDDAY}

2024 EXISTING
TRAFFIC VOLUMES

ONE KEY DEVELOPMENT, LLC
CITY OF POUGHKEEPSIE
DUTCHESS COUNTY, NEW YORK

Creighton Manning

PROJECT: 123-200	DATE: 01/2024	FIGURE: 1

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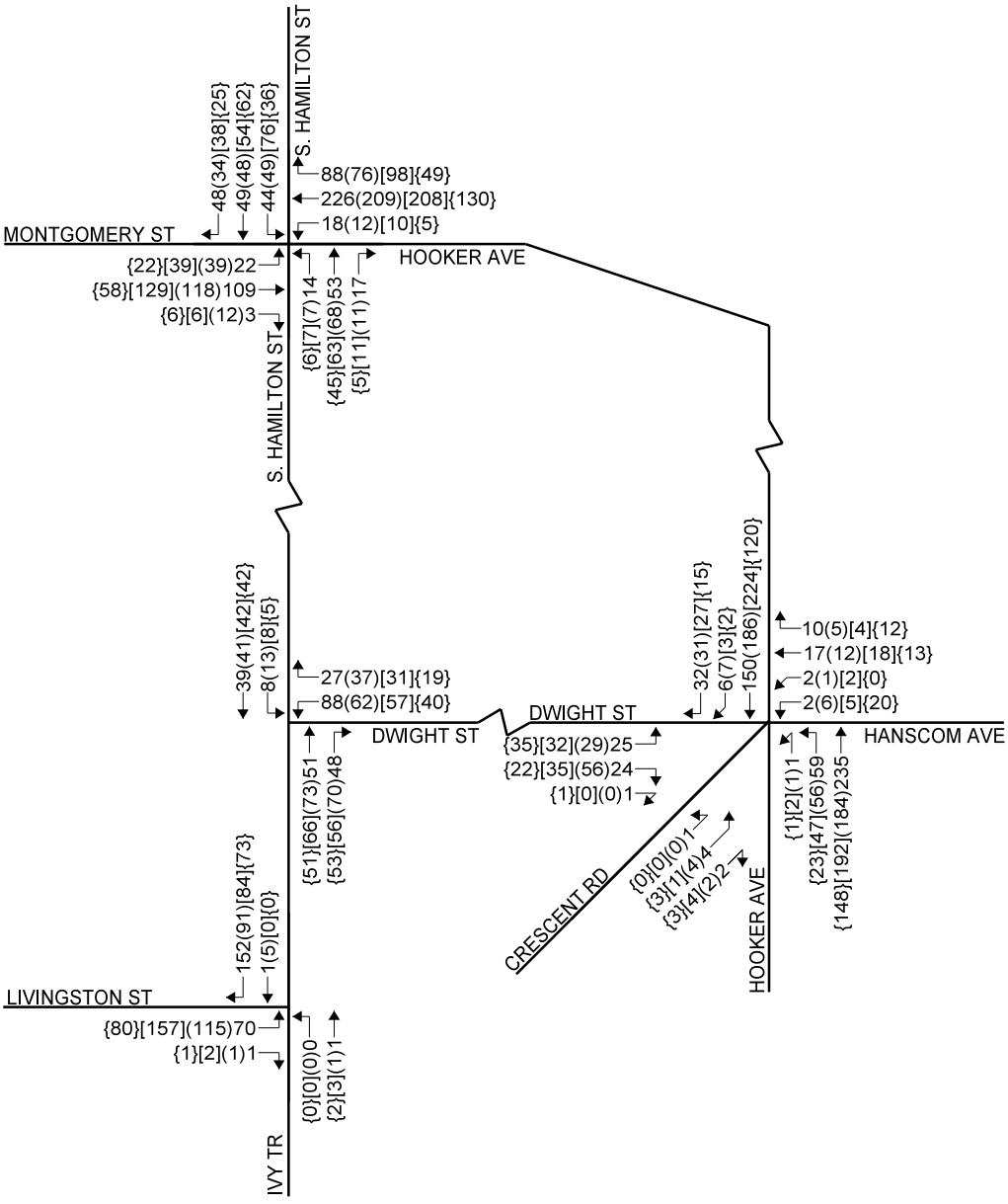

WEEKDAY AM (WEEKDAY SCHOOL DISMISSAL) [WEEKDAY PM] {SATURDAY MIDDAY}

2026 NO-BUILD
TRAFFIC VOLUMES

ONE KEY DEVELOPMENT, LLC
CITY OF POUGHKEEPSIE
DUTCHESS COUNTY, NEW YORK

Creighton Manning

PROJECT: 123-200	DATE: 01/2024	FIGURE: 2

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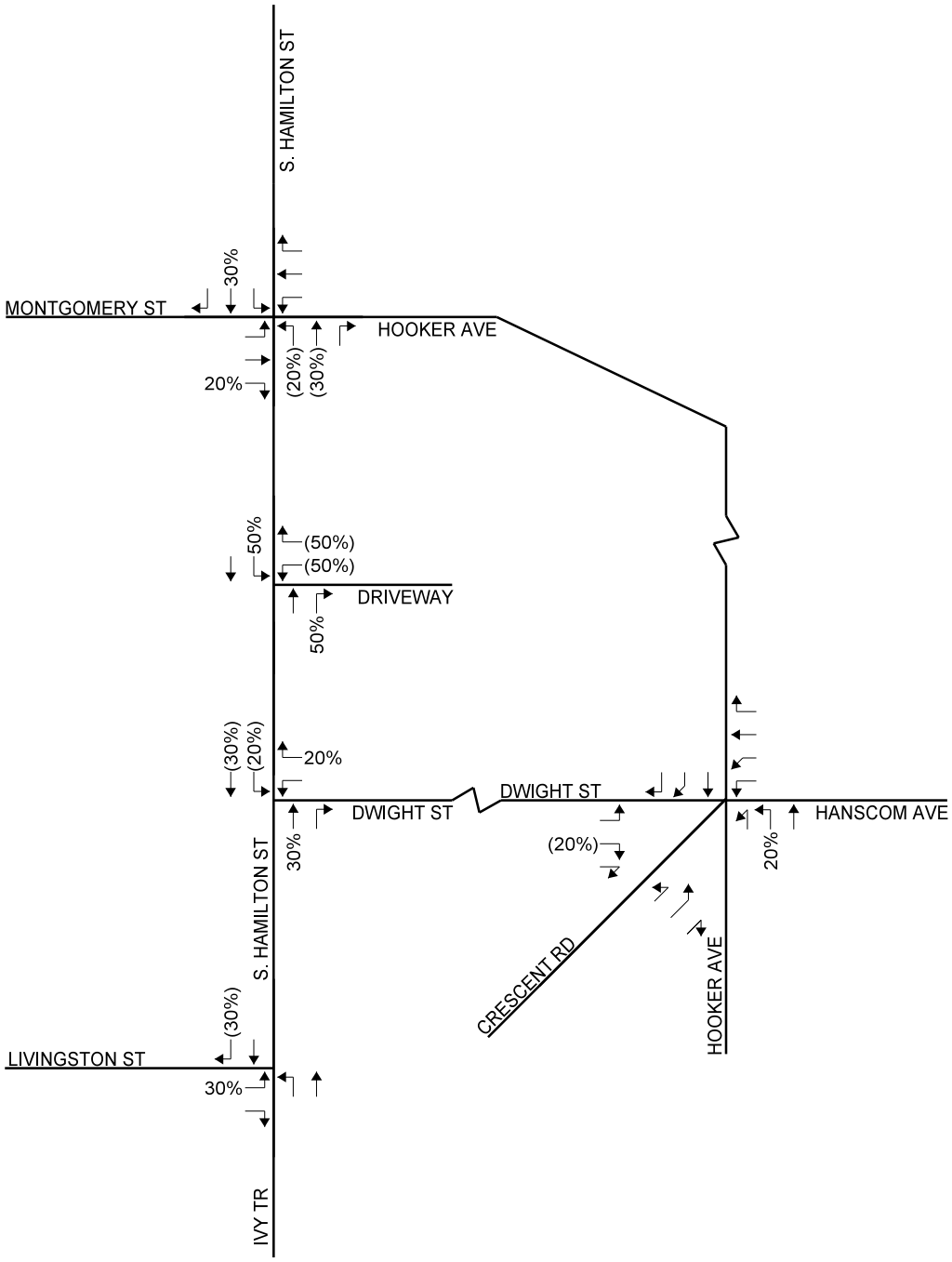

ENTERING(EXITING)

TRIP DISTRIBUTION

ONE KEY DEVELOPMENT, LLC
CITY OF POUGHKEEPSIE
DUTCHESS COUNTY, NEW YORK

Creighton Manning

PROJECT: 123-200	DATE: 01/2024	FIGURE: 3

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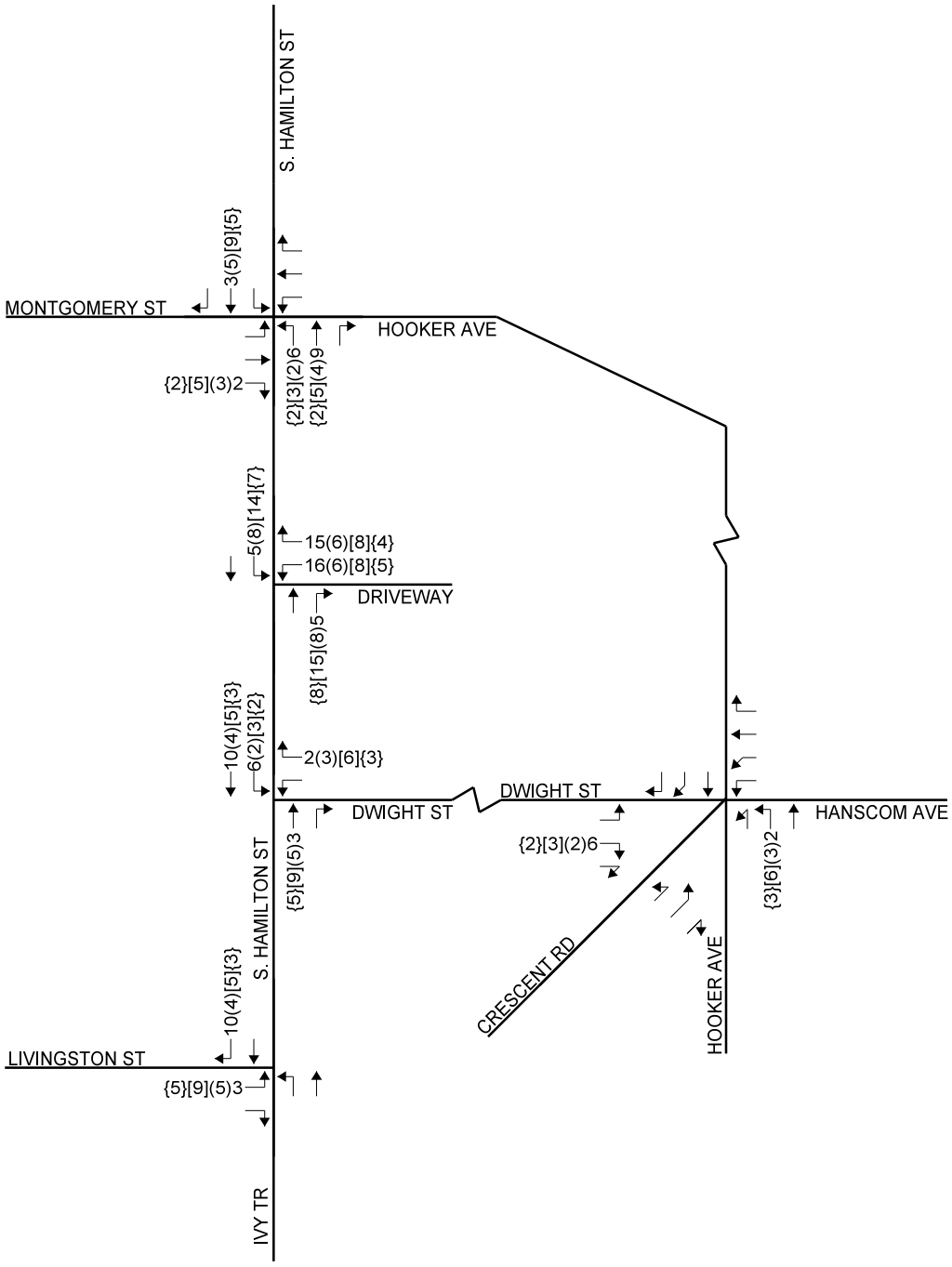

WEEKDAY AM (WEEKDAY SCHOOL DISMISSAL) [WEEKDAY PM] {SATURDAY MIDDAY}

TRIP ASSIGNMENT

ONE KEY DEVELOPMENT, LLC
CITY OF POUGHKEEPSIE
DUTCHESS COUNTY, NEW YORK

Creighton Manning

PROJECT: 123-200	DATE: 01/2024	FIGURE: 4

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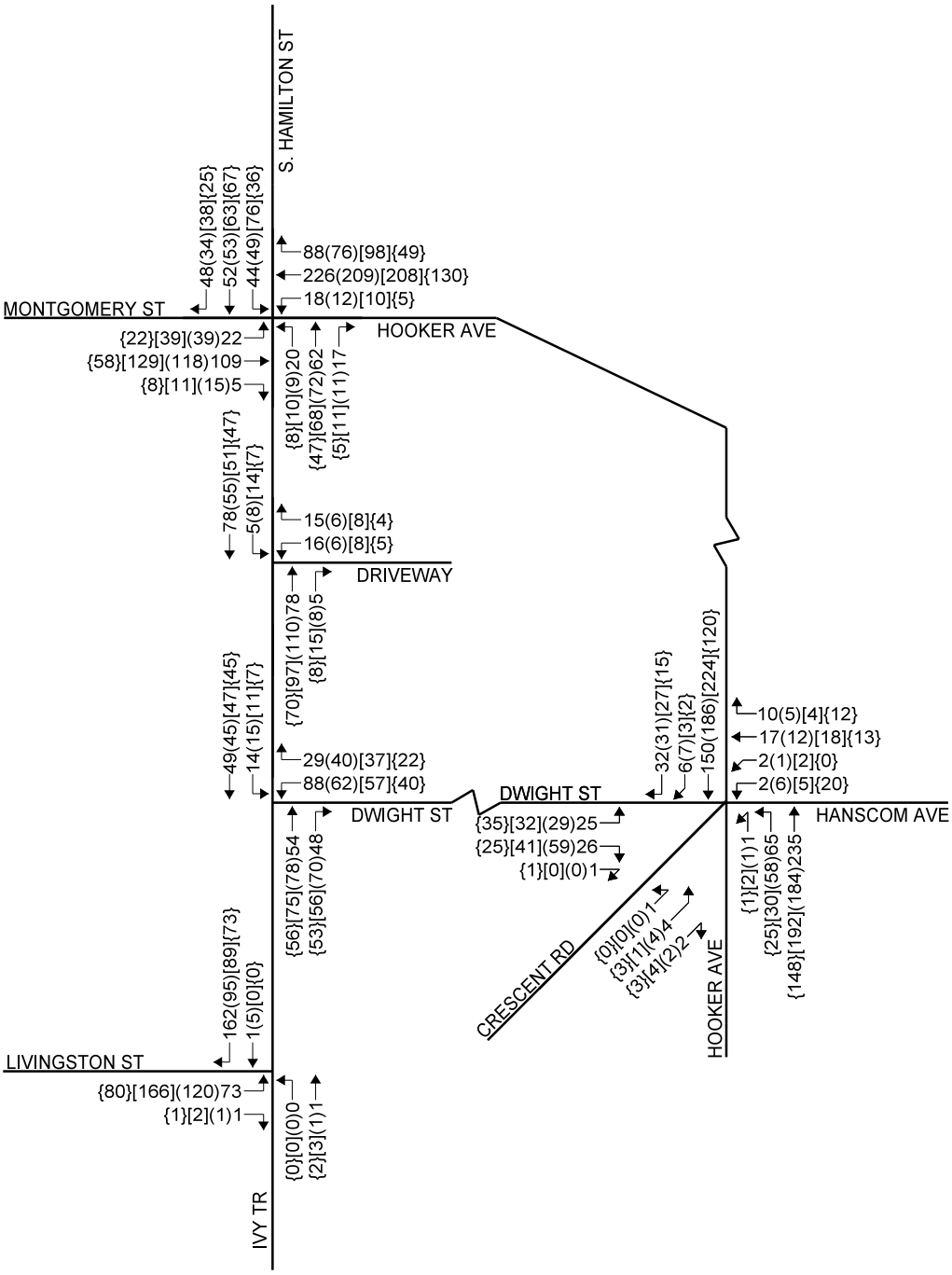


WEEKDAY AM (WEEKDAY SCHOOL DISMISSAL) [WEEKDAY PM] {SATURDAY MIDDAY}

2026 BUILD
TRAFFIC VOLUMES

ONE KEY DEVELOPMENT, LLC
CITY OF POUGHKEEPSIE
DUTCHESS COUNTY, NEW YORK

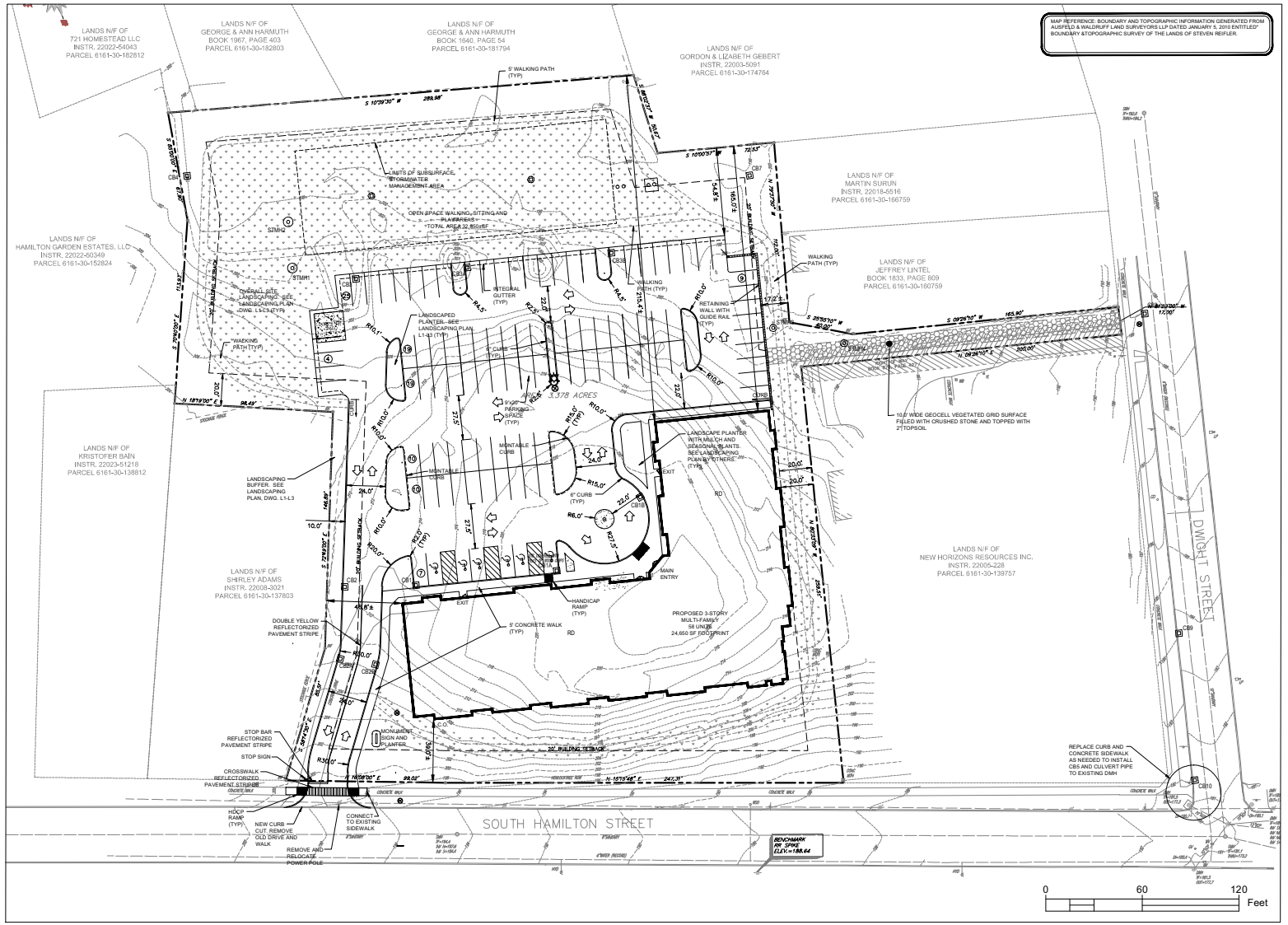
Creighton Manning

PROJECT: 123-200	DATE: 01/2024	FIGURE: 5

N:\Projects\2023\123-200 One Key Development - Poughkeepsie\Working\CADD\dgn\figures\123-200_traf_fig_01.dgn

ATTACHMENT A
CONCEPT PLAN

City of Poughkeepsie
Dutchess County, New York



SITE LAYOUT PLAN

SCALE: 1" = 30'

PRIOR TO START OF CONSTRUCTION OR EXCAVATION, TREES TO BE RETAINED SHALL BE PROTECTED BY SILT FENCE, SNOW FENCE, CONSTRUCTION FENCE, OR EQUAL, WHICH WILL BE PLACED AT THE DRIP LINE OR SEVERAL FEET BEYOND. HOWEVER, THE FENCING SHALL NOT CROSS PUBLIC SIDEWALKS. NO STORAGE OR STOCKPILING OF CONSTRUCTION MATERIALS, DEBRIS OR EQUIPMENT SHALL OCCUR WITHIN THE FENCED AREA.

Fire Chief

Police Chief

Building Inspector

City Engineer

Commissioner of Public Works

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:

OFFICIALLY APPROVED at the Planning Board meeting held the ____ day of _____ 2____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S):

☐ ISSUED FOR REVIEW
☐ NOT FOR CONSTRUCTION
☐ RECORD PLANS

DATE SUBMITTED:

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	PER CITY COMMENTS	DFA	04.04.23
2	REVISED LANDSCAPING	DFA	05.03.23
3	REVISED PER CITY COMMENTS	DFA	10.03.23
4	REVISED PER CITY COMMENTS	DFA	03.16.24

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DAVID F. ARICO, P.E. 083136

ARICO & ASSOCIATES
ENGINEERS
LAND PLANNERS
& CONSULTANTS
1407 Route 9, Bldg 2 Suite 6, Clifton Park, New York 12065
518.973.6988 aricoassociates@gmail.com

CITY OF POUGHKEEPSIE COUNTY OF DUTCHESS

LAYOUT PLAN
SOUTH HAMILTON

TAX MAP: 6161-30-151783

DATE: JANUARY 2023
JOB NO. 22.10
SCALE: AS NOTED
DRAWN BY: DFA
CHECKED BY: DFA
DRAWING NO.

S1

SHEET 2 OF 16

ATTACHMENT B
MV-104 Forms

City of Poughkeepsie
Dutchess County, New York

Page 1 of 2 Pages

Local Codes: 01839LWW26

New York State Department of Motor Vehicles

POLICE ACCIDENT REPORT

MV-104A (6/04)

☐ AMENDED REPORT DMV COPY

37918995

Accident Date Month	Day	Year	Day of Week	Military Time	No. of Vehicles	No. Injured	No. Killed	Not Investigated at Scene	Accident Reconstructed	Left Scene	Police Photos
05	31	2019	Fri	2254	2	1	0	☐	☐	☒	☐ Yes ☒ No

VEHICLE 1

VEHICLE 1 - Driver License ID Number: State of Lic.: NY

Driver Name -exactly as printed on license: LSA

Address (*Include Number & Street*): Apt. No.:

City or Town: State: NY Zip Code:

Date of Birth Month	Day	Year	Sex	Unlicensed	No. of Occupants	Public Property Damaged
			U	☐	1	☐

Name–exactly as printed on registration: LSA Sex: Date of Birth Month / Day / Year:

Address (*Include Number & Street*): Apt. No.: Haz. Mat Code: - Released: ☐

City or Town: State: NY Zip Code:

Plate Number	State of Reg.	Vehicle Year & Make	Vehicle Type	Ins. Code
UNKNOWN	OT		-	

Ticket/Arrest Number(s):

Violation Section(s):

VEHICLE 2 ☐ BICYCLIST ☒ PEDESTRIAN ☐ OTHER PEDESTRIAN

VEHICLE 2 - Driver License ID Number: State of Lic.:

Driver Name - exactly as printed on license:

Address (*Include Number & Street*): Apt. No.:

City or Town: State: Zip Code:

Date of Birth Month	Day	Year	Sex	Unlicensed	No. of Occupants	Public Property Damaged
				☐	1	☐

Name–exactly as printed on registration: Sex: Date of Birth Month / Day / Year:

Address (*Include Number & Street*): Apt. No.: Haz. Mat. Code: - Released: ☐

City or Town: State: Zip Code:

Plate Number	State of Reg.	Vehicle Year & Make	Vehicle Type	Ins. Code
	NY		PED	

Ticket/Arrest Number(s):

Violation Section(s):

VEHICLE 1

Check if involved vehicle is:
☐ more than 95 inches wide;
☐ more than 34 feet long;
☐ operated with an overweight permit;
☐ operated with an overdimension permit.

VEHICLE 1 DAMAGE CODES

Box 1 - Point of Impact Box 2 - Most Damage	1 19	2 19	
Enter up to three more Damage Codes	3	4	5

Vehicle Towed: By / To

VEHICLE 2

Check if involved vehicle is:
☐ more than 95 inches wide;
☐ more than 34 feet long;
☐ operated with an overweight permit;
☐ operated with an overdimension permit.

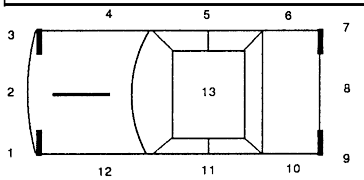
VEHICLE 2 DAMAGE CODES

Box 1 - Point of Impact Box 2 - Most Damage	1	2	
Enter up to three more Damage Codes	3	4	5

Vehicle Towed: By / To

VEHICLE DAMAGE CODING:

1-13. SEE DIAGRAM ON RIGHT.
14. UNDERCARRIAGE
15. TRAILER
16. OVERTURNED
17. DEMOLISHED
18. NO DAMAGE
19. OTHER



Circle the diagram below that describes the accident, or draw your own diagram in space #9. Number the vehicles.

Rear End	Left Turn	Right Angle	Right Turn	Head On
1.	3.		5.	7.
Sideswipe (same direction)	Left Turn		Right Turn	Sideswipe (opposite direction)
2.	0.	4.	6.	8.

ACCIDENT DIAGRAM

DIAGRAM IS PRINTED ON LAST PAGE

9.

Cost of repairs to any one vehicle will be more than $1000.
☒ Unknown/Unable to Determine ☐ Yes ☐ No

Reference Marker

Coordinates *(if available)*
Latitude/Northing:
Longitude/Easting:

Place Where Accident Occurred:

County DUTC ☒ City ☐ Village ☐ Town of POUGHKEEPSIE, CITY OF

Road on which accident occurred 82 S HAMILTON ST (Route Number or Street Name)

at 1) intersecting street (Route Number or Street Name)

or 2) 20 Feet ___ Miles ☐ N ☒ S ☐ E ☐ W of BARCLAY ST (Milepost, Nearest intersecting Route Number or Street Name)

Accident Description/Officer's Notes

PEDESTRIAN WAS EXTREMELY UNCOOPERATIVE. ONLY STATED THAT SHE WAS STRUCK BY A VEHICLE IN FRONT OF 82 S HAMILTON ST AND HAD PAIN TO HER LOWER LEFT LEG. NO VEHICLE DESCRIPTION OR DIRECTION OF TRAVEL. PEDESTRIAN WAS TRANSPORTED TO MID HUDSON REGIONAL BY MOBILE LIFE.

USE COVER SHEET: N

ALL INVOLVED

	8	9	10	11	12	13	14	15	16	17 BY	TO 18	Names of all involved	Date of Death Only
A	01	1	X	1	X	U	-	-	-			LSA	
B													
C													
D													
E													
F													

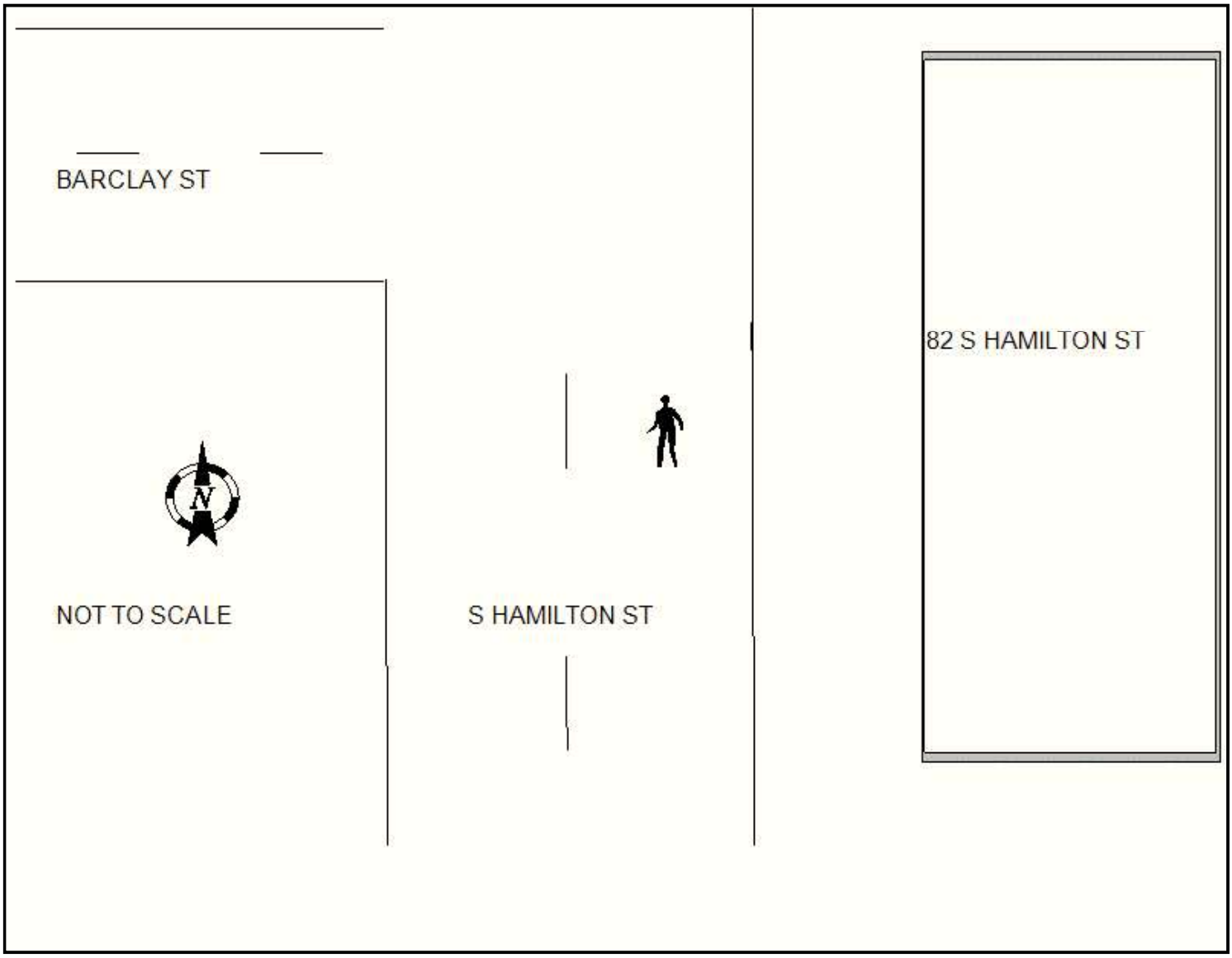
Officer's Rank and Signature	Badge/ID No.	NCIC No.	Precinct/Post Troop/Zone	Station/Beat/ Sector	Reviewing Officer	Date/Time Reviewed
POLICE OFF	6336	01302			DEIGAN, JASON	2019/06/09 19:24
Print Name in Full: BRIAN DOLAN						

New York State Department of Motor Vehicles

POLICE ACCIDENT REPORT

Accident Diagram

ACCIDENT DIAGRAM



Page 1 of 2 Pages

Local Codes: Q3PD12B54209

New York State Department of Motor Vehicles

POLICE ACCIDENT REPORT

MV-104A (6/04)

☐ AMENDED REPORT DMV COPY

38162925

Accident Date Month	Day	Year	Day of Week	Military Time	No. of Vehicles	No. Injured	No. Killed	Not Investigated at Scene ☐ / Accident Reconstructed ☐	Left Scene ☐	Police Photos ☐ Yes ☒ No
10	31	2019	Thu	1518	2	0	0			

VEHICLE 1

VEHICLE 1 - Driver License ID Number [redacted] State of Lic. NY

Driver Name -exactly as printed on license [redacted]

Address (*Include Number & Street*) [redacted] Apt. No.

City or Town [redacted] State Zip Code

Date of Birth [redacted] Sex Unlicensed ☐ No. of Occupants 1 Public Property Damaged ☐

Name–exactly as printed on registration [redacted] Sex F Date of Birth [redacted]

Address (*Include Number & Street*) [redacted] Apt. No. Haz. Mat Code - Released ☐

City or Town [redacted]

[redacted] Vehicle Year & Make 2012 HYUN Vehicle Type 4DSD Ins. Code

Ticket/Arrest Number(s)

Violation Section(s)

Check if involved vehicle is:
☐ more than 95 inches wide;
☐ more than 34 feet long;
☐ operated with an overweight permit;
☐ operated with an overdimension permit.

VEHICLE 1 DAMAGE CODES

Box 1 - Point of Impact: 3
Box 2 - Most Damage: 3
Enter up to three more Damage Codes: 3 4 5

Vehicle Towed: By To

VEHICLE 2

☐ VEHICLE 2 ☒ BICYCLIST ☐ PEDESTRIAN ☐ OTHER PEDESTRIAN

VEHICLE 2 - Driver License ID Number State of Lic.

Driver Name - exactly as printed on license J[redacted]

Address (*Include Number & Street*) [redacted] Apt. No.

City or Town [redacted] State Zip Code

Date of Birth [redacted] Sex 1 Unlicensed ☐ No. of Occupants 1 Public Property Damaged ☐

Name–exactly as printed on registration Sex Date of Birth Month Day Year

Address (*Include Number & Street*) Apt. No. Haz. Mat. Code - Released ☐

City or Town State Zip Code

Plate Number State of Reg. Vehicle Year & Make Vehicle Type BICY Ins. Code

Ticket/Arrest Number(s)

Violation Section(s)

Check if involved vehicle is:
☐ more than 95 inches wide;
☐ more than 34 feet long;
☐ operated with an overweight permit;
☐ operated with an overdimension permit.

VEHICLE 2 DAMAGE CODES

Box 1 - Point of Impact
Box 2 - Most Damage
Enter up to three more Damage Codes: 3 4 5

Vehicle Towed: By To

Circle the diagram below that describes the accident, or draw your own diagram in space #9. Number the vehicles.

Rear End 1. | Left Turn 3. | Right Angle | Right Turn 5. | Head On 7.
Sideswipe (same direction) 2. | Left Turn 0. | 4. | Right Turn 6. | Sideswipe (opposite direction) 8.

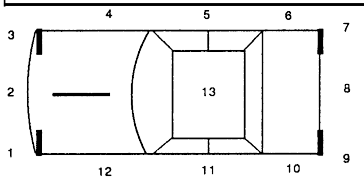
ACCIDENT DIAGRAM

DIAGRAM IS PRINTED ON LAST PAGE

9.

VEHICLE DAMAGE CODING:

1-13. SEE DIAGRAM ON RIGHT.
14. UNDERCARRIAGE
15. TRAILER
16. OVERTURNED
17. DEMOLISHED
18. NO DAMAGE
19. OTHER



Cost of repairs to any one vehicle will be more than $1000.
☒ Unknown/Unable to Determine ☐ Yes ☐ No

Reference Marker | Coordinates (*if available*) Latitude/Northing: Longitude/Easting:

Place Where Accident Occurred:

County DUTC ☒ City ☐ Village ☐ Town of POUGHKEEPSIE, CITY OF

Road on which accident occurred S HAMILTON ST (Route Number or Street Name)

at 1) intersecting street DWIGHT ST (Route Number or Street Name)

or 2) ____ Feet ____ Miles ☐ N ☐ S ☐ E ☐ W of ____ (Milepost, Nearest intersecting Route Number or Street Name)

Accident Description/Officer's Notes

V1 TRAVELING NORTH ON S HAMITON ST. BICYCLIST TRAVELING WEST ON DWIGHT ST FAILS TO STOP AT INTERSECTION OF S HAMILTON ST TURNING NORTH AND ATTEMPTING TO CROSS OVER S HAMILTON ST WHILE MAKING TURN, FAILS TO YIELD TO V1. OPERATOR OF V1 ATTEMPTS TO AVOID BICYCLIST BY MOVING INTO ONCOMING LANE BUT IS UNABLE TO AVOID COLLISION. BICYCLIST STRIKES FRONT PASSENGER SIDE HEADLIGHT OF V1.

USE COVER SHEET: N

ALL INVOLVED

	8	9	10	11	12	13	14	15	16	17 BY	TO 18	Names of all involved	Date of Death Only
A												[redacted]	
B													
C													
D													
E													
F													

Officer's Rank and Signature	Badge/ID No.	NCIC No.	Precinct/Post Troop/Zone	Station/Beat/ Sector	Reviewing Officer	Date/Time Reviewed
POLICE OFF	6423	01302			CRONK, BRYAN	2019/11/10 09:06
Print Name in Full: GREGORY SCHWARZENEGGER						

Page 1 of 2 Pages

Local Codes: Q3PD199QN2SP

New York State Department of Motor Vehicles

POLICE ACCIDENT REPORT

MV-104A (6/04)

☐ AMENDED REPORT DMV COPY

37984584

Accident Date (Month / Day / Year)	Day of Week	Military Time	No. of Vehicles	No. Injured	No. Killed	Not Investigated at Scene ☐ / Accident Reconstructed ☐	Left Scene ☐	Police Photos ☐ Yes ☒ No
07 / 06 / 2019	Sat	1830	2	1	0			

VEHICLE 1	VEHICLE 2 ☐ BICYCLIST ☒ PEDESTRIAN ☐ OTHER PEDESTRIAN
VEHICLE 1 - Driver License ID Number [redacted] State of Lic. NY	VEHICLE 2 - Driver License ID Number — State of Lic.
Driver Name -exactly as printed on license [redacted]	Driver Name - exactly as printed on license
Address (*Include Number & Street*) [redacted] Apt. No.	Address (*Include Number & Street*) — Apt. No.
[redacted]	City or Town — State — Zip Code
Date of Birth [redacted] Sex 1 Unlicensed ☐ No. of Occupants 2 Public Property Damaged ☐	Date of Birth Month / Day / Year — Sex — Unlicensed ☐ — No. of Occupants 1 — Public Property Damaged ☐
Name–exactly as printed on registration [redacted] Sex M Date of Birth [redacted]	Name–exactly as printed on registration — Sex — Date of Birth Month / Day / Year
Address (*Include Number & Street*) [redacted] Apt. No. — Haz. — Released	Address (*Include Number & Street*) — Apt. No. — Haz. Mat. Code - — Released ☐
City or Town [redacted] State — Zip Code	City or Town — State — Zip Code
Plate Number [redacted] State of Reg. NY Vehicle Year & Make 2012 CHEV Vehicle Type PICK Ins. Code	Plate Number — State of Reg. — Vehicle Year & Make — Vehicle Type PED — Ins. Code
Ticket/Arrest Number(s)	Ticket/Arrest Number(s)
Violation Section(s)	Violation Section(s)

VEHICLE 1

Check if involved vehicle is:
☐ more than 95 inches wide;
☐ more than 34 feet long;
☐ operated with an overweight permit;
☐ operated with an overdimension permit.

VEHICLE 1 DAMAGE CODES

Box 1 - Point of Impact / Box 2 - Most Damage	3 (1)	3 (2)	
Enter up to three more Damage Codes	3	4	5

Vehicle Towed: By / To

VEHICLE 2

Check if involved vehicle is:
☐ more than 95 inches wide;
☐ more than 34 feet long;
☐ operated with an overweight permit;
☐ operated with an overdimension permit.

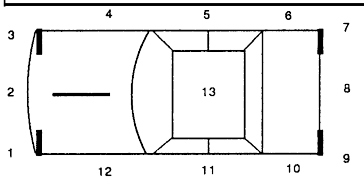
VEHICLE 2 DAMAGE CODES

Box 1 - Point of Impact / Box 2 - Most Damage	1	2	
Enter up to three more Damage Codes	3	4	5

Vehicle Towed: By / To

VEHICLE DAMAGE CODING:

1-13. SEE DIAGRAM ON RIGHT.
14. UNDERCARRIAGE
15. TRAILER
16. OVERTURNED
17. DEMOLISHED
18. NO DAMAGE
19. OTHER



Circle the diagram below that describes the accident, or draw your own diagram in space #9. Number the vehicles.

Rear End 1.	Left Turn 3.	Right Angle	Right Turn 5.	Head On 7.
Sideswipe (same direction) 2.	Left Turn 0.	4.	Right Turn 6.	Sideswipe (opposite direction) 8.

ACCIDENT DIAGRAM

DIAGRAM IS PRINTED ON LAST PAGE

9.

Cost of repairs to any one vehicle will be more than $1000.
☐ Unknown/Unable to Determine ☐ Yes ☒ No

Reference Marker	Coordinates (*if available*)
	Latitude/Northing: 589477
	Longitude/Easting: 4616866

Place Where Accident Occurred:

County DUTC ☒ City ☐ Village ☐ Town of POUGHKEEPSIE, CITY OF

Road on which accident occurred 6 HOOKER AVE (Route Number or Street Name)

at 1) intersecting street _____ (Route Number or Street Name)

or 2) 50 Feet _____ Miles ☐ N ☐ S ☒ E ☐ W of S HAMILTON ST (Milepost, Nearest intersecting Route Number or Street Name)

Accident Description/Officer's Notes

V1 OPERATOR REPORTS HE WAS TRAVELING IN A WESTERLY DIRECTION ON HOOKER AVE WHEN A PEDESTRIAN RAN OUT INFRONT OF HIS VEHICLE FROM THE NORTH IN A SOUTHERLY DIRECTION. V1 OPERATOR ATTEMPTED TO STOP AND SWERVE BUT THEN STRUCK THE PEDESTRIAN WITH THE FRONT OF THE VEHICLE. PEDESTRIAN STATES SHE WAS ATTEMPTING TO CROSS TO THE SOUTH SIDE OF HOOKER AVE AND DID NOT SEE V1 DUE TO THE HEAVY RAIN UNTIL IT WAS TOO LATE TO AVOID COLLISION. INVESTIGATION REVEALS PEDESTRIAN FAILED TO USE A CROSSWALK WHEN AVAILABLE AND FAILED TO CHECK FOR/YIELD TO TRAFFIC BEFORE CROSSING INTO THE ROADWAY.

USE COVER SHEET: N

ALL INVOLVED

	8	9	10	11	12	13	14	15	16	17 BY	TO 18	Names of all involved	Date of Death Only
A												[redacted]	
B													
C													
D													
E													
F													

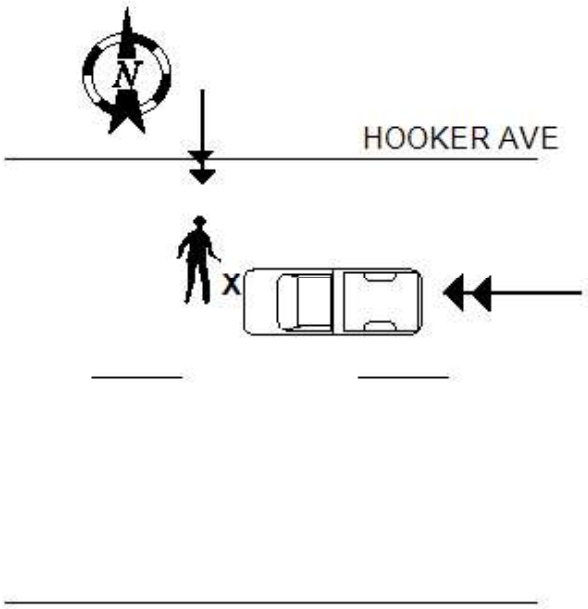
Officer's Rank and Signature	Badge/ID No.	NCIC No.	Precinct/Post Troop/Zone	Station/Beat/ Sector	Reviewing Officer	Date/Time Reviewed
PATROLMA]	6842	01302			DEIGAN, JASON	2019/07/20 19:52
Print Name in Full: ROBERT GREEN						

New York State Department of Motor Vehicles

POLICE ACCIDENT REPORT

Accident Diagram

ACCIDENT DIAGRAM



ATTACHMENT C
TURNING MOVEMENT COUNTS

City of Poughkeepsie
Dutchess County, New York

123-200 S Hamilton St and Dwight St AM - TMC

Wed Jan 10, 2024
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148238, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

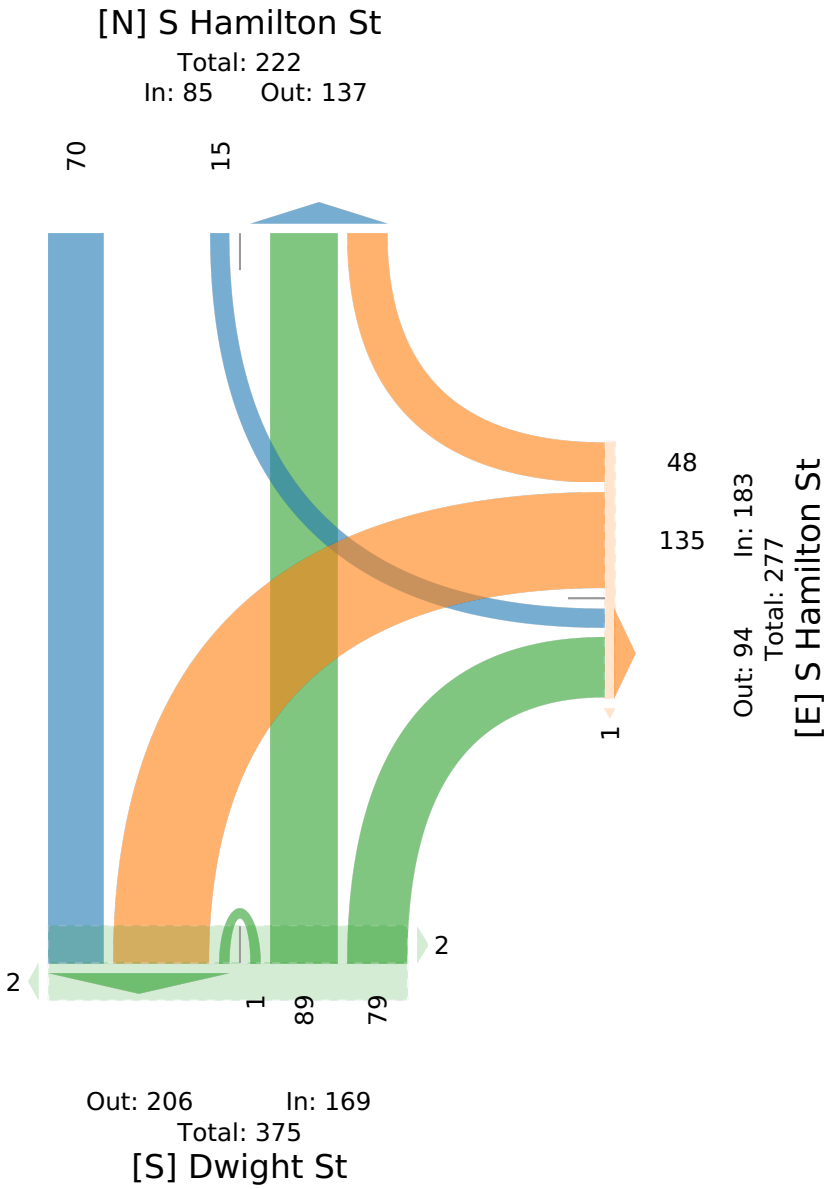
Leg Direction	S Hamilton St Westbound					Dwight St Northbound					S Hamilton St Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
2024-01-10 7:00AM	10	3	0	**13**	0	3	5	1	**9**	1	2	4	0	**6**	0	**28**
7:15AM	11	6	0	**17**	0	12	5	0	**17**	0	2	8	0	**10**	0	**44**
7:30AM	13	7	0	**20**	0	9	13	0	**22**	0	2	13	0	**15**	0	**57**
7:45AM	18	6	0	**24**	0	14	12	0	**26**	0	4	8	0	**12**	0	**62**
Hourly Total	52	22	0	**74**	0	38	35	1	**74**	1	10	33	0	**43**	0	**191**
8:00AM	21	6	0	**27**	1	11	13	0	**24**	2	2	15	0	**17**	0	**68**
8:15AM	27	5	0	**32**	0	12	12	0	**24**	0	0	9	0	**9**	0	**65**
8:30AM	21	10	0	**31**	0	13	11	0	**24**	1	2	7	0	**9**	0	**64**
8:45AM	14	5	0	**19**	0	15	8	0	**23**	0	1	6	0	**7**	0	**49**
Hourly Total	83	26	0	**109**	1	51	44	0	**95**	3	5	37	0	**42**	0	**246**
9:00AM	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Total	135	48	0	**183**	1	89	79	1	**169**	4	15	70	0	**85**	0	**437**
% Approach	73.8%	26.2%	0%	**-**	-	52.7%	46.7%	0.6%	**-**	-	17.6%	82.4%	0%	**-**	-	-
% Total	30.9%	11.0%	0%	**41.9%**	-	20.4%	18.1%	0.2%	**38.7%**	-	3.4%	16.0%	0%	**19.5%**	-	-
Lights	132	44	0	**176**	-	83	72	1	**156**	-	13	69	0	**82**	-	414
% Lights	97.8%	91.7%	0%	**96.2%**	-	93.3%	91.1%	100%	**92.3%**	-	86.7%	98.6%	0%	**96.5%**	-	94.7%
Articulated Trucks and Single-Unit Trucks	0	1	0	**1**	-	2	3	0	**5**	-	1	1	0	**2**	-	8
% Articulated Trucks and Single-Unit Trucks	0%	2.1%	0%	**0.5%**	-	2.2%	3.8%	0%	**3.0%**	-	6.7%	1.4%	0%	**2.4%**	-	1.8%
Buses	3	3	0	**6**	-	3	4	0	**7**	-	1	0	0	**1**	-	14
% Buses	2.2%	6.3%	0%	**3.3%**	-	3.4%	5.1%	0%	**4.1%**	-	6.7%	0%	0%	**1.2%**	-	3.2%
Bicycles on Road	0	0	0	**0**	-	1	0	0	**1**	-	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	**0%**	-	1.1%	0%	0%	**0.6%**	-	0%	0%	0%	**0%**	-	0.2%
Pedestrians	-	-	-	-	1	-	-	-	-	4	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Dwight St AM - TMC

Wed Jan 10, 2024
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148238, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Dwight St AM - TMC

Wed Jan 10, 2024
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148238, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

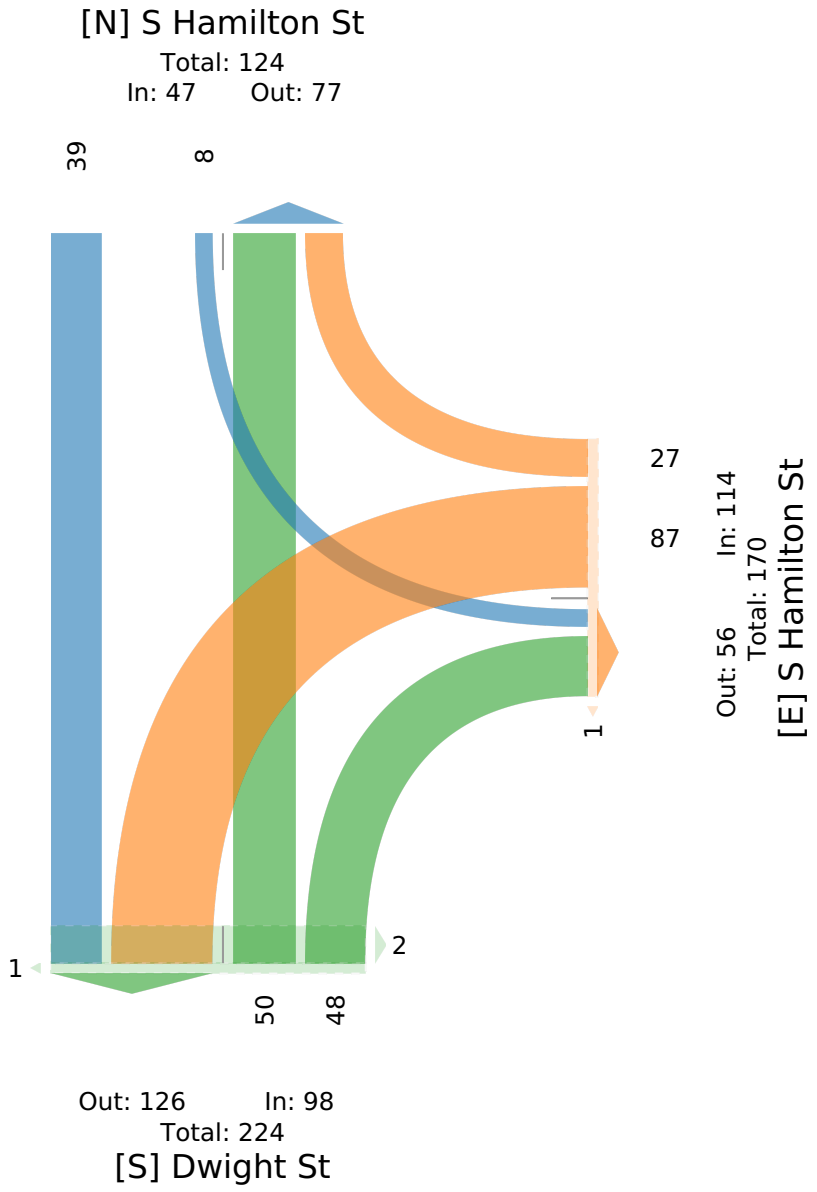
Leg / Direction	S Hamilton St Westbound					Dwight St Northbound					S Hamilton St Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
2024-01-10 7:45AM	18	6	0	**24**	0	14	12	0	**26**	0	4	8	0	**12**	0	**62**
8:00AM	21	6	0	**27**	1	11	13	0	**24**	2	2	15	0	**17**	0	**68**
8:15AM	27	5	0	**32**	0	12	12	0	**24**	0	0	9	0	**9**	0	**65**
8:30AM	21	10	0	**31**	0	13	11	0	**24**	1	2	7	0	**9**	0	**64**
Total	87	27	0	**114**	1	50	48	0	**98**	3	8	39	0	**47**	0	**259**
% Approach	76.3%	23.7%	0%	**-**	-	51.0%	49.0%	0%	**-**	-	17.0%	83.0%	0%	**-**	-	-
% Total	33.6%	10.4%	0%	**44.0%**	-	19.3%	18.5%	0%	**37.8%**	-	3.1%	15.1%	0%	**18.1%**	-	-
PHF	0.806	0.675	-	**0.891**	-	0.893	0.923	-	**0.942**	-	0.500	0.650	-	**0.691**	-	0.952
Lights	85	24	0	**109**	-	48	44	0	**92**	-	7	38	0	**45**	-	246
% Lights	97.7%	88.9%	0%	**95.6%**	-	96.0%	91.7%	0%	**93.9%**	-	87.5%	97.4%	0%	**95.7%**	-	95.0%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	-	1	3	0	**4**	-	0	1	0	**1**	-	5
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	-	2.0%	6.3%	0%	**4.1%**	-	0%	2.6%	0%	**2.1%**	-	1.9%
Buses	2	3	0	**5**	-	1	1	0	**2**	-	1	0	0	**1**	-	8
% Buses	2.3%	11.1%	0%	**4.4%**	-	2.0%	2.1%	0%	**2.0%**	-	12.5%	0%	0%	**2.1%**	-	3.1%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	1	-	-	-	-	3	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Dwight St AM - TMC

Wed Jan 10, 2024
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148238, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Dwight St PM - TMC

Wed Jan 10, 2024
Full Length (2 PM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148241, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg Direction	Dwight St Westbound					S Hamilton Northbound					S Hamilton Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
2024-01-10 2:00PM	7	5	0	**12**	0	20	2	0	**22**	2	0	4	0	**4**	0	**38**
2:15PM	14	7	0	**21**	0	12	9	0	**21**	0	2	13	0	**15**	0	**57**
2:30PM	17	7	0	**24**	0	6	18	0	**24**	2	6	11	0	**17**	0	**65**
2:45PM	19	8	0	**27**	0	33	24	0	**57**	1	1	16	0	**17**	0	**101**
Hourly Total	57	27	0	**84**	0	71	53	0	**124**	5	9	44	0	**53**	0	**261**
3:00PM	13	10	0	**23**	0	15	17	0	**32**	1	2	9	0	**11**	0	**66**
3:15PM	12	12	0	**24**	1	18	10	0	**28**	3	4	5	0	**9**	0	**61**
3:30PM	10	11	0	**21**	1	14	11	0	**25**	1	0	8	0	**8**	0	**54**
3:45PM	18	6	0	**24**	2	19	24	0	**43**	0	1	6	0	**7**	0	**74**
Hourly Total	53	39	0	**92**	4	66	62	0	**128**	5	7	28	0	**35**	0	**255**
4:00PM	10	3	0	**13**	0	19	22	0	**41**	0	0	13	0	**13**	0	**67**
4:15PM	11	11	0	**22**	0	12	14	0	**26**	0	5	8	0	**13**	0	**61**
4:30PM	10	9	0	**19**	1	13	19	0	**32**	0	3	11	0	**14**	0	**65**
4:45PM	14	10	0	**24**	0	13	9	0	**22**	0	2	8	0	**10**	0	**56**
Hourly Total	45	33	0	**78**	1	57	64	0	**121**	0	10	40	0	**50**	0	**249**
5:00PM	13	3	0	**16**	0	18	14	0	**32**	0	2	14	0	**16**	0	**64**
5:15PM	19	9	0	**28**	0	21	13	0	**34**	0	1	9	0	**10**	0	**72**
5:30PM	12	6	0	**18**	0	9	15	0	**24**	0	0	12	0	**12**	0	**54**
5:45PM	9	7	0	**16**	0	12	7	0	**19**	1	2	14	0	**16**	0	**51**
Hourly Total	53	25	0	**78**	0	60	49	0	**109**	1	5	49	0	**54**	0	**241**
6:00PM	9	8	0	**17**	0	13	11	0	**24**	2	0	15	0	**15**	0	**56**
6:15PM	15	2	0	**17**	0	8	10	0	**18**	1	2	13	0	**15**	0	**50**
6:30PM	8	5	0	**13**	0	10	7	0	**17**	0	4	9	0	**13**	0	**43**
6:45PM	8	2	0	**10**	2	16	8	0	**24**	0	1	8	0	**9**	0	**43**
Hourly Total	40	17	0	**57**	2	47	36	0	**83**	3	7	45	0	**52**	0	**192**
Total	248	141	0	**389**	7	301	264	0	**565**	14	38	206	0	**244**	0	**1198**
% Approach	63.8%	36.2%	0%	**-**	-	53.3%	46.7%	0%	**-**	-	15.6%	84.4%	0%	**-**	-	-
% Total	20.7%	11.8%	0%	**32.5%**	-	25.1%	22.0%	0%	**47.2%**	-	3.2%	17.2%	0%	**20.4%**	-	-
Lights	243	134	0	**377**	-	296	259	0	**555**	-	36	204	0	**240**	-	1172
% Lights	98.0%	95.0%	0%	**96.9%**	-	98.3%	98.1%	0%	**98.2%**	-	94.7%	99.0%	0%	**98.4%**	-	97.8%
Articulated Trucks and Single-Unit Trucks	2	0	0	**2**	-	2	0	0	**2**	-	1	2	0	**3**	-	7
% Articulated Trucks and Single-Unit Trucks	0.8%	0%	0%	**0.5%**	-	0.7%	0%	0%	**0.4%**	-	2.6%	1.0%	0%	**1.2%**	-	0.6%
Buses	2	7	0	**9**	-	3	4	0	**7**	-	1	0	0	**1**	-	17
% Buses	0.8%	5.0%	0%	**2.3%**	-	1.0%	1.5%	0%	**1.2%**	-	2.6%	0%	0%	**0.4%**	-	1.4%
Bicycles on Road	1	0	0	**1**	-	0	1	0	**1**	-	0	0	0	**0**	-	2
% Bicycles on Road	0.4%	0%	0%	**0.3%**	-	0%	0.4%	0%	**0.2%**	-	0%	0%	0%	**0%**	-	0.2%
Pedestrians	-	-	-	-	7	-	-	-	-	14	-	-	-	-	0	

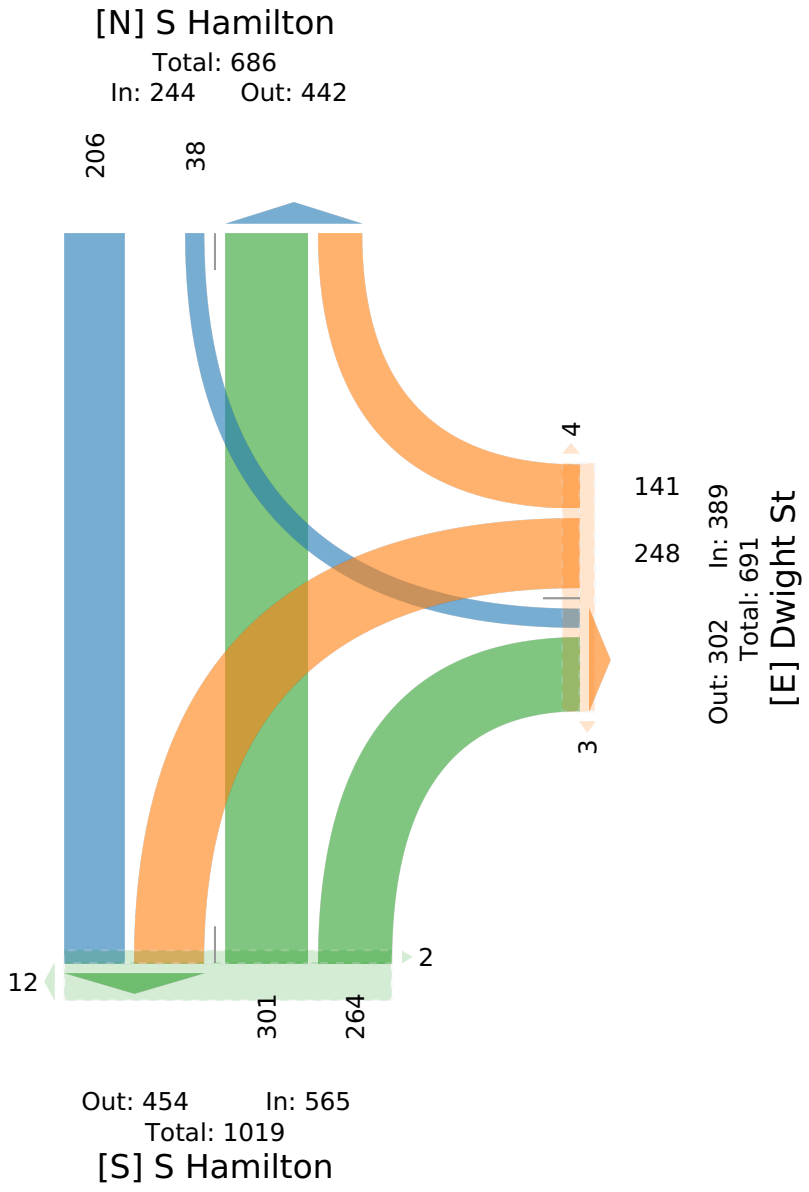
Leg	Dwight St					S Hamilton					S Hamilton					
Direction	Westbound					Northbound					Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Dwight St PM - TMC

Wed Jan 10, 2024
Full Length (2 PM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148241, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Dwight St PM - TMC

Wed Jan 10, 2024
PM Peak (2:30 PM - 3:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148241, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

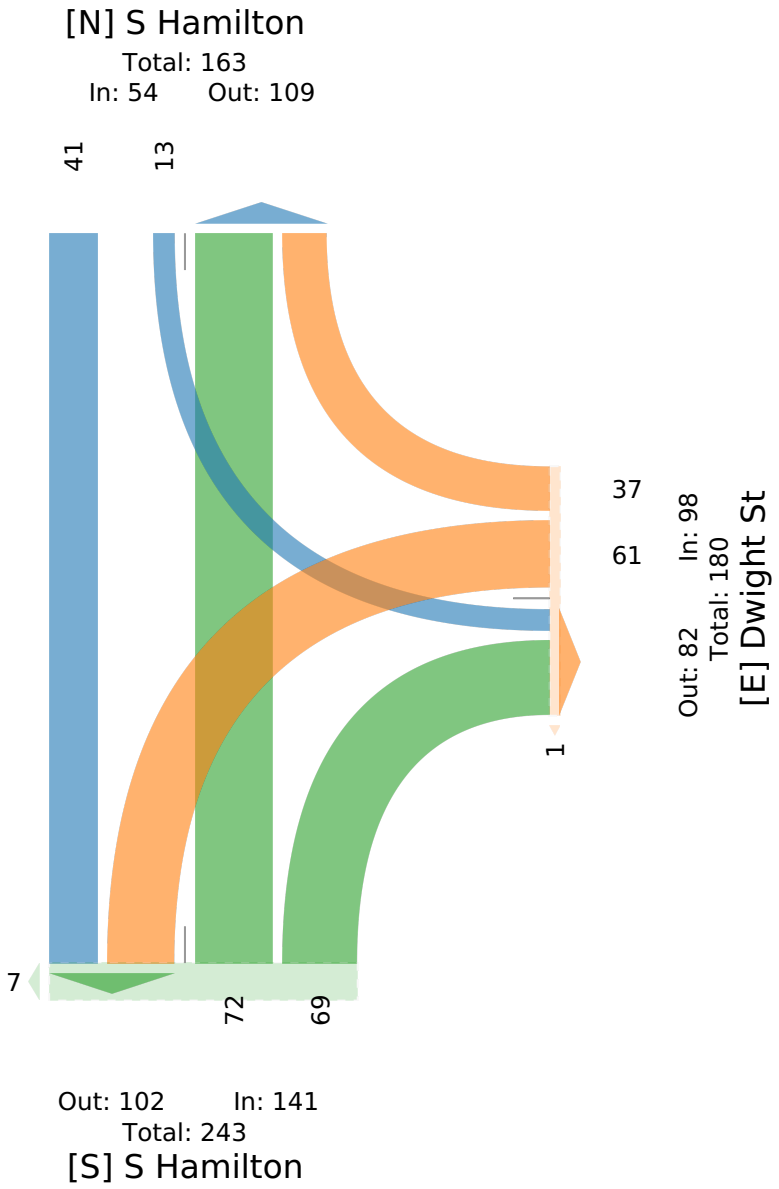
Leg Direction	Dwight St Westbound					S Hamilton Northbound					S Hamilton Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
2024-01-10 2:30PM	17	7	0	**24**	0	6	18	0	**24**	2	6	11	0	**17**	0	**65**
2:45PM	19	8	0	**27**	0	33	24	0	**57**	1	1	16	0	**17**	0	**101**
3:00PM	13	10	0	**23**	0	15	17	0	**32**	1	2	9	0	**11**	0	**66**
3:15PM	12	12	0	**24**	1	18	10	0	**28**	3	4	5	0	**9**	0	**61**
Total	61	37	0	**98**	1	72	69	0	**141**	7	13	41	0	**54**	0	**293**
% Approach	62.2%	37.8%	0%	**-**	-	51.1%	48.9%	0%	**-**	-	24.1%	75.9%	0%	**-**	-	-
% Total	20.8%	12.6%	0%	**33.4%**	-	24.6%	23.5%	0%	**48.1%**	-	4.4%	14.0%	0%	**18.4%**	-	-
PHF	0.803	0.771	-	**0.907**	-	0.545	0.719	-	**0.618**	-	0.542	0.641	-	**0.794**	-	0.725
Lights	58	33	0	**91**	-	68	68	0	**136**	-	11	41	0	**52**	-	279
% Lights	95.1%	89.2%	0%	**92.9%**	-	94.4%	98.6%	0%	**96.5%**	-	84.6%	100%	0%	**96.3%**	-	95.2%
Articulated Trucks and Single-Unit Trucks	2	0	0	**2**	-	1	0	0	**1**	-	1	0	0	**1**	-	4
% Articulated Trucks and Single-Unit Trucks	3.3%	0%	0%	**2.0%**	-	1.4%	0%	0%	**0.7%**	-	7.7%	0%	0%	**1.9%**	-	1.4%
Buses	1	4	0	**5**	-	3	1	0	**4**	-	1	0	0	**1**	-	10
% Buses	1.6%	10.8%	0%	**5.1%**	-	4.2%	1.4%	0%	**2.8%**	-	7.7%	0%	0%	**1.9%**	-	3.4%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	1	-	-	-	-	7	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Dwight St PM - TMC

Wed Jan 10, 2024
PM Peak (2:30 PM - 3:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148241, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Dwight St PM - TMC

Wed Jan 10, 2024
Full Length (2 PM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148241, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg Direction	Dwight St Westbound					S Hamilton Northbound					S Hamilton Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
2024-01-10 2:00PM	7	5	0	**12**	0	20	2	0	**22**	2	0	4	0	**4**	0	**38**
2:15PM	14	7	0	**21**	0	12	9	0	**21**	0	2	13	0	**15**	0	**57**
2:30PM	17	7	0	**24**	0	6	18	0	**24**	2	6	11	0	**17**	0	**65**
2:45PM	19	8	0	**27**	0	33	24	0	**57**	1	1	16	0	**17**	0	**101**
Hourly Total	57	27	0	**84**	0	71	53	0	**124**	5	9	44	0	**53**	0	**261**
3:00PM	13	10	0	**23**	0	15	17	0	**32**	1	2	9	0	**11**	0	**66**
3:15PM	12	12	0	**24**	1	18	10	0	**28**	3	4	5	0	**9**	0	**61**
3:30PM	10	11	0	**21**	1	14	11	0	**25**	1	0	8	0	**8**	0	**54**
3:45PM	18	6	0	**24**	2	19	24	0	**43**	0	1	6	0	**7**	0	**74**
Hourly Total	53	39	0	**92**	4	66	62	0	**128**	5	7	28	0	**35**	0	**255**
4:00PM	10	3	0	**13**	0	19	22	0	**41**	0	0	13	0	**13**	0	**67**
4:15PM	11	11	0	**22**	0	12	14	0	**26**	0	5	8	0	**13**	0	**61**
4:30PM	10	9	0	**19**	1	13	19	0	**32**	0	3	11	0	**14**	0	**65**
4:45PM	14	10	0	**24**	0	13	9	0	**22**	0	2	8	0	**10**	0	**56**
Hourly Total	45	33	0	**78**	1	57	64	0	**121**	0	10	40	0	**50**	0	**249**
5:00PM	13	3	0	**16**	0	18	14	0	**32**	0	2	14	0	**16**	0	**64**
5:15PM	19	9	0	**28**	0	21	13	0	**34**	0	1	9	0	**10**	0	**72**
5:30PM	12	6	0	**18**	0	9	15	0	**24**	0	0	12	0	**12**	0	**54**
5:45PM	9	7	0	**16**	0	12	7	0	**19**	1	2	14	0	**16**	0	**51**
Hourly Total	53	25	0	**78**	0	60	49	0	**109**	1	5	49	0	**54**	0	**241**
6:00PM	9	8	0	**17**	0	13	11	0	**24**	2	0	15	0	**15**	0	**56**
6:15PM	15	2	0	**17**	0	8	10	0	**18**	1	2	13	0	**15**	0	**50**
6:30PM	8	5	0	**13**	0	10	7	0	**17**	0	4	9	0	**13**	0	**43**
6:45PM	8	2	0	**10**	2	16	8	0	**24**	0	1	8	0	**9**	0	**43**
Hourly Total	40	17	0	**57**	2	47	36	0	**83**	3	7	45	0	**52**	0	**192**
Total	248	141	0	**389**	7	301	264	0	**565**	14	38	206	0	**244**	0	**1198**
% Approach	63.8%	36.2%	0%	**-**	-	53.3%	46.7%	0%	**-**	-	15.6%	84.4%	0%	**-**	-	-
% Total	20.7%	11.8%	0%	**32.5%**	-	25.1%	22.0%	0%	**47.2%**	-	3.2%	17.2%	0%	**20.4%**	-	-
Lights	243	134	0	**377**	-	296	259	0	**555**	-	36	204	0	**240**	-	1172
% Lights	98.0%	95.0%	0%	**96.9%**	-	98.3%	98.1%	0%	**98.2%**	-	94.7%	99.0%	0%	**98.4%**	-	97.8%
Articulated Trucks and Single-Unit Trucks	2	0	0	**2**	-	2	0	0	**2**	-	1	2	0	**3**	-	7
% Articulated Trucks and Single-Unit Trucks	0.8%	0%	0%	**0.5%**	-	0.7%	0%	0%	**0.4%**	-	2.6%	1.0%	0%	**1.2%**	-	0.6%
Buses	2	7	0	**9**	-	3	4	0	**7**	-	1	0	0	**1**	-	17
% Buses	0.8%	5.0%	0%	**2.3%**	-	1.0%	1.5%	0%	**1.2%**	-	2.6%	0%	0%	**0.4%**	-	1.4%
Bicycles on Road	1	0	0	**1**	-	0	1	0	**1**	-	0	0	0	**0**	-	2
% Bicycles on Road	0.4%	0%	0%	**0.3%**	-	0%	0.4%	0%	**0.2%**	-	0%	0%	0%	**0%**	-	0.2%
Pedestrians	-	-	-	-	7	-	-	-	-	14	-	-	-	-	0	

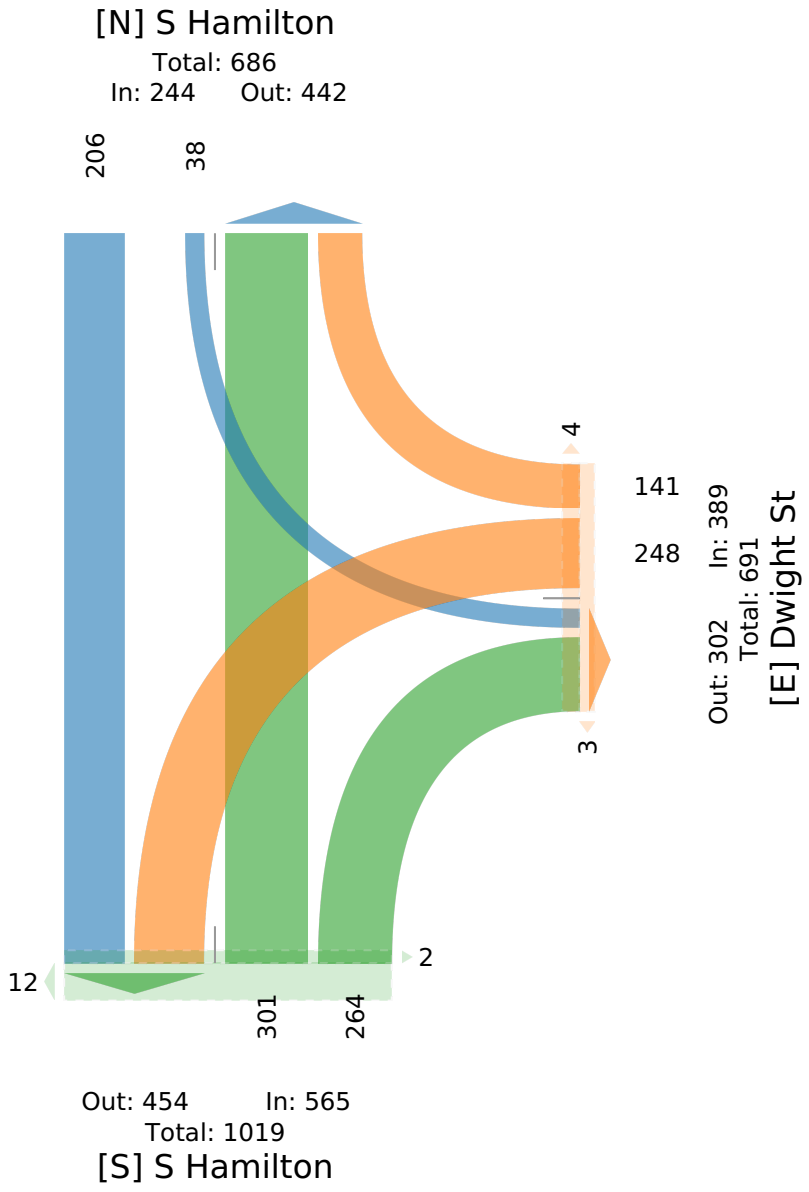
Leg	Dwight St					S Hamilton					S Hamilton					
Direction	Westbound					Northbound					Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Dwight St PM - TMC

Wed Jan 10, 2024
Full Length (2 PM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148241, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Dwight St PM - TMC

Wed Jan 10, 2024
PM Peak (2:30 PM - 3:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148241, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

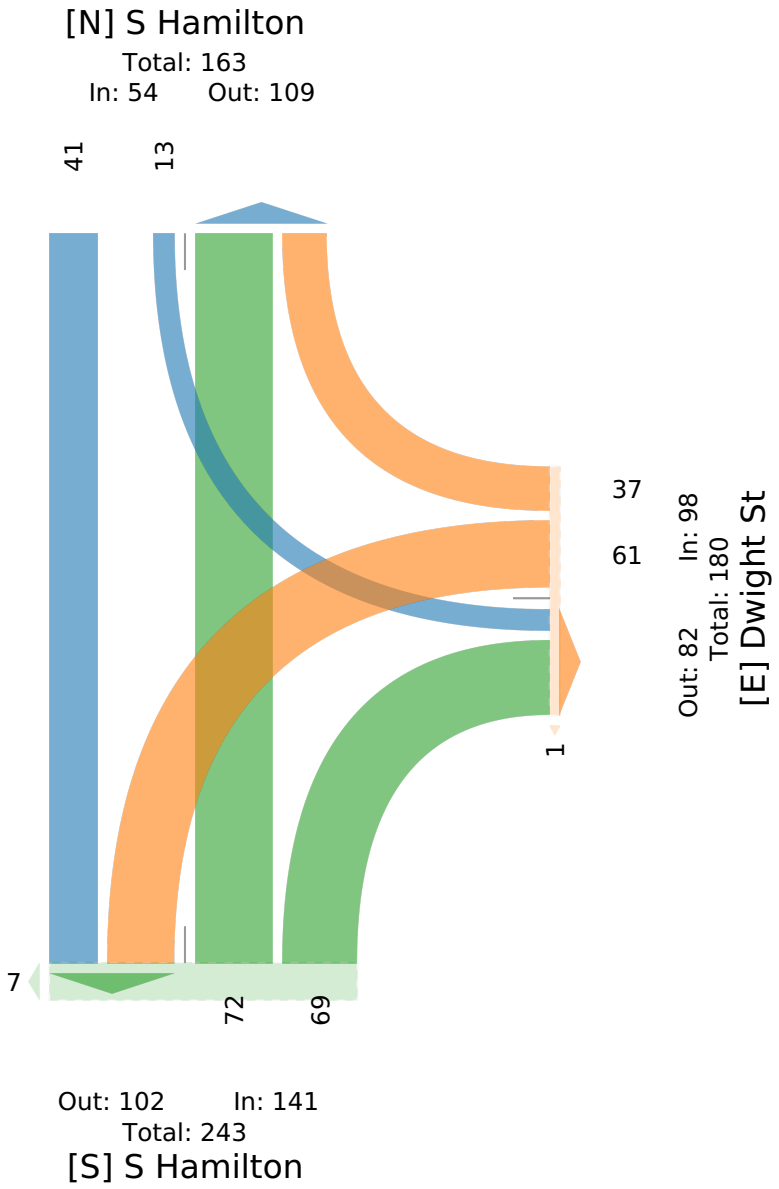
Leg Direction	Dwight St Westbound					S Hamilton Northbound					S Hamilton Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
2024-01-10 2:30PM	17	7	0	**24**	0	6	18	0	**24**	2	6	11	0	**17**	0	**65**
2:45PM	19	8	0	**27**	0	33	24	0	**57**	1	1	16	0	**17**	0	**101**
3:00PM	13	10	0	**23**	0	15	17	0	**32**	1	2	9	0	**11**	0	**66**
3:15PM	12	12	0	**24**	1	18	10	0	**28**	3	4	5	0	**9**	0	**61**
Total	61	37	0	**98**	1	72	69	0	**141**	7	13	41	0	**54**	0	**293**
% Approach	62.2%	37.8%	0%	**-**	-	51.1%	48.9%	0%	**-**	-	24.1%	75.9%	0%	**-**	-	-
% Total	20.8%	12.6%	0%	**33.4%**	-	24.6%	23.5%	0%	**48.1%**	-	4.4%	14.0%	0%	**18.4%**	-	-
PHF	0.803	0.771	-	**0.907**	-	0.545	0.719	-	**0.618**	-	0.542	0.641	-	**0.794**	-	0.725
Lights	58	33	0	**91**	-	68	68	0	**136**	-	11	41	0	**52**	-	279
% Lights	95.1%	89.2%	0%	**92.9%**	-	94.4%	98.6%	0%	**96.5%**	-	84.6%	100%	0%	**96.3%**	-	95.2%
Articulated Trucks and Single-Unit Trucks	2	0	0	**2**	-	1	0	0	**1**	-	1	0	0	**1**	-	4
% Articulated Trucks and Single-Unit Trucks	3.3%	0%	0%	**2.0%**	-	1.4%	0%	0%	**0.7%**	-	7.7%	0%	0%	**1.9%**	-	1.4%
Buses	1	4	0	**5**	-	3	1	0	**4**	-	1	0	0	**1**	-	10
% Buses	1.6%	10.8%	0%	**5.1%**	-	4.2%	1.4%	0%	**2.8%**	-	7.7%	0%	0%	**1.9%**	-	3.4%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	1	-	-	-	-	7	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Dwight St PM - TMC

Wed Jan 10, 2024
PM Peak (2:30 PM - 3:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148241, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Dwight St PM - TMC

Wed Jan 10, 2024
Forced Peak (4:30 PM - 5:30 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148241, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

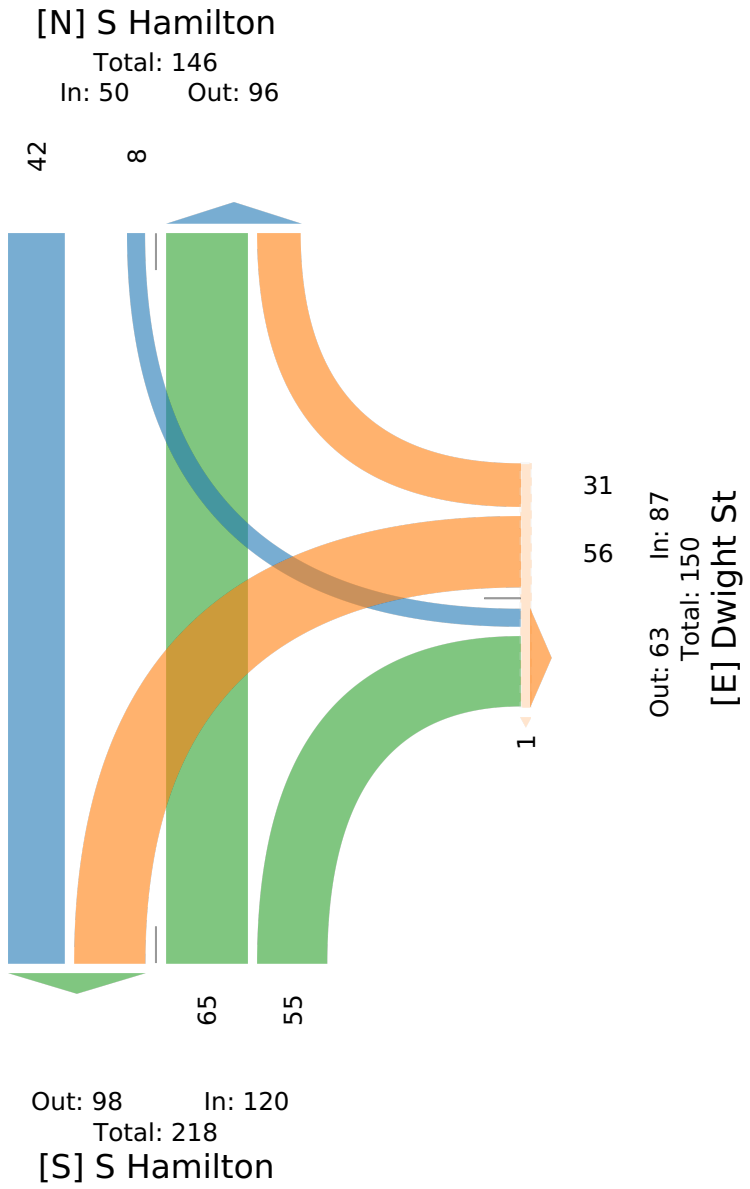
Leg Direction	Dwight St Westbound					S Hamilton Northbound					S Hamilton Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
2024-01-10 4:30PM	10	9	0	**19**	1	13	19	0	**32**	0	3	11	0	**14**	0	**65**
4:45PM	14	10	0	**24**	0	13	9	0	**22**	0	2	8	0	**10**	0	**56**
5:00PM	13	3	0	**16**	0	18	14	0	**32**	0	2	14	0	**16**	0	**64**
5:15PM	19	9	0	**28**	0	21	13	0	**34**	0	1	9	0	**10**	0	**72**
Total	56	31	0	**87**	1	65	55	0	**120**	0	8	42	0	**50**	0	**257**
% Approach	64.4%	35.6%	0%	**-**	-	54.2%	45.8%	0%	**-**	-	16.0%	84.0%	0%	**-**	-	-
% Total	21.8%	12.1%	0%	**33.9%**	-	25.3%	21.4%	0%	**46.7%**	-	3.1%	16.3%	0%	**19.5%**	-	-
PHF	0.737	0.775	-	**0.777**	-	0.774	0.750	-	**0.875**	-	0.667	0.750	-	**0.781**	-	0.889
Lights	56	30	0	**86**	-	65	52	0	**117**	-	8	42	0	**50**	-	253
% Lights	100%	96.8%	0%	**98.9%**	-	100%	94.5%	0%	**97.5%**	-	100%	100%	0%	**100%**	-	98.4%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	0	1	0	**1**	-	0	2	0	**2**	-	0	0	0	**0**	-	3
% Buses	0%	3.2%	0%	**1.1%**	-	0%	3.6%	0%	**1.7%**	-	0%	0%	0%	**0%**	-	1.2%
Bicycles on Road	0	0	0	**0**	-	0	1	0	**1**	-	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	1.8%	0%	**0.8%**	-	0%	0%	0%	**0%**	-	0.4%
Pedestrians	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Dwight St PM - TMC

Wed Jan 10, 2024
Forced Peak (4:30 PM - 5:30 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148241, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Dwight St WEEKEND - TMC

Sat Jan 13, 2024
Full Length (11 AM-2 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148242, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

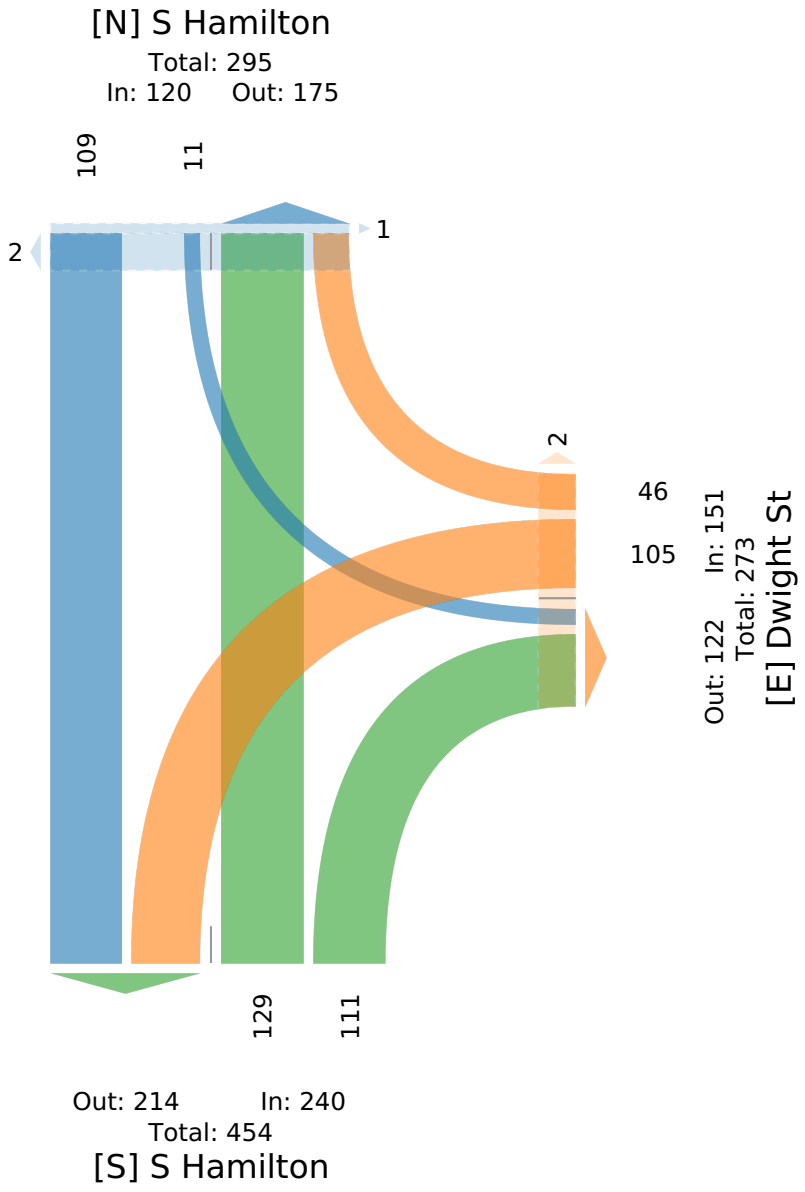
Leg Direction	Dwight St Westbound					S Hamilton Northbound					S Hamilton Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
2024-01-13 11:00AM	14	4	0	**18**	0	13	9	0	**22**	0	1	12	0	**13**	0	**53**
11:15AM	12	6	0	**18**	0	7	3	0	**10**	0	0	8	0	**8**	0	**36**
11:30AM	7	1	0	**8**	0	16	7	0	**23**	0	0	5	0	**5**	0	**36**
11:45AM	4	4	0	**8**	0	8	10	0	**18**	0	1	6	0	**7**	0	**33**
Hourly Total	37	15	0	**52**	0	44	29	0	**73**	0	2	31	0	**33**	0	**158**
12:00PM	12	3	0	**15**	0	15	19	0	**34**	0	1	13	0	**14**	2	**63**
12:15PM	9	6	0	**15**	0	19	14	0	**33**	0	2	14	0	**16**	0	**64**
12:30PM	4	5	0	**9**	0	8	10	0	**18**	0	1	8	0	**9**	0	**36**
12:45PM	15	5	0	**20**	0	8	9	0	**17**	0	1	7	0	**8**	1	**45**
Hourly Total	40	19	0	**59**	0	50	52	0	**102**	0	5	42	0	**47**	3	**208**
1:00PM	4	1	0	**5**	0	7	7	0	**14**	0	2	10	0	**12**	0	**31**
1:15PM	10	5	0	**15**	0	9	7	0	**16**	0	2	3	0	**5**	0	**36**
1:30PM	7	5	0	**12**	2	11	12	0	**23**	0	0	10	0	**10**	0	**45**
1:45PM	7	1	0	**8**	0	8	4	0	**12**	0	0	13	0	**13**	0	**33**
Hourly Total	28	12	0	**40**	2	35	30	0	**65**	0	4	36	0	**40**	0	**145**
2:00PM	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Total	105	46	0	**151**	2	129	111	0	**240**	0	11	109	0	**120**	3	**511**
% Approach	69.5%	30.5%	0%	**-**	-	53.8%	46.3%	0%	**-**	-	9.2%	90.8%	0%	**-**	-	-
% Total	20.5%	9.0%	0%	**29.5%**	-	25.2%	21.7%	0%	**47.0%**	-	2.2%	21.3%	0%	**23.5%**	-	-
Lights	105	45	0	**150**	-	128	111	0	**239**	-	10	109	0	**119**	-	508
% Lights	100%	97.8%	0%	**99.3%**	-	99.2%	100%	0%	**99.6%**	-	90.9%	100%	0%	**99.2%**	-	99.4%
Articulated Trucks and Single-Unit Trucks	0	1	0	**1**	-	1	0	0	**1**	-	1	0	0	**1**	-	3
% Articulated Trucks and Single-Unit Trucks	0%	2.2%	0%	**0.7%**	-	0.8%	0%	0%	**0.4%**	-	9.1%	0%	0%	**0.8%**	-	0.6%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Buses	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	2	-	-	-	-	0	-	-	-	-	3	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Dwight St WEEKEND - TMC

Sat Jan 13, 2024
Full Length (11 AM-2 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148242, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Dwight St WEEKEND - TMC

Sat Jan 13, 2024
Midday Peak (WKND), Forced Peak (12 PM - 1 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148242, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

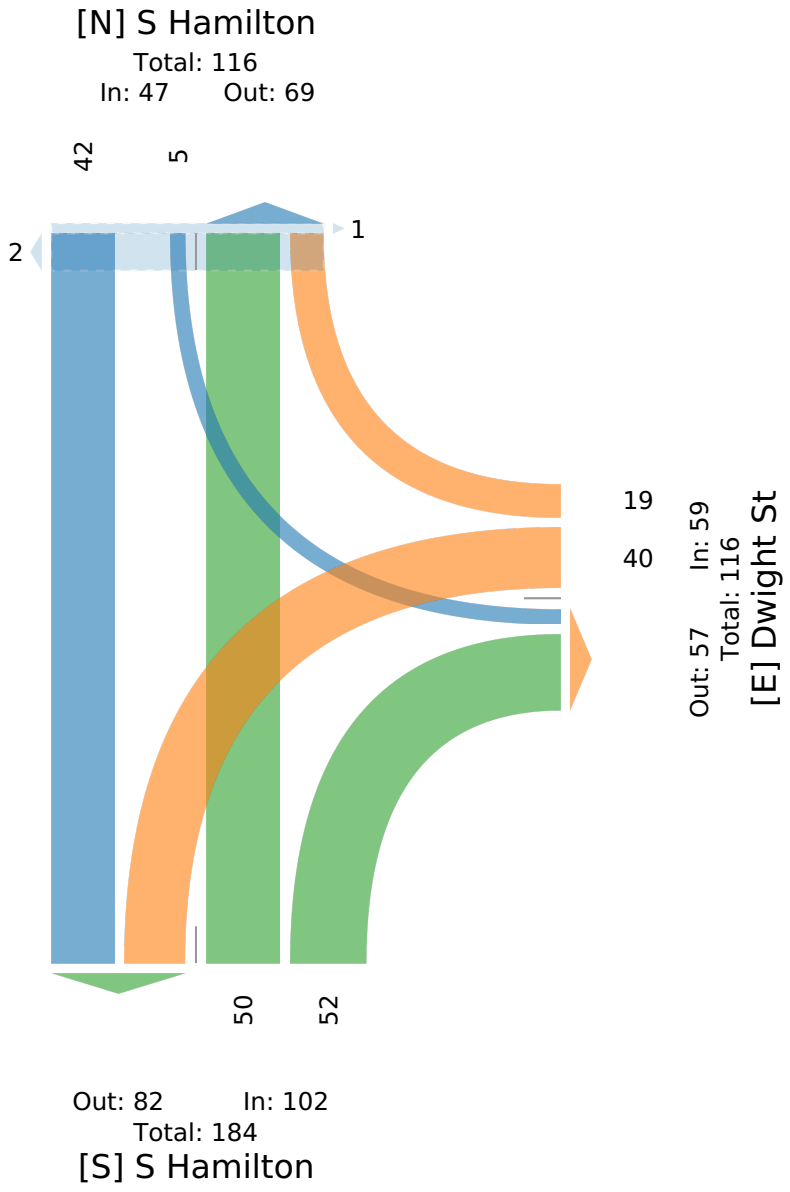
Leg Direction	Dwight St Westbound					S Hamilton Northbound					S Hamilton Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
2024-01-13 12:00PM	12	3	0	**15**	0	15	19	0	**34**	0	1	13	0	**14**	2	**63**
12:15PM	9	6	0	**15**	0	19	14	0	**33**	0	2	14	0	**16**	0	**64**
12:30PM	4	5	0	**9**	0	8	10	0	**18**	0	1	8	0	**9**	0	**36**
12:45PM	15	5	0	**20**	0	8	9	0	**17**	0	1	7	0	**8**	1	**45**
Total	40	19	0	**59**	0	50	52	0	**102**	0	5	42	0	**47**	3	**208**
% Approach	67.8%	32.2%	0%	**-**	-	49.0%	51.0%	0%	**-**	-	10.6%	89.4%	0%	**-**	-	-
% Total	19.2%	9.1%	0%	**28.4%**	-	24.0%	25.0%	0%	**49.0%**	-	2.4%	20.2%	0%	**22.6%**	-	-
PHF	0.667	0.792	-	**0.738**	-	0.658	0.684	-	**0.750**	-	0.625	0.750	-	**0.734**	-	0.813
Lights	40	19	0	**59**	-	50	52	0	**102**	-	5	42	0	**47**	-	208
% Lights	100%	100%	0%	**100%**	-	100%	100%	0%	**100%**	-	100%	100%	0%	**100%**	-	100%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Buses	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Dwight St WEEKEND - TMC

Sat Jan 13, 2024
Midday Peak (WKND), Forced Peak (12 PM - 1 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148242, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Dwight St WEEKEND - TMC

Sat Jan 13, 2024
PM Peak (WKND) (1 PM - 2 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148242, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

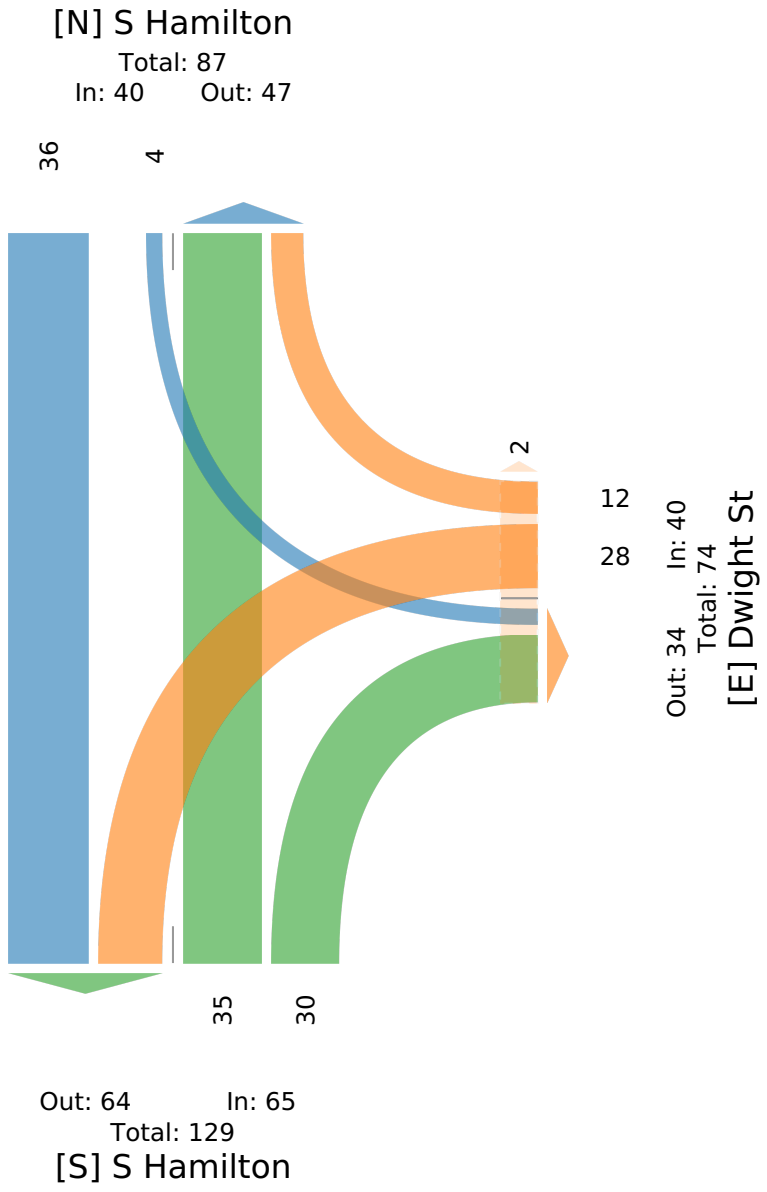
Leg Direction	Dwight St Westbound					S Hamilton Northbound					S Hamilton Southbound					
Time	L	R	U	**App**	Ped*	T	R	U	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
2024-01-13 1:00PM	4	1	0	**5**	0	7	7	0	**14**	0	2	10	0	**12**	0	**31**
1:15PM	10	5	0	**15**	0	9	7	0	**16**	0	2	3	0	**5**	0	**36**
1:30PM	7	5	0	**12**	2	11	12	0	**23**	0	0	10	0	**10**	0	**45**
1:45PM	7	1	0	**8**	0	8	4	0	**12**	0	0	13	0	**13**	0	**33**
Total	28	12	0	**40**	2	35	30	0	**65**	0	4	36	0	**40**	0	**145**
% Approach	70.0%	30.0%	0%	**-**	-	53.8%	46.2%	0%	**-**	-	10.0%	90.0%	0%	**-**	-	-
% Total	19.3%	8.3%	0%	**27.6%**	-	24.1%	20.7%	0%	**44.8%**	-	2.8%	24.8%	0%	**27.6%**	-	-
PHF	0.700	0.600	-	**0.667**	-	0.795	0.625	-	**0.707**	-	0.500	0.692	-	**0.769**	-	0.806
Lights	28	11	0	**39**	-	35	30	0	**65**	-	3	36	0	**39**	-	143
% Lights	100%	91.7%	0%	**97.5%**	-	100%	100%	0%	**100%**	-	75.0%	100%	0%	**97.5%**	-	98.6%
Articulated Trucks and Single-Unit Trucks	0	1	0	**1**	-	0	0	0	**0**	-	1	0	0	**1**	-	2
% Articulated Trucks and Single-Unit Trucks	0%	8.3%	0%	**2.5%**	-	0%	0%	0%	**0%**	-	25.0%	0%	0%	**2.5%**	-	1.4%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Buses	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	2	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Dwight St WEEKEND - TMC

Sat Jan 13, 2024
PM Peak (WKND) (1 PM - 2 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148242, Location: 41.694122, -73.92562, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton and Hooker Ave/Montgomery... - TMC

Wed Jan 10, 2024
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148253, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

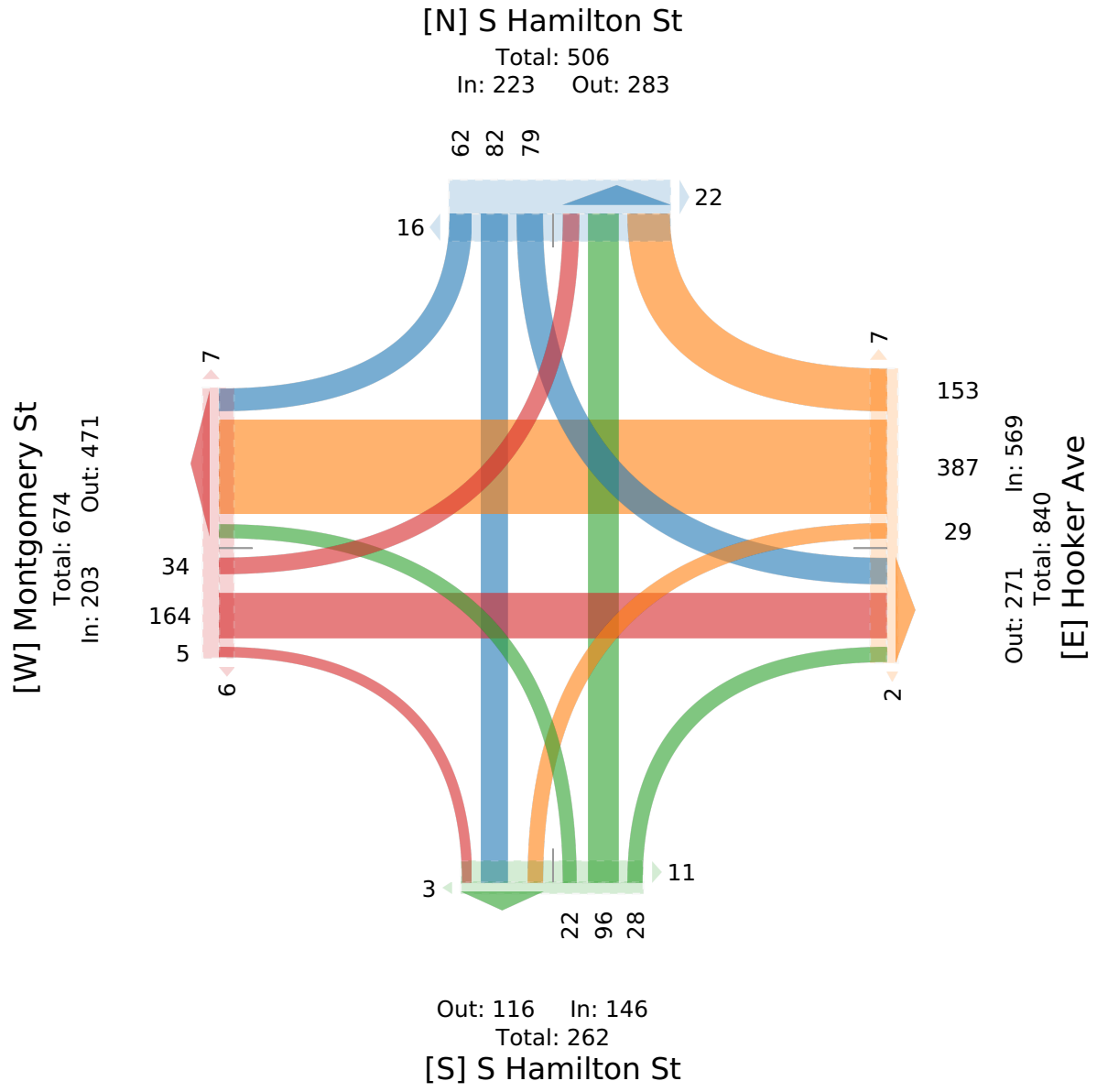
Leg Direction	Montgomery St Eastbound						Hooker Ave Westbound						S Hamilton St Northbound						S Hamilton St Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2024-01-10 7:00AM	4	6	1	0	**11**	0	4	20	11	0	**35**	0	0	6	3	0	**9**	4	3	3	1	0	**7**	1	**62**
7:15AM	4	14	0	0	**18**	0	1	31	11	0	**43**	0	2	10	2	0	**14**	0	9	6	5	0	**20**	1	**95**
7:30AM	3	30	0	0	**33**	0	3	46	17	0	**66**	3	3	11	7	0	**21**	2	8	10	11	0	**29**	3	**149**
7:45AM	6	32	1	0	**39**	3	5	63	13	0	**81**	1	5	12	5	0	**22**	2	7	13	19	0	**39**	8	**181**
Hourly Total	17	82	2	0	**101**	3	13	160	52	0	**225**	4	10	39	17	0	**66**	8	27	32	36	0	**95**	13	**487**
8:00AM	7	23	1	0	**31**	1	6	59	30	0	**95**	0	8	15	4	0	**27**	4	16	16	10	0	**42**	15	**195**
8:15AM	6	23	1	0	**30**	3	4	56	27	0	**87**	1	1	14	1	0	**16**	1	13	10	8	0	**31**	5	**164**
8:30AM	2	19	0	0	**21**	4	4	57	22	0	**83**	1	0	16	2	0	**18**	0	10	13	3	0	**26**	2	**148**
8:45AM	2	17	1	0	**20**	2	2	55	22	0	**79**	3	3	12	4	0	**19**	1	13	11	5	0	**29**	3	**147**
Hourly Total	17	82	3	0	**102**	10	16	227	101	0	**344**	5	12	57	11	0	**80**	6	52	50	26	0	**128**	25	**654**
9:00AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**0**
Total	34	164	5	0	**203**	13	29	387	153	0	**569**	9	22	96	28	0	**146**	14	79	82	62	0	**223**	38	**1141**
% Approach	16.7%	80.8%	2.5%	0%	**-**	-	5.1%	68.0%	26.9%	0%	**-**	-	15.1%	65.8%	19.2%	0%	**-**	-	35.4%	36.8%	27.8%	0%	**-**	-	-
% Total	3.0%	14.4%	0.4%	0%	**17.8%**	-	2.5%	33.9%	13.4%	0%	**49.9%**	-	1.9%	8.4%	2.5%	0%	**12.8%**	-	6.9%	7.2%	5.4%	0%	**19.5%**	-	-
Lights	33	155	5	0	**193**	-	26	372	145	0	**543**	-	22	93	25	0	**140**	-	73	80	58	0	**211**	-	1087
% Lights	97.1%	94.5%	100%	0%	**95.1%**	-	89.7%	96.1%	94.8%	0%	**95.4%**	-	100%	96.9%	89.3%	0%	**95.9%**	-	92.4%	97.6%	93.5%	0%	**94.6%**	-	95.3%
Articulated Trucks and Single-Unit Trucks	0	1	0	0	**1**	-	1	5	0	0	**6**	-	0	0	1	0	**1**	-	3	1	0	0	**4**	-	12
% Articulated Trucks and Single-Unit Trucks	0%	0.6%	0%	0%	**0.5%**	-	3.4%	1.3%	0%	0%	**1.1%**	-	0%	0%	3.6%	0%	**0.7%**	-	3.8%	1.2%	0%	0%	**1.8%**	-	1.1%
Buses	1	8	0	0	**9**	-	2	10	8	0	**20**	-	0	2	2	0	**4**	-	3	1	4	0	**8**	-	41
% Buses	2.9%	4.9%	0%	0%	**4.4%**	-	6.9%	2.6%	5.2%	0%	**3.5%**	-	0%	2.1%	7.1%	0%	**2.7%**	-	3.8%	1.2%	6.5%	0%	**3.6%**	-	3.6%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	1.0%	0%	0%	**0.7%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-	-	13	-	-	-	-	-	9	-	-	-	-	-	14	-	-	-	-	-	38	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton and Hooker Ave/Montgomery... - TMC

Wed Jan 10, 2024
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148253, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton and Hooker Ave/Montgomery... - TMC

Wed Jan 10, 2024
AM Peak (7:30 AM - 8:30 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148253, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

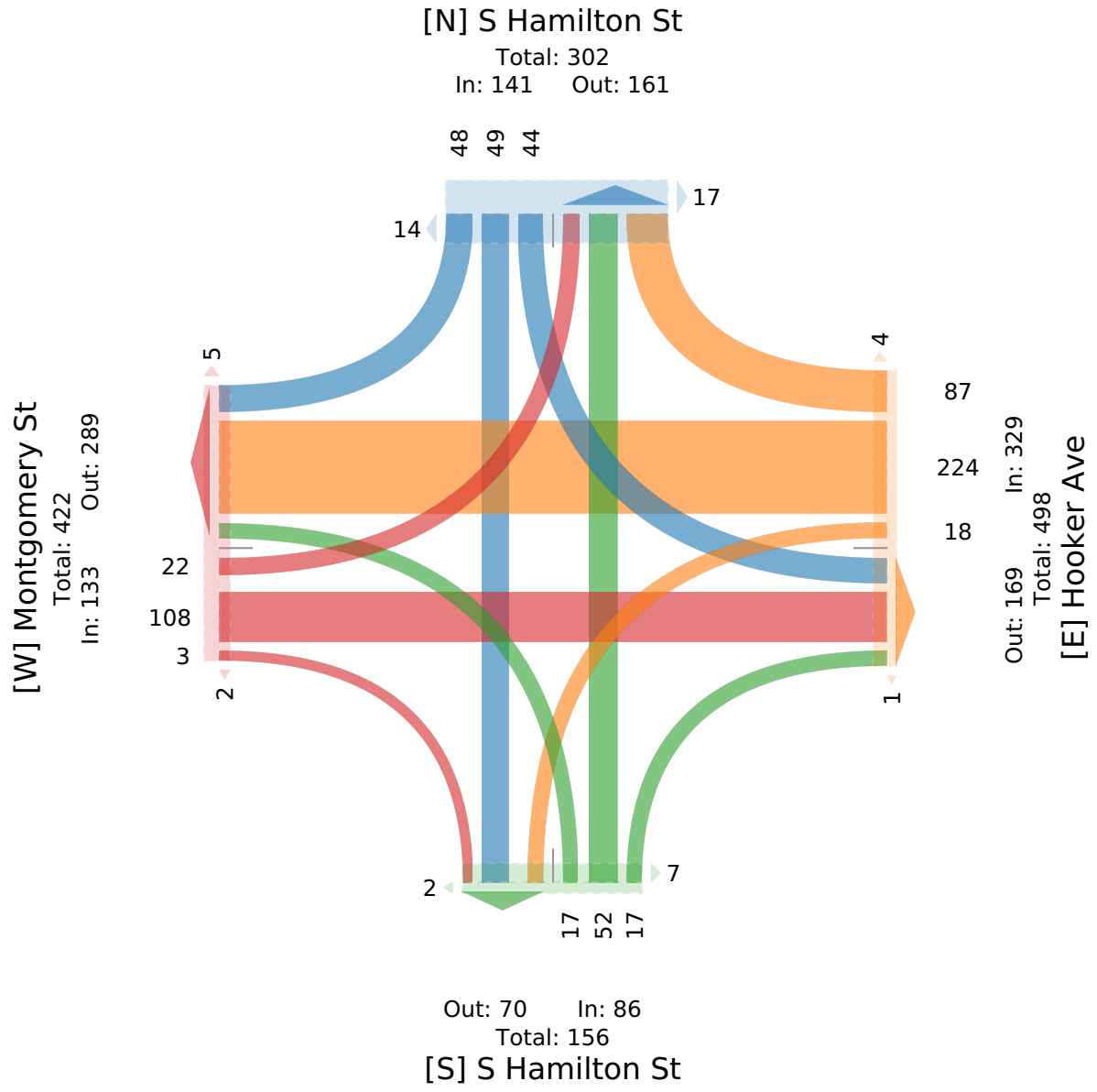
Leg Direction	Montgomery St Eastbound						Hooker Ave Westbound						S Hamilton St Northbound						S Hamilton St Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2024-01-10 7:30AM	3	30	0	0	**33**	0	3	46	17	0	**66**	3	3	11	7	0	**21**	2	8	10	11	0	**29**	3	**149**
7:45AM	6	32	1	0	**39**	3	5	63	13	0	**81**	1	5	12	5	0	**22**	2	7	13	19	0	**39**	8	**181**
8:00AM	7	23	1	0	**31**	1	6	59	30	0	**95**	0	8	15	4	0	**27**	4	16	16	10	0	**42**	15	**195**
8:15AM	6	23	1	0	**30**	3	4	56	27	0	**87**	1	1	14	1	0	**16**	1	13	10	8	0	**31**	5	**164**
Total	22	108	3	0	**133**	7	18	224	87	0	**329**	5	17	52	17	0	**86**	9	44	49	48	0	**141**	31	**689**
% Approach	16.5%	81.2%	2.3%	0%	**-**	-	5.5%	68.1%	26.4%	0%	**-**	-	19.8%	60.5%	19.8%	0%	**-**	-	31.2%	34.8%	34.0%	0%	**-**	-	-
% Total	3.2%	15.7%	0.4%	0%	**19.3%**	-	2.6%	32.5%	12.6%	0%	**47.8%**	-	2.5%	7.5%	2.5%	0%	**12.5%**	-	6.4%	7.1%	7.0%	0%	**20.5%**	-	-
PHF	0.786	0.844	0.750	-	**0.853**	-	0.750	0.889	0.725	-	**0.866**	-	0.531	0.867	0.607	-	**0.796**	-	0.688	0.766	0.632	-	**0.839**	-	0.883
Lights	22	104	3	0	**129**	-	16	215	82	0	**313**	-	17	51	15	0	**83**	-	44	48	45	0	**137**	-	662
% Lights	100%	96.3%	100%	0%	**97.0%**	-	88.9%	96.0%	94.3%	0%	**95.1%**	-	100%	98.1%	88.2%	0%	**96.5%**	-	100%	98.0%	93.8%	0%	**97.2%**	-	96.1%
Articulated Trucks and Single-Unit Trucks	0	1	0	0	**1**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	2
% Articulated Trucks and Single-Unit Trucks	0%	0.9%	0%	0%	**0.8%**	-	0%	0.4%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.3%
Buses	0	3	0	0	**3**	-	2	8	5	0	**15**	-	0	1	2	0	**3**	-	0	1	3	0	**4**	-	25
% Buses	0%	2.8%	0%	0%	**2.3%**	-	11.1%	3.6%	5.7%	0%	**4.6%**	-	0%	1.9%	11.8%	0%	**3.5%**	-	0%	2.0%	6.3%	0%	**2.8%**	-	3.6%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	7	-	-	-	-	-	5	-	-	-	-	-	9	-	-	-	-	-	31	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton and Hooker Ave/Montgomery... - TMC

Wed Jan 10, 2024
AM Peak (7:30 AM - 8:30 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148253, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Wed Jan 10, 2024
Full Length (2 PM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148258, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg / Direction	Montgomery St Eastbound						Hooker Ave Westbound						S Hamilton St Northbound						S Hamilton St Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2024-01-10 2:00PM	8	21	0	0	**29**	1	2	40	13	0	**55**	2	4	16	2	0	**22**	0	9	7	8	0	**24**	2	**130**
2:15PM	8	13	2	0	**23**	0	3	32	18	0	**53**	3	2	8	3	0	**13**	1	9	16	10	0	**35**	6	**124**
2:30PM	13	46	5	0	**64**	1	3	33	13	0	**49**	0	1	8	5	0	**14**	2	14	10	13	0	**37**	20	**164**
2:45PM	9	23	5	0	**37**	1	2	56	25	0	**83**	1	2	23	1	0	**26**	2	15	19	7	0	**41**	5	**187**
Hourly Total	38	103	12	0	**153**	3	10	161	69	0	**240**	6	9	55	11	0	**75**	5	47	52	38	0	**137**	33	**605**
3:00PM	10	18	2	0	**30**	0	5	70	18	0	**93**	4	2	19	3	0	**24**	7	9	12	9	0	**30**	8	**177**
3:15PM	6	30	0	0	**36**	2	2	48	19	0	**69**	5	2	17	2	0	**21**	3	11	7	5	0	**23**	22	**149**
3:30PM	2	34	0	0	**36**	3	2	42	16	0	**60**	4	0	16	2	0	**18**	1	7	11	5	0	**23**	14	**137**
3:45PM	11	24	0	0	**35**	1	5	46	21	0	**72**	2	2	12	4	0	**18**	2	6	14	9	0	**29**	8	**154**
Hourly Total	29	106	2	0	**137**	6	14	206	74	0	**294**	15	6	64	11	0	**81**	13	33	44	28	0	**105**	52	**617**
4:00PM	6	22	0	0	**28**	2	7	46	10	0	**63**	3	1	16	2	0	**19**	0	17	11	3	0	**31**	5	**141**
4:15PM	5	25	0	0	**30**	1	5	41	11	0	**57**	1	1	14	2	0	**17**	4	14	17	7	0	**38**	5	**142**
4:30PM	9	27	1	0	**37**	1	1	56	31	0	**88**	0	1	17	2	0	**20**	1	16	16	13	0	**45**	11	**190**
4:45PM	8	32	3	0	**43**	2	2	54	24	0	**80**	5	2	12	2	0	**16**	0	16	12	8	0	**36**	6	**175**
Hourly Total	28	106	4	0	**138**	6	15	197	76	0	**288**	9	5	59	8	0	**72**	5	63	56	31	0	**150**	27	**648**
5:00PM	16	42	2	0	**60**	4	6	47	25	0	**78**	3	2	18	5	0	**25**	4	23	8	9	0	**40**	6	**203**
5:15PM	6	27	0	0	**33**	4	1	49	17	0	**67**	1	2	15	2	0	**19**	1	20	17	8	0	**45**	4	**164**
5:30PM	15	27	0	0	**42**	4	2	35	10	0	**47**	0	1	15	1	0	**17**	2	17	18	11	0	**46**	5	**152**
5:45PM	15	33	1	0	**49**	3	2	30	11	0	**43**	3	1	18	1	0	**20**	2	14	23	14	0	**51**	1	**163**
Hourly Total	52	129	3	0	**184**	15	11	161	63	0	**235**	7	6	66	9	0	**81**	9	74	66	42	0	**182**	16	**682**
6:00PM	8	34	1	0	**43**	3	2	27	7	0	**36**	1	1	16	4	0	**21**	0	6	15	10	0	**31**	2	**131**
6:15PM	4	12	1	0	**17**	2	5	23	17	0	**45**	1	0	12	0	0	**12**	0	10	20	10	0	**40**	1	**114**
6:30PM	6	16	3	0	**25**	0	3	46	10	0	**59**	0	1	7	2	0	**10**	0	9	15	4	0	**28**	0	**122**
6:45PM	3	14	1	0	**18**	4	3	26	11	0	**40**	2	1	14	1	0	**16**	0	3	15	7	0	**25**	1	**99**
Hourly Total	21	76	6	0	**103**	9	13	122	45	0	**180**	4	3	49	7	0	**59**	0	28	65	31	0	**124**	4	**466**
Total	168	520	27	0	**715**	39	63	847	327	0	**1237**	41	29	293	46	0	**368**	32	245	283	170	0	**698**	132	**3018**
% Approach	23.5%	72.7%	3.8%	0%	**-**	-	5.1%	68.5%	26.4%	0%	**-**	-	7.9%	79.6%	12.5%	0%	**-**	-	35.1%	40.5%	24.4%	0%	**-**	-	-
% Total	5.6%	17.2%	0.9%	0%	**23.7%**	-	2.1%	28.1%	10.8%	0%	**41.0%**	-	1.0%	9.7%	1.5%	0%	**12.2%**	-	8.1%	9.4%	5.6%	0%	**23.1%**	-	-
Lights	166	505	27	0	**698**	-	59	827	315	0	**1201**	-	28	288	45	0	**361**	-	240	280	163	0	**683**	-	2943
% Lights	98.8%	97.1%	100%	0%	**97.6%**	-	93.7%	97.6%	96.3%	0%	**97.1%**	-	96.6%	98.3%	97.8%	0%	**98.1%**	-	98.0%	98.9%	95.9%	0%	**97.9%**	-	97.5%
Articulated Trucks and Single-Unit Trucks	0	3	0	0	**3**	-	1	5	4	0	**10**	-	0	1	0	0	**1**	-	2	1	1	0	**4**	-	18
% Articulated Trucks and Single-Unit Trucks	0%	0.6%	0%	0%	**0.4%**	-	1.6%	0.6%	1.2%	0%	**0.8%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.8%	0.4%	0.6%	0%	**0.6%**	-	0.6%
Buses	2	12	0	0	**14**	-	3	15	6	0	**24**	-	1	3	1	0	**5**	-	2	1	6	0	**9**	-	52
% Buses	1.2%	2.3%	0%	0%	**2.0%**	-	4.8%	1.8%	1.8%	0%	**1.9%**	-	3.4%	1.0%	2.2%	0%	**1.4%**	-	0.8%	0.4%	3.5%	0%	**1.3%**	-	1.7%
Bicycles on Road	0	0	0	0	**0**	-	0	0	2	0	**2**	-	0	1	0	0	**1**	-	1	1	0	0	**2**	-	5
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0.6%	0%	**0.2%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.4%	0.4%	0%	0%	**0.3%**	-	0.2%
Pedestrians	-	-	-	-	-	39	-	-	-	-	-	40	-	-	-	-	-	31	-	-	-	-	-	129	

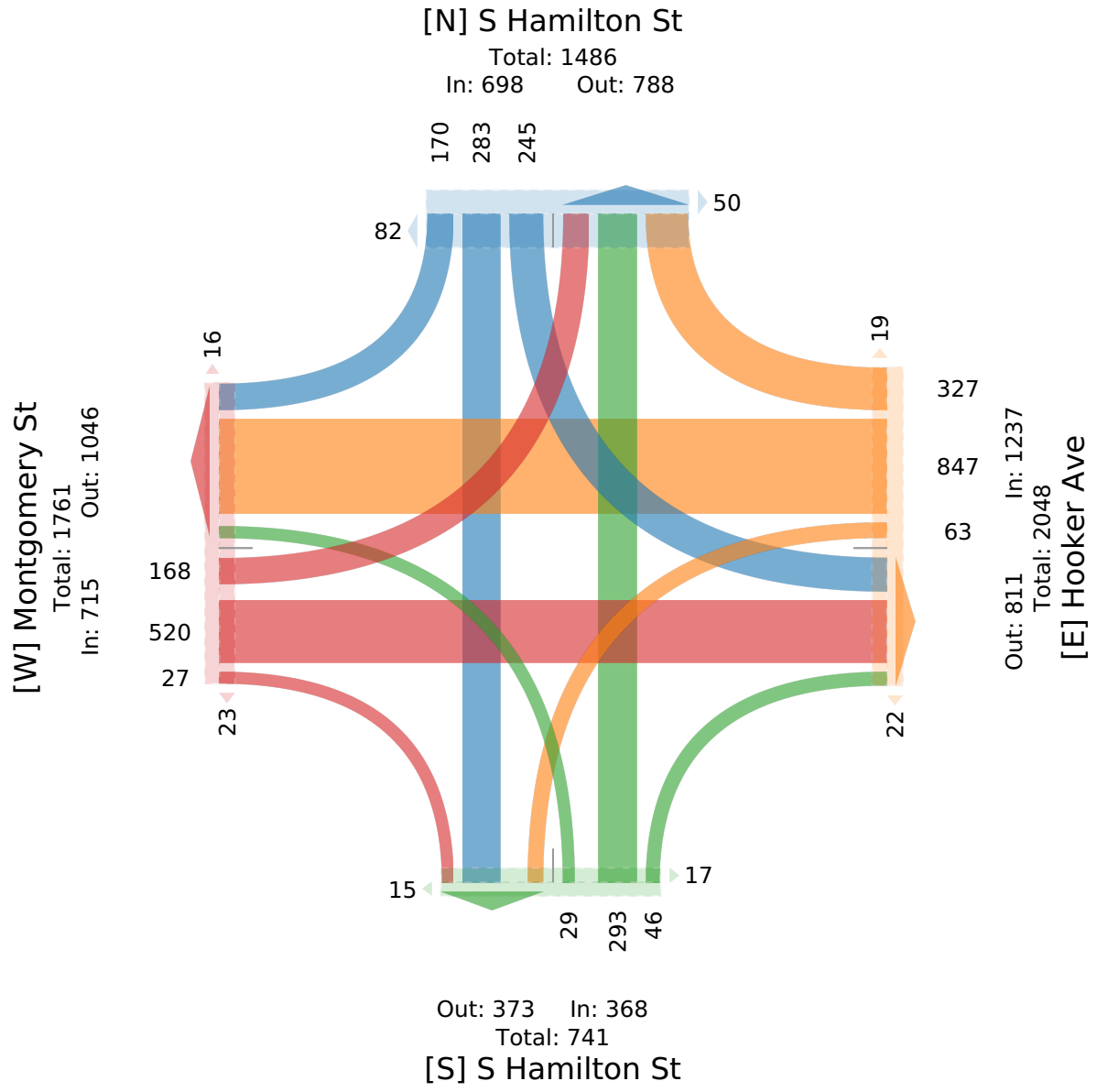
Leg	Montgomery St						Hooker Ave						S Hamilton St						S Hamilton St						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	97.6%	-	-	-	-	-	96.9%	-	-	-	-	-	97.7%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	3	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	2.4%	-	-	-	-	-	3.1%	-	-	-	-	-	2.3%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Wed Jan 10, 2024
Full Length (2 PM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148258, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Wed Jan 10, 2024
PM Peak, Forced Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148258, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

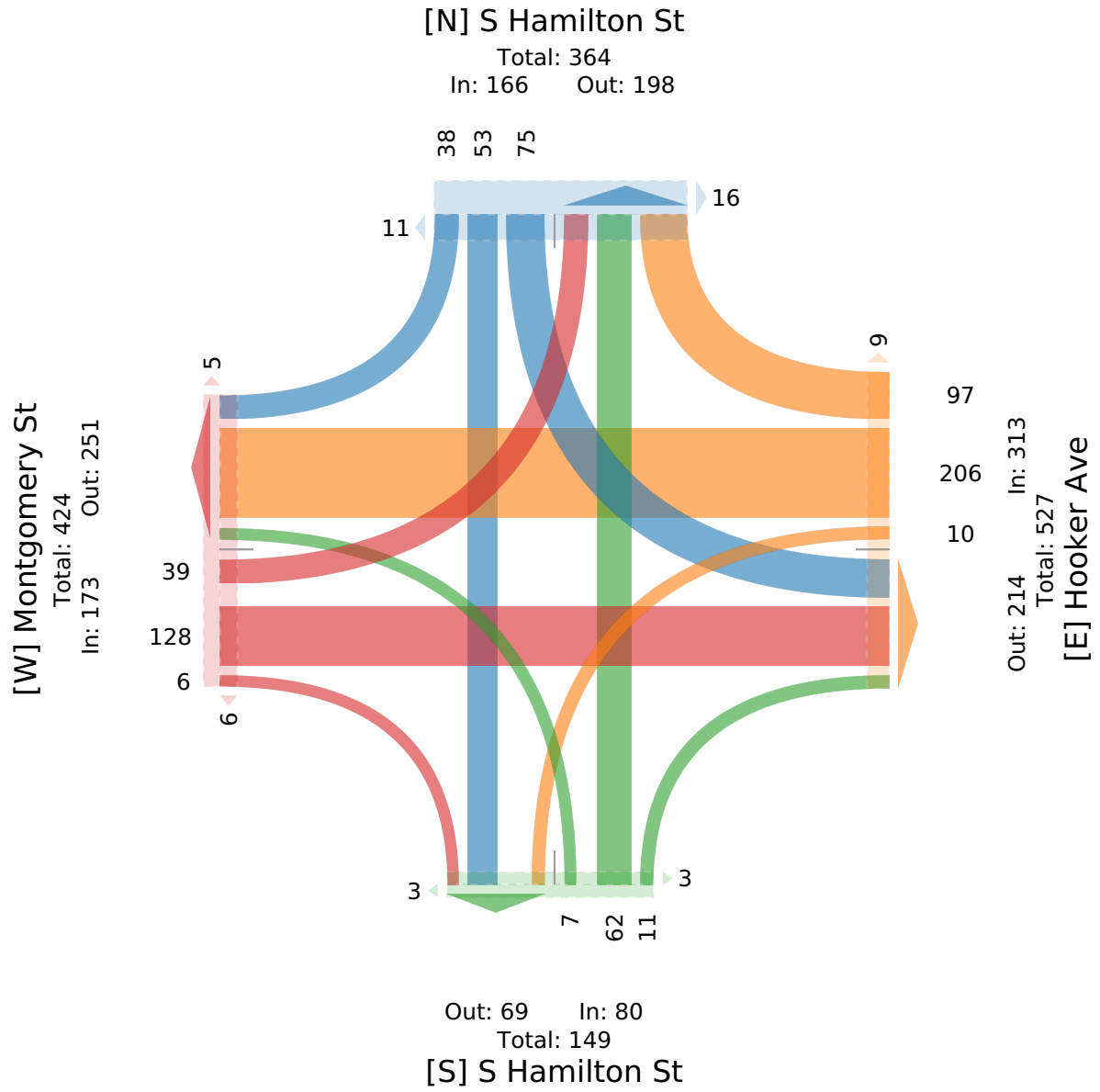
Leg Direction	Montgomery St Eastbound						Hooker Ave Westbound						S Hamilton St Northbound						S Hamilton St Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2024-01-10 4:30PM	9	27	1	0	**37**	1	1	56	31	0	**88**	0	1	17	2	0	**20**	1	16	16	13	0	**45**	11	**190**
4:45PM	8	32	3	0	**43**	2	2	54	24	0	**80**	5	2	12	2	0	**16**	0	16	12	8	0	**36**	6	**175**
5:00PM	16	42	2	0	**60**	4	6	47	25	0	**78**	3	2	18	5	0	**25**	4	23	8	9	0	**40**	6	**203**
5:15PM	6	27	0	0	**33**	4	1	49	17	0	**67**	1	2	15	2	0	**19**	1	20	17	8	0	**45**	4	**164**
Total	39	128	6	0	**173**	11	10	206	97	0	**313**	9	7	62	11	0	**80**	6	75	53	38	0	**166**	27	**732**
% Approach	22.5%	74.0%	3.5%	0%	**-**	-	3.2%	65.8%	31.0%	0%	**-**	-	8.8%	77.5%	13.8%	0%	**-**	-	45.2%	31.9%	22.9%	0%	**-**	-	-
% Total	5.3%	17.5%	0.8%	0%	**23.6%**	-	1.4%	28.1%	13.3%	0%	**42.8%**	-	1.0%	8.5%	1.5%	0%	**10.9%**	-	10.2%	7.2%	5.2%	0%	**22.7%**	-	-
PHF	0.609	0.762	0.500	-	**0.721**	-	0.417	0.920	0.800	-	**0.897**	-	0.875	0.847	0.550	-	**0.790**	-	0.841	0.779	0.731	-	**0.917**	-	0.902
Lights	39	126	6	0	**171**	-	10	201	94	0	**305**	-	7	61	11	0	**79**	-	74	53	37	0	**164**	-	719
% Lights	100%	98.4%	100%	0%	**98.8%**	-	100%	97.6%	96.9%	0%	**97.4%**	-	100%	98.4%	100%	0%	**98.8%**	-	98.7%	100%	97.4%	0%	**98.8%**	-	98.2%
Articulated Trucks and Single-Unit Trucks	0	0	0	0	**0**	-	0	1	2	0	**3**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	3
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0.5%	2.1%	0%	**1.0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.4%
Buses	0	2	0	0	**2**	-	0	4	0	0	**4**	-	0	0	0	0	**0**	-	0	0	1	0	**1**	-	7
% Buses	0%	1.6%	0%	0%	**1.2%**	-	0%	1.9%	0%	0%	**1.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	2.6%	0%	**0.6%**	-	1.0%
Bicycles on Road	0	0	0	0	**0**	-	0	0	1	0	**1**	-	0	1	0	0	**1**	-	1	0	0	0	**1**	-	3
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	1.0%	0%	**0.3%**	-	0%	1.6%	0%	0%	**1.3%**	-	1.3%	0%	0%	0%	**0.6%**	-	0.4%
Pedestrians	-	-	-	-	-	11	-	-	-	-	-	8	-	-	-	-	-	6	-	-	-	-	-	27	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	88.9%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	11.1%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Wed Jan 10, 2024
PM Peak, Forced Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148258, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Wed Jan 10, 2024
Full Length (2 PM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148258, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg / Direction	Montgomery St Eastbound						Hooker Ave Westbound						S Hamilton St Northbound						S Hamilton St Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2024-01-10 2:00PM	8	21	0	0	**29**	1	2	40	13	0	**55**	2	4	16	2	0	**22**	0	9	7	8	0	**24**	2	**130**
2:15PM	8	13	2	0	**23**	0	3	32	18	0	**53**	3	2	8	3	0	**13**	1	9	16	10	0	**35**	6	**124**
2:30PM	13	46	5	0	**64**	1	3	33	13	0	**49**	0	1	8	5	0	**14**	2	14	10	13	0	**37**	20	**164**
2:45PM	9	23	5	0	**37**	1	2	56	25	0	**83**	1	2	23	1	0	**26**	2	15	19	7	0	**41**	5	**187**
Hourly Total	38	103	12	0	**153**	3	10	161	69	0	**240**	6	9	55	11	0	**75**	5	47	52	38	0	**137**	33	**605**
3:00PM	10	18	2	0	**30**	0	5	70	18	0	**93**	4	2	19	3	0	**24**	7	9	12	9	0	**30**	8	**177**
3:15PM	6	30	0	0	**36**	2	2	48	19	0	**69**	5	2	17	2	0	**21**	3	11	7	5	0	**23**	22	**149**
3:30PM	2	34	0	0	**36**	3	2	42	16	0	**60**	4	0	16	2	0	**18**	1	7	11	5	0	**23**	14	**137**
3:45PM	11	24	0	0	**35**	1	5	46	21	0	**72**	2	2	12	4	0	**18**	2	6	14	9	0	**29**	8	**154**
Hourly Total	29	106	2	0	**137**	6	14	206	74	0	**294**	15	6	64	11	0	**81**	13	33	44	28	0	**105**	52	**617**
4:00PM	6	22	0	0	**28**	2	7	46	10	0	**63**	3	1	16	2	0	**19**	0	17	11	3	0	**31**	5	**141**
4:15PM	5	25	0	0	**30**	1	5	41	11	0	**57**	1	1	14	2	0	**17**	4	14	17	7	0	**38**	5	**142**
4:30PM	9	27	1	0	**37**	1	1	56	31	0	**88**	0	1	17	2	0	**20**	1	16	16	13	0	**45**	11	**190**
4:45PM	8	32	3	0	**43**	2	2	54	24	0	**80**	5	2	12	2	0	**16**	0	16	12	8	0	**36**	6	**175**
Hourly Total	28	106	4	0	**138**	6	15	197	76	0	**288**	9	5	59	8	0	**72**	5	63	56	31	0	**150**	27	**648**
5:00PM	16	42	2	0	**60**	4	6	47	25	0	**78**	3	2	18	5	0	**25**	4	23	8	9	0	**40**	6	**203**
5:15PM	6	27	0	0	**33**	4	1	49	17	0	**67**	1	2	15	2	0	**19**	1	20	17	8	0	**45**	4	**164**
5:30PM	15	27	0	0	**42**	4	2	35	10	0	**47**	0	1	15	1	0	**17**	2	17	18	11	0	**46**	5	**152**
5:45PM	15	33	1	0	**49**	3	2	30	11	0	**43**	3	1	18	1	0	**20**	2	14	23	14	0	**51**	1	**163**
Hourly Total	52	129	3	0	**184**	15	11	161	63	0	**235**	7	6	66	9	0	**81**	9	74	66	42	0	**182**	16	**682**
6:00PM	8	34	1	0	**43**	3	2	27	7	0	**36**	1	1	16	4	0	**21**	0	6	15	10	0	**31**	2	**131**
6:15PM	4	12	1	0	**17**	2	5	23	17	0	**45**	1	0	12	0	0	**12**	0	10	20	10	0	**40**	1	**114**
6:30PM	6	16	3	0	**25**	0	3	46	10	0	**59**	0	1	7	2	0	**10**	0	9	15	4	0	**28**	0	**122**
6:45PM	3	14	1	0	**18**	4	3	26	11	0	**40**	2	1	14	1	0	**16**	0	3	15	7	0	**25**	1	**99**
Hourly Total	21	76	6	0	**103**	9	13	122	45	0	**180**	4	3	49	7	0	**59**	0	28	65	31	0	**124**	4	**466**
Total	168	520	27	0	**715**	39	63	847	327	0	**1237**	41	29	293	46	0	**368**	32	245	283	170	0	**698**	132	**3018**
% Approach	23.5%	72.7%	3.8%	0%	**-**	-	5.1%	68.5%	26.4%	0%	**-**	-	7.9%	79.6%	12.5%	0%	**-**	-	35.1%	40.5%	24.4%	0%	**-**	-	-
% Total	5.6%	17.2%	0.9%	0%	**23.7%**	-	2.1%	28.1%	10.8%	0%	**41.0%**	-	1.0%	9.7%	1.5%	0%	**12.2%**	-	8.1%	9.4%	5.6%	0%	**23.1%**	-	-
Lights	166	505	27	0	**698**	-	59	827	315	0	**1201**	-	28	288	45	0	**361**	-	240	280	163	0	**683**	-	2943
% Lights	98.8%	97.1%	100%	0%	**97.6%**	-	93.7%	97.6%	96.3%	0%	**97.1%**	-	96.6%	98.3%	97.8%	0%	**98.1%**	-	98.0%	98.9%	95.9%	0%	**97.9%**	-	97.5%
Articulated Trucks and Single-Unit Trucks	0	3	0	0	**3**	-	1	5	4	0	**10**	-	0	1	0	0	**1**	-	2	1	1	0	**4**	-	18
% Articulated Trucks and Single-Unit Trucks	0%	0.6%	0%	0%	**0.4%**	-	1.6%	0.6%	1.2%	0%	**0.8%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.8%	0.4%	0.6%	0%	**0.6%**	-	0.6%
Buses	2	12	0	0	**14**	-	3	15	6	0	**24**	-	1	3	1	0	**5**	-	2	1	6	0	**9**	-	52
% Buses	1.2%	2.3%	0%	0%	**2.0%**	-	4.8%	1.8%	1.8%	0%	**1.9%**	-	3.4%	1.0%	2.2%	0%	**1.4%**	-	0.8%	0.4%	3.5%	0%	**1.3%**	-	1.7%
Bicycles on Road	0	0	0	0	**0**	-	0	0	2	0	**2**	-	0	1	0	0	**1**	-	1	1	0	0	**2**	-	5
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0.6%	0%	**0.2%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.4%	0.4%	0%	0%	**0.3%**	-	0.2%
Pedestrians	-	-	-	-	-	39	-	-	-	-	-	40	-	-	-	-	-	31	-	-	-	-	-	129	

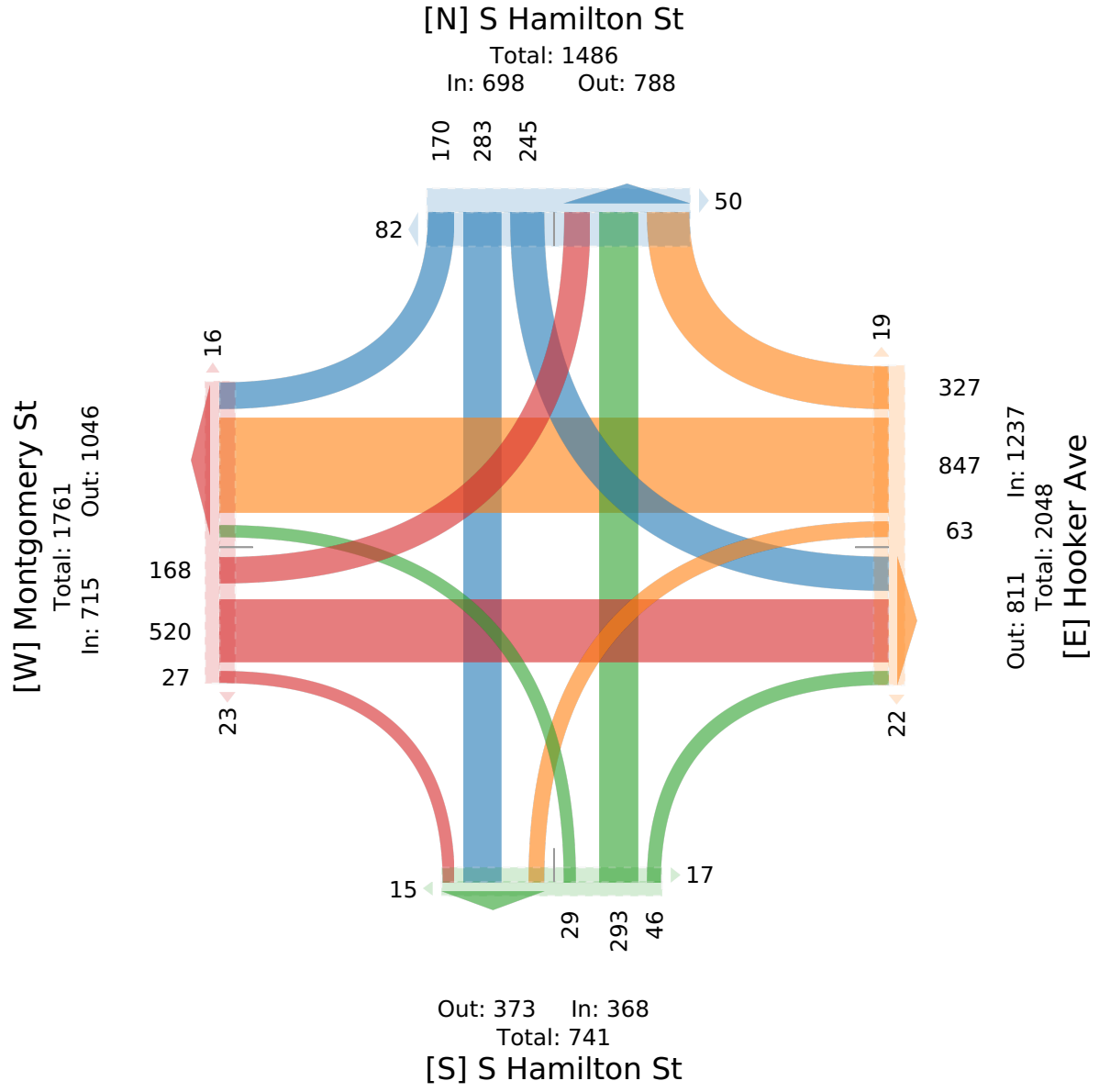
Leg	Montgomery St						Hooker Ave						S Hamilton St						S Hamilton St						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	97.6%	-	-	-	-	-	96.9%	-	-	-	-	-	97.7%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	3	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	2.4%	-	-	-	-	-	3.1%	-	-	-	-	-	2.3%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Wed Jan 10, 2024
Full Length (2 PM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148258, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Wed Jan 10, 2024
Forced Peak (2:30 PM - 3:30 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148258, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

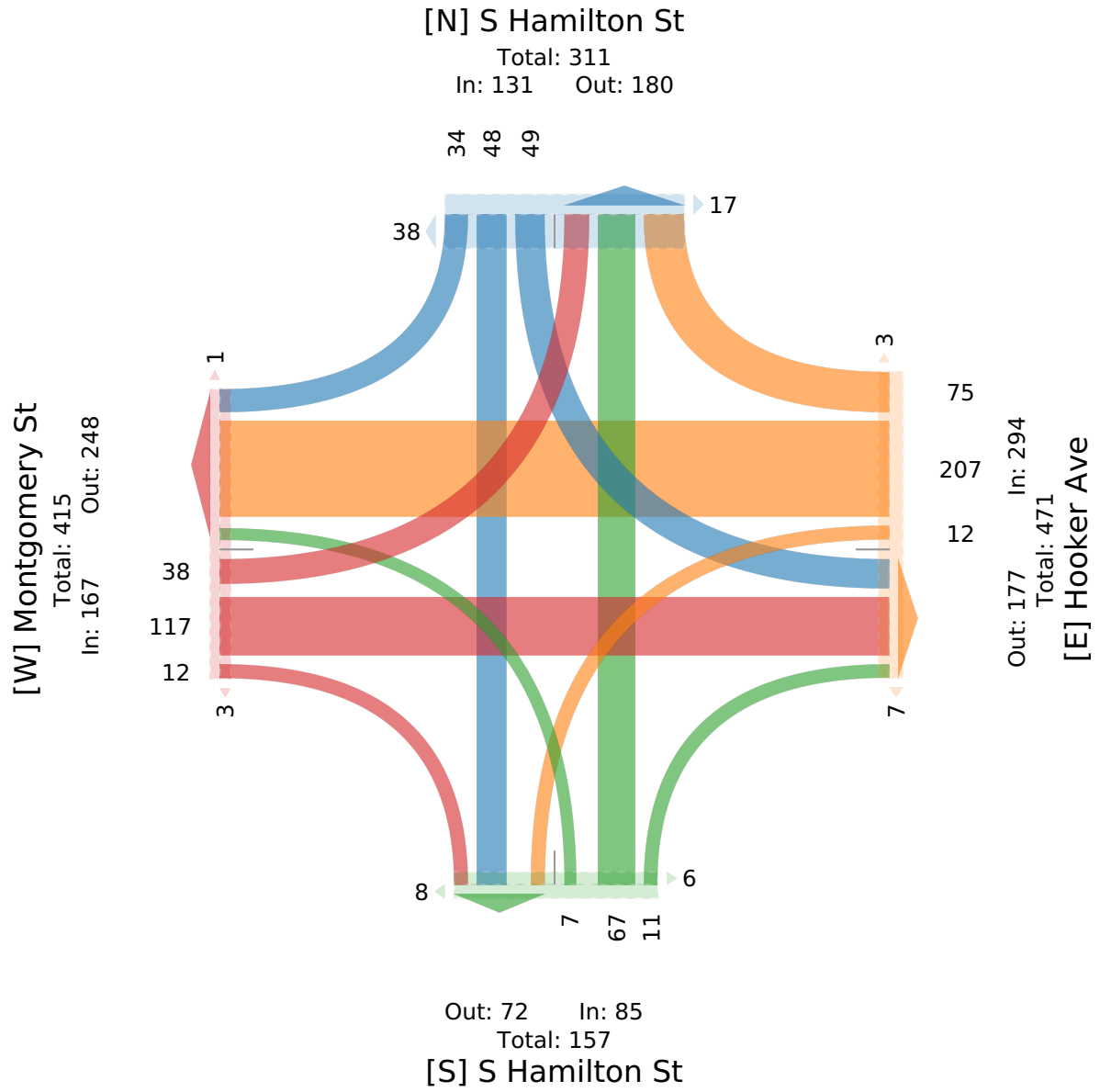
Leg Direction	Montgomery St Eastbound						Hooker Ave Westbound						S Hamilton St Northbound						S Hamilton St Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2024-01-10 2:30PM	13	46	5	0	**64**	1	3	33	13	0	**49**	0	1	8	5	0	**14**	2	14	10	13	0	**37**	20	**164**
2:45PM	9	23	5	0	**37**	1	2	56	25	0	**83**	1	2	23	1	0	**26**	2	15	19	7	0	**41**	5	**187**
3:00PM	10	18	2	0	**30**	0	5	70	18	0	**93**	4	2	19	3	0	**24**	7	9	12	9	0	**30**	8	**177**
3:15PM	6	30	0	0	**36**	2	2	48	19	0	**69**	5	2	17	2	0	**21**	3	11	7	5	0	**23**	22	**149**
Total	38	117	12	0	**167**	4	12	207	75	0	**294**	10	7	67	11	0	**85**	14	49	48	34	0	**131**	55	**677**
% Approach	22.8%	70.1%	7.2%	0%	**-**	-	4.1%	70.4%	25.5%	0%	**-**	-	8.2%	78.8%	12.9%	0%	**-**	-	37.4%	36.6%	26.0%	0%	**-**	-	-
% Total	5.6%	17.3%	1.8%	0%	**24.7%**	-	1.8%	30.6%	11.1%	0%	**43.4%**	-	1.0%	9.9%	1.6%	0%	**12.6%**	-	7.2%	7.1%	5.0%	0%	**19.4%**	-	-
PHF	0.731	0.636	0.600	-	**0.652**	-	0.600	0.739	0.750	-	**0.790**	-	0.875	0.728	0.550	-	**0.817**	-	0.817	0.632	0.654	-	**0.799**	-	0.905
Lights	37	114	12	0	**163**	-	9	201	71	0	**281**	-	6	64	11	0	**81**	-	46	47	32	0	**125**	-	650
% Lights	97.4%	97.4%	100%	0%	**97.6%**	-	75.0%	97.1%	94.7%	0%	**95.6%**	-	85.7%	95.5%	100%	0%	**95.3%**	-	93.9%	97.9%	94.1%	0%	**95.4%**	-	96.0%
Articulated Trucks and Single-Unit Trucks	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1	0	0	0	**1**	-	2
% Articulated Trucks and Single-Unit Trucks	0%	0.9%	0%	0%	**0.6%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	2.0%	0%	0%	0%	**0.8%**	-	0.3%
Buses	1	2	0	0	**3**	-	3	6	4	0	**13**	-	1	3	0	0	**4**	-	2	1	2	0	**5**	-	25
% Buses	2.6%	1.7%	0%	0%	**1.8%**	-	25.0%	2.9%	5.3%	0%	**4.4%**	-	14.3%	4.5%	0%	0%	**4.7%**	-	4.1%	2.1%	5.9%	0%	**3.8%**	-	3.7%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	4	-	-	-	-	-	10	-	-	-	-	-	14	-	-	-	-	-	55	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Wed Jan 10, 2024
Forced Peak (2:30 PM - 3:30 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148258, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Wed Jan 10, 2024
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148258, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

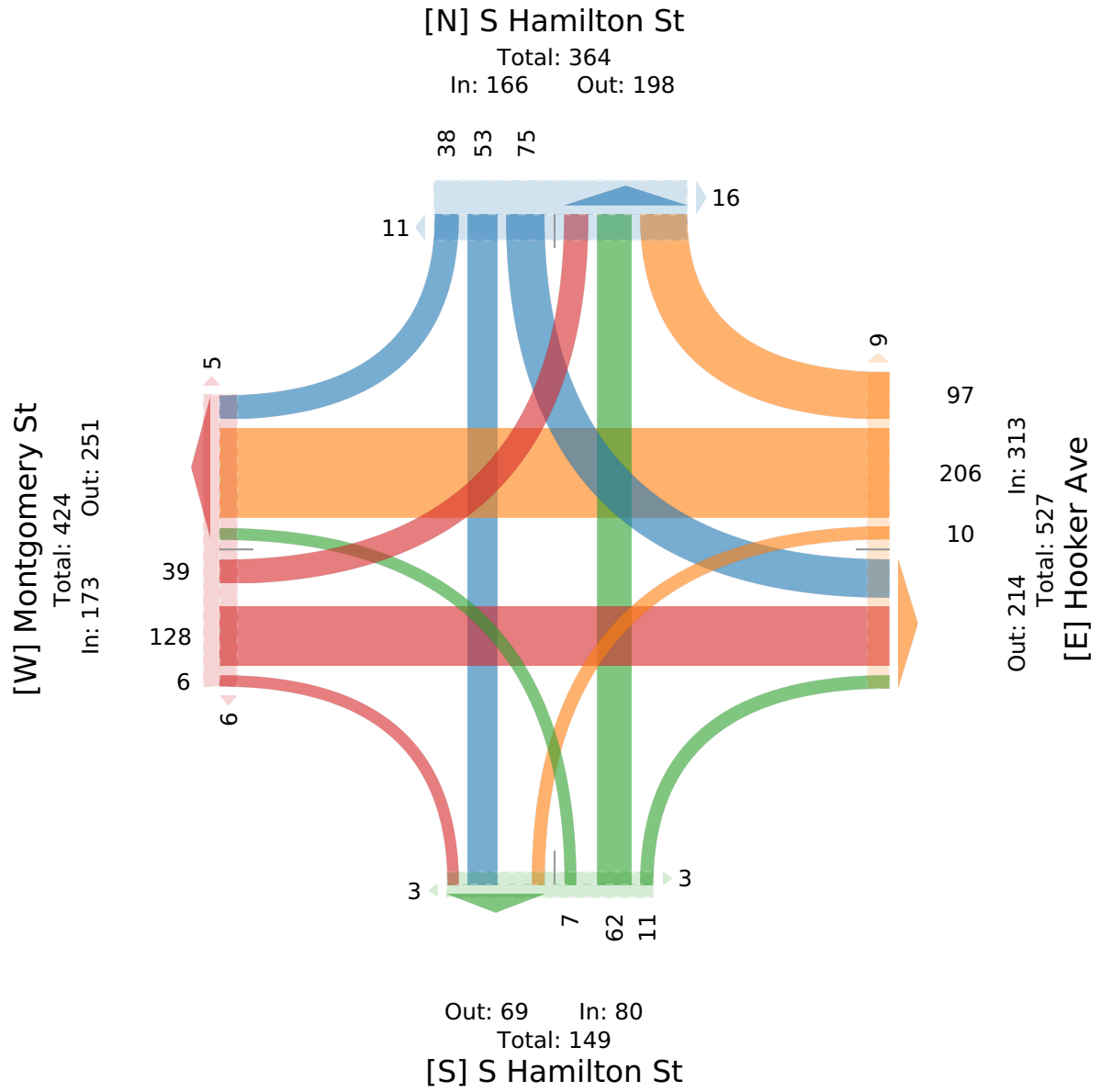
Leg Direction	Montgomery St Eastbound						Hooker Ave Westbound						S Hamilton St Northbound						S Hamilton St Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2024-01-10 4:30PM	9	27	1	0	**37**	1	1	56	31	0	**88**	0	1	17	2	0	**20**	1	16	16	13	0	**45**	11	**190**
4:45PM	8	32	3	0	**43**	2	2	54	24	0	**80**	5	2	12	2	0	**16**	0	16	12	8	0	**36**	6	**175**
5:00PM	16	42	2	0	**60**	4	6	47	25	0	**78**	3	2	18	5	0	**25**	4	23	8	9	0	**40**	6	**203**
5:15PM	6	27	0	0	**33**	4	1	49	17	0	**67**	1	2	15	2	0	**19**	1	20	17	8	0	**45**	4	**164**
Total	39	128	6	0	**173**	11	10	206	97	0	**313**	9	7	62	11	0	**80**	6	75	53	38	0	**166**	27	**732**
% Approach	22.5%	74.0%	3.5%	0%	**-**	-	3.2%	65.8%	31.0%	0%	**-**	-	8.8%	77.5%	13.8%	0%	**-**	-	45.2%	31.9%	22.9%	0%	**-**	-	-
% Total	5.3%	17.5%	0.8%	0%	**23.6%**	-	1.4%	28.1%	13.3%	0%	**42.8%**	-	1.0%	8.5%	1.5%	0%	**10.9%**	-	10.2%	7.2%	5.2%	0%	**22.7%**	-	-
PHF	0.609	0.762	0.500	-	**0.721**	-	0.417	0.920	0.800	-	**0.897**	-	0.875	0.847	0.550	-	**0.790**	-	0.841	0.779	0.731	-	**0.917**	-	0.902
Lights	39	126	6	0	**171**	-	10	201	94	0	**305**	-	7	61	11	0	**79**	-	74	53	37	0	**164**	-	719
% Lights	100%	98.4%	100%	0%	**98.8%**	-	100%	97.6%	96.9%	0%	**97.4%**	-	100%	98.4%	100%	0%	**98.8%**	-	98.7%	100%	97.4%	0%	**98.8%**	-	98.2%
Articulated Trucks and Single-Unit Trucks	0	0	0	0	**0**	-	0	1	2	0	**3**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	3
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0.5%	2.1%	0%	**1.0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.4%
Buses	0	2	0	0	**2**	-	0	4	0	0	**4**	-	0	0	0	0	**0**	-	0	0	1	0	**1**	-	7
% Buses	0%	1.6%	0%	0%	**1.2%**	-	0%	1.9%	0%	0%	**1.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	2.6%	0%	**0.6%**	-	1.0%
Bicycles on Road	0	0	0	0	**0**	-	0	0	1	0	**1**	-	0	1	0	0	**1**	-	1	0	0	0	**1**	-	3
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	1.0%	0%	**0.3%**	-	0%	1.6%	0%	0%	**1.3%**	-	1.3%	0%	0%	0%	**0.6%**	-	0.4%
Pedestrians	-	-	-	-	-	11	-	-	-	-	-	8	-	-	-	-	-	6	-	-	-	-	-	27	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	88.9%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	11.1%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Wed Jan 10, 2024
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148258, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Sat Jan 13, 2024
Full Length (11 AM-2 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148259, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

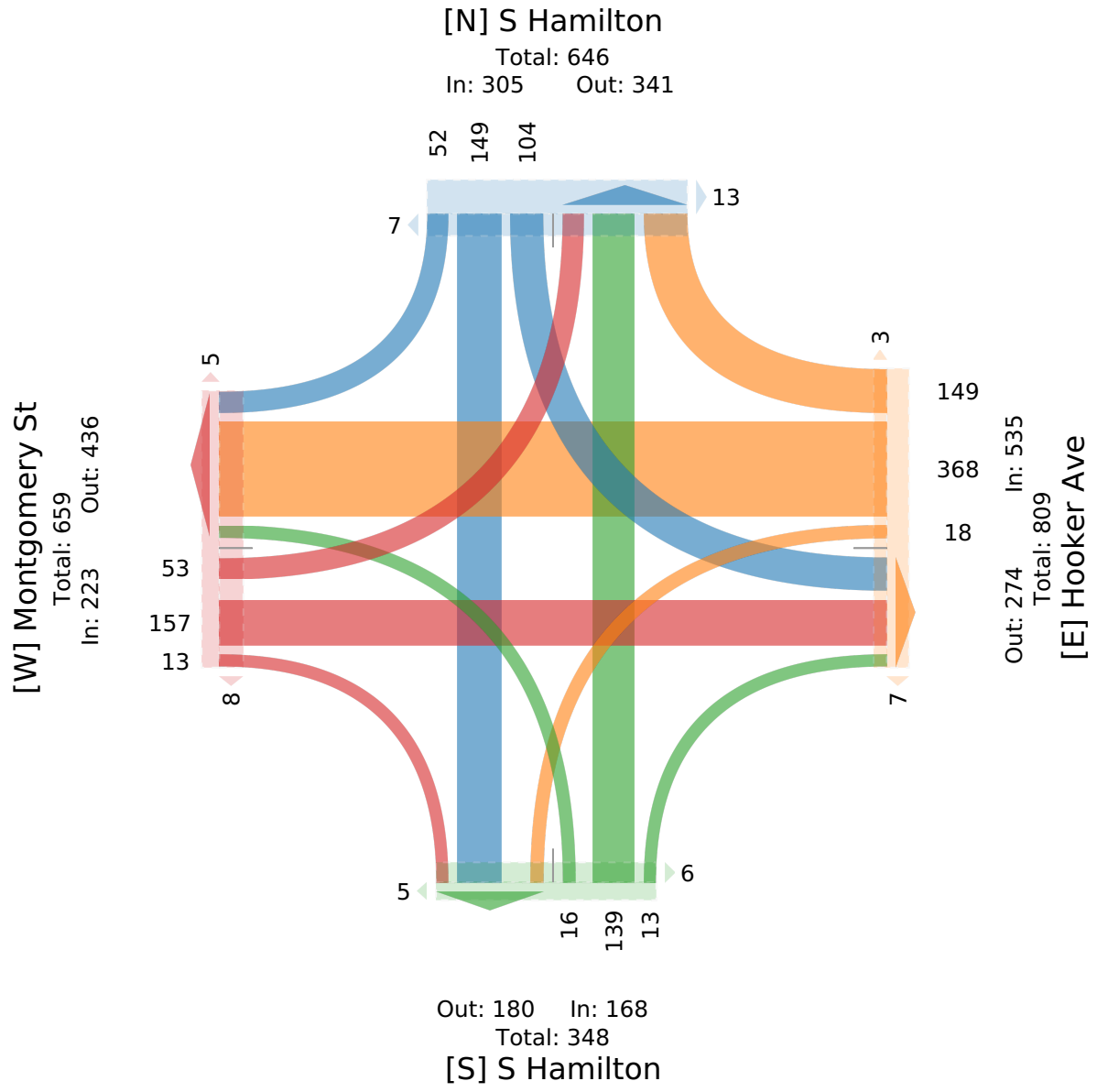
Leg / Direction	Montgomery St Eastbound						Hooker Ave Westbound						S Hamilton Northbound						S Hamilton Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2024-01-13 11:00AM	8	4	2	0	**14**	0	2	33	10	0	**45**	1	2	13	1	0	**16**	2	9	12	0	0	**21**	1	**96**
11:15AM	1	11	0	0	**12**	3	2	24	9	0	**35**	0	1	9	2	0	**12**	2	9	12	3	0	**24**	0	**83**
11:30AM	2	20	1	0	**23**	2	0	36	10	0	**46**	0	2	17	0	0	**19**	1	6	8	2	0	**16**	0	**104**
11:45AM	8	10	0	0	**18**	1	0	32	6	0	**38**	2	1	11	1	0	**13**	0	11	11	6	0	**28**	0	**97**
Hourly Total	19	45	3	0	**67**	6	4	125	35	0	**164**	3	6	50	4	0	**60**	5	35	43	11	0	**89**	1	**380**
12:00PM	4	16	2	0	**22**	2	1	29	17	0	**47**	2	2	13	1	0	**16**	1	12	12	5	0	**29**	0	**114**
12:15PM	5	13	2	0	**20**	0	0	42	14	0	**56**	2	1	20	1	0	**22**	0	5	21	3	0	**29**	3	**127**
12:30PM	3	12	2	0	**17**	0	3	28	12	0	**43**	0	1	10	2	0	**13**	1	12	9	4	0	**25**	1	**98**
12:45PM	8	11	0	0	**19**	0	0	23	12	0	**35**	0	0	5	1	0	**6**	2	7	13	10	0	**30**	5	**90**
Hourly Total	20	52	6	0	**78**	2	4	122	55	0	**181**	4	4	48	5	0	**57**	4	36	55	22	0	**113**	9	**429**
1:00PM	6	21	2	0	**29**	0	2	36	11	0	**49**	3	4	10	1	0	**15**	1	12	18	8	0	**38**	2	**131**
1:15PM	4	11	1	0	**16**	2	3	21	20	0	**44**	0	0	11	2	0	**13**	0	7	7	1	0	**15**	1	**88**
1:30PM	2	17	0	0	**19**	3	4	32	14	0	**50**	0	2	11	1	0	**14**	0	8	11	6	0	**25**	5	**108**
1:45PM	2	11	1	0	**14**	0	1	32	14	0	**47**	0	0	9	0	0	**9**	1	6	15	4	0	**25**	2	**95**
Hourly Total	14	60	4	0	**78**	5	10	121	59	0	**190**	3	6	41	4	0	**51**	2	33	51	19	0	**103**	10	**422**
2:00PM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**0**
Total	53	157	13	0	**223**	13	18	368	149	0	**535**	10	16	139	13	0	**168**	11	104	149	52	0	**305**	20	**1231**
% Approach	23.8%	70.4%	5.8%	0%	**-**	-	3.4%	68.8%	27.9%	0%	**-**	-	9.5%	82.7%	7.7%	0%	**-**	-	34.1%	48.9%	17.0%	0%	**-**	-	-
% Total	4.3%	12.8%	1.1%	0%	**18.1%**	-	1.5%	29.9%	12.1%	0%	**43.5%**	-	1.3%	11.3%	1.1%	0%	**13.6%**	-	8.4%	12.1%	4.2%	0%	**24.8%**	-	-
Lights	52	149	13	0	**214**	-	18	362	146	0	**526**	-	16	138	13	0	**167**	-	102	149	48	0	**299**	-	1206
% Lights	98.1%	94.9%	100%	0%	**96.0%**	-	100%	98.4%	98.0%	0%	**98.3%**	-	100%	99.3%	100%	0%	**99.4%**	-	98.1%	100%	92.3%	0%	**98.0%**	-	98.0%
Articulated Trucks and Single-Unit Trucks	1	1	0	0	**2**	-	0	4	2	0	**6**	-	0	1	0	0	**1**	-	0	0	1	0	**1**	-	10
% Articulated Trucks and Single-Unit Trucks	1.9%	0.6%	0%	0%	**0.9%**	-	0%	1.1%	1.3%	0%	**1.1%**	-	0%	0.7%	0%	0%	**0.6%**	-	0%	0%	1.9%	0%	**0.3%**	-	0.8%
Buses	0	7	0	0	**7**	-	0	2	0	0	**2**	-	0	0	0	0	**0**	-	0	0	3	0	**3**	-	12
% Buses	0%	4.5%	0%	0%	**3.1%**	-	0%	0.5%	0%	0%	**0.4%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	5.8%	0%	**1.0%**	-	1.0%
Bicycles on Road	0	0	0	0	**0**	-	0	0	1	0	**1**	-	0	0	0	0	**0**	-	2	0	0	0	**2**	-	3
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0.7%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	1.9%	0%	0%	0%	**0.7%**	-	0.2%
Pedestrians	-	-	-	-	-	13	-	-	-	-	-	10	-	-	-	-	-	11	-	-	-	-	-	20	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Sat Jan 13, 2024
Full Length (11 AM-2 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148259, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Sat Jan 13, 2024
Midday Peak (WKND), Forced Peak (12:15 PM - 1:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148259, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

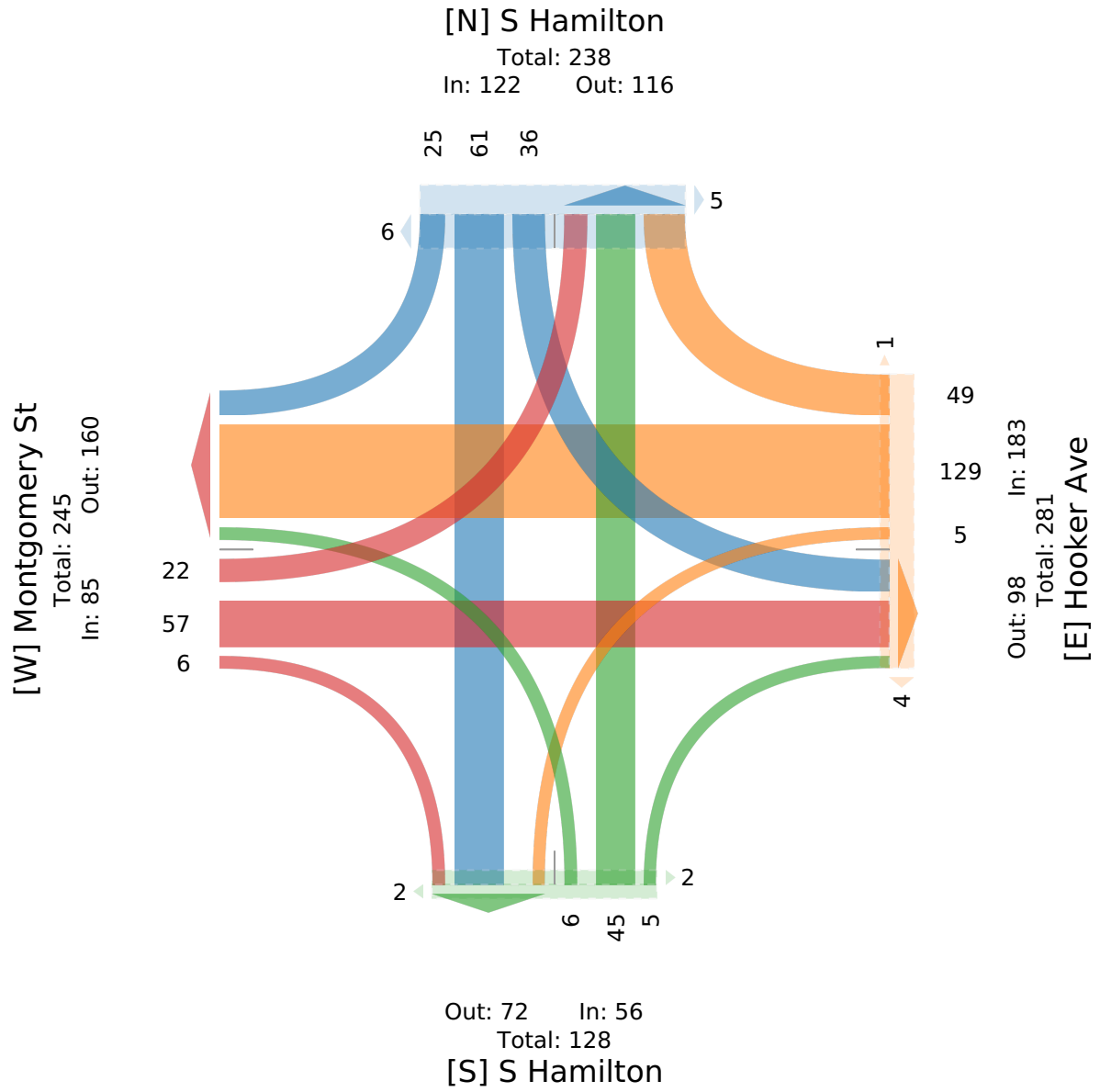
Leg Direction	Montgomery St Eastbound						Hooker Ave Westbound						S Hamilton Northbound						S Hamilton Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2024-01-13 12:15PM	5	13	2	0	**20**	0	0	42	14	0	**56**	2	1	20	1	0	**22**	0	5	21	3	0	**29**	3	**127**
12:30PM	3	12	2	0	**17**	0	3	28	12	0	**43**	0	1	10	2	0	**13**	1	12	9	4	0	**25**	1	**98**
12:45PM	8	11	0	0	**19**	0	0	23	12	0	**35**	0	0	5	1	0	**6**	2	7	13	10	0	**30**	5	**90**
1:00PM	6	21	2	0	**29**	0	2	36	11	0	**49**	3	4	10	1	0	**15**	1	12	18	8	0	**38**	2	**131**
Total	22	57	6	0	**85**	0	5	129	49	0	**183**	5	6	45	5	0	**56**	4	36	61	25	0	**122**	11	**446**
% Approach	25.9%	67.1%	7.1%	0%	**-**	-	2.7%	70.5%	26.8%	0%	**-**	-	10.7%	80.4%	8.9%	0%	**-**	-	29.5%	50.0%	20.5%	0%	**-**	-	-
% Total	4.9%	12.8%	1.3%	0%	**19.1%**	-	1.1%	28.9%	11.0%	0%	**41.0%**	-	1.3%	10.1%	1.1%	0%	**12.6%**	-	8.1%	13.7%	5.6%	0%	**27.4%**	-	-
PHF	0.688	0.679	0.750	-	**0.733**	-	0.417	0.768	0.857	-	**0.813**	-	0.375	0.563	0.625	-	**0.636**	-	0.729	0.726	0.625	-	**0.818**	-	0.854
Lights	22	54	6	0	**82**	-	5	127	47	0	**179**	-	6	45	5	0	**56**	-	35	61	23	0	**119**	-	436
% Lights	100%	94.7%	100%	0%	**96.5%**	-	100%	98.4%	95.9%	0%	**97.8%**	-	100%	100%	100%	0%	**100%**	-	97.2%	100%	92.0%	0%	**97.5%**	-	97.8%
Articulated Trucks and Single-Unit Trucks	0	1	0	0	**1**	-	0	1	1	0	**2**	-	0	0	0	0	**0**	-	0	0	1	0	**1**	-	4
% Articulated Trucks and Single-Unit Trucks	0%	1.8%	0%	0%	**1.2%**	-	0%	0.8%	2.0%	0%	**1.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	4.0%	0%	**0.8%**	-	0.9%
Buses	0	2	0	0	**2**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	1	0	**1**	-	4
% Buses	0%	3.5%	0%	0%	**2.4%**	-	0%	0.8%	0%	0%	**0.5%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	4.0%	0%	**0.8%**	-	0.9%
Bicycles on Road	0	0	0	0	**0**	-	0	0	1	0	**1**	-	0	0	0	0	**0**	-	1	0	0	0	**1**	-	2
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	2.0%	0%	**0.5%**	-	0%	0%	0%	0%	**0%**	-	2.8%	0%	0%	0%	**0.8%**	-	0.4%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	4	-	-	-	-	-	11	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Sat Jan 13, 2024
Midday Peak (WKND), Forced Peak (12:15 PM - 1:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148259, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Sat Jan 13, 2024
PM Peak (WKND) (1 PM - 2 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148259, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

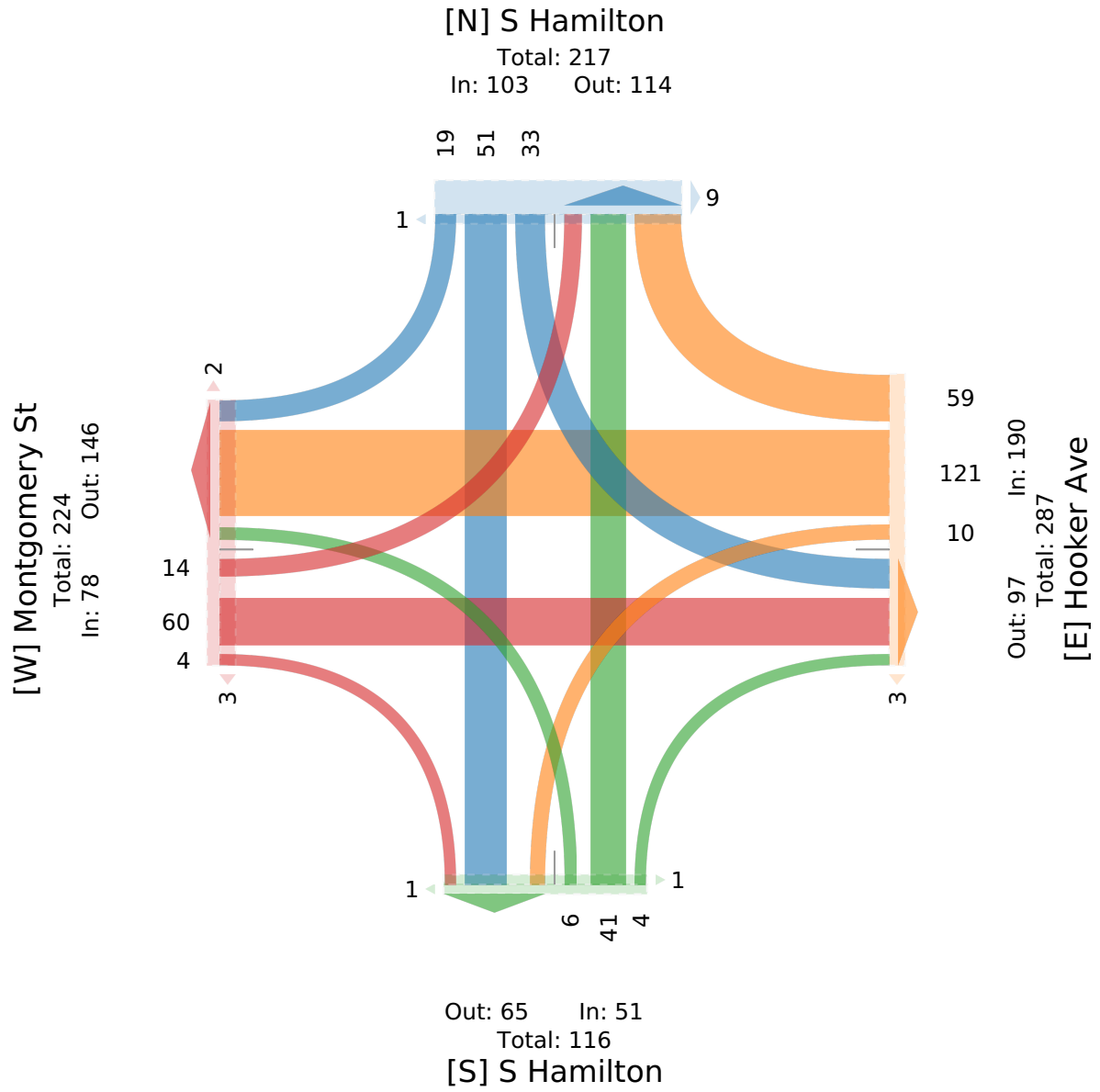
Leg Direction	Montgomery St Eastbound						Hooker Ave Westbound						S Hamilton Northbound						S Hamilton Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2024-01-13 1:00PM	6	21	2	0	**29**	0	2	36	11	0	**49**	3	4	10	1	0	**15**	1	12	18	8	0	**38**	2	**131**
1:15PM	4	11	1	0	**16**	2	3	21	20	0	**44**	0	0	11	2	0	**13**	0	7	7	1	0	**15**	1	**88**
1:30PM	2	17	0	0	**19**	3	4	32	14	0	**50**	0	2	11	1	0	**14**	0	8	11	6	0	**25**	5	**108**
1:45PM	2	11	1	0	**14**	0	1	32	14	0	**47**	0	0	9	0	0	**9**	1	6	15	4	0	**25**	2	**95**
Total	14	60	4	0	**78**	5	10	121	59	0	**190**	3	6	41	4	0	**51**	2	33	51	19	0	**103**	10	**422**
% Approach	17.9%	76.9%	5.1%	0%	**-**	-	5.3%	63.7%	31.1%	0%	**-**	-	11.8%	80.4%	7.8%	0%	**-**	-	32.0%	49.5%	18.4%	0%	**-**	-	-
% Total	3.3%	14.2%	0.9%	0%	**18.5%**	-	2.4%	28.7%	14.0%	0%	**45.0%**	-	1.4%	9.7%	0.9%	0%	**12.1%**	-	7.8%	12.1%	4.5%	0%	**24.4%**	-	-
PHF	0.583	0.714	0.500	-	**0.672**	-	0.625	0.840	0.738	-	**0.950**	-	0.375	0.932	0.500	-	**0.850**	-	0.727	0.708	0.594	-	**0.689**	-	0.810
Lights	14	58	4	0	**76**	-	10	119	58	0	**187**	-	6	41	4	0	**51**	-	32	51	18	0	**101**	-	415
% Lights	100%	96.7%	100%	0%	**97.4%**	-	100%	98.3%	98.3%	0%	**98.4%**	-	100%	100%	100%	0%	**100%**	-	97.0%	100%	94.7%	0%	**98.1%**	-	98.3%
Articulated Trucks and Single-Unit Trucks	0	0	0	0	**0**	-	0	1	1	0	**2**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	2
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0.8%	1.7%	0%	**1.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.5%
Buses	0	2	0	0	**2**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	1	0	**1**	-	4
% Buses	0%	3.3%	0%	0%	**2.6%**	-	0%	0.8%	0%	0%	**0.5%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	5.3%	0%	**1.0%**	-	0.9%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1	0	0	0	**1**	-	1
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	3.0%	0%	0%	0%	**1.0%**	-	0.2%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	10	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

123-200 S Hamilton St and Hooker Ave/Montgom... - TMC

Sat Jan 13, 2024
PM Peak (WKND) (1 PM - 2 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1148259, Location: 41.698926, -73.925187, Site Code: 123-200

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



National Data & Surveying Services

Intersection Turning Movement Count

Location: Hooker Ave/Crescent Rd & Dwight St/Hanscom Ave
City: Poughkeepsie
Control: Signalized

Project ID: 24-380005-001
Date: 1/10/2024

Data - Total

NS/EW Streets:	Hooker Ave/Crescent Rd					Hooker Ave/Crescent Rd					Dwight St/Hanscom Ave					Dwight St/Hanscom Ave								
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2			
	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2U2	TOTAL
7:00 AM	8	23	0	0	0	0	8	3	0	0	4	0	4	0	1	0	4	0	0	0	0	0	0	55
7:15 AM	10	31	0	0	0	0	23	1	0	0	1	0	6	0	0	2	6	0	0	0	0	0	0	80
7:30 AM	11	39	0	0	0	0	33	4	0	0	2	0	10	0	0	1	6	1	0	0	0	1	1	109
7:45 AM	10	48	0	0	2	0	31	9	0	0	8	0	12	0	0	2	4	3	0	0	0	0	0	129
8:00 AM	13	57	0	0	0	0	36	9	0	1	4	0	10	0	0	1	5	2	0	1	0	0	2	141
8:15 AM	16	55	0	0	1	0	30	9	0	2	6	0	7	0	0	1	5	3	0	0	0	3	0	138
8:30 AM	21	65	0	0	0	0	34	7	0	2	11	0	1	0	1	0	4	4	0	0	0	1	0	151
8:45 AM	8	56	0	0	0	0	49	7	0	1	4	0	6	0	0	0	3	1	0	1	1	0	0	137
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2U2	TOTAL
TOTAL VOLUMES :	97	374	0	0	3	0	244	49	0	6	40	0	56	0	2	7	37	14	0	2	1	5	3	940
APPROACH %'s :	20.46%	78.90%	0.00%	0.00%	0.63%	0.00%	81.61%	16.39%	0.00%	2.01%	40.82%	0.00%	57.14%	0.00%	2.04%	11.67%	61.67%	23.33%	0.00%	3.33%	11.11%	55.56%	33.33%	
PEAK HR :	08:00 AM - 09:00 AM																							TOTAL
PEAK HR VOL :	58	233	0	0	1	0	149	32	0	6	25	0	24	0	1	2	17	10	0	2	1	4	2	567
PEAK HR FACTOR :	0.690	0.896	0.000	0.000	0.250	0.000	0.760	0.889	0.000	0.750	0.568	0.000	0.600	0.000	0.250	0.500	0.850	0.625	0.000	0.500	0.250	0.333	0.250	0.939
			0.849					0.820					0.893					0.861						

NOON	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2			
	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2U2	TOTAL
2:00 PM	5	38	0	0	0	0	37	5	0	1	0	0	1	0	0	0	3	0	0	0	0	1	0	91
2:15 PM	10	31	0	0	1	0	23	11	0	0	3	0	7	0	0	0	3	2	0	0	0	2	0	93
2:30 PM	14	34	0	0	0	0	41	6	0	0	7	0	16	0	0	1	2	1	0	0	0	2	1	125
2:45 PM	15	41	0	0	0	0	52	10	0	3	11	0	16	0	0	1	2	2	0	0	0	1	1	155
3:00 PM	14	63	0	0	0	0	43	8	0	2	6	0	14	0	0	3	2	1	0	1	0	1	0	158
3:15 PM	12	44	0	0	1	0	48	7	0	2	5	0	9	0	0	1	6	1	0	0	0	0	0	136
3:30 PM	13	43	0	0	1	0	37	4	0	1	7	0	6	0	1	1	4	0	0	1	0	2	0	121
3:45 PM	15	50	0	0	1	0	33	6	0	1	10	0	13	0	0	2	5	1	0	0	1	0	0	138
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2U2	TOTAL
TOTAL VOLUMES :	98	344	0	0	4	0	314	57	0	10	49	0	82	0	1	9	27	8	0	2	1	9	2	1017
APPROACH %'s :	21.97%	77.13%	0.00%	0.00%	0.90%	0.00%	82.41%	14.96%	0.00%	2.62%	37.12%	0.00%	62.12%	0.00%	0.76%	19.57%	58.70%	17.39%	0.00%	4.35%	8.33%	75.00%	16.67%	
PEAK HR :	02:30 PM - 03:30 PM																							TOTAL
PEAK HR VOL :	55	182	0	0	1	0	184	31	0	7	29	0	55	0	0	6	12	5	0	1	0	4	2	574
PEAK HR FACTOR :	0.917	0.722	0.000	0.000	0.250	0.000	0.885	0.775	0.000	0.583	0.659	0.000	0.859	0.000	0.000	0.500	0.500	0.625	0.000	0.250	0.000	0.500	0.500	0.908
			0.773					0.854					0.778					0.750						

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2			
	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2U2	TOTAL
4:00 PM	4	44	0	0	1	0	52	5	0	0	9	0	13	0	0	0	2	3	0	0	0	2	0	135
4:15 PM	18	43	0	0	1	0	44	4	0	0	4	0	13	0	0	1	2	0	0	0	0	0	1	131
4:30 PM	9	43	0	0	1	0	46	4	0	1	13	0	11	0	0	3	5	1	0	0	0	0	3	140
4:45 PM	15	65	0	0	0	0	53	7	0	1	4	0	5	0	0	1	3	0	0	1	0	0	0	155
5:00 PM	7	36	0	0	0	0	64	6	0	0	8	0	11	0	0	1	6	1	0	1	0	0	1	142
5:15 PM	16	46	0	0	1	0	59	10	0	1	7	0	8	0	0	0	4	2	0	0	0	1	0	155
5:30 PM	8	31	0	0	0	0	44	6	0	0	5	0	9	0	0	1	5	2	0	0	0	0	3	114
5:45 PM	5	37	0	0	0	0	49	7	0	0	3	0	5	0	0	1	3	2	0	0	0	0	2	114
6:00 PM	6	30	0	0	1	0	45	8	0	1	4	0	8	0	0	4	4	0	0	0	0	2	0	113
6:15 PM	6	28	0	0	0	0	25	8	0	0	5	0	7	0	0	1	3	0	0	1	0	0	0	84
6:30 PM	6	30	0	0	0	0	28	4	0	0	7	0	3	0	0	1	3	1	0	0	0	0	0	83
6:45 PM	6	20	0	0	0	0	30	3	0	0	5	0	3	0	0	1	2	2	0	0	1	0	0	73
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2U2	TOTAL
TOTAL VOLUMES :	106	453	0	0	5	0	539	72	0	4	74	0	96	0	0	15	42	14	0	3	1	5	10	1439
APPROACH %'s :	18.79%	80.32%	0.00%	0.00%	0.89%	0.00%	87.64%	11.71%	0.00%	0.65%	43.53%	0.00%	56.47%	0.00%	0.00%	20.27%	56.76%	18.92%	0.00%	4.05%	6.25%	31.25%	62.50%	
PEAK HR :	04:30 PM - 05:30 PM																							TOTAL
PEAK HR VOL :	47	190	0	0	2	0	222	27	0	3	32	0	35	0	0	5	18	4	0	2	0	1	4	592
PEAK HR FACTOR :	0.734	0.731	0.000	0.000	0.500	0.000	0.867	0.675	0.000	0.750	0.615	0.000	0.795	0.000	0.000	0.417	0.750	0.500	0.000	0.500	0.000	0.250	0.333	0.955
			0.747					0.900					0.698					0.806						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hooker Ave/Crescent Rd & Dwight St/Hanscom Ave
City: Poughkeepsie
Control: Signalized

Project ID: 24-380005-001
Date: 1/13/2024

Data - Total

NS/EW Streets:	Hooker Ave/Crescent Rd					Hooker Ave/Crescent Rd					Dwight St/Hanscom Ave					Dwight St/Hanscom Ave								
NOON	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND 2			
	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2U2	TOTAL
11:00 AM	5	30	0	0	0	0	26	10	0	0	9	0	6	0	0	15	3	17	0	0	1	0	1	123
11:15 AM	7	27	0	0	0	0	21	8	0	0	1	0	2	0	0	3	3	0	0	0	0	0	0	72
11:30 AM	3	24	0	0	0	0	47	3	0	1	5	0	2	0	0	3	2	0	0	0	0	1	1	92
11:45 AM	3	30	0	0	0	0	31	4	0	0	5	0	5	0	0	4	2	5	0	0	0	1	1	91
12:00 PM	7	45	0	0	0	0	28	4	0	0	12	0	8	0	1	6	4	1	0	0	0	0	0	116
12:15 PM	7	36	0	0	1	0	31	2	0	1	10	0	5	0	0	9	6	3	0	0	0	2	1	114
12:30 PM	6	36	0	0	0	0	29	5	0	1	8	0	4	0	0	1	1	3	0	0	0	0	1	95
12:45 PM	6	23	0	0	0	0	28	9	0	1	3	0	6	0	0	1	3	0	0	0	0	0	0	80
1:00 PM	1	27	0	0	0	0	33	2	0	0	3	0	6	0	0	5	1	1	0	0	0	0	0	79
1:15 PM	7	32	0	0	1	0	20	4	0	2	2	0	7	0	0	0	4	1	0	1	0	0	0	81
1:30 PM	5	35	0	0	0	0	34	4	0	0	12	0	1	0	0	3	2	1	0	0	0	0	0	97
1:45 PM	4	28	0	0	0	0	18	1	0	2	2	0	2	0	0	2	2	2	0	0	0	0	0	63
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2U2	TOTAL
TOTAL VOLUMES :	61	373	0	0	2	0	346	56	0	8	72	0	54	0	1	52	33	34	0	1	1	4	5	1103
APPROACH %'s :	13.99%	85.55%	0.00%	0.00%	0.46%	0.00%	84.39%	13.66%	0.00%	1.95%	56.69%	0.00%	42.52%	0.00%	0.79%	43.33%	27.50%	28.33%	0.00%	0.83%	10.00%	40.00%	50.00%	
PEAK HR :	11:45 AM - 12:45 PM																							TOTAL
PEAK HR VOL :	23	147	0	0	1	0	119	15	0	2	35	0	22	0	1	20	13	12	0	0	0	3	3	416
PEAK HR FACTOR :	0.821	0.817	0.000	0.000	0.250	0.000	0.960	0.750	0.000	0.500	0.729	0.000	0.688	0.000	0.250	0.556	0.542	0.600	0.000	0.000	0.000	0.375	0.750	0.897
			0.822					0.971					0.690					0.625						

Creighton Manning Engineering, LLP

2 William St, Suite 100
White Plains, NY, 10601

File Name : 123200_tmc_am
Site Code : 123200
Start Date : 1/10/2024
Page No : 1

Groups Printed- Pass Veh - Heavy Veh - School Bus

	South Hamilton St Southbound					Westbound					Ivy Ter Northbound					Livingston St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	15	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7	22
07:15 AM	19	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11	30
07:30 AM	24	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16	40
07:45 AM	47	1	0	0	48	0	0	0	0	0	0	0	0	0	0	1	0	24	0	25	73
Total	105	1	0	0	106	0	0	0	0	0	0	0	0	0	0	1	0	58	0	59	165
08:00 AM	34	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11	45
08:15 AM	29	1	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	15	1	16	46
08:30 AM	40	0	0	0	40	0	0	0	0	0	0	1	0	0	1	0	0	19	0	19	60
08:45 AM	26	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16	42
Total	129	1	0	0	130	0	0	0	0	0	0	1	0	0	1	0	0	61	1	62	193
Grand Total	234	2	0	0	236	0	0	0	0	0	0	1	0	0	1	1	0	119	1	121	358
Apprch %	99.2	0.8	0	0		0	0	0	0		0	100	0	0		0.8	0	98.3	0.8		
Total %	65.4	0.6	0	0	65.9	0	0	0	0	0	0	0.3	0	0	0.3	0.3	0	33.2	0.3	33.8	
Pass Veh	232	2	0	0	234	0	0	0	0	0	0	1	0	0	1	1	0	119	1	121	356
% Pass Veh	99.1	100	0	0	99.2	0	0	0	0	0	0	100	0	0	100	100	0	100	100	100	99.4
Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
School Bus	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% School Bus	0.9	0	0	0	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6

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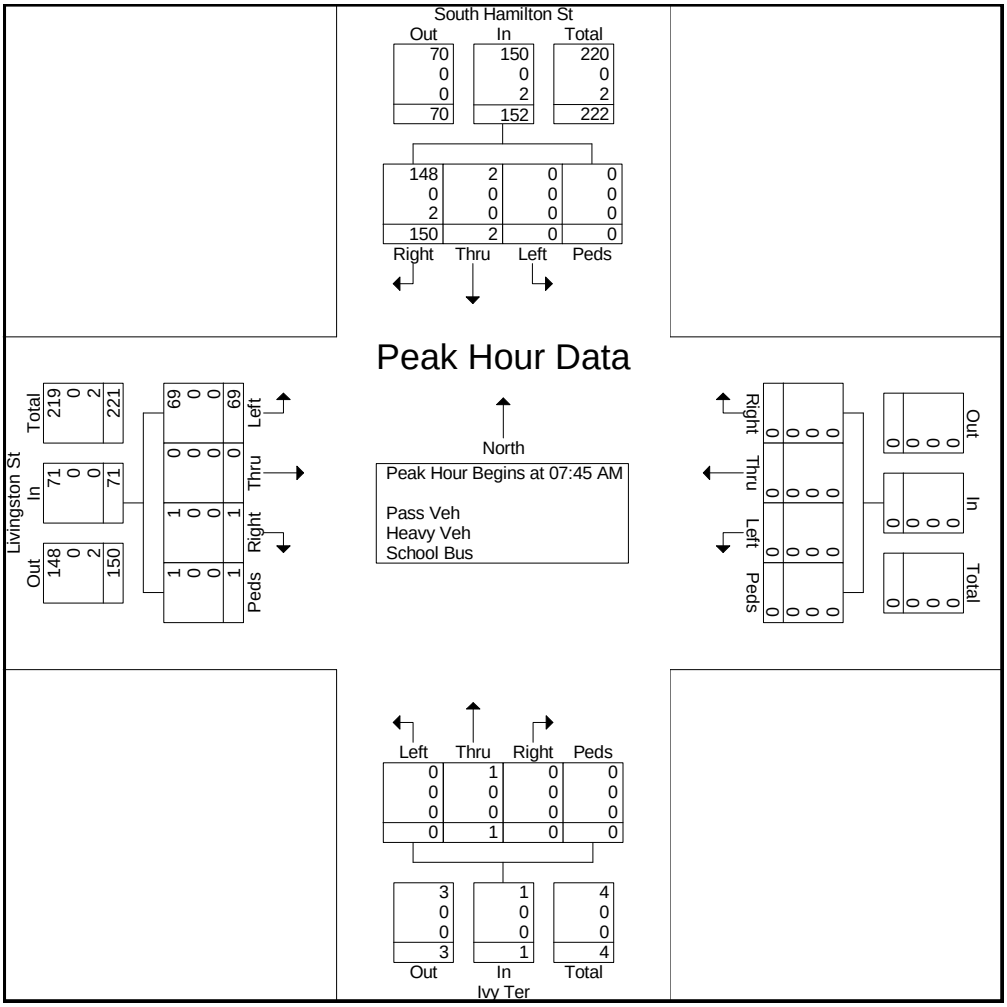
2 William St, Suite 100
White Plains, NY, 10601

File Name : 123200_tmc_am
Site Code : 123200
Start Date : 1/10/2024
Page No : 2

	South Hamilton St Southbound					Westbound					Ivy Ter Northbound					Livingston St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**47**	**1**	0	0	**48**	0	0	0	0	0	0	0	0	0	0	**1**	0	**24**	0	**25**	**73**
08:00 AM	34	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11	45
08:15 AM	29	1	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	15	**1**	16	46
08:30 AM	40	0	0	0	40	0	0	0	0	0	0	**1**	0	0	**1**	0	0	19	0	19	60
Total Volume	150	2	0	0	152	0	0	0	0	0	0	1	0	0	1	1	0	69	1	71	224
% App. Total	98.7	1.3	0	0		0	0	0	0		0	100	0	0		1.4	0	97.2	1.4		
PHF	.798	.500	.000	.000	.792	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250	.000	.719	.250	.710	.767
Pass Veh	148	2	0	0	150	0	0	0	0	0	0	1	0	0	1	1	0	69	1	71	222
% Pass Veh	98.7	100	0	0	98.7	0	0	0	0	0	0	100	0	0	100	100	0	100	100	100	99.1
Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
School Bus	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% School Bus	1.3	0	0	0	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9

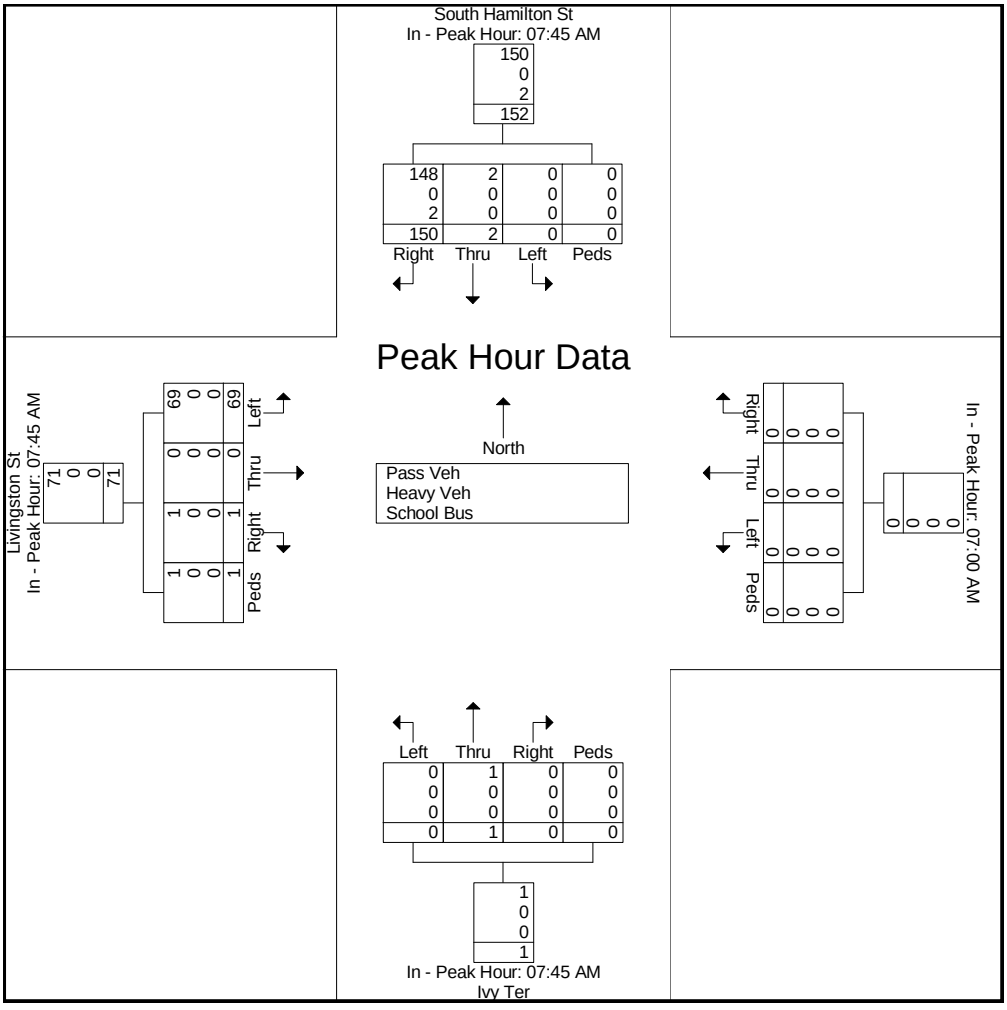


Creighton Manning Engineering, LLP

2 William St, Suite 100
White Plains, NY, 10601

File Name : 123200_tmc_am
Site Code : 123200
Start Date : 1/10/2024
Page No : 3

	South Hamilton St Southbound					Westbound					Ivy Ter Northbound					Livingston St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:45 AM					07:00 AM					07:45 AM					07:45 AM					
+0 mins.	**47**	**1**	0	0	**48**	0	0	0	0	0	0	0	0	0	0	**1**	0	**24**	0	**25**	
+15 mins.	34	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11	
+30 mins.	29	1	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	15	**1**	16	
+45 mins.	40	0	0	0	40	0	0	0	0	0	0	**1**	0	0	**1**	0	0	19	0	19	
Total Volume	150	2	0	0	152	0	0	0	0	0	0	1	0	0	1	1	0	69	1	71	
% App. Total	98.7	1.3	0	0		0	0	0	0		0	100	0	0		1.4	0	97.2	1.4		
PHF	.798	.500	.000	.000	.792	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250	.000	.719	.250	.710	
Pass Veh	148	2	0	0	150	0	0	0	0	0	0	1	0	0	1	1	0	69	1	71	
% Pass Veh	98.7	100	0	0	98.7	0	0	0	0	0	0	100	0	0	100	100	0	100	100	100	
Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
School Bus	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% School Bus	1.3	0	0	0	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



Creighton Manning Engineering, LLP

2 William St, Suite 100
White Plains, NY, 10601

File Name : 123200_tmc_pm
Site Code : 00123200
Start Date : 1/10/2024
Page No : 1

Groups Printed- Pass Veh - Heavy Veh - School Bus

	South Hamilton St Southbound					Westbound					South Hamilton St Northbound					Livingston St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:00 PM	15	0	0	0	15	0	0	0	0	0	3	0	0	1	4	0	0	17	0	17	36
02:15 PM	13	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19	32
02:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	3
02:45 PM	25	2	0	0	27	0	0	0	0	0	0	1	0	0	1	1	0	27	0	28	56
Total	54	2	0	0	56	0	0	0	0	0	3	1	1	1	6	1	0	64	0	65	127
03:00 PM	24	1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	28	0	28	53
03:15 PM	22	2	0	0	24	0	0	0	0	0	0	1	0	0	1	0	0	30	1	31	56
03:30 PM	19	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	29	0	29	48
03:45 PM	17	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	22	0	22	39
Total	82	3	0	0	85	0	0	0	0	0	0	1	0	0	1	0	0	109	1	110	196
Grand Total	136	5	0	0	141	0	0	0	0	0	3	2	1	1	7	1	0	173	1	175	323
Apprch %	96.5	3.5	0	0		0	0	0	0		42.9	28.6	14.3	14.3		0.6	0	98.9	0.6		
Total %	42.1	1.5	0	0	43.7	0	0	0	0	0	0.9	0.6	0.3	0.3	2.2	0.3	0	53.6	0.3	54.2	
Pass Veh	135	5	0	0	140	0	0	0	0	0	3	2	1	1	7	1	0	173	1	175	322
% Pass Veh	99.3	100	0	0	99.3	0	0	0	0	0	100	100	100	100	100	100	0	100	100	100	99.7
Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
School Bus	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% School Bus	0.7	0	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3

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	South Hamilton St Southbound					Westbound					South Hamilton St Northbound					Livingston St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:45 PM																					
02:45 PM	**25**	**2**	0	0	**27**	0	0	0	0	0	0	**1**	0	0	**1**	**1**	0	27	0	28	**56**
03:00 PM	24	1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	28	0	28	53
03:15 PM	22	2	0	0	24	0	0	0	0	0	0	1	0	0	1	0	0	**30**	**1**	**31**	56
03:30 PM	19	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	29	0	29	48
Total Volume	90	5	0	0	95	0	0	0	0	0	0	2	0	0	2	1	0	114	1	116	213
% App. Total	94.7	5.3	0	0		0	0	0	0		0	100	0	0		0.9	0	98.3	0.9		
PHF	.900	.625	.000	.000	.880	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.250	.000	.950	.250	.935	.951
Pass Veh	89	5	0	0	94	0	0	0	0	0	0	2	0	0	2	1	0	114	1	116	212
% Pass Veh	98.9	100	0	0	98.9	0	0	0	0	0	0	100	0	0	100	100	0	100	100	100	99.5
Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
School Bus	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% School Bus	1.1	0	0	0	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5

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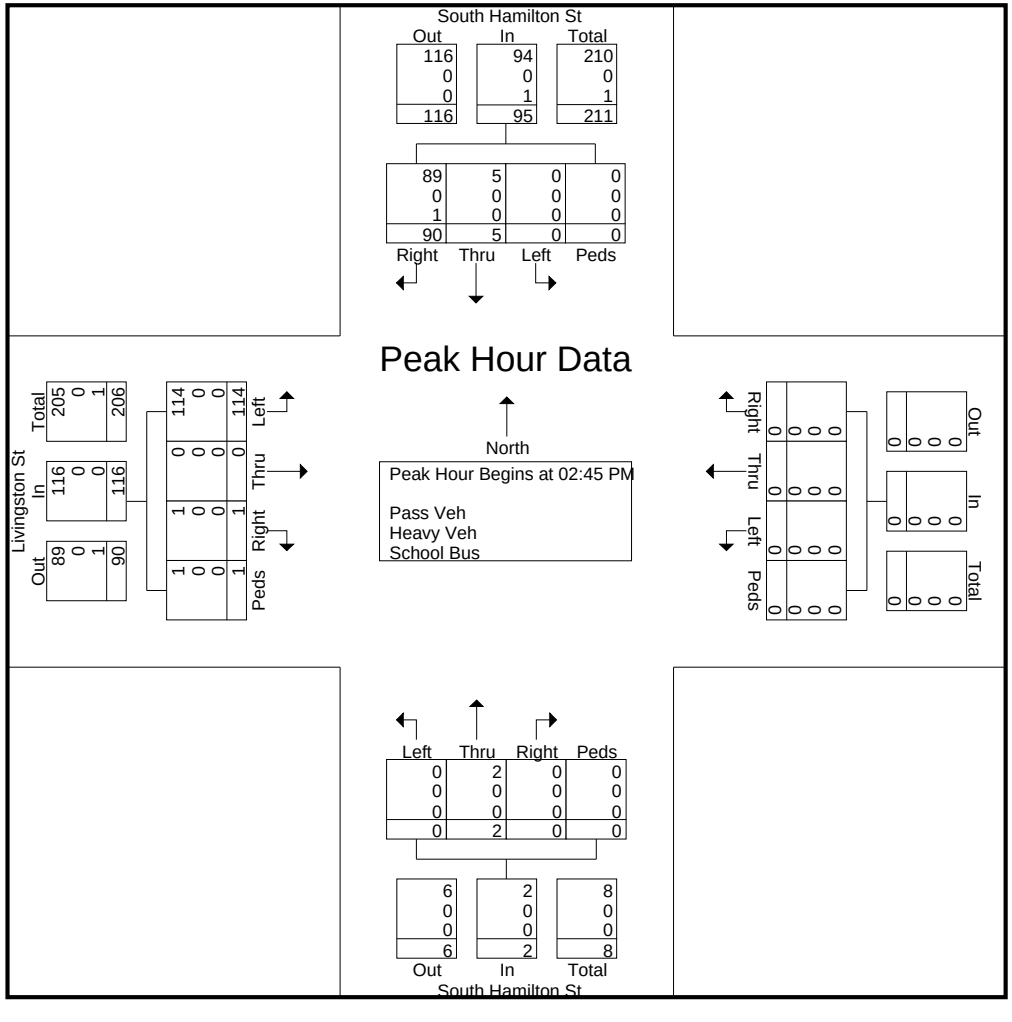

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File Name : 123200_tmc_pm
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Start Date : 1/10/2024
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Groups Printed- Pass Veh

	South Hamilton St Southbound					Westbound					South Hamilton St Northbound					Livingston St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	23	1	0	0	24	0	0	0	0	0	0	0	0	0	0	1	0	35	0	36	60
04:15 PM	18	0	0	0	18	0	0	0	0	0	0	1	0	0	1	0	0	36	0	36	55
04:30 PM	18	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	38	1	39	57
04:45 PM	25	0	0	0	25	0	0	0	0	0	0	0	0	0	0	1	0	45	0	46	71
Total	84	1	0	0	85	0	0	0	0	0	0	1	0	0	1	2	0	154	1	157	243
05:00 PM	22	0	0	0	22	0	0	0	0	0	0	2	0	0	2	1	0	36	0	37	61
05:15 PM	18	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	27	1	28	46
05:30 PM	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	28	0	28	48
05:45 PM	24	1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	20	0	20	45
Total	84	1	0	0	85	0	0	0	0	0	0	2	0	0	2	1	0	111	1	113	200
06:00 PM	16	2	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	20	0	20	38
06:15 PM	10	1	0	0	11	0	0	0	0	0	0	0	0	0	0	1	0	15	0	16	27
06:30 PM	17	1	0	0	18	0	0	0	0	0	0	0	0	0	0	1	0	21	0	22	40
06:45 PM	14	0	0	0	14	0	0	0	0	0	0	0	0	0	0	1	0	12	0	13	27
Total	57	4	0	0	61	0	0	0	0	0	0	0	0	0	0	3	0	68	0	71	132
Grand Total	225	6	0	0	231	0	0	0	0	0	0	3	0	0	3	6	0	333	2	341	575
Apprch %	97.4	2.6	0	0		0	0	0	0		0	100	0	0		1.8	0	97.7	0.6		
Total %	39.1	1	0	0	40.2	0	0	0	0	0	0	0.5	0	0	0.5	1	0	57.9	0.3	59.3	

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	South Hamilton St Southbound					Westbound					South Hamilton St Northbound					Livingston St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	18	0	0	0	18	0	0	0	0	0	0	1	0	0	1	0	0	36	0	36	55
04:30 PM	18	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	38	**1**	39	57
04:45 PM	**25**	0	0	0	**25**	0	0	0	0	0	0	0	0	0	0	**1**	0	**45**	0	**46**	**71**
05:00 PM	22	0	0	0	22	0	0	0	0	0	0	**2**	0	0	**2**	1	0	36	0	37	61
Total Volume	83	0	0	0	83	0	0	0	0	0	0	3	0	0	3	2	0	155	1	158	244
% App. Total	100	0	0	0		0	0	0	0		0	100	0	0		1.3	0	98.1	0.6		
PHF	.830	.000	.000	.000	.830	.000	.000	.000	.000	.000	.000	.375	.000	.000	.375	.500	.000	.861	.250	.859	.859

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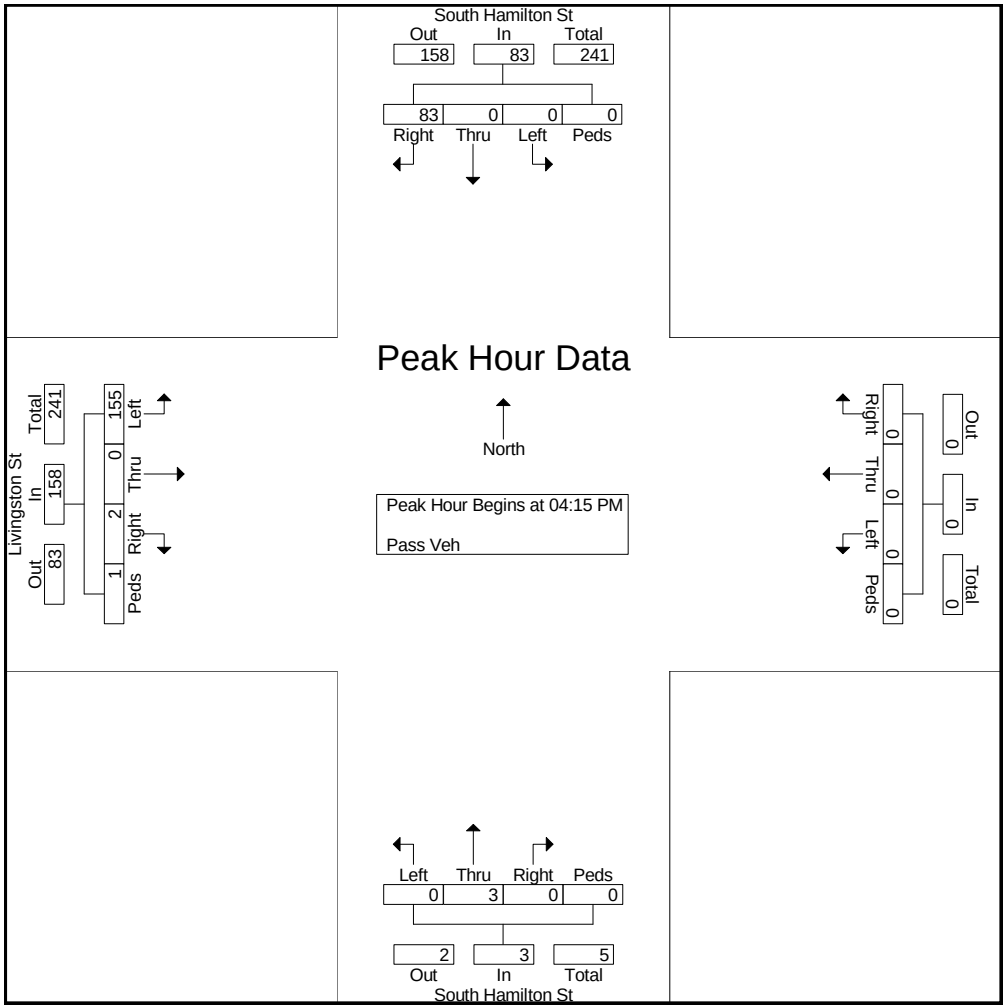

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	South Hamilton St Southbound					Westbound					South Hamilton St Northbound					Livingston St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	02:45 PM					02:00 PM					02:00 PM					04:15 PM					
+0 mins.	**24**	**2**	0	0	**26**	0	0	0	0	0	**3**	0	0	**1**	**4**	0	0	36	0	36	
+15 mins.	24	1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	38	**1**	39	
+30 mins.	22	2	0	0	24	0	0	0	0	0	0	0	**1**	0	1	**1**	0	**45**	0	**46**	
+45 mins.	19	0	0	0	19	0	0	0	0	0	0	**1**	0	0	1	1	0	36	0	37	
Total Volume	89	5	0	0	94	0	0	0	0	0	3	1	1	1	6	2	0	155	1	158	
% App. Total	94.7	5.3	0	0		0	0	0	0		50	16.7	16.7	16.7		1.3	0	98.1	0.6		
PHF	.927	.625	.000	.000	.904	.000	.000	.000	.000	.000	.250	.250	.250	.250	.375	.500	.000	.861	.250	.859	

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Site Code : 123200
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Groups Printed- Pass Veh - Heavy Veh - School Bus

	South Hamilton St Southbound					Westbound					South Hamilton St Northbound					Livingston St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	15	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	17	0	17	32
11:15 AM	15	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	13	0	13	28
11:30 AM	22	0	0	0	22	0	0	0	0	0	0	2	0	0	2	0	0	24	0	24	48
11:45 AM	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	1	0	25	0	26	46
Total	72	0	0	0	72	0	0	0	0	0	0	2	0	0	2	1	0	79	0	80	154
12:00 PM	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16	25
12:15 PM	15	2	0	0	17	0	0	0	0	0	0	1	0	0	1	0	0	13	1	14	32
12:30 PM	19	0	0	0	19	0	0	0	0	0	0	0	0	0	0	1	0	13	1	15	34
12:45 PM	14	1	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14	29
Total	57	3	0	0	60	0	0	0	0	0	0	1	0	0	1	1	0	56	2	59	120
01:00 PM	15	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	18	0	18	33
01:15 PM	14	1	0	0	15	0	0	0	0	0	0	0	1	0	1	0	0	15	0	15	31
01:30 PM	16	1	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	25	0	25	42
01:45 PM	16	0	0	0	16	0	0	0	0	0	0	0	0	0	0	1	0	17	0	18	34
Total	61	2	0	0	63	0	0	0	0	0	0	0	1	0	1	1	0	75	0	76	140
Grand Total	190	5	0	0	195	0	0	0	0	0	0	3	1	0	4	3	0	210	2	215	414
Apprch %	97.4	2.6	0	0		0	0	0	0		0	75	25	0		1.4	0	97.7	0.9		
Total %	45.9	1.2	0	0	47.1	0	0	0	0	0	0	0.7	0.2	0	1	0.7	0	50.7	0.5	51.9	
Pass Veh	190	5	0	0	195	0	0	0	0	0	0	3	1	0	4	3	0	209	2	214	413
% Pass Veh	100	100	0	0	100	0	0	0	0	0	0	100	100	0	100	100	0	99.5	100	99.5	99.8
Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0.5	0.2
School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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	South Hamilton St Southbound					Westbound					South Hamilton St Northbound					Livingston St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	15	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	17	0	17	32
11:15 AM	15	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	13	0	13	28
11:30 AM	**22**	0	0	0	**22**	0	0	0	0	0	0	**2**	0	0	**2**	0	0	24	0	24	**48**
11:45 AM	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	**1**	0	**25**	0	**26**	46
Total Volume	72	0	0	0	72	0	0	0	0	0	0	2	0	0	2	1	0	79	0	80	154
% App. Total	100	0	0	0		0	0	0	0		0	100	0	0		1.2	0	98.8	0		
PHF	.818	.000	.000	.000	.818	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250	.000	.790	.000	.769	.802
Pass Veh	72	0	0	0	72	0	0	0	0	0	0	2	0	0	2	1	0	78	0	79	153
% Pass Veh	100	0	0	0	100	0	0	0	0	0	0	100	0	0	100	100	0	98.7	0	98.8	99.4
Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	1.3	0.6
School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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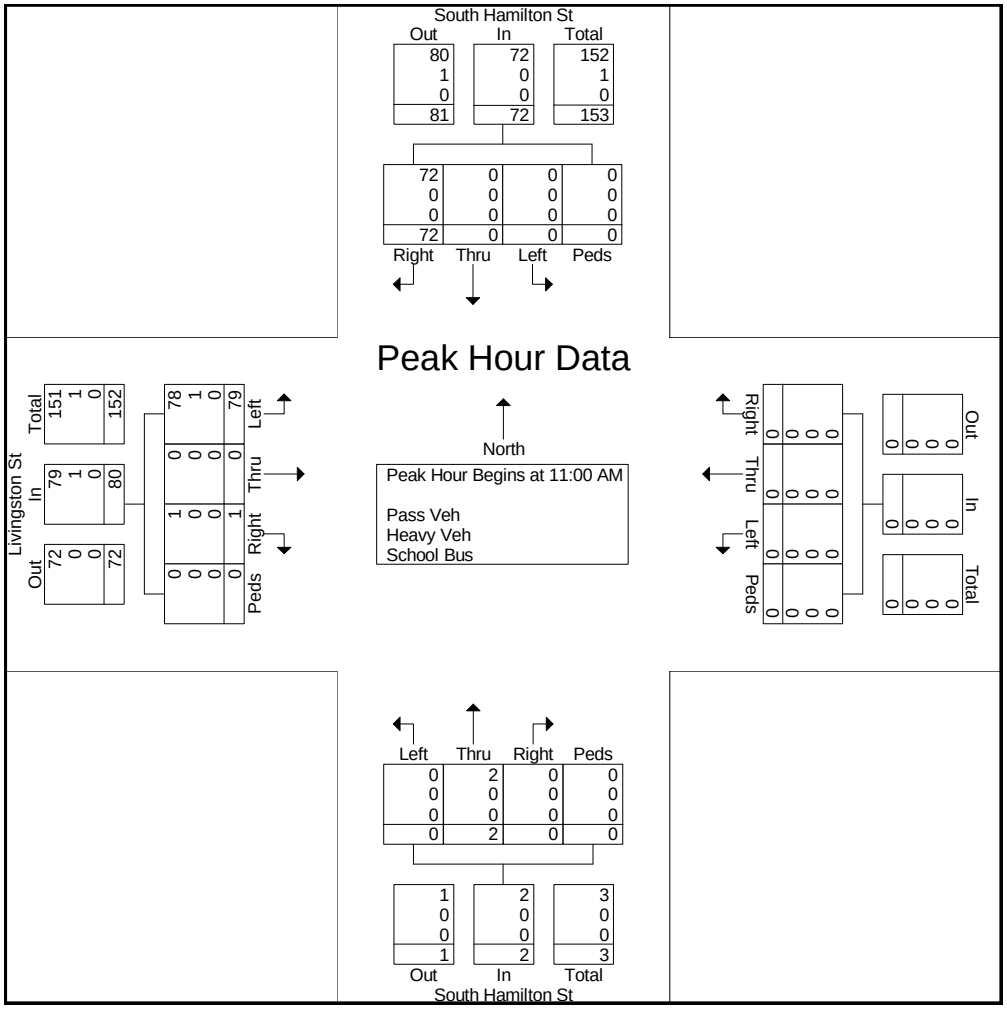

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	South Hamilton St Southbound					Westbound					South Hamilton St Northbound					Livingston St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	11:00 AM					11:00 AM					11:30 AM					11:00 AM					
+0 mins.	15	0	0	0	15	0	0	0	0	0	0	**2**	0	0	**2**	0	0	17	0	17	
+15 mins.	15	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	13	0	13	
+30 mins.	**22**	0	0	0	**22**	0	0	0	0	0	0	0	0	0	0	0	0	24	0	24	
+45 mins.	20	0	0	0	20	0	0	0	0	0	0	1	0	0	1	**1**	0	**25**	0	**26**	
Total Volume	72	0	0	0	72	0	0	0	0	0	0	3	0	0	3	1	0	79	0	80	
% App. Total	100	0	0	0		0	0	0	0		0	100	0	0		1.2	0	98.8	0		
PHF	.818	.000	.000	.000	.818	.000	.000	.000	.000	.000	.000	.375	.000	.000	.375	.250	.000	.790	.000	.769	
Pass Veh	72	0	0	0	72	0	0	0	0	0	0	3	0	0	3	1	0	78	0	79	
% Pass Veh	100	0	0	0	100	0	0	0	0	0	0	100	0	0	100	100	0	98.7	0	98.8	
Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
% Heavy Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	1.2	
School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

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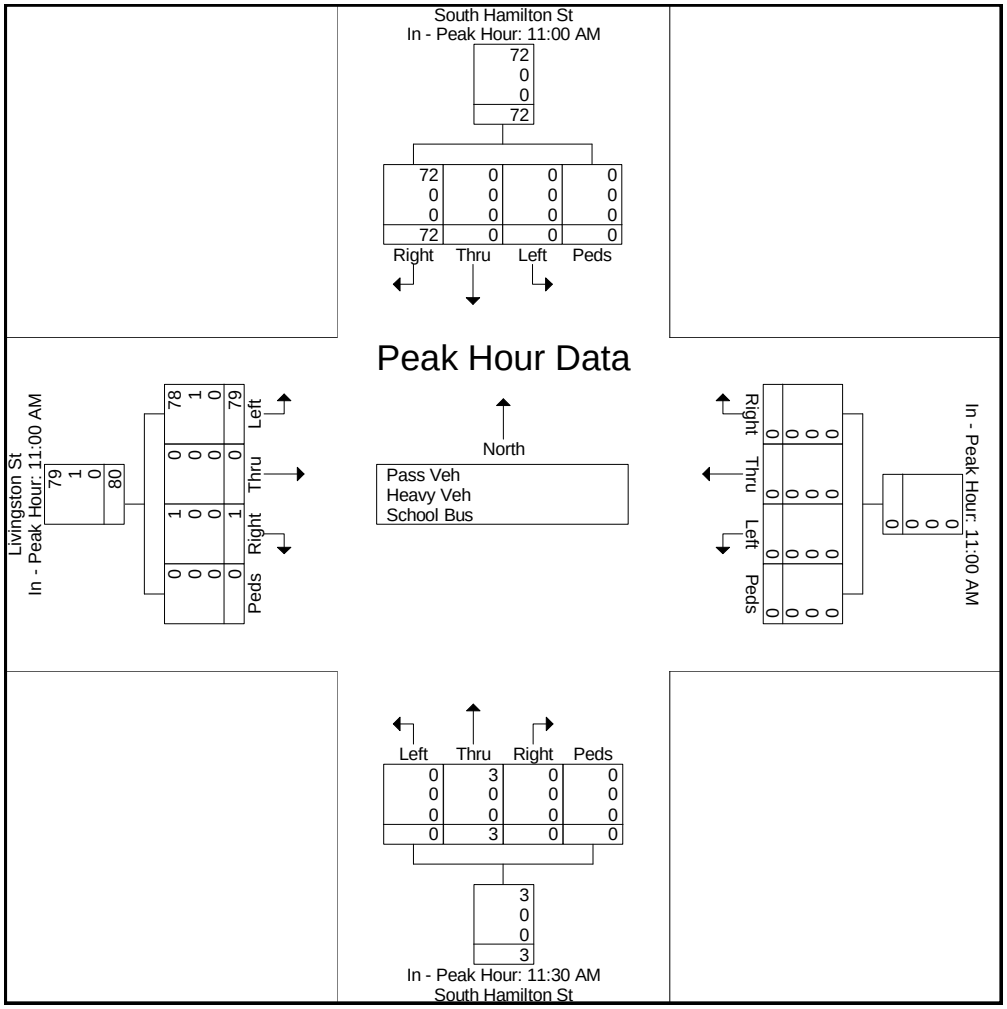


Prepared by National Data & Surveying Services

SPEED

Hooker Ave 350' N/O Dwight St

Day: Wednesday

Date: 1/10/2024

City: Poughkeepsie

Project #: NY24_380006_001

HOURLY BREAKDOWN

Time	NORTHBOUND														SOUTHBOUND														TOTALS													
	5	15	20	25	30	35	40	45	50	55	60	65	70	Total	5	15	20	25	30	35	40	45	50	55	60	65	70	Total	5	15	20	25	30	35	40	45	50	55	60	65	70	Total
	15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99	
0:00	0	0	2	1	1	0	0	0	0	0	0	0	0	4	0	0	0	0	1	2	2	0	0	0	0	0	0	5	0	0	2	1	2	2	2	0	0	0	0	0	0	9
1:00	0	0	0	1	3	0	1	0	0	0	0	0	0	5	0	0	0	1	2	0	3	1	0	0	0	0	0	7	0	0	0	2	5	0	4	1	0	0	0	0	0	12
2:00	0	0	0	1	2	2	0	0	0	0	0	0	0	5	0	0	1	1	0	0	0	1	0	0	0	0	0	3	0	0	1	2	2	2	0	1	0	0	0	0	0	8
3:00	0	0	0	3	0	0	1	0	0	0	0	0	0	4	0	0	0	0	2	0	0	0	1	0	0	0	0	3	0	0	0	3	2	0	1	0	1	0	0	0	0	7
4:00	0	0	3	2	2	3	2	0	0	0	0	0	0	12	0	0	0	2	5	0	1	0	2	0	0	0	0	10	0	0	3	4	7	3	3	0	2	0	0	0	0	22
5:00	0	0	4	15	11	7	0	1	0	0	0	0	0	38	0	0	1	5	11	6	6	0	0	0	0	0	0	29	0	0	5	20	22	13	6	1	0	0	0	0	0	67
6:00	0	0	7	29	30	9	2	0	0	0	0	0	0	77	0	0	0	6	14	22	6	1	0	0	0	0	0	49	0	0	7	35	44	31	8	1	0	0	0	0	0	126
7:00	1	10	39	52	43	19	5	0	0	0	0	0	0	169	5	3	11	27	29	25	14	3	2	0	0	0	0	119	6	13	50	79	72	44	19	3	2	0	0	0	0	288
8:00	11	26	65	98	53	16	3	0	0	0	0	0	0	272	5	14	28	49	54	28	7	1	0	0	0	0	0	186	16	40	93	147	107	44	10	1	0	0	0	0	0	458
9:00	3	21	36	71	40	14	1	1	0	0	0	0	0	187	0	1	3	37	48	28	5	0	0	0	0	0	0	122	3	22	39	108	88	42	6	1	0	0	0	0	0	309
10:00	1	13	19	49	38	14	7	0	0	0	0	0	0	141	0	3	7	19	42	22	5	0	1	0	0	0	0	99	1	16	26	68	80	36	12	0	1	0	0	0	0	240
11:00	2	7	31	58	39	17	3	0	0	0	0	0	0	157	2	6	4	34	43	31	7	1	0	0	0	0	0	128	4	13	35	92	82	48	10	1	0	0	0	0	0	285
12:00	0	7	21	51	62	15	0	0	0	0	0	0	0	156	0	3	6	34	72	31	9	1	0	0	0	0	0	156	0	10	27	85	134	46	9	1	0	0	0	0	0	312
13:00	3	5	22	70	54	13	3	1	0	0	0	0	0	171	0	2	17	62	56	26	5	1	0	1	0	0	0	170	3	7	39	132	110	39	8	2	0	1	0	0	0	341
14:00	6	19	37	61	35	17	0	0	0	0	0	0	0	175	5	16	24	52	63	22	4	0	0	0	0	0	0	186	11	35	61	113	98	39	4	0	0	0	0	0	0	361
15:00	3	22	44	96	56	18	3	0	0	0	0	0	0	242	1	4	21	63	65	27	6	0	0	0	0	0	0	187	4	26	65	159	121	45	9	0	0	0	0	0	0	429
16:00	4	26	54	78	43	18	1	0	0	0	0	0	0	224	3	11	27	76	82	27	3	1	0	0	0	0	0	230	7	37	81	154	125	45	4	1	0	0	0	0	0	454
17:00	5	9	43	70	44	9	0	0	0	0	0	0	0	180	1	4	16	90	86	31	1	0	0	0	0	0	0	229	6	13	59	160	130	40	1	0	0	0	0	0	0	409
18:00	0	1	19	55	50	12	1	0	0	0	0	0	0	138	3	5	19	47	60	25	11	0	0	0	0	0	0	170	3	6	38	102	110	37	12	0	0	0	0	0	0	308
19:00	0	1	13	38	27	12	0	1	0	0	0	0	0	92	0	2	2	18	35	17	2	0	0	0	0	0	0	76	0	3	15	56	62	29	2	1	0	0	0	0	0	168
20:00	0	2	7	34	31	6	0	1	0	0	0	0	0	81	0	0	5	21	27	17	4	0	0	0	0	0	0	74	0	2	12	55	58	23	4	1	0	0	0	0	0	155
21:00	0	0	10	23	22	3	1	0	0	0	0	0	0	59	0	0	3	9	18	12	1	5	1	5	0	0	0	54	0	0	13	32	40	15	2	5	1	5	0	0	0	113
22:00	0	0	2	12	12	5	0	1	0	0	0	0	0	32	1	0	5	10	12	10	3	0	0	0	0	0	0	41	1	0	7	22	24	15	3	1	0	0	0	0	0	73
23:00	0	1	1	13	9	1	2	0	0	0	0	0	0	27	0	0	1	4	6	4	0	0	0	0	0	0	0	15	0	1	2	17	15	5	2	0	0	0	0	0	0	42
Totals	39	170	479	981	707	230	36	6	0	0	0	0	0	2,648	26	74	201	667	833	413	105	16	7	6	0	0	0	2,348	65	244	680	1,648	1,540	643	141	22	7	6	0	0	0	4,996
% of Totals	1%	6%	18%	37%	27%	9%	1%	0%						100%	1%	3%	9%	28%	35%	18%	4%	1%	0%	0%				100%	1%	5%	14%	33%	31%	13%	3%	0%	0%	0%				100%

STATISTICS

	NORTHBOUND														SOUTHBOUND														TOTALS													
00:00 - 12:00	18	77	206	380	262	101	25	2	0	0	0	0	0	1071	12	27	55	181	251	164	56	8	6	0	0	0	0	760	30	104	261	561	513	265	81	10	6	0	0	0	0	1831
%	1%	3%	8%	14%	10%	4%	1%	0%	0%	0%	0%	0%	0%	40%	0%	1%	2%	7%	9%	6%	2%	0%	0%	0%	0%	0%	0%	29%	1%	4%	10%	21%	19%	10%	3%	0%	0%	0%	0%	0%	0%	69%
Peak Hour	8:00	7:45	7:45	8:15	11:45	7:30	9:45	4:15	0:00	0:00	0:00	0:00	0:00	8:00	7:00	7:30	8:00	8:00	11:30	7:15	7:15	7:00	3:15	0:00	0:00	0:00	0:00	8:00	8:00	7:45	7:45	8:15	11:45	7:15	7:15	7:00	3:15	0:00	0:00	0:00	0:00	8:00
Peak Volume	11	28	71	102	62	21	8	1	0	0	0	0	0	272	5	15	28	49	68	32	17	3	2	0	0	0	0	186	16	43	95	150	127	51	21	3	2	0	0	0	0	458
12:00 - 24:00	21	93	273	601	445	129	11	4	0	0	0	0	0	1577	14	47	146	486	582	249	49	8	1	6	0	0	0	1588	35	140	419	1087	1027	378	60	12	1	6	0	0	0	3165
%	1%	4%	10%	23%	17%	5%	0%	0%	0%	0%	0%	0%	0%	60%	1%	2%	6%	18%	22%	9%	2%	0%	0%	0%	0%	0%	0%	60%	1%	5%	16%	41%	39%	14%	2%	0%	0%	0%	0%	0%	0%	120%
Peak Hour	14:15	15:45	16:15	15:30	12:00	13:30	12:30	13:00	12:00	12:00	12:00	12:00	12:00	15:00	14:00	14:00	16:15	16:45	16:30	15:30	12:15	20:30	20:30	20:15	12:00	12:00	12:00	16:15	14:15	14:15	16:15	16:45	16:30	12:15	12:15	20:30	20:30	20:15	12:00	12:00	12:00	16:30
Peak Volume	8	28	62	97	62	20	3	1	0	0	0	0	0	242	5	16	33	94	91	37	11	5	1	5	0	0	0	250	12	40	95	166	143	50	13	5	1	5	0	0	0	477
07:00 - 09:00	12	36	104	150	96	35	8	0	0	0	0	0	0	441	10	17	39	76	83	53	21	4	2	0	0	0	0	305	22	53	143	226	179	88	29	4	2	0	0	0	0	746
%	0%	1%	4%	6%	4%	1%	0%	0%	0%	0%	0%	0%	0%	17%	0%	1%	1%	3%	3%	2%	1%	0%	0%	0%	0%	0%	0%	12%	1%	2%	5%	9%	7%	3%	1%	0%	0%	0%	0%	0%	0%	28%
Peak Hour	8:00	7:45	7:45	8:00	8:00	7:30	7:00	7:00	7:00	7:00	7:00	7:00	7:00	8:00	7:00	7:30	8:00	8:00	8:00	7:15	7:15	7:00	7:00	7:00	7:00	7:00	7:00	8:00	8:00	7:45	7:45	8:00	8:00	7:15	7:15	7:00	7:00	7:00	7:00	7:00	7:00	8:00
Peak Volume	11	28	71	98	53	21	5	0	0	0	0	0	0	272	5	15	28	49	54	32	17	3	2	0	0	0	0	186	16	43	95	147	107	51	21	3	2	0	0	0	0	458
16:00 - 18:00	9	35	97	148	87	27	1	0	0	0	0	0	0	404	4	15	43	166	168	58	4	1	0	0	0	0	0	459	13	50	140	314	255	85	5	1	0	0	0	0	0	863
%	0%	1%	4%	6%	3%	1%	0%	0%	0%	0%	0%	0%	0%	15%	0%	1%	2%	6%	6%	2%	0%	0%	0%	0%	0%	0%	0%	17%	0%	2%	5%	12%	10%	3%	0%	0%	0%	0%	0%	0%	0%	33%
Peak Hour	16:30	16:00	16:15	16:00	16:45	16:30	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:30	16:15	16:00	16:15	16:45	16:30	17:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:15	16:30	16:00	16:15	16:45	16:30	16:45	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:30
Peak Volume	8	26	62	78	54	20	1	0	0	0	0	0	0	227	4	11	33	94	91	31	3	1	0	0	0	0	0	250	12	37	95	166	143	46	4	1	0	0	0	0	0	477

Direction	Percentiles					
	15th	50th	Average	85th	95th	ADT
NORTHBOUND	22	28	28	34	38	2648
SOUTHBOUND	25	31	31	37	41	2348
TOTALS	23	30	30	36	39	4996

Prepared by National Data & Surveying Services

VOLUME

Hooker Ave 350' N/O Dwight St

Day: Wednesday
Date: 1/10/2024

City: Poughkeepsie
Project #: NY24_380006_001

DAILY TOTALS	NB	SB	EB	WB	Total
	2,648	2,348	0	0	4,996

15-Minutes Interval

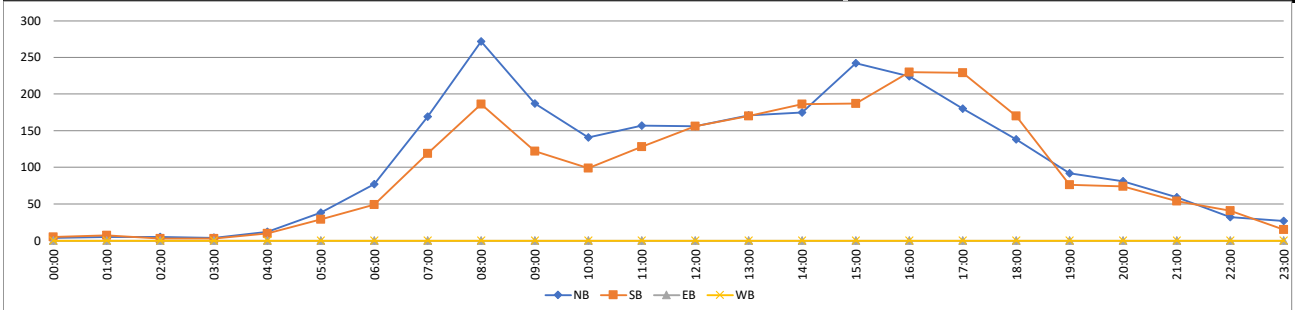
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	0	2			2	12:00	40	42			82
0:15	1	1			2	12:15	40	40			80
0:30	2	1			3	12:30	40	34			74
0:45	1	1			2	12:45	36	40			76
1:00	1	4			5	13:00	44	41			85
1:15	3	3			6	13:15	39	36			75
1:30	0	0			0	13:30	47	49			96
1:45	1	0			1	13:45	41	44			85
2:00	2	0			2	14:00	40	43			83
2:15	1	1			2	14:15	37	36			73
2:30	1	0			1	14:30	45	51			96
2:45	1	2			3	14:45	53	56			109
3:00	1	1			2	15:00	71	57			128
3:15	0	1			1	15:15	52	46			98
3:30	1	1			2	15:30	60	40			100
3:45	2	0			2	15:45	59	44			103
4:00	2	2			4	16:00	49	50			99
4:15	3	1			4	16:15	50	49			99
4:30	3	3			6	16:30	60	61			121
4:45	4	4			8	16:45	65	70			135
5:00	5	4			9	17:00	51	70			121
5:15	6	7			13	17:15	51	49			100
5:30	18	8			26	17:30	43	56			99
5:45	9	10			19	17:45	35	54			89
6:00	20	12			32	18:00	33	48			81
6:15	17	13			30	18:15	40	63			103
6:30	14	13			27	18:30	29	30			59
6:45	26	11			37	18:45	36	29			65
7:00	33	15			48	19:00	25	27			52
7:15	36	27			63	19:15	21	17			38
7:30	43	37			80	19:30	20	13			33
7:45	57	40			97	19:45	26	19			45
8:00	62	45			107	20:00	19	23			42
8:15	70	46			116	20:15	24	22			46
8:30	79	53			132	20:30	17	14			31
8:45	61	42			103	20:45	21	15			36
9:00	51	31			82	21:00	16	17			33
9:15	41	20			61	21:15	16	17			33
9:30	40	35			75	21:30	15	14			29
9:45	55	36			91	21:45	12	6			18
10:00	35	24			59	22:00	7	9			16
10:15	32	24			56	22:15	11	15			26
10:30	42	22			64	22:30	5	7			12
10:45	32	29			61	22:45	9	10			19
11:00	44	28			72	23:00	9	3			12
11:15	34	36			70	23:15	12	3			15
11:30	30	30			60	23:30	2	4			6
11:45	49	34			83	23:45	4	5			9
TOTALS	1071	760	0	0	1831	TOTALS	1577	1588	0	0	3165
SPLIT %	58%	42%	0%	0%	37%	SPLIT %	50%	50%	0%	0%	63%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	4	5			9
01:00	02:00	5	7			12
02:00	03:00	5	3			8
03:00	04:00	4	3			7
04:00	05:00	12	10			22
05:00	06:00	38	29			67
06:00	07:00	77	49			126
07:00	08:00	169	119			288
08:00	09:00	272	186			458
09:00	10:00	187	122			309
10:00	11:00	141	99			240
11:00	12:00	157	128			285
12:00	13:00	156	156			312
13:00	14:00	171	170			341
14:00	15:00	175	186			361
15:00	16:00	242	187			429
16:00	17:00	224	230			454
17:00	18:00	180	229			409
18:00	19:00	138	170			308
19:00	20:00	92	76			168
20:00	21:00	81	74			155
21:00	22:00	59	54			113
22:00	23:00	32	41			73
23:00	00:00	27	15			42

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	1071	760			1831
Peak Hour	8:00	8:00			8:00
Peak Volume	272	186			458
Peak Hour Factor	0.861	0.877			0.867
Peak Period	12:00	to	00:00		
Volume	1577	1588			3165
Peak Hour	15:00	16:15			16:30
Peak Volume	242	250			477
Peak Hour Factor	0.852	0.893			0.883
Peak Period	07:00	to	09:00		
Volume	441	305			746
Peak Hour	8:00	8:00			8:00
Peak Volume	272	186			458
Peak Hour Factor	0.861	0.877			0.867
Peak Period	16:00	to	18:00		
Volume	404	459			863
Peak Hour	16:30	16:15			16:30
Peak Volume	227	250			477
Peak Hour Factor	0.873	0.893			0.883



Prepared by National Data & Surveying Services

SPEED

Hooker Ave 350' N/O Dwight St

Day: Thursday

Date: 1/11/2024

City: Poughkeepsie

Project #: NY24_380006_001

HOURLY BREAKDOWN

Time	NORTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	SOUTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	TOTALS 5	15	20	25	30	35	40	45	50	55	60	65	70	Total
	15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99	
0:00	0	0	1	6	2	2	0	0	0	0	0	0	0	11	0	0	0	2	4	3	1	0	0	0	0	0	0	10	0	0	1	8	6	5	1	0	0	0	0	0	0	21
1:00	0	1	0	1	2	3	0	0	0	0	0	0	0	7	0	0	0	2	3	3	0	0	0	0	0	0	0	8	0	1	0	3	5	6	0	0	0	0	0	0	0	15
2:00	0	0	0	3	3	2	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	2	0	0	0	0	0	0	0	8
3:00	0	0	1	1	3	1	0	0	0	0	0	0	0	6	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0	0	1	1	4	2	0	0	0	0	0	0	0	8
4:00	0	0	2	1	4	5	1	0	0	0	0	0	0	13	0	0	0	2	6	5	2	0	0	0	0	0	0	15	0	0	2	3	10	10	3	0	0	0	0	0	0	28
5:00	1	0	1	10	11	6	2	1	0	0	0	0	0	32	0	0	1	6	14	11	4	0	0	0	0	0	0	36	1	0	2	16	25	17	6	1	0	0	0	0	0	68
6:00	0	1	9	30	40	15	1	0	0	0	0	0	0	96	0	0	4	9	18	15	6	0	0	0	0	0	0	52	0	1	13	39	58	30	7	0	0	0	0	0	0	148
7:00	17	17	40	58	42	17	1	2	0	0	0	0	0	194	0	2	10	29	61	48	14	0	0	0	0	0	0	164	17	19	50	87	103	65	15	2	0	0	0	0	0	358
8:00	26	55	68	47	27	8	0	0	0	0	0	0	0	231	2	5	17	48	67	35	10	1	0	0	0	0	0	185	28	60	85	95	94	43	10	1	0	0	0	0	0	416
9:00	2	9	38	49	40	14	4	0	0	0	0	0	0	156	1	2	8	25	44	40	8	0	0	0	0	0	0	128	3	11	46	74	84	54	12	0	0	0	0	0	0	284
10:00	0	5	21	54	47	18	3	1	0	0	0	0	0	149	0	5	3	17	38	43	16	2	0	0	0	0	0	124	0	10	24	71	85	61	19	3	0	0	0	0	0	273
11:00	3	5	22	67	43	9	2	0	0	0	0	0	0	151	0	2	7	23	77	35	10	1	0	0	0	0	0	155	3	7	29	90	120	44	12	1	0	0	0	0	0	306
12:00	1	4	28	58	34	13	1	0	0	0	0	0	0	139	0	0	3	25	56	52	17	1	1	0	0	0	0	155	1	4	31	83	90	65	18	1	1	0	0	0	0	294
13:00	0	4	44	49	49	12	3	3	0	0	0	0	0	164	0	2	3	32	48	45	17	2	2	0	0	0	0	151	0	6	47	81	97	57	20	5	2	0	0	0	0	315
14:00	18	26	55	55	53	9	1	0	0	0	0	0	0	217	5	12	19	34	72	47	17	1	0	0	0	0	0	207	23	38	74	89	125	56	18	1	0	0	0	0	0	424
15:00	2	12	32	83	48	11	4	1	0	0	0	0	0	193	0	4	7	43	79	61	21	0	1	0	0	0	0	216	2	16	39	126	127	72	25	1	1	0	0	0	0	409
16:00	13	39	85	65	31	8	1	1	0	0	0	0	0	243	2	8	14	40	90	61	12	1	0	0	0	0	0	228	15	47	99	105	121	69	13	2	0	0	0	0	0	471
17:00	6	8	48	69	35	7	1	0	0	0	0	0	0	174	1	0	5	37	73	67	13	0	0	0	0	0	0	196	7	8	53	106	108	74	14	0	0	0	0	0	0	370
18:00	1	6	26	47	35	9	2	0	0	0	0	0	0	126	0	1	5	18	40	28	16	1	0	0	0	0	0	109	1	7	31	65	75	37	18	1	0	0	0	0	0	235
19:00	0	7	22	32	20	10	2	1	0	0	0	0	0	94	0	1	0	11	36	31	9	4	0	0	0	0	0	92	0	8	22	43	56	41	11	5	0	0	0	0	0	186
20:00	1	2	7	27	23	10	2	2	0	0	0	0	0	74	1	0	1	11	24	18	7	3	0	0	0	0	0	65	2	2	8	38	47	28	9	5	0	0	0	0	0	139
21:00	0	1	8	17	13	4	1	0	0	0	0	0	0	44	0	0	1	4	17	12	2	2	1	0	0	0	0	39	0	1	9	21	30	16	3	2	1	0	0	0	0	83
22:00	0	2	3	21	14	9	2	0	0	0	0	0	0	51	0	0	4	3	8	9	2	0	0	0	0	0	0	26	0	2	7	24	22	18	4	0	0	0	0	0	0	77
23:00	0	1	4	4	7	0	3	1	0	0	0	0	0	20	0	0	0	4	8	14	3	0	1	0	0	0	0	30	0	1	4	8	15	14	6	1	1	0	0	0	0	50
Totals	91	205	565	854	626	202	37	13	0	0	0	0	0	2,593	12	44	112	425	884	684	207	19	6	0	0	0	0	2,393	103	249	677	1,279	1,510	886	244	32	6	0	0	0	0	4,986
% of Totals	4%	8%	22%	33%	24%	8%	1%	1%						100%	1%	2%	5%	18%	37%	29%	9%	1%	0%					100%	2%	5%	14%	26%	30%	18%	5%	1%	0%					100%

STATISTICS

	NORTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	SOUTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	TOTALS 5	15	20	25	30	35	40	45	50	55	60	65	70	Total
00:00 - 12:00	49	93	203	327	264	100	14	4	0	0	0	0	0	1054	3	16	50	163	333	239	71	4	0	0	0	0	0	879	52	109	253	490	597	339	85	8	0	0	0	0	0	1933
%	2%	4%	8%	13%	10%	4%	1%	0%	0%	0%	0%	0%	0%	41%	0%	1%	2%	6%	13%	9%	3%	0%	0%	0%	0%	0%	0%	34%	2%	4%	10%	19%	23%	13%	3%	0%	0%	0%	0%	0%	0%	75%
Peak Hour	7:45	7:45	7:45	11:30	6:45	6:30	9:00	6:45	0:00	0:00	0:00	0:00	0:00	7:45	8:30	9:15	8:30	8:00	11:15	7:15	11:45	10:15	11:45	0:00	0:00	0:00	0:00	7:15	7:45	7:45	7:45	8:30	11:15	11:45	10:00	10:15	11:45	0:00	0:00	0:00	0:00	7:45
Peak Volume	39	60	78	69	53	24	4	2	0	0	0	0	0	243	3	6	20	48	83	57	18	3	1	0	0	0	0	196	41	64	94	98	126	67	19	4	1	0	0	0	0	437
12:00 - 24:00	42	112	362	527	362	102	23	9	0	0	0	0	0	1539	9	28	62	262	551	445	136	15	6	0	0	0	0	1514	51	140	424	789	913	547	159	24	6	0	0	0	0	3053
%	2%	4%	14%	20%	14%	4%	1%	0%	0%	0%	0%	0%	0%	59%	0%	1%	2%	10%	21%	17%	5%	1%	0%	0%	0%	0%	0%	58%	2%	5%	16%	30%	35%	21%	6%	1%	0%	0%	0%	0%	0%	118%
Peak Hour	13:45	16:00	16:00	14:45	14:15	12:30	14:45	12:45	12:00	12:00	12:00	12:00	12:00	16:00	14:00	14:00	14:00	16:30	15:30	16:30	14:30	18:45	12:15	12:00	12:00	12:00	12:00	16:30	14:00	16:00	16:00	14:45	14:15	15:30	15:00	13:00	12:15	12:00	12:00	12:00	12:00	16:15
Peak Volume	18	39	85	85	60	14	5	3	0	0	0	0	0	243	5	12	19	52	95	77	21	4	3	0	0	0	0	249	23	47	99	127	131	83	25	5	3	0	0	0	0	479
07:00 - 09:00	43	72	108	105	69	25	1	2	0	0	0	0	0	425	2	7	27	77	128	83	24	1	0	0	0	0	0	349	45	79	135	182	197	108	25	3	0	0	0	0	0	774
%	2%	3%	4%	4%	3%	1%	0%	0%	0%	0%	0%	0%	0%	16%	0%	0%	1%	3%	5%	3%	1%	0%	0%	0%	0%	0%	0%	13%	2%	3%	5%	7%	8%	4%	1%	0%	0%	0%	0%	0%	0%	30%
Peak Hour	7:45	7:45	7:45	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:45	7:45	8:00	8:00	8:00	7:15	7:15	7:15	7:15	7:00	7:00	7:00	7:00	7:00	7:15	7:45	7:45	7:45	8:00	7:15	7:15	7:15	7:00	7:00	7:00	7:00	7:00	7:00	7:45
Peak Volume	39	60	78	58	42	17	1	2	0	0	0	0	0	243	2	5	17	48	73	57	17	1	0	0	0	0	0	196	41	64	94	95	107	66	17	2	0	0	0	0	0	437
16:00 - 18:00	19	47	133	134	66	15	2	1	0	0	0	0	0	417	3	8	19	77	163	128	25	1	0	0	0	0	0	424	22	55	152	211	229	143	27	2	0	0	0	0	0	841
%	1%	2%	5%	5%	3%	1%	0%	0%	0%	0%	0%	0%	0%	16%	0%	0%	1%	3%	6%	5%	1%	0%	0%	0%	0%	0%	0%	16%	1%	2%	6%	8%	9%	6%	1%	0%	0%	0%	0%	0%	0%	32%
Peak Hour	16:15	16:00	16:00	17:00	16:45	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:30	16:00	16:00	16:30	16:00	16:30	16:45	16:00	16:00	16:00	16:00	16:00	16:00	16:30	16:15	16:00	16:00	16:30	16:30	16:15	16:45	16:00	16:00	16:00	16:00	16:00	16:00	16:15
Peak Volume	14	39	85	69	38	8	1	1	0	0	0	0	0	243	3	8	14	52	90	77	14	1	0	0	0	0	0	249	16	47	99	112	127	83	15	2	0	0	0	0	0	479

Direction	Percentiles 15th	50th	Average	85th	95th	ADT
NORTHBOUND	21	28	27	34	38	2593
SOUTHBOUND	27	33	33	39	43	2393
TOTALS	23	31	30	37	41	4986

Prepared by National Data & Surveying Services

VOLUME

Hooker Ave 350' N/O Dwight St

Day: Thursday
Date: 1/11/2024

City: Poughkeepsie
Project #: NY24_380006_001

DAILY TOTALS	NB	SB	EB	WB	Total
	2,593	2,393	0	0	4,986

15-Minutes Interval

TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	4	6			10	12:00	29	42			71
0:15	5	3			8	12:15	45	36			81
0:30	1	0			1	12:30	35	44			79
0:45	1	1			2	12:45	30	33			63
1:00	1	0			1	13:00	43	31			74
1:15	1	3			4	13:15	44	34			78
1:30	1	3			4	13:30	43	39			82
1:45	4	2			6	13:45	34	47			81
2:00	3	0			3	14:00	55	34			89
2:15	2	0			2	14:15	41	58			99
2:30	1	0			1	14:30	50	61			111
2:45	2	0			2	14:45	71	54			125
3:00	2	0			2	15:00	63	44			107
3:15	0	0			0	15:15	50	48			98
3:30	1	0			1	15:30	32	53			85
3:45	3	2			5	15:45	48	71			119
4:00	2	0			2	16:00	59	57			116
4:15	2	2			4	16:15	65	45			110
4:30	6	6			12	16:30	56	62			118
4:45	3	7			10	16:45	63	64			127
5:00	2	3			5	17:00	55	69			124
5:15	11	11			22	17:15	36	54			90
5:30	12	15			27	17:30	42	44			86
5:45	7	7			14	17:45	41	29			70
6:00	16	12			28	18:00	32	22			54
6:15	28	16			44	18:15	35	27			62
6:30	26	9			35	18:30	26	31			57
6:45	26	15			41	18:45	33	29			62
7:00	35	21			56	19:00	35	25			60
7:15	48	41			89	19:15	22	22			44
7:30	53	54			107	19:30	18	26			44
7:45	58	48			106	19:45	19	19			38
8:00	60	53			113	20:00	21	18			39
8:15	55	41			96	20:15	21	11			32
8:30	70	52			122	20:30	16	20			36
8:45	46	39			85	20:45	16	16			32
9:00	47	30			77	21:00	11	14			25
9:15	39	34			73	21:15	15	10			25
9:30	37	31			68	21:30	7	6			13
9:45	33	33			66	21:45	11	9			20
10:00	34	31			65	22:00	11	8			19
10:15	36	32			68	22:15	14	3			17
10:30	45	25			70	22:30	14	3			17
10:45	34	36			70	22:45	12	12			24
11:00	37	29			66	23:00	4	11			15
11:15	31	37			68	23:15	7	6			13
11:30	44	47			91	23:30	6	5			11
11:45	39	42			81	23:45	3	8			11
TOTALS	1054	879	0	0	1933	TOTALS	1539	1514	0	0	3053
SPLIT %	55%	45%	0%	0%	39%	SPLIT %	50%	50%	0%	0%	61%

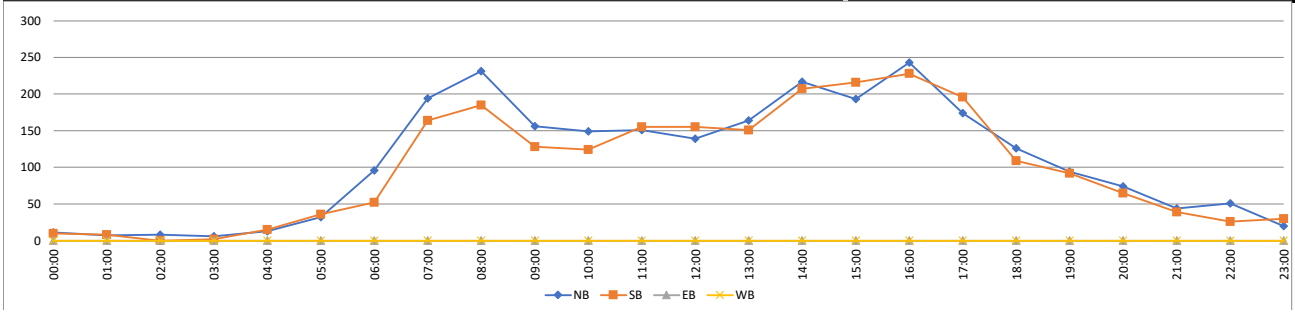
DAILY TOTALS

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	11	10			21
01:00	02:00	7	8			15
02:00	03:00	8	0			8
03:00	04:00	6	2			8
04:00	05:00	13	15			28
05:00	06:00	32	36			68
06:00	07:00	96	52			148
07:00	08:00	194	164			358
08:00	09:00	231	185			416
09:00	10:00	156	128			284
10:00	11:00	149	124			273
11:00	12:00	151	155			306
12:00	13:00	139	155			294
13:00	14:00	164	151			315
14:00	15:00	217	207			424
15:00	16:00	193	216			409
16:00	17:00	243	228			471
17:00	18:00	174	196			370
18:00	19:00	126	109			235
19:00	20:00	94	92			186
20:00	21:00	74	65			139
21:00	22:00	44	39			83
22:00	23:00	51	26			77
23:00	00:00	20	30			50

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	1054	879			1933
Peak Hour	7:45	7:15			7:45
Peak Volume	243	196			437
Peak Hour Factor	0.868	0.907			0.895
Peak Period	12:00	to	00:00		
Volume	1539	1514			3053
Peak Hour	16:00	16:30			16:15
Peak Volume	243	249			479
Peak Hour Factor	0.935	0.902			0.943
Peak Period	07:00	to	09:00		
Volume	425	349			774
Peak Hour	7:45	7:15			7:45
Peak Volume	243	196			437
Peak Hour Factor	0.868	0.907			0.895
Peak Period	16:00	to	18:00		
Volume	417	424			841
Peak Hour	16:00	16:30			16:15
Peak Volume	243	249			479
Peak Hour Factor	0.935	0.902			0.943



Prepared by National Data & Surveying Services

SPEED

Hooker Ave 350' N/O Dwight St

Day: Friday

Date: 1/12/2024

City: Poughkeepsie

Project #: NY24_380006_001

HOURLY BREAKDOWN

Time	NORTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	SOUTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	TOTALS 5	15	20	25	30	35	40	45	50	55	60	65	70	Total
	15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99	
0:00	0	0	1	5	5	3	2	0	0	0	0	0	0	16	0	0	0	3	7	6	2	1	0	0	0	0	0	19	0	0	1	8	12	9	4	1	0	0	0	0	0	35
1:00	0	0	2	2	1	0	0	0	0	0	0	0	0	5	0	0	0	1	8	2	0	0	0	0	0	0	0	11	0	0	2	3	9	2	0	0	0	0	0	0	0	16
2:00	0	0	0	5	3	1	1	0	1	0	0	0	0	11	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	0	0	5	3	2	2	0	1	0	0	0	0	13
3:00	0	0	0	2	2	1	0	0	0	0	0	0	0	5	0	0	0	1	4	1	2	0	1	0	0	0	0	9	0	0	0	3	6	2	2	0	1	0	0	0	0	14
4:00	0	1	0	2	2	4	2	0	0	0	0	0	0	11	0	0	0	0	3	1	3	1	0	0	0	0	0	8	0	1	0	2	5	5	5	1	0	0	0	0	0	19
5:00	1	0	4	9	9	4	2	0	0	0	0	0	0	29	0	0	2	10	14	4	3	1	1	0	0	0	0	35	1	0	6	19	23	8	5	1	1	0	0	0	0	64
6:00	0	1	12	30	26	10	1	0	0	0	0	0	0	80	2	0	2	16	19	9	7	0	2	0	0	0	0	57	2	1	14	46	45	19	8	0	2	0	0	0	0	137
7:00	1	13	35	82	52	19	2	0	0	0	0	0	0	204	1	3	17	51	61	24	7	0	1	0	0	0	0	165	2	16	52	133	113	43	9	0	1	0	0	0	0	369
8:00	19	46	70	79	51	11	1	0	0	0	0	0	0	277	4	10	17	41	43	23	3	0	1	0	0	0	0	142	23	56	87	120	94	34	4	0	1	0	0	0	0	419
9:00	1	6	29	71	41	19	4	0	0	0	0	0	0	171	2	4	21	47	55	16	1	1	0	0	0	0	0	147	3	10	50	118	96	35	5	1	0	0	0	0	0	318
10:00	1	1	20	48	49	21	5	0	1	0	0	0	0	146	0	1	2	31	50	24	8	1	0	0	0	0	0	117	1	2	22	79	99	45	13	1	1	0	0	0	0	263
11:00	4	8	27	64	47	13	5	0	0	0	0	0	0	168	0	1	11	42	53	22	4	1	0	0	0	0	0	134	4	9	38	106	100	35	9	1	0	0	0	0	0	302
12:00	1	11	35	57	51	22	6	0	0	0	0	0	0	183	0	3	6	45	54	33	6	0	0	0	0	0	0	147	1	14	41	102	105	55	12	0	0	0	0	0	0	330
13:00	1	6	26	88	42	18	4	0	0	0	0	0	0	185	2	6	12	49	65	27	4	0	0	0	0	0	0	165	3	12	38	137	107	45	8	0	0	0	0	0	0	350
14:00	25	33	66	70	39	6	1	0	0	0	0	0	0	240	6	13	42	63	70	22	1	1	0	0	0	0	0	218	31	46	108	133	109	28	2	1	0	0	0	0	0	458
15:00	7	24	39	79	51	8	0	1	0	0	0	0	0	209	0	0	29	77	78	23	7	1	0	0	0	0	0	215	7	24	68	156	129	31	7	2	0	0	0	0	0	424
16:00	4	19	53	75	54	16	4	0	0	0	0	0	0	225	2	6	26	97	104	38	3	0	0	0	0	0	0	276	6	25	79	172	158	54	7	0	0	0	0	0	0	501
17:00	7	23	56	89	48	7	1	0	1	0	0	0	0	232	1	5	24	56	84	23	9	0	0	0	0	0	0	202	8	28	80	145	132	30	10	0	1	0	0	0	0	434
18:00	1	5	26	66	42	9	2	0	0	0	0	0	0	151	3	6	15	33	57	14	6	1	0	0	0	0	0	135	4	11	41	99	99	23	8	1	0	0	0	0	0	286
19:00	1	5	19	41	29	11	2	0	0	0	0	0	0	108	1	2	8	28	38	15	6	0	0	0	0	0	0	98	2	7	27	69	67	26	8	0	0	0	0	0	0	206
20:00	1	3	13	29	24	8	2	0	1	0	0	0	0	81	0	2	4	11	33	17	3	0	0	0	0	0	0	70	1	5	17	40	57	25	5	0	1	0	0	0	0	151
21:00	0	1	9	38	27	9	2	0	2	0	0	0	0	88	0	1	5	21	30	17	5	0	0	0	0	0	0	79	0	2	14	59	57	26	7	0	2	0	0	0	0	167
22:00	0	0	7	17	18	9	2	0	1	0	0	0	0	54	0	1	2	12	37	12	1	0	0	0	0	0	0	65	0	1	9	29	55	21	3	0	1	0	0	0	0	119
23:00	0	2	5	20	11	1	1	1	0	0	0	0	0	41	0	0	4	8	18	6	3	1	0	0	0	0	0	40	0	2	9	28	29	7	4	2	0	0	0	0	0	81
Totals	**75**	**208**	**554**	**1,068**	**724**	**230**	**52**	**2**	**7**	**0**	**0**	**0**	**0**	**2,920**	**24**	**64**	**249**	**743**	**985**	**380**	**95**	**10**	**6**	**0**	**0**	**0**	**0**	**2,556**	**99**	**272**	**803**	**1,811**	**1,709**	**610**	**147**	**12**	**13**	**0**	**0**	**0**	**0**	**5,476**
% of Totals	3%	7%	19%	37%	25%	8%	2%	0%	0%					100%	1%	3%	10%	29%	39%	15%	4%	0%	0%					100%	2%	5%	15%	33%	31%	11%	3%	0%	0%					100%

STATISTICS

00:00 - 12:00	27	76	200	399	288	106	25	0	2	0	0	0	0	1123	9	19	72	243	317	133	41	6	6	0	0	0	0	846	36	95	272	642	605	239	66	6	8	0	0	0	0	1969
%	1%	3%	7%	14%	10%	4%	1%	0%	0%	0%	0%	0%	0%	38%	0%	1%	2%	8%	11%	5%	1%	0%	0%	0%	0%	0%	0%	29%	1%	3%	9%	22%	21%	8%	2%	0%	0%	0%	0%	0%	0%	67%
Peak Hour	8:00	8:00	7:45	7:15	7:30	11:45	11:45	0:00	1:30	0:00	0:00	0:00	0:00	7:45	8:30	7:45	8:45	8:30	7:00	11:45	6:15	0:00	6:00	0:00	0:00	0:00	0:00	7:15	8:15	7:45	7:45	7:15	7:15	11:45	11:45	0:00	2:15	0:00	0:00	0:00	0:00	7:45
Peak Volume	19	46	71	90	59	24	8	0	1	0	0	0	0	280	6	12	23	57	61	33	9	1	2	0	0	0	0	174	24	56	88	142	117	57	14	1	2	0	0	0	0	451
12:00 - 24:00	48	132	354	669	436	124	27	2	5	0	0	0	0	1797	15	45	177	500	668	247	54	4	0	0	0	0	0	1710	63	177	531	1169	1104	371	81	6	5	0	0	0	0	3507
%	2%	5%	12%	23%	15%	4%	1%	0%	0%	0%	0%	0%	0%	62%	1%	2%	6%	17%	23%	8%	2%	0%	0%	0%	0%	0%	0%	59%	2%	6%	18%	40%	38%	13%	3%	0%	0%	0%	0%	0%	0%	120%
Peak Hour	14:30	14:30	16:45	13:15	12:15	12:00	12:15	14:30	21:00	12:00	12:00	12:00	12:00	14:30	13:30	13:45	14:00	16:15	16:45	16:00	17:15	14:00	12:00	12:00	12:00	12:00	12:00	16:15	14:00	14:30	14:00	16:30	16:00	12:00	17:15	14:30	21:00	12:00	12:00	12:00	12:00	16:30
Peak Volume	26	43	67	92	58	22	8	1	2	0	0	0	0	249	6	14	42	101	108	38	13	1	0	0	0	0	0	284	31	49	108	180	158	55	15	2	2	0	0	0	0	524
07:00 - 09:00	20	59	105	161	103	30	3	0	0	0	0	0	0	481	5	13	34	92	104	47	10	0	2	0	0	0	0	307	25	72	139	253	207	77	13	0	2	0	0	0	0	788
%	1%	2%	4%	6%	4%	1%	0%	0%	0%	0%	0%	0%	0%	16%	0%	0%	1%	3%	4%	2%	0%	0%	0%	0%	0%	0%	0%	11%	1%	2%	5%	9%	7%	3%	0%	0%	0%	0%	0%	0%	0%	27%
Peak Hour	8:00	8:00	7:45	7:15	7:30	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:45	7:45	7:45	7:15	7:15	7:00	7:45	7:30	7:00	7:30	7:00	7:00	7:00	7:00	7:15	8:00	7:45	7:45	7:15	7:15	7:30	7:00	7:00	7:30	7:00	7:00	7:00	7:00	7:45
Peak Volume	19	46	71	90	59	19	2	0	0	0	0	0	0	280	5	12	22	52	61	30	8	0	2	0	0	0	0	174	23	56	88	142	117	46	9	0	2	0	0	0	0	451
16:00 - 18:00	11	42	109	164	102	23	5	0	1	0	0	0	0	457	3	11	50	153	188	61	12	0	0	0	0	0	0	478	14	53	159	317	290	84	17	0	1	0	0	0	0	935
%	0%	1%	4%	6%	3%	1%	0%	0%	0%	0%	0%	0%	0%	16%	0%	0%	2%	5%	6%	2%	0%	0%	0%	0%	0%	0%	0%	16%	0%	2%	5%	11%	10%	3%	1%	0%	0%	0%	0%	0%	0%	32%
Peak Hour	16:15	16:15	16:45	17:00	16:00	16:00	16:00	16:00	16:45	16:00	16:00	16:00	16:00	16:45	16:00	16:30	16:15	16:15	16:45	16:00	17:00	16:00	16:00	16:00	16:00	16:00	16:00	16:15	16:15	16:30	16:15	16:30	16:00	16:00	17:00	16:00	16:45	16:00	16:00	16:00	16:00	16:30
Peak Volume	8	31	67	89	54	16	4	0	1	0	0	0	0	245	2	9	31	101	108	38	9	0	0	0	0	0	0	284	10	38	93	180	158	54	10	0	1	0	0	0	0	524

Direction	Percentiles 15th	50th	Average	85th	95th	ADT
NORTHBOUND	21	28	28	34	38	2920
SOUTHBOUND	25	31	31	36	40	2556
TOTALS	23	29	29	35	39	5476

Prepared by National Data & Surveying Services

VOLUME

Hooker Ave 350' N/O Dwight St

Day: Friday
Date: 1/12/2024

City: Poughkeepsie
Project #: NY24_380006_001

DAILY TOTALS	NB	SB	EB	WB	Total
	2,920	2,556	0	0	5,476

15-Minutes Interval

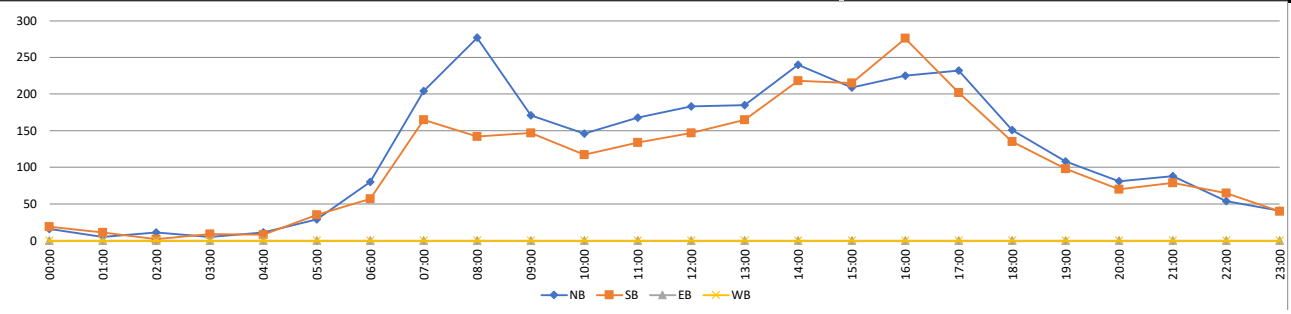
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	5	2			7	12:00	40	42			82
0:15	5	4			9	12:15	52	40			92
0:30	3	8			11	12:30	46	34			80
0:45	3	5			8	12:45	45	31			76
1:00	1	5			6	13:00	42	47			89
1:15	0	3			3	13:15	48	35			83
1:30	1	2			3	13:30	48	41			89
1:45	3	1			4	13:45	47	42			89
2:00	1	0			1	14:00	54	45			99
2:15	4	2			6	14:15	50	52			102
2:30	4	0			4	14:30	63	65			128
2:45	2	0			2	14:45	73	56			129
3:00	0	4			4	15:00	59	52			111
3:15	1	0			1	15:15	54	60			114
3:30	3	2			5	15:30	41	46			87
3:45	1	3			4	15:45	55	57			112
4:00	3	1			4	16:00	59	48			107
4:15	2	2			4	16:15	46	55			101
4:30	3	3			6	16:30	58	86			144
4:45	3	2			5	16:45	62	87			149
5:00	2	5			7	17:00	65	56			121
5:15	8	12			20	17:15	58	52			110
5:30	13	9			22	17:30	60	67			127
5:45	6	9			15	17:45	49	27			76
6:00	13	13			26	18:00	39	40			79
6:15	21	14			35	18:15	36	31			67
6:30	20	14			34	18:30	43	35			78
6:45	26	16			42	18:45	33	29			62
7:00	38	29			67	19:00	29	28			57
7:15	56	47			103	19:15	22	25			47
7:30	53	37			90	19:30	24	23			47
7:45	57	52			109	19:45	33	22			55
8:00	70	38			108	20:00	30	22			52
8:15	73	35			108	20:15	19	13			32
8:30	80	46			126	20:30	21	16			37
8:45	54	23			77	20:45	11	19			30
9:00	41	47			88	21:00	18	26			44
9:15	36	36			72	21:15	17	16			33
9:30	45	33			78	21:30	29	19			48
9:45	49	31			80	21:45	24	18			42
10:00	38	30			68	22:00	14	30			44
10:15	36	29			65	22:15	15	14			29
10:30	37	25			62	22:30	15	11			26
10:45	35	33			68	22:45	10	10			20
11:00	33	25			58	23:00	9	9			18
11:15	48	30			78	23:15	13	15			28
11:30	41	38			79	23:30	16	8			24
11:45	46	41			87	23:45	3	8			11
TOTALS	1123	846	0	0	1969	TOTALS	1797	1710	0	0	3507
SPLIT %	57%	43%	0%	0%	36%	SPLIT %	51%	49%	0%	0%	64%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	16	19			35
01:00	02:00	5	11			16
02:00	03:00	11	2			13
03:00	04:00	5	9			14
04:00	05:00	11	8			19
05:00	06:00	29	35			64
06:00	07:00	80	57			137
07:00	08:00	204	165			369
08:00	09:00	277	142			419
09:00	10:00	171	147			318
10:00	11:00	146	117			263
11:00	12:00	168	134			302
12:00	13:00	183	147			330
13:00	14:00	185	165			350
14:00	15:00	240	218			458
15:00	16:00	209	215			424
16:00	17:00	225	276			501
17:00	18:00	232	202			434
18:00	19:00	151	135			286
19:00	20:00	108	98			206
20:00	21:00	81	70			151
21:00	22:00	88	79			167
22:00	23:00	54	65			119
23:00	00:00	41	40			81

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	1123	846			1969
Peak Hour	7:45	7:15			7:45
Peak Volume	280	174			451
Peak Hour Factor	0.875	0.837			0.895
Peak Period	12:00	to	00:00		
Volume	1797	1710			3507
Peak Hour	14:30	16:15			16:30
Peak Volume	249	284			524
Peak Hour Factor	0.853	0.816			0.879
Peak Period	07:00	to	09:00		
Volume	481	307			788
Peak Hour	7:45	7:15			7:45
Peak Volume	280	174			451
Peak Hour Factor	0.875	0.837			0.895
Peak Period	16:00	to	18:00		
Volume	457	478			935
Peak Hour	16:45	16:15			16:30
Peak Volume	245	284			524
Peak Hour Factor	0.942	0.816			0.879



Prepared by National Data & Surveying Services

SPEED

Hooker Ave 350' N/O Dwight St

Day: Saturday

Date: 1/13/2024

City: Poughkeepsie

Project #: NY24_380006_001

HOURLY BREAKDOWN

Time	NORTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	SOUTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	TOTALS 5	15	20	25	30	35	40	45	50	55	60	65	70	Total
	15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99	
0:00	0	1	2	6	10	4	0	1	0	0	0	0	0	24	0	0	2	5	11	3	0	0	0	0	0	0	0	21	0	1	4	11	21	7	0	1	0	0	0	0	0	45
1:00	0	0	1	4	3	1	1	0	0	0	0	0	0	10	0	0	1	4	3	2	0	0	0	0	0	0	0	10	0	0	2	8	6	3	1	0	0	0	0	0	0	20
2:00	0	0	2	1	0	1	2	0	0	0	0	0	0	6	0	0	0	1	5	2	1	0	0	0	0	0	0	9	0	0	2	2	5	3	3	0	0	0	0	0	0	15
3:00	0	1	1	1	6	2	0	0	0	0	0	0	0	11	0	0	0	2	1	4	0	0	0	0	0	0	0	7	0	1	1	3	7	6	0	0	0	0	0	0	0	18
4:00	0	0	1	4	2	4	0	1	0	0	0	0	0	12	0	0	0	3	3	5	2	0	0	0	0	0	0	13	0	0	1	7	5	9	2	1	0	0	0	0	0	25
5:00	0	0	1	2	8	3	1	0	0	0	0	0	0	15	0	0	0	4	2	6	2	0	0	0	0	0	0	14	0	0	1	6	10	9	3	0	0	0	0	0	0	29
6:00	0	0	4	19	15	6	0	1	0	0	0	0	0	45	0	0	0	9	11	4	2	0	1	0	0	0	0	27	0	0	4	28	26	10	2	1	1	0	0	0	0	72
7:00	0	2	9	14	22	9	7	1	0	0	0	0	0	64	1	1	2	16	19	10	0	0	0	0	0	0	0	49	1	3	11	30	41	19	7	1	0	0	0	0	0	113
8:00	1	5	23	37	29	15	1	3	0	0	0	0	0	114	2	1	6	9	19	21	6	0	0	0	0	0	0	64	3	6	29	46	48	36	7	3	0	0	0	0	0	178
9:00	2	1	13	23	30	14	12	1	0	0	0	0	0	96	1	2	4	12	29	30	19	3	0	0	0	0	0	100	3	3	17	35	59	44	31	4	0	0	0	0	0	196
10:00	0	1	19	35	50	26	12	7	0	0	0	0	0	150	1	0	6	16	52	32	10	5	0	0	0	0	0	122	1	1	25	51	102	58	22	12	0	0	0	0	0	272
11:00	0	7	20	45	54	31	11	5	0	0	0	0	0	173	1	2	8	26	44	44	13	2	1	0	0	0	0	141	1	9	28	71	98	75	24	7	1	0	0	0	0	314
12:00	0	5	25	48	56	27	11	5	0	0	0	0	0	177	0	1	8	18	57	42	10	1	0	0	0	0	0	137	0	6	33	66	113	69	21	6	0	0	0	0	0	314
13:00	0	3	21	40	48	24	10	4	0	0	0	0	0	150	1	0	4	18	43	38	13	1	1	0	0	0	0	119	1	3	25	58	91	62	23	5	1	0	0	0	0	269
14:00	0	5	24	43	51	27	12	6	0	0	0	0	0	168	0	5	8	25	55	35	12	0	0	0	0	0	0	140	0	10	32	68	106	62	24	6	0	0	0	0	0	308
15:00	0	4	24	48	55	27	12	5	0	0	0	0	0	175	1	1	11	29	47	32	9	3	2	0	0	0	0	135	1	5	35	77	102	59	21	8	2	0	0	0	0	310
16:00	0	5	20	40	46	23	5	2	0	0	0	0	0	141	0	2	7	48	64	27	8	1	0	0	0	0	0	157	0	7	27	88	110	50	13	3	0	0	0	0	0	298
17:00	0	5	20	36	44	27	7	4	0	0	0	0	0	143	0	0	4	21	49	38	9	1	1	0	0	0	0	123	0	5	24	57	93	65	16	5	1	0	0	0	0	266
18:00	0	3	16	26	32	16	7	3	0	0	0	0	0	103	1	1	5	21	34	20	9	2	0	0	0	0	0	93	1	4	21	47	66	36	16	5	0	0	0	0	0	196
19:00	0	2	13	21	25	13	5	2	0	0	0	0	0	81	0	0	2	19	18	26	8	1	0	0	0	0	0	74	0	2	15	40	43	39	13	3	0	0	0	0	0	155
20:00	0	2	8	16	23	10	7	2	0	0	0	0	0	68	0	2	4	8	27	17	4	0	1	0	0	0	0	63	0	4	12	24	50	27	11	2	1	0	0	0	0	131
21:00	0	1	11	20	24	13	4	2	0	0	0	0	0	75	1	1	2	7	12	16	7	1	0	0	0	0	0	47	1	2	13	27	36	29	11	3	0	0	0	0	0	122
22:00	0	1	9	19	22	6	6	1	0	0	0	0	0	64	0	0	1	4	23	14	2	0	0	0	0	0	0	44	0	1	10	23	45	20	8	1	0	0	0	0	0	108
23:00	0	0	7	15	15	8	2	0	0	0	0	0	0	47	0	0	0	3	8	14	3	0	0	0	0	0	0	28	0	0	7	18	23	22	5	0	0	0	0	0	0	75
Totals	**3**	**54**	**294**	**563**	**670**	**337**	**135**	**56**	**0**	**0**	**0**	**0**	**0**	**2,112**	**10**	**19**	**85**	**328**	**636**	**482**	**149**	**21**	**7**	**0**	**0**	**0**	**0**	**1,737**	**13**	**73**	**379**	**891**	**1,306**	**819**	**284**	**77**	**7**	**0**	**0**	**0**	**0**	**3,849**
% of Totals	0%	3%	14%	27%	32%	16%	6%	3%						100%	1%	1%	5%	19%	37%	28%	9%	1%	0%					100%	0%	2%	10%	23%	34%	21%	7%	2%	0%					100%

STATISTICS

00:00 - 12:00	3	18	96	191	229	116	47	20	0	0	0	0	0	720	6	6	29	107	199	163	55	10	2	0	0	0	0	577	9	24	125	298	428	279	102	30	2	0	0	0	0	1297
%	0%	1%	5%	9%	11%	5%	2%	1%	0%	0%	0%	0%	0%	34%	0%	0%	1%	5%	9%	8%	3%	0%	0%	0%	0%	0%	0%	27%	0%	1%	6%	14%	20%	13%	5%	1%	0%	0%	0%	0%	0%	61%
Peak Hour	9:00	11:00	11:45	11:45	11:45	10:15	11:30	10:00	0:00	0:00	0:00	0:00	0:00	11:45	7:30	11:15	10:30	10:45	10:00	11:15	9:15	10:00	6:00	0:00	0:00	0:00	0:00	11:15	7:45	11:15	11:30	10:45	11:45	11:00	8:45	10:00	6:00	0:00	0:00	0:00	0:00	11:30
Peak Volume	2	7	27	53	62	35	14	7	0	0	0	0	0	196	2	3	10	27	52	45	20	5	1	0	0	0	0	144	3	10	35	74	110	75	31	12	1	0	0	0	0	333
12:00 - 24:00	0	36	198	372	441	221	88	36	0	0	0	0	0	1392	4	13	56	221	437	319	94	11	5	0	0	0	0	1160	4	49	254	593	878	540	182	47	5	0	0	0	0	2552
%	0%	2%	9%	18%	21%	10%	4%	2%	0%	0%	0%	0%	0%	66%	0%	1%	3%	10%	21%	15%	4%	1%	0%	0%	0%	0%	0%	55%	0%	2%	12%	28%	42%	26%	9%	2%	0%	0%	0%	0%	0%	121%
Peak Hour	12:00	16:30	14:30	14:30	14:30	14:30	14:30	12:45	12:00	12:00	12:00	12:00	12:00	14:30	13:00	14:00	14:45	16:00	16:15	12:00	13:15	15:00	15:00	12:00	12:00	12:00	12:00	16:00	13:00	14:00	14:30	15:30	16:15	12:00	13:15	15:00	15:00	12:00	12:00	12:00	12:00	14:45
Peak Volume	0	6	27	49	59	30	14	6	0	0	0	0	0	189	1	5	15	48	73	42	15	3	2	0	0	0	0	157	1	10	41	91	119	69	25	8	2	0	0	0	0	325
07:00 - 09:00	1	7	32	51	51	24	8	4	0	0	0	0	0	178	3	2	8	25	38	31	6	0	0	0	0	0	0	113	4	9	40	76	89	55	14	4	0	0	0	0	0	291
%	0%	0%	2%	2%	2%	1%	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%	1%	2%	1%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	2%	4%	4%	3%	1%	0%	0%	0%	0%	0%	0%	14%
Peak Hour	7:45	8:00	8:00	8:00	7:45	8:00	7:00	8:00	7:00	7:00	7:00	7:00	7:00	8:00	7:30	7:00	8:00	7:15	7:15	8:00	8:00	7:00	7:00	7:00	7:00	7:00	7:00	8:00	7:45	8:00	8:00	7:45	7:45	8:00	7:00	8:00	7:00	7:00	7:00	7:00	7:00	8:00
Peak Volume	1	5	23	37	32	15	7	3	0	0	0	0	0	114	2	1	6	17	22	21	6	0	0	0	0	0	0	64	3	6	29	47	51	36	7	3	0	0	0	0	0	178
16:00 - 18:00	0	10	40	76	90	50	12	6	0	0	0	0	0	284	0	2	11	69	113	65	17	2	1	0	0	0	0	280	0	12	51	145	203	115	29	8	1	0	0	0	0	564
%	0%	0%	2%	4%	4%	2%	1%	0%	0%	0%	0%	0%	0%	13%	0%	0%	1%	3%	5%	3%	1%	0%	0%	0%	0%	0%	0%	13%	0%	1%	2%	7%	10%	5%	1%	0%	0%	0%	0%	0%	0%	27%
Peak Hour	16:00	16:30	16:00	16:15	16:00	17:00	17:00	17:00	16:00	16:00	16:00	16:00	16:00	16:15	16:00	16:00	16:00	16:00	16:15	17:00	17:00	16:30	16:30	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:15	17:00	17:00	17:00	16:30	16:00	16:00	16:00	16:00	16:00
Peak Volume	0	6	20	41	46	27	7	4	0	0	0	0	0	143	0	2	7	48	73	38	9	2	1	0	0	0	0	157	0	7	27	88	119	65	16	5	1	0	0	0	0	298

Direction	Percentiles 15th	50th	Average	85th	95th	ADT
NORTHBOUND	24	31	31	38	43	2112
SOUTHBOUND	27	33	33	39	43	1737
TOTALS	26	32	32	39	43	3849

Prepared by National Data & Surveying Services

VOLUME

Hooker Ave 350' N/O Dwight St

Day: Saturday
Date: 1/13/2024

City: Poughkeepsie
Project #: NY24_380006_001

DAILY TOTALS	NB	SB	EB	WB	Total
	2,112	1,737	0	0	3,849

15-Minutes Interval

TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	6	6			12	12:00	56	32			88
0:15	4	4			8	12:15	45	33			78
0:30	5	5			10	12:30	44	35			79
0:45	9	6			15	12:45	32	37			69
1:00	5	1			6	13:00	33	30			63
1:15	3	6			9	13:15	46	34			80
1:30	1	2			3	13:30	35	29			64
1:45	1	1			2	13:45	36	26			62
2:00	2	3			5	14:00	32	35			67
2:15	2	4			6	14:15	41	32			73
2:30	1	2			3	14:30	39	31			70
2:45	1	0			1	14:45	56	42			98
3:00	3	3			6	15:00	44	28			72
3:15	2	1			3	15:15	50	32			82
3:30	1	1			2	15:30	35	38			73
3:45	5	2			7	15:45	46	37			83
4:00	1	4			5	16:00	39	45			84
4:15	4	1			5	16:15	39	35			74
4:30	5	4			9	16:30	34	34			68
4:45	2	4			6	16:45	29	43			72
5:00	1	0			1	17:00	41	41			82
5:15	2	3			5	17:15	32	26			58
5:30	6	5			11	17:30	31	23			54
5:45	6	6			12	17:45	39	33			72
6:00	9	2			11	18:00	26	20			46
6:15	11	11			22	18:15	25	30			55
6:30	12	3			15	18:30	21	19			40
6:45	13	11			24	18:45	31	24			55
7:00	16	8			24	19:00	18	22			40
7:15	15	15			30	19:15	18	20			38
7:30	15	10			25	19:30	24	20			44
7:45	18	16			34	19:45	21	12			33
8:00	25	16			41	20:00	27	21			48
8:15	23	18			41	20:15	10	13			23
8:30	38	12			50	20:30	22	15			37
8:45	28	18			46	20:45	9	14			23
9:00	25	31			56	21:00	15	14			29
9:15	24	17			41	21:15	18	10			28
9:30	19	32			51	21:30	30	14			44
9:45	28	20			48	21:45	12	9			21
10:00	29	26			55	22:00	14	11			25
10:15	27	35			62	22:15	27	11			38
10:30	38	32			70	22:30	12	10			22
10:45	56	29			85	22:45	11	12			23
11:00	51	29			80	23:00	11	7			18
11:15	32	35			67	23:15	13	7			20
11:30	39	45			84	23:30	9	9			18
11:45	51	32			83	23:45	14	5			19
TOTALS	720	577	0	0	1297	TOTALS	1392	1160	0	0	2552
SPLIT %	56%	44%	0%	0%	34%	SPLIT %	55%	45%	0%	0%	66%

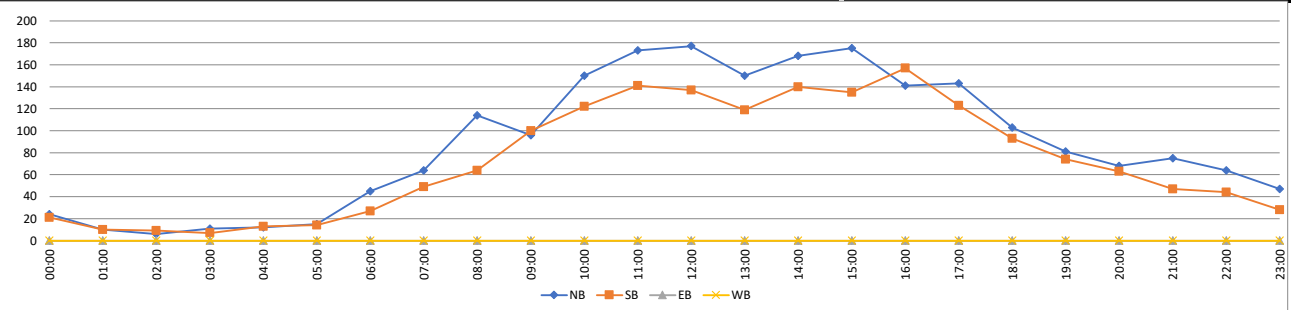
DAILY TOTALS

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	24	21			45
01:00	02:00	10	10			20
02:00	03:00	6	9			15
03:00	04:00	11	7			18
04:00	05:00	12	13			25
05:00	06:00	15	14			29
06:00	07:00	45	27			72
07:00	08:00	64	49			113
08:00	09:00	114	64			178
09:00	10:00	96	100			196
10:00	11:00	150	122			272
11:00	12:00	173	141			314
12:00	13:00	177	137			314
13:00	14:00	150	119			269
14:00	15:00	168	140			308
15:00	16:00	175	135			310
16:00	17:00	141	157			298
17:00	18:00	143	123			266
18:00	19:00	103	93			196
19:00	20:00	81	74			155
20:00	21:00	68	63			131
21:00	22:00	75	47			122
22:00	23:00	64	44			108
23:00	00:00	47	28			75

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	720	577			1297
Peak Hour	10:45	11:00			10:45
Peak Volume	178	141			316
Peak Hour Factor	0.795	0.783			0.929
Peak Period	12:00	to	00:00		
Volume	1392	1160			2552
Peak Hour	14:30	16:00			14:45
Peak Volume	189	157			325
Peak Hour Factor	0.844	0.872			0.829
Peak Period	07:00	to	09:00		
Volume	178	113			291
Peak Hour	8:00	8:00			8:00
Peak Volume	114	64			178
Peak Hour Factor	0.750	0.889			0.890
Peak Period	16:00	to	18:00		
Volume	284	280			564
Peak Hour	16:15	16:00			16:00
Peak Volume	143	157			298
Peak Hour Factor	0.872	0.872			0.887



Prepared by National Data & Surveying Services

SPEED

S Hamilton St 200' S/O Franklin St

Day: Wednesday

Date: 1/10/2024

City: Poughkeepsie

Project #: NY24_380006_002

HOURLY BREAKDOWN

Time	NORTHBOUND														SOUTHBOUND														TOTALS													
	5	15	20	25	30	35	40	45	50	55	60	65	70	Total	5	15	20	25	30	35	40	45	50	55	60	65	70	Total	5	15	20	25	30	35	40	45	50	55	60	65	70	Total
	15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99	
0:00	0	1	1	0	2	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0	1	1	0	0	0	0	0	3	0	2	1	0	2	0	1	1	0	0	0	0	0	7
1:00	0	0	1	0	4	1	0	0	0	0	0	0	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	1	4	1	0	0	0	0	0	0	0	7
2:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	2
3:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	2
4:00	0	0	1	0	2	0	0	0	0	0	0	0	0	3	0	0	0	0	1	1	1	0	0	0	0	0	0	3	0	0	1	0	3	1	1	0	0	0	0	0	0	6
5:00	0	0	5	6	4	4	0	0	0	0	0	0	0	19	0	0	3	4	2	2	0	0	0	0	0	0	0	11	0	0	8	10	6	6	0	0	0	0	0	0	0	30
6:00	0	0	2	10	8	3	2	0	0	0	0	0	0	25	0	1	2	6	8	0	0	0	0	0	0	0	0	17	0	1	4	16	16	3	2	0	0	0	0	0	0	42
7:00	0	2	14	32	18	5	2	0	0	0	0	0	0	73	1	1	8	13	27	4	2	0	0	0	0	0	0	56	1	3	22	45	45	9	4	0	0	0	0	0	0	129
8:00	0	5	14	25	25	9	0	0	0	0	0	0	0	78	1	0	3	11	13	5	0	0	0	0	0	0	0	33	1	5	17	36	38	14	0	0	0	0	0	0	0	111
9:00	0	1	10	15	18	10	1	0	0	0	0	0	0	55	0	1	5	7	14	6	3	0	0	0	0	0	0	36	0	2	15	22	32	16	4	0	0	0	0	0	0	91
10:00	1	1	4	16	15	12	2	1	0	0	0	0	0	52	0	4	4	9	11	5	1	0	0	0	0	0	0	34	1	5	8	25	26	17	3	1	0	0	0	0	0	86
11:00	1	1	3	19	29	8	2	1	0	0	0	0	0	64	0	0	5	19	13	4	1	0	0	0	0	0	0	42	1	1	8	38	42	12	3	1	0	0	0	0	0	106
12:00	0	1	7	15	12	9	4	1	0	0	0	0	0	49	0	0	3	9	19	3	0	0	0	0	0	0	0	34	0	1	10	24	31	12	4	1	0	0	0	0	0	83
13:00	1	4	4	27	26	7	4	0	0	0	0	0	0	73	0	0	4	14	9	7	0	0	0	0	0	0	0	34	1	4	8	41	35	14	4	0	0	0	0	0	0	107
14:00	0	0	9	35	30	20	1	0	0	0	0	0	0	95	0	1	6	16	27	10	0	0	0	0	0	0	0	60	0	1	15	51	57	30	1	0	0	0	0	0	0	155
15:00	0	1	14	29	38	17	4	0	0	0	0	0	0	103	0	2	3	11	14	6	2	0	0	0	0	0	0	38	0	3	17	40	52	23	6	0	0	0	0	0	0	141
16:00	0	3	6	39	28	11	3	1	0	0	0	0	0	91	0	1	10	20	12	2	1	0	1	0	0	0	0	47	0	4	16	59	40	13	4	1	1	0	0	0	0	138
17:00	0	1	13	29	32	7	1	0	0	0	0	0	0	83	0	0	8	20	13	11	0	0	1	0	0	0	0	53	0	1	21	49	45	18	1	0	1	0	0	0	0	136
18:00	0	0	6	29	11	6	1	0	0	0	0	0	0	53	0	1	10	18	8	8	1	0	0	0	0	0	0	46	0	1	16	47	19	14	2	0	0	0	0	0	0	99
19:00	2	6	7	20	12	2	1	0	0	0	0	0	0	50	0	2	4	12	11	1	0	0	0	0	0	0	0	30	2	8	11	32	23	3	1	0	0	0	0	0	0	80
20:00	1	1	7	19	10	5	3	0	0	0	0	0	0	46	0	0	4	7	7	3	2	0	0	0	0	0	0	23	1	1	11	26	17	8	5	0	0	0	0	0	0	69
21:00	0	1	3	11	6	2	0	1	0	0	0	0	0	24	0	2	0	3	3	2	0	0	0	0	0	0	0	10	0	3	3	14	9	4	0	1	0	0	0	0	0	34
22:00	0	2	2	7	8	5	1	0	0	0	0	0	0	25	0	0	1	2	1	0	0	0	0	0	0	0	0	4	0	2	3	9	9	5	1	0	0	0	0	0	0	29
23:00	0	0	1	5	2	1	0	0	0	0	0	0	0	9	0	0	0	3	3	2	1	0	0	0	0	0	0	9	0	0	1	8	5	3	1	0	0	0	0	0	0	18
Totals	6	31	134	389	341	144	32	5	0	0	0	0	0	1,082	2	17	85	205	216	82	16	1	2	0	0	0	0	626	8	48	219	594	557	226	48	6	2	0	0	0	0	1,708
% of Totals	1%	3%	12%	36%	32%	13%	3%	0%						100%	0%	3%	14%	33%	35%	13%	3%	0%	0%						100%	0%	3%	13%	35%	33%	13%	3%	0%	0%					100%

STATISTICS

	00:00 - 12:00	12:00 - 24:00	07:00 - 09:00	16:00 - 18:00
NORTHBOUND	2	11	55	124	126	52	9	2	0	0	0	0	0	381	4	20	79	265	215	92	23	3	0	0	0	0	0	701	0	7	28	57	43	14	2	0	0	0	0	0	0	151	0	4	19	68	60	18	4	1	0	0	0	0	0	174
%	0%	1%	5%	11%	12%	5%	1%	0%	0%	0%	0%	0%	0%	35%	0%	2%	7%	24%	20%	9%	2%	0%	0%	0%	0%	0%	0%	65%	0%	1%	3%	5%	4%	1%	0%	0%	0%	0%	0%	0%	0%	14%	0%	0%	2%	6%	6%	2%	0%	0%	0%	0%	0%	0%	0%	16%
Peak Hour	10:15	7:45	7:00	7:00	11:15	9:30	6:30	9:30	0:00	0:00	0:00	0:00	0:00	7:30	18:15	18:45	14:30	14:30	14:30	14:00	12:15	12:00	12:00	12:00	12:00	12:00	12:00	14:30	7:00	7:45	7:00	7:00	7:30	7:45	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:30	16:00	16:00	17:00	16:00	16:45	16:00	16:00	16:00	16:00	16:00	16:00	16:15
Peak Volume	2	6	14	32	31	14	4	1	0	0	0	0	0	78	2	6	15	42	42	20	7	1	0	0	0	0	0	124	0	6	14	32	28	9	2	0	0	0	0	0	0	78	0	3	13	39	37	11	3	1	0	0	0	0	0	93
SOUTHBOUND	0	1	2	10	8	3	2	0	0	0	0	0	0	25	0	0	3	4	2	2	0	0	0	0	0	0	0	11	0	0	2	6	8	0	0	0	0	0	0	0	0	19	0	1	2	8	13	27	4	2	0	0	0	0	0	73
%	0%	0%	1%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	1%	2%	4%	1%	0%	0%	0%	0%	0%	0%	0%	5%
Peak Hour	18:15	18:45	14:30	14:30	14:30	14:00	12:15	12:00	12:00	12:00	12:00	12:00	12:00	14:30	12:00	14:30	16:45	16:15	14:00	17:15	15:30	12:00	15:15	12:00	12:00	12:00	12:00	14:00	18:15	18:45	17:15	16:00	14:30	14:00	12:15	12:00	15:15	12:00	12:00	12:00	12:00	14:30	16:00	16:00	16:45	16:15	16:45	17:00	16:00	16:00	16:00	16:00	16:00	16:00
Peak Volume	2	6	15	42	42	20	7	1	0	0	0	0	0	124	0	3	11	22	27	14	3	0	1	0	0	0	0	60	2	8	22	59	60	30	7	1	1	0	0	0	0	170	2	6	22	45	51	14	4	0	0	0	0	0	0	130
TOTALS	2	11	55	124	126	52	9	2	0	0	0	0	0	381	4	20	79	265	215	92	23	3	0	0	0	0	0	701	0	7	28	57	43	14	2	0	0	0	0	0	0	151	0	4	19	68	60	18	4	1	0	0	0	0	0	174
%	0%	1%	5%	11%	12%	5%	1%	0%	0%	0%	0%	0%	0%	35%	0%	1%	3%	6%	8%	2%	1%	0%	0%	0%	0%	0%	0%	22%	0%	2%	8%	18%	20%	7%	2%	0%	0%	0%	0%	0%	0%	57%	0%	1%	5%	11%	12%	5%	1%	0%	0%	0%	0%	0%	0%	16%
Peak Hour	10:15	7:45	7:00	7:00	11:15	9:30	6:30	9:30	0:00	0:00	0:00	0:00	0:00	7:30	7:45	10:00	7:30	10:45	7:15	9:30	9:00	0:00	0:00	0:00	0:00	0:00	0:00	7:00	7:45	7:30	7:00	7:00	7:15	9:30	6:30	0:00	0:00	0:00	0:00	0:00	0:00	7:30	7:45	7:00	7:30	7:30	7:15	7:30	7:00	7:00	7:00	7:00	7:00	7:00
Peak Volume	2	6	14	32	31	14	4	1	0	0	0	0	0	78	2	4	9	20	28	8	3	1	0	0	0	0	0	56	2	6	22	45	51	22	4	1	0	0	0	0	0	130	2	1	9	15	28	5	2	0	0	0	0	0	0	56
TOTALS	4	31	134	389	341	144	32	5	0	0	0	0	0	1,082	2	17	85	205	216	82	16	1	2	0	0	0	0	626	8	48	219	594	557	226	48	6	2	0	0	0	0	1,708
%	0%	3%	12%	36%	32%	13%	3%	0%						100%	0%	3%	14%	33%	35%	13%	3%	0%	0%						100%	0%	3%	13%	35%	33%	13%	3%	0%	0%					100%

Direction	Percentiles					
	15th	50th	Average	85th	95th	ADT
NORTHBOUND	25	30	30	36	39	1082
SOUTHBOUND	24	30	30	35	39	626
TOTALS	25	30	30	36	39	1708

Prepared by National Data & Surveying Services

VOLUME

S Hamilton St 200' S/O Franklin St

Day: Wednesday
Date: 1/10/2024

City: Poughkeepsie
Project #: NY24_380006_002

DAILY TOTALS	NB	SB	EB	WB	Total
	1,082	626	0	0	1,708

15-Minutes Interval

TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	2	1			3	12:00	17	5			22
0:15	1	0			1	12:15	12	10			22
0:30	0	1			1	12:30	9	14			23
0:45	1	1			2	12:45	11	5			16
1:00	2	1			3	13:00	20	10			30
1:15	1	0			1	13:15	15	12			27
1:30	0	0			0	13:30	14	8			22
1:45	3	0			3	13:45	24	4			28
2:00	0	0			0	14:00	18	16			34
2:15	0	1			1	14:15	12	16			28
2:30	1	0			1	14:30	41	17			58
2:45	0	0			0	14:45	24	11			35
3:00	0	0			0	15:00	34	9			43
3:15	0	1			1	15:15	25	9			34
3:30	0	0			0	15:30	22	7			29
3:45	1	0			1	15:45	22	13			35
4:00	1	1			2	16:00	22	9			31
4:15	2	0			2	16:15	23	15			38
4:30	0	1			1	16:30	21	10			31
4:45	0	1			1	16:45	25	13			38
5:00	3	3			6	17:00	24	10			34
5:15	5	3			8	17:15	19	12			31
5:30	5	3			8	17:30	18	17			35
5:45	6	2			8	17:45	22	14			36
6:00	2	1			3	18:00	10	16			26
6:15	6	4			10	18:15	14	13			27
6:30	8	5			13	18:30	20	7			27
6:45	9	7			16	18:45	9	10			19
7:00	17	9			26	19:00	20	6			26
7:15	20	13			33	19:15	4	10			14
7:30	20	15			35	19:30	11	6			17
7:45	16	19			35	19:45	15	8			23
8:00	17	9			26	20:00	14	8			22
8:15	25	9			34	20:15	14	5			19
8:30	17	9			26	20:30	15	4			19
8:45	19	6			25	20:45	3	6			9
9:00	12	8			20	21:00	6	3			9
9:15	13	10			23	21:15	7	2			9
9:30	14	11			25	21:30	4	4			8
9:45	16	7			23	21:45	7	1			8
10:00	13	7			20	22:00	9	1			10
10:15	16	10			26	22:15	5	2			7
10:30	15	7			22	22:30	8	0			8
10:45	8	10			18	22:45	3	1			4
11:00	15	12			27	23:00	1	2			3
11:15	20	10			30	23:15	4	0			4
11:30	16	13			29	23:30	3	5			8
11:45	13	7			20	23:45	1	2			3
TOTALS	381	238	0	0	619	TOTALS	701	388	0	0	1089
SPLIT %	62%	38%	0%	0%	36%	SPLIT %	64%	36%	0%	0%	64%

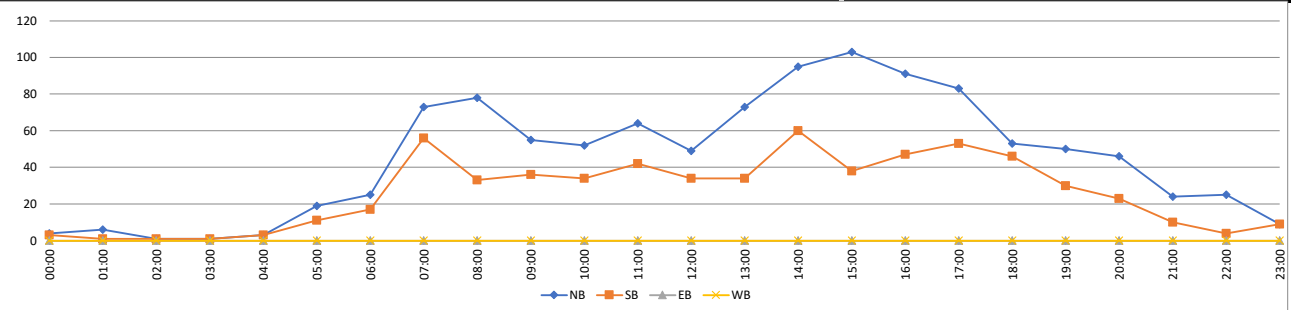
DAILY TOTALS

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	4	3			7
01:00	02:00	6	1			7
02:00	03:00	1	1			2
03:00	04:00	1	1			2
04:00	05:00	3	3			6
05:00	06:00	19	11			30
06:00	07:00	25	17			42
07:00	08:00	73	56			129
08:00	09:00	78	33			111
09:00	10:00	55	36			91
10:00	11:00	52	34			86
11:00	12:00	64	42			106
12:00	13:00	49	34			83
13:00	14:00	73	34			107
14:00	15:00	95	60			155
15:00	16:00	103	38			141
16:00	17:00	91	47			138
17:00	18:00	83	53			136
18:00	19:00	53	46			99
19:00	20:00	50	30			80
20:00	21:00	46	23			69
21:00	22:00	24	10			34
22:00	23:00	25	4			29
23:00	00:00	9	9			18

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	381	238			619
Peak Hour	7:30	7:00			7:30
Peak Volume	78	56			130
Peak Hour Factor	0.780	0.737			0.929
Peak Period	12:00	to	00:00		
Volume	701	388			1089
Peak Hour	14:30	14:00			14:30
Peak Volume	124	60			170
Peak Hour Factor	0.756	0.882			0.733
Peak Period	07:00	to	09:00		
Volume	151	89			240
Peak Hour	7:30	7:00			7:30
Peak Volume	78	56			130
Peak Hour Factor	0.780	0.737			0.929
Peak Period	16:00	to	18:00		
Volume	174	100			274
Peak Hour	16:15	17:00			16:15
Peak Volume	93	53			141
Peak Hour Factor	0.930	0.779			0.928



Prepared by National Data & Surveying Services

SPEED

S Hamilton St 200' S/O Franklin St

Day: Thursday
Date: 1/11/2024

City: Poughkeepsie
Project #: NY24_380006_002

HOURLY BREAKDOWN

Time	NORTHBOUND														SOUTHBOUND														TOTALS													
	5	15	20	25	30	35	40	45	50	55	60	65	70	Total	5	15	20	25	30	35	40	45	50	55	60	65	70	Total	5	15	20	25	30	35	40	45	50	55	60	65	70	Total
	15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99	
0:00	0	0	0	2	3	1	1	0	0	0	0	0	0	7	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0	3	4	1	1	0	0	0	0	0	0	9
1:00	0	0	1	1	3	0	0	0	0	0	0	0	0	5	0	0	2	1	0	1	0	0	0	0	0	0	0	4	0	0	3	2	3	1	0	0	0	0	0	0	0	9
2:00	0	0	1	1	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	4
3:00	0	0	2	1	0	0	1	0	0	0	0	0	0	4	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	3	1	0	1	1	0	0	0	0	0	0	6
4:00	0	0	0	1	2	1	0	0	0	0	0	0	0	4	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0	2	3	1	0	0	0	0	0	0	0	6
5:00	0	1	5	4	2	1	1	0	0	0	0	0	0	14	0	0	2	0	4	0	1	0	0	0	0	0	0	7	0	1	7	4	6	1	2	0	0	0	0	0	0	21
6:00	0	1	9	7	3	7	1	0	0	0	0	0	0	28	0	0	2	4	9	1	1	0	0	0	0	0	0	17	0	1	11	11	12	8	2	0	0	0	0	0	0	45
7:00	0	4	12	21	17	5	4	0	0	0	0	0	0	63	0	1	6	15	22	9	2	0	0	0	0	0	0	55	0	5	18	36	39	14	6	0	0	0	0	0	0	118
8:00	2	1	21	19	27	6	2	0	0	0	0	0	0	78	1	3	5	13	16	3	3	0	0	0	0	0	0	44	3	4	26	32	43	9	5	0	0	0	0	0	0	122
9:00	2	3	9	24	17	8	2	0	0	0	0	0	0	65	0	1	1	9	9	11	1	0	0	0	0	0	0	32	2	4	10	33	26	19	3	0	0	0	0	0	0	97
10:00	1	2	9	26	17	10	4	0	0	0	0	0	0	69	0	1	9	7	13	3	1	0	0	0	0	0	0	34	1	3	18	33	30	13	5	0	0	0	0	0	0	103
11:00	1	1	7	23	17	10	1	0	0	0	0	0	0	60	0	2	4	15	12	6	2	0	0	0	0	0	0	41	1	3	11	38	29	16	3	0	0	0	0	0	0	101
12:00	0	2	8	23	17	5	2	0	0	0	0	0	0	57	0	2	2	12	18	5	1	0	0	0	0	0	0	40	0	4	10	35	35	10	3	0	0	0	0	0	0	97
13:00	1	5	6	28	18	8	0	0	0	0	0	0	0	66	1	1	2	7	11	7	2	0	0	0	0	0	0	31	2	6	8	35	29	15	2	0	0	0	0	0	0	97
14:00	4	4	13	40	26	4	1	0	0	0	0	0	0	92	1	2	9	23	17	1	2	0	0	0	0	0	0	55	5	6	22	63	43	5	3	0	0	0	0	0	0	147
15:00	0	3	13	39	27	11	1	0	0	0	0	0	0	94	0	0	9	24	18	11	2	0	0	0	0	0	0	64	0	3	22	63	45	22	3	0	0	0	0	0	0	158
16:00	1	2	8	30	31	17	1	0	0	0	0	0	0	90	1	1	4	15	24	7	1	0	0	0	0	0	0	53	2	3	12	45	55	24	2	0	0	0	0	0	0	143
17:00	1	4	10	28	28	7	2	0	0	0	0	0	0	80	0	0	4	17	14	3	2	0	0	0	0	0	0	40	1	4	14	45	42	10	4	0	0	0	0	0	0	120
18:00	0	6	9	29	15	4	0	0	0	0	0	0	0	63	1	2	3	12	9	4	1	0	0	0	0	0	0	32	1	8	12	41	24	8	1	0	0	0	0	0	0	95
19:00	0	2	8	13	10	1	1	0	0	0	0	0	0	35	0	1	1	9	10	5	0	0	0	0	0	0	0	26	0	3	9	22	20	6	1	0	0	0	0	0	0	61
20:00	2	1	4	19	13	2	0	0	0	0	0	0	0	41	0	0	2	2	7	1	0	0	0	0	0	0	0	12	2	1	6	21	20	3	0	0	0	0	0	0	0	53
21:00	0	0	5	8	5	2	2	0	0	0	0	0	0	22	0	0	3	3	7	0	0	0	0	0	0	0	0	13	0	0	8	11	12	2	2	0	0	0	0	0	0	35
22:00	1	2	1	4	5	0	1	0	0	0	0	0	0	14	0	5	0	1	2	0	0	0	0	0	0	0	0	8	1	7	1	5	7	0	1	0	0	0	0	0	0	22
23:00	0	0	6	12	3	1	0	0	0	0	0	0	0	22	0	0	2	4	0	1	0	0	0	0	0	0	0	7	0	0	8	16	3	2	0	0	0	0	0	0	0	29
Totals	16	44	167	403	307	111	28	0	0	0	0	0	0	1,076	5	22	73	195	224	81	22	0	0	0	0	0	0	622	21	66	240	598	531	192	50	0	0	0	0	0	0	1,698
% of Totals	1%	4%	16%	37%	29%	10%	3%							100%	1%	4%	12%	31%	36%	13%	4%							100%	1%	4%	14%	35%	31%	11%	3%							100%

STATISTICS

	NORTHBOUND														SOUTHBOUND														TOTALS													
00:00 - 12:00	6	13	76	130	109	49	17	0	0	0	0	0	0	400	1	8	32	66	87	36	11	0	0	0	0	0	0	241	7	21	108	196	196	85	28	0	0	0	0	0	0	641
%	1%	1%	7%	12%	10%	5%	2%	0%	0%	0%	0%	0%	0%	37%	0%	1%	3%	6%	8%	3%	1%	0%	0%	0%	0%	0%	0%	22%	1%	2%	10%	18%	18%	8%	3%	0%	0%	0%	0%	0%	0%	60%
Peak Hour	8:30	6:45	7:45	9:15	8:15	11:45	6:45	0:00	0:00	0:00	0:00	0:00	0:00	7:45	7:45	7:45	7:45	7:15	7:00	8:45	7:15	0:00	0:00	0:00	0:00	0:00	0:00	7:15	8:30	7:30	7:45	7:15	8:15	11:45	7:30	0:00	0:00	0:00	0:00	0:00	0:00	7:45
Peak Volume	3	4	24	29	30	13	4	0	0	0	0	0	0	83	1	4	9	18	22	12	4	0	0	0	0	0	0	61	4	6	33	41	45	20	8	0	0	0	0	0	0	132
12:00 - 24:00	10	31	91	273	198	62	11	0	0	0	0	0	0	676	4	14	41	129	137	45	11	0	0	0	0	0	0	381	14	45	132	402	335	107	22	0	0	0	0	0	0	1057
%	1%	3%	8%	25%	18%	6%	1%	0%	0%	0%	0%	0%	0%	63%	0%	1%	4%	12%	13%	4%	1%	0%	0%	0%	0%	0%	0%	35%	1%	4%	12%	37%	31%	10%	2%	0%	0%	0%	0%	0%	0%	98%
Peak Hour	13:45	18:30	14:45	14:15	16:30	16:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	14:30	13:45	22:00	14:45	14:45	16:30	15:00	14:15	12:00	12:00	12:00	12:00	12:00	12:00	14:45	13:45	18:30	14:45	14:15	16:30	16:00	15:15	12:00	12:00	12:00	12:00	12:00	12:00	14:45
Peak Volume	4	7	17	47	35	17	2	0	0	0	0	0	0	112	2	5	12	25	26	11	3	0	0	0	0	0	0	69	6	9	29	69	61	24	4	0	0	0	0	0	0	174
07:00 - 09:00	2	5	33	40	44	11	6	0	0	0	0	0	0	141	1	4	11	28	38	12	5	0	0	0	0	0	0	99	3	9	44	68	82	23	11	0	0	0	0	0	0	240
%	0%	0%	3%	4%	4%	1%	1%	0%	0%	0%	0%	0%	0%	13%	0%	0%	1%	3%	4%	1%	0%	0%	0%	0%	0%	0%	0%	9%	0%	1%	4%	6%	8%	2%	1%	0%	0%	0%	0%	0%	0%	22%
Peak Hour	7:45	7:00	7:45	7:15	8:00	7:45	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:45	7:45	7:45	7:45	7:15	7:00	7:00	7:15	7:00	7:00	7:00	7:00	7:00	7:00	7:15	7:45	7:30	7:45	7:15	8:00	7:00	7:30	7:00	7:00	7:00	7:00	7:00	7:00	7:45
Peak Volume	2	4	24	23	27	6	4	0	0	0	0	0	0	83	1	4	9	18	22	9	4	0	0	0	0	0	0	61	3	6	33	41	43	14	8	0	0	0	0	0	0	132
16:00 - 18:00	2	6	18	58	59	24	3	0	0	0	0	0	0	170	1	1	8	32	38	10	3	0	0	0	0	0	0	93	3	7	26	90	97	34	6	0	0	0	0	0	0	263
%	0%	1%	2%	5%	5%	2%	0%	0%	0%	0%	0%	0%	0%	16%	0%	0%	1%	3%	4%	1%	0%	0%	0%	0%	0%	0%	0%	9%	0%	1%	2%	8%	9%	3%	1%	0%	0%	0%	0%	0%	0%	24%
Peak Hour	16:30	17:00	16:30	16:15	16:30	16:00	16:15	16:00	16:00	16:00	16:00	16:00	16:00	16:15	16:00	16:00	16:30	16:30	16:30	16:00	16:45	16:00	16:00	16:00	16:00	16:00	16:00	16:30	16:00	16:15	16:30	16:15	16:30	16:00	16:45	16:00	16:00	16:00	16:00	16:00	16:00	16:15
Peak Volume	2	4	12	31	35	17	2	0	0	0	0	0	0	99	1	1	6	22	26	7	2	0	0	0	0	0	0	61	2	4	18	51	61	24	4	0	0	0	0	0	0	156

Direction	Percentiles					
	15th	50th	Average	85th	95th	ADT
NORTHBOUND	23	29	29	35	39	1076
SOUTHBOUND	25	30	30	36	39	622
TOTALS	23	29	29	35	39	1698

Prepared by National Data & Surveying Services

VOLUME

S Hamilton St 200' S/O Franklin St

Day: Thursday
Date: 1/11/2024

City: Poughkeepsie
Project #: NY24_380006_002

DAILY TOTALS	NB	SB	EB	WB	Total
	1,076	622	0	0	1,698

15-Minutes Interval

TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	4	0			4	12:00	18	11			29
0:15	1	1			2	12:15	13	10			23
0:30	2	1			3	12:30	18	10			28
0:45	0	0			0	12:45	8	9			17
1:00	3	2			5	13:00	10	7			17
1:15	0	2			2	13:15	11	9			20
1:30	1	0			1	13:30	24	7			31
1:45	1	0			1	13:45	21	8			29
2:00	1	0			1	14:00	15	11			26
2:15	0	1			1	14:15	18	16			34
2:30	1	0			1	14:30	30	12			42
2:45	1	0			1	14:45	29	16			45
3:00	2	0			2	15:00	23	15			38
3:15	1	1			2	15:15	30	17			47
3:30	1	0			1	15:30	23	21			44
3:45	0	1			1	15:45	18	11			29
4:00	0	0			0	16:00	15	9			24
4:15	1	0			1	16:15	28	8			36
4:30	1	2			3	16:30	24	21			45
4:45	2	0			2	16:45	23	15			38
5:00	3	2			5	17:00	24	13			37
5:15	4	1			5	17:15	21	12			33
5:30	5	2			7	17:30	14	9			23
5:45	2	2			4	17:45	21	6			27
6:00	6	2			8	18:00	16	11			27
6:15	4	4			8	18:15	16	5			21
6:30	10	7			17	18:30	14	8			22
6:45	8	4			12	18:45	17	8			25
7:00	14	9			23	19:00	7	8			15
7:15	14	16			30	19:15	9	7			16
7:30	19	14			33	19:30	9	6			15
7:45	16	16			32	19:45	10	5			15
8:00	16	15			31	20:00	13	1			14
8:15	19	4			23	20:15	8	6			14
8:30	32	14			46	20:30	13	1			14
8:45	11	11			22	20:45	7	4			11
9:00	17	7			24	21:00	8	2			10
9:15	15	8			23	21:15	3	4			7
9:30	12	13			25	21:30	3	5			8
9:45	21	4			25	21:45	8	2			10
10:00	19	9			28	22:00	4	2			6
10:15	16	6			22	22:15	7	4			11
10:30	16	9			25	22:30	0	0			0
10:45	18	10			28	22:45	3	2			5
11:00	13	12			25	23:00	3	3			6
11:15	10	16			26	23:15	6	1			7
11:30	15	4			19	23:30	6	2			8
11:45	22	9			31	23:45	7	1			8
TOTALS	400	241	0	0	641	TOTALS	676	381	0	0	1057
SPLIT %	62%	38%	0%	0%	38%	SPLIT %	64%	36%	0%	0%	62%

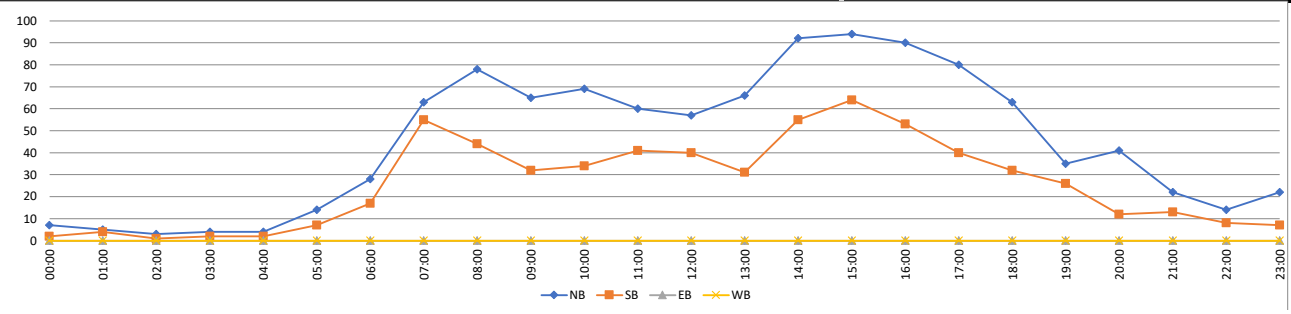
DAILY TOTALS

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	7	2			9
01:00	02:00	5	4			9
02:00	03:00	3	1			4
03:00	04:00	4	2			6
04:00	05:00	4	2			6
05:00	06:00	14	7			21
06:00	07:00	28	17			45
07:00	08:00	63	55			118
08:00	09:00	78	44			122
09:00	10:00	65	32			97
10:00	11:00	69	34			103
11:00	12:00	60	41			101
12:00	13:00	57	40			97
13:00	14:00	66	31			97
14:00	15:00	92	55			147
15:00	16:00	94	64			158
16:00	17:00	90	53			143
17:00	18:00	80	40			120
18:00	19:00	63	32			95
19:00	20:00	35	26			61
20:00	21:00	41	12			53
21:00	22:00	22	13			35
22:00	23:00	14	8			22
23:00	00:00	22	7			29

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	400	241			641
Peak Hour	7:45	7:15			7:45
Peak Volume	83	61			132
Peak Hour Factor	0.648	0.953			0.717
Peak Period	12:00	to	00:00		
Volume	676	381			1057
Peak Hour	14:30	14:45			14:45
Peak Volume	112	69			174
Peak Hour Factor	0.933	0.821			0.926
Peak Period	07:00	to	09:00		
Volume	141	99			240
Peak Hour	7:45	7:15			7:45
Peak Volume	83	61			132
Peak Hour Factor	0.648	0.953			0.717
Peak Period	16:00	to	18:00		
Volume	170	93			263
Peak Hour	16:15	16:30			16:15
Peak Volume	99	61			156
Peak Hour Factor	0.884	0.726			0.867



Prepared by National Data & Surveying Services

SPEED

S Hamilton St 200' S/O Franklin St

Day: Friday

Date: 1/12/2024

City: Poughkeepsie

Project #: NY24_380006_002

HOURLY BREAKDOWN

Time	NORTHBOUND 5 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 99	Total	SOUTHBOUND 5 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 99	Total	TOTALS 5 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 99	Total
0:00	0	0	0	5	2	1	0	0	0	0	0	0	0	8	0	1	0	1	1	0	0	1	0	0	0	0	0	4	0	1	0	6	3	1	0	1	0	0	0	0	0	12
1:00	0	0	0	2	2	0	0	0	0	0	0	0	0	4	0	0	1	1	0	1	0	0	0	0	0	0	0	3	0	0	1	3	2	1	0	0	0	0	0	0	0	7
2:00	0	0	3	1	0	0	0	0	0	0	0	0	0	4	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	3	2	1	0	0	0	0	0	0	0	0	6
3:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0	1	2	0	0	0	0	0	0	0	0	3
4:00	0	0	0	0	3	0	0	0	1	0	0	0	0	4	0	1	1	0	0	1	0	0	0	0	0	0	0	3	0	1	1	0	3	1	0	0	1	0	0	0	0	7
5:00	0	2	4	6	2	1	0	1	0	0	0	0	0	16	0	0	2	3	0	0	0	0	0	0	0	0	0	5	0	2	6	9	2	1	0	1	0	0	0	0	0	21
6:00	1	2	7	9	7	2	0	1	0	0	0	0	0	29	2	1	0	11	7	1	0	0	0	0	0	0	0	22	3	3	7	20	14	3	0	1	0	0	0	0	0	51
7:00	0	4	16	40	26	4	5	0	0	0	0	0	0	95	0	3	12	19	23	2	1	1	0	0	0	0	0	61	0	7	28	59	49	6	6	1	0	0	0	0	0	156
8:00	1	3	14	24	25	12	1	0	0	0	0	0	0	80	1	1	4	10	15	12	4	0	0	0	0	0	0	47	2	4	18	34	40	24	5	0	0	0	0	0	0	127
9:00	0	1	9	18	24	7	5	1	1	0	0	0	0	66	0	0	4	5	15	6	2	0	0	0	0	0	0	32	0	1	13	23	39	13	7	1	1	0	0	0	0	98
10:00	1	0	10	30	19	7	0	0	0	0	0	0	0	67	0	1	5	8	15	7	0	0	0	0	0	0	0	36	1	1	15	38	34	14	0	0	0	0	0	0	0	103
11:00	1	3	12	26	33	8	3	0	0	0	0	0	0	86	1	1	4	15	15	4	1	0	0	0	0	0	0	41	2	4	16	41	48	12	4	0	0	0	0	0	0	127
12:00	0	4	12	28	32	8	3	0	0	0	0	0	0	87	0	5	6	10	17	5	0	0	0	0	0	0	0	43	0	9	18	38	49	13	3	0	0	0	0	0	0	130
13:00	0	2	7	27	22	11	2	1	0	0	0	0	0	72	1	2	8	6	18	6	2	0	0	0	0	0	0	43	1	4	15	33	40	17	4	1	0	0	0	0	0	115
14:00	0	3	22	39	42	10	1	0	0	0	0	0	0	117	0	2	5	34	25	4	0	0	0	0	0	0	0	70	0	5	27	73	67	14	1	0	0	0	0	0	0	187
15:00	1	1	14	33	33	13	3	1	0	0	0	0	0	99	0	2	7	19	27	5	1	0	0	0	0	0	0	61	1	3	21	52	60	18	4	1	0	0	0	0	0	160
16:00	2	1	21	32	32	14	2	1	0	0	0	0	0	105	0	0	9	17	18	8	1	0	0	0	0	0	0	53	2	1	30	49	50	22	3	1	0	0	0	0	0	158
17:00	0	0	11	30	23	4	1	1	0	0	0	0	0	70	0	0	5	24	13	2	0	0	0	0	0	0	0	44	0	0	16	54	36	6	1	1	0	0	0	0	0	114
18:00	0	5	6	28	15	6	1	1	2	0	0	0	0	64	1	2	7	16	14	1	0	0	0	0	0	0	0	41	1	7	13	44	29	7	1	1	2	0	0	0	0	105
19:00	0	1	5	21	13	4	0	1	0	0	0	0	0	45	0	1	6	17	8	4	2	0	0	0	0	0	0	38	0	2	11	38	21	8	2	1	0	0	0	0	0	83
20:00	0	2	6	10	3	5	0	0	0	0	0	0	0	26	0	0	4	11	4	1	1	0	0	0	0	0	0	21	0	2	10	21	7	6	1	0	0	0	0	0	0	47
21:00	0	1	3	15	11	4	2	0	0	0	0	0	0	36	0	2	4	11	3	2	0	0	0	0	0	0	0	22	0	3	7	26	14	6	2	0	0	0	0	0	0	58
22:00	1	2	5	6	9	5	0	0	0	0	0	0	0	28	0	0	1	1	2	2	1	0	0	0	0	0	0	7	1	2	6	7	11	7	1	0	0	0	0	0	0	35
23:00	0	0	3	11	4	2	1	0	0	0	0	0	0	21	0	0	2	4	3	2	1	0	0	0	0	0	0	12	0	0	5	15	7	4	2	0	0	0	0	0	0	33
Totals	**8**	**37**	**190**	**441**	**383**	**128**	**30**	**9**	**4**	**0**	**0**	**0**	**0**	**1,230**	**6**	**25**	**97**	**245**	**245**	**76**	**17**	**2**	**0**	**0**	**0**	**0**	**0**	**713**	**14**	**62**	**287**	**686**	**628**	**204**	**47**	**11**	**4**	**0**	**0**	**0**	**0**	**1,943**
% of Totals	1%	3%	15%	36%	31%	10%	2%	1%	0%					100%	1%	4%	14%	34%	34%	11%	2%	0%						100%	1%	3%	15%	35%	32%	10%	2%	1%	0%					100%

STATISTICS

	NORTHBOUND 5 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 99	Total	SOUTHBOUND 5 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 99	Total	TOTALS 5 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 99	Total
00:00 - 12:00	4	15	75	161	144	42	14	3	2	0	0	0	0	460	4	9	33	75	93	34	8	2	0	0	0	0	0	258	8	24	108	236	237	76	22	5	2	0	0	0	0	718
%	0%	1%	6%	13%	12%	3%	1%	0%	0%	0%	0%	0%	0%	37%	0%	1%	3%	6%	8%	3%	1%	0%	0%	0%	0%	0%	0%	21%	1%	2%	9%	19%	19%	6%	2%	0%	0%	0%	0%	0%	0%	58%
Peak Hour	5:30	7:15	7:30	7:15	11:00	8:00	6:45	5:30	3:45	0:00	0:00	0:00	0:00	7:30	5:45	11:45	7:00	7:00	7:00	8:00	8:00	0:00	0:00	0:00	0:00	0:00	0:00	7:00	5:45	11:45	7:30	7:15	7:00	8:00	8:45	5:30	3:45	0:00	0:00	0:00	0:00	7:15
Peak Volume	1	5	19	44	33	12	5	2	1	0	0	0	0	101	2	5	12	19	23	12	4	1	0	0	0	0	0	61	3	9	31	61	49	24	8	2	1	0	0	0	0	157
12:00 - 24:00	4	22	115	280	239	86	16	6	2	0	0	0	0	770	2	16	64	170	152	42	9	0	0	0	0	0	0	455	6	38	179	450	391	128	25	6	2	0	0	0	0	1225
%	0%	2%	9%	23%	19%	7%	1%	0%	0%	0%	0%	0%	0%	63%	0%	1%	5%	14%	12%	3%	1%	0%	0%	0%	0%	0%	0%	37%	0%	3%	15%	37%	32%	10%	2%	0%	0%	0%	0%	0%	0%	100%
Peak Hour	16:00	13:30	14:00	14:30	14:15	15:30	15:30	18:15	18:00	12:00	12:00	12:00	12:00	14:15	12:15	12:00	13:15	14:00	14:15	15:30	12:30	12:00	12:00	12:00	12:00	12:00	12:00	14:15	16:00	12:00	16:00	14:15	14:15	15:30	15:30	18:15	18:00	12:00	12:00	12:00	12:00	14:15
Peak Volume	2	5	22	46	45	17	4	2	2	0	0	0	0	125	1	5	10	34	30	10	2	0	0	0	0	0	0	76	2	9	30	77	75	27	6	2	2	0	0	0	0	201
07:00 - 09:00	1	7	30	64	51	16	6	0	0	0	0	0	0	175	1	4	16	29	38	14	5	1	0	0	0	0	0	108	2	11	46	93	89	30	11	1	0	0	0	0	0	283
%	0%	1%	2%	5%	4%	1%	0%	0%	0%	0%	0%	0%	0%	14%	0%	0%	1%	2%	3%	1%	0%	0%	0%	0%	0%	0%	0%	9%	0%	1%	4%	8%	7%	2%	1%	0%	0%	0%	0%	0%	0%	23%
Peak Hour	7:15	7:15	7:30	7:15	7:30	8:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:30	7:15	7:00	7:00	7:00	7:00	8:00	8:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:15	7:15	7:30	7:15	7:00	8:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:15
Peak Volume	1	5	19	44	30	12	5	0	0	0	0	0	0	101	1	3	12	19	23	12	4	1	0	0	0	0	0	61	2	8	31	61	49	24	6	1	0	0	0	0	0	157
16:00 - 18:00	2	1	32	62	55	18	3	2	0	0	0	0	0	175	0	0	14	41	31	10	1	0	0	0	0	0	0	97	2	1	46	103	86	28	4	2	0	0	0	0	0	272
%	0%	0%	3%	5%	4%	1%	0%	0%	0%	0%	0%	0%	0%	14%	0%	0%	1%	3%	3%	1%	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	4%	8%	7%	2%	0%	0%	0%	0%	0%	0%	0%	22%
Peak Hour	16:00	16:00	16:00	16:45	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	17:00	16:00	16:15	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:45	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00
Peak Volume	2	1	21	35	32	14	2	1	0	0	0	0	0	105	0	0	9	24	18	9	1	0	0	0	0	0	0	53	2	1	30	56	50	22	3	1	0	0	0	0	0	158

Direction	Percentiles 15th	50th	Average	85th	95th	ADT
NORTHBOUND	24	29	30	35	39	1230
SOUTHBOUND	24	30	30	35	39	713
TOTALS	24	29	30	35	39	1943

Prepared by National Data & Surveying Services

VOLUME

S Hamilton St 200' S/O Franklin St

Day: Friday
Date: 1/12/2024

City: Poughkeepsie
Project #: NY24_380006_002

DAILY TOTALS	NB	SB	EB	WB	Total
	1,230	713	0	0	1,943

15-Minutes Interval

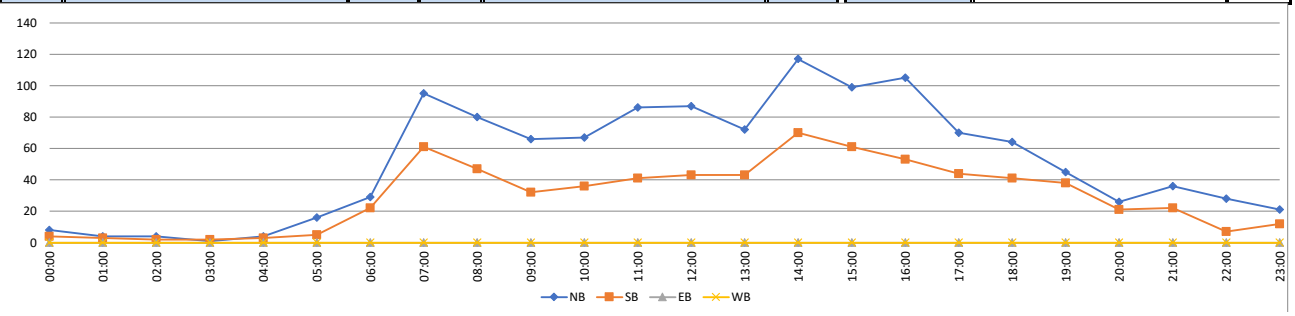
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	2	3			5	12:00	21	10			31
0:15	6	1			7	12:15	20	11			31
0:30	0	0			0	12:30	29	14			43
0:45	0	0			0	12:45	17	8			25
1:00	1	1			2	13:00	16	16			32
1:15	0	1			1	13:15	16	9			25
1:30	1	0			1	13:30	20	9			29
1:45	2	1			3	13:45	20	9			29
2:00	1	1			2	14:00	20	12			32
2:15	1	1			2	14:15	27	25			52
2:30	1	0			1	14:30	40	20			60
2:45	1	0			1	14:45	30	13			43
3:00	1	1			2	15:00	28	18			46
3:15	0	1			1	15:15	23	11			34
3:30	0	0			0	15:30	25	15			40
3:45	0	0			0	15:45	23	17			40
4:00	0	0			0	16:00	31	16			47
4:15	0	0			0	16:15	24	18			42
4:30	3	0			3	16:30	25	10			35
4:45	1	3			4	16:45	25	9			34
5:00	2	1			3	17:00	17	14			31
5:15	2	2			4	17:15	19	9			28
5:30	7	1			8	17:30	15	11			26
5:45	5	1			6	17:45	19	10			29
6:00	4	6			10	18:00	18	12			30
6:15	7	6			13	18:15	15	5			20
6:30	10	5			15	18:30	16	11			27
6:45	8	5			13	18:45	15	13			28
7:00	19	13			32	19:00	19	10			29
7:15	20	16			36	19:15	7	7			14
7:30	28	18			46	19:30	6	10			16
7:45	28	14			42	19:45	13	11			24
8:00	20	13			33	20:00	6	8			14
8:15	25	10			35	20:15	4	8			12
8:30	19	11			30	20:30	8	2			10
8:45	16	13			29	20:45	8	3			11
9:00	20	8			28	21:00	12	5			17
9:15	15	10			25	21:15	13	5			18
9:30	14	9			23	21:30	4	4			8
9:45	17	5			22	21:45	7	8			15
10:00	14	13			27	22:00	13	1			14
10:15	12	9			21	22:15	9	0			9
10:30	22	8			30	22:30	4	4			8
10:45	19	6			25	22:45	2	2			4
11:00	22	5			27	23:00	5	4			9
11:15	21	13			34	23:15	8	4			12
11:30	22	11			33	23:30	3	2			5
11:45	21	12			33	23:45	5	2			7
TOTALS	460	258	0	0	718	TOTALS	770	455	0	0	1225
SPLIT %	64%	36%	0%	0%	37%	SPLIT %	63%	37%	0%	0%	63%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	8	4			12
01:00	02:00	4	3			7
02:00	03:00	4	2			6
03:00	04:00	1	2			3
04:00	05:00	4	3			7
05:00	06:00	16	5			21
06:00	07:00	29	22			51
07:00	08:00	95	61			156
08:00	09:00	80	47			127
09:00	10:00	66	32			98
10:00	11:00	67	36			103
11:00	12:00	86	41			127
12:00	13:00	87	43			130
13:00	14:00	72	43			115
14:00	15:00	117	70			187
15:00	16:00	99	61			160
16:00	17:00	105	53			158
17:00	18:00	70	44			114
18:00	19:00	64	41			105
19:00	20:00	45	38			83
20:00	21:00	26	21			47
21:00	22:00	36	22			58
22:00	23:00	28	7			35
23:00	00:00	21	12			33

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	460	258			718
Peak Hour	7:30	7:00			7:15
Peak Volume	101	61			157
Peak Hour Factor	0.902	0.847			0.853
Peak Period	12:00	to	00:00		
Volume	770	455			1225
Peak Hour	14:15	14:15			14:15
Peak Volume	125	76			201
Peak Hour Factor	0.781	0.760			0.838
Peak Period	07:00	to	09:00		
Volume	175	108			283
Peak Hour	7:30	7:00			7:15
Peak Volume	101	61			157
Peak Hour Factor	0.902	0.847			0.853
Peak Period	16:00	to	18:00		
Volume	175	97			272
Peak Hour	16:00	16:00			16:00
Peak Volume	105	53			158
Peak Hour Factor	0.847	0.736			0.840



Prepared by National Data & Surveying Services

SPEED

S Hamilton St 200' S/O Franklin St

Day: Saturday
Date: 1/13/2024

City: Poughkeepsie
Project #: NY24_380006_002

HOURLY BREAKDOWN

Time	NORTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	SOUTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	TOTALS 5	15	20	25	30	35	40	45	50	55	60	65	70	Total
	15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99	
0:00	0	0	2	5	0	0	1	0	0	0	0	0	0	8	1	0	2	5	3	1	0	0	0	0	0	0	0	12	1	0	4	10	3	1	1	0	0	0	0	0	0	20
1:00	0	0	1	3	2	0	0	0	0	0	0	0	0	6	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0	2	4	2	0	0	0	0	0	0	0	0	8
2:00	0	0	2	2	0	0	1	0	0	0	0	0	0	5	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	4	2	0	0	1	0	0	0	0	0	0	7
3:00	0	1	0	0	2	1	1	0	0	0	0	0	0	5	0	2	1	0	0	1	0	0	0	0	0	0	0	4	0	3	1	0	2	2	1	0	0	0	0	0	0	9
4:00	0	0	0	1	0	0	0	0	1	0	0	0	0	2	0	1	1	3	0	1	0	0	0	0	0	0	0	6	0	1	1	4	0	1	0	0	1	0	0	0	0	8
5:00	0	2	1	3	0	0	0	0	0	0	0	0	0	6	0	0	1	1	0	1	0	0	0	0	0	0	0	3	0	2	2	4	0	1	0	0	0	0	0	0	0	9
6:00	0	0	0	4	3	0	0	0	0	0	0	0	0	7	0	0	1	2	2	1	0	0	0	0	0	0	0	6	0	0	1	6	5	1	0	0	0	0	0	0	0	13
7:00	0	1	4	16	7	3	1	1	0	0	0	0	0	33	0	2	0	6	13	6	2	0	1	0	0	0	0	30	0	3	4	22	20	9	3	1	1	0	0	0	0	63
8:00	1	0	1	8	8	3	1	0	0	0	0	0	0	22	1	0	3	7	7	2	2	0	0	0	0	0	0	22	2	0	4	15	15	5	3	0	0	0	0	0	0	44
9:00	0	0	4	8	18	2	0	1	0	0	0	0	0	33	0	1	6	9	7	2	3	0	0	0	0	0	0	28	0	1	10	17	25	4	3	1	0	0	0	0	0	61
10:00	0	3	8	18	18	4	1	0	0	0	0	0	0	52	0	2	7	15	14	3	0	0	0	0	0	0	0	41	0	5	15	33	32	7	1	0	0	0	0	0	0	93
11:00	0	1	7	20	26	5	0	0	0	0	0	0	0	59	1	0	2	13	11	4	3	0	0	0	0	0	0	34	1	1	9	33	37	9	3	0	0	0	0	0	0	93
12:00	0	1	9	22	20	4	1	0	0	0	0	0	0	57	0	2	6	12	18	4	2	0	0	0	0	0	0	44	0	3	15	34	38	8	3	0	0	0	0	0	0	101
13:00	1	1	8	14	17	3	0	2	0	0	0	0	0	46	0	2	4	13	14	3	0	0	1	0	0	0	0	37	1	3	12	27	31	6	0	2	1	0	0	0	0	83
14:00	0	1	16	23	8	7	2	0	0	0	0	0	0	57	1	0	6	11	9	6	1	0	0	0	0	0	0	34	1	1	22	34	17	13	3	0	0	0	0	0	0	91
15:00	0	2	11	24	25	9	1	0	0	0	0	0	0	72	0	2	5	16	7	7	0	0	1	0	0	0	0	38	0	4	16	40	32	16	1	0	1	0	0	0	0	110
16:00	1	0	11	20	10	7	1	1	1	0	0	0	0	52	0	1	3	7	9	3	1	0	0	0	0	0	0	24	1	1	14	27	19	10	2	1	1	0	0	0	0	76
17:00	2	5	10	26	13	6	2	0	0	0	0	0	0	64	3	2	6	13	5	9	1	0	0	0	0	0	0	39	5	7	16	39	18	15	3	0	0	0	0	0	0	103
18:00	2	4	13	25	5	3	0	0	0	0	0	0	0	52	0	2	8	12	3	3	0	0	0	0	0	0	0	28	2	6	21	37	8	6	0	0	0	0	0	0	0	80
19:00	2	2	5	11	11	1	1	0	0	0	0	0	0	33	0	1	9	9	5	3	0	0	0	0	0	0	0	27	2	3	14	20	16	4	1	0	0	0	0	0	0	60
20:00	0	5	4	12	10	6	0	1	0	0	0	0	0	38	0	2	3	7	3	1	0	1	0	0	0	0	0	17	0	7	7	19	13	7	0	2	0	0	0	0	0	55
21:00	2	1	11	9	4	0	2	0	0	0	0	0	0	29	1	0	1	6	6	5	0	0	0	0	0	0	0	19	3	1	12	15	10	5	2	0	0	0	0	0	0	48
22:00	0	0	3	8	2	3	0	0	0	0	0	0	0	16	0	0	2	3	4	0	0	1	0	0	0	0	0	10	0	0	5	11	6	3	0	1	0	0	0	0	0	26
23:00	0	0	8	3	7	1	1	0	0	0	0	0	0	20	0	0	2	4	3	0	0	0	0	0	0	0	0	9	0	0	10	7	10	1	1	0	0	0	0	0	0	29
Totals	11	30	139	285	216	68	17	6	2	0	0	0	0	774	8	22	82	175	143	66	15	2	3	0	0	0	0	516	19	52	221	460	359	134	32	8	5	0	0	0	0	1,290
% of Totals	1%	4%	18%	37%	28%	9%	2%	1%	0%					100%	2%	4%	16%	34%	28%	13%	3%	0%	1%					100%	1%	4%	17%	36%	28%	10%	2%	1%	0%					100%

STATISTICS

	NORTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	SOUTHBOUND 5	15	20	25	30	35	40	45	50	55	60	65	70	Total	TOTALS 5	15	20	25	30	35	40	45	50	55	60	65	70	Total
	15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99		15	20	25	30	35	40	45	50	55	60	65	70	99	
00:00 - 12:00	1	8	30	88	84	18	6	2	1	0	0	0	0	238	3	8	27	62	57	22	10	0	1	0	0	0	0	190	4	16	57	150	141	40	16	2	2	0	0	0	0	428
%	0%	1%	4%	11%	11%	2%	1%	0%	0%	0%	0%	0%	0%	31%	0%	1%	3%	8%	7%	3%	1%	0%	0%	0%	0%	0%	0%	25%	1%	2%	7%	19%	18%	5%	2%	0%	0%	0%	0%	0%	0%	55%
Peak Hour	7:15	10:00	11:45	11:15	11:15	11:30	0:00	6:15	3:30	0:00	0:00	0:00	0:00	11:15	0:00	9:45	10:00	11:15	11:30	7:15	7:15	0:00	7:00	0:00	0:00	0:00	0:00	11:30	7:15	9:45	10:00	11:15	11:15	11:30	7:15	6:15	3:30	0:00	0:00	0:00	0:00	11:15
Peak Volume	1	3	10	25	31	7	1	1	1	0	0	0	0	71	1	3	7	17	16	8	4	0	1	0	0	0	0	48	2	5	15	42	45	14	5	1	1	0	0	0	0	115
12:00 - 24:00	10	22	109	197	132	50	11	4	1	0	0	0	0	536	5	14	55	113	86	44	5	2	2	0	0	0	0	326	15	36	164	310	218	94	16	6	3	0	0	0	0	862
%	1%	3%	14%	25%	17%	6%	1%	1%	0%	0%	0%	0%	0%	69%	1%	2%	7%	15%	11%	6%	1%	0%	0%	0%	0%	0%	0%	42%	2%	5%	21%	40%	28%	12%	2%	1%	0%	0%	0%	0%	0%	111%
Peak Hour	17:15	17:00	14:30	16:45	15:00	15:30	14:00	13:00	15:45	12:00	12:00	12:00	12:00	14:30	17:00	12:30	18:15	15:00	12:00	16:45	12:00	19:30	13:00	12:00	12:00	12:00	12:00	12:00	17:15	18:15	14:15	16:45	12:00	14:15	12:00	13:00	13:00	12:00	12:00	12:00	12:00	14:30
Peak Volume	3	5	19	29	25	11	2	2	1	0	0	0	0	81	3	3	12	16	18	10	2	1	1	0	0	0	0	44	6	8	26	41	38	17	3	2	1	0	0	0	0	119
07:00 - 09:00	1	1	5	24	15	6	2	1	0	0	0	0	0	55	1	2	3	13	20	8	4	0	1	0	0	0	0	52	2	3	8	37	35	14	6	1	1	0	0	0	0	107
%	0%	0%	1%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	0%	2%	3%	1%	1%	0%	0%	0%	0%	0%	0%	7%	0%	0%	1%	5%	5%	2%	1%	0%	0%	0%	0%	0%	0%	14%
Peak Hour	7:15	7:00	7:00	7:00	8:00	7:15	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:15	7:00	7:45	8:00	7:00	7:15	7:15	7:00	7:00	7:00	7:00	7:00	7:00	7:15	7:15	7:00	7:15	7:00	7:00	7:15	7:15	7:00	7:00	7:00	7:00	7:00	7:00	7:00
Peak Volume	1	1	4	16	8	4	1	1	0	0	0	0	0	33	1	2	3	7	13	8	4	0	1	0	0	0	0	31	2	3	5	22	20	12	5	1	1	0	0	0	0	63
16:00 - 18:00	3	5	21	46	23	13	3	1	1	0	0	0	0	116	3	3	9	20	14	12	2	0	0	0	0	0	0	63	6	8	30	66	37	25	5	1	1	0	0	0	0	179
%	0%	1%	3%	6%	3%	2%	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%	1%	3%	2%	2%	0%	0%	0%	0%	0%	0%	0%	8%	1%	1%	4%	9%	5%	3%	1%	0%	0%	0%	0%	0%	0%	23%
Peak Hour	16:45	17:00	16:00	16:45	16:45	16:15	16:30	16:00	16:00	16:00	16:00	16:00	16:00	17:00	17:00	17:00	17:00	17:00	16:15	16:45	16:00	16:00	16:00	16:00	16:00	16:00	16:00	17:00	17:00	17:00	17:00	16:45	16:15	16:45	16:30	16:00	16:00	16:00	16:00	16:00	16:00	17:00
Peak Volume	2	5	11	29	13	8	2	1	1	0	0	0	0	64	3	2	6	13	10	10	1	0	0	0	0	0	0	39	5	7	16	41	21	16	3	1	1	0	0	0	0	103

Direction	Percentiles 15th	50th	Average	85th	95th	ADT
NORTHBOUND	23	29	29	34	39	774
SOUTHBOUND	23	29	29	36	40	516
TOTALS	23	29	29	35	39	1290

Prepared by National Data & Surveying Services

VOLUME

S Hamilton St 200' S/O Franklin St

Day: Saturday
Date: 1/13/2024

City: Poughkeepsie
Project #: NY24_380006_002

DAILY TOTALS	NB	SB	EB	WB	Total
	774	516	0	0	1,290

15-Minutes Interval

TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	1	3			4	12:00	23	16			39
0:15	2	5			7	12:15	13	9			22
0:30	3	2			5	12:30	11	7			18
0:45	2	2			4	12:45	10	12			22
1:00	1	0			1	13:00	13	6			19
1:15	3	0			3	13:15	15	10			25
1:30	0	1			1	13:30	10	13			23
1:45	2	1			3	13:45	8	8			16
2:00	2	0			2	14:00	7	2			9
2:15	3	0			3	14:15	12	14			26
2:30	0	2			2	14:30	16	7			23
2:45	0	0			0	14:45	22	11			33
3:00	3	3			6	15:00	20	10			30
3:15	0	1			1	15:15	23	10			33
3:30	1	0			1	15:30	12	9			21
3:45	1	0			1	15:45	17	9			26
4:00	0	1			1	16:00	14	8			22
4:15	2	2			4	16:15	18	4			22
4:30	0	1			1	16:30	11	8			19
4:45	0	2			2	16:45	9	4			13
5:00	0	2			2	17:00	21	11			32
5:15	2	0			2	17:15	19	10			29
5:30	4	0			4	17:30	14	10			24
5:45	0	1			1	17:45	10	8			18
6:00	0	1			1	18:00	14	5			19
6:15	2	2			4	18:15	12	9			21
6:30	3	2			5	18:30	10	8			18
6:45	2	1			3	18:45	16	6			22
7:00	7	5			12	19:00	7	9			16
7:15	12	11			23	19:15	4	6			10
7:30	9	6			15	19:30	5	7			12
7:45	5	8			13	19:45	17	5			22
8:00	3	6			9	20:00	14	7			21
8:15	5	3			8	20:15	5	6			11
8:30	5	6			11	20:30	6	0			6
8:45	9	7			16	20:45	13	4			17
9:00	8	8			16	21:00	9	6			15
9:15	9	6			15	21:15	3	2			5
9:30	5	6			11	21:30	9	5			14
9:45	11	8			19	21:45	8	6			14
10:00	13	10			23	22:00	4	3			7
10:15	9	9			18	22:15	5	3			8
10:30	13	9			22	22:30	5	4			9
10:45	17	13			30	22:45	2	0			2
11:00	11	6			17	23:00	4	0			4
11:15	17	5			22	23:15	6	3			9
11:30	13	10			23	23:30	6	2			8
11:45	18	13			31	23:45	4	4			8
TOTALS	238	190	0	0	428	TOTALS	536	326	0	0	862
SPLIT %	56%	44%	0%	0%	33%	SPLIT %	62%	38%	0%	0%	67%

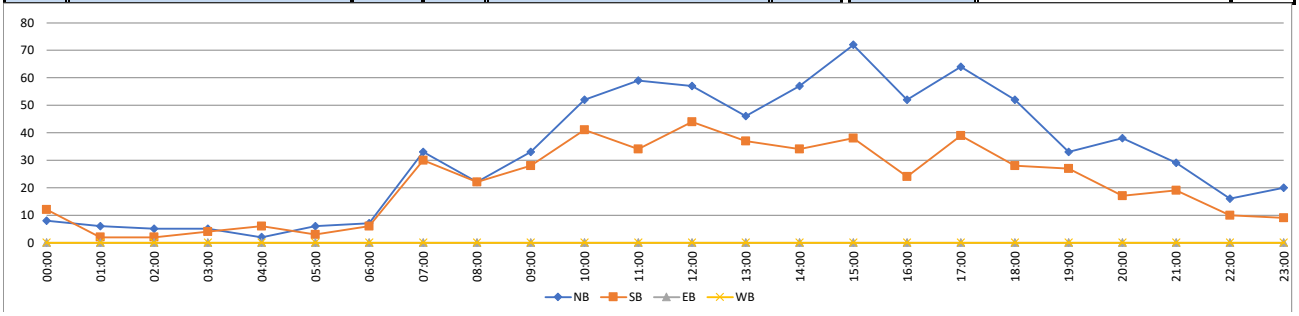
DAILY TOTALS

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	8	12			20
01:00	02:00	6	2			8
02:00	03:00	5	2			7
03:00	04:00	5	4			9
04:00	05:00	2	6			8
05:00	06:00	6	3			9
06:00	07:00	7	6			13
07:00	08:00	33	30			63
08:00	09:00	22	22			44
09:00	10:00	33	28			61
10:00	11:00	52	41			93
11:00	12:00	59	34			93
12:00	13:00	57	44			101
13:00	14:00	46	37			83
14:00	15:00	57	34			91
15:00	16:00	72	38			110
16:00	17:00	52	24			76
17:00	18:00	64	39			103
18:00	19:00	52	28			80
19:00	20:00	33	27			60
20:00	21:00	38	17			55
21:00	22:00	29	19			48
22:00	23:00	16	10			26
23:00	00:00	20	9			29

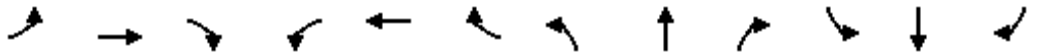
STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	238	190			428
Peak Hour	11:00	10:00			10:00
Peak Volume	59	41			93
Peak Hour Factor	0.819	0.788			0.775
Peak Period	12:00	to	00:00		
Volume	536	326			862
Peak Hour	14:30	12:00			14:30
Peak Volume	81	44			119
Peak Hour Factor	0.880	0.688			0.902
Peak Period	07:00	to	09:00		
Volume	55	52			107
Peak Hour	7:00	7:15			7:00
Peak Volume	33	31			63
Peak Hour Factor	0.688	0.705			0.685
Peak Period	16:00	to	18:00		
Volume	116	63			179
Peak Hour	17:00	17:00			17:00
Peak Volume	64	39			103
Peak Hour Factor	0.762	0.886			0.805



ATTACHMENT D
LEVEL OF SERVICE ANALYSIS

City of Poughkeepsie
Dutchess County, New York



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	108	3	18	224	87	14	52	17	44	49	48
Future Volume (vph)	22	108	3	18	224	87	14	52	17	44	49	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.97		0.99			0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.97			0.95	
Flt Protected	0.95	1.00			1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1797	1820			1807	1477		1756			1717	
Flt Permitted	0.59	1.00			0.97	1.00		0.91			0.86	
Satd. Flow (perm)	1117	1820			1767	1477		1619			1502	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	25	123	3	20	255	99	16	59	19	50	56	55
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	25	126	0	0	275	99	0	94	0	0	161	0
Confl. Peds. (#/hr)	9		31	31		9	5		7	7		5
Heavy Vehicles (%)	0%	4%	0%	11%	4%	6%	0%	2%	12%	0%	2%	6%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	19.1	19.1			13.4	13.4		7.8			7.8	
Effective Green, g (s)	19.1	19.1			13.4	13.4		7.8			7.8	
Actuated g/C Ratio	0.52	0.52			0.36	0.36		0.21			0.21	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	591	942			641	536		342			317	
v/s Ratio Prot	0.00	c0.07										
v/s Ratio Perm	0.02				c0.16	0.07		0.06			c0.11	
v/c Ratio	0.04	0.13			0.43	0.18		0.27			0.51	
Uniform Delay, d1	4.4	4.6			8.9	8.0		12.2			12.9	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1			0.5	0.2		0.4			1.3	
Delay (s)	4.4	4.7			9.3	8.2		12.6			14.1	
Level of Service	A	A			A	A		B			B	
Approach Delay (s)		4.6			9.0			12.6			14.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	36.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT
Lane Configurations												
Traffic Volume (vph)	25	0	24	1	2	2	17	10	1	58	233	149
Future Volume (vph)	25	0	24	1	2	2	17	10	1	58	233	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0				5.0	5.0				5.0	5.0
Lane Util. Factor		1.00				1.00	1.00				1.00	1.00
Frpb, ped/bikes		0.98				1.00	0.98				1.00	1.00
Flpb, ped/bikes		0.99				0.97	1.00				1.00	1.00
Frt		0.93				1.00	0.94				1.00	0.97
Flt Protected		0.98				0.95	1.00				0.99	1.00
Satd. Flow (prot)		1519				1757	1641				1804	1760
Flt Permitted		1.00				1.00	1.00				0.90	1.00
Satd. Flow (perm)		1557				1850	1641				1639	1760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	26	1	2	2	18	11	1	62	248	159
RTOR Reduction (vph)	0	50	0	0	0	0	10	0	0	0	0	9
Lane Group Flow (vph)	0	4	0	0	0	4	19	0	0	0	311	190
Confl. Peds. (#/hr)	3		2	2	2	2		3	2	2		
Heavy Vehicles (%)	16%	0%	4%	0%	0%	0%	6%	10%	0%	5%	4%	5%
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	NA
Protected Phases		1					1				3	3
Permitted Phases	1				1	1			3	3		
Actuated Green, G (s)		2.2				2.2	2.2				13.6	13.6
Effective Green, g (s)		2.2				2.2	2.2				13.6	13.6
Actuated g/C Ratio		0.07				0.07	0.07				0.43	0.43
Clearance Time (s)		5.0				5.0	5.0				5.0	5.0
Vehicle Extension (s)		3.0				3.0	3.0				3.0	3.0
Lane Grp Cap (vph)		109				129	114				709	762
v/s Ratio Prot							c0.01					0.11
v/s Ratio Perm		0.00				0.00					c0.19	
v/c Ratio		0.03				0.03	0.16				0.44	0.25
Uniform Delay, d1		13.6				13.6	13.7				6.2	5.7
Progression Factor		1.00				1.00	1.00				1.00	1.00
Incremental Delay, d2		0.1				0.1	0.7				0.4	0.2
Delay (s)		13.7				13.7	14.4				6.7	5.8
Level of Service		B				B	B				A	A
Approach Delay (s)		13.7					14.3				6.7	5.8
Approach LOS		B					B				A	A

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	31.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR	SBR2	NEL2	NEL	NER2
Lane Configurations					
Traffic Volume (vph)	6	32	1	4	2
Future Volume (vph)	6	32	1	4	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	
Lane Util. Factor				1.00	
Frpb, ped/bikes				0.98	
Flpb, ped/bikes				0.96	
Frt				0.96	
Flt Protected				0.97	
Satd. Flow (prot)				1650	
Flt Permitted				0.97	
Satd. Flow (perm)				1650	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	34	1	4	2
RTOR Reduction (vph)	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	0
Confl. Peds. (#/hr)	2	2	2	2	3
Heavy Vehicles (%)	17%	0%	1%	0%	0%
Turn Type			Perm	Perm	
Protected Phases					
Permitted Phases			4	4	
Actuated Green, G (s)				0.6	
Effective Green, g (s)				0.6	
Actuated g/C Ratio				0.02	
Clearance Time (s)				5.0	
Vehicle Extension (s)				3.0	
Lane Grp Cap (vph)				31	
v/s Ratio Prot					
v/s Ratio Perm				c0.00	
v/c Ratio				0.00	
Uniform Delay, d1				15.1	
Progression Factor				1.00	
Incremental Delay, d2				0.1	
Delay (s)				15.2	
Level of Service				B	
Approach Delay (s)				15.2	
Approach LOS				B	

Intersection Summary

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	27	50	48	8	39
Future Vol, veh/h	87	27	50	48	8	39
Conflicting Peds, #/hr	0	0	0	3	3	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	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	11	4	8	13	3
Mvmt Flow	92	28	53	51	8	41

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	139	82	0	0	107	0
Stage 1	82	-	-	-	-	-
Stage 2	57	-	-	-	-	-
Critical Hdwy	6.42	6.31	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.399	-	-	2.317	-
Pot Cap-1 Maneuver	854	953	-	-	1418	-
Stage 1	941	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	846	950	-	-	1414	-
Mov Cap-2 Maneuver	846	-	-	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	1.3
HCM LOS	A		

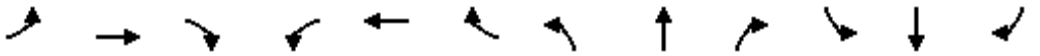
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	869	1414	-
HCM Lane V/C Ratio	-	-	0.138	0.006	-
HCM Control Delay (s)	-	-	9.8	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	69	1	0	1	2	150
Future Vol, veh/h	69	1	0	1	2	150
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	90	1	0	1	3	195
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8	7.3	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	1%
Vol Right, %	0%	1%	99%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	1	70	152
LT Vol	0	69	0
Through Vol	1	0	2
RT Vol	0	1	150
Lane Flow Rate	1	91	197
Geometry Grp	1	1	1
Degree of Util (X)	0.002	0.112	0.19
Departure Headway (Hd)	4.211	4.433	3.468
Convergence, Y/N	Yes	Yes	Yes
Cap	840	808	1023
Service Time	2.288	2.464	1.529
HCM Lane V/C Ratio	0.001	0.113	0.193
HCM Control Delay	7.3	8	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.4	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	117	12	12	207	75	7	67	11	49	48	34
Future Volume (vph)	39	117	12	12	207	75	7	67	11	49	48	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.99			1.00	0.96		1.00			0.99	
Flpb, ped/bikes	0.99	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	0.99			1.00	0.85		0.98			0.97	
Flt Protected	0.95	1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)	1757	1826			1813	1481		1761			1704	
Flt Permitted	0.61	1.00			0.98	1.00		0.96			0.84	
Satd. Flow (perm)	1127	1826			1784	1481		1697			1453	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	43	129	13	13	227	82	8	74	12	54	53	37
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	43	142	0	0	240	82	0	94	0	0	144	0
Confl. Peds. (#/hr)	14		55	55		14	4		10	10		4
Heavy Vehicles (%)	2%	2%	0%	25%	3%	5%	14%	5%	0%	6%	2%	6%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	19.7	19.7			13.0	13.0		7.6			7.6	
Effective Green, g (s)	19.7	19.7			13.0	13.0		7.6			7.6	
Actuated g/C Ratio	0.53	0.53			0.35	0.35		0.20			0.20	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	623	964			621	516		345			296	
v/s Ratio Prot	0.00	c0.08										
v/s Ratio Perm	0.03				c0.13	0.06		0.06			c0.10	
v/c Ratio	0.07	0.15			0.39	0.16		0.27			0.49	
Uniform Delay, d1	4.3	4.5			9.1	8.4		12.5			13.1	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1			0.4	0.1		0.4			1.3	
Delay (s)	4.4	4.6			9.5	8.5		12.9			14.4	
Level of Service	A	A			A	A		B			B	
Approach Delay (s)		4.5			9.3			12.9			14.4	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	37.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	0	55	1	6	12	5	1	55	182	184	7
Future Volume (vph)	29	0	55	1	6	12	5	1	55	182	184	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0				5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00				1.00	1.00	
Frpb, ped/bikes		0.96			1.00	0.99				1.00	0.99	
Flpb, ped/bikes		1.00			0.93	1.00				1.00	1.00	
Frt		0.91			1.00	0.96				1.00	0.98	
Flt Protected		0.98			0.95	1.00				0.99	1.00	
Satd. Flow (prot)		1580			1670	1805				1800	1781	
Flt Permitted		0.88			0.95	1.00				0.87	1.00	
Satd. Flow (perm)		1412			1674	1805				1586	1781	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	31	0	59	1	6	13	5	1	59	194	196	7
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	7	0
Lane Group Flow (vph)	0	90	0	0	7	14	0	0	0	254	229	0
Confl. Peds. (#/hr)	3		11	11	11		3	9	9			9
Heavy Vehicles (%)	3%	0%	3%	0%	0%	0%	0%	0%	7%	3%	3%	0%
Turn Type	Perm	NA		Perm	Perm	NA		Perm	Perm	NA	NA	
Protected Phases		1				1				3	3	
Permitted Phases	1			1	1			3	3			
Actuated Green, G (s)		4.2			4.2	4.2				12.4	12.4	
Effective Green, g (s)		4.2			4.2	4.2				12.4	12.4	
Actuated g/C Ratio		0.13			0.13	0.13				0.38	0.38	
Clearance Time (s)		5.0			5.0	5.0				5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)		183			217	234				608	683	
v/s Ratio Prot						0.01					0.13	
v/s Ratio Perm		c0.06			0.00					c0.16		
v/c Ratio		0.49			0.03	0.06				0.42	0.33	
Uniform Delay, d1		13.1			12.3	12.3				7.3	7.0	
Progression Factor		1.00			1.00	1.00				1.00	1.00	
Incremental Delay, d2		2.1			0.1	0.1				0.5	0.3	
Delay (s)		15.1			12.3	12.4				7.8	7.3	
Level of Service		B			B	B				A	A	
Approach Delay (s)		15.1				12.4				7.8	7.3	
Approach LOS		B				B				A	A	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	32.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR2	NEL	NER2
Lane Configurations			
Traffic Volume (vph)	31	4	2
Future Volume (vph)	31	4	2
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.0	
Lane Util. Factor		1.00	
Frpb, ped/bikes		0.95	
Flpb, ped/bikes		0.97	
Frt		0.95	
Flt Protected		0.97	
Satd. Flow (prot)		1607	
Flt Permitted		0.97	
Satd. Flow (perm)		1607	
Peak-hour factor, PHF	0.94	0.94	0.94
Adj. Flow (vph)	33	4	2
RTOR Reduction (vph)	0	6	0
Lane Group Flow (vph)	0	0	0
Confl. Peds. (#/hr)	9	3	9
Heavy Vehicles (%)	7%	0%	0%
Turn Type		Perm	
Protected Phases			
Permitted Phases		4	
Actuated Green, G (s)		0.7	
Effective Green, g (s)		0.7	
Actuated g/C Ratio		0.02	
Clearance Time (s)		5.0	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		34	
v/s Ratio Prot			
v/s Ratio Perm		c0.00	
v/c Ratio		0.00	
Uniform Delay, d1		15.5	
Progression Factor		1.00	
Incremental Delay, d2		0.0	
Delay (s)		15.5	
Level of Service		B	
Approach Delay (s)		15.5	
Approach LOS		B	

Intersection Summary

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	37	72	69	13	41
Future Vol, veh/h	61	37	72	69	13	41
Conflicting Peds, #/hr	2	2	0	2	2	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	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	5	11	6	1	15	0
Mvmt Flow	84	51	99	95	18	56

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	243	151	0	0	196	0
Stage 1	149	-	-	-	-	-
Stage 2	94	-	-	-	-	-
Critical Hdwy	6.45	6.31	-	-	4.25	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.399	-	-	2.335	-
Pot Cap-1 Maneuver	739	872	-	-	1303	-
Stage 1	871	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	726	869	-	-	1301	-
Mov Cap-2 Maneuver	726	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	907	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	1.9
HCM LOS	B		

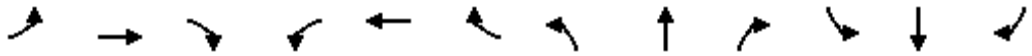
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	774	1301	-
HCM Lane V/C Ratio	-	-	0.173	0.014	-
HCM Control Delay (s)	-	-	10.6	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	114	1	0	1	5	90
Future Vol, veh/h	114	1	0	1	5	90
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	120	1	0	1	5	95
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8	7.3	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	5%
Vol Right, %	0%	1%	95%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	1	115	95
LT Vol	0	114	0
Through Vol	1	0	5
RT Vol	0	1	90
Lane Flow Rate	1	121	100
Geometry Grp	1	1	1
Degree of Util (X)	0.001	0.144	0.098
Departure Headway (Hd)	4.191	4.269	3.544
Convergence, Y/N	Yes	Yes	Yes
Cap	843	841	997
Service Time	2.272	2.287	1.615
HCM Lane V/C Ratio	0.001	0.144	0.1
HCM Control Delay	7.3	8	7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.5	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	128	6	10	206	97	7	62	11	75	53	38
Future Volume (vph)	39	128	6	10	206	97	7	62	11	75	53	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.97		1.00			0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	0.99			1.00	0.85		0.98			0.97	
Flt Protected	0.95	1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)	1799	1847			1858	1540		1847			1767	
Flt Permitted	0.61	1.00			0.98	1.00		0.96			0.81	
Satd. Flow (perm)	1154	1847			1833	1540		1775			1467	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	43	142	7	11	229	108	8	69	12	83	59	42
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	43	149	0	0	240	108	0	89	0	0	184	0
Confl. Peds. (#/hr)	6		27	27		6	11		9	9		11
Heavy Vehicles (%)	0%	2%	0%	0%	2%	2%	0%	0%	0%	0%	0%	3%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	20.1	20.1			13.4	13.4		8.4			8.4	
Effective Green, g (s)	20.1	20.1			13.4	13.4		8.4			8.4	
Actuated g/C Ratio	0.52	0.52			0.35	0.35		0.22			0.22	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	630	964			637	536		387			320	
v/s Ratio Prot	0.00	c0.08										
v/s Ratio Perm	0.03				c0.13	0.07		0.05			c0.13	
v/c Ratio	0.07	0.15			0.38	0.20		0.23			0.57	
Uniform Delay, d1	4.6	4.8			9.4	8.8		12.4			13.5	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1			0.4	0.2		0.3			2.5	
Delay (s)	4.6	4.9			9.8	9.0		12.7			15.9	
Level of Service	A	A			A	A		B			B	
Approach Delay (s)		4.8			9.5			12.7			15.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	38.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	0	35	2	5	18	4	2	47	190	222	27
Future Volume (vph)	32	0	35	2	5	18	4	2	47	190	222	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0				5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00				1.00	1.00	
Frpb, ped/bikes		0.99			1.00	1.00				1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00				1.00	1.00	
Frt		0.93			1.00	0.97				1.00	0.98	
Flt Protected		0.98			0.95	1.00				0.99	1.00	
Satd. Flow (prot)		1696			1792	1841				1836	1848	
Flt Permitted		0.84			1.00	1.00				0.88	1.00	
Satd. Flow (perm)		1455			1886	1841				1638	1848	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	34	0	38	2	5	19	4	2	51	204	239	29
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	1	0
Lane Group Flow (vph)	0	72	0	0	7	19	0	0	0	257	270	0
Confl. Peds. (#/hr)	2		1	1	1		2	1	1			1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	1%	0%
Turn Type	Perm	NA		Perm	Perm	NA		Perm	Perm	NA	NA	
Protected Phases		1				1				3	3	
Permitted Phases	1			1	1			3	3			
Actuated Green, G (s)		4.0			4.0	4.0				13.0	13.0	
Effective Green, g (s)		4.0			4.0	4.0				13.0	13.0	
Actuated g/C Ratio		0.12			0.12	0.12				0.40	0.40	
Clearance Time (s)		5.0			5.0	5.0				5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)		177			230	225				651	734	
v/s Ratio Prot						0.01					0.15	
v/s Ratio Perm		c0.05			0.00					c0.16		
v/c Ratio		0.41			0.03	0.09				0.39	0.37	
Uniform Delay, d1		13.3			12.6	12.7				7.0	7.0	
Progression Factor		1.00			1.00	1.00				1.00	1.00	
Incremental Delay, d2		1.5			0.1	0.2				0.4	0.3	
Delay (s)		14.8			12.7	12.9				7.4	7.3	
Level of Service		B			B	B				A	A	
Approach Delay (s)		14.8				12.8				7.4	7.3	
Approach LOS		B				B				A	A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	32.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR2	NEL	NER2
Lane Configurations			
Traffic Volume (vph)	3	1	4
Future Volume (vph)	3	1	4
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.0	
Lane Util. Factor		1.00	
Frpb, ped/bikes		0.97	
Flpb, ped/bikes		1.00	
Frt		0.89	
Flt Protected		0.99	
Satd. Flow (prot)		1630	
Flt Permitted		0.99	
Satd. Flow (perm)		1630	
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	3	1	4
RTOR Reduction (vph)	0	5	0
Lane Group Flow (vph)	0	0	0
Confl. Peds. (#/hr)	1		1
Heavy Vehicles (%)	0%	0%	0%
Turn Type		Perm	
Protected Phases			
Permitted Phases		4	
Actuated Green, G (s)		0.7	
Effective Green, g (s)		0.7	
Actuated g/C Ratio		0.02	
Clearance Time (s)		5.0	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		34	
v/s Ratio Prot			
v/s Ratio Perm		c0.00	
v/c Ratio		0.00	
Uniform Delay, d1		15.7	
Progression Factor		1.00	
Incremental Delay, d2		0.0	
Delay (s)		15.7	
Level of Service		B	
Approach Delay (s)		15.7	
Approach LOS		B	

Intersection Summary

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	56	31	65	55	8	42
Future Vol, veh/h	56	31	65	55	8	42
Conflicting Peds, #/hr	0	0	0	1	1	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	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	3	0	5	0	0
Mvmt Flow	63	35	73	62	9	47

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	170	105	0	0	136	0
Stage 1	105	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.4	6.23	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.327	-	-	2.2	-
Pot Cap-1 Maneuver	825	947	-	-	1461	-
Stage 1	924	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	819	946	-	-	1460	-
Mov Cap-2 Maneuver	819	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	957	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	1.2
HCM LOS	A		

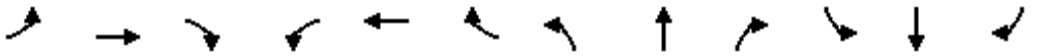
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	860	1460	-
HCM Lane V/C Ratio	-	-	0.114	0.006	-
HCM Control Delay (s)	-	-	9.7	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	155	2	0	3	0	83
Future Vol, veh/h	155	2	0	3	0	83
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	180	2	0	3	0	97
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	7.4	7.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	0%
Vol Right, %	0%	1%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	3	157	83
LT Vol	0	155	0
Through Vol	3	0	0
RT Vol	0	2	83
Lane Flow Rate	3	183	97
Geometry Grp	1	1	1
Degree of Util (X)	0.004	0.216	0.1
Departure Headway (Hd)	4.416	4.264	3.727
Convergence, Y/N	Yes	Yes	Yes
Cap	815	842	967
Service Time	2.418	2.293	1.727
HCM Lane V/C Ratio	0.004	0.217	0.1
HCM Control Delay	7.4	8.5	7.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.8	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	57	6	5	129	49	6	45	5	36	61	25
Future Volume (vph)	22	57	6	5	129	49	6	45	5	36	61	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.98		1.00			1.00	
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	0.99			1.00	0.85		0.99			0.97	
Flt Protected	0.95	1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1801	1787			1850	1576		1863			1790	
Flt Permitted	0.66	1.00			0.99	1.00		0.95			0.88	
Satd. Flow (perm)	1245	1787			1828	1576		1774			1593	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	26	67	7	6	152	58	7	53	6	42	72	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	26	74	0	0	158	58	0	66	0	0	143	0
Confl. Peds. (#/hr)	4		11	11		4			5	5		
Heavy Vehicles (%)	0%	5%	0%	40%	1%	0%	0%	0%	0%	0%	0%	8%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	13.7	13.7			7.9	7.9		6.7			6.7	
Effective Green, g (s)	13.7	13.7			7.9	7.9		6.7			6.7	
Actuated g/C Ratio	0.45	0.45			0.26	0.26		0.22			0.22	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	575	805			475	409		390			351	
v/s Ratio Prot	0.00	c0.04										
v/s Ratio Perm	0.02				c0.09	0.04		0.04			c0.09	
v/c Ratio	0.05	0.09			0.33	0.14		0.17			0.41	
Uniform Delay, d1	4.7	4.8			9.1	8.6		9.6			10.1	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.0			0.4	0.2		0.2			0.8	
Delay (s)	4.7	4.8			9.5	8.8		9.8			10.9	
Level of Service	A	A			A	A		A			B	
Approach Delay (s)		4.8			9.3			9.8			10.9	
Approach LOS		A			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	30.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT
Lane Configurations												
Traffic Volume (vph)	35	0	22	1	20	0	13	2	1	23	147	119
Future Volume (vph)	35	0	22	1	20	0	13	2	1	23	147	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0				5.0	5.0				5.0	5.0
Lane Util. Factor		1.00				1.00	1.00				1.00	1.00
Frpb, ped/bikes		0.95				1.00	0.99				1.00	0.99
Flpb, ped/bikes		0.99				0.90	1.00				1.00	1.00
Frt		0.95				1.00	0.98				1.00	0.98
Flt Protected		0.97				0.95	1.00				0.99	1.00
Satd. Flow (prot)		1637				1622	1855				1840	1842
Flt Permitted		1.00				1.00	1.00				0.92	1.00
Satd. Flow (perm)		1687				1707	1855				1705	1842
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	39	0	24	1	22	0	14	2	1	26	163	132
RTOR Reduction (vph)	0	58	0	0	0	0	2	0	0	0	0	7
Lane Group Flow (vph)	0	6	0	0	0	22	14	0	0	0	190	144
Confl. Peds. (#/hr)	4		10	10	10	10		4	5	5		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	2%	1%
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	NA
Protected Phases		1					1				3	3
Permitted Phases	1				1	1			3	3		
Actuated Green, G (s)		2.1				2.1	2.1				5.6	5.6
Effective Green, g (s)		2.1				2.1	2.1				5.6	5.6
Actuated g/C Ratio		0.09				0.09	0.09				0.24	0.24
Clearance Time (s)		5.0				5.0	5.0				5.0	5.0
Vehicle Extension (s)		3.0				3.0	3.0				3.0	3.0
Lane Grp Cap (vph)		152				153	167				409	442
v/s Ratio Prot							0.01					0.08
v/s Ratio Perm		0.00				c0.01					c0.11	
v/c Ratio		0.04				0.14	0.08				0.46	0.33
Uniform Delay, d1		9.7				9.8	9.7				7.6	7.3
Progression Factor		1.00				1.00	1.00				1.00	1.00
Incremental Delay, d2		0.1				0.4	0.2				0.8	0.4
Delay (s)		9.8				10.2	9.9				8.4	7.7
Level of Service		A				B	A				A	A
Approach Delay (s)		9.8					10.1				8.4	7.7
Approach LOS		A					B				A	A

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	23.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR	SBR2	NEL	NER2
Lane Configurations				
Traffic Volume (vph)	2	15	3	3
Future Volume (vph)	2	15	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			5.0	
Lane Util. Factor			1.00	
Frpb, ped/bikes			0.93	
Flpb, ped/bikes			0.98	
Frt			0.93	
Flt Protected			0.98	
Satd. Flow (prot)			1575	
Flt Permitted			0.98	
Satd. Flow (perm)			1575	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	17	3	3
RTOR Reduction (vph)	0	0	6	0
Lane Group Flow (vph)	0	0	0	0
Confl. Peds. (#/hr)	5	5	4	10
Heavy Vehicles (%)	0%	0%	0%	0%
Turn Type			Perm	
Protected Phases				
Permitted Phases			4	
Actuated Green, G (s)			0.6	
Effective Green, g (s)			0.6	
Actuated g/C Ratio			0.03	
Clearance Time (s)			5.0	
Vehicle Extension (s)			3.0	
Lane Grp Cap (vph)			40	
v/s Ratio Prot				
v/s Ratio Perm			c0.00	
v/c Ratio			0.00	
Uniform Delay, d1			11.1	
Progression Factor			1.00	
Incremental Delay, d2			0.0	
Delay (s)			11.1	
Level of Service			B	
Approach Delay (s)			11.1	
Approach LOS			B	

Intersection Summary

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	19	50	52	5	42
Future Vol, veh/h	40	19	50	52	5	42
Conflicting Peds, #/hr	3	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	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	23	62	64	6	52

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	161	94	0	0	126	0
Stage 1	94	-	-	-	-	-
Stage 2	67	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	835	968	-	-	1473	-
Stage 1	935	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	829	968	-	-	1473	-
Mov Cap-2 Maneuver	829	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	954	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	869	1473	-
HCM Lane V/C Ratio	-	-	0.084	0.004	-
HCM Control Delay (s)	-	-	9.5	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	1	0	2	2	72
Future Vol, veh/h	79	1	0	2	2	72
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	99	1	0	3	3	90
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.2	6.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	3%
Vol Right, %	0%	1%	97%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	2	80	74
LT Vol	0	79	0
Through Vol	2	0	2
RT Vol	0	1	72
Lane Flow Rate	2	100	92
Geometry Grp	1	1	1
Degree of Util (X)	0.003	0.118	0.09
Departure Headway (Hd)	4.147	4.254	3.492
Convergence, Y/N	Yes	Yes	Yes
Cap	855	844	1016
Service Time	2.212	2.272	1.55
HCM Lane V/C Ratio	0.002	0.118	0.091
HCM Control Delay	7.2	7.8	6.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.4	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	109	3	18	226	88	14	53	17	44	49	48
Future Volume (vph)	22	109	3	18	226	88	14	53	17	44	49	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.97		0.99			0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	1.00			1.00	0.85		0.97			0.95	
Flt Protected	0.95	1.00			1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1696	1753			1856	1564		1688			1669	
Flt Permitted	0.57	1.00			0.97	1.00		0.92			0.86	
Satd. Flow (perm)	1019	1753			1812	1564		1559			1450	
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	28	138	4	23	286	111	18	67	22	56	62	61
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	28	142	0	0	309	111	0	107	0	0	179	0
Confl. Peds. (#/hr)	9		20	20		9	4		7	7		4
Heavy Vehicles (%)	6%	8%	0%	0%	2%	0%	13%	9%	0%	3%	7%	7%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	20.7	20.7			15.0	15.0		8.7			8.7	
Effective Green, g (s)	20.7	20.7			15.0	15.0		8.7			8.7	
Actuated g/C Ratio	0.53	0.53			0.38	0.38		0.22			0.22	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	547	920			689	595		344			320	
v/s Ratio Prot	0.00	c0.08										
v/s Ratio Perm	0.03				c0.17	0.07		0.07			c0.12	
v/c Ratio	0.05	0.15			0.45	0.19		0.31			0.56	
Uniform Delay, d1	4.6	4.8			9.1	8.1		12.8			13.6	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1			0.5	0.2		0.5			2.1	
Delay (s)	4.6	4.9			9.6	8.3		13.4			15.8	
Level of Service	A	A			A	A		B			B	
Approach Delay (s)		4.9			9.2			13.4			15.8	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	39.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	42.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT
Lane Configurations												
Traffic Volume (vph)	25	0	24	1	2	2	17	10	1	59	235	150
Future Volume (vph)	25	0	24	1	2	2	17	10	1	59	235	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0				5.0	5.0				5.0	5.0
Lane Util. Factor		1.00				1.00	1.00				1.00	1.00
Frpb, ped/bikes		0.95				1.00	0.98				1.00	0.99
Flpb, ped/bikes		0.99				0.93	1.00				1.00	1.00
Frt		0.93				1.00	0.94				1.00	0.97
Flt Protected		0.98				0.95	1.00				0.99	1.00
Satd. Flow (prot)		1548				1683	1643				1862	1800
Flt Permitted		1.00				1.00	1.00				0.90	1.00
Satd. Flow (perm)		1587				1771	1643				1688	1800
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	0	26	1	2	2	19	11	1	65	258	165
RTOR Reduction (vph)	0	50	0	0	0	0	10	0	0	0	0	8
Lane Group Flow (vph)	0	4	0	0	0	4	20	0	0	0	324	199
Confl. Peds. (#/hr)	3		5	5	5	5		3	5	5		
Heavy Vehicles (%)	7%	0%	4%	0%	0%	0%	12%	0%	8%	0%	1%	2%
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	NA
Protected Phases		1					1				3	3
Permitted Phases	1				1	1			3	3		
Actuated Green, G (s)		2.2				2.2	2.2				14.2	14.2
Effective Green, g (s)		2.2				2.2	2.2				14.2	14.2
Actuated g/C Ratio		0.07				0.07	0.07				0.44	0.44
Clearance Time (s)		5.0				5.0	5.0				5.0	5.0
Vehicle Extension (s)		3.0				3.0	3.0				3.0	3.0
Lane Grp Cap (vph)		108				121	112				746	796
v/s Ratio Prot							c0.01					0.11
v/s Ratio Perm		0.00				0.00					c0.19	
v/c Ratio		0.03				0.03	0.18				0.43	0.25
Uniform Delay, d1		14.0				14.0	14.1				6.2	5.6
Progression Factor		1.00				1.00	1.00				1.00	1.00
Incremental Delay, d2		0.1				0.1	0.8				0.4	0.2
Delay (s)		14.1				14.1	14.9				6.6	5.8
Level of Service		B				B	B				A	A
Approach Delay (s)		14.1					14.8				6.6	5.8
Approach LOS		B					B				A	A

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	32.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR	SBR2	NEL2	NEL	NER2
Lane Configurations					
Traffic Volume (vph)	6	32	1	4	2
Future Volume (vph)	6	32	1	4	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	
Lane Util. Factor				1.00	
Frpb, ped/bikes				1.00	
Flpb, ped/bikes				0.89	
Frt				0.96	
Flt Protected				0.97	
Satd. Flow (prot)				1531	
Flt Permitted				0.97	
Satd. Flow (perm)				1531	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	35	1	4	2
RTOR Reduction (vph)	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	0
Confl. Peds. (#/hr)	5	5	5	5	
Heavy Vehicles (%)	2%	2%	2%	2%	2%
Turn Type			Perm	Perm	
Protected Phases					
Permitted Phases			4	4	
Actuated Green, G (s)				0.7	
Effective Green, g (s)				0.7	
Actuated g/C Ratio				0.02	
Clearance Time (s)				5.0	
Vehicle Extension (s)				3.0	
Lane Grp Cap (vph)				33	
v/s Ratio Prot					
v/s Ratio Perm				c0.00	
v/c Ratio				0.00	
Uniform Delay, d1				15.4	
Progression Factor				1.00	
Incremental Delay, d2				0.1	
Delay (s)				15.4	
Level of Service				B	
Approach Delay (s)				15.4	
Approach LOS				B	

Intersection Summary

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	27	51	48	8	39
Future Vol, veh/h	88	27	51	48	8	39
Conflicting Peds, #/hr	2	0	0	2	2	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	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	7	10	6	8	0	3
Mvmt Flow	102	31	59	56	9	45

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	154	89	0	0	117	0
Stage 1	89	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.47	6.3	-	-	4.1	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.39	-	-	2.2	-
Pot Cap-1 Maneuver	826	947	-	-	1484	-
Stage 1	922	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	818	945	-	-	1481	-
Mov Cap-2 Maneuver	818	-	-	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	937	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	1.3
HCM LOS	B		

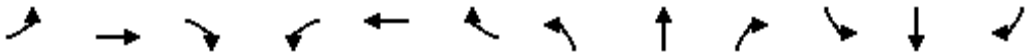
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	845	1481	-
HCM Lane V/C Ratio	-	-	0.158	0.006	-
HCM Control Delay (s)	-	-	10.1	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	70	1	0	1	2	152
Future Vol, veh/h	70	1	0	1	2	152
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	1	0	1	2	165
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.9	7.3	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	1%
Vol Right, %	0%	1%	99%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	1	71	154
LT Vol	0	70	0
Through Vol	1	0	2
RT Vol	0	1	152
Lane Flow Rate	1	77	167
Geometry Grp	1	1	1
Degree of Util (X)	0.001	0.095	0.162
Departure Headway (Hd)	4.199	4.416	3.478
Convergence, Y/N	Yes	Yes	Yes
Cap	844	812	1023
Service Time	2.263	2.442	1.529
HCM Lane V/C Ratio	0.001	0.095	0.163
HCM Control Delay	7.3	7.9	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.3	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	118	12	12	209	76	7	68	11	49	48	34
Future Volume (vph)	39	118	12	12	209	76	7	68	11	49	48	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.99			1.00	0.96		1.00			0.99	
Flpb, ped/bikes	0.99	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	0.99			1.00	0.85		0.98			0.97	
Flt Protected	0.95	1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)	1757	1826			1813	1481		1761			1704	
Flt Permitted	0.61	1.00			0.98	1.00		0.96			0.84	
Satd. Flow (perm)	1124	1826			1784	1481		1698			1452	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	43	130	13	13	230	84	8	75	12	54	53	37
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	43	143	0	0	243	84	0	95	0	0	144	0
Confl. Peds. (#/hr)	14		55	55		14	4		10	10		4
Heavy Vehicles (%)	2%	2%	0%	25%	3%	5%	14%	5%	0%	6%	2%	6%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	19.8	19.8			13.1	13.1		7.6			7.6	
Effective Green, g (s)	19.8	19.8			13.1	13.1		7.6			7.6	
Actuated g/C Ratio	0.53	0.53			0.35	0.35		0.20			0.20	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	623	966			624	518		345			295	
v/s Ratio Prot	0.00	c0.08										
v/s Ratio Perm	0.03				c0.14	0.06		0.06			c0.10	
v/c Ratio	0.07	0.15			0.39	0.16		0.28			0.49	
Uniform Delay, d1	4.3	4.5			9.1	8.4		12.6			13.2	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1			0.4	0.1		0.4			1.3	
Delay (s)	4.4	4.6			9.5	8.5		13.0			14.5	
Level of Service	A	A			A	A		B			B	
Approach Delay (s)		4.5			9.3			13.0			14.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	37.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	0	56	1	6	12	5	1	56	184	186	7
Future Volume (vph)	29	0	56	1	6	12	5	1	56	184	186	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0				5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00				1.00	1.00	
Frpb, ped/bikes		0.96			1.00	0.99				1.00	0.99	
Flpb, ped/bikes		1.00			0.92	1.00				1.00	1.00	
Frt		0.91			1.00	0.96				1.00	0.98	
Flt Protected		0.98			0.95	1.00				0.99	1.00	
Satd. Flow (prot)		1579			1669	1805				1800	1782	
Flt Permitted		0.88			0.95	1.00				0.87	1.00	
Satd. Flow (perm)		1412			1673	1805				1586	1782	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	31	0	60	1	6	13	5	1	60	196	198	7
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	7	0
Lane Group Flow (vph)	0	91	0	0	7	14	0	0	0	257	231	0
Confl. Peds. (#/hr)	3		11	11	11		3	9	9			9
Heavy Vehicles (%)	3%	0%	3%	0%	0%	0%	0%	0%	7%	3%	3%	0%
Turn Type	Perm	NA		Perm	Perm	NA		Perm	Perm	NA	NA	
Protected Phases		1				1				3	3	
Permitted Phases	1			1	1			3	3			
Actuated Green, G (s)		4.2			4.2	4.2				12.7	12.7	
Effective Green, g (s)		4.2			4.2	4.2				12.7	12.7	
Actuated g/C Ratio		0.13			0.13	0.13				0.39	0.39	
Clearance Time (s)		5.0			5.0	5.0				5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)		181			215	232				617	694	
v/s Ratio Prot						0.01					0.13	
v/s Ratio Perm		c0.06			0.00					c0.16		
v/c Ratio		0.50			0.03	0.06				0.42	0.33	
Uniform Delay, d1		13.2			12.4	12.5				7.3	7.0	
Progression Factor		1.00			1.00	1.00				1.00	1.00	
Incremental Delay, d2		2.2			0.1	0.1				0.5	0.3	
Delay (s)		15.4			12.5	12.6				7.7	7.3	
Level of Service		B			B	B				A	A	
Approach Delay (s)		15.4				12.5				7.7	7.3	
Approach LOS		B				B				A	A	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	32.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR2	NEL	NER2
Lane Configurations			
Traffic Volume (vph)	31	4	2
Future Volume (vph)	31	4	2
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.0	
Lane Util. Factor		1.00	
Frpb, ped/bikes		0.95	
Flpb, ped/bikes		0.97	
Frt		0.95	
Flt Protected		0.97	
Satd. Flow (prot)		1606	
Flt Permitted		0.97	
Satd. Flow (perm)		1606	
Peak-hour factor, PHF	0.94	0.94	0.94
Adj. Flow (vph)	33	4	2
RTOR Reduction (vph)	0	6	0
Lane Group Flow (vph)	0	0	0
Confl. Peds. (#/hr)	9	3	9
Heavy Vehicles (%)	7%	0%	0%
Turn Type		Perm	
Protected Phases			
Permitted Phases		4	
Actuated Green, G (s)		0.7	
Effective Green, g (s)		0.7	
Actuated g/C Ratio		0.02	
Clearance Time (s)		5.0	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		34	
v/s Ratio Prot			
v/s Ratio Perm		c0.00	
v/c Ratio		0.00	
Uniform Delay, d1		15.6	
Progression Factor		1.00	
Incremental Delay, d2		0.0	
Delay (s)		15.7	
Level of Service		B	
Approach Delay (s)		15.7	
Approach LOS		B	

Intersection Summary

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	37	73	70	13	41
Future Vol, veh/h	62	37	73	70	13	41
Conflicting Peds, #/hr	2	2	0	2	2	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	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	5	11	6	1	15	0
Mvmt Flow	85	51	100	96	18	56

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	244	152	0	0	198	0
Stage 1	150	-	-	-	-	-
Stage 2	94	-	-	-	-	-
Critical Hdwy	6.45	6.31	-	-	4.25	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.399	-	-	2.335	-
Pot Cap-1 Maneuver	738	871	-	-	1300	-
Stage 1	870	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	725	868	-	-	1298	-
Mov Cap-2 Maneuver	725	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	907	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	773	1298	-
HCM Lane V/C Ratio	-	-	0.175	0.014	-
HCM Control Delay (s)	-	-	10.6	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	115	1	0	1	5	91
Future Vol, veh/h	115	1	0	1	5	91
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	121	1	0	1	5	96
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8	7.3	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	5%
Vol Right, %	0%	1%	95%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	1	116	96
LT Vol	0	115	0
Through Vol	1	0	5
RT Vol	0	1	91
Lane Flow Rate	1	122	101
Geometry Grp	1	1	1
Degree of Util (X)	0.001	0.145	0.1
Departure Headway (Hd)	4.194	4.271	3.546
Convergence, Y/N	Yes	Yes	Yes
Cap	842	841	996
Service Time	2.275	2.291	1.617
HCM Lane V/C Ratio	0.001	0.145	0.101
HCM Control Delay	7.3	8	7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.5	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	129	6	10	208	98	7	63	11	76	54	38
Future Volume (vph)	39	129	6	10	208	98	7	63	11	76	54	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.97		1.00			0.99	
Flpb, ped/bikes	0.99	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	0.99			1.00	0.85		0.98			0.97	
Flt Protected	0.95	1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)	1794	1866			1842	1560		1849			1772	
Flt Permitted	0.61	1.00			0.98	1.00		0.96			0.81	
Satd. Flow (perm)	1154	1866			1817	1560		1776			1472	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	140	7	11	226	107	8	68	12	83	59	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	42	147	0	0	237	107	0	88	0	0	183	0
Confl. Peds. (#/hr)	11		9	9		11	8		4	4		8
Heavy Vehicles (%)	0%	1%	0%	0%	3%	0%	0%	0%	0%	1%	1%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	20.1	20.1			13.4	13.4		8.4			8.4	
Effective Green, g (s)	20.1	20.1			13.4	13.4		8.4			8.4	
Actuated g/C Ratio	0.52	0.52			0.35	0.35		0.22			0.22	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	630	974			632	542		387			321	
v/s Ratio Prot	0.00	c0.08										
v/s Ratio Perm	0.03				c0.13	0.07		0.05			c0.12	
v/c Ratio	0.07	0.15			0.38	0.20		0.23			0.57	
Uniform Delay, d1	4.6	4.8			9.4	8.8		12.4			13.4	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1			0.4	0.2		0.3			2.4	
Delay (s)	4.6	4.8			9.8	9.0		12.7			15.9	
Level of Service	A	A			A	A		B			B	
Approach Delay (s)		4.8			9.5			12.7			15.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	38.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	0	35	2	5	18	4	2	47	192	224	27
Future Volume (vph)	32	0	35	2	5	18	4	2	47	192	224	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0				5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00				1.00	1.00	
Frpb, ped/bikes		0.99			1.00	1.00				1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00				1.00	1.00	
Frt		0.93			1.00	0.97				1.00	0.98	
Flt Protected		0.98			0.95	1.00				0.99	1.00	
Satd. Flow (prot)		1692			1778	1841				1836	1848	
Flt Permitted		0.84			1.00	1.00				0.88	1.00	
Satd. Flow (perm)		1451			1872	1841				1639	1848	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	34	0	38	2	5	19	4	2	51	206	241	29
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	1	0
Lane Group Flow (vph)	0	72	0	0	7	19	0	0	0	259	272	0
Confl. Peds. (#/hr)	2		2	2	2		2	2	2			2
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	1%	0%
Turn Type	Perm	NA		Perm	Perm	NA		Perm	Perm	NA	NA	
Protected Phases		1				1				3	3	
Permitted Phases	1			1	1			3	3			
Actuated Green, G (s)		4.0			4.0	4.0				13.2	13.2	
Effective Green, g (s)		4.0			4.0	4.0				13.2	13.2	
Actuated g/C Ratio		0.12			0.12	0.12				0.40	0.40	
Clearance Time (s)		5.0			5.0	5.0				5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)		176			227	223				657	741	
v/s Ratio Prot						0.01					0.15	
v/s Ratio Perm		c0.05			0.00					c0.16		
v/c Ratio		0.41			0.03	0.09				0.39	0.37	
Uniform Delay, d1		13.4			12.7	12.8				7.0	6.9	
Progression Factor		1.00			1.00	1.00				1.00	1.00	
Incremental Delay, d2		1.5			0.1	0.2				0.4	0.3	
Delay (s)		14.9			12.8	13.0				7.4	7.2	
Level of Service		B			B	B				A	A	
Approach Delay (s)		14.9				13.0				7.4	7.2	
Approach LOS		B				B				A	A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	32.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR2	NEL	NER2
Lane Configurations			
Traffic Volume (vph)	3	1	4
Future Volume (vph)	3	1	4
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.0	
Lane Util. Factor		1.00	
Frpb, ped/bikes		0.96	
Flpb, ped/bikes		0.99	
Frt		0.89	
Flt Protected		0.99	
Satd. Flow (prot)		1597	
Flt Permitted		0.99	
Satd. Flow (perm)		1597	
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	3	1	4
RTOR Reduction (vph)	0	5	0
Lane Group Flow (vph)	0	0	0
Confl. Peds. (#/hr)	2	2	2
Heavy Vehicles (%)	0%	0%	0%
Turn Type		Perm	
Protected Phases			
Permitted Phases		4	
Actuated Green, G (s)		0.7	
Effective Green, g (s)		0.7	
Actuated g/C Ratio		0.02	
Clearance Time (s)		5.0	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		33	
v/s Ratio Prot			
v/s Ratio Perm		c0.00	
v/c Ratio		0.00	
Uniform Delay, d1		15.8	
Progression Factor		1.00	
Incremental Delay, d2		0.0	
Delay (s)		15.8	
Level of Service		B	
Approach Delay (s)		15.8	
Approach LOS		B	

Intersection Summary

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	31	66	56	8	42
Future Vol, veh/h	57	31	66	56	8	42
Conflicting Peds, #/hr	1	0	0	3	3	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	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	66	36	77	65	9	49

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	181	113	0	0	145	0
Stage 1	113	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	813	945	-	-	1450	-
Stage 1	917	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	805	942	-	-	1446	-
Mov Cap-2 Maneuver	805	-	-	-	-	-
Stage 1	914	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	1.2
HCM LOS	A		

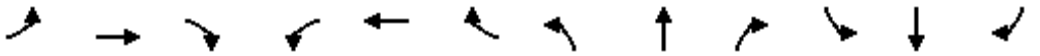
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	848	1446	-
HCM Lane V/C Ratio	-	-	0.121	0.006	-
HCM Control Delay (s)	-	-	9.8	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	157	2	0	3	0	84
Future Vol, veh/h	157	2	0	3	0	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	171	2	0	3	0	91
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.4	7.4	7.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	0%
Vol Right, %	0%	1%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	3	159	84
LT Vol	0	157	0
Through Vol	3	0	0
RT Vol	0	2	84
Lane Flow Rate	3	173	91
Geometry Grp	1	1	1
Degree of Util (X)	0.004	0.206	0.095
Departure Headway (Hd)	4.425	4.288	3.742
Convergence, Y/N	Yes	Yes	Yes
Cap	813	836	963
Service Time	2.428	2.317	1.742
HCM Lane V/C Ratio	0.004	0.207	0.094
HCM Control Delay	7.4	8.4	7.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.8	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	58	6	5	130	49	6	45	5	36	62	25
Future Volume (vph)	22	58	6	5	130	49	6	45	5	36	62	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.97		1.00			0.99	
Flpb, ped/bikes	0.99	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	0.99			1.00	0.85		0.99			0.97	
Flt Protected	0.95	1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1795	1819			1896	1565		1861			1783	
Flt Permitted	0.66	1.00			0.99	1.00		0.95			0.88	
Satd. Flow (perm)	1244	1819			1872	1565		1770			1589	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	25	67	7	6	149	56	7	52	6	41	71	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	25	74	0	0	155	56	0	65	0	0	141	0
Confl. Peds. (#/hr)	11		9	9		11	8		4	4		8
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	13.6	13.6			7.8	7.8		6.6			6.6	
Effective Green, g (s)	13.6	13.6			7.8	7.8		6.6			6.6	
Actuated g/C Ratio	0.45	0.45			0.26	0.26		0.22			0.22	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	574	819			483	404		386			347	
v/s Ratio Prot	0.00	c0.04										
v/s Ratio Perm	0.02				c0.08	0.04		0.04			c0.09	
v/c Ratio	0.04	0.09			0.32	0.14		0.17			0.41	
Uniform Delay, d1	4.7	4.8			9.1	8.6		9.6			10.1	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.0			0.4	0.2		0.2			0.8	
Delay (s)	4.7	4.8			9.4	8.8		9.8			10.9	
Level of Service	A	A			A	A		A			B	
Approach Delay (s)		4.8			9.3			9.8			10.9	
Approach LOS		A			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	30.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT
Lane Configurations												
Traffic Volume (vph)	35	0	22	1	20	0	13	2	1	23	148	120
Future Volume (vph)	35	0	22	1	20	0	13	2	1	23	148	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0				5.0	5.0				5.0	5.0
Lane Util. Factor		1.00				1.00	1.00				1.00	1.00
Frpb, ped/bikes		0.95				1.00	0.99				1.00	1.00
Flpb, ped/bikes		0.99				0.90	1.00				1.00	1.00
Frt		0.95				1.00	0.98				1.00	0.98
Flt Protected		0.97				0.95	1.00				0.99	1.00
Satd. Flow (prot)		1635				1622	1855				1835	1844
Flt Permitted		1.00				1.00	1.00				0.92	1.00
Satd. Flow (perm)		1684				1708	1855				1704	1844
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	38	0	24	1	22	0	14	2	1	25	163	132
RTOR Reduction (vph)	0	57	0	0	0	0	2	0	0	0	0	7
Lane Group Flow (vph)	0	6	0	0	0	22	14	0	0	0	189	143
Confl. Peds. (#/hr)	4		10	10	10	10		4	5	5		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	1%
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	NA
Protected Phases		1					1				3	3
Permitted Phases	1				1	1			3	3		
Actuated Green, G (s)		2.1				2.1	2.1				5.5	5.5
Effective Green, g (s)		2.1				2.1	2.1				5.5	5.5
Actuated g/C Ratio		0.09				0.09	0.09				0.24	0.24
Clearance Time (s)		5.0				5.0	5.0				5.0	5.0
Vehicle Extension (s)		3.0				3.0	3.0				3.0	3.0
Lane Grp Cap (vph)		152				154	167				403	437
v/s Ratio Prot							0.01					0.08
v/s Ratio Perm		0.00				c0.01					c0.11	
v/c Ratio		0.04				0.14	0.08				0.47	0.33
Uniform Delay, d1		9.6				9.7	9.7				7.6	7.3
Progression Factor		1.00				1.00	1.00				1.00	1.00
Incremental Delay, d2		0.1				0.4	0.2				0.9	0.4
Delay (s)		9.7				10.1	9.9				8.5	7.8
Level of Service		A				B	A				A	A
Approach Delay (s)		9.7					10.0				8.5	7.8
Approach LOS		A					B				A	A

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	23.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR	SBR2	NEL	NER2
Lane Configurations				
Traffic Volume (vph)	2	15	3	3
Future Volume (vph)	2	15	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			5.0	
Lane Util. Factor			1.00	
Frpb, ped/bikes			0.93	
Flpb, ped/bikes			0.98	
Frt			0.93	
Flt Protected			0.98	
Satd. Flow (prot)			1576	
Flt Permitted			0.98	
Satd. Flow (perm)			1576	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91
Adj. Flow (vph)	2	16	3	3
RTOR Reduction (vph)	0	0	6	0
Lane Group Flow (vph)	0	0	0	0
Confl. Peds. (#/hr)	5	5	4	10
Heavy Vehicles (%)	0%	0%	0%	0%
Turn Type			Perm	
Protected Phases				
Permitted Phases			4	
Actuated Green, G (s)			0.6	
Effective Green, g (s)			0.6	
Actuated g/C Ratio			0.03	
Clearance Time (s)			5.0	
Vehicle Extension (s)			3.0	
Lane Grp Cap (vph)			40	
v/s Ratio Prot				
v/s Ratio Perm			c0.00	
v/c Ratio			0.00	
Uniform Delay, d1			11.0	
Progression Factor			1.00	
Incremental Delay, d2			0.0	
Delay (s)			11.0	
Level of Service			B	
Approach Delay (s)			11.0	
Approach LOS			B	

Intersection Summary

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	19	51	53	5	42
Future Vol, veh/h	40	19	51	53	5	42
Conflicting Peds, #/hr	0	0	0	4	4	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	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	23	62	65	6	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	162	99	0	0	131	0
Stage 1	99	-	-	-	-	-
Stage 2	63	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	834	962	-	-	1467	-
Stage 1	930	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	827	958	-	-	1461	-
Mov Cap-2 Maneuver	827	-	-	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	961	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.8
HCM LOS	A		

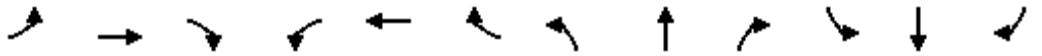
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	865	1461	-
HCM Lane V/C Ratio	-	-	0.083	0.004	-
HCM Control Delay (s)	-	-	9.5	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	80	1	0	2	2	73
Future Vol, veh/h	80	1	0	2	2	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	1	0	2	2	79
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.2	6.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	3%
Vol Right, %	0%	1%	97%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	2	81	75
LT Vol	0	80	0
Through Vol	2	0	2
RT Vol	0	1	73
Lane Flow Rate	2	88	82
Geometry Grp	1	1	1
Degree of Util (X)	0.003	0.104	0.079
Departure Headway (Hd)	4.15	4.269	3.505
Convergence, Y/N	Yes	Yes	Yes
Cap	856	842	1013
Service Time	2.208	2.284	1.557
HCM Lane V/C Ratio	0.002	0.105	0.081
HCM Control Delay	7.2	7.8	6.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.3	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	109	5	18	226	88	20	62	17	44	52	48
Future Volume (vph)	22	109	5	18	226	88	20	62	17	44	52	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.97		0.99			0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	0.99			1.00	0.85		0.98			0.95	
Flt Protected	0.95	1.00			1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1696	1750			1855	1563		1687			1671	
Flt Permitted	0.56	1.00			0.97	1.00		0.91			0.86	
Satd. Flow (perm)	991	1750			1809	1563		1549			1464	
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	28	138	6	23	286	111	25	78	22	56	66	61
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	28	144	0	0	309	111	0	125	0	0	183	0
Confl. Peds. (#/hr)	9		20	20		9	4		7	7		4
Heavy Vehicles (%)	6%	8%	0%	0%	2%	0%	13%	9%	0%	3%	7%	7%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	19.9	19.9			14.2	14.2		11.2			11.2	
Effective Green, g (s)	19.9	19.9			14.2	14.2		11.2			11.2	
Actuated g/C Ratio	0.48	0.48			0.35	0.35		0.27			0.27	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	491	847			625	540		422			398	
v/s Ratio Prot	0.00	c0.08										
v/s Ratio Perm	0.03				c0.17	0.07		0.08			c0.13	
v/c Ratio	0.06	0.17			0.49	0.21		0.30			0.46	
Uniform Delay, d1	5.9	6.0			10.6	9.5		11.8			12.4	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1			0.6	0.2		0.4			0.8	
Delay (s)	6.0	6.1			11.2	9.7		12.2			13.3	
Level of Service	A	A			B	A		B			B	
Approach Delay (s)		6.0			10.8			12.2			13.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	41.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT
Lane Configurations												
Traffic Volume (vph)	25	0	26	1	2	2	17	10	1	65	235	150
Future Volume (vph)	25	0	26	1	2	2	17	10	1	65	235	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0				5.0	5.0				5.0	5.0
Lane Util. Factor		1.00				1.00	1.00				1.00	1.00
Frpb, ped/bikes		0.97				1.00	0.99				1.00	0.99
Flpb, ped/bikes		0.99				0.96	1.00				1.00	1.00
Frt		0.93				1.00	0.94				1.00	0.97
Flt Protected		0.98				0.95	1.00				0.99	1.00
Satd. Flow (prot)		1573				1731	1649				1861	1800
Flt Permitted		0.83				1.00	1.00				0.89	1.00
Satd. Flow (perm)		1343				1823	1649				1671	1800
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	0	29	1	2	2	19	11	1	71	258	165
RTOR Reduction (vph)	0	51	0	0	0	0	10	0	0	0	0	9
Lane Group Flow (vph)	0	6	0	0	0	4	20	0	0	0	330	198
Confl. Peds. (#/hr)	3		5	5	5	5		3	5	5		
Heavy Vehicles (%)	7%	0%	4%	0%	0%	0%	12%	0%	8%	0%	1%	2%
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	NA
Protected Phases		1					1				3	3
Permitted Phases	1				1	1			3	3		
Actuated Green, G (s)		3.9				3.9	3.9				14.8	14.8
Effective Green, g (s)		3.9				3.9	3.9				14.8	14.8
Actuated g/C Ratio		0.11				0.11	0.11				0.43	0.43
Clearance Time (s)		5.0				5.0	5.0				5.0	5.0
Vehicle Extension (s)		3.0				3.0	3.0				3.0	3.0
Lane Grp Cap (vph)		152				206	186				718	774
v/s Ratio Prot							c0.01					0.11
v/s Ratio Perm		0.00				0.00					c0.20	
v/c Ratio		0.04				0.02	0.11				0.46	0.26
Uniform Delay, d1		13.6				13.6	13.7				7.0	6.3
Progression Factor		1.00				1.00	1.00				1.00	1.00
Incremental Delay, d2		0.1				0.0	0.3				0.5	0.2
Delay (s)		13.7				13.6	13.9				7.4	6.5
Level of Service		B				B	B				A	A
Approach Delay (s)		13.7					13.9				7.4	6.5
Approach LOS		B					B				A	A

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	34.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR	SBR2	NEL2	NEL	NER2
Lane Configurations					
Traffic Volume (vph)	6	32	1	4	2
Future Volume (vph)	6	32	1	4	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	
Lane Util. Factor				1.00	
Frpb, ped/bikes				1.00	
Flpb, ped/bikes				0.88	
Frt				0.96	
Flt Protected				0.97	
Satd. Flow (prot)				1517	
Flt Permitted				0.97	
Satd. Flow (perm)				1517	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	7	35	1	4	2
RTOR Reduction (vph)	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	0
Confl. Peds. (#/hr)	5	5	5	5	
Heavy Vehicles (%)	2%	2%	2%	2%	2%
Turn Type			Perm	Perm	
Protected Phases					
Permitted Phases			4	4	
Actuated Green, G (s)				0.7	
Effective Green, g (s)				0.7	
Actuated g/C Ratio				0.02	
Clearance Time (s)				5.0	
Vehicle Extension (s)				3.0	
Lane Grp Cap (vph)				30	
v/s Ratio Prot					
v/s Ratio Perm				c0.00	
v/c Ratio				0.00	
Uniform Delay, d1				16.5	
Progression Factor				1.00	
Incremental Delay, d2				0.1	
Delay (s)				16.6	
Level of Service				B	
Approach Delay (s)				16.6	
Approach LOS				B	

Intersection Summary

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	29	54	48	14	49
Future Vol, veh/h	88	29	54	48	14	49
Conflicting Peds, #/hr	2	0	0	2	2	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	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	7	10	6	8	0	3
Mvmt Flow	102	34	63	56	16	57

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	184	93	0	0	121	0
Stage 1	93	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.47	6.3	-	-	4.1	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.39	-	-	2.2	-
Pot Cap-1 Maneuver	794	943	-	-	1479	-
Stage 1	918	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	782	941	-	-	1476	-
Mov Cap-2 Maneuver	782	-	-	-	-	-
Stage 1	916	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	816	1476	-
HCM Lane V/C Ratio	-	-	0.167	0.011	-
HCM Control Delay (s)	-	-	10.3	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	15	78	5	5	47
Future Vol, veh/h	16	15	78	5	5	47
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	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	16	85	5	5	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	149	88	0	0	90	0
Stage 1	88	-	-	-	-	-
Stage 2	61	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	848	976	-	-	1518	-
Stage 1	940	-	-	-	-	-
Stage 2	967	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	845	976	-	-	1518	-
Mov Cap-2 Maneuver	845	-	-	-	-	-
Stage 1	940	-	-	-	-	-
Stage 2	964	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0.7
HCM LOS	A		

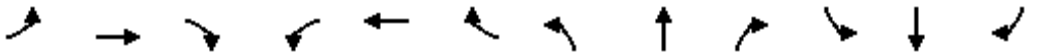
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	904	1518	-
HCM Lane V/C Ratio	-	-	0.037	0.004	-
HCM Control Delay (s)	-	-	9.1	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	73	1	0	1	2	162
Future Vol, veh/h	73	1	0	1	2	162
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	1	0	1	2	176
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8	7.3	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	1%
Vol Right, %	0%	1%	99%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	1	74	164
LT Vol	0	73	0
Through Vol	1	0	2
RT Vol	0	1	162
Lane Flow Rate	1	80	178
Geometry Grp	1	1	1
Degree of Util (X)	0.001	0.099	0.172
Departure Headway (Hd)	4.21	4.434	3.481
Convergence, Y/N	Yes	Yes	Yes
Cap	841	808	1021
Service Time	2.28	2.462	1.536
HCM Lane V/C Ratio	0.001	0.099	0.174
HCM Control Delay	7.3	8	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.3	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	118	15	12	209	76	9	72	11	49	53	34
Future Volume (vph)	39	118	15	12	209	76	9	72	11	49	53	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.99			1.00	0.96		1.00			0.99	
Flpb, ped/bikes	0.99	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	0.98			1.00	0.85		0.98			0.97	
Flt Protected	0.95	1.00			1.00	1.00		1.00			0.98	
Satd. Flow (prot)	1757	1818			1813	1481		1759			1709	
Flt Permitted	0.61	1.00			0.98	1.00		0.95			0.84	
Satd. Flow (perm)	1124	1818			1784	1481		1684			1459	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	43	130	16	13	230	84	10	79	12	54	58	37
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	43	146	0	0	243	84	0	101	0	0	149	0
Confl. Peds. (#/hr)	14		55	55		14	4		10	10		4
Heavy Vehicles (%)	2%	2%	0%	25%	3%	5%	14%	5%	0%	6%	2%	6%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	19.9	19.9			13.2	13.2		7.7			7.7	
Effective Green, g (s)	19.9	19.9			13.2	13.2		7.7			7.7	
Actuated g/C Ratio	0.53	0.53			0.35	0.35		0.20			0.20	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	623	962			626	519		344			298	
v/s Ratio Prot	0.00	c0.08										
v/s Ratio Perm	0.03				c0.14	0.06		0.06			c0.10	
v/c Ratio	0.07	0.15			0.39	0.16		0.29			0.50	
Uniform Delay, d1	4.3	4.5			9.2	8.4		12.6			13.2	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1			0.4	0.1		0.5			1.3	
Delay (s)	4.4	4.6			9.6	8.5		13.1			14.6	
Level of Service	A	A			A	A		B			B	
Approach Delay (s)		4.6			9.3			13.1			14.6	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	37.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	0	59	1	6	12	5	1	58	184	186	7
Future Volume (vph)	29	0	59	1	6	12	5	1	58	184	186	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0				5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00				1.00	1.00	
Frpb, ped/bikes		0.96			1.00	0.99				1.00	0.99	
Flpb, ped/bikes		1.00			0.92	1.00				1.00	1.00	
Frt		0.91			1.00	0.96				1.00	0.98	
Flt Protected		0.98			0.95	1.00				0.99	1.00	
Satd. Flow (prot)		1576			1669	1805				1799	1782	
Flt Permitted		0.88			0.95	1.00				0.87	1.00	
Satd. Flow (perm)		1414			1673	1805				1580	1782	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	31	0	63	1	6	13	5	1	62	196	198	7
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	7	0
Lane Group Flow (vph)	0	94	0	0	7	14	0	0	0	259	231	0
Confl. Peds. (#/hr)	3		11	11	11		3	9	9			9
Heavy Vehicles (%)	3%	0%	3%	0%	0%	0%	0%	0%	7%	3%	3%	0%
Turn Type	Perm	NA		Perm	Perm	NA		Perm	Perm	NA	NA	
Protected Phases		1				1				3	3	
Permitted Phases	1			1	1			3	3			
Actuated Green, G (s)		4.2			4.2	4.2				13.0	13.0	
Effective Green, g (s)		4.2			4.2	4.2				13.0	13.0	
Actuated g/C Ratio		0.13			0.13	0.13				0.40	0.40	
Clearance Time (s)		5.0			5.0	5.0				5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)		180			213	230				624	704	
v/s Ratio Prot						0.01					0.13	
v/s Ratio Perm		c0.07			0.00					c0.16		
v/c Ratio		0.52			0.03	0.06				0.42	0.33	
Uniform Delay, d1		13.4			12.6	12.6				7.2	6.9	
Progression Factor		1.00			1.00	1.00				1.00	1.00	
Incremental Delay, d2		2.7			0.1	0.1				0.4	0.3	
Delay (s)		16.1			12.6	12.7				7.6	7.2	
Level of Service		B			B	B				A	A	
Approach Delay (s)		16.1				12.7				7.6	7.2	
Approach LOS		B				B				A	A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	32.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR2	NEL	NER2
Lane Configurations			
Traffic Volume (vph)	31	4	2
Future Volume (vph)	31	4	2
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.0	
Lane Util. Factor		1.00	
Frpb, ped/bikes		0.94	
Flpb, ped/bikes		0.97	
Frt		0.95	
Flt Protected		0.97	
Satd. Flow (prot)		1605	
Flt Permitted		0.97	
Satd. Flow (perm)		1605	
Peak-hour factor, PHF	0.94	0.94	0.94
Adj. Flow (vph)	33	4	2
RTOR Reduction (vph)	0	6	0
Lane Group Flow (vph)	0	0	0
Confl. Peds. (#/hr)	9	3	9
Heavy Vehicles (%)	7%	0%	0%
Turn Type		Perm	
Protected Phases			
Permitted Phases		4	
Actuated Green, G (s)		0.7	
Effective Green, g (s)		0.7	
Actuated g/C Ratio		0.02	
Clearance Time (s)		5.0	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		34	
v/s Ratio Prot			
v/s Ratio Perm		c0.00	
v/c Ratio		0.00	
Uniform Delay, d1		15.8	
Progression Factor		1.00	
Incremental Delay, d2		0.0	
Delay (s)		15.8	
Level of Service		B	
Approach Delay (s)		15.8	
Approach LOS		B	

Intersection Summary

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	40	78	70	15	45
Future Vol, veh/h	62	40	78	70	15	45
Conflicting Peds, #/hr	2	2	0	2	2	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	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	5	11	6	1	15	0
Mvmt Flow	85	55	107	96	21	62

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	263	159	0	0	205	0
Stage 1	157	-	-	-	-	-
Stage 2	106	-	-	-	-	-
Critical Hdwy	6.45	6.31	-	-	4.25	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.399	-	-	2.335	-
Pot Cap-1 Maneuver	720	863	-	-	1293	-
Stage 1	864	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	705	860	-	-	1291	-
Mov Cap-2 Maneuver	705	-	-	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	894	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	759	1291	-
HCM Lane V/C Ratio	-	-	0.184	0.016	-
HCM Control Delay (s)	-	-	10.8	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	6	110	8	8	55
Future Vol, veh/h	6	6	110	8	8	55
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	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	7	120	9	9	60

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	203	125	0	0	129	0
Stage 1	125	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	790	931	-	-	1469	-
Stage 1	906	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	785	931	-	-	1469	-
Mov Cap-2 Maneuver	785	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	944	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.9
HCM LOS	A		

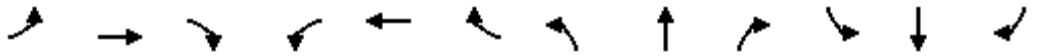
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	852	1469	-
HCM Lane V/C Ratio	-	-	0.015	0.006	-
HCM Control Delay (s)	-	-	9.3	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	120	1	0	1	5	95
Future Vol, veh/h	120	1	0	1	5	95
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	126	1	0	1	5	100
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.1	7.3	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	5%
Vol Right, %	0%	1%	95%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	1	121	100
LT Vol	0	120	0
Through Vol	1	0	5
RT Vol	0	1	95
Lane Flow Rate	1	127	105
Geometry Grp	1	1	1
Degree of Util (X)	0.001	0.151	0.104
Departure Headway (Hd)	4.206	4.279	3.553
Convergence, Y/N	Yes	Yes	Yes
Cap	839	839	994
Service Time	2.291	2.299	1.627
HCM Lane V/C Ratio	0.001	0.151	0.106
HCM Control Delay	7.3	8.1	7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.5	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	129	11	10	208	97	10	68	11	76	63	38
Future Volume (vph)	39	129	11	10	208	97	10	68	11	76	63	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.97		1.00			0.99	
Flpb, ped/bikes	0.99	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	0.99			1.00	0.85		0.98			0.97	
Flt Protected	0.95	1.00			1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1794	1856			1842	1560		1850			1777	
Flt Permitted	0.61	1.00			0.98	1.00		0.94			0.82	
Satd. Flow (perm)	1154	1856			1817	1560		1757			1480	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	140	12	11	226	105	11	74	12	83	68	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	42	152	0	0	237	105	0	97	0	0	192	0
Confl. Peds. (#/hr)	11		9	9		11	8		4	4		8
Heavy Vehicles (%)	0%	1%	0%	0%	3%	0%	0%	0%	0%	1%	1%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	20.3	20.3			13.6	13.6		8.7			8.7	
Effective Green, g (s)	20.3	20.3			13.6	13.6		8.7			8.7	
Actuated g/C Ratio	0.52	0.52			0.35	0.35		0.22			0.22	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	628	966			633	544		391			330	
v/s Ratio Prot	0.00	c0.08										
v/s Ratio Perm	0.03				c0.13	0.07		0.06			c0.13	
v/c Ratio	0.07	0.16			0.37	0.19		0.25			0.58	
Uniform Delay, d1	4.7	4.9			9.5	8.9		12.5			13.5	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1			0.4	0.2		0.3			2.6	
Delay (s)	4.7	5.0			9.9	9.0		12.8			16.1	
Level of Service	A	A			A	A		B			B	
Approach Delay (s)		4.9			9.6			12.8			16.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	39.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	0	41	2	5	18	4	2	50	192	224	27
Future Volume (vph)	32	0	41	2	5	18	4	2	50	192	224	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0				5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00				1.00	1.00	
Frpb, ped/bikes		0.98			1.00	1.00				1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00				1.00	1.00	
Frt		0.92			1.00	0.97				1.00	0.98	
Flt Protected		0.98			0.95	1.00				0.99	1.00	
Satd. Flow (prot)		1685			1778	1841				1835	1848	
Flt Permitted		0.85			1.00	1.00				0.88	1.00	
Satd. Flow (perm)		1461			1872	1841				1631	1848	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	34	0	44	2	5	19	4	2	54	206	241	29
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	1	0
Lane Group Flow (vph)	0	78	0	0	7	19	0	0	0	262	272	0
Confl. Peds. (#/hr)	2		2	2	2		2	2	2			2
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	1%	0%
Turn Type	Perm	NA		Perm	Perm	NA		Perm	Perm	NA	NA	
Protected Phases		1				1				3	3	
Permitted Phases	1			1	1			3	3			
Actuated Green, G (s)		4.0			4.0	4.0				13.6	13.6	
Effective Green, g (s)		4.0			4.0	4.0				13.6	13.6	
Actuated g/C Ratio		0.12			0.12	0.12				0.41	0.41	
Clearance Time (s)		5.0			5.0	5.0				5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)		175			224	221				666	754	
v/s Ratio Prot						0.01					0.15	
v/s Ratio Perm		c0.05			0.00					c0.16		
v/c Ratio		0.45			0.03	0.09				0.39	0.36	
Uniform Delay, d1		13.6			12.9	13.0				6.9	6.8	
Progression Factor		1.00			1.00	1.00				1.00	1.00	
Incremental Delay, d2		1.8			0.1	0.2				0.4	0.3	
Delay (s)		15.4			13.0	13.2				7.3	7.1	
Level of Service		B			B	B				A	A	
Approach Delay (s)		15.4				13.2				7.3	7.1	
Approach LOS		B				B				A	A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	33.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR2	NEL	NER2
Lane Configurations			
Traffic Volume (vph)	3	1	4
Future Volume (vph)	3	1	4
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.0	
Lane Util. Factor		1.00	
Frpb, ped/bikes		0.96	
Flpb, ped/bikes		0.99	
Frt		0.89	
Flt Protected		0.99	
Satd. Flow (prot)		1597	
Flt Permitted		0.99	
Satd. Flow (perm)		1597	
Peak-hour factor, PHF	0.93	0.93	0.93
Adj. Flow (vph)	3	1	4
RTOR Reduction (vph)	0	5	0
Lane Group Flow (vph)	0	0	0
Confl. Peds. (#/hr)	2	2	2
Heavy Vehicles (%)	0%	0%	0%
Turn Type		Perm	
Protected Phases			
Permitted Phases		4	
Actuated Green, G (s)		0.7	
Effective Green, g (s)		0.7	
Actuated g/C Ratio		0.02	
Clearance Time (s)		5.0	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		33	
v/s Ratio Prot			
v/s Ratio Perm		c0.00	
v/c Ratio		0.00	
Uniform Delay, d1		16.0	
Progression Factor		1.00	
Incremental Delay, d2		0.0	
Delay (s)		16.0	
Level of Service		B	
Approach Delay (s)		16.0	
Approach LOS		B	

Intersection Summary

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	37	75	56	11	47
Future Vol, veh/h	57	37	75	56	11	47
Conflicting Peds, #/hr	1	0	0	3	3	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	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	66	43	87	65	13	55

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	205	123	0	0	155	0
Stage 1	123	-	-	-	-	-
Stage 2	82	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	788	933	-	-	1438	-
Stage 1	907	-	-	-	-	-
Stage 2	946	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	778	930	-	-	1434	-
Mov Cap-2 Maneuver	778	-	-	-	-	-
Stage 1	904	-	-	-	-	-
Stage 2	937	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	831	1434	-
HCM Lane V/C Ratio	-	-	0.132	0.009	-
HCM Control Delay (s)	-	-	10	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	8	97	15	14	51
Future Vol, veh/h	8	8	97	15	14	51
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	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	9	105	16	15	55

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	198	113	0	0	121	0
Stage 1	113	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	795	945	-	-	1479	-
Stage 1	917	-	-	-	-	-
Stage 2	943	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	787	945	-	-	1479	-
Mov Cap-2 Maneuver	787	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	934	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1.6
HCM LOS	A		

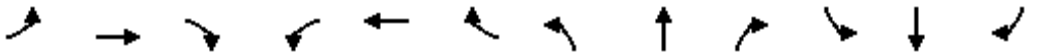
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	859	1479	-
HCM Lane V/C Ratio	-	-	0.02	0.01	-
HCM Control Delay (s)	-	-	9.3	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	166	2	0	3	0	89
Future Vol, veh/h	166	2	0	3	0	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	2	0	3	0	97
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	7.5	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	0%
Vol Right, %	0%	1%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	3	168	89
LT Vol	0	166	0
Through Vol	3	0	0
RT Vol	0	2	89
Lane Flow Rate	3	183	97
Geometry Grp	1	1	1
Degree of Util (X)	0.004	0.218	0.101
Departure Headway (Hd)	4.455	4.298	3.765
Convergence, Y/N	Yes	Yes	Yes
Cap	808	835	958
Service Time	2.458	2.33	1.765
HCM Lane V/C Ratio	0.004	0.219	0.101
HCM Control Delay	7.5	8.5	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.8	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	58	6	5	130	49	8	47	5	36	67	25
Future Volume (vph)	22	58	6	5	130	49	8	47	5	36	67	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00	0.97		1.00			0.99	
Flpb, ped/bikes	0.99	1.00			1.00	1.00		1.00			1.00	
Frt	1.00	0.99			1.00	0.85		0.99			0.97	
Flt Protected	0.95	1.00			1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1795	1819			1896	1565		1860			1787	
Flt Permitted	0.66	1.00			0.99	1.00		0.93			0.88	
Satd. Flow (perm)	1244	1819			1872	1565		1748			1598	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	25	67	7	6	149	56	9	54	6	41	77	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	25	74	0	0	155	56	0	69	0	0	147	0
Confl. Peds. (#/hr)	11		9	9		11	8		4	4		8
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	6	1			5			3			3	
Permitted Phases	1			5		5	3			3		
Actuated Green, G (s)	13.6	13.6			7.8	7.8		6.7			6.7	
Effective Green, g (s)	13.6	13.6			7.8	7.8		6.7			6.7	
Actuated g/C Ratio	0.45	0.45			0.26	0.26		0.22			0.22	
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	572	816			481	402		386			353	
v/s Ratio Prot	0.00	c0.04										
v/s Ratio Perm	0.02				c0.08	0.04		0.04			c0.09	
v/c Ratio	0.04	0.09			0.32	0.14		0.18			0.42	
Uniform Delay, d1	4.7	4.8			9.1	8.7		9.6			10.1	
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.0			0.4	0.2		0.2			0.8	
Delay (s)	4.7	4.8			9.5	8.8		9.8			10.9	
Level of Service	A	A			A	A		A			B	
Approach Delay (s)		4.8			9.3			9.8			10.9	
Approach LOS		A			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	30.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT
Lane Configurations												
Traffic Volume (vph)	35	0	25	1	20	0	13	2	1	25	148	120
Future Volume (vph)	35	0	25	1	20	0	13	2	1	25	148	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0				5.0	5.0				5.0	5.0
Lane Util. Factor		1.00				1.00	1.00				1.00	1.00
Frpb, ped/bikes		0.97				1.00	1.00				1.00	0.99
Flpb, ped/bikes		0.99				0.94	1.00				1.00	1.00
Frt		0.94				1.00	0.98				1.00	0.98
Flt Protected		0.97				0.95	1.00				0.99	1.00
Satd. Flow (prot)		1670				1703	1857				1833	1843
Flt Permitted		0.81				1.00	1.00				0.92	1.00
Satd. Flow (perm)		1397				1792	1857				1695	1843
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	38	0	27	1	22	0	14	2	1	27	163	132
RTOR Reduction (vph)	0	55	0	0	0	0	2	0	0	0	0	7
Lane Group Flow (vph)	0	11	0	0	0	22	14	0	0	0	191	143
Confl. Peds. (#/hr)	4		10	10	10	10		4	5	5		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	1%
Turn Type	Perm	NA			Perm	Perm	NA		Perm	Perm	NA	NA
Protected Phases		1					1				3	3
Permitted Phases	1				1	1			3	3		
Actuated Green, G (s)		3.9				3.9	3.9				4.7	4.7
Effective Green, g (s)		3.9				3.9	3.9				4.7	4.7
Actuated g/C Ratio		0.16				0.16	0.16				0.19	0.19
Clearance Time (s)		5.0				5.0	5.0				5.0	5.0
Vehicle Extension (s)		3.0				3.0	3.0				3.0	3.0
Lane Grp Cap (vph)		225				288	299				329	357
v/s Ratio Prot							0.01					0.08
v/s Ratio Perm		0.01				c0.01					c0.11	
v/c Ratio		0.05				0.08	0.05				0.58	0.40
Uniform Delay, d1		8.6				8.6	8.6				8.9	8.5
Progression Factor		1.00				1.00	1.00				1.00	1.00
Incremental Delay, d2		0.1				0.1	0.1				2.6	0.7
Delay (s)		8.7				8.7	8.6				11.5	9.3
Level of Service		A				A	A				B	A
Approach Delay (s)		8.7					8.7				11.5	9.3
Approach LOS		A					A				B	A

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	24.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR	SBR2	NEL	NER2
Lane Configurations				
Traffic Volume (vph)	2	15	3	3
Future Volume (vph)	2	15	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			5.0	
Lane Util. Factor			1.00	
Frpb, ped/bikes			0.93	
Flpb, ped/bikes			0.98	
Frt			0.93	
Flt Protected			0.98	
Satd. Flow (prot)			1570	
Flt Permitted			0.98	
Satd. Flow (perm)			1570	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91
Adj. Flow (vph)	2	16	3	3
RTOR Reduction (vph)	0	0	6	0
Lane Group Flow (vph)	0	0	0	0
Confl. Peds. (#/hr)	5	5	4	10
Heavy Vehicles (%)	0%	0%	0%	0%
Turn Type			Perm	
Protected Phases				
Permitted Phases			4	
Actuated Green, G (s)			0.6	
Effective Green, g (s)			0.6	
Actuated g/C Ratio			0.02	
Clearance Time (s)			5.0	
Vehicle Extension (s)			3.0	
Lane Grp Cap (vph)			38	
v/s Ratio Prot				
v/s Ratio Perm			c0.00	
v/c Ratio			0.00	
Uniform Delay, d1			11.5	
Progression Factor			1.00	
Incremental Delay, d2			0.0	
Delay (s)			11.5	
Level of Service			B	
Approach Delay (s)			11.5	
Approach LOS			B	

Intersection Summary

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	22	56	53	5	45
Future Vol, veh/h	40	22	56	53	5	45
Conflicting Peds, #/hr	0	0	0	4	4	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	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	27	68	65	6	55

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	172	105	0	0	137	0
Stage 1	105	-	-	-	-	-
Stage 2	67	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	823	955	-	-	1459	-
Stage 1	924	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	816	951	-	-	1453	-
Mov Cap-2 Maneuver	816	-	-	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	957	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	859	1453	-
HCM Lane V/C Ratio	-	-	0.088	0.004	-
HCM Control Delay (s)	-	-	9.6	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	4	70	8	7	47
Future Vol, veh/h	5	4	70	8	7	47
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	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	4	76	9	8	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	148	81	0	0	85	0
Stage 1	81	-	-	-	-	-
Stage 2	67	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	849	985	-	-	1524	-
Stage 1	947	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	845	985	-	-	1524	-
Mov Cap-2 Maneuver	845	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	956	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	902	1524	-
HCM Lane V/C Ratio	-	-	0.011	0.005	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	85	1	0	2	2	76
Future Vol, veh/h	85	1	0	2	2	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	1	0	2	2	83
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.2	6.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	99%	0%
Vol Thru, %	100%	0%	3%
Vol Right, %	0%	1%	97%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	2	86	78
LT Vol	0	85	0
Through Vol	2	0	2
RT Vol	0	1	76
Lane Flow Rate	2	93	85
Geometry Grp	1	1	1
Degree of Util (X)	0.003	0.111	0.083
Departure Headway (Hd)	4.163	4.275	3.514
Convergence, Y/N	Yes	Yes	Yes
Cap	852	840	1010
Service Time	2.226	2.293	1.57
HCM Lane V/C Ratio	0.002	0.111	0.084
HCM Control Delay	7.2	7.8	6.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.4	0.3

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December 15, 2023

City of Poughkeepsie Planning Board
Attn: Anne Saylor, Chairperson
63 Civic Center Plaza
Poughkeepsie, NY 12601

cc: Joe Donat, Development Director

RE: 2023-041 South Hamilton Lot Development

Dear City of Poughkeepsie Planning Board,

The applicant and design team met with Chris Kroner on December 5, 2023 to discuss the proposed project. In attendance were Tyler Maegerle, and Lori Garcia, George Brandt, Fin O'Neill, Lauran O'Neill, and Nabil N. Mijalli. The discussion was a preliminary workshop in nature, and the design team gave an introduction to the project, its intent and constraints to which MASS elevated some clarifying questions for further consideration.

The design team explained how this project was a departure from previous applications at the same site, but had learned some key lessons in the site plan from those previous conversations, and also they have increased the size of the proposed building on this lot. They presented their aesthetic, referencing some context of nearby historical buildings through material color and possibly texture.

This project reflects a 3.4 acre development with 58 units, 3 stories tall at a critical entry point into the city's historic district, and therefore we encourage the public to take an active interest in the project's development.

Neighborhood Integration

We also encourage that each facade of the four main building massings have a bit of variety in character, so that they can be in scalar dialogue with the series of historic homes that we see in the nearby historic district.

Landscape

Acknowledging that the existing trees on Hamilton are much bigger than what was first presented, we appreciate the inclusion of multiple renderings that show both the intended architecture and how the project will fit with the future mature landscape.

We hope the landscape architect can speak to the species selection, and the durations for maturation. Specifically, we see the American Pillar Arborvitae shown in the renderings and plans, and have concerns we have seen about the regional deer population eating the lower portion of these privacy shrubs. Showing foundation shrubbery would also be helpful to understand in the renderings.

Massing

To resist the standard stacking, we hope the development design team might look at extending some localized areas of facade gridwork panels down by a floor.

We also are interested in the design team considering board and batten siding as an alternative to the standard horizontal shiplap, but we remain open to their decision.

While strong corner massings are an interesting choice (usually emphasized with increased stonework), we find the parapets at the corner masses to be large and it is not clear what is necessitating those heights.

Balconies

The planning board has discussed these amenities numerous times since the pandemic as a means of greater access to light and air, as well as adding visual vitality to our historic districts. That said, the roof atop the top floor balcony and the projection of the balconies forward may be causing the building to appear even larger.

Suggestions

We suggest removing the roof from the top floor balconies, and trying darker colored elements on the balcony dividers or creating gaps (in lieu of dividers) to help diminish the presence of the balconies. Ideas that may interlock balconies and spaces might help to create additional visual interest to the facade work.

Handrails

We find the handrails shown as very conventional, and hope to encourage a locally inspired pattern, or even better locally fabricated metal balustrade. Woven architectural metal panels might also be a welcome alternative to the standard pickets shown in the rendering.

Investigate Color Palette

We understand the simple color palette, but acknowledge that the historic south side of Poughkeepsie has a wide variety of historical and victorian color palettes that give neighborhoods additional visual interest and identity. We encourage the development team to consider those in determining the project's proposed appearance.

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Updates

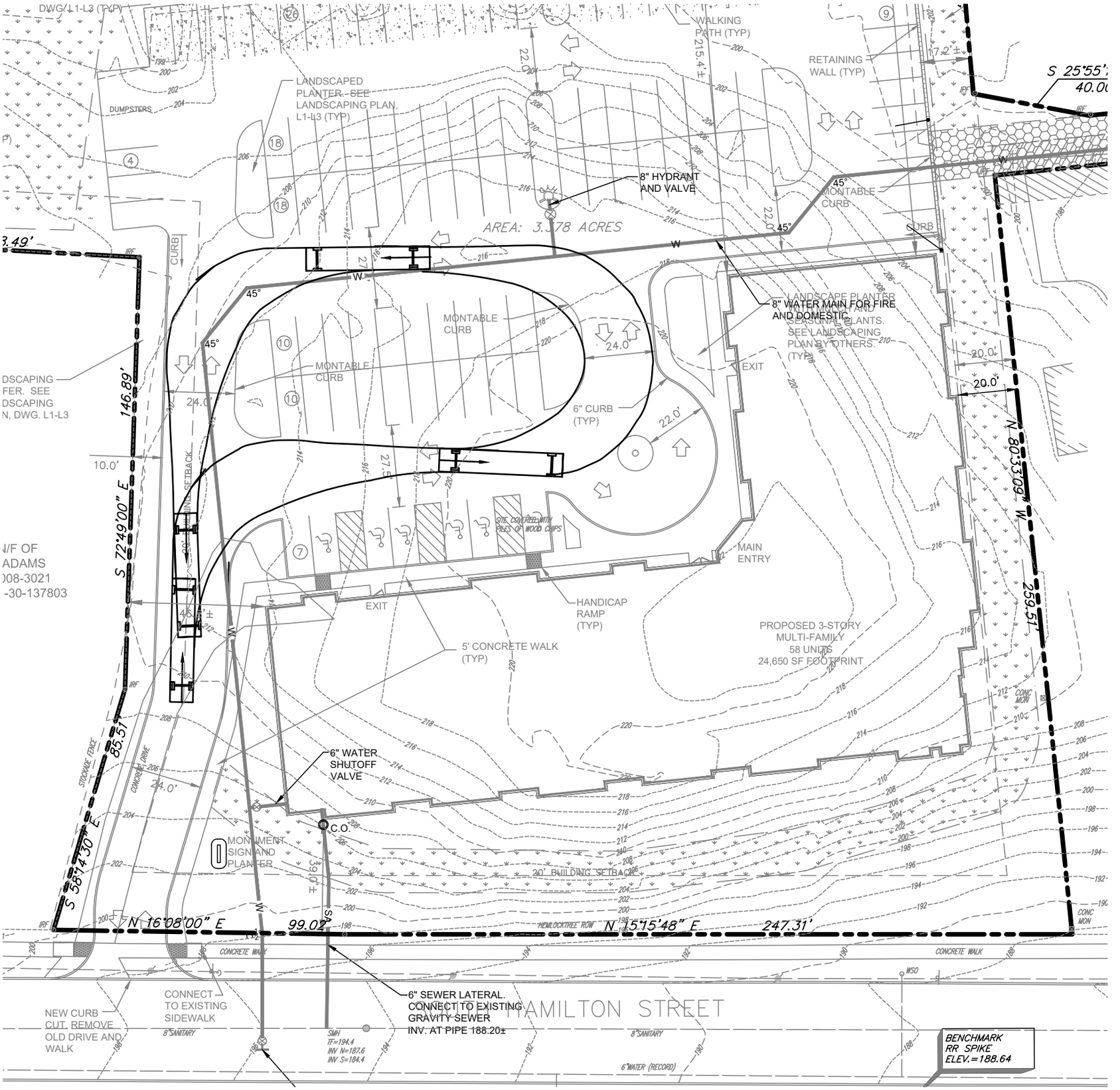
Since that time, MASS received an updated rendering on 12/13/2023 (shown below). A few of the points above (mostly the balconies and a bit of the massing information) has evolved, but we encourage the applicant to review the letter to consider next steps.



Given the scale and location, we look forward to seeing this important anchor project for the south side of Poughkeepsie evolve through upcoming public participation and further conversation.

Sincerely,
Chris Kroner

Principal
ckroner@mass-group.org



EMERGENCY VEHICLE TURNING MOVEMENT

SCALE: 1"= 40'

MEMORANDUM

To: Mr. Joseph Donat, Director of Development
City of Poughkeepsie
From: Dominick F. Arico, PE
Date: October 12, 2024
Re: South Hamilton Street
Proposed 58-Unit Residential Building
(LaBella Project #2233235)

We offer the following information in response relative to the project comment letter from City Designated Engineer, Kyle Ahearn, PE of Labella Associates, dated September 24, 2024, as well as comments from City Staff and discussion during recent Planning Board meetings. Initial comments are in *italic* text, and responses are in **bold** text below. The attached materials have been revised or are in addition to the materials submitted under previous submissions:

- Response Memorandum addressing town comments
- Site Development Plans (24x36), last revised October 10, 2024
- SWPPP, last revised October 10, 2024
- Miscellaneous documents noted in responses below
- Digital copy of submitted material on USB drive

We trust this information is sufficient for your use in continuing your review and approvals. If additional information is needed, please let us know and we will submit this information.

Responses to Comments:

Site Plans (dated Aug 13, 2024):
Layout Plan (S1):

1. *Consider adding pedestrian fall protection at the walkway retaining wall near the northwest corner of the building. Per building code, fall protection shall be provided for pedestrian surfaces adjacent to drops of greater than 30".* **A callout is on the plans indicating a 30-inch guiderail.**
2. *The response letter indicates the existing DMH at the intersection of Dwight/S. Hamilton will be replaced in its entirety. As such, revise the Dwight St drainage improvements callout to refer to curb/sidewalk replacement between CB11 and CB14 and relocate the leader to point to the curb/sidewalk.* **Based on a field visit with Joseph Chenier it was determined that the curb did not need to be replaced along the entire length and only where it was being disturbed from the installation of new catch basins.**
3. *Correct the location of the SMH1 label (all sheets).* **Corrected.**
4. *Label CB14.* **Label added.**
5. *Continue the double yellow pavement stripe to the South Hamilton St intersection.* **Pavement stripe extended as noted.**
6. *Specify what the dashed line along the south side of the building is.* **Line was on plan in error and has been removed.**
7. *Identify land banked parking (dashed lines after the northern parking spaces) on S1 and in the parking requirements table. Specify the proposed cover type for these spaces.* **Parking table has been updated and a callout has been added to the plans as noted.**

Water & Sewer Utility Plan (S2):

8. *The stabilized construction entrance should be called out on S4 instead of S2.* **Revised as noted.**

Grading & Drainage Plan (S3):

9. *Revise the FES invert in the northeast corner of the site from 195.00 to 195.50 to correspond to the downstream.* **Revised as noted.**
10. *The proposed 210 contour between 211 and 213 on the south side of the building should be 212.* **Revised as noted.**
11. *The note to maintain existing grade along building and property boundary does not make sense since there is proposed grading here.* **Note has been removed.**
12. *Provide a cut-fill summary table on the Grading Plan. See Erosion Control Plan (S4) comments related to truck trips/sediment tracking.* **An earthwork estimate has been prepared and the final results have been added to Sheet S3.**
13. *Provide pipe lengths and slopes for roof drains.* **The length and lopes are provided once the pipe exists the building foundation. The interior piping (dashed lines) is only depicted on the plans in concept and will be finalized during the building design process. It should be noted that the discharge points will remain as shown.**
14. *Provide traffic control plan for Dwight Street and S. Hamilton Street utility connections.* **As noted in previous responses, a traffic control plans have been discussed with the city engineering department and will be submitted under future submissions. At this time the proposal is to shut down Dwight Street on a daily basis only while construction in in progress and allow for local traffic only. Based on a conversation with the FD, they will coordinate any road closures with the advice of DPW when a closure plan is submitted.**

Erosion Control Plan (S4):

15. *Calculate the tributary area and associated volume of sediment trap(s). Show any relevant temporary diversion swales/earthen dikes proposed to direct runoff to the proposed sediment trap(s). Confirm trap(s) shown can provide the required volumes.* **The trap has been relocated within the area of the proposed bio-retention area and will allow for sheet drainage from the site to be diverted to that area. Once the site has become stabilized and sediment trap removed, the bio-retention will be constructed. Based on the size of the sediment trap, 3,000± cf storage is provided.**
16. *Provide an earthwork estimate for the project on the Grading and Drainage Plan (see comments above). It appears there is a large amount of export required. The Erosion Control Plan should address vehicle tracking on South Hamilton Street if a large amount of export and associated trucking is proposed. A standard stabilized construction entrance may not be adequate and additional measures should be considered.* **An earthwork estimate has been prepared and the final results have been added to Sheet S3.**

Standard Details (D1-D4, CT1, CT2):

17. *The water main trench detail shall be revised to specify Class 52 DIP (name of detail). Detail note 2 shall also be updated accordingly.* **The trench detail has been revised to indicate Class 52 DIP, as well as note 2.**
18. *The top left detail on sheet CT1 and project SWPPP call out the subsurface detention chamber as 48". However, the top left detail on sheet CT2 refers to a 60" detention system. Clarify/revise as needed.* **The pipe is 48" and has been revised on sheet CT2.**

Landscaping Plan/Details (L1-L2):

19. *The proposed trees next to CB6 and next to the FES after CB1A may interfere with the proposed drainage infrastructure and should be relocated.* **The landscaping has been revised as noted.**

Lighting and Photometrics (LP1):

20. *The Planning Board should discuss light spillage shown onto adjacent residential properties, primarily along the north side of the site access drive.* **An updated photometric has been provided. See Sheet 16 of 16.**
21. *Provide a detail for the proposed fixtures. Provide additional fixture information such as lighting color temperature.* **Fixtures and color temperature has been added to the photometric plan.**
22. *Plan view fixtures don't match those shown in the legend. Provide matching blocks or label individual fixtures so they can be identified & quantified.* **An updated photometric has been provided.**
23. *Provide sufficient lighting for residents at the refuse enclosure.* **An updated photometric has been provided.**
24. *Maximum lighting levels have been reduced but remain high (reduced from 26.3 fc to 12.4 fc). We continue to recommend further reducing maximum levels closer to 5 fc.* **An updated photometric has been provided reducing the foot-candles.**

25. *A light pole is shown in the landbanked parking area and should be relocated so it doesn't conflict with the future potential parking expansion.* **The pole has been relocated outside of the parking are.**
26. *Show the light poles/bollards on the Site Plans (Utility and Landscaping specifically) to confirm lighting conflicts don't exist with other site improvements.* **An updated photometric has been provided to conform with other site improvements.**
27. *Will the proposed monument sign be provided with internal and/or external lighting? Clarify on the Lighting Plan.* **No lighting is proposed for the monument sign.**
28. *Provide additional information on the lighting plan related to how the lighting will be controlled (photocell, timer, dimmer, etc.). Indicate whether the proposed fixtures are dark sky compliant.* **Photocell controls will be utilized. Fixtures are all ark sky compliant.**
29. *Incorporate the Lighting Plan into the Site Plan set.* **See Sheet 16 of 16.**

Stormwater Pollution Prevention Plan (dated August 13, 2024):

1. *Provide the referenced flap gate detail located at STMH3.* **A manufacturers detail has been added to Sheet S3.**
2. *Provide overflow for the bioretention basin for large storm events exceeding the infiltrative capacity of the bioretention soil media/underdrains. Ensure overflow has capacity for up to the 100-year storm.* **STMH3 is labeled in error and has been labeled as a CB8A with open grate. The CB is raised 6-inches above grade and will control overflow conditions for all storm events.**
3. *Provide access lids at each inlet location as recommended by the manufacturer for inspection/maintenance (in addition to the provided access lid at the outlet).* **Access points have been clarified on the plans to mimic the manufactures recommendations. These locations may be adjusted once final design has been provided by ConTech.**
4. *The map reference notes on the Pre-Development and Post-Development Drainage Maps should be updated to reference the source of the additional/supplemental off-site topography (for the topography beyond what is provided on the referenced Boundary and Topographic Survey). And said additional/supplemental off-site topography should be added back onto the map(s) as was provided in the 6/12/24 SWPPP.* **The post-development drainage map has been updated to include the tributary area to the northeast.**
5. *The referenced additional map showing tributary areas draining to the northeast was not able to be located in the SWPPP narrative as indicated in the response letter.* **The map has been included in the SWPPP and has been included as noted above.**
6. *The pre-development subcatchments use a land coverage of "woods/grass combination." The response letter indicates the pre-development was based on the site prior to clearing, as requested. However, the site prior to clearing was heavily wooded and a land coverage of "woods" should be used instead of "woods/grass combination."* **The CN value has been modified to "woods/fair", this has changed the CN value from 72 to 73. Hydrographs and report have been modified as necessary.**
7. *Pipe sizing calculations for the drainage conveyance pipes shall be provided prior to final approval.* **Storm drain pipe calculation sheets is included in this submission. See Appendix G of the SWPPP.**
8. *The inverts of the Jellyfish unit shown on S3 do not match the detail on CT1.* **The inverts for the Jellyfish will be modified to match the inverts on S3 upon final design by ConTech.**
9. *Section 3.4 states the Channel Protection Volume (CPv) is reduced within the WQv and RRv techniques. However, this doesn't appear to be the case for the RRv techniques and WQv techniques aren't considered for Channel Protection Volume. Provide the calculations to demonstrate CPv requirements are met within the RRv techniques or provide the required CPv within the subsurface detention chambers.* **It should also be noted that in the NYSDEC Design Manual, issued July 31, 2024, Chapter 4, page 4-6 it is further simplified by CPv is not required at sites where the 1-year post-development peak discharge is less than or equal to 2.0 cfs without detention or velocity controls. This data has been added to the SWPPP report showing the CPv is less than 2.0 cfs per drainage area.**
10. *The time of concentration flow path shown on the Post-Development Drainage Map for POA-2 doesn't appear to match the flow path modeled. It's not clear why the post-development time of concentration for POA-2 would be longer than the pre-development time of concentration.* **Tc for DA2 post-development is 6.9 minutes, not 16.4 as noted. The plan has been revised accordingly.**
11. *The gravel diaphragm for the bioretention basin shall extend along the full length of adjacent tributary parking lot surface (in vicinity of landbanked parking area).* **The grassed parking area is comprised of a geocell vegetative materials and was being considered for pre-treatment in place of a gravel diaphragm. A gravel diaphragm has been expended as noted.**

Comment from public hearing September 24, 2024

From Mike Harmuth, 57 Hooker Avenue:

1. Snow Removal: I see the parking area has a curb surrounding it and in most areas there are landscaping features. Where will the snow be moved to? Plowing it over a curb and onto plantings is not practical. Will an unknown number of parking places be taken out of service during the winter months for snow storage? **An area for snow removal has been added to the south side of the parking areas. In addition, an integral curb is proposed for pushing snow off the pavement.**

2. There does not appear to be any catch basins, except for a drain, labeled FES in the Northeast corner behind a berm, located outside the paved areas. With a curb, of unspecified height, around the perimeter of the parking area, how is melting snow or heavy rain falling on eastern slope of the property going to enter the underground detention system and be transported off site? **The eastern border of the property has a grassed swale proposed to collect any drainage from the site and from tributary areas to the north. These areas will discharge through the FES at the northeast corner of the property and discharge to the subsurface storage area.**

3. The outside parking lot is noted as being at 202.00 feet of elevation, the floor of the inside garage is listed at 201.00 feet, one foot lower than the outside parking area. The city specially asked the developer if there would be any drainage in the enclosed parking area and they stated there will not. There are 2 catch basins located near the garage entrances, CB 6 at an elevation of 201.5 Ft and CB 7 at 202.25 Ft. The published drawings do not show any plumbing, excavation or details for drainage grills at the garage entrances. Being a almost a foot lower than the outside drains, where is the salt, dirt and oil contaminated water from the cars going to go? What is stopping water from entering the parking area from the outside, uphill, parking lot? Besides being a drainage problem, isn't this a slip, fall, and safety concern? **The entrance at the garage has a ridge line that will direct the water toward the open parking area. In the event that some water is encountered within the garage from vehicles, a trench drain has been proposed to collect this water.**

We trust our responses are acceptable for your continual review. If there are any questions, please contact our office or we can set a date to review in person. Thanks for your attentiveness in this matter and we look forward to presenting on the next available agenda.

ARICO ASSOCIATES
ENGINEERS
LAND PLANNERS
& CONSULTANTS

October 28, 2024

City of Poughkeepsie
Building Planning and Zoning
62 Civic Center Plaza, 2nd Floor
Poughkeepsie, New York 12601

Re: Site Plan Review Submission
South Hamilton Street
City of Poughkeepsie

On behalf of the applicant for O'Neill Group Hamilton LLC, below is a summary of the revisions that have been made as part of this submission. They are:

- **Building Footprint.**
  - As shown in the architecture plans the building footprint has not been changed though the garage space has been increased to 39 spaces.
- **Parking.**
  - As shown in the architecture plans a parking garage has been added for 39 spaces.
  - The garage reduces the total surface parking spaces to 73 spaces, bringing the total to 112 spaces.
  - Grassed/Geogrid parking spaces have been removed.
  - Four (4) car charging stations have been added to the exterior parking layout.
- **Stormwater Management.**
  - Stormwater Management design has not been changed and remains as underground storage pipe and filtering system for storage and treatment.
- **Grading.**
  - Proposed grading remains the same throughout the property.
- **Utilities.**
  - Sewer connection remains to sewer main in Hamilton Street.
  - Water main is still looped from Dwight Street to Hamilton Street.

The above information is brief in nature and can be further discuss at the next available board meeting. If you have any questions or additional information is required, please contact our office.

Truly Yours,
ARICO ASSOCIATES



Dominick F. Arico, P.E.

Memo to the Planning Board and Community

To: Members of the Planning Board and Community Stakeholders
From: Lauran O'Neill, Lead Developer, South Hamilton Project
Date: November 12, 2024
Subject: Response to Community and Planning Board Comments on South Hamilton Development

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Dear Members of the Planning Board and Community,

We appreciate the time and effort the planning board and members of the community have taken to review our proposed development at South Hamilton. Your thoughtful feedback and questions have been invaluable in helping us refine our plans and align our vision with the needs and values of the community.

This memo addresses specific comments and concerns raised during the recent public meetings and in written submissions. Our team has reviewed each piece of feedback carefully, and we are committed to working collaboratively to address the concerns in a way that enhances the project's benefits for the community.

Outlined below are our responses to key areas of interest, including environmental impact, traffic and infrastructure, compatibility and other areas where questions were raised. We are confident that we can create a development that meets both community expectations and broader regional goals.

Thank you for your ongoing engagement and for allowing us to be part of this community-building process. We look forward to continued collaboration as we move forward.

Best regards,

Lauran O'Neill

Lauran O'Neill, The O'Neill Group

Q: Does the parking provided for meet the zoning requirements? Is it adequate for a multifamily project of this size?

A: Yes, the parking design meets the zoning requirement of 112 spaces, which, based on experience and research, is more than adequate for a multifamily development with 87 bedrooms. Additionally, Colliers indicates that industry standards estimate an average parking demand of 72 spaces for this project, with an 85th percentile demand of 92 spaces. The original design of 102 spaces would have effectively met peak demand and optimized land use, but in response to public comments, the design was revised to meet the full zoning requirement of 112 spaces.

See the Traffic Impact Study Review dated October 16, 2024, by Colliers Engineering & Design, commissioned by the City of Poughkeepsie

Q: Will the project have a significant impact on traffic or pedestrian safety?

A: No, this project is not expected to have any significant impact on traffic. Both our engineer and the independent consultant hired by the City concluded that the additional traffic generated will be of minimal impact and maintain the current levels of service. The current average daily traffic on South Hamilton Street is 1,679 vehicles, and this project will add fewer than 100 trips per day—resulting in only about a 6% increase.

While the traffic study did note a speeding issue on Hooker Avenue, the slight increase in traffic could either help reduce speeding by adding mild congestion or have no effect on existing speeds. Additionally, there is ample capacity in nearby roadways and intersections to accommodate this project, with no anticipated adverse impact on the surrounding traffic network.

Over the past five years, no pedestrian or bicyclist accidents have been reported at the South Hamilton Street and Hooker Avenue intersection. Out of 59 collisions recorded across the five studied intersections, only three involved pedestrians or bicyclists, each with specific details:

- In May 2019, at around 11 PM, a pedestrian involved in an incident could not provide details about what happened but claimed to be struck by an unidentified car.
- In a second case, a bicyclist hit a car after failing to stop at an intersection and attempting to cross lanes without yielding; no injuries were reported.
- In the third case, during heavy rainfall, a pedestrian was struck after failing to use the crosswalk or look both ways for oncoming vehicles.

Importantly, no incidents have been reported in the last five years involving pedestrians or bicyclists using designated crosswalks. With adequate road capacity and a strong pedestrian safety record, this development is expected to have no adverse impact on the local roadway network.

See Traffic Impact Study (TIS) prepared by Creighton Manning Engineering, LLP (CM) dated February 20, 2024 (Revision #1) and Traffic Impact Study Review dated October 16, 2024, by Colliers Engineering & Design, commissioned by the City of Poughkeepsie

Q: What did the New York State Division of Historic Preservation of the Office of Parks, Recreation, and Historic Preservation conclude about the project's impact on historic resources?

A: The Office of Parks, Recreation, and Historic Preservation (OPRHP) conducted an extensive review of the project, which included examining the site grading plan, existing conditions, proposed elevations, building renderings, and the views from and toward both 103 and 107 S Hamilton and Dwight Street.

Given the project's location adjacent to historic resources and the proposed ground disturbance, OPRHP reviewed the potential impacts and concluded that the project will have *No Adverse Impact* on historic resources.

Q: Does the project conflict with or insult the surrounding neighborhood and its historic homes?

A: No, the project is designed to complement the neighborhood rather than conflict with or insult it. The New York State Office of Parks, Recreation and Historic Preservation reviewed the proposal and issued a "No Adverse Impact" finding, indicating that the project respects the architectural integrity of nearby historic homes. Following Department of the Interior guidelines, the design avoids direct mimicry and "faux historic" elements, instead reflecting a contemporary yet respectful approach that aligns with the historic context.

The development incorporates features such as eave brackets, multi-lite sash windows, small box bays, and balcony railings, harmonizing with the architectural styles found in the area which are diverse, including Dutch Colonials, Bungalows, and Second Empire homes. The building facade uses a mix of horizontal and batten siding, along with stone-faced retaining walls and varied roof heights, to add depth and interest. The colors and textures are thoughtfully chosen to fit within the neighborhood's aesthetic diversity, providing a fresh, compatible look without detracting from the area's historical character.

In summary, the developer's design aligns with the City of Poughkeepsie's goals for maintaining the character of historic districts, ensuring that the new construction respects, rather than disrupts, the unique architectural qualities of the neighborhood.

See Consistency Evaluation by Stephen Tilly dated October 13, 2024

Q: Is this site more suitable for single family homes?

A: No, this site is not more suitable for single-family homes for several key reasons, all supported by the findings and recommendations in the City of Poughkeepsie's Housing Needs Assessment (March 2022):

1. **Zoning and Neighborhood Density**: The property is currently zoned—and will remain zoned (as well as permit higher density) under the proposed PK4Keeps zoning changes—as medium to high density, consistent with the character of the surrounding neighborhood.

2. **Housing Needs and Market Demand**: The Housing Needs Assessment confirms that Poughkeepsie faces inflated housing costs. Single-family homes would be unaffordable for most residents and unmarketable in this area. Additionally, with 65% of Poughkeepsie households as renters, there is a strong demand for multifamily rental units over single-family homes, making multifamily development the better choice for this parcel.

3. **Addressing Racial and Economic Segregation**: The single-family zoning pattern in the area south of Dwight Street and South Hamilton Avenue, which some wish to preserve, was originally crafted to enforce racial and economic segregation. According to the "Mapping Inequality: Redlining in New Deal America" project by the University of Richmond, as Poughkeepsie's Black population grew, the City implemented urban planning measures to intentionally divide communities. To preserve the area's affluent, predominantly white demographic, the City first annexed part of the neighboring Town of Poughkeepsie and then designated the neighborhood in question for single-family homes. Beginning around the Dwight and South Hamilton line (approximately at our property boundary), the area was redlined and effectively reserved to separate Black and white populations. The Housing Needs Assessment found that "the redlining

of the 1930s, which was reinforced by other historical forces and discriminatory practices over the last 80 years, continues in a similar pattern today". The Housing Needs Assessment also emphasizes that a "clear geographical pattern" shows that the City remains segregated, with predominantly non-white renters in the Northside and predominantly white homeowners in the Southside.

The first recommendation in the City of Poughkeepsie Housing Needs Assessment is to increase density across the city by creating oppurtunities for desegregation. Upzoning in the Southside is listed as a key step toward desegregating the city and fostering economic and racial integration, the Assessment notes that single-family zoning is a barrier to creating these opportunities. Allowing multifamily housing here will offer accessible options helping to balance opportunities and reduce longstanding segregation patterns.

4. **Aging Population and Accessibility Needs**: As documented in the Housing Needs Assessment, Poughkeepsie has an aging population, with a rising percentage of residents over 40. The Assessment states that multifamily developments like this one that include single-floor, ADA-compliant units near transit and services are ideal for meeting these accessibility needs, which single-family homes typically cannot accommodate.

5. **Shift Toward Smaller Households**: Poughkeepsie's population is shifting toward smaller household sizes, with an increase in one- and two-person households. According to the Housing Needs Assessment, this shift creates demand for smaller units, such as studios, one-bedroom, and two-bedroom apartments. Single-family homes, which are often larger, do not align with this demographic trend.

6. **Increasing Housing Supply and Stabilizing Prices**: Adding multifamily units as recommended by the Housing Needs Assessment can help alleviate Poughkeepsie's housing shortage and stabilize rents. Following the principle of supply and demand, more units reduce upward pressure on prices, making housing more affordable citywide. Single family houses would exacerbate this issue.

7. **Social and Economic Benefits of Density**: Increased density encourages social integration and supports a healthy democracy by fostering mixed-income, diverse communities. Density also spreads infrastructure costs across more households, reducing the per-unit cost for services such as roads and utilities. As noted in the Housing Needs Assessment, upzoning near transit, schools, and employment centers can also improve residents' access to services and reduce living expenses.

In conclusion, it would be a poor decision and a waste of resources to use this large vacant parcel for single-family homes rather than its highest and best use, which under current zoning allows for 58 units, and under the PK4Keeps plan, could support over 75 units. The Housing Needs Assessment specifically identifies upzoning in the Southside as essential for desegregating the city, promoting equity, and fostering a more inclusive community, while noting that the construction of single-family homes hinders progress toward this goal. Developing this site as multifamily housing aligns with Poughkeepsie's housing, social, and economic goals and ensures the city uses its resources effectively.

See City of Poughkeepsie Housing Needs Assessment prepared for the City of Poughkeepsie by Hudson Valley Pattern for Progress and released March 2022.

Q: Is the project "too big" for the site?

A: No, the project is appropriately sized for the 3.374-acre lot. A survey of nearby multifamily properties shows an average density of 45 units per acre with a 93% Floor Area Ratio (FAR). In comparison, this project has a lower density, with only 17 units per acre and a 50% FAR. The project is designed as a two-story building, which is modest for multifamily properties in the area and aligns well with the surrounding single-family and two- to three-family homes. Its flat roof further reduces the visual height compared to the nearby two- to three-story homes with pitched roofs, ensuring that it does not disrupt the skyline and respects the overall scale of the neighborhood.

The architectural design has been thoughtfully developed to minimize visual impact. The facades are divided into sections with projecting and receding masses, and variations in color, texture, and roof types help break up the visual mass. The landscaping plan is carefully planned to provide screening, contributing to the project's integration into the neighborhood.

Additionally, the building's longest facades do not face public rights-of-way, and are visible only at a receding perspective, softened by the landscape and grade. While maintaining a consistent two-story height, the architectural design introduces varied expressions within that height to blend with the surrounding area. The primary visual elements from the neighborhood perspective are the symmetrical, five-part units at the ends of the "U" shape, which are comparable in size and scale to neighboring homes, further supporting the project's compatibility with the area.

Q: Will rock removal require blasting?

A: No, rock removal will not require blasting. The developer has added a condition to the site plan explicitly stating that blasting will not be used. According to geotechnical findings, the site's bedrock is composed of thinly-layered gray siltstone, shale, and sandstone from the Ordovician-age Austin Glen formation, which can be removed using conventional excavation techniques like scraping and digging.

The subsurface profile indicates an average soil depth of about 7.5 feet before reaching bedrock, with some areas containing more than 12 feet of soil. This means initial excavation will involve only soil, most of which is fine sandy silt with minor gravel, cobbles, and occasional boulders—materials that may *appear* as rock but are primarily compacted soil and small particles. Our geotechnical engineer also confirmed no visible bedrock outcroppings on-site, with all rock lying beneath the soil layer, any impression of significant exposed bedrock is a misconception.

Additional Details on Site Excavation and Preparation:

- **Bedrock and Excavation**: Bedrock on the site is thin-layered and easily removed through scraping and excavating without blasting. In areas where bedrock is closer to the surface, conventional equipment such as bulldozers and excavators with rippers will be sufficient to break up and remove the rock layers.
- **Preparation for Foundations**: The on-site soil and bedrock are suitable for shallow foundations. The subgrade will need to be cleared of any organic materials, roots, or debris from previous construction. Compacted fill will be used where necessary to level and stabilize foundation areas.
- **Excavation Equipment and Techniques**: Standard excavation equipment, including bulldozers and excavators, will be adequate for the site's soil and rock conditions. In cases where bedrock is shallow, equipment with rippers may be used to break up the rock. Blasting is unnecessary, as all rock removal can be completed with conventional methods.

- **Water Management**: Minimal groundwater seepage is expected, with most water accumulation likely resulting from stormwater. Excavation areas will be managed with gravity drainage or shallow sump pits to control water flow, ensuring a dry subgrade for foundations.

In summary, grading and excavation up to 15 feet will be accomplished using conventional excavation methods for soil and manageable removal of shallow bedrock. No blasting will be required, as the site's conditions allow for rock removal using standard equipment and techniques. Dust and vibration monitors as required will be placed at key locations and checked at industry-standard intervals to ensure best construction practices are maintained throughout site preparation.

See Subsurface Investigation Report by Kevin L. Patton, P.E. dated July 3, 2023.

Q: The developer and satellite images indicate there is no visible rock, but what about the flyover picture taken by Tina Tockarsherky?

A: The areas shown in Ms. Tockarsherky's flyover picture are woodchipping piles that have been on-site since June 2023. There is no rock outcropping on the site, as confirmed by the geotechnical report. For reference, we have attached additional pictures of the woodchipping piles.

Q: Will the site preparation methods cause damage to nearby homes?

A: The construction methods planned for this site are highly unlikely to have any effect on nearby homes. Most standard activities, like excavation and soil compaction, produce low levels of vibration that quickly diminish with distance. At this site, rock excavation and compaction activities will occur at least 20 feet from the property line, providing sufficient distance to prevent vibrations from reaching almost any nearby structures. Additionally, the rock excavation area is located on a hilltop, which further limits horizontal vibration transmission.

Standard construction equipment, such as excavators, track hoes, and trucks, produce vibration levels unlikely to be perceptible at neighboring properties. The highest-vibration equipment planned for use, such as vibratory rollers for soil compaction, produces a peak particle velocity (PPV) of just 0.21 inches per second at 25 feet, which is very comfortably within safe limits and highly unlikely to impact nearby homes. In areas closer to property lines, like the south side, lighter equipment will be used to minimize vibrations.

Overall, simple adjustments to compaction methods and adequate distance from the property line will keep vibration levels safely low throughout the project and industry standard monitoring will occur.

See Letter from KEVIN L. PATTON, P.E. re: Vibrations from Construction dated November 4, 2024.

Q: Will this project make flooding in the area worse?

A: No, the project will not increase flooding in the area. The developer's comprehensive Stormwater Pollution Prevention Plan (SWPP) captures all runoff from the property and redirects it into a municipal system, away from neighboring properties that are currently collecting water. In fact, the project is expected to have a positive impact on neighborhood flooding since the existing runoff from the property will no longer contribute to local flooding issues.

Q: Will this project have any benefits to the community?

A: Yes, this project will offer numerous benefits to the community, including job creation, reduced stormwater runoff, an increased tax base for the city, reduction in future tax increases, and housing

options that are better suited for the aging population and accessibility needs. Additionally, by increasing the housing supply, it will help alleviate Poughkeepsie's housing shortage and stabilize rents, as recommended by the Housing Needs Assessment. Higher-density housing will also spread infrastructure costs across more households, reducing per-unit costs for services such as roads and utilities and providing housing closer to essential services.

Importantly, this project will significantly advance Poughkeepsie's goal of promoting desegregation, as outlined in the Housing Needs Assessment (HNA). According to the HNA, the city has long faced segregation challenges rooted in past policies, such as redlining and single-family zoning, which restricted housing options in wealthier, majority-white neighborhoods—particularly in the Southside. Upzoning in this area is identified as a critical step toward desegregation.

This site sits at the edge of the historic "first grade" redlined district, as designated in the 1938 "Residential Security Map" prepared by the Federal Home Loan Bank Board's Division of Research and Statistics (which is attached here), and has historically served as a transitional buffer parcel between Black and White communities, according to the University of Richmond's Mapping Inequality. This project, therefore, represents not only a symbolic commitment to bridging these historical divides but also one of the last meaningful remaining opportunities to take these concrete steps toward realizing the city's goals of equity and inclusion. To argue that this project doesn't belong and conflicts with the neighborhood is, in effect, to support the continuation of outdated segregation patterns that this zoning originally sought to maintain.

While some neighbors voiced concerns regarding the inclusion of affordable housing on this parcel, the developer is actively exploring options to incorporate workforce housing, which would further contribute to community integration and support diverse housing needs.

Q: What about those in the community who oppose this project?

A: A small but vocal group of opponents has expressed concerns about the project, though they have not provided any data or evidence demonstrating actual adverse impacts. Instead, their objections have primarily been based on individual preferences rather than on the broader needs and vision for Poughkeepsie. Some have even gone so far as to question the integrity of our accredited experts, whose conclusions are grounded in solid facts and data, in contrast to the conjecture on which much of the opposition's reasoning relies.

To ensure objectivity and thoroughness, the City engaged impartial, external reviewers to assess our submissions, and each review has confirmed the accuracy of our findings, as well as the validity of our "no adverse impact" conclusions. This project has been thoughtfully planned and extensively reviewed by the Board, consultants, and developers, with no evidence indicating harm to the surrounding community. While some neighbors may feel the project is not ideal for their immediate preferences, unsubstantiated accusations and opinions are not enough to halt a project that is fully compliant and clearly beneficial.

Our investment in Poughkeepsie, where we have an established track record as high-quality developers—as well as in other municipalities in Dutchess County and across the tri-state area—is not a "gamble." This property that has long been designated for multifamily use—a zoning designation that has been in place for as long as most, if not all, the detractors have lived in the community. This project reflects our strong continued commitment to this City's future, demonstrated by our ongoing investments and the numerous adjustments we've made in response to community feedback. We've scaled the building from three stories to two, refined the design to include varied textures and facades that create visual interest, and worked to ensure that the structure blends with the area. If there are concerns about color choices or

similar aesthetic details, we welcome that feedback, but continued exaggerations and unfounded accusations are neither warranted nor productive.

This project is “as of right” and fully compliant with zoning laws that have long designated this land for multifamily use—a designation that will continue in the upcoming zoning code. We have invested considerable time and resources to ensure that this development not only complies with but also benefits the neighborhood. Critics who say we haven’t made any accommodations, simply dislike the project, or complain about the time invested are missing the point—we and the board have taken these extra steps solely to enhance the project’s positive impact on the community.

That said, we believe we’ve reached a point where it is appropriate to move forward, recognizing that, as landowners, we also have rights and a clear, well-considered vision for this development.

Pictures of Wood Chipping













https://dsl.richmond.edu/panorama/redlining/map/NY/Poughkeepsie/area_descriptions#loc=13/41.7007/-73.9019

STEPHEN TILLY, Architect

October 13, 2024

Consistency Evaluation: One Key Development

Purpose
The purpose of this analysis is to evaluate from an historic preservation perspective the consistency of the architectural treatment of the proposed residential development with the neighborhood. Historic resources in the neighborhood include the Dwight Street-Hooker Avenue Historic District, which is listed on the National Register of Historic Places and is a locally designated historic district. The National Register listed Reynolds House at 107 South Hamilton Street and locally designated properties including the Corlies-Brinckerhoff-Rutherford House and Carriage Barn at 85 S. Hamilton St., the Wilkinson House at 87 S. Hamilton, and the Corlies-Ritter-Hart House at 103 S. Hamilton St. The Currier House, at 81 Hamilton Street, is over 700 feet from the proposed development site, in a different neighborhood context, and will not be considered in this analysis.

Limits of the Analysis
This report is limited to a determination of consistency: is the proposed architectural treatment of the facades sufficiently consistent with the neighborhood character or is it so inconsistent as to cause one or more harmful impacts? It does not address other possible types of impacts such as traffic, infrastructure, size and demographics.

New York State Office of Parks, Recreation and Historic Preservation Review (SHPO)
NYS OPRHP completed a review of the proposed development, including a rendering completed in early June, as it is adjacent to resources determined to be historic and the project includes ground disturbance. OPRHP provided a letter of No Adverse Impact dated June 25, 2024.

Methods
The report is based on a site visit on July 24, 2024, a review of the National Register listings, historic and contemporary photographs, and Google Earth imagery taken April 4, 2024. We have also carefully reviewed the site plan, floor plans, elevations, renderings, and data presented by One Key Development on the proposed plan and the neighborhood.

Credentials
Stephen Tilly, Architect is a certified historic consultant and general architectural and planning firm with a studio in an historic theater in Dobbs Ferry, NY. The firm has worked on over fifty National Register properties and 16 National Historic Landmarks. We have prepared guidelines for nine historic districts and assisted municipalities in the preparation of preservation ordinances.

Introduction
At last check there are at least 98 National Register sites in the City and Town of Poughkeepsie. It is situated in a strategic location in an historic region. The proposed development sits on a

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currently unbuilt parcel at a higher elevation than Hamilton Street, which was once the site of a large house. The proposed plan is U-shaped, with the two end prongs of the U having the greatest visibility to the neighborhood. Those end prongs consist of 5 components, a center stone façade with a bracketed gable, flanked by recessed horizontally sided connectors and end units with battens and a deep, flat roof that is also bracketed. All these components are tied together by a stone base that extends down to the varying grades below.

Commentary
While an overall consistency with context is desirable, the Department of the Interior Guidelines for work in an historic context warn against faux historic approaches or an attempt to be literal in mimicry of styles, buildings features and ornament. Projects must honestly reflect their time and function.

The nearby neighborhood includes a few brick and stucco examples but largely consists of sided wood-framed buildings on rubble stone foundations. There are a variety of styles adopted in the neighborhood, from gambrel-roofed Dutch Colonials to shingled Bungalows to Second Empire examples. Detailing ranges from modestly elaborate to modest. There is a range of colors and siding materials.

The proposed development's material mix is predominantly horizontal and batten siding. Stone faced retaining walls and foundations are proposed throughout. The facades are broken up into sections that include projecting and recessing masses, as well as changes of color, texture, and roof type. The inclusion of features such as eave brackets, multi-lite sash, small box bays, and balcony railings provide features that are consistent with the era of construction for the surrounding neighborhoods without replicating them in detail. Those longest facades do not face public rights of way and are visible only receding in perspective to the extent landscape and grade permit. The height is a consistent two stories, but the architectural expression varies the building height significantly within the two-story pattern. The primary visual expression to the neighborhood, again, are the symmetrical, 5-part units at the end prongs of the "U".

Conclusion
The architectural approach to the development's facades is consistent with guidelines covering architectural expression in an historic context. It avoids mimicry and duplication. It uses a mix of materials, colors, and textures in a context of mixed materials.

We conclude that the proposed architectural handling of the facades will not negatively impact nearby historic structures, as does OPRHP; in our opinion the project's approach is consistent with the City of Poughkeepsie's goal of protecting the Dwight Street-Hooker Avenue historic district and other resources from the adverse impacts of inappropriate architectural treatments on new construction.

Key Map


VP2
Proposed
Development
Site
S Hamilton St
Hooker Ave
Dwight St
VP1

VP-1 Dwight Street Looking North



VP-1 Dwight Street Looking North



Proposed Development (vegetation shown at planting height)

VP-1 Dwight Street Looking North



Proposed Development (vegetation shown at 5 years after planting)

VP-2 S Hamilton Street Looking Southeast



VP-2 S Hamilton Street Looking Southeast



Proposed Development (vegetation shown at planting height)

VP-2 S Hamilton Street Looking Southeast



Proposed Development (vegetation shown at 5 years after planting)

October 15, 2024

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Anne Saylor, Chair &
City of Poughkeepsie Planning Board
62 Civic Center Plaza
Poughkeepsie, NY 12601

RE: South Hamilton Street
Photosimulations

Dear Chair Saylor and City of Poughkeepsie Planning Board:

My firm produced photosimulations of the development proposed near the intersection of Dwight Street and South Hamilton Street in the City of Poughkeepsie. This letter documents those photosimulations and recent changes made to them.

Changes
Minor changes have been made to the simulations since they were discussed at the September 24, 2024 Planning Board meeting. Those changes are:

1. The material of retaining wall was changed to stone,
2. Height of the retaining wall was slightly modified as per drawings,
3. Six new bushes were added,
4. Existing "No Trespassing" sign hung on tree to be retained was removed

The site
The site is approximately 3.4 acres and contains the disturbed remains of an estate that once occupied the site. The site rises up steeply from South Hamilton Street and is generally at an elevation about 20 feet higher than South Hamilton Street.

The surrounding uses are mostly residential. The area directly to the south and east is predominately single-family. The area directly to the north and northwest is predominately multi-family. On the south side, the site abuts the Dwight-Hooker Avenue Historic District. The site is proposed to be improved with a multiple dwelling, landscaping and parking areas.

Viewpoints for photosimulation
On April 20, 2024, the site was visited, which included an assessment of the visibility of the proposed development and photographs of existing conditions. The photographs of existing conditions were taken with a Canon 5D full-frame digital camera. Conditions were cloudy and there was no sun. Most trees were partially budded, though far from full leaf. Two viewpoints were selected for photosimulation: one from Dwight Street in the Dwight-Hooker Avenue Historic District and the other from South Hamilton Street near the intersection with Franklin Street.

Viewpoint 1: View from Dwight Street. The existing conditions photograph for this viewpoint was taken at 1pm with a 50mm lens from the far sidewalk across from the site's emergency access to Dwight Street. This viewpoint is located in the Dwight-Hooker Avenue Historic District. This viewpoint has the best publicly accessible view to the project site from the historic district, which was the reason it was selected.

Existing conditions for Viewpoint 1 show a single-family home to the left and the driveway to the single-family home to the right. The driveway and parking area keep this area open, providing a clear view to the project site.

Simulated conditions for Viewpoint 1 show that most of the existing trees on the site and to the extreme right of the photograph are removed. The proposed development is clearly visible in the center of the photograph above the proposed landscaping, which rings the site. To the extreme right of the photograph is the emergency access drive, which uses a permeable paving block which allows grass to grow through it.

Conditions showing five-year growth of the landscaping plan were simulated using growth rates provided the landscape architect Michael Boice. At five years, the arborvitae that ring most of the site from this viewpoint are expected to grow to screen most of the development's mass, though it will still be visible from the historic district. The development that can be seen is of a scale and type typically found in cities like Poughkeepsie.

Viewpoint 2: View from intersection of South Hamilton Street and Franklin Streets. The photograph for this viewpoint was taken with a 45mm lens angled to the southeast to capture the entrance and to show how the development will meet the street.

Existing conditions for Viewpoint 2 show a wooded hillside along a street lined with parked cars. It is not an exceptional view and does not feature any visually significant resources.

Simulated conditions for Viewpoint 2 show the same wooded site with the proposed development. Three of the large existing trees between the development and South Hamilton Street will be kept. Other existing trees will be removed and replaced with landscaping and the project entrance. The existing utility pole in the center of the photograph will be moved, but at this point it has not yet been determined where it will be moved. As a result, the utility pole has been removed, but not replaced. The simulation shows that the development will be visible through both the existing trees and proposed landscaping.

Simulated conditions for Viewpoint 2 demonstrating five-year vegetation growth of the landscaping shows that a substantial portion of the development will be screened by arborvitae, though the project will still be visible at the project

entrance. Existing vegetation was not aged. The development that can be seen is of a scale and type typically found in cities like Poughkeepsie.

The photosimulation process

The photosimulations created for this proposal were constructed as verifiable digital photomontages. This is a technique that merges an existing conditions photograph with an elevated 3D computer model of a proposed action, which in this case is the proposed development, grading, landscape plan and tree removal. The technique is "verifiable" since the computer model of the action can be measured and its placement in 3D space checked for accuracy.

The 3D model of the development was imported into a 3D computer model of the area and computer cameras were set up to mimic the location, direction and the lens of the actual camera used to take the photographs. Lighting was set to reflect the time of day and date on which the photographs were taken. After the computer cameras and lighting was set, the buildings were rendered using Autodesk 3ds Max.

The rendered image of the development was merged with the existing conditions photograph. Existing vegetation in the photograph was treated to reflect planned tree removal, which at times, exposed other existing vegetation to remain. Existing vegetation was simulated using reasonable worse case assumptions regarding its ability to screen the project.

Should you have any questions about these materials, or the process used to create them, please contact me directly.

Sincerely,



George M. Janes, AICP
George M. Janes & Associates

Key Map


VP2
Proposed
Development
Site
S Hamilton St
Hooker Ave
Dwight St
VP1

VP-1 Dwight Street Looking North



VP-1 Dwight Street Looking North



Proposed Development (vegetation shown at planting height)

VP-1 Dwight Street Looking North



Proposed Development (vegetation shown at 5 years after planting)

VP-2 S Hamilton Street Looking Southeast



VP-2 S Hamilton Street Looking Southeast



Proposed Development (vegetation shown at planting height)

VP-2 S Hamilton Street Looking Southeast



Proposed Development (vegetation shown at 5 years after planting)

KEVIN L. PATTON, P.E.
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CLIENT:	One Key Development 241 Hudson Street Hackensack, NJ 07601	PROJECT: Project No. Date:	South Hamilton Street Site Poughkeepsie, N.Y. 23216 July 6, 2023

SUBSURFACE INVESTIGATION REPORT

PROJECT DESCRIPTION

This geotechnical investigation report was prepared for use in the design and construction of a new three-story multi-family apartment building on a previously-developed lot at 100 South Hamilton Street, as shown on the attached plan. The building will have an L-shaped footprint of approximately 22,800 square feet, with the main section aligned generally north-south, along South Hamilton Street, with a width of approximately seventy feet and a length of about 235 feet. A wing seventy feet in width will extend approximately one hundred feet east from the south part of the building. A stormwater control area is proposed along the east side of the site.

The proposed building is expected to have a first floor elevation of 213 feet, with no basement level. It will straddle the top of a small hill which peaks at about 223 feet in the middle of the building area, most of which is at elevations of 210 to 223 feet, with low points of 206 feet at the northwest corner, 208 feet at the southwest corner and 202 feet at the northeast corner. The existing elevations in the proposed stormwater control area are approximately 197 to 198 feet. Aerial photos indicate that a large residence on the site was demolished approximately forty to fifty years ago, and that since then the site has been idle, and was covered with trees prior to starting the project. Remnants of the driveway are still present, near the northeast corner of the site, minor demolition debris was encountered in the former house area, and some fill materials were noted in the proposed stormwater control area.

The Surficial Geologic Map of New York State (N.Y. State Museum, 1989,) indicates that the site is in a large area of glacial till over shallow bedrock. The USDA Soil Survey indicates that the native topsoil type in the project area is Dutchess-Cardigan-Urban land complex. Dutchess soils typically form over deposits of glacial till composed of sandy silty gravel with few flat (flaggy) cobbles, and are typically more than seven feet thick over bedrock. Cardigan soils typically form in till deposits composed of silt and sand with traces gravel and trace flaggy cobbles, with bedrock at about thirty to 34 inches depth. The soil survey reports that the water table is typically at a depth of six feet or more year-round where these soils are present. The local bedrock is thinly-layered gray siltstone, shale and sandstone of the Ordovician-age Austin Glen formation. Bedrock was encountered in several of the test pits. The soils and rock encountered in the test pits were generally consistent with the reference data. Some minor areas of fill were also noted.

SOIL INVESTIGATION AND TEST RESULTS

Eight test pits were excavated on June 14, 2023, six in the proposed building area and two in the proposed stormwater control area. The two test pits at the north end of the building were offset to the north of the building due to the site conditions. Only the north half of the stormwater area was accessible. The test pits were excavated using a tracked mini-excavator by One Key LLC. The subsurface investigation was supervised and witnessed by Kevin Patton, P.E.

Soils and bedrock were observed and sampled, and laboratory testing was performed on representative soil samples, for moisture content, particle size distribution and Atterberg Limits. USCS classifications of the soil, per ASTM D2487 and D2488, are provided on the logs and on the subsurface profile drawing.

TEST PIT SUMMARY								
	Building Area						Stormwater	
Test Pit No.	TP1	TP2	TP3	TP4	TP5	TP6	TP7	TP8
Elevation, approx.	212	205	214	222	222	209	197.5	197
Depth, feet	12	6	7.5	8	5	4.9	6	8.5
Depth to Rock, feet	-	5.2	6.5	7.5	4.2	4.9	-	-



PHOTO 1. Excavating test pit TP4. All photos were taken on June 14, 2023.

Laboratory Data

Natural Moisture Content, Percent						
Depth, feet	TP1	TP2	TP3	TP4	TP7	TP8
2					16.5	
3		14.1	13.7			
4				13.6		20.6
5					13.5	
8	13.6					
11	14.4					

SOIL TEXTURE					
Particle Size Analysis					
Sample		TP1	TP3	TP7	TP8
Depth		8 feet	3 feet	2 feet	4 feet
Type					
USCS Class		SC-SM	ML	CL	ML
Sieve Size	mm	Percent Passing by Weight			
¾″	19.0	86	100	100	100
#4	4.75	74	92	98	100
#10	2.00	66	88	97	99
#40	0.425	53	82	94	96
#200	0.075	35	54	67	53
Hydrometer	0.050	28	42	54	33
	0.005	5	11	17	1
	0.002	1	5	9	0
Atterberg Limits					
Liquid Limit		22	-	28	-
Plastic Limit		16	-	17	-
Plasticity Index		6	Non-plastic	11	Non-plastic

The moisture content test results were consistent with the observed moist to very moist or wet conditions in well-consolidated soils with negligible organic content. The particle size analyses and Atterberg Limits tests represent some of the typical native soils in the project area. The first sample was composed of 26% gravel, 39% sand and 35% silty clay. The second sample consisted of 8% gravel, 38% sand and 54% silt, the third was 2% gravel, 31% sand and 67% clay, and the fourth sample contained 47% sand and 53% silt, with no gravel. Occasional cobbles and few boulders were present in the soil, as noted in the logs, but were not included in the tests. The Atterberg Limits tests indicate that the fine fraction of the more highly-plastic soils is silty clay or lean clay, making them somewhat moisture-sensitive, but indicating a low potential for detrimental shrink-swell (expansive) behavior. The Atterberg Limits were not tested for the two silty samples; the sample from TP3 had low cohesion; it might have a plastic limit but does not have a liquid limit. The sample from TP8 was fine-sandy cohesionless silt, without an LL or a PL.

SUBSURFACE PROFILE AND SUMMARY OF SOIL CONDITIONS

The observed subsurface conditions are described in the test pit logs and are summarized in the drawing attached to this report. Most of the native soils and most of the existing fill consisted of fine-sandy silt with traces gravel, few cobbles and boulders. Some of the native soils in test pits TP3 and TP4 were identified as glacial till, but most of the native material appears to be till that has been significantly reworked by frost, soil creep and similar factors. Well-graded granular soil (gravelly silty clayey sand) was only encountered in test pit TP1, below elevation 205; this was also the only soil in the building area that was noted as being 'very most,' with moist conditions observed elsewhere.

Bedrock was encountered in five of the six building area test pits. It was not found in test pit TP1, near the northeast building corner, which stopped at twelve feet depth, approximately elevation 200. Near the top of the hill, bedrock was encountered at 7.5 feet depth, approximately elevation 214.5 in test pit TP4, and in TP5 it was at 50 inches depth, elevation 218. Test pit TP2, near the proposed northwest building corner, encountered rock at five feet depth, roughly elevation 200. Test pit TP6, in the low southeast corner area, stopped on rock at about five feet depth, at an approximate elevation of 204 feet. Near the southwest corner, TP3 encountered bedrock at 6.5 feet depth, approximately 207 feet elevation. The bedrock was thin-bedded shale, with near-vertical beds striking northeast observed in test pit TP2. The first six to twelve inches of the bedrock could be ripped easily with the small excavator. The other three test pits in the building area ended in soil at elevation of 200 to 207 feet. The other test pits indicate rock near elevation 200 at the northwest corner (TP2,) becoming shallower toward the south and east (±207 ft southwest, TP3; 214 ft north-center, TP4; 218 feet center, TP5,) then dropping off at the southeast corner (TP6, ±204 feet.)

The soils in test pit TP8, near the north end of the proposed stormwater control area, consisted of approximately thirty inches of moist fill (gravelly silt and sand) over silt and fine sand, which was very moist to sixty inches depth, where it became wet. Test pit TP7, near the center of the proposed practice, encountered two inches of organics over eight inches of silty sandy fill over clay, which was moist from ten inches to 32 inches depth, where it became wet. A rock outcrop projects above grade off-site, just east of the property line in this area.

Fill materials were observed in the two stormwater area test pits as noted above, and in three of the six building area test pits. The fill materials in the stormwater control area were mostly soil, but included minor amounts of debris such as steel, concrete, cinders and glass. In the building area, twelve to eighteen inches of sandy silt fill was noted in test pits TP1 and TP4, with a couple small pipes at the latter location. Test pit TP5, near the location of the former residence, encountered forty inches of sandy silty fill over a ten-inch layer of bricks with soil, over bedrock.

SUBGRADE PREPARATION

The investigation indicates that the subgrade conditions throughout the proposed building area are suitable for the use of shallow spread footing foundations and slabs-on-grade, subject to performing the required subgrade preparation operations, as described below.

The test pits indicate that the top of rock is typically about five feet below existing grade in the building area, deeper near the northeast corner. Using five feet as an average, approximately five-eighths of the slab is expected to be supported on a bedrock subgrade at elevation 212 feet. At the north end and at the southwest and southeast corners of the building the subgrade will transition from rock to native soil, then to fill. Most of the footings will also bear on rock, transitioning to native soil at the north end and at the two south corners, however at the south end the footings may be made deeper as the grade drops off; with close proximity to the property line, this appears to be more practical than building up a fill pad to the same elevation as the rest of the foundation.

Remove all existing pavement, topsoil, soft subsoil, stumps and large roots from the subgrade surface, in all foundation and slab areas. Remove existing slabs and foundations, if encountered, in their entirety from below new foundation areas, and to at least twenty-four inches below bottom-of-slab in slab-on-grade areas, and as needed to prevent interference with the new construction. Remove uncontrolled fill in its entirety from below new foundation areas and from below slab-on-grade areas unless otherwise approved by the Engineer.

Excavate to the design subgrade elevation, or deeper if required to reach suitable subgrade, which shall be bedrock (hard or weathered) or undisturbed native soils, free from topsoil, fine organics and root masses. Where the subgrade material is soil it shall have a stiff/ medium-dense or harder consistency. Dewatering and draining of the excavation may be required to some extent during excavation, with storms expected to be the main source of water.

Trim soil to the required subgrade elevation using excavation methods that minimize disturbance of the final soil surface. Compact the surface as needed to consolidate any soil that was loosened during excavation. Remove any pockets or small zones of unsuitable materials that are encountered, and replace them with controlled compacted fill. Contact the Engineer prior to performing any significant extra excavation. Where old foundations, stumps or boulders are removed, or where other over-excavation work is performed to prepare subgrade areas, the sides of the excavation shall be trimmed back to stable soil as each lift of backfill is placed. Where deficient soil is removed from below footing locations, the remediated area shall extend at least one foot out from the footing per foot of depth (1 to 1 splay.)

Where bedrock is present and excavation is performed by ripping, hammering or blasting, remove the rock to an approximately level and uniform elevation, with a slope of ten percent or less in areas below footings and slabs. If the rock subgrade surface has open fractures, level and seat the surface by tracking back-and-forth over it with a bulldozer or excavator and/or spade it with the excavator bucket, then compact the surface with several passes of a vibratory trench roller or a single-drum soil roller.

Footings may bear directly on the prepared soil or rock subgrade, or on controlled compacted fill placed over the subgrade. Where bedrock is present, over-excavation of the rock by six to twelve inches is

recommended, with the rock replaced by compacted granular site-borrow soil or Structural Fill, to act as a cushioning layer and as a leveling course for the concrete forms. Where fine-grained native soil is present at the bearing elevation, a layer up to four inches thick of Structural Fill or equivalent site-borrow soil may be placed in the footing bottom to protect the soil surface, after properly preparing the surface to a level and stable condition. This layer shall be thoroughly compacted with a vibratory plate tamper or roller, and its surface shall not extend above the design bearing elevation. Footing bearing surfaces shall be free from frost, mud and loose soil or standing water, when concrete is placed. Rock surfaces should be thoroughly moistened prior to placing concrete.

Protect the prepared subgrade surface from erosion, from frost and from construction damage. Traffic from dump trucks and similar heavy vehicles should be minimized on the exposed surface of the subgrade and on compacted fine-grained fills.

EXCAVATION

The existing fill and native soils may be excavated using conventional heavy equipment, such as tracked excavators and bulldozers. Backhoes and mini-excavators should be suitable for the excavation of shallow trenches in soil, but may require assistance if boulders are encountered. The investigation indicates that the soils which will be encountered in the building excavations are likely to predominately be OSHA Type B, requiring a minimum slope of 1-to-1 in shallow excavations, with benching permitted. Soil types and excavation requirements must be confirmed by a qualified representative of the Contractor during construction.

Rock excavation is expected to be needed in most of the building area. A large bulldozer with a ripper tooth should be able to excavate the shallow rock, provided it can 'bite' into the bedrock surface, which may be smooth on top of the hill. A large excavator with a hydraulic hoe-ram will likely be required to excavate to depths of more than two or three feet into the bedrock. Excavation work in the building area should be practical using conventional methods, without blasting. Blasting could, however, be used to facilitate the removal of bedrock. The project area is sufficiently distant from existing structures, roads and other public areas to perform shallow blasting without causing adverse impacts to them. There is sufficient overburden present to use small, lightly-loaded blast holes to fracture the bedrock, so that it can be more easily removed by conventional excavation, although some ripping and hammering could still be required.

Little or no shoring of excavations should be required for building construction, as there appears to be sufficient distance from the property line to the estimated limits of the foundation work area to allow the use of conventional excavation slopes. Trench boxes or other temporary shoring will be required for work in deep trenches, other than trenches in rock, and may be required when excavating trenches in wet areas, regardless of depth. The design of any necessary shoring or other support-of-excavation is the responsibility of the Contractor and is not included in this report.

Groundwater seepage rates in the building excavations are expected to be slow, but may be persistent during the wet season. Groundwater seepage and stormwater should be removed promptly from the excavations, and the groundwater elevation should be maintained at a depth of at least one foot below the soil surface in active construction areas. When dewatering excavations, the water level should be drawn

down at a controlled rate to minimize sloughing, allowing the water to drain from the soil in the sides of the excavation. Gravity drainage and conventional shallow sump pits installed in the excavation should be adequate for the control of groundwater seepage and stormwater.

FILL MATERIALS

All fill placed below foundations and slabs shall consist of Structural Fill or Structural Fill HD, as described below, or shall be suitable site-borrow soil or rock, as described below, or shall be other imported fill of a quality at least equal to that of the site-borrow fill.

Soils excavated from the site are expected to be of suitable quality for re-use as fill and backfill for foundations, slabs and pavement areas. Exclude topsoil and wet, organic otherwise deficient soils from the excavated soil, which should be blended as much as practical, to produce a uniformly compactible fill material. The site-borrow soil will likely require some require drying prior to compaction. Boulders and large cobbles must be removed from the borrow fill. Clumps of clayey soil should be excluded from the fill, but if included they must be thoroughly broken up and mixed in.

Rock excavated from the site may also be used as fill in building and pavement areas. If the rock is excavated by ripping or hammering, it should be processed by crushing and/or screening to approximately the grading of Structural Fill, below. Blasted rock will likely be suitable for use as fill after removing the oversize pieces, without further processing.

Open-graded gravel or crushed stone should not be placed directly against the silty native soils for most applications, as the soil may erode into the stone. The gravel should be separated from the soil by a geotextile layer or by a layer of well-graded soil. Pipe bedding in utility trenches may also act as a drainage path for groundwater seepage. If coarse granular bedding is used in sloping trenches, it should be interrupted periodically by sections of well-graded bedding, to regulate the flow of this seepage.

Structural Fill, if imported for use below foundations and slabs, shall be good-quality bank-run sand and gravel or crushed stone, and should be a well-graded product complying with the gradation limits below. Structural Fill may also be used as foundation backfill. Structural Fill HD (Heavy Duty) should be used in areas to be protected from heavy construction traffic and where subgrade stabilization and/or enhanced drainage is needed and is suitable for use as fill during winter conditions.

Sieve size		Structural Fill	Structural Fill HD
Inch	mm	Percent Passing by Weight	
4″	100	100	100
1½″	37.5	60-100	50-95
#4	4.75	20-85	20-50
#40	0.425	5-50	5-25
#200	0.075	0-30	0-10
Plasticity Index		12 max.	4 max.

All fill materials shall be composed of sound, durable particles, shall be free from frost or snow, garbage, construction debris or other deleterious material, and shall be substantially free from organic matter and roots. Recycled crushed concrete and masonry from a registered source may be acceptable for some applications above the water table, subject to approval by the Designer of Record. Fill shall not be placed over frozen or unstable soil, unless approved by the Engineer.

CLSM (Controlled Low-Strength Material, aka flowable fill) may be used under footings and foundations when specifically approved by the Engineer, and may also be used to backfill trenches or other excavations, typically where rapid fill placement is required, fill areas are narrow, or the use of conventional compaction methods is not practical. For support of footings, a CLSM mix consisting of sand, cement and water, with a 56-day compressive strength of 75 to 200 psi, is appropriate. CLSM may produce high fluid pressures during placement, and caution must be used for placements against foundation walls, near unbraced cuts, etc. Pipes or tanks can also float if not properly restrained during placement. CLSM should not be placed against unprotected aluminum; CLSM containing flyash should not be used in contact with cast iron or ductile iron. Hardened CLSM masses may also adversely affect groundwater flow, possibly causing erosion under or along the CLSM, particularly in sloping trenches.

Other Fill Materials:

- Crushed stone base course for slabs-on-grade should consist of ASTM C33 #56 or #57 stone (⅜- to ¾-inch size,) or as required by the slab system design.
- Crushed stone or gravel for footing drains should consist of ASTM C33 #5, #56 or #57 stone (¾-inch or ⅜-¾-inch size.)
- Well-graded granular subbase material (NYSDOT Item 733-04 'Item 4' or similar) should be used under sidewalks and exterior slabs.

FILL PLACEMENT AND COMPACTION

Soil surfaces, including the surface of the subgrade and of previously-placed fill materials, shall be prepared to a stiff and essentially unyielding condition prior to placing each new lift of fill. Bedrock surfaces to receive fill shall be free from voids or loose areas and the rock surface shall be free from large loose pieces of stone. Use mid-size equipment to compact the site-borrow fill or similar materials. Vibratory trench rollers, and single-drum soil rollers with a nominal size of three to five tons, should be appropriate for the observed soil conditions. Larger rollers may be used when compacting well-graded granular fill over essentially unyielding surfaces. In areas with limited access, vibratory plate tampers or jumping-jack tampers may be used. Avoid over-compacting the shallow soils in landscaped areas.

Soil fill and processed rock fill shall be placed in controlled lifts, with each lift compacted to the required density at a moisture content close to optimum moisture, as determined by the ASTM D1557 Modified Proctor Method. When the moisture content of fill which will support footings or slabs is within two percent of optimum, fill may be placed in lifts with compacted thicknesses of up to eight inches. If the moisture content is two to 2.5 percent from optimum, reduce the maximum thickness to six inches, and if it is more than 2.5 percent from optimum, discontinue compaction. In roadway, embankment and other non-structural locations, fill may be placed in lifts with a compacted thickness of up to twelve inches when the moisture content of the fill is within two percent of optimum, and up to eight inches thick when it is

two to 2.5 percent from optimum. Use a reduced lift thickness if required to obtain the specified percent compaction and when using small compaction equipment.

When placing fill during freezing temperatures, use Structural Fill HD or similar fill material containing less than ten percent non-plastic fines. Fill produced from natural sand and gravel is preferable to crushed stone or concrete fill for winter work, for ease of compaction. Compact the fill with a maximum lift thickness of six inches and do not compact fill whose moisture content is more than two percent above or below optimum. Do not place or compact fill when the air temperature is less than 25°F. Do not place frozen fill materials.

Mass rock fills may be constructed using well-graded shot-rock from blasting. The design lift thicknesses should be approximately twelve to eighteen inches, depending on the dimensions of the fill, the fill placement method and the compaction method, and may require adjustment based on the actual size and grading of the rock after it is blasted. Rock fill should be placed in a manner that minimizes segregation and which creates an initially-dense state. Allowing the rock fill to free-fall into place from a belt or bucket can be an effective method, but dust, noise and flying particles are of concern. Lifts of rock fill may be acceptably placed with a bulldozer, but a moving pile of fill should be maintained in front of the blade, rather than running the pile out completely. Re-work any boulder pockets to a dense, well-graded condition, and level the surface of the fill prior to compaction. The rock fill should be compacted in a wet condition when practical, but may also be compacted when dry or moist. Rock fills should be placed in conformance with an engineered design which includes any necessary requirements for drainage; for geotextiles and/or aggregate filter zones between the rock fill and the subgrade, adjacent and/or overlying soils; the clearance depth for utilities, etc.

Where fill will be placed against slopes, bench the fill into the slope to create a stair-step interface, for improved stability and groundwater control. Lightly scarify the surface of the existing soil prior to placing the fill, and key the fill into the subgrade at the toe of the slope. When the fill is more than five feet high against a slope of twenty percent or more, the key should be at least two feet deep and ten feet wide.

Backfill placed against foundation walls should be compacted with trench rollers or with similar equipment which will not produce damaging stresses on the wall. Place backfill equally on opposite sides of the foundation unless otherwise indicated by the specifications or drawings. Foundation walls acting as retaining walls should be braced (i.e. by installation of the floor framing) before placing backfill, unless otherwise indicated on the drawings or approved by the Engineer.

Open-graded stone base course material for slabs-on-grade should be graded level and seated with one or more compaction passes, to help resist displacement during slab area preparation and concrete placement.

Compaction Requirements

Compact each lift of soil fill supporting slabs or foundations with at least six one-way compaction passes, even if the required compaction percentage is obtained with fewer passes. Each compaction pass shall be made at a slow walking speed (less than four feet per second,) with the equipment passing completely over all areas of the fill. Fill materials shall be compacted to at least the following percentage of the ASTM D1557

maximum dry density. For coarse-graded fill materials with more than thirty percent retained on the ¾-inch sieve, the ASTM D4253 Maximum Index Density test may be substituted for the D1557 test.

Location	Percent Compaction
Below Footings, Foundations, Slabs and Pavements	95% minimum
Exterior Foundation Backfill in Landscaped Areas	90% minimum

Mass rock fills must be compacted with the largest vibratory single-drum soil roller that is available and appropriate for the site, typically in the ten-ton to sixteen-ton size range. Compact each lift with at least six vibratory roller passes, with the passes applied in two perpendicular directions, or in multiple directions, when possible. Vary the vibration frequency to maximize compaction, using the high-frequency mode for the final passes, for increased compaction depth with less surface disturbance. Continue compaction until the fill surface is in an unyielding condition.

TESTING

The prepared subgrade shall be inspected to verify that it has been prepared in conformance with the requirements of this report, prior to placing fill or foundations. Recommended test procedures and frequencies are provided below.

PROOF-ROLLING: Proof-rolling of the prepared subgrade soil is not required, but may be performed to determine the limits of a soft area. Use an appropriately–sized vehicle, to avoid damaging wet and/or fine-grained, but otherwise acceptable soils. Observe the effects of the moving vehicle; if the soil exhibits excessive deflection, rutting or cracking, additional excavation or drying of the subgrade may be required.

BEARING CAPACITY: The prepared subgrade surface throughout the foundation and slab areas area shall be probed thoroughly to check for soft spots. The foundation subgrade shall be in a dense and unyielding condition, substantially free from soft areas and/or loose material. If these conditions are not encountered at the bearing elevation, testing shall be performed with a Static Cone Penetrometer or equivalent device in foundation bearing areas. If the design bearing capacity is not indicated within three inches of the bearing surface, the soil conditions shall be corrected and/or, if approved by the Engineer, the footing depth may be increased to reach acceptable soil. The slab subgrade areas shall be densely consolidated and sufficiently stiff to prevent rutting or displacement during slab base course and concrete placement operations. Where fractured rock or bedrock is present at the subgrade surface, it shall be visually inspected to verify that it is generally level and free from accumulations of loose material, and that in areas where it is fractured, the fractured mass is in a dense and stable condition, free from large open voids.

COMPACTION TESTING: Compaction testing shall be performed for each lift of soil fill supporting foundations, with testing performed while the work is in progress. Testing is also recommended for the fill supporting slabs or pavement, exterior backfill and for fill placed in embankments. Compaction testing is recommended for all retaining wall construction, with requirements to be determined by the wall designer. Compaction tests of fill and backfill supporting foundations and slabs should be performed in at least one location per 50 linear feet or per 1000 square feet of fill surface, per lift. At least one test per 100 linear feet

or per 2500 square feet should be performed for each lift of fill in embankment, roadway and other non-structural areas. Compaction tests should be performed with a nuclear moisture-density gauge, per ASTM Test Method D6938, unless otherwise approved. Required percent compaction values are provided above. Rock fill placement shall be visually monitored for fill quality and grading and for conformance with the requirements for lift thickness and placement methods and for application of the specified compaction effort.

CLSM: When flowable fill is used to support footings or foundations, at least one set of three 6x12-inch test cylinders shall be cast from each day's placement, per ASTM D4832. Test the cylinders for unit weight and for compliance with the specified strength requirements. Cast additional cylinders if early tests are needed.

GEOSYNTHETIC MATERIALS

Geosynthetic materials are expected to be used for reinforcement and drainage applications at the site on an as-needed basis, or where required by Code, such as for footing drains. Geosynthetic materials shall be installed over a smooth and evenly shaped subgrade, to avoid 'tenting' of the material over voids or high points. The geosynthetic shall be installed substantially free from wrinkles, and fill material shall be placed and spread in a manner which pushes the wrinkles out but which does not otherwise displace the geosynthetic material. Vehicles shall not drive on the exposed geosynthetics. The following material types are recommended.

Drainage Separation: For footing drains and similar applications, a woven drainage geotextile with at least 4% open area, with an apparent opening size of 0.21mm (#70) or smaller, should be installed around the open-graded drainage stone. Non-woven geotextiles are not recommended for use in this application, due to the presence of fine particles in the native soil that will tend to clog the fabric. If stone drains are installed in areas of fine sand or cohesionless silt, provide a zone of clean sand at least three inches thick between the geotextile and the soil.

Subgrade Reinforcement: Typically, a woven reinforcing geotextile with a grab tensile strength of at least 200 pounds should be used where needed to improve the stability of soft subgrade soils. Geogrids may be used instead of woven geotextiles, especially if free drainage is desired. A minimum of twelve inches of granular fill cover is typically required to fully mobilize the strength of the reinforcing geosynthetic.

Subgrade Separation: Where fines from the subgrade may infiltrate into an overlying granular layer, and strengthening of the subgrade and some vertical drainage is desirable, a non-woven geotextile should be used. A four-ounce nominal weight fabric is suitable for light- to moderate-duty applications; heavier fabric should be used where it will be subjected to heavy traffic, especially when it is placed in contact with sharp or very coarse-graded materials.

Woven reinforcement geotextiles will usually act as an infiltration barrier when installed in a continuous horizontal layer, and non-woven separation geotextile may also work as a barrier; this may or may not be desirable, depending on the installation location and conditions, and should be considered when specifying or using these products.

ENGINEERING DESIGN VALUES AND RECOMMENDATIONS

Soil engineering properties and recommendations for design are provided in this section; additional important design considerations are also discussed in the other sections of this report. The design values assume that the building will be supported by a conventional spread footing foundation with slab-on-grade floor, as described in the previous sections, and will be provided with proper drainage.

Bearing Capacity and Soil Pressure

Allowable Bearing Capacity, q_a	
Footings on Soil, bearing at least 42 inches below finished grade, with a minimum width of 12 inches	4000 psf
Footings on Soil, bearing at least 24 inches below finished grade, with a minimum width of 36 inches	4000 psf
Minor Footings on Soil, bearing at least 12 inches below finished grade, with a minimum width of 12 inches	2000 psf
Footings on Fractured and/or Weathered Rock, bearing at least 12 inches below finished grade, with a minimum width of 12 inches	4000 psf

Soil Properties	Native Soils	Rock, fractured
Moist Density, γ, lbs/cu ft	130	160
Effective Internal Angle of Friction, $\emptyset$	32°	42°
Coefficient of Active Earth Pressure, k_a	0.31	0.20
Coefficient of Passive Earth Pressure, k_p	3.25	5.0
Coefficient of At-Rest Earth Pressure, k_o	0.47	0.33
Lateral Bearing Capacity (psf per ft below grade)	210	400
Coefficient of Friction (vs. concrete)	0.35	0.60
Modulus of Subgrade Reaction, k, psi per inch	175	550

Footings subject to frost shall bear at least 42 inches below finished grade, or shall be otherwise protected from frost. Footings not exposed to frost, or bearing on non-frost susceptible subgrade material (e.g. fractured bedrock) shall bear at least one foot below finished grade. Bearing elevations of footings shall be established such that a line drawn between the bottoms of two adjacent footings is not steeper than 30 degrees between the closest points on the footings. (Slope of 1 vertical to 1.75 horizontal.)

Settlement of the foundation elements over the course of construction, due to normal elastic compression of the underlying soils, is expected to be one half inch or less in the well-consolidated soils at this site. Up to one inch of settlement and ¾-inch of differential settlement should be assumed for design purposes. No measurable settlement is expected where foundations bear on rock. If fill is placed below footings, an additional quarter inch of settlement should be expected per five feet of fill thickness.

If encountered above the design bearing depth, undisturbed bedrock and rock that has been fractured by excavation are non-frost-susceptible subgrade materials, and frost-protected shallow footings, as specified

in ASCE 32, may bear on rock at depths as shallow as twelve inches when the required vertical foundation wall insulation is also provided. Where footing depths are reduced, pinning to rock may be required if the footing will be subjected to significant uplift or lateral forces. These installation conditions must be reviewed and approved on a case-by-case basis.

Control of Groundwater and Soil Gases

Minor groundwater seepage should be expected in excavations and below-grade areas during and after construction. It is understood that the building will not have a basement and the first floor slab will be entirely above grade. Adequate drainage must be provided to maintain the groundwater at an elevation below the slab base course; footing drains may be helpful, but are not required by Code for the above-grade slab condition. Construction dewatering is discussed elsewhere in this report. For the completed construction, the elevations shown on the plans indicate that a foundation drain, if used, should be able to discharge by gravity.

Soil gases that could normally be expected to impact the structure are water vapor and radon. The interior spaces should be adequately protected from these gases by providing drainage and moisture protection measures as described above, and by sealing all wall-to-slab joints, concrete cracks, pipe penetrations, drainage sumps, etc. If an open-graded base course is used under the slab, a passive or powered vapor mitigation system using small-diameter PVC pipes can be included or can be added retroactively. The potential for these gases to adversely impact the use of the building is estimated to be low, if the above recommended practices are used, and normal interior ventilation is provided.

Seismic and Expansive Properties

Seismic Design Values: The Seismic Site Class and Seismic Design Category for the proposed construction were determined per section 1613 of the New York State Building Code and ASCE 7-16. Seismic values for the site were obtained from the current database maintained by the Applied Technology Council, Redwood City, Cal., and are consistent with the published maps in the Building Code. Values were as follow.

Occupancy Category	I/II/III	
Seismic Site Class	C- Very Dense Soil and Soft Rock D – Stiff Soil	
IBC Seismic Design Category	**SDC - B**	
Maximum Acceleration	0.2 sec S_S 1.0 sec S_1	0.195 g 0.055 g
Maximum Spectral Response Acceleration	0.2 sec S_{MS} 1.0 sec S_{M1}	0.254 g 0.082 g
5% Damped Spectral Response	0.2 sec S_{DS} 1.0 sec S_{D1}	0.169 g 0.055 g

The seismic design values are based on the "risk adjusted maximum probable earthquake." These are not the maximum values that *could* occur, they are values that are not likely to be exceeded during the service life of a typical structure.

Liquefaction Potential: The soils encountered in the investigation have very low liquefaction susceptibility. Liquefaction is typically associated with thick deposits of loose poorly-graded sand situated below the water table, and may also occur in loose, poorly-graded cohesionless silt. A similar phenomenon, cyclic softening, can occur in saturated soft clays. Those soils are also prone to shifting or spreading during seismic events when they are situated near a slope, even if the slope is gentle. The soils encountered in the test pits had textures, drainage conditions, locations and/or sufficient consolidation (density) to resist liquefaction or unusual movement during the design seismic event. No special mitigation measures are required.

Expansive Soils and Frost Heave: The soils encountered in the investigation have a very low potential for expansion due to shrinking and swelling resulting from moisture changes. This behavior is typically associated with high-plasticity silt and clay soils. Physical testing and qualitative examination indicate that the soil properties do not meet the criteria for potentially expansive soils as defined in section 1803.5.3 of the Code. No mitigation measures are required. The on-site soils are moderately to highly susceptible to frost heave. Frost heave can be minimized by providing good drainage and by thoroughly compacting the soil. Well-graded granular fill should be used in areas where frost heave could result in damage.



PHOTO 2. The slope along the west side of the site, overlooking South Hamilton Street.



PHOTO 3. The proposed stormwater control area on the east side of the site. A rock outcrop forms a long knob on the far side of the fence.

NOTES AND LIMITATIONS

Please see the attached pages for additional information. Subsurface conditions encountered during construction shall be compared to the test pit logs and to this report; any significant variations from anticipated conditions must be evaluated for their effect on the design. This report summarizes the results of a limited investigation and does not purport to predict every variation in subsurface conditions. Elevations, slopes, contours, project layout and similar or related data provided in this report were interpreted from the drawings, from field data or from other information which was provided, unless otherwise noted.

This geotechnical investigation was conducted to evaluate the engineering properties of the soils at the site, to aid in the design and construction of the proposed work. The investigation did not include evaluation of the potential effects of the proposed construction on other properties, nor did it include inspection of, or sampling for, items of environmental concern such as the presence of soil contaminants or of regulated wetlands, and did not include review of local zoning regulations, codes, floodplain boundaries or similar matters, unless specifically referenced in the report. This investigation was conducted solely for the use of the Client, the Client's Project Designers and Agents and the Authorities Having Jurisdiction; this report should not be used by others, nor for any use other than its stated purpose, without contacting the Engineer. Any such use is solely at the user's risk.



Prepared by Kevin L. Patton, P.E.

Attachments:

- Soil Technical Notes
- Test Pit Location Plan
- Test Pit Logs
- Laboratory Test Reports
- Bedrock Geologic Map
- Surficial Geologic Map
- USDA Soil Survey Data

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Soil Technical Notes:
Soil Classifications, Descriptions and Properties

The USCS (Unified Soil Classification System) was used to classify the soils in this report. The USCS is described in ASTM D2487 (laboratory test method) and D2488 (visual-manual method.) The USCS classification gives a 'Group Symbol' and 'Group Name' based on particle size distribution (gradation,) clay properties (Atterberg Limits) and basic composition (mineral or organic.)

USCS Soil Classes

Soils with less than 5% passing the #200 sieve:

GW, GP, SW, SP – Well-graded gravel, Poorly-graded gravel, Well-graded sand, Poorly-graded sand.

Soils with 12% to 50% passing the #200 sieve:

GC, GM, GC-GM, SC, SM, SC-SM – Clayey gravel, Silty gravel, Silty clayey gravel, Clayey sand, Silty sand, Silty clayey sand.

Soils with 5% to 12% passing the #200 sieve use a dual symbol, such as SW-SC (Clayey well-graded sand.)

Soils with more than 50% passing the #200 sieve:

CL-ML, ML, CL, MH, CH, OL, OH – Silty clay, Silt, Lean clay, Elastic silt, Fat clay, Organic silt, Organic clay.

Highly organic soils:

PT – Peat.

The soil group name is modified with the term 'with sand' or 'with gravel' added if the soil contains more than 15% of these materials; clays and silts with 30% or more plus-#200 material are described as 'sandy' or 'gravelly' (whichever is predominate.) Examples – GM, Silty gravel with sand; CL, Gravelly lean clay.

Particle size

>12" (300mm)	Boulders
12" to 3" (300-75mm)	Cobbles
3" to #4 (75-4.75mm)	Gravel
#4 to #200 (4.75-0.075mm)	Sand
<#200 (0.075mm)	Silt & Clay

Organic Soils

Highly organic soils such as peat are visually classified. Partly organic soils, with a mix of organic and mineral matter, are classified visually and by Atterberg Limits tests.

Moisture Content

Moisture is visually estimated and samples are usually tested. Soil moisture capacity varies with texture and compaction.

Typical examples:
GW, moist at 3%, saturated at 9%
SP, moist at 6%, saturated at 20%.
CL, moist at 12%, saturated at 33%.

Fine- and Coarse-grained Soils

The USCS classification applies to the material smaller than the 3-inch sieve.

'Fine-Grained Soils' (silts and clays) have more than 50% passing the #200 sieve and are classified by their Atterberg Limits.

'Coarse-Grained Soils' (sands and gravels) have less than 50% passing the #200 sieve. When more than 50% of the plus-200 material is retained on the #4 sieve the general soil type is gravel, and if more than 50% is finer than the #4 sieve, it is sand.

Clean coarse-grained soils are classified as well-graded (Classes GW, SW) or poorly-graded (GP, SP.) Well-graded soils have a wider range of sizes and are typically more stable. Poorly-graded soils are usually more permeable.

Atterberg Limits

Test is performed on the clay, silt and fine sand fraction of the soil:
Liquid Limit (LL) – moisture content (%) at which soil becomes very soft.
Plastic Limit (PL) – moisture content at which soil crumbles.
Plasticity Index (PI) = LL minus PL

Higher PI values may indicate reduced permeability and increased drying shrinkage.

LL > 50 indicates soil with a higher potential to shrink and swell due to changing moisture content.

Silts have lower PI values, and behave like very fine sand; most silts also contain some clay. Behavior of clays is partly controlled by electrochemical forces and varies among the several clay minerals.

Color

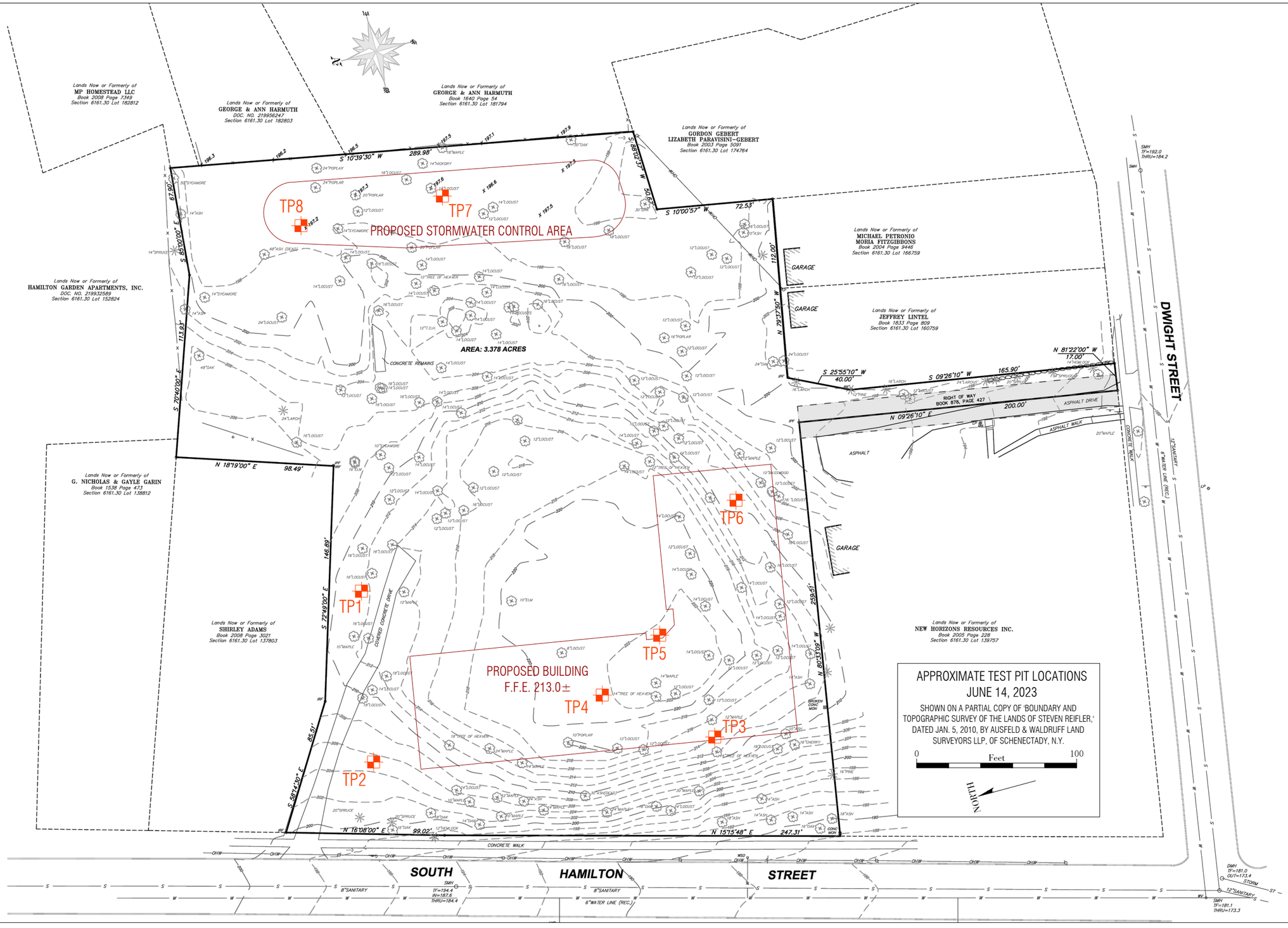
Soil color sometimes indicates groundwater conditions, with subdued colors below the water table and mottled (mixed) colors in the zone of seasonal water table fluctuation. Color changes tend to be more prominent in fine-grained soils.

Relative Quantities

Estimated percentages in descriptions:
<5% - Trace
5-10% - Traces
10-25% - Little
25-35% - Some
'And' - Approx. equal amounts
'Few' - <10% (cobbles and boulders)

USDA Soil Classification

USDA classifications are based on the relative amounts of sand, silt and clay in the soil fraction passing the #10 (2mm) sieve. 'Gravelly' indicates more than 15% of #10 to 3" size. 'Channery' indicates 15 to 35% thin flat pieces up to 6" long.



KEVIN L. PATTON, P.E.
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NEWBURGH, NY 12550
845 275-7732
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100 SOUTH HAMILTON ST., POUGHKEEPSIE, N.Y.

TEST PIT LOCATIONS

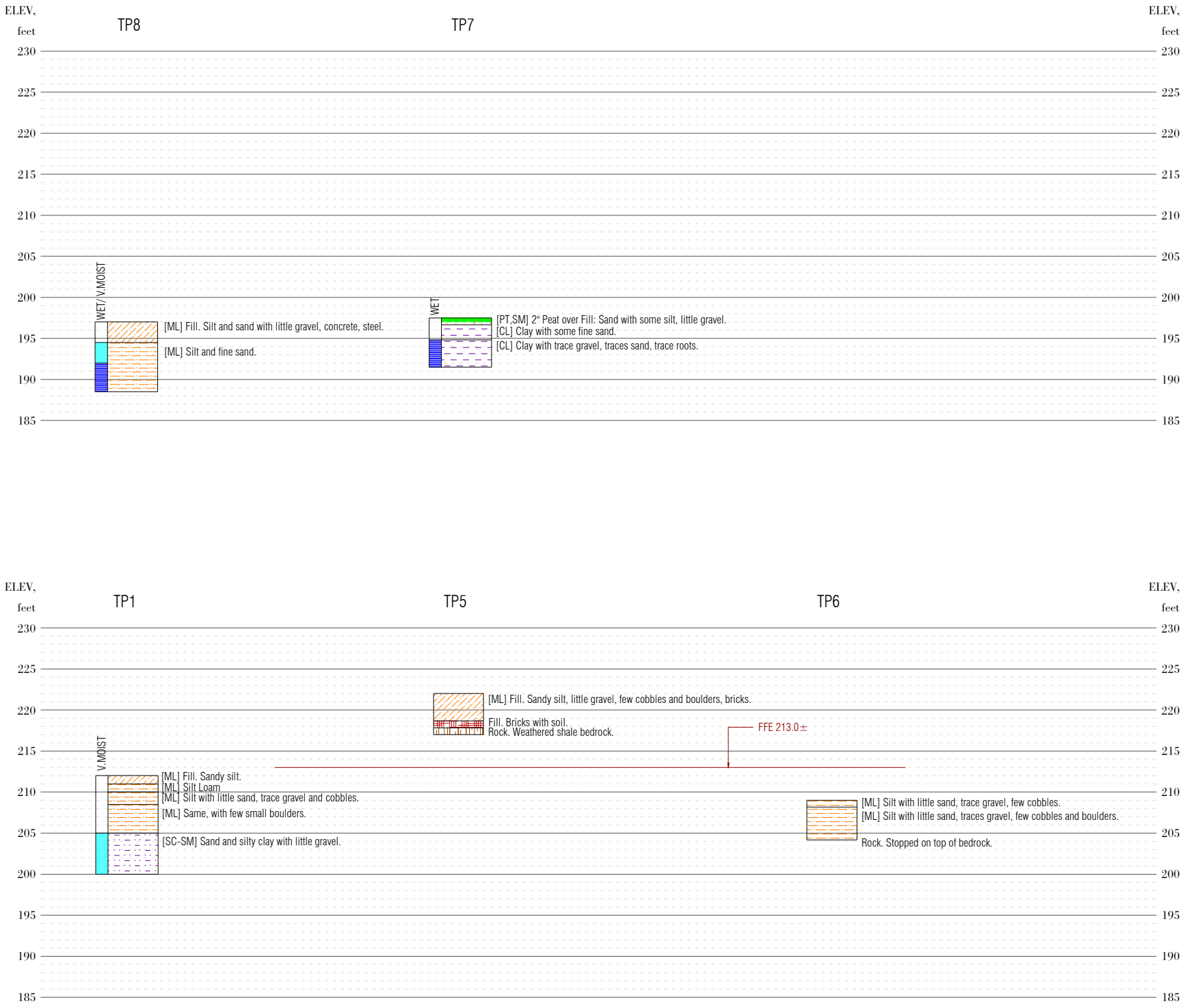
REV.	DATE	BY
0	7/5/2023	KLP

GENERALIZED SUBSURFACE PROFILE

NO HORIZONTAL SCALE.
USCS SOIL CLASSIFICATIONS ARE IN BRACKETS.

IN GENERAL, RED PATTERNS INDICATE RELATIVELY CLEAN SANDY OR GRAVELLY SOILS, PURPLE PATTERNS INDICATE SOILS WITH SIGNIFICANT CLAY CONTENT AND ORANGE PATTERNS INDICATE SOILS WITH A SIGNIFICANT SILT CONTENT.

THESE SECTIONS ARE GENERALIZED REPRESENTATIONS OF THE SUBSURFACE PROFILE, BASED ON THE SUBSURFACE EXPLORATION DATA, OBSERVATIONS, RESEARCH, AND OTHER RELEVANT INFORMATION. THE SOILS INFORMATION PRESENTED HEREIN SHOULD BE INTERPRETED IN CONJUNCTION WITH THE INFORMATION FROM THE TEST PIT LOGS AND THE GEOTECHNICAL INVESTIGATION REPORT. SITE CONDITIONS MAY DIFFER FROM THOSE ENCOUNTERED AT THE TEST PIT LOCATIONS.



			SOUTH HAMILTON STREET
			100 SOUTH HAMILTON ST., POUGHKEEPSIE, N.Y.
0	7/5/2023	KLP	SUBSURFACE PROFILE
REV.	DATE	BY	

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KEVIN L. PATTON, P.E.
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CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	50 ft NE from NE corner of proposed building	**TEST PIT NUMBER**	**TP1**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	212+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-12"	ML	Slightly moist	Fill. Loose. Grayish brown sandy silt with trace brick, glass, few small roots.	
12-24"	ML	Moist	Native soil. Loose to medium-dense. Mottled brown silt loam.	
24-42"	ML	Moist	Dense. Slightly mottled brown silt with little sand, trace gravel and cobbles.	
42" to 7ft	ML	Moist	Dense. Mottled pale brown silt with little sand, trace gravel and cobbles, few boulders to 24" size.	
7ft - 12ft	SC-SM	Very Moist	Dense. Mottled pale brown sand and silty clay with little gravel, few cobbles and boulders to 24" size.	
12 ft	-	-	Stopped at 12 feet in soil.	



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CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	30 ft N from NW corner of proposed building	**TEST PIT NUMBER**	**TP2**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	205+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-6"	ML	Slightly moist.	Loose. Grayish brown silt loam with some small roots.	
6-24"	ML	Moist	Medium-dense. Pale orangeish brown silt with some sand, traces gravel, few cobbles.	
24-62"	ML	Moist	Dense. Slightly mottled olive brown silt with some sand, little gravel and few cobbles.	
62"-72"	Rock	-	Top of shale bedrock. Beds nearly vertical, strike northeast. Ripped 12 inches into rock, which was still somewhat soft at this depth.	
72"	-	-	Stopped in rock at 6 feet.	



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CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	50 ft N from SW corner of proposed building	**TEST PIT NUMBER**	**TP3**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	214+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-4"	ML	Moist	Loose. Topsoil. Brown silt loam with fine roots.	
4"-22"	ML	Moist	Medium-dense. Pale orangeish brown silt with some fine-graded sand, trace gravel and cobbles.	
22"-48"	ML	Moist	Dense. Pale orangeish brown silt and fine-graded sand, trace gravel and cobbles, with few small boulders.	
48"-6.5ft	ML	Moist	Very dense. Till. Mottled olive brown silt with little sand, little gravel, few cobbles and boulders.	
6.5-7.5 ft	Rock	-	Top of shale bedrock. Ripped 12 inches into rock with ease.	
7.5 ft	-	-	Stopped in rock.	



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CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	North wing of proposed building, S from center	**TEST PIT NUMBER**	**TP4**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	222+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-18"	ML	Moist	Loose. Fill. Silt with some sand, trace gravel and cobbles, few small boulders. Buried pipes (+/- 1.5"diameter steel, 2" lead.)	
18"-48"	ML	Moist	Dense. Till. Olive brown silt with little sand, little gravel, few cobbles and small boulders.	
48"-7.5ft	ML	Moist	Same, Very dense.	
7.5ft - 8ft	Rock	-	Shale bedrock. Ripped six inches into the surface, with effort.	
8 ft	-	-	Stopped in rock.	



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CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	Inside corner of proposed building	**TEST PIT NUMBER**	**TP5**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	222+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-40"	ML	Moist	Loose. Fill. Grayish brown silt with some sand, little gravel, few cobbles, bricks and shale fragments.	
40-50"	Bricks	Moist	Loose. Fill. Mostly bricks with little soil mixed in.	
50-60"	Rock	-	Shale bedrock. Ripped to 12", becoming hard.	
60"	-	-	Stopped in rock.	



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CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	East wing of proposed building, near east end	**TEST PIT NUMBER**	**TP6**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	209+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-10"	ML	Moist	Loose. Grayish brown silt with little sand, trace gravel, few cobbles. Few roots.	
10"-36"	ML	Moist	Medium-dense. Pale orangeish brown silt with little sand, traces gravel, few cobbles, few small boulders.	
36"-58"	ML	Moist	Dense. Pale yellowish brown silt with little sand, trace gravel, few cobbles.	
58"	Rock	-	Top of bedrock. Flat, hard.	
58"	-	-	Stopped on top of rock.	



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CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	Proposed stormwater control area, center	**TEST PIT NUMBER**	**TP7**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	197.5+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-2"	PT	Moist	Decomposed organics and leaf-litter. Dusky brown.	
2"-10"	SM	Moist	Loose. Fill. Brownish gray sand with some silt, little gravel, trace glass, small pocket of coal cinders.	
10"-32"	CL	Moist	Native Soil. Medium-dense. Pale yellowish brown, mottled orange. Lean Clay with some fine-graded sand, trace gravel. Massive structure, no significant joints or pores.	
32"-6ft	CL	Wet	Dense. Mottled olive brown-orange-gray Lean Clay with trace gravel, traces sand, trace roots. Dense.	
6 ft	-	-	Stopped in soil.	

No photo available.

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CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
DATE:	6/14/2023	Project No.:	23216
WEATHER:	Cloudy, 65F		

TEST PIT LOG

EXCAVATING COMPANY:	One Key LLC	LOCATION:	Proposed stormwater control area, north end	**TEST PIT NUMBER**	**TP8**
OPERATOR:	Garrett				
EQUIPMENT:	Takeuchi TB180FR Mini-Excavator	ELEVATION:	197+/-		
INSPECTOR:	Kevin Patton	WATER DEPTH:			

Depth	USCS Class	Moisture	Description	Notes
0-30"	ML	Moist	Loose. Fill. Dusky brown silt and sand with little gravel, trace concrete, two streetcar rails.	
30"-60"	ML	Very Moist	Native soil. Loose to Medium-dense. Mottled olive brown and gray silt and fine sand. Massive structure. Trace concretions (cemented sand,) 3/8" size, noted in lab sample.	
60"-8.5ft	ML	Wet	Same, wet.	
8.5 ft	-	-	Stopped in soil.	



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CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

MOISTURE CONTENT OF SOIL

TEST METHOD: ASTM D2216

Location	DEPTH,FT.	% MOISTURE
TP1	8'	13.6
TP1	11'	14.4
TP2	3'	14.1
TP3	3'	13.7
TP4	4'	13.6
TP7	2'	16.5
TP7	5'	13.5
TP8	4'	20.6

Moisture content is expressed as a percent of the dry mass of the soil.

Reviewed by: *Kevin Patton*

Form NMC

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36 PATTON ROAD

NEWBURGH, NY 12550

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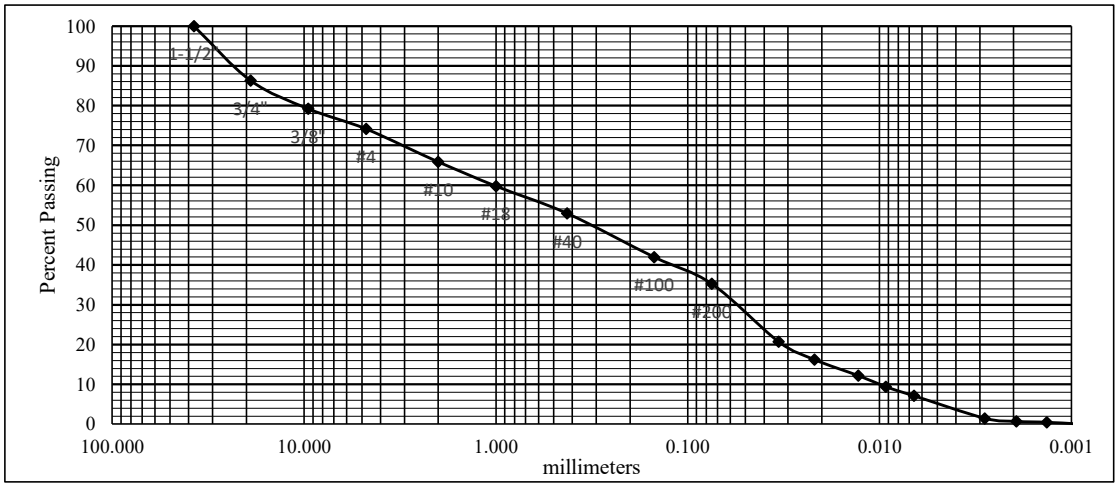
CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

SIEVE-AND-HYDROMETER ANALYSIS TEST REPORT

TEST METHOD(s): ASTM D422, AASHTO T88

Sample Location	TP1
Depth	8 feet

Sieve Size		Percent Retained	Percent Passing	Specification
inches	mm			
1-1/2"	37.5	0	100	
3/4"	19.0	14	86	
3/8"	9.5	7	79	
#4	4.75	5	74	
#10	2.00	8	66	
#18	1.00	6	60	
#40	0.425	7	53	
#100	0.150	11	42	
#200	0.075	7	35	
Hydrometer Analysis	0.050	7	28	
	0.020	13	15	
	0.010	5	10	
	0.005	5	5	
	0.002	4	1	
	0.001	1	0	



USDA Particle Size Classification:		**USDA Textural Class:** Gravelly Sandy Loam
Gravel, 3" to 2.00mm	34	
Sand, 2.00 to 0.050mm:	38	**USCS Classification (ASTM D2487/D2488):**
Silt, 0.050 to 0.002mm:	27	SC-SM, Silty Clayey Sand with Gravel
Clay, <0.002mm	1	
Total	100	Atterberg Limits were determined by: Test

Reviewed by: *Kevin Patton* Form HYD

KEVIN L. PATTON, P.E.

36 PATTON ROAD

NEWBURGH, NY 12550

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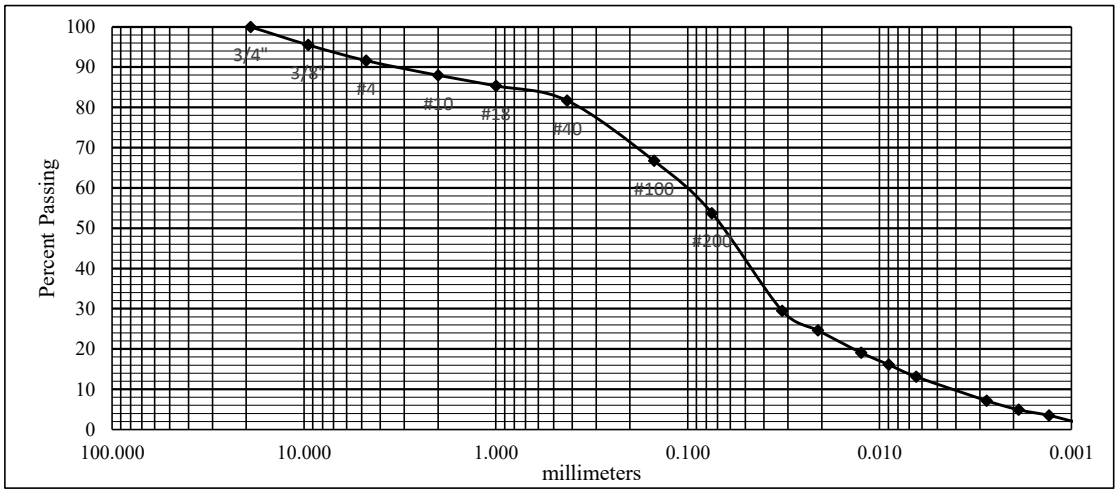
CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

SIEVE-AND-HYDROMETER ANALYSIS TEST REPORT

TEST METHOD(s): ASTM D422, AASHTO T88

Sample Location	TP3
Depth	3 feet

Sieve Size		Percent Retained	Percent Passing	Specification
inches	mm			
3/4"	19.0	0	100	
3/8"	9.5	5	95	
#4	4.75	3	92	
#10	2.00	4	88	
#18	1.00	3	85	
#40	0.425	3	82	
#100	0.150	15	67	
#200	0.075	13	54	
Hydrometer Analysis	0.050	12	42	
	0.020	18	24	
	0.010	7	17	
	0.005	6	11	
	0.002	6	5	
	0.001	3	2	



USDA Particle Size Classification:		**USDA Textural Class:** Sandy Loam
Gravel, 3" to 2.00mm	12	
Sand, 2.00 to 0.050mm:	46	**USCS Classification (ASTM D2487/D2488):**
Silt, 0.050 to 0.002mm:	37	ML, Sandy Silt
Clay, <0.002mm	5	
Total	100	Atterberg Limits were determined by: Estimated (ASTM D2488)

Reviewed by: *Kevin Patton* Form HYD

KEVIN L. PATTON, P.E.

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NEWBURGH, NY 12550

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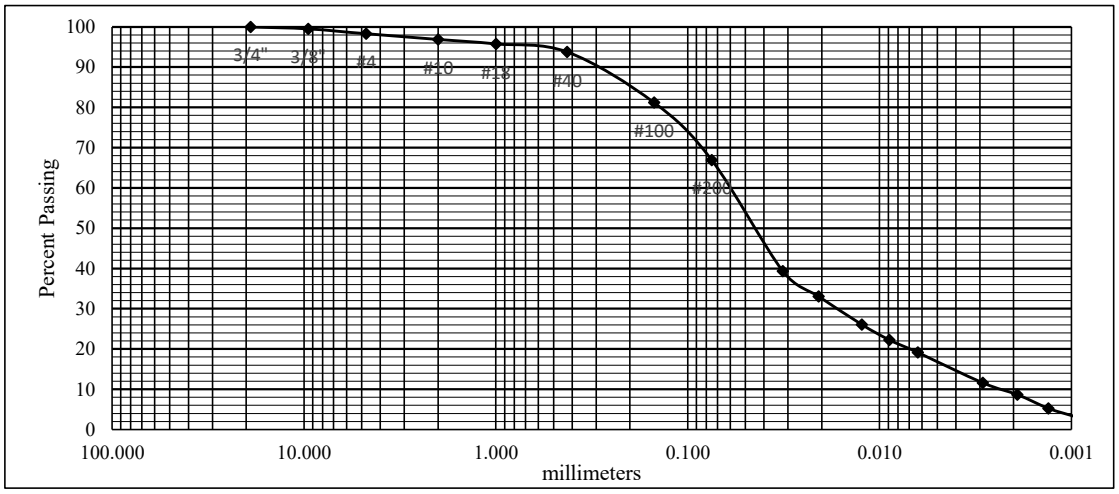
CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

SIEVE-AND-HYDROMETER ANALYSIS TEST REPORT

TEST METHOD(s): ASTM D422, AASHTO T88

Sample Location	TP7
Depth	2 feet

Sieve Size		Percent Retained	Percent Passing	Specification
inches	mm			
3/4"	19.0	0	100	
3/8"	9.5	1	99	
#4	4.75	1	98	
#10	2.00	1	97	
#18	1.00	1	96	
#40	0.425	2	94	
#100	0.150	13	81	
#200	0.075	14	67	
Hydrometer Analysis	0.050	13	54	
	0.020	22	32	
	0.010	9	23	
	0.005	6	17	
	0.002	8	9	
	0.001	6	3	



USDA Particle Size Classification:		**USDA Textural Class:** Loam
Gravel, 3" to 2.00mm	3	
Sand, 2.00 to 0.050mm:	43	**USCS Classification (ASTM D2487/D2488):**
Silt, 0.050 to 0.002mm:	45	CL, Sandy Clay
Clay, <0.002mm	9	
Total	100	Atterberg Limits were determined by: Test

Reviewed by: *Kevin Patton*

Form HYD

KEVIN L. PATTON, P.E.

36 PATTON ROAD

NEWBURGH, NY 12550

845 275-7732 PATTONGEOTECH.COM

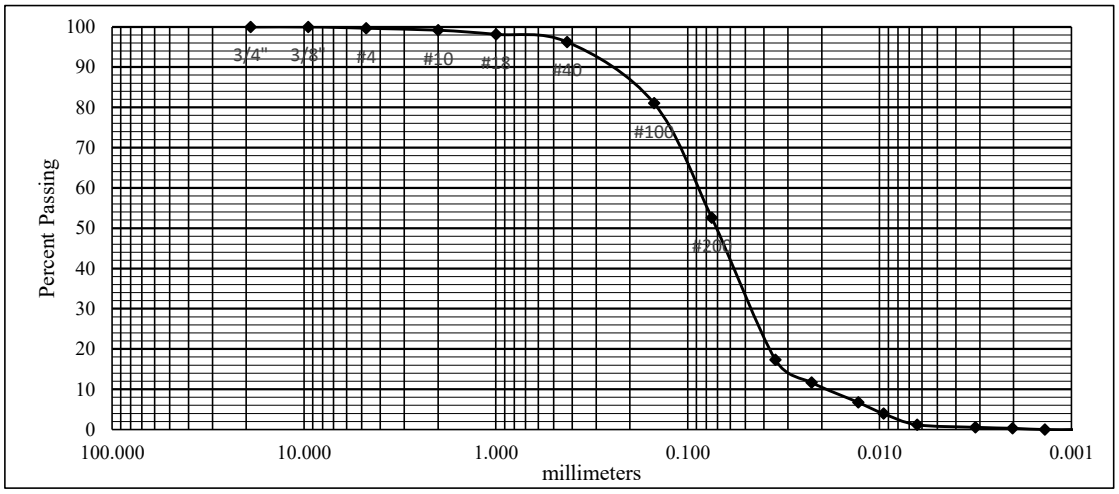
CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

SIEVE-AND-HYDROMETER ANALYSIS TEST REPORT

TEST METHOD(s): ASTM D422, AASHTO T88

Sample Location	TP8
Depth	4 feet

Sieve Size		Percent Retained	Percent Passing	Specification
inches	mm			
3/4"	19.0	0	100	
3/8"	9.5	0	100	
#4	4.75	0	100	
#10	2.00	1	99	
#18	1.00	1	98	
#40	0.425	2	96	
#100	0.150	15	81	
#200	0.075	28	53	
Hydrometer Analysis	0.050	20	33	
	0.020	23	10	
	0.010	6	4	
	0.005	3	1	
	0.002	1	0	
	0.001	0	0	



USDA Particle Size Classification:		**USDA Textural Class:** Sandy Loam
Gravel, 3" to 2.00mm	1	
Sand, 2.00 to 0.050mm:	66	**USCS Classification (ASTM D2487/D2488):**
Silt, 0.050 to 0.002mm:	33	ML, Sandy Silt
Clay, <0.002mm	0	
Total	100	Atterberg Limits were determined by: Estimated (ASTM D2488)

Reviewed by: *Kevin Patton* Form HYD

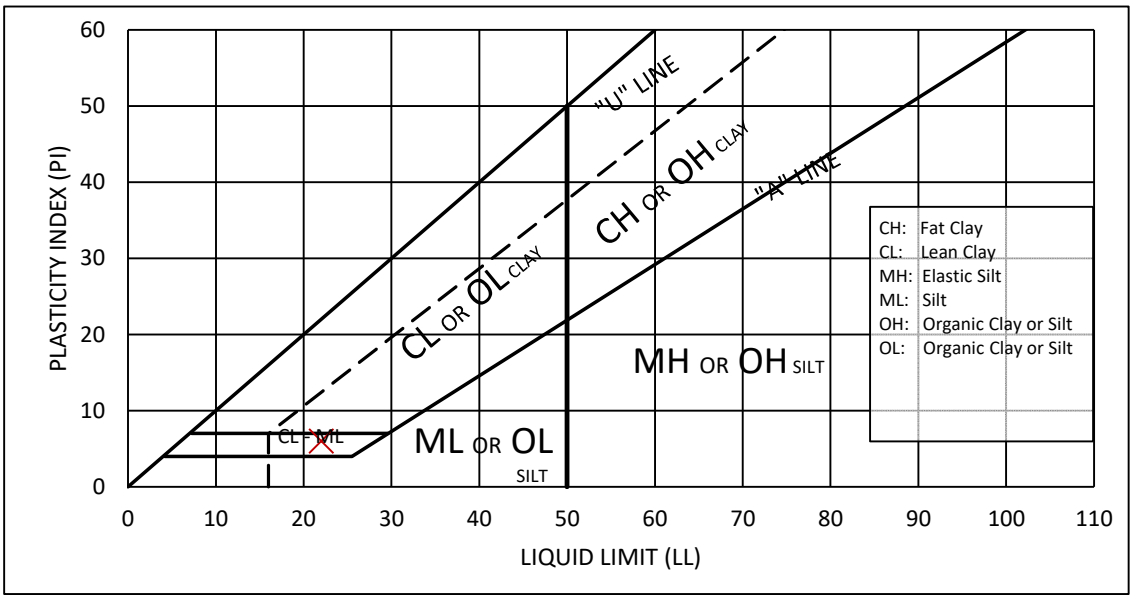
KEVIN L. PATTON, P.E.
36 PATTON ROAD
NEWBURGH, NY 12550
845 275-7732 PATTONGEOTECH.COM

CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

ATTERBERG LIMITS TEST

TEST METHODS: ASTM D4318/ AASHTO T89, T90

Sample Location	TP1
Depth	8 feet
Percent Passing #40	53
Liquid Limit (LL)	**22**
Plastic Limit (PL)	**16**
Plasticity Index (PI)	**6**
USCS Class of -#40	CL-ML, Silty Clay



LL, PL and PI values are percent moisture of the soil by dry mass.

Test is performed on the 'matrix' fraction of the soil, finer than the #40 (0.425mm) sieve.

The Liquid Limit is the moisture content at which the matrix fraction of the soil changes from a stiff to a flowing consistency. The plastic limit is the moisture content at which it changes from cohesive to crumbly. The Plasticity Index is the Liquid Limit minus the Plastic Limit.

Reviewed by: *Kevin Patton*

Form ABL

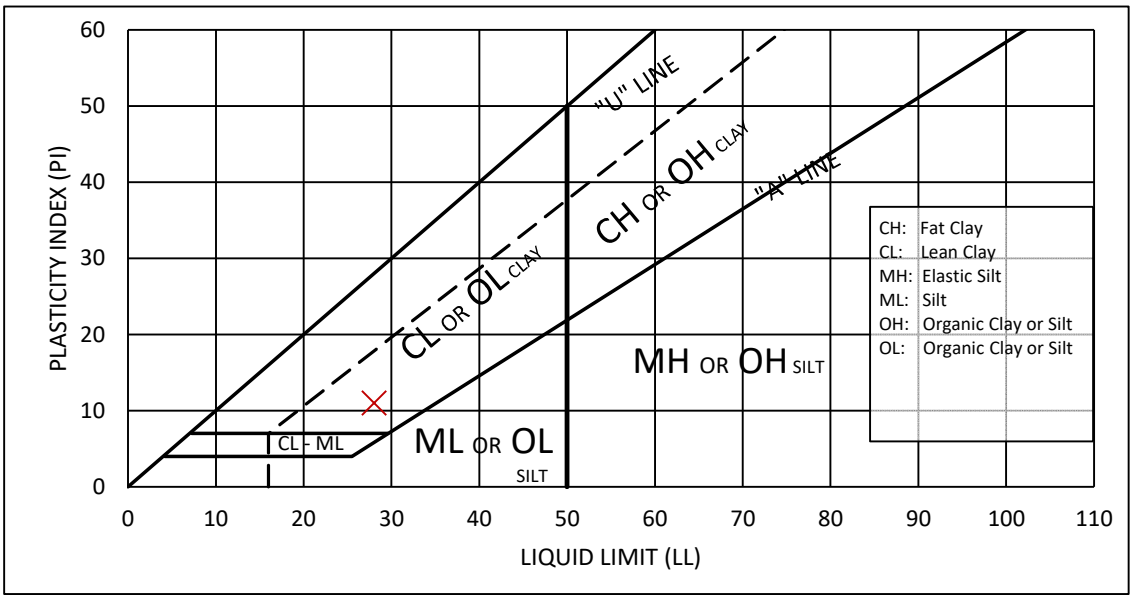
KEVIN L. PATTON, P.E.
36 PATTON ROAD
NEWBURGH, NY 12550
845 275-7732 PATTONGEOTECH.COM

CLIENT:	One Key LLC		
PROJECT:	South Hamilton Street, Poughkeepsie, N.Y.		
PROJECT No.:	23216	SAMPLE LOT No.:	230614-1
DATE SAMPLED:	6/14/2023	DATE TESTED:	6/20/2023
SAMPLED BY:	Kevin Patton	TESTED BY:	Wyeth Patton

ATTERBERG LIMITS TEST

TEST METHODS: ASTM D4318/ AASHTO T89, T90

Sample Location	TP7
Depth	2 feet
Percent Passing #40	94
Liquid Limit (LL)	**28**
Plastic Limit (PL)	**17**
Plasticity Index (PI)	**11**
USCS Class of -#40	CL, Lean Clay



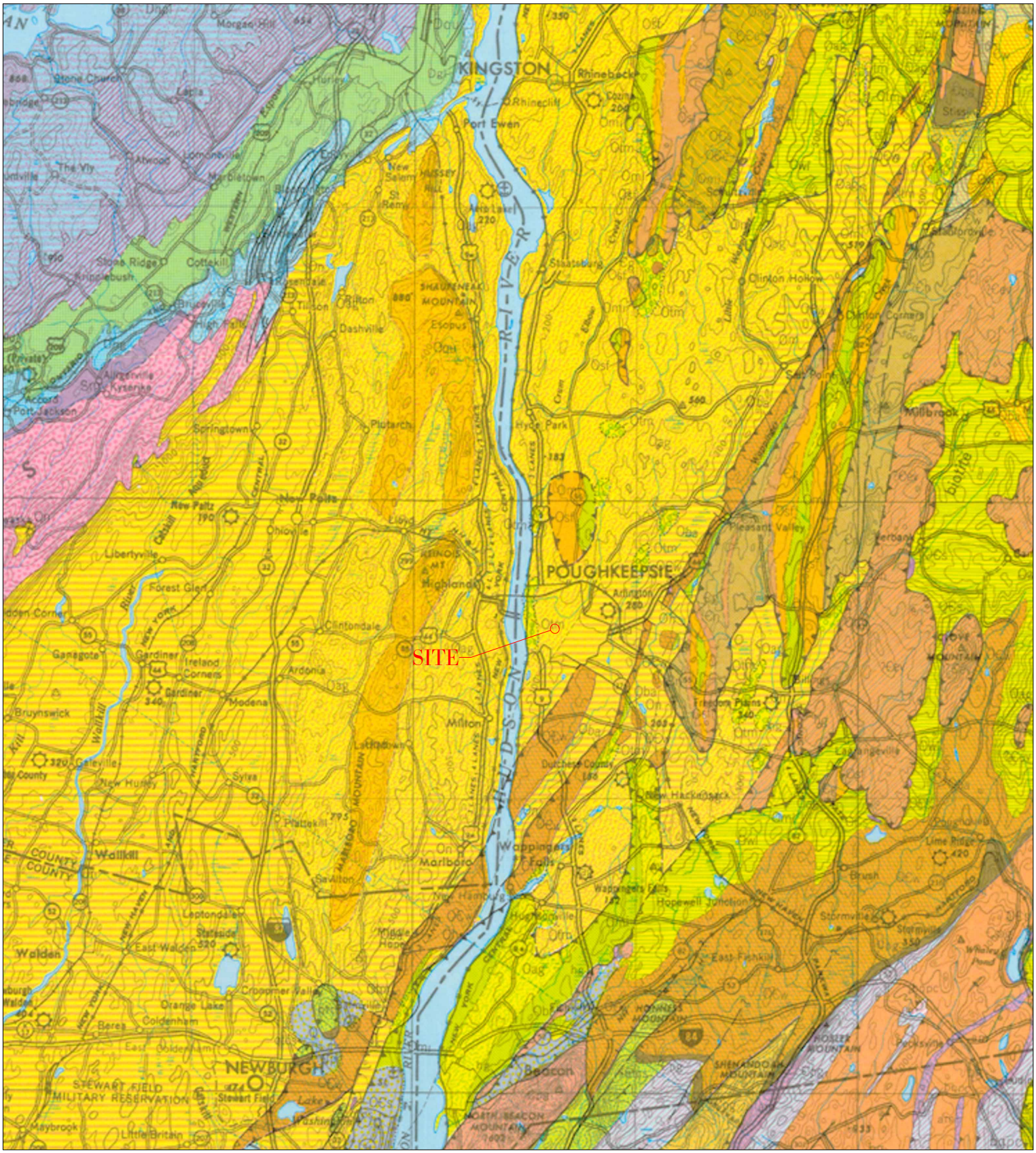
LL, PL and PI values are percent moisture of the soil by dry mass.

Test is performed on the 'matrix' fraction of the soil, finer than the #40 (0.425mm) sieve.

The Liquid Limit is the moisture content at which the matrix fraction of the soil changes from a stiff to a flowing consistency. The plastic limit is the moisture content at which it changes from cohesive to crumbly. The Plasticity Index is the Liquid Limit minus the Plastic Limit.

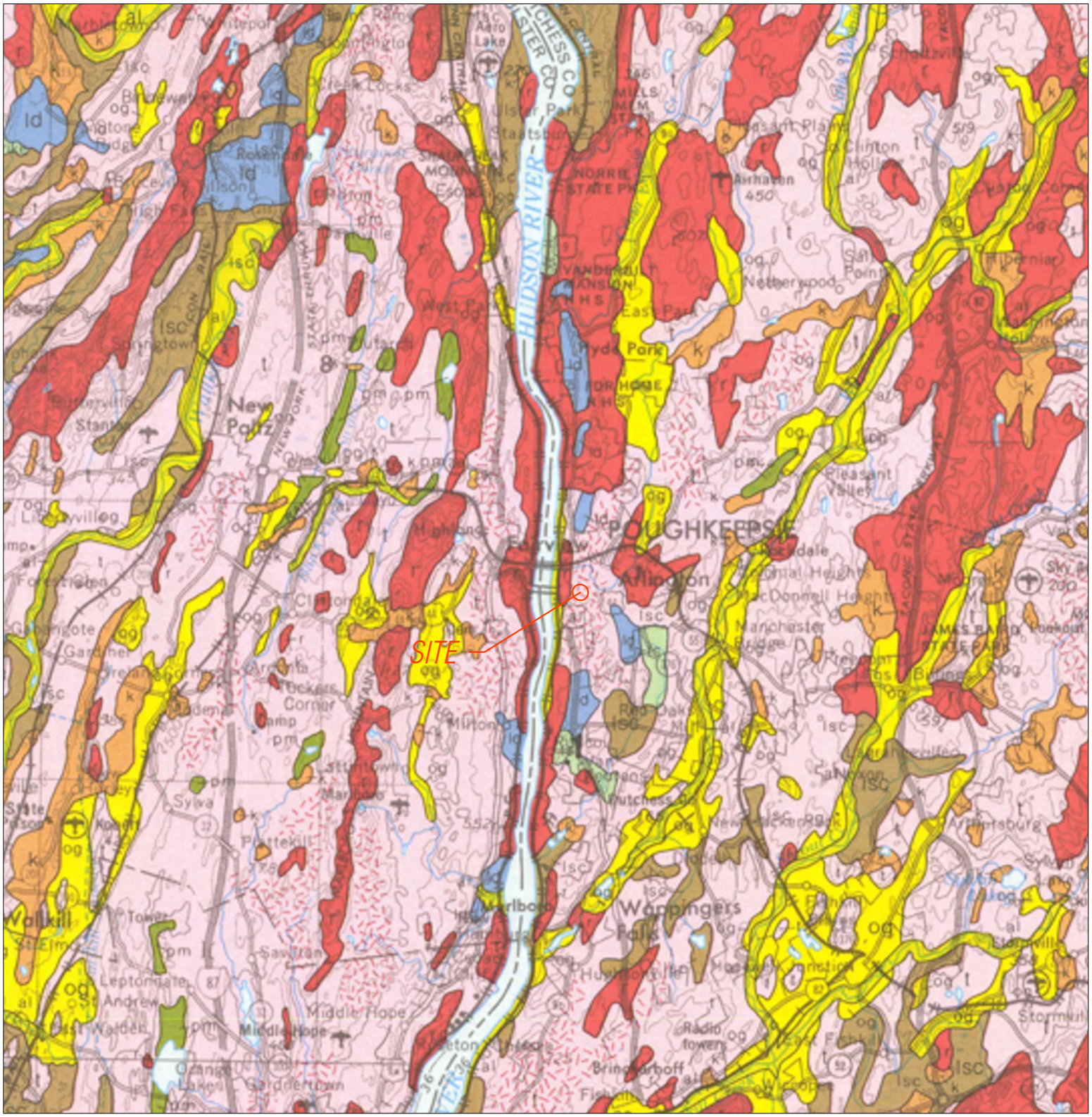
Reviewed by: *Kevin Patton*

Form ABL



Approximate location of the project site, shown on part of the Bedrock Geologic Map of New York (1970.) The site is in an area of Ordovician-age sedimentary bedrock consisting mostly of gray siltstone, shale and greywacke sandstone. The bedrock at the site is shown as Austin Glen Formation (mottled green, symbol Oag,) which is generally bounded to the east and west by the somewhat older Normanskill shale (yellow with red stripes, symbol On,) and is overlain by the younger Quassaic quartzite in the high areas (orange, Oqu.) Taconic melange (green, Otm,) is indicated along the Hudson River in Poughkeepsie, to the west of the site; it is composed of slaty, sheared Austin Glen bedrock. To the southeast, the older Wappinger dolostone (brown, OCw,) is down-faulted against the Normanskill Formation bedrock.

SURFICIAL GEOLOGIC MAP



Approximate location of the project site, shown on a partial copy of the Surficial Geologic Map of New York (N.Y. State Museum, 1989.) The map indicates that the soils at and near the site are glacial till, shown in pink with the symbol 't.' A red stipple pattern is also shown, indicating that bedrock is generally within three to ten feet of the surface. Areas where bedrock is mostly very shallow or is exposed are indicated by red. Thee map units are generalized; alluvium, outwash and lacustrine deposits have all been encountered in parts of the City of Poughkeepsie where till is indicated by the map.

EXPLANATION

al — **Recent deposits**
Generally confined to floodplains within a valley,
oxidized, non-calcareous, fine sand to gravel,
in larger valleys may be overlain by silt,
subject to frequent flooding, thickness 1–10 meters.

alf — **Alluvial fan**
Fan shaped accumulations,
poorly stratified silt, sand and boulders,
at the foot of steep slopes,
generally permeable.

b — **Beach**
Sand and gravel deposit at marine shoreline,
thickness variable.

bi — **Barrier island**
Sand and gravel deposit as barrier island,
south shore of Long Island,
may have associated dunes,
thickness variable.

pm — **Swamp deposits**
Peat-muck, organic silt and sand in poorly drained areas,
un-oxidized,
may be overlying marl and lake silts,
potential land instability,
thickness generally 2-20 meters.

ld — **Lacustrine delta**
Coarse to fine gravel and sand,
stratified, generally well sorted,
deposited at a lake shoreline,
thickness variable (3-15 meters).

lsc — **Lacustrine silt and clay**
Generally laminated silt and clay,
deposited in proglacial lakes,
generally calcareous,
potential land instability,
thickness variable (up to 100 meters).

ls — **Lacustrine sand**
Sand deposits associated with large bodies of water,
generally a near-shore deposit or near a sand source,
well sorted, stratified,
generally quartz sand,
thickness variable (2-20 meters).

og — **Outwash sand and gravel**
Coarse to fine gravel with sand,
proglacial fluvial deposition,
well rounded and stratified,
generally finer texture away from ice border,
thickness variable (2-20 meters).

fg — **Fluvial sand and gravel**
Deposits of sand and gravel,
occasional laterally continuous lenses of silt,
deposition farther from glacier,
age uncertain.

k — **Kame deposits**
Includes kames, eskers, kame terraces, kame deltas,
coarse to fine gravel and/or sand,
deposition adjacent to ice,
lateral variability in sorting, coarseness and thickness,
locally firmly cemented with calcareous cement,
thickness variable (10-30 meters).

km — **Kame moraine**
Variable texture (size and sorting) from boulders to sand,
deposition at an ice margin during deglaciation,
positive constructional relief,
locally cemented with calcareous cement,
thickness variable (10-30 meters).

tm — **Till moraine**
More variably sorted than till,
generally more permeable than till,
deposition adjacent to ice,
more variably drained,
may include ablation till,
thickness variable (10-30 meters).

t — **Till**
Variable texture (e.g. clay, silt-clay, boulder clay),
usually poorly sorted diamict,
deposition beneath glacier ice,
relatively impermeable (loamy matrix),
variable clast content — ranging from abundant well-rounded
diverse lithologies in valley tills to relatively
angular, more limited lithologies in upland tills,
tends to be sandy in areas underlain by gneiss or sandstone,
potential land instability on steep slopes,
thickness variable (1-50 meters).

af — **Artificial fill**

r — **Bedrock**
Exposed or generally within 1 meter of surface.

Bedrock stipple overprint
Bedrock may be within 1-3 meters of surface,
may sporadically crop out,
variable mantle of rock debris and glacial till.

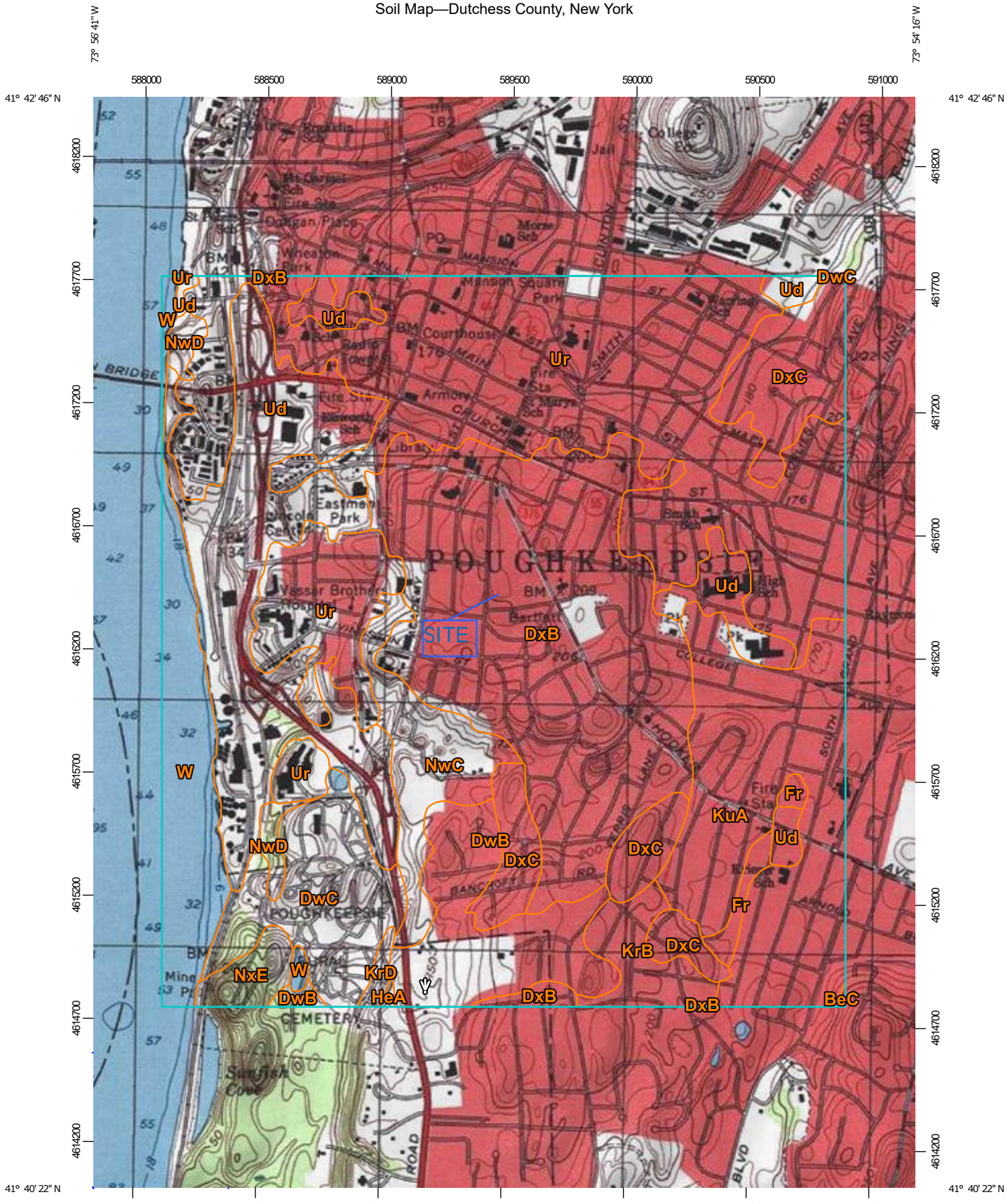
MAP SYMBOLS

Contact

.3 Dated radiocarbon locality

MAP KEY
NEW YORK STATE SURFICIAL GEOLOGIC MAP

KEVIN L. PATTON, P.E.


73° 56' 41" W
73° 54' 16" W
41° 42' 46" N
41° 40' 22" N
588000
588500
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590000
590500
591000
4618200
4617700
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4615200
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SITE
Ur
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DwC
DxC
NwC
DwB
KuA
Fr
KrB
NxE
KrD
HeA
BeC
POUGHKEEPSIE
Map Scale: 1:21,600 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0
300
600
1200
1800
Feet
0
1000
2000
4000
6000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Background

- Topographic Map

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 19, Sep 10, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BeC	Bernardston silt loam, 8 to 15 percent slopes	0.6	0.0%
DwB	Dutchess-Cardigan complex, undulating, rocky	102.3	5.0%
DwC	Dutchess-Cardigan complex, rolling, rocky	96.6	4.7%
DxB	Dutchess-Cardigan-Urban land complex, undulating, rocky	399.6	19.5%
DxC	Dutchess-Cardigan-Urban land complex, rolling, rocky	123.4	6.0%
Fr	Fredon silt loam	12.3	0.6%
HeA	Haven loam, nearly level	1.0	0.1%
KrB	Knickerbocker fine sandy loam, undulating	36.0	1.8%
KrD	Knickerbocker fine sandy loam, hilly	5.2	0.3%
KuA	Knickerbocker-Urban land complex, nearly level	214.3	10.5%
NwC	Nassau-Cardigan complex, rolling, very rocky	68.8	3.4%
NwD	Nassau-Cardigan complex, hilly, very rocky	14.7	0.7%
NxE	Nassau-Rock outcrop complex, steep	19.6	1.0%
Ud	Udorthents, smoothed	286.3	14.0%
Ur	Urban land	565.5	27.6%
W	Water	104.2	5.1%
Totals for Area of Interest		**2,050.6**	**100.0%**

Dutchess County, New York

DxB—Dutchess-Cardigan-Urban land complex, undulating, rocky

Map Unit Setting

National map unit symbol: 9rfr
Elevation: 20 to 1,000 feet
Mean annual precipitation: 41 to 47 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Dutchess and similar soils: 30 percent
Cardigan and similar soils: 25 percent
Urban land: 20 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dutchess

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till derived mainly from phyllite, slate, schist, and shale

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 28 inches: silt loam
H3 - 28 to 86 inches: channery silt loam

Properties and qualities

Slope: 1 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Cardigan

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till or colluvium derived from phyllite, slate, shale, and schist

Typical profile

H1 - 0 to 8 inches: channery silt loam
H2 - 8 to 20 inches: channery loam
H3 - 20 to 30 inches: channery silt loam
H4 - 30 to 34 inches: unweathered bedrock

Properties and qualities

Slope: 1 to 6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Urban Land

Typical profile

H1 - 0 to 6 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components

Udorthents

Percent of map unit: 10 percent
Hydric soil rating: No

Georgia
Percent of map unit: 5 percent
Hydric soil rating: No

Nassau
Percent of map unit: 5 percent
Hydric soil rating: No

Massena
Percent of map unit: 4 percent
Hydric soil rating: No

Sun
Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 19, Sep 10, 2022

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

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

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

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

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

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties–Dutchess County, New York														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
DxB—Dutchess-Cardigan-Urban land complex, undulating, rocky														
Dutchess	30	B	0-8	Silt loam	ML	A-4	0- 0- 0	0- 8- 15	95-98-100	90-93-95	80-88-95	55-70-85	15-24-33	NP-2 -4
			8-28	Silt loam, channery silt loam, gravelly loam	GM, ML, SM	A-4	0- 0- 0	0- 0- 20	70-92-95	65-90-95	55-80-95	40-70-85	15-24-33	NP-2 -4
			28-86	Channery silt loam, very channery fine sandy loam, very gravelly sandy loam	GM, ML, SM	A-1-b, A-4, A-2-4	0- 0- 0	5-15- 25	55-68-80	50-63-75	30-53-75	15-40-65	15-20-25	NP-2 -4
Cardigan	25	C	0-8	Channery silt loam	ML, SM	A-4	0- 0- 0	0- 3- 5	80-88-95	70-83-95	60-68-75	35-53-70	15-24-33	NP-3 -5
			8-20	Silt loam, channery silt loam, channery loam	ML, SM	A-4	0- 0- 0	0- 5- 10	80-88-95	70-83-95	60-68-75	35-53-70	15-24-33	NP-3 -5
			20-30	Silt loam, loam, channery silt loam	ML, SM	A-1, A-4, A-2	0- 0- 0	0- 5- 10	80-88-95	60-75-90	40-58-75	20-45-70	15-24-33	NP-3 -5
			30-34	Unweathered bedrock	—	—	0- 0- 0	0- 0- 0	—	—	—	—	—	—
Urban land	20		0-6	Variable	—	—	0- 0- 0	0- 0- 0	—	—	—	—	—	—

Data Source Information

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 19, Sep 10, 2022

The O'Neill Group
A Real Estate Development Company
241 Hudson Street / Hackensack, NJ 07601
Phone: 201.488.4455 / Fax: 201.488.8283
www.theoneillgroup.us

October 21, 2024

City of Poughkeepsie
Director of Development
62 Civic Center Plaza
Poughkeepsie, New York 12601
Attn: Lori Garcia

Re: Lot # 151783 South Hamilton Street

Dear Ms. Garcia:

The following is a summary outlining changes to the plan that will be heard on October 22, 2024.

Landscaping Plan - Christmas Fern has been added to the South Hamilton frontage as additional, attractive ground cover. Photo depictions of Christmas Fern and Midwinter Fire shrubs were added to the drawings. A Note has been added to require a minimum of 12" screened topsoil where bedrock is encountered throughout the site. The location of trees is adjusted so that plantings near Catch Basin 6 and the flared end section by Catch Basin 1A do not impair drainage.

Architectural Rendering – Three updated viewpoint renderings were provided looking from South Hamilton Street Drive southeast, head-on from the curbline to the front courtyard and from the southwest leg of the building to the north across the building façade. The drawings still reflect a two-story wood-framed with a variety of features for each elevation. No other changes are proposed to the exterior building plan or interior layout except that floor drains have been added to the garage.

Photometric Plan – A revised photometric plan is presented in response to comments by Mr. Ahearn. Additional fixture information such as lighting color temperature are taken from product cut sheets. Lighting levels have been reduced from 12.4fc to 5fc and the light pole originally shown within the banked parking has been relocated. Light levels at adjacent property lines have been reduced to eliminate spillage.

Photo Montage – Updated for stone material of retaining wall matching the building and the height of the wall is changed to meet the grading proposed of the site plan drawings.

Additional shrubbery is added to match the Landscape Plan and the No Trespassing sign shown on the prior iteration is removed.

Site Plan - A guiderail is added to the plan at the northwest corner of the building for fall protection. Corrected labeling and missing labels have been added to the plan for various catch basins and manholes. A double yellow line stripe at the driveway has been extended to South Hamilton Street. On the layout plan, the banked tandem parking is located and the vegetated geocell cover is added to S1. The construction entrance is shown on Utility plan sheet S2.

Various typographical corrections to invert and contours are added to S3 of the Grading and Drainage Plan. A cut-fill summary table is added to S3. On S4, a sediment trap showing adequate capacity has been relocated within the area of the proposed bio-retention.

SWPPP – A tributary drainage map for post-development is added to the SWPPP at page 29. Varius manufacturer details are added to Sheet S3 and labeling errors for inverts and equipment have been corrected on S3.

Snow Storage – Adequate snow storage is shown on Sheet S1 and details for plantings in this area are shown on L1 – L3 of the Landscaping Plan.

Lastly, a Consistency Analysis was submitted and prepared by Stephen Tilley, R.A. Mr. Tilley is a well-regarded qualified preservationist consultant.

Should you have any questions, please contact me anytime.

Sincerely,



George Brandt

September 24, 2024

Mr. Richard Distel
City of Poughkeepsie Planner
62 Civic Center Plaza
Poughkeepsie, New York 12601

RE: 100 S. Hamilton Street
Proposed 58-Unit Residential Building
Project Engineering Review
LaBella Project #2233235

Dear Mr. Distel:

This office is in receipt of the following materials received on August 19, 2024 for review:

- Site Plan set (Dated October 3, 2023, last revised August 13, 2024)
- Stormwater Pollution Prevention Plan (dated October 3, 2023, last revised August 12, 2024)
- Engineer Transmittal/Response Letter (dated August 12, 2024)

Below, please find a summary of our comments related to the review of the above-listed submitted project documents.

Site Plans (dated Aug 13, 2024):

Layout Plan (S1):

1. Consider adding pedestrian fall protection at the walkway retaining wall near the northwest corner of the building. Per building code, fall protection shall be provided for pedestrian surfaces adjacent to drops of greater than 30".
2. The response letter indicates the existing DMH at the intersection of Dwight/S. Hamilton will be replaced in its entirety. As such, revise the Dwight St drainage improvements callout to refer to curb/sidewalk replacement between CB11 and CB14 and relocate the leader to point to the curb/sidewalk.
3. Correct the location of the SMH1 label (all sheets).
4. Label CB14.
5. Continue the double yellow pavement stripe to the South Hamilton St intersection.
6. Specify what the dashed line along the south side of the building is.
7. Identify land banked parking (dashed lines after the northern parking spaces) on S1 and in the parking requirements table. Specify the proposed cover type for these spaces.

Water & Sewer Utility Plan (S2):

8. The stabilized construction entrance should be called out on S4 instead of S2.

Grading & Drainage Plan (S3):

9. Revise the FES invert in the northeast corner of the site from 195.00 to 195.50 to correspond to the downstream
10. The proposed 210 contour between 211 and 213 on the south side of the building should be 212.
11. The note to maintain existing grade along building and property boundary does not make sense since there is proposed grading here.
12. Provide a cut-fill summary table on the Grading Plan. See Erosion Control Plan (S4) comments related to truck trips/sediment tracking.
13. Provide pipe lengths and slopes for roof drains.

14. Provide traffic control plan for Dwight Street and S. Hamilton Street utility connections.

Erosion Control Plan (S4):

15. Calculate the tributary area and associated volume of sediment trap(s). Show any relevant temporary diversion swales/earthen dikes proposed to direct runoff to the proposed sediment trap(s). Confirm trap(s) shown can provide the required volumes.
16. Provide an earthwork estimate for the project on the Grading and Drainage Plan (see comments above). It appears there is a large amount of export required. The Erosion Control Plan should address vehicle tracking on South Hamilton Street if a large amount of export and associated trucking is proposed. A standard stabilized construction entrance may not be adequate and additional measures should be considered.

Standard Details (D1-D4, CT1, CT2):

17. The water main trench detail shall be revised to specify Class 52 DIP (name of detail). Detail note 2 shall also be updated accordingly.
18. The top left detail on sheet CT1 and project SWPPP call out the subsurface detention chamber as 48". However, the top left detail on sheet CT2 refers to a 60" detention system. Clarify/revise as needed.

Landscaping Plan/Details (L1-L2):

19. The proposed trees next to CB6 and next to the FES after CB1A may interfere with the proposed drainage infrastructure and should be relocated.

Lighting and Photometrics:

20. The Planning Board should discuss light spillage shown onto adjacent residential properties, primarily along the north side of the site access drive.
21. Provide a detail for the proposed fixtures. Provide additional fixture information such as lighting color temperature.
22. Plan view fixtures don't match those shown in the legend. Provide matching blocks or label individual fixtures so they can be identified & quantified.
23. Provide sufficient lighting for residents at the refuse enclosure.
24. Maximum lighting levels have been reduced but remain high (reduced from 26.3 fc to 12.4 fc). We continue to recommend further reducing maximum levels closer to 5 fc.
25. A light pole is shown in the landbanked parking area and should be relocated so it doesn't conflict with the future potential parking expansion.
26. Show the light poles/bollards on the Site Plans (Utility and Landscaping specifically) to confirm lighting conflicts don't exist with other site improvements.
27. Will the proposed monument sign be provided with internal and/or external lighting? Clarify on the Lighting Plan.
28. Provide additional information on the lighting plan related to how the lighting will be controlled (photocell, timer, dimmer, etc.). Indicate whether the proposed fixtures are dark sky compliant.
29. Incorporate the Lighting Plan into the Site Plan set.

Stormwater Pollution Prevention Plan (dated August 13, 2024):

1. Provide the referenced flap gate detail located at STMH3.
2. Provide overflow for the bioretention basin for large storm events exceeding the infiltrative capacity of the bioretention soil media/underdrains. Ensure overflow has capacity for up to the 100-year storm.

3. Provide access lids at each inlet location as recommended by the manufacturer for inspection/maintenance (in addition to the provided access lid at the outlet).
4. The map reference notes on the Pre-Development and Post-Development Drainage Maps should be updated to reference the source of the additional/supplemental off-site topography (for the topography beyond what is provided on the referenced Boundary and Topographic Survey). And said additional/supplemental off-site topography should be added back onto the map(s) as was provided in the 6/12/24 SWPPP.
5. The referenced additional map showing tributary areas draining to the northeast was not able to be located in the SWPPP narrative as indicated in the response letter.
6. The pre-development subcatchments use a land coverage of "woods/grass combination." The response letter indicates the pre-development was based on the site prior to clearing, as requested. However, the site prior to clearing was heavily wooded and a land coverage of "woods" should be used instead of "woods/grass combination."
7. Pipe sizing calculations for the drainage conveyance pipes shall be provided prior to final approval.
8. The inverts of the Jellyfish unit shown on S3 do not match the detail on CT1.
9. Section 3.4 states the Channel Protection Volume (CPv) is reduced within the WQv and RRv techniques. However, this doesn't appear to be the case for the RRv techniques and WQv techniques aren't considered for Channel Protection Volume. Provide the calculations to demonstrate CPv requirements are met within the RRv techniques or provide the required CPv within the subsurface detention chambers.
10. The time of concentration flow path shown on the Post-Development Drainage Map for POA-2 doesn't appear to match the flow path modeled. It's not clear why the post-development time of concentration for POA-2 would be longer than the pre-development time of concentration.
11. The gravel diaphragm for the bioretention basin shall extend along the full length of adjacent tributary parking lot surface (in vicinity of landbanked parking area).

Additional technical review comments will be provided as revised project documents are submitted. If you should have any questions related to the above comments, please don't hesitate to contact me at kahearn@labellapc.com or (845) 454-3980.

Respectfully submitted,

Kyle Ahearn, PE
Senior Civil Engineer
LaBella Associates

Planning Board Comments

Oct. 22, 2024

George Harmuth

57 Hooker Ave.

RE: South Hamilton Ave. development

Hello, I'm Mike Harmuth and I live at 57 Hooker ave.

First off, I'd like to thank the developer for the changes, especially related to drainage and snow removal, I see in what has been titled as the Final Site Plan submitted on 10/12/2024. I'm not sure how the snow removal plan will work out if the city decides to enforce its 10% visitor parking requirement. My wife will have more to say on that.

The new site plan is significantly different from the original plan. The only constant is the number of units, 58. The new building has a 63% larger footprint than the prior project. The developers current SWPPP lists impervious surface as 1.6 acres out of 3.4 acres on the site which results in 47.05% of the lot to be covered. The current city zoning code, as described in section 19.4.4 allows 40% coverage.

A letter submitted by the Developer on 6/25/24 from the NYS Division for Historic Preservation states in part:

They do not include potential environmental impacts to that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act.

The Planning department has determined this is a Type 1 SEQR action. As a result, the initial site plan submission contained the SEQR required Full Environmental Assessment Form, Part 1. As per state requirements, FEAF parts 2 and 3 need to be completed by the lead agency (the city), in concert with the developer.

From the NY SEQR code, section 4, in part

The lead agency has 20 calendar days to make its determination of significance. If the lead agency finds that it does not have sufficient information to make this determination, it may request that the applicant provide it.The lead agency must consider:

- the whole action and the criteria [see 617.7(c);
- the EAF and any other information provided by the applicant;
- involved agency input
- public input

These steps are required to determine if an Environmental Impact Statement has to be performed by the developer. I have asked to see parts 2 and 3, through the FOIL process, but they don't appear to be included in any of the documents I've reviewed or the package presented tonight to the public.

This brings up another rather large question. Since the current project has undergone a substantial series of changes, including a 62% increase in building area, I fail to see how the initial FEAF data is still valid. Assuming this is still a Class 1 SEQR action, a new FEAF, with the corresponding parts 2 & 3 are a necessary component to determine if an EIS is required. Prior article 87 court decisions have confirmed that this site, with a much smaller proposed project, needed a Full Environmental Impact Statement.

The size of this project is a problem. The board, in the past, was able to get a reduction of a prior project deemed to be too much of an impact on the neighborhood from 51 units to 43.

The mission statement for the Planning Board from the City's website states, in part:

"The Planning Board considers compliance with the City's comprehensive plan, design compatibility with surrounding structures"

The current city's comprehensive plan, adopted, Sept 2022 prior to the April 2023 submission of this project, does not allow this kind of density on this site. The board is within its right, and in fact its duty is to get this project reduced to the point where the Environmental Impact on the existing neighborhood is acceptable and in the best interests of the community.

Thank you

Mike Harmuth

Planning Board Comments

Oct. 22, 2024

Ann Harmuth

57 Hooker Ave.

RE: South Hamilton Ave. development

Hello, I'm Ann Harmuth and I live at 57 Hooker Ave.

I've been looking at the newest site plan. I'd like to make a few comments and observations.

1. The number of parking spots does not meet city code. It was confirmed yesterday, with deputy administrator Joe O'Brien, that the requirement for an additional 10% of total parking spots for visitors applies to this project. This is very important in this neighborhood where on street parking is at a premium. Based on the mix of units at the complex, 102 parking spots is the minimum for residents, but the required visitor parking makes the total, 112.
2. The newest plan has an additional 9 unpaved, GeoCell, parking spaces on the north side of the property, which are not included in the 102 paved spot total. The addition of these land banked sites still is under the required 112 total.
3. Since these land banked spots are located in the area specifically designated as the pathway to the snow storage area, it's unclear how they can be used during the winter months.

The Project is too big!

A new addition to the plan is a table describing the amount of material, all subsoil, mostly rock, that has to be chipped out and hauled away.

According to the developers tables on page 4:

Sub surface removal on the site is listed at 41,347 Loose Cubic Yards or LCY

Some of this material will be broken up and reused on site. A large amount, 30,709 Cubic Yards, will need to be hauled off site, down the one driveway and past the historic homes on South Hamilton.

Based on a calculator from the Caterpillar Company, Crushed stone weighs 2,700 Lbs per LCY. The nearly 31,000 cubic yards of rock which need to be removed from the site weigh around **83 million pounds.**

Another calculation from the Caterpillar site estimates it will take approximately 2,600 dump truck loads to move that material past our homes. In addition to the rock going out, the developer requires another 165 truckloads of topsoil to be imported and spread around. None of this tonnage includes the concrete, blacktop, massive underground storage system pipes, or the brick and materials needed to actually construct the building. Additionally, add in the heavy equipment, chippers, construction crew trucks, water and fuel tankers.

All of these millions of pounds will move along the 10 foot buffer zone, before any screening is in place, from Shirley Adams' home.

The project is too big!

What is being done to monitor and mitigate the damage this massive movement of material can cause to our 150 year old foundations and plaster walls that sit on the same bedrock as the project and the street? The roads around the project will suffer as well. There is a 5 ton weight limit on Academy Street and Lockerman Ave. That means when the trucks leave South Hamilton, their only options are side streets, like through the Dwight St. Historic District or down the length of S. Hamilton to the Arterial.

I urge the Planning Board take a hard look at this project and its impact on the historic neighborhood that surrounds it.

It's just too big!

Thank you

Ann Harmuth

Dear Planning Board,

Points I'd like to have made at yesterday's Public Hearing on the South Hamilton project:

1. The current applicants did indeed cut down trees on the central site after the previous applicant's gratuitous deforestation. They did this with a Permit only to clear brush. One wishes to rely on developers to do what they promise.

2. The current application seems based on maximizing profit on the 3.4 acres. This site previously contained one grand house, and is now suitable for six or seven family homes. Should the applicant build these instead of the proposed monolith, they would save the major expense of leveling the ground, the challenge which stymied a previous developer 50 years ago. And I'd be the first to welcome our new neighbor families with banana bread or carrot cake. Full disclosure: My personal preference is to keep the site green, or now in autumnal splendor, an oasis in an increasingly concrete city. Tree City might wish to conserve its trees to help mitigate the oncoming climate.

3. I do not wish to demean the work of professional consultants but I do not regard it as objective. We could hire consultants to present a contrasting view, if we could afford it.

4. A representative of the current applicants spoke at the last Common Council meeting, asking them to assure their project would be grandfathered in when the proposed zoning changes disallow it. Her principal argument was they've already spent a lot of money. This seems to me the standard gamble of developers and it's clearly not the Planning Board's role to bail them out.

5. As many hundreds of truckloads of chipped rock would be carted past my house, and in the event of weeks, months, of jackhammering, who would be liable for repairs to my ornate plaster cornices?

Meanwhile we all look to the Board's professional and humane deliberation.

Respectfully,

(Dr.) Roger Christenfeld

Tina Tockarshewsky
1 Dwight Street
Poughkeepsie, NY 12601

October 21, 2024

To the Members of the City of Poughkeepsie Planning Board:

As a historic home owner on Dwight Street, I continue to voice strong objections to the O'Neill South Hamilton project. The size and scale are disproportionate to the lot and to the historic residential Southside neighborhood…we know there is historical precedence affirming this given prior building proposals for this lot. I still contend the traffic will be a public safety risk and impact quality of life, even the latest traffic study expresses concern regarding the exacerbation of existing speeding and collision issues. I remain fearful that current chronic flooding will become worse or shift the damage to other properties once water is diverted because of the extensive network of springs. And I am again **raising alarm regarding the dangerous seismic ramifications for the neighborhood's historic and older homes from ANY heavy construction activity**

In April 2024, this area had a 4.8 earthquake. The effect on my home has become more apparent in the months since. Building cracks inside and out, shifting masonry, my front entrance foundation sinking to the point that the supporting beams show movement. Earthquake and construction damages are not covered by insurance. I just visited family in Zagreb, Croatia, where a 5.4 earthquake hit in 2020, just slightly stronger than ours, followed by sustained aftershocks. Older masonry and stone masonry housing…not unlike the construction of my house and others here...sustained the greatest damage. Family members share that the damage to their apartment buildings is only now, four years later, becoming apparent.

I run a flight school, and on a Spring training flight over the neighborhood, I took a picture of the site. I was shocked by the amount of rock I viewed. The arial pictures submitted to this committee all give a flattened perspective taken by satellite. My overhead picture from a lower level shows the enormous amount of bedrock mountain covering most of the property. In fact, in 2023 5 of 6 geological tests sampled on the site showed bedrock.

While the developer promises there will be no "blasts" used, **any method used to remove bedrock will generate seismic activity**…as will the high volume of trucks needed to haul rock away and the large construction vehicles employed to build. The current plan submitted affirms this, **citing the removal of over 30,000 loose cubic yards of rock and subsoil, potentially representing 1-2,000 truck loads. Plus an additional 3,000+ loose cubic yards (nearly 200 truck loads) of topsoil to be brought in**. All of this occurring weekdays from 7 am through 5 pm.

I lived in DC on the 24th floor of a building across from a building site using "blastless" excavation. I worked from home over the many months of construction, and I can attest to my ceiling cracks and the maddening, daily, hours-long non-stop massive thump, thump, thump of the machinery used to drive through the bedrock.

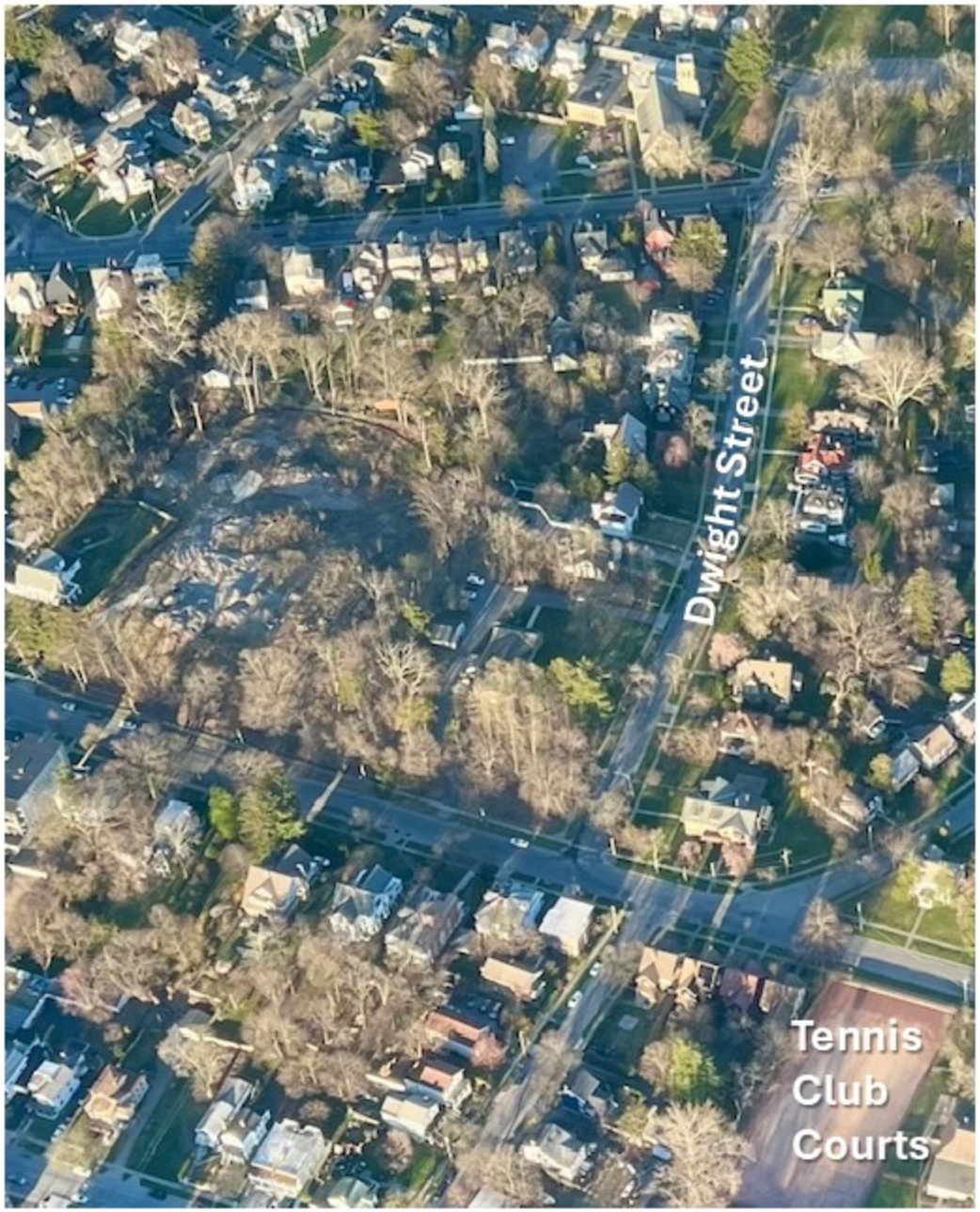
Our historic register homes are extremely fragile, any seismic activity will cause damage. The board and the community need to know exactly how this bedrock will be removed and the equipment to be used. The plan also notes historic Dwight Street will be blocked during construction: is this because it will be the main path for construction traffic and a staging area? This needs to be clarified. If this project moves forward,

the developer must be required to survey surrounding historic properties to inventory their existing state and be mandated by the City to post a bond to insure any damages caused by construction be remediated and paid for, even damage presenting itself months if not years later.

Respectfully submitted,

Tina Tockarshewsky

Aerial Image Taken 4/7/24 by Tina Tockarshewsky





400 Columbus Avenue, Suite 180E
Valhalla, New York 10595
Main: 877 627 3772
colliersengineering.com

Colliers
Engineering & Design

October 16, 2024

Anne Saylor, Chair
City of Poughkeepsie Planning Board
62 Civic Center Plaza
3rd Floor
Poughkeepsie, NY 12601

Traffic Impact Study Review
One Key Development, LLC
South Hamilton Street
City of Poughkeepsie, Dutchess County, New York
Colliers Engineering & Design Project No. 24008937B

Dear Planning Board Members,

Colliers Engineering & Design has conducted a review of the proposed residential development located on South Hamilton Street in the City of Poughkeepsie, Dutchess County, NY. The Project proposed to construct a three (3)-story multifamily residential building containing a total of 58 dwelling units comprised of 29 one-bedroom units and 29 two-bedroom units. The Project site has frontage along South Hamilton Street to which access is proposed. The property is bordered by existing residential properties on all other sides, which the exception of an approximately 17 ft. wide right-of-way connecting to Dwight Street.

The following documents were reviewed by our office:

- Traffic Impact Study (TIS) prepared by Creighton Manning Engineering, LLP (CM) dated February 20, 2024 (Revision #1).
- Site Plans for Proposed Building and Site development prepared by Arico Associates last revised August 13, 2024.

Based on our review of these documents we provide the following comments.

Traffic Impact Study

Project Description

1. The TIS indicates a total of 103 parking spaces inclusive of 6 ADA parking spaces are proposed to be provided on the Site, while the Site Plan appears to show a total of 102 parking spaces will be provided. Please clarify the correct number of parking spaces provided on the site.

Colliers Engineering & Design

Existing Conditions

Roadways Serving the Site

2. The descriptions of each of the roadways should include identification of the speed limit in the vicinity of the site.

3. The TIS indicates South Hamilton Street is classified as an Urban Major Arterial roadway. The New York State Department of Transportation (NYSDOT) Functional Class Viewer classifies South Hamilton Street as an Urban Major Collector roadway.

4. A discussion of existing nearby public transportation availability within the study area should be provided.

Study Intersections

5. The description of the Hooker Avenue/Dwight Street/Hanscom Avenue intersection should note that Hanscom Avenue is a one-way street in the westbound direction approaching the signalized intersection.

6. The TIS indicates that the analyses of the Hooker Avenue/Montgomery Street/South Hamilton Street intersection as well as Hooker Avenue/Dwight Street/Hanscom Avenue intersection were conducted using traffic signal timings and phasing directive information obtained from the City of Poughkeepsie Engineering Department. This information should be provided for review and confirmation.

Motor Vehicle Collision Analysis

7. Table 1 of TIS shows that 21 collisions were reported at the South Hamilton Street/Hooker Avenue intersection over the past five years. Approximately 57% of the collisions were rear end and right-angle collisions. The TIS also states that the red clearance at the intersection of South Hamilton Street/Hooker Avenue may be too short and the City should consider evaluating the clearance times at this intersection to improve safety. The Applicant should provide an analysis of the clearance intervals at the intersection and a recommendation of potential modifications.

Data Collection

8. The TIS indicates that Creighton Manning (CM) initially collected Turning Movement Counts (TMCs) in July 2023 during three peak periods, but due to the potential effect of summer break on traffic in the area, TMCs were recollected at the study intersections in January 2024 to capture school-related activity. CM also included a 4th peak period for the school dismissal period to the study. The January 2024 TMCs were observed to be the higher than the July 2023 TMCs during the study periods and were therefore used for the TIS analysis. Based on these data it is our opinion that the existing traffic volumes utilized in the TIS are representative of typical traffic volume conditions during the Weekday AM, Weekday School Dismissal, Weekday PM, and Saturday Midday Peak Hours analyzed.

Colliers Engineering & Design

9. The TIS states that The City of Poughkeepsie should consider implementing speed mitigation measures to address an existing excessive speeding concern on Hooker Avenue in the vicinity of the site. Specific examples of potential speed mitigation measures should be listed that could be considered by the City for this condition.

Traffic Assessment

Trip Generation

10. The trip generation estimates were reviewed and are appropriate for the AM & PM Peak Hours. The methodology for how the school dismissal peak hour trip generations were calculated is also appropriate. For the Saturday midday peak hour, the total traffic generation is appropriate, however it is unclear how the directional split was determined since ITE does not provide Saturday Peak Hour directional split data for Land Use 220. A review of other similar ITE Land Uses indicates that Saturday Peak Hour directional split is typically closer to 50% entering/50% exiting rather than the approximately 65% entering/35% exiting split used in the TIS.

Future Traffic Volumes

11. The use of a 0.5% per year growth rate to project the existing traffic volumes to the future 2026 design year is appropriate.

12. We are in general agreement with the origins and destinations shown in the TIS.

Traffic Operations

13. The TIS indicates that Synchro Version 11 was utilized, which automates the procedures contained in the Highway Capacity Manual (HCM). Based on review of the Level of Service Analysis contained in Appendix D, it was observed that HCM 2000 methodology was utilized within the Synchro 11 software to analyze each of the study intersections. At a minimum the HCM 6 should be utilized to analyze each of the study intersections and the summary of the results should be updated. Note HCM 7 is the latest version but the analysis methodologies for both unsignalized and signalized intersections are essentially the same for HCM 7 and HCM 6, therefore either methodology would be acceptable.

14. The Synchro 11 reports should include pages that show the speed limits, lane widths, grade percentage and storage lengths to confirm the accuracy of the analyses.

15. The analyses indicate that the study area intersections all currently operate at acceptable Levels of Service and that the Project generated traffic will not result in a significant change in operating conditions in the vicinity of the site. It is not anticipated that the above comments will significantly change these conclusions.

Colliers Engineering & Design

Site access, Circulation and Parking

16. An analysis of the sight distance at the proposed driveway location to S. Hamilton Street should be provided the latest American Association of State Highway and Transportation Officials (AASHTO) requirements for stopping sight distance and intersection sight distance to confirm adequate sight distance is provided. The elimination of some on-street parking on the east side of S. Hamilton Street may be necessary to ensure adequate sight distance is consistently provide for vehicles entering and exiting the site.

17. The TIS indicates that the 103 proposed parking being provided on site will exceed the City of Poughkeepsie zoning requirements, which requires 102 parking spaces. As noted previously, the site plan indicates 102 parking spaces will be provided consistent with the City Code requirement.

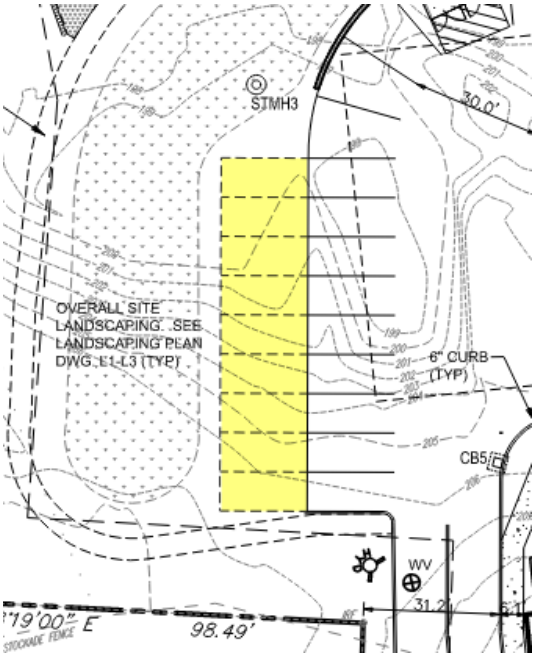
18. Additionally, the TIS provides a comparison to the Institute of Transportation Engineers (ITE) Parking Generation, 5th Edition. The number of proposed parking spaces being provided is higher than the average parking demand and 85th percentile parking demand identified by ITE based on the 5th Edition Parking Generation manual. It should be noted that the latest version of the ITE Parking Generation manual is the 6th edition. Based on the 6th edition of the ITE Parking Generation manual for ITE Land Use Code 220, the proposed development would have an average parking demand of 72 spaces and the 85th percentile demand is 92 spaces. The proposed 102 parking spaces for the residential development would be adequate to accommodate the peak parking demand. The Planning Board could discuss the possibility of land banking some of these parking spaces based on the data from reserving up to 10 spaces in an unpaved area which could be constructed at a later date based on actual need.

Site Plans

19. Based on review of the site plans, an emergency vehicle can safely enter the site, circulate throughout and exit. A turning template showing a

20. The TIS Project Description indicates that 17 ft. wide emergency access will be provided to Dwight Street. A review of the Site plans appears to show this connection as a 10 ft. wide Geocell Vegetated Grid Surface walking path out to Dwight Street. However, it is not clear how this connection can be effectively utilized as an emergency access by emergency vehicles or if this is actually its intended purpose. There is no clear internal connection for vehicles that may need to use this driveway in event of emergency.

21. The site plans appear to show 9 additional parking spaces on the north side of the parking lot. These spaces are shown as dashed as highlighted in yellow in the image below. Are these land banked spaces or do they serve some other purpose?



Conclusion

In general, the TIS was conducted in accordance with standard engineering practices and the proposed development is not expected to result in any significant traffic related impacts in the vicinity of the site.

Sincerely,

Colliers Engineering & Design, Architecture, Landscape Architecture, Surveying, CT P.C.

Richard D'Andrea, P.E., PTOE
Department Manager

R:\Projects\2024\24008937B\Correspondence\OUT\241016RGD_S. Hamilton St_Traffic Review.docx

APPLICATION TO THE PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

Application for Site Plan, Special Permit & Facade Approval

I. **PROPERTY ADDRESS:** 47 & 51 Cannon Street, Poughkeepsie, NY 12601

II. **PROPERTY OWNER:** 47 Cannon St. LLC c/o James Sullivan
ADDRESS: P.O. Box 305

Pawling, NY 12564 (state and zip code)

PHONE NUMBER: 845-380-1448 (include area code)

III. **NAME OF APPLICANT:** James Sullivan

ADDRESS: P.O. Box 305

Pawling, NY 12564 (state and zip code)

PHONE NUMBER: 845-380-1448 (include area code)

EMAIL ADDRESS: JSullivanCorp@gmail.com

(If applicant is NOT the owner, proof of owner's consent to the application MUST be provided.)

IV. **CONSULTANT:** LRC Engineering & Surveying, DPC

ADDRESS: 85 Civic Center Plaza, Ste 204

Poughkeepsie, NY 12601 (state and zip code)

PHONE NUMBER: 845-243-2880 (include area code)

OFFICE USE ONLY

CODE: PLSF

ID #_____

FEE: _____
Total, from:
$500, plus
$_____
($150 per 1000 square feet of floor area), plus
$_____
($35 per number of required parking spaces), plus
$_____
($500 for special permit, if applicable)

V. **PROPOSED USE or FAÇADE CHANGE** (Summarize proposed use or uses):

Proposed mixed-use residential

VI. **ZONING DISTRICT:** PID-UV

(Proceed to XVII for special permit & façade approval only)

PROJECT INFORMATION

New construction: X (yes) _____ (no)

Change of use: _____ (yes) X (no)

Expansion/addition: _____ (yes) X (no)

Alteration: _____ (yes) X (no)

Cost of Construction: $ TBD

LOT AND BULK INFORMATION:

Lot area: .63 (combined) (acres) 27,442.8 (square feet)

Building Footprint: 26,064 SF (proposed square feet for new construction)

N/A (existing square feet for change of use/expansion)

N/A (additional proposed square feet for expansion)

26,064 (total building footprint, square feet)

Lot Coverage: 94.7% (percentage, building coverage only)

Gross Floor Area: 124,120 (proposed square feet for new construction)

N/A (existing square feet for change of use/expansion)

N/A (additional proposed square feet for expansion)

124,120 (total gross floor area, square feet)

Building Height: 6 stories (stories) 68' (feet)

Floor Area Ratio: 4.52 (ratio of gross floor area divided by lot area)

VIII. PROJECT PARKING INFORMATION

A) Number of Off-Street Parking Spaces required: 108

B) Number of Off-Street Parking Spaces provided: 67

C) Waiver Requested: X (Yes) _____ (No)

Is municipal parking available within 600 feet? X (Yes) _____ (No)

If yes, name all such municipal facilities: Cannon Street Public Lot

(If a waiver is requested based on proximity to municipal facilities, a written request for such waiver, addressed to the City Planning Staff and the Chairman of the Planning Board, must be submitted with the application.)

If a private parking facility is to be utilized, is such facility within 600 feet?

X (Yes) (No)

If yes, provide the address of the facility, name of the property owner, number of spaces in the lot, number of spaces available for lease, and length of lease. Attach copy of lease. Additional information may be required by the Planning Board): on site parking to be provided

IX. RESIDENTIAL PROPOSALS

A) Type of Development: Multiple residence rental
(Townhouse, condominium, multiple residence rental, etc.)

B) Unit Breakdown:

Number of efficiency or "studio" units: 10

Number of one (1) bedroom units: 120

Number of two (2) bedroom unit's 10

Number with three or more bedrooms: 0

Total number of units: 140

C) Is funding public? ____Yes X No
If yes, describe funding source: _____

X. OFFICE PROPOSALS (____Medical/Dental____Professional____Business)

A) Number of Employees: _____
B) Number of doctors/dentists/medical practitioners: _____
C) Days/Hours of Operation: _____

XI. SERVICE BUSINESS PROPOSALS

A) Specify Business: _____
(e.g., laundromat, drycleaner, beauty parlor, travel agency, banks)

B) Number of Employees: _____

C) Number of Washing Machines (for laundromat): _____

D) Days/Hours of Operation: _____

XII. MERCANTILE PROPOSALS (Retail X Wholesale _____)

A) Type of Mercantile (specify): Community oriented retail

B) Number of Employees: 5

C) Days/Hours of Operation: 9AM - 7PM

XIII. STANDARD RESTAURANT/FAST FOOD RESTAURANT/COFFEE SHOP/DONUT SHOP/NIGHTCLUB/DISCOTHEQUE/BAR PROPOSALS

A) Specify Use: Restaurant / Artisninal Beverage Manufacturing

B) Number of seats (excluding bar stools and outdoor seating): 100

C) Meals served (i.e., breakfast, lunch, dinner): lunch/dinner

D) Type of Menu: gastropub

E) Days/Hours of Operation: Monday-Sunday 11AM - 11PM

F) Entertainment (live and/or recorded): live and recorded

G) Will the restaurant contain a bar/lounge?: X Yes _____ No

H) If yes, how many seats at the bar? 20

I) Is a drive-through window proposed? No

J) Is a walk-up window proposed? No

K) Is an outdoor seating area proposed? Yes

L) If yes, how many seats are proposed? 20

M) If yes, is outdoor cooking proposed? No

XIV. INDUSTRIAL/COMMERCIAL PROPOSALS (Automobile repair, taxi, motor vehicle sales, warehouse, manufacturing, animal hospital, research facilities, etc.)

A) Specify Use: _____

B) Number of shifts (if any): _____

C) Number of employees: _____
(If shifts are proposed, list number of employees per shift)

E) Number of work bays (if automobile repair): _____

F) Days/Hours of operation: _____

XV. EDUCATIONAL/INSTITUTIONAL/RECREATIONAL PROPOSALS (e.g., Museums, Theatres, Conference Centers, Hotels, Motels, Hospitals, Nursing Homes, Assisted Living Facilities, Nursery Schools, Private Schools, Day Care Centers, Places of Worship, Marinas, Membership Clubs, etc.)

A) Specify: _____

B) Number of shifts (if any): _____

C) Number of employees: _____
(If shifts are proposed, list number of employees per shift)

D) Number of beds (hospitals, nursing homes, etc): _____

E) Number of seats in largest assembly space: _____

F) Number of classrooms (schools): _____

G) Number of rental units (hotels, motels, etc.) _____

H) Number of boat slips/courts (e.g., tennis, handball, etc.), alleys: _____

I) Days/Hours of Operation: _____

XVI. PROPOSALS NOT MENTIONED ABOVE (Please be specific):

_____

_____

_____

_____

_____

XVII. APPLICANT CERTIFICATION

I, James J. Sullivan, certify that the this application has addressed the objectives outlined in the Zoning Ordinance with consideration given to the public health, safety and welfare; the comfort and convenience of the public in general or the residents or users of the proposed development and of the immediate neighborhood.

The applicant certifies that all information contained herein is accurate and complete as of the date of this application.

_____ 9/24/2024

Signature of Applicant Date

September 22, 2024

City of Poughkeepsie Planning Board
62 Civic Center Plaza
Poughkeepsie, NY 12601

Dear Members of the Planning Board,

Enclosed, please find a revised application for the property located at 47 Cannon St, Poughkeepsie, NY. This site received planning board approval in 2022. However, after further project planning with our architects and engineers, we determined that the original project was unfeasible due to cost constraints.

In June 2024, we acquired the adjacent property at 51 Cannon St, which has allowed us to develop a new plan that leverages the larger footprint to create a more practical and cost-effective design. This new plan continues to align with the intent of the Poughkeepsie Innovation District (PID) zoning code, which aims to revitalize the city's historic central business district by fostering a walkable, mixed-use neighborhood that supports quality residential development, institutional spaces, and workspaces for Poughkeepsie's creative and innovative businesses.

As part of our revised application, we respectfully request a waiver for the parking requirements stipulated in the Poughkeepsie Innovation District zoning code. The code mandates 84 parking spaces for the residential units and 24 spaces for the restaurant, totaling 108 spaces. Our current plan includes a total of 67 parking spaces. We believe this waiver is justified given the project's proximity to public transportation and the walkable nature of the neighborhood, which aligns with the transit-oriented development principles of the PID. Additionally, we are committed to implementing measures that encourage alternative transportation methods, thereby reducing the overall demand for parking spaces.

Our revised proposal incorporates the key components of the PID Policy Framework:

1. **Land Use and Urban Design**: Our design encourages transit-oriented development and complements the historic character of Main Street.
2. **Creative Economy**: We aim to stimulate local revitalization by supporting Poughkeepsie's creative and applied arts industries and coordinating with local institutions to enhance education and workforce development opportunities.

We believe this revised plan will better serve the community and contribute to the ongoing revitalization efforts in Poughkeepsie. We look forward to discussing our proposal in more detail and appreciate your consideration.

Sincerely,

James Sullivan
Managing Member
47 Cannon St LLC

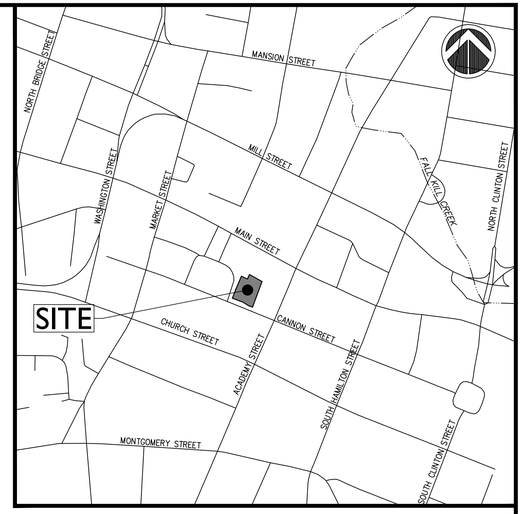
PO Box 38
Chelsea, NY 12512

Tel: 845-380-1448
jsullivancorp@gmail.com

SITE PLAN AMENDMENT
PROPOSED MIX USE DEVELOPMENT
47 & 51 CANNON STREET
CITY OF POUGHKEEPSIE,
DUTCHESS COUNTY, NEW YORK STATE
TAX MAP ID#:131300-6162-77-086045 & 131300-6162-77-092041



LOCATION MAP
SCALE: 1"=200'



VICINITY MAP
SCALE: 1"=500'

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK
SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:
OFFICIALLY APPROVED AT THE PLANNING BOARD
MEETING HELD THE _____DAY OF_____2_____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S)

FIRE CHIEF

POLICE CHIEF

BUILDING INSPECTOR

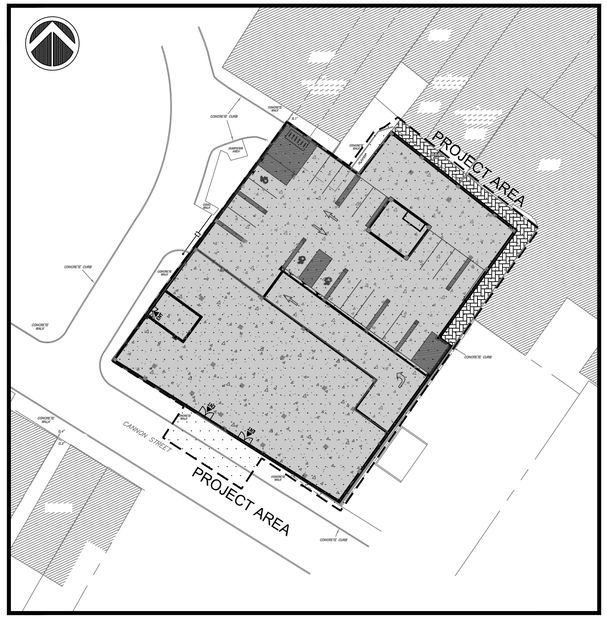
CITY ENGINEER

COMMISSIONER OF PUBLIC WORKS

INDEX OF DRAWINGS

CV-1	COVER SHEET
EX-1	EXISTING CONDITIONS
DM-1	DEMOLITION PLAN
SP-1	SITE PLAN
SG-1	SITE GRADING & DRAINAGE PLAN
UT-1	SITE UTILITY PLAN
DN-1	PROJECT DETAILS
DN-2	PROJECT DETAILS
1 OF 10	FLOOR PLANS COMMERCIAL AREAS
2 OF 10	FLOOR PLANS RESIDENTIAL FLOORS
3 OF 10	ROOF TOP OPEN SPACE
4 OF 10	ELEVATIONS WEST ELEVATION
5 OF 10	ELEVATIONS SOUTH ELEVATION
6 OF 10	ELEVATIONS EAST ELEVATION
7 OF 10	ELEVATIONS NORTH ELEVATION
8 OF 10	RENDERINGS SOUTHWEST RENDERING
9 OF 10	RENDERINGS WEST RENDERING
10 OF 10	MATERIALS

ORIGINALLY SUBMITTED: SEPTEMBER 24, 2024



OVERALL SITE PLAN
SCALE: 1"=40'

GENERAL NOTES

1. ALL CONSTRUCTION SHALL COMPLY WITH CITY OF POUGHKEEPSIE REQUIREMENTS AND SPECIFICATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
3. REFER TO OTHER PLANS AND DETAIL SHEETS FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE SITE ENGINEER IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT APPROPRIATE REVISIONS CAN BE MADE PRIOR TO BIDDING. ANY CONFLICT BETWEEN DRAWINGS AND THE SPECIFICATIONS SHALL BE CONFIRMED WITH THE LOCAL CONSTRUCTION MANAGER PRIOR TO BIDDING.
4. REFER TO THE DETAIL SHEETS FOR PAVEMENT, CURBING, AND SIDEWALK INFORMATION.
5. ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED BY THE SITE ENGINEER, AND THE APPROPRIATE REGULATORY AGENCIES PRIOR TO INSTALLATION.
6. THE CONTRACTOR SHALL RESTORE ANY OF THE FOLLOWING IF THEY ARE NOTED TO REMAIN: UTILITY STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, OR LANDSCAPED AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE CITY OF POUGHKEEPSIE.
7. TRAFFIC CONTROL MEASURES SHALL BE UTILIZED IN ACCORDANCE WITH CITY OF POUGHKEEPSIE AND NYSDOT.
8. PAVEMENT MARKINGS SHALL BE FAST DRYING TYPE IN ACCORDANCE WITH CITY OF POUGHKEEPSIE SPECIFICATIONS.
9. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS, MATERIALS AND PLANT SPECIFICATIONS TO THE SITE ENGINEER AND OWNER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW. APPROVED SHOP DRAWINGS WILL BE PROVIDED BY THE ENGINEER AND COPIED TO THE CITY OF POUGHKEEPSIE.
10. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC DEVICES FOR PROTECTION OF VEHICLES AND PEDESTRIANS CONSISTING OF DRUMS, BARRIERS, SIGNS, LIGHTS, FENCES AND UNIFORMED TRAFFIC MEN AS REQUIRED OR ORDERED BY THE ENGINEER OR REQUIRED BY THE LOCAL GOVERNING AUTHORITIES. CONTRACTOR SHALL MAINTAIN ALL TRAFFIC LANES AND PEDESTRIAN WALKWAYS AT ALL TIMES UNLESS WRITTEN APPROVAL FROM THE CITY AND GOVERNING AUTHORITIES IS GRANTED.
11. THE PROJECT DRAWINGS ARE GENERALLY DIAGRAMMATIC IN INDICATING THE PRESENCE OF EXISTING UNDERGROUND UTILITIES. INFORMATION ON EXISTING UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY COMPANY AND MUNICIPAL RECORD MAPS AND FIELD SURVEY AND IS NOT GUARANTEED TO BE CORRECT OR COMPLETE. UTILITIES ARE SHOWN TO ALERT THE CONTRACTOR OF THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND SERVICES. WHEN THE UTILITIES ARE TO BE LEFT IN PLACE, THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF SUPPORT AND PROTECTION DURING THE EXCAVATION AND BACKFILLING OPERATIONS.
12. PRIOR TO DEMOLITION OR CONSTRUCTION THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT 1-800-962-7962 AT LEAST 72 HOURS BEFORE COMMENCEMENT OF WORK TO VERIFY ALL UTILITY LOCATIONS. CONTRACTOR SHALL NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS.
13. IF ANY UNCHARTED OR INCORRECTLY CHARTED EXISTING PIPING OR OTHER UTILITY IS UNCOVERED DURING EXCAVATION, THE CONTRACTOR SHALL CONSULT THE SITE ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH THE WORK.
14. STORAGE OF FLAMMABLE AND HAZARDOUS MATERIALS SHALL BE IN COMPLIANCE WITH THE NYS FIRE AND BUILDING CODE.
15. CONTRACTOR TO PROVIDE SITE ENGINEER WITH SUBMITTALS. ONCE APPROVED, COPIES WILL BE SUPPLIED TO CITY ENGINEER AND APPROPRIATE CITY DEPARTMENTS.
16. NO HERBICIDES OR PESTICIDES WILL BE USED DURING THE OPERATION OF THE SITE.
17. A SPRINKLER SYSTEM SHALL BE INSTALLED IN THE BUILDING IN ACCORDANCE WITH NPFA AND THE NYS FIRE CODE 2020.

SITE PLANNER / CIVIL ENGINEER:

LRC GROUP

160 West Street, Suite E
Cromwell, CT 06416
Tel: 860.635.2877

85 Civic Center Plaza, Suite 204
Poughkeepsie NY 12601
Tel: 845.243.2880

1 International Blvd, Suite 400
Mahwah, NJ 07495
Tel: 908.603.5730

www.lrcconsult.com

- LAND PLANNING
- CIVIL ENGINEERING
- ENVIRONMENTAL SERVICES
- LAND SURVEYING
- LANDSCAPE ARCHITECTURE

LRC Engineering & Surveying, DPC
LRC Engineering and Surveying, LLC
LRC Environmental Services, Inc.

OWNER / APPLICANT:

47 CANNON ST, LLC
40 CANNON ST STE 2
POUGHKEEPSIE, NY 12601

SURVEYOR:

DECKER SURVEYING
JOHN H DECKER LS
292 FRALEIGH LANE
RED HOOK NY 12571
Phone No. (845) 758-4442
deckersurveying@frontiernet.net

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STATE OF NEW YORK
RODNEY E MORRISON
074194
LICENSED PROFESSIONAL ENGINEER

Rodney Morrison P.E. #074194

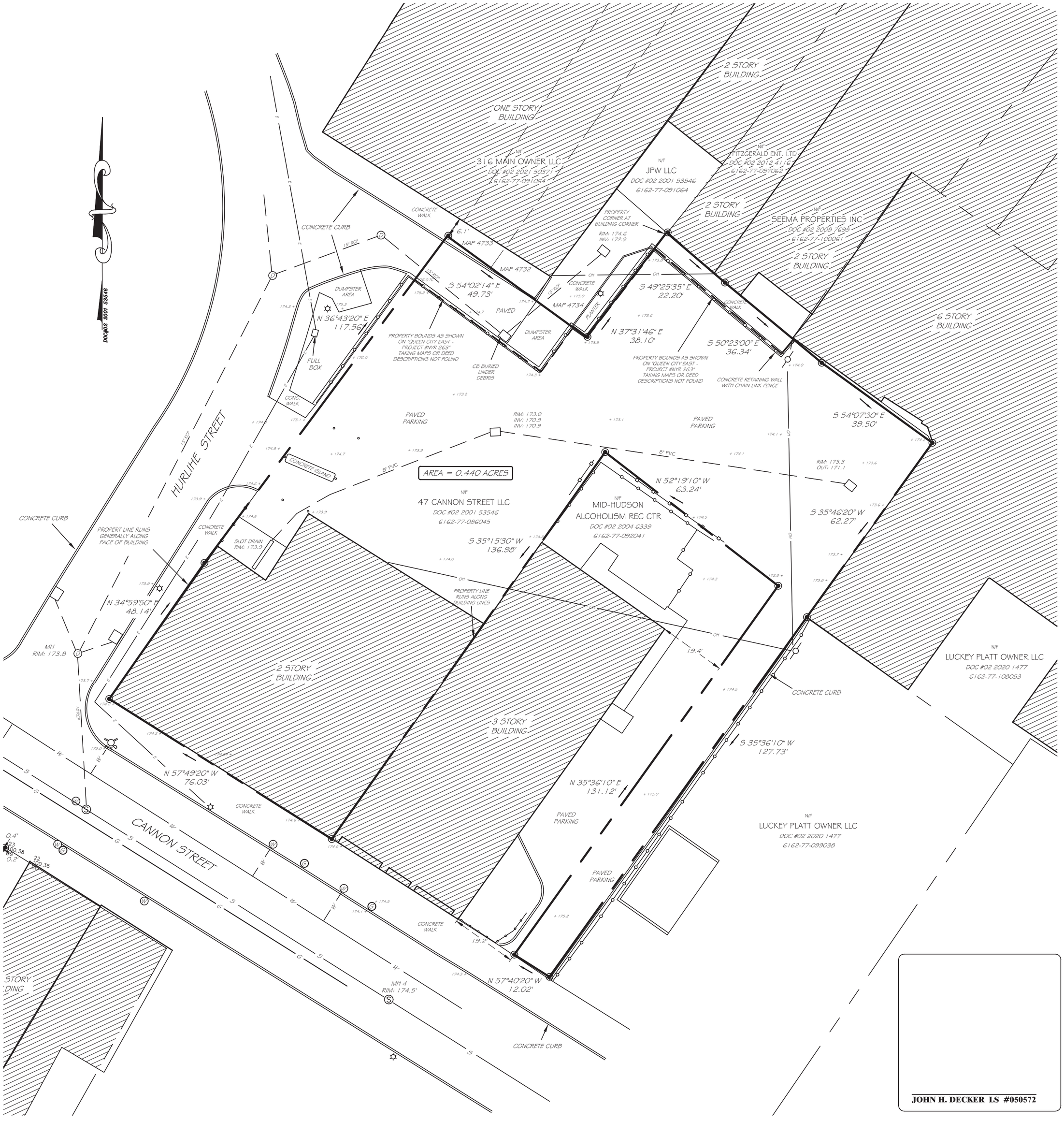
APPLICATION DATE: 2024-09-24

47 & 51 CANNON ST.
CITY OF POUGHKEEPSIE

COVER SHEET

Drawing No.
CV
SHEET 1 OF 18

X:\JOBS\Jobs 2021\21-2830-47 Cannon Street LLC\WD\CV21283001.dwg 9/23/2024 7:59 AM SCorrion



JOHN H. DECKER LS #050572

SURVEY NOTES

- UNDERGROUND UTILITIES SHOWN ARE TAKEN FROM FIELD OBSERVATIONS AND MAPS PROVIDED BY OWNER, EXACT LOCATION NOT VERIFIED

- POSSIBLE BOUNDARY OVERLAP IN NORTHERN PORTION OF PROPERTY - CONFLICTING BOUNDARY SHOWN ON A MAP ENTITLED "SITE IMPROVEMENTS CONTRACT NO.3A - QUEEN CITY EAST - PROJECT NO. NYR 263 FOR POUGHKEEPSIE URBAN RENEWAL AGENCY" (APRIL 1977)
TAKING MAPS OR DEEDS MAY EXIST BUT NOT FOUND TO DATE, SUBJECT TO A TITLE REPORT

- ELEVATIONS TAKEN FROM ABOVE REFERENCED MAP

LEGEND

- PROPERTY BOUNDS
- OH — OVERHEAD WIRES
- Ⓒ CLEANOUT
- Ⓖ GAS VALVE
- CHAINLINK FENCE
- WOOD GUIDERAIL
- BOLLARD
- HYDRANT
- UTILITY POLE
- PROPERTY CORNER
- Ⓦ WATER VALVE
- CATCH BASIN
- Ⓢ SEWER MANHOLE

DECKER SURVEYING

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RED HOOK NY 12571
Phone No. (845) 758-4442
deckersurveying@frontiernet.net

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ONLY COPIES OF THE ORIGINAL OF THIS SURVEY MAP MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S INKED SEAL OR HIS EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

IT IS HEREBY CERTIFIED THAT THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE EXISTING CODE OF PRACTICE FOR LAND SURVEYORS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS.

CERTIFICATIONS INDICATED HEREON SIGNIFY THAT THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE EXISTING CODE OF PRACTICE FOR LAND SURVEYORS. SAID CERTIFICATIONS SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED, AND ON HIS BEHALF TO THE TITLE COMPANY, LENDING INSTITUTION AND THE GOVERNMENTAL AGENCY LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. CERTIFICATIONS ARE NON TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

SURVEYED AS PER MAPS AND DEEDS OF RECORD AND AS IN INDICATED POSSESSION ON OR BEFORE NOVEMEBR 9, 2021.

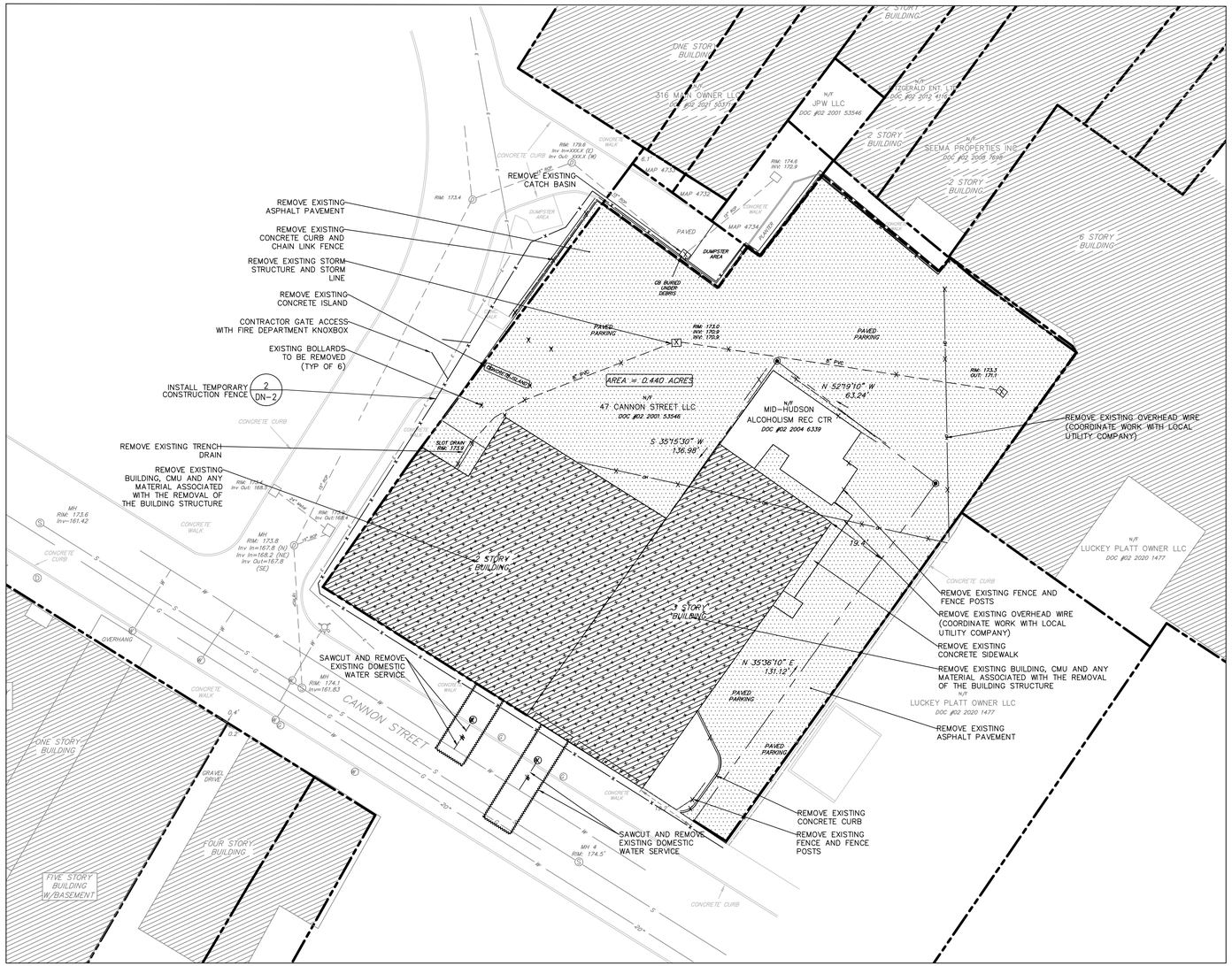
THIS SURVEY WAS PREPARED WITHOUT BENEFIT OF AN ABSTRACT OF TITLE REPORT AND IS SUBJECT TO WHATEVER STATE OF FACTS SUCH A REPORT MAY REVEAL.

BOUNDARY SURVEY

47 CANNON STREET LLC

CITY OF POUGHKEEPSIE — **DUTCHESS COUNTY, NEW YORK**

DECEMBER 26, 2021 — **1" = 20'**


ONE STORY BUILDING
316 MAIN OWNER LLC
DOC #02 2021 9437
JPW LLC
DOC #02 2001 53546
2 STORY BUILDING
FITZGERALD ENT LTD
DOC #02 2012 4164
SEEMA PROPERTIES INC
DOC #02 2008 7646
2 STORY BUILDING
6 STORY BUILDING
REMOVE EXISTING CATCH BASIN
REMOVE EXISTING ASPHALT PAVEMENT
REMOVE EXISTING CONCRETE CURB AND CHAIN LINK FENCE
REMOVE EXISTING STORM STRUCTURE AND STORM LINE
REMOVE EXISTING CONCRETE ISLAND
CONTRACTOR GATE ACCESS WITH FIRE DEPARTMENT KNOXBOX
EXISTING BOLLARDS TO BE REMOVED (TYP OF 6)
INSTALL TEMPORARY CONSTRUCTION FENCE
REMOVE EXISTING TRENCH DRAIN
REMOVE EXISTING BUILDING, CMU AND ANY MATERIAL ASSOCIATED WITH THE REMOVAL OF THE BUILDING STRUCTURE
SAWCUT AND REMOVE EXISTING DOMESTIC WATER SERVICE
AREA = 0.440 ACRES
47 CANNON STREET LLC
DOC #02 2001 53546
MID-HUDSON ALCOHOLISM REC CTR
DOC #02 2004 6339
N 52°9'10" W 63.24'
S 35°15'30" W 136.98'
N 35°36'10" E 131.12'
REMOVE EXISTING OVERHEAD WIRE (COORDINATE WORK WITH LOCAL UTILITY COMPANY)
REMOVE EXISTING FENCE AND FENCE POSTS
REMOVE EXISTING OVERHEAD WIRE (COORDINATE WORK WITH LOCAL UTILITY COMPANY)
REMOVE EXISTING CONCRETE SIDEWALK
REMOVE EXISTING BUILDING, CMU AND ANY MATERIAL ASSOCIATED WITH THE REMOVAL OF THE BUILDING STRUCTURE
LUCKEY PLATT OWNER LLC
DOC #02 2020 1477
REMOVE EXISTING ASPHALT PAVEMENT
REMOVE EXISTING CONCRETE CURB
REMOVE EXISTING FENCE AND FENCE POSTS
SAWCUT, AND REMOVE EXISTING DOMESTIC WATER SERVICE
LUCKEY PLATT OWNER LLC
DOC #02 2020 1477
CANNON STREET
ONE STORY BUILDING
GRAVEL DRIVE
FOUR STORY BUILDING
FIVE STORY BUILDING W/BASEMENT
PAVED PARKING
DUMPSTER AREA
GB BURIED UNDER DEBRIS
SLOT DRAIN
CONCRETE CURB
CONCRETE WALK
OVERHANG
MH RIM: 173.6 Inv=161.42
MH RIM: 173.8 Inv In=167.8 (N) Inv In=168.2 (NE) Inv Out=167.8 (SE)
MH RIM: 174.1 Inv=161.83
MH 4 RIM: 174.5'
RIM: 179.6 Inv In=170.5' (E) Inv Out: 170.3' (W)
RIM: 173.4
RIM: 174.6 INV: 170.9
RIM: 173.0 INV: 170.9 INV: 170.9
RIM: 173.3 OUT: 171.1
RIM: 173.5 Inv Out: 168.1
RIM: 173.9 Inv Out: 168.4
RIM: 173.7
MAP 4735
MAP 4732
MAP 4734
6.1'
6.5'
6.2'
6.4'
6.6'
6.7'
6.8'
6.9'
7.0'
7.2'
7.3'
7.4'
7.5'
7.6'
7.7'
7.8'
7.9'
8.0'
8.1'
8.2'
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8.4'
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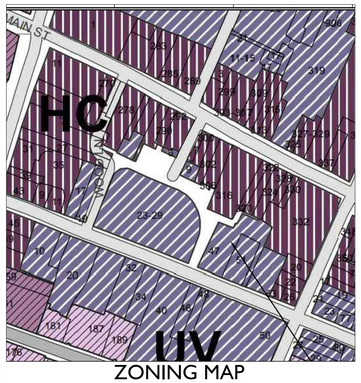
10.8'
10.9'
11.0'
11.1'



ZONING MAP

SCALE: 1"=100'

GROUND LEVEL PARKING

1"=20'



SUBLEVEL PARKING

1"=20'

ALL EXISTING EASEMENTS ARE SHOWN ON EXISTING CONDITIONS SURVEY AND THIS PLAN AS PROVIDED BY SITE SURVEYOR.

NO WATER COURSES, MARCHES, WOODED AREAS, ROCK OUTCROPS ARE PRESENT ON THE SUBJECT PARCEL.

NO EASEMENTS OR DEED RESTRICTIONS, COVENANTS OR RIGHTS OF WAY ARE PROPOSED AS PART OF THIS PROJECT.

TREES SHOWN ARE APPROXIMATE AND WILL BE FIELD LOCATED BY THE SURVEYOR PRIOR TO APPROVAL.

OWNER / APPLICANT:

47 CANNON ST, LLC
40 CANNON ST
POUGHKEEPSIE, NY 12601

OPEN SPACE:

OPEN SPACE CALCULATIONS:

REQUIRED PER CITY CODE=(27,442.8 PARCEL) X .15 (15% LOT AREA)=4,116.42 SF REQUIRED

ROOF TOP AREA=18,000 SF

TOTAL OPEN SPACE=18,000 SF

BIKE RACK:

REQUIRED:

MULTI-FAMILY (0.5 BEDROOM)
RESTAURANT (2 SPACES MINIMUM)
MULTI-FAMILY 39 SPACES
(41 SPACES TOTAL)

PROPOSED:

INTERIOR RACKS 41
TOTAL 41

LEGEND

- PROPOSED ASPHALT
- PROPOSED PAVERS
- PROPOSED CONCRETE
- PROPOSED SIGN
- PROPOSED GATE ACCESS

ZONING SUMMARY TABLE

TAX MAP IDENTIFICATION	131300-6162-77-086045 & 131300-6162-77-092041	
PARCEL SIZE	0.63 Acres (Combined 47 & 51)	
ZONING DISTRICT	PID - UV Poughkeepsie Innovation District Urban Village	
PROPOSED USE	MULTI-USE DEVELOPMENT	
ITEM	REQUIRED	PROPOSED
MINIMUM HEIGHT	3 Stories	6 Stories
MAXIMUM HEIGHT	6 Stories	6 Stories
MINIMUM LOT COVERAGE	50% (Bldg)	94.7%*
FRONT YARD (MIN/MAX)	0 ft / 6 ft	0 Feet
SIDE YARD (MIN/MAX)	0 ft / 10 ft	0 Feet
REAR YARD	8 ft	0 Feet
MINIMUM OPEN SPACE	15% (4,128 SF required)	65.6%
PARKING SETBACKS (MIN)	40 ft	2.5 Feet*
FRONTAGE OCCUPANCY	80-100%	100%

*DENOTES VARIANCE REQUIRED

PARKING SUMMARY CHART

PARCEL SIZE	0.63 ACRES (COMBINED 47 & 51 CANNON)
TAX MAP IDENTIFICATION	131300-6162-77-086045 & 131300-6162-092041

PARKING SUMMARY

ITEM	REQUIRED	PROVIDED
PARKING REQUIREMENTS: MULTI FAMILY (140 UNITS) 0.5 SPACES PER UNIT PLUS 1 PER VISIT SPACE PER 10 UNITS	84 REQUIRED	46 LOWER LEVEL 21 GROUND FLOOR (INCLUDES 3 ADA SPACES) 67 TOTAL SPACES
RESTAURANT / BAR/ TAVERN 6000 SF 1 SPACE PER 250 OF GFA (GROSS FLOOR AREA)	24 REQUIRED	
GENERAL RETAIL 4000 SF	0 REQUIRED	
	108 REQUIRED	
HANDICAP SPACES	5 REQUIRED *	3 PROPOSED
MIN. PARKING DIMENSIONS	9'x20'	9'x20'
MIN. AISLE WIDTH (ONE WAY TRAFFIC)	20'	18'

* PER ADA TABLE 208.2

SIGN LEGEND

NO.	LEGEND	QTY.
A	RESERVED PARKING	3
B	NO PARKING ANYTIME	2
C	RAMP DOWN	1

GRAPHIC SCALE

20 10 0 20

SCALE IN FEET

STATE OF NEW YORK
ROONEY E MORRISON
LICENSED PROFESSIONAL ENGINEER
071194

Revisions

LRC GROUP

- Land Planning
- Civil Engineering
- Environmental Services
- Land Surveying
- Landscape Architecture

160 West Street, Suite E
Cromwell, CT 06416
Tel: 860.635.2877

85 Civic Center Plaza, Suite 204
Poughkeepsie NY 12601
Tel: 845.243.2880

1 International Blvd, Suite 400
Mahwah, NJ 07495
Tel: 908.603.5730

www.lrcconsult.com

LRC Engineering & Surveying, DPC
LRC Engineering & Surveying, LLC
LRC Environmental Services, Inc.

SITE PLAN

MUTLI USE DEVELOPMENT

47 & 51 CANNON STREET
CITY OF POUGHKEEPSIE,
DUTCHESS COUNTY, NEW YORK

Design/Calcs	SMC	CAD File	SP21283001.dwg	Sheet No.	
Drawn	SMC	Project No.	21-2830	SP-1	
Checked	KFC	Date	2024-09-24		
Approved	REM	Scale	1"=20'	SHEET 4 OF 18	

K:\JOBS\Jobs 2021\21-2830-47 Cannon Street LLC\DWG\SP21283001.dwg 9/23/2024 8:06 AM Scurron



COMPACTION AND BACKFILL NOTES

UNLESS OTHERWISE SPECIFIED OR APPROVED BY THE SITE ENGINEER, ALL SITE SUBGRADE AND BACKFILL FOR ALL STRUCTURES INCLUDING, BUT NOT LIMITED TO, PARKING LOT SUBGRADE, ROAD SUBGRADE, CONCRETE PADS AND SIDEWALKS, WATER LINES AND STRUCTURES, SEWER LINES AND STRUCTURES, STORM LINES AND STRUCTURES, TRASH PADS/ENCLOSURES, AND SITE ELECTRICAL AND CONDUIT, SHALL BE COMPACTED IN ACCORDANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD FOR CONSTRUCTION AND MATERIALS, DATED JANUARY 1, 2022 AND ALL ADDENDA THERETO.

GRADING AND DRAINAGE NOTES

1. ANY DEMOLISHED OR CLEARED MATERIALS MUST BE REMOVED AND DISPOSED OF OFF SITE. ANY BURNING ON SITE SHALL BE SUBJECT TO LOCAL ORDINANCES. THESE INCLUDE ANY OBJECTS NOTED ON THE PLANS, INCLUDING BUT NOT LIMITED TO, TREES, STUMPS, FENCES, WALLS, ETC.
2. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN THE RIGHT-OF-WAY PRIOR TO EXCAVATION. ALL UTILITIES MUST BE LOCATED AND MARKED OUT PRIOR TO THE START OF ANY SITE GRADING.
3. SITE GRADING SHALL NOT PROCEED UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND INSPECTED.
4. CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION

LEGEND

	PROPERTY LINE
160	EXISTING MAJOR CONTOUR
162	EXISTING MINOR CONTOUR
×163.25	EXISTING SPOT GRADE
×163.25	PROPOSED SPOT GRADE
	PROPOSED STORM LINE
	EXISTING STORM LINE
	EXISTING CURB CATCH BASIN
	EXISTING CURBLESS CATCH BASIN
D	EXISTING STORM MANHOLE

GRAPHIC SCALE

00 00 0 00

SCALE IN FEET

STATE OF NEW YORK RODNEY E MORRISON 074154 LICENSED PROFESSIONAL ENGINEER

Revisions

LRC GROUP
- Land Planning
- Civil Engineering
- Environmental Services
- Land Surveying
- Landscape Architecture

160 West Street, Suite E
Cromwell, CT 06416
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www.lrcconsult.com

LRC Engineering & Surveying, DPC
LRC Engineering & Surveying, LLC
LRC Environmental Services, Inc.

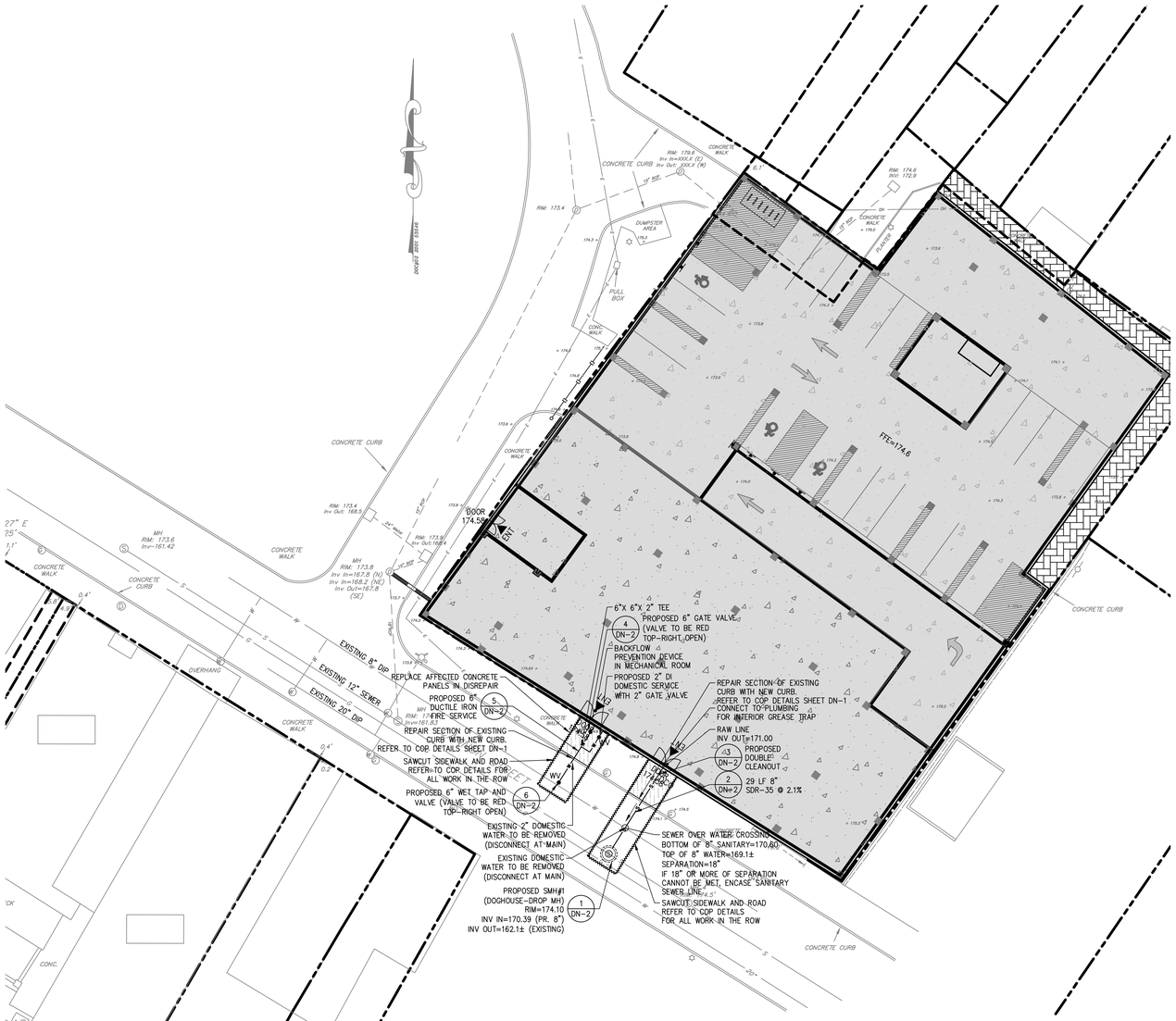
SITE GRADING & DRAINAGE PLAN

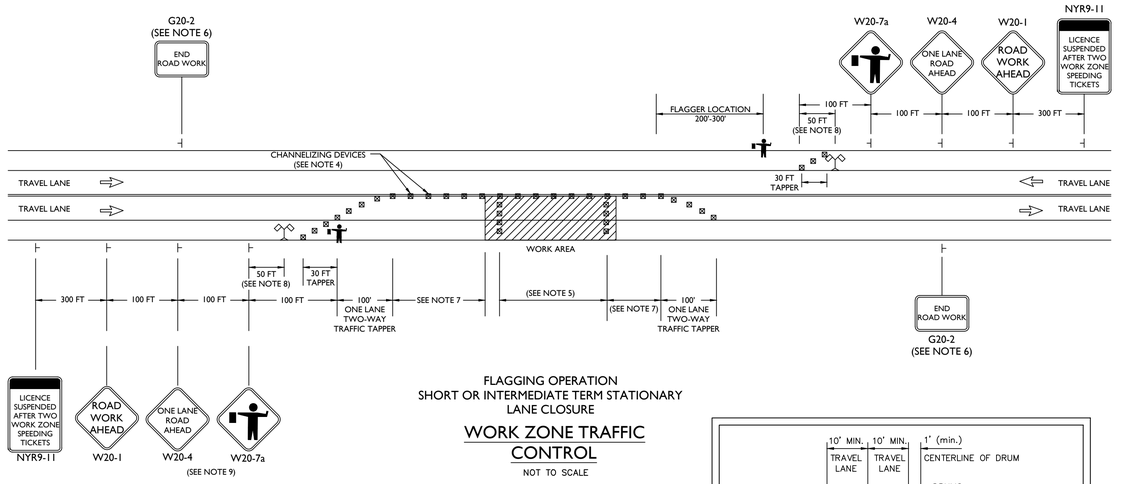
MUTLI USE DEVELOPMENT

47 & 51 CANNON STREET
CITY OF POUGHKEEPSIE,
DUTCHESS COUNTY, NEW YORK

Design/Calcs	SMC	CAD File	SG21283001.dwg	Sheet No.	
Drawn	SMC	Project No.	21-2830	SG-1	
Checked	KFC	Date	2024-09-24		
Approved	REM	Scale	1"=20'	SHEET 5 OF 18	

X:\JOBS\Jobs 2021\21-2830-47 Cannon Street LLC\DWG\SG21283001.dwg 9/23/2024 8:07 AM SGorran





FLAGGING OPERATION
SHORT OR INTERMEDIATE TERM STATIONARY LANE CLOSURE

WORK ZONE TRAFFIC CONTROL

NOT TO SCALE

CONTRACTOR NOTES

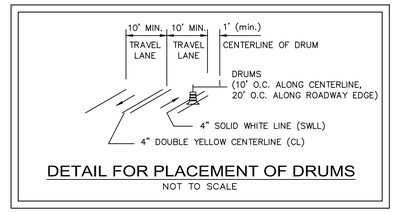
1. BACKFLOW PREVENTION IS REQUIRED FOR BOTH THE FIRE AND DOMESTIC WATER SERVICE CONNECTIONS.
2. TAPPING SLEEVE VALVE AND CURB VALVE IN THE STREET ARE TO BE RIGHT OPEN PER CITY OF POUGHKEEPSIE DPW REQUIREMENTS.

LEGEND

- PROPOSED SANITARY SERVICE
- PROPOSED WATER SERVICE
- PROPOSED DOUBLE SANITARY CLEANOUT
- PROPOSED WATER SHUT OFF VALVE
- PROPOSED SANITARY MANHOLE
- PROPOSED SAWCUT LINE

NOTE:

1. PROPOSED GRADING TO MATCH EXISTING GRADES AT PROPERTY LINE AND ADJOINERS. MAINTAIN EXISTING STORM DRAINAGE PATTERNS TO PROPOSED DRYWELLS.

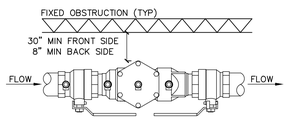


DETAIL FOR PLACEMENT OF DRUMS

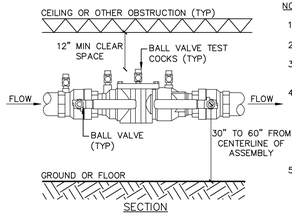
NOT TO SCALE

NOTES:

1. WHEN PAVED SHOULDERS HAVING A WIDTH OF 8' OR MORE ARE CLOSED, CHANNELIZING DEVICES SHALL BE USED TO CLOSE THE SHOULDER IN ADVANCE TO DELINEATE THE BEGINNING OF THE WORK AREA AND DIRECT VEHICULAR TRAFFIC TO REMAIN IN THE TRAVEL WAY.
2. WHEN A SIDE ROAD OR DRIVEWAY INTERSECTS THE ROADWAY WITHIN A WORK ZONE TRAFFIC CONTROL AREA, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES AND/OR FLAGGERS SHALL BE PLACED AS NEEDED. ADDITIONAL FLAGGERS SHALL BE LOCATED AT ALL INTERSECTIONS AND COMMERCIAL DRIVEWAYS LOCATED WITHIN OR NEAR THE ACTIVE WORK SPACE.
3. NO WORK ACTIVITY, EQUIPMENT, OR STORAGE OF VEHICLES, OR MATERIAL SHALL OCCUR WITHIN THE BUFFER SPACE AT ANY TIME. CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 40' IN THE ACTIVE WORK SPACE.
5. TRANSVERSE DEVICES SHALL BE REQUIRED (AS PER 619 STANDARD SPECIFICATIONS) WHEN A PAVED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS CLOSED FOR A DISTANCE GREATER THAN 1500'.
6. THE END ROAD WORK SIGN (G20-2) SHALL BE PLACED A MAXIMUM OF 500' PAST THE END OF THE WORK SPACE.
7. WHERE DIRECTED BY THE ENGINEER, A BUFFER SPACE SHALL BE PROVIDED IN ORDER TO LOCATE THE ONE-LANE, TWO-WAY TRAFFIC TAPER PRIOR TO ANY HORIZONTAL OR VERTICAL CURVE, IN ORDER TO PROVIDE ADEQUATE SIGHT DISTANCE FOR THE FLAGGERS AND/OR A QUEUE OF STOPPED VEHICLES.
8. THE FLAG TREE SHALL BE LOCATED ON THE SHOULDER, AT APPROXIMATELY THE DISTANCE BETWEEN THE FLAGGER SIGN (W20-7 a) AND THE FLAGGER.
9. FLAGGER SIGN (W20-7 a) AND ONE LANE ROAD AHEAD SIGN (W20-4) SHALL BE REMOVED, COVERED OR TURNED AWAY FROM ROAD USERS WHEN FLAGGING OPERATIONS ARE NOT OCCURRING.
10. FLAGGER AND FLAG TREE SHALL BE ILLUMINATED TO LEVEL II ILLUMINATION DURING NIGHT TIME OPERATIONS.
11. ALL FLAGGERS SHALL USE 24" (MIN.) OCTAGON SHAPED STOP/SLOW PADDLES HAVING 6' STAFF.



PLAN VIEW



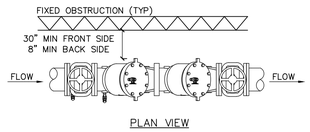
SECTION

NOTES:

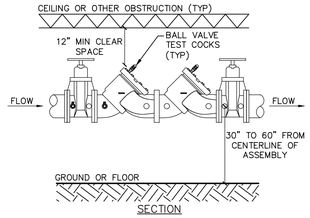
1. ASSEMBLY TO BE INSTALLED HORIZONTALLY.
2. WATTS SERIES LF007 2" DOUBLE CHECK VALVE OR APPROVED EQUAL.
3. DCV TO BE INSTALLED IN MECHANICAL SPACE AND MUST MEET ALL CLEARANCES AS OUTLINED ABOVE.
4. ASSEMBLY TO BE TESTED BY A LICENSED BACKFLOW PREVENTION DEVICE TESTER AFTER INSTALLATION AND PRIOR TO ACTIVATION OF NEW WATER SUPPLY. THE RESULTS MUST BE SUBMITTED TO THE CITY OF POUGHKEEPSIE AS PART OF THE ENGINEER'S CERTIFICATION.
5. ASSEMBLY MUST BE TESTED ANNUALLY BY A LICENSED BACKFLOW PREVENTION TESTER. COPIES OF THE TEST RESULTS MUST BE SUBMITTED TO THE OWNER, CITY OF POUGHKEEPSIE WATER DEPARTMENT,

DOMESTIC DOUBLE CHECK VALVE DETAIL

SCALE: N.T.S.



PLAN VIEW



SECTION

NOTES:

1. ASSEMBLY TO BE INSTALLED HORIZONTALLY.
2. WATTS SERIES LF709 6" DOUBLE CHECK VALVE OR APPROVED EQUAL.
3. DCV TO BE INSTALLED IN MECHANICAL SPACE AND MUST MEET ALL CLEARANCES AS OUTLINED ABOVE.
4. ASSEMBLY TO BE TESTED BY A LICENSED BACKFLOW PREVENTION DEVICE TESTER AFTER INSTALLATION AND PRIOR TO ACTIVATION OF NEW WATER SUPPLY. THE RESULTS MUST BE SUBMITTED TO THE CITY OF POUGHKEEPSIE AS PART OF THE ENGINEER'S CERTIFICATION.
5. ASSEMBLY MUST BE TESTED ANNUALLY BY A LICENSED BACKFLOW PREVENTION TESTER. COPIES OF THE TEST RESULTS MUST BE SUBMITTED TO THE OWNER, CITY OF POUGHKEEPSIE WATER DEPARTMENT.

FIRE SUPPLY DOUBLE CHECK VALVE DETAIL

SCALE: N.T.S.



GRAPHIC SCALE
20 10 0 20
SCALE IN FEET

Revisions

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LRC Environmental Services, Inc.

UTILITIES PLAN

MUTLI USE DEVELOPMENT

47 & 51 CANNON STREET
CITY OF POUGHKEEPSIE,
DUTCHESS COUNTY, NEW YORK

Design/Calcs	SMC	CAD File	UT21283001.dwg	Sheet No.
Drawn	SMC	Project No.	21-2830	UT-1
Checked	KFC	Date	2024-09-24	SHEET 6 OF 18
Approved	REM	Scale	1"=20'	

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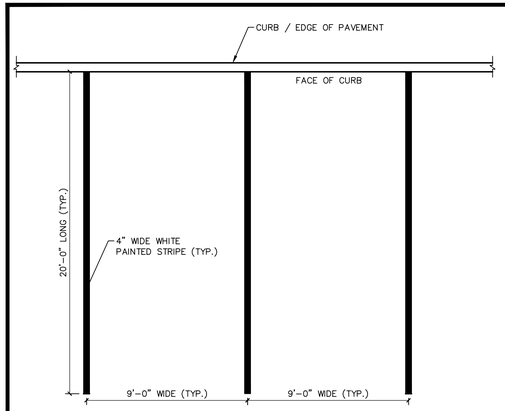
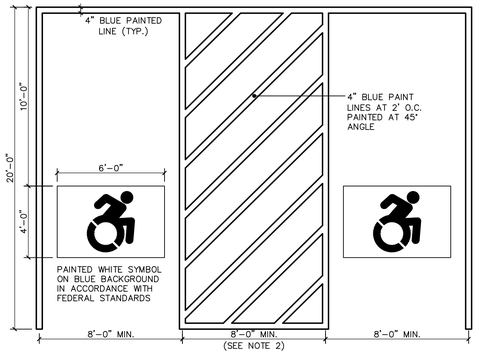
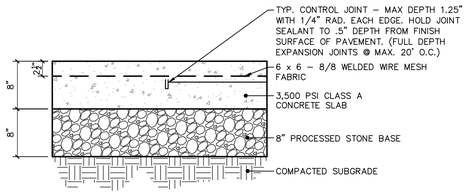


1 PARKING SPACE STRIPE DETAIL
SCALE: 1/4" = 1'-0"

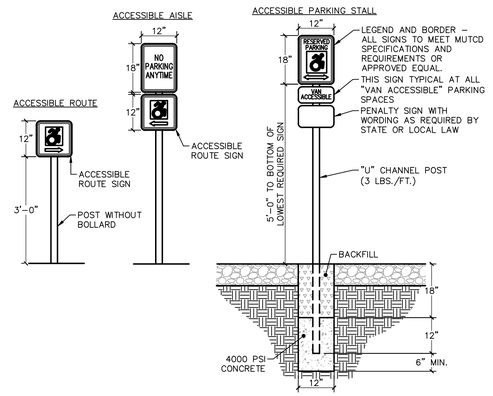


NOTES:
1. SEE SITE PLAN FOR ACCESSIBLE SPACE LOCATION AND DIMENSIONS.
2. PROVIDE 2 COATS OF PAINT ON ALL SURFACES.

2 TYPICAL ACCESSIBLE PARKING SPACE DETAIL
SCALE: 1/4"=1'-0"



3 HEAVY DUTY CONCRETE SECTION DETAIL
SCALE: 1" = 1'-0"



4 ACCESSIBLE PARKING & ACCESS SIGNS
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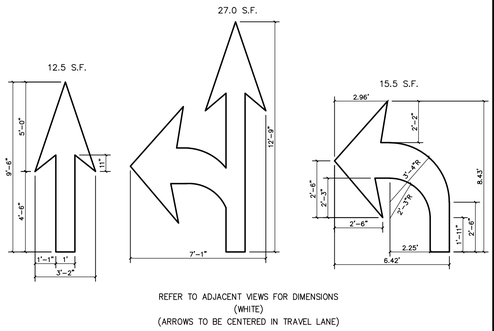
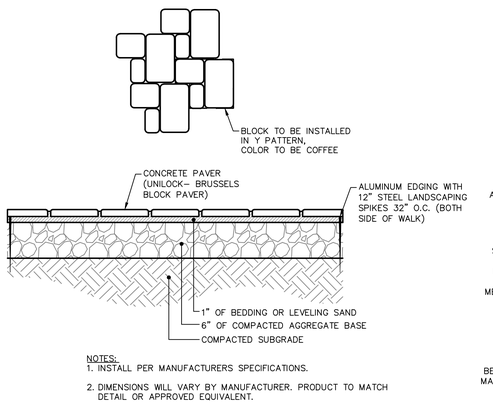


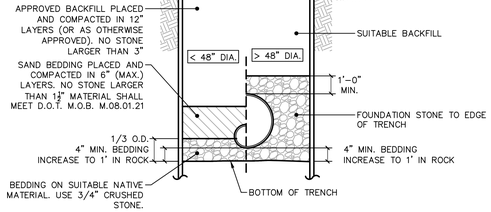
REFER TO ADJACENT VIEWS FOR DIMENSIONS (WHITE)
(ARROWS TO BE CENTERED IN TRAVEL LANE)

5 PAVEMENT ARROW DETAIL
SCALE: 1/4"=1'-0"



NOTES:
1. INSTALL PER MANUFACTURERS SPECIFICATIONS.
2. DIMENSIONS WILL VARY BY MANUFACTURER. PRODUCT TO MATCH DETAIL OR APPROVED EQUIVALENT.

6 CONCRETE PAVER DETAIL
SCALE: 1" = 1'-0"



7 TYPICAL STORM SEWER TRENCH SECTION DETAIL
SCALE: 1/4" = 1'-0"



Revisions

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LRC Engineering & Surveying, DPC
LRC Engineering & Surveying, LLC
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PROJECT DETAILS

MUTLI USE DEVELOPMENT

47 & 51 CANNON STREET
CITY OF POUGHKEEPSIE,
DUTCHESS COUNTY, NEW YORK

Design/Calcs	SMC	CAD File	DN21283001.dwg	Sheet No.
Drawn	SMC	Project No.	21–2830	DN-1
Checked	KFC	Date	2024–09–24	
Approved	REM	Scale		SHEET 7 OF 18

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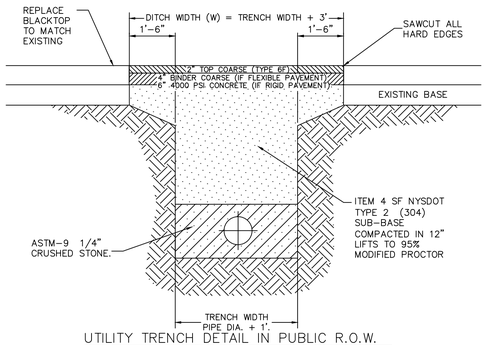
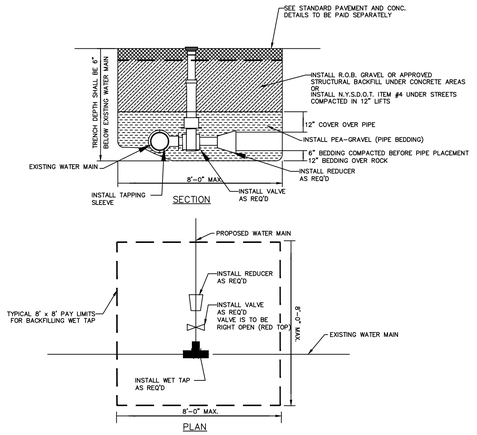


UTILITY TRENCH DETAIL IN PUBLIC R.O.W.

NOTES:
1. DITCH WIDTH SHALL EXTEND A MINIMUM OF ONE AND ONE-HALF FT. FROM THE EDGES OF THE TRENCH.
2. REPLACED BASE MATERIAL OVER TRENCH SHALL BE ITEM 4 COMPACTED IN 12" LIFTS.
3. PIPE BEDDING SHALL BE A MINIMUM OF 6" ABOVE AND BELOW PIPE
4. ALL JOINTS SHALL BE MECHANICALLY SAWED.
5. ALL JOINTS SHALL BE SQUARED TO THE EXISTING EDGE OF CURB AND/OR PAVEMENT, AND TACK COATED PER DETAIL.
6. ROAD SURFACE REPLACEMENT SHALL BE MINIMUM OF SIX INCHES OF ASPHALTIC CONCRETE.
7. ASPHALT PAVEMENT TO BE PLACED IN TWO LIFTS AS SHOWN.

CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT 62 CIVIC CENTER PLAZA POUGHKEEPSIE, NY 12602	FILE NO.: FLEXPAVE.DWG DATE: 9-9-04 SCALE: AS NOTED DRAWN BY: ENGINEERING	TRENCH AND PAVEMENT DETAIL	

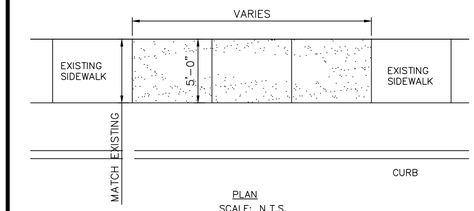


NOTE: ALL BACKFILL TO BE PLACED IN 1' LIFTS AND COMPACTED TO 95% OF MODIFIED PROCTOR (ASTM 1557)

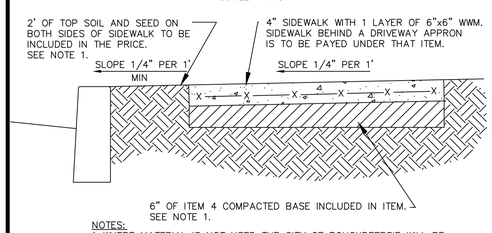
TAPPING SLEEVE & VALVE

SCALE: N.T.S.

CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT 80 WASHINGTON STREET POUGHKEEPSIE, NY 12602	FILE NO.: DATE: 3-6-00 SCALE: AS NOTED DRAWN BY: JP	TAPPING SLEEVE & VALVE	1 PAGE NO.



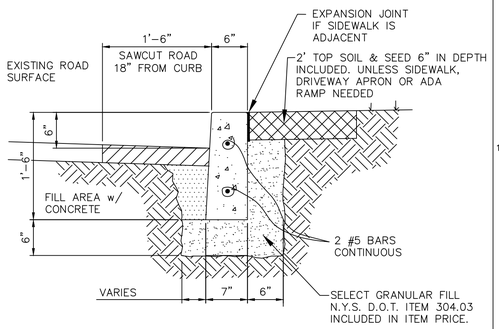
PLAN
SCALE: N.T.S.



NOTES:
1. WHERE MATERIAL IS NOT USED THE CITY OF POUGHDEEPSIE WILL BE CREDITED IN AREAS WHERE MORE THAN THE SPECIFIED AMOUNT OF MATERIAL IS USED. MAJOR GRADE CHANGES WILL BE APROVED BY THE CITY ENGINEERING DEPT. AND WILL BE PAYED UNDER APROPRIATE ITEMS.

SECTION

SIDEWALK DETAIL REPLACE & NEW



FORMED CURB DETAIL

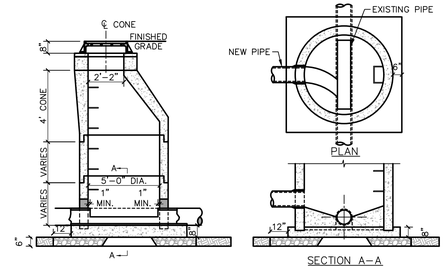
SCALE: 1"-1'-0"

CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT 62 CIVIC CENTER PLAZA POUGHKEEPSIE, NY 12602	PROJECT: 001-DET DATE: 5-16-00 SCALE: AS NOTED DRAWN BY: JP	SIDEWALK DETAIL	
CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT 62 CIVIC CENTER PLAZA POUGHKEEPSIE, NY 12602	FILE NO.: 001-DET DATE: 3-6-00 SCALE: AS NOTED DRAWN BY: JP	FORMED CURB DETIAL	1 PAGE NO.

DETAILS PROVIDED BY THE CITY OF POUGHKEEPSIE. FOR ALL WORK TO BE PERFORMED IN THE CITY ROW.

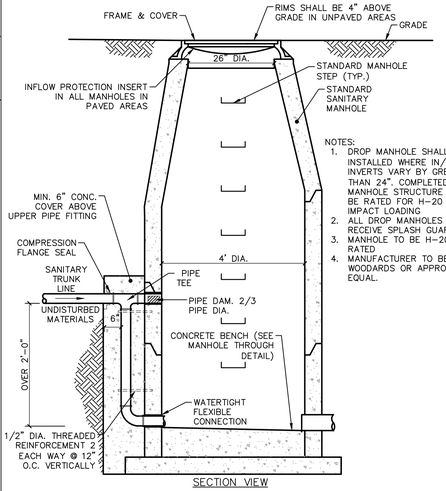
DETAILS PROVIDED BY THE CITY OF POUGHKEEPSIE. FOR ALL WORK TO BE PERFORMED IN THE CITY ROW.

NOTES:
1. INVERT SHALL BE FILLETED.
2. REINFORCEMENT FOR MANHOLE AND SLAB TOP SHALL BE DESIGNED BY A LICENSED CONNECTICUT STATE PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. STRUCTURE SHALL BE DESIGNED FOR HS20-44 VEHICULAR LOADING PLUS 25% IMPACT.
3. CONCRETE TO TEST 4000 P.S.I. AT 28 DAYS IN CONFORMANCE WITH A.S.T.M. C-478.
4. BENCH SHALL BE BUILT FOR FLOW BETWEEN INLET AND OUTLET.
5. EACH MANHOLE EXTERIOR SHALL RECEIVE TWO BITUMINOUS COATS.



1 DOGHOUSE SANITARY SEWER MANHOLE DETAIL

SCALE: 1/4"=1'-0"

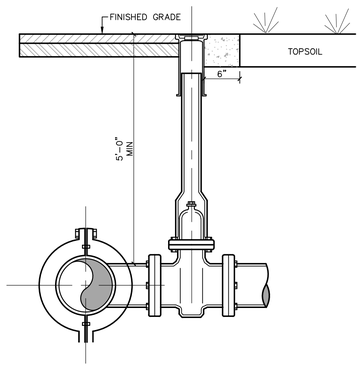


NOTES:
1. DROP MANHOLE SHALL BE INSTALLED WHERE IN/OUT INVERTS VARY BY GREATER THAN 24", COMPLETED MANHOLE STRUCTURE SHALL BE RATED FOR H-20 + 25% IMPACT LOADING
2. ALL DROP MANHOLES SHALL RECEIVE SPLASH GUARD.
3. MANHOLE TO BE H-20 LOAD RATED
4. MANUFACTURER TO BE WOODARDS OR APPROVED EQUAL.

SECTION VIEW

1 SANITARY SEWER DROP MANHOLE DETAIL

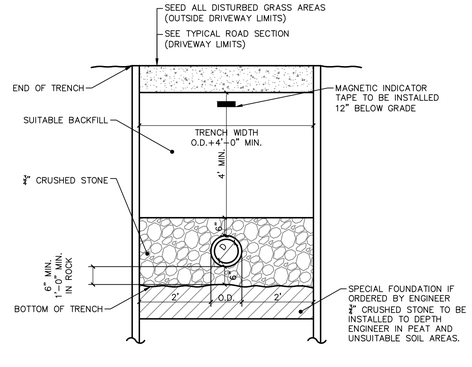
SCALE: 1/2" = 1'-0"



NOTES:
1. WET TAP OF WATER MAIN SHALL BE PERFORMED UNDER THE SUPERVISION OF THE ENGINEER, AND THE CITY OF POUGHKEEPSIE WATER DEPARTMENT.
2. TAPPING SLEEVE AND VALVE SUPPORT SHALL BE COORDINATED WITH THE ENGINEER TO SUIT FIELD CONDITIONS.
3. MINIMUM DISTANCE TO JOINTS, FITTINGS, OR OTHER WET TAPS OR STOPS SHALL BE 3 FEET.
4. VALVE OPERATING DIRECTION SHALL BE COUNTERCLOCKWISE TO OPEN (TURNING LEFT).
5. STAINLESS STEEL TAPPING SLEEVE SHALL BE SELECTED TO FIT EXISTING PIPE MATERIAL (C.I., D.I., A.C.) AND OUTSIDE DIAMETERS.
6. TAPPING SLEEVE, RESILIENT WEDGE VALVE & VALVE BOX SHALL BE IN ACCORDANCE WITH CITY OF POUGHKEEPSIE STANDARDS & AS MANUFACTURED BY (MUELLER) OR APPROVED EQUIVALENT.
7. ALL JOINTS SHALL UTILIZE MEGA LUG RETAINER GLAND.
8. PIPE BEDDING AND BACKFILL TO BE INSTALLED IN ACCORDANCE WITH PIPE TRENCHING DETAIL.

6 WATER TAPPING SLEEVE AND VALVE DETAIL

SCALE: 1" = 1'-0"

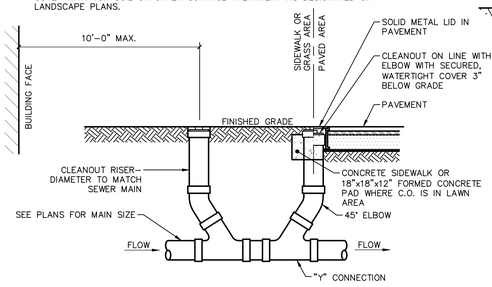


NOTES:
1. IF COVER IS LESS THAN 4 FEET, INSULATION IS REQUIRED.
2. SEE THIS SHEET FOR SUBGRADE AND BACKFILL PLACEMENT AND COMPACTION REQUIREMENTS.

2 SANITARY SEWER TRENCH DETAIL

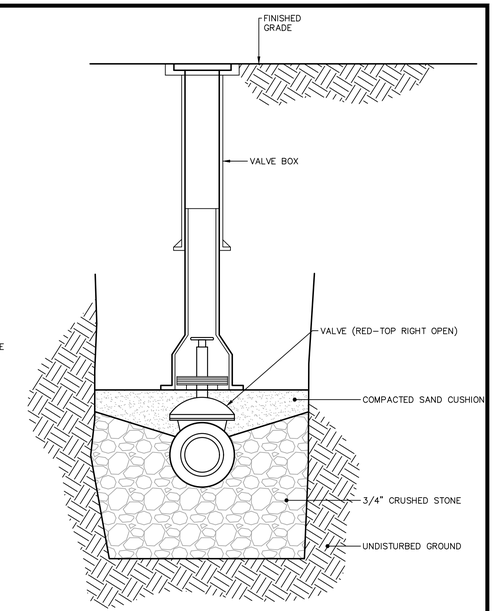
SCALE: 1/2" = 1'-0"

NOTES:
1. DOUBLE CLEANOUT TO BE INSTALLED ON ALL SEWER LATERALS WITHIN 10 FEET OF BUILDING FACE.
2. ANY LOCATIONS WITHIN PAVED AREAS SHALL HAVE COVERS THAT ARE H-20 LOAD RATED. ALL COVERS WHETHER IN PAVEMENT OR GRASS SHALL BE LABELED "SEWER".
3. ALL RISERS ARE TO MATCH THE SIZE OF THE SANITARY LINE.
4. IN LAWN AREAS INSTALL CONCRETE COLLAR 3 INCHES BELOW GRADE. COVER WITH TOP SOIL OR OTHER SURFACE TREATMENT AS DESIGNATED ON LANDSCAPE PLANS.



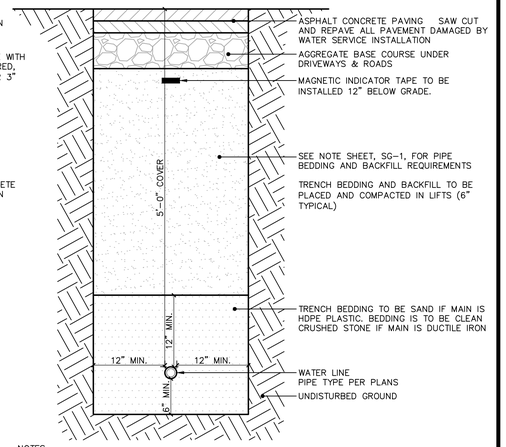
3 DOUBLE SANITARY SEWER CLEANOUT DETAIL

SCALE: N.T.S.



4 VALVE AND VALE BOX DETAIL

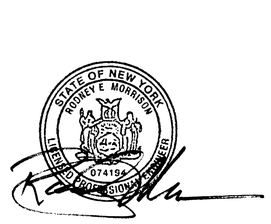
SCALE: 1" = 1'-0"



NOTES:
1. SEE NOTE SHEET SG-1 FOR SUBGRADE AND BACKFILL PLACEMENT AND COMPACTION REQUIREMENTS.
2. SEE WATER NOTES ON SHEET SG-1 FOR ADDITION DETAILS

5 WATER MAIN TRENCH DETAIL

SCALE: 1" = 1'-0"



Revisions

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• Land Surveying
• Landscape Architecture
160 West Street, Suite E
Cromwell, CT 06416
Tel: 860.635.2877
85 Civic Center Plaza, Suite 204
Poughkeepsie NY 12601
Tel: 845.243.2880
1 International Blvd, Suite 400
Mahwah, NJ 07495
Tel: 908.603.5730
www.lrcconsult.com
LRC Engineering & Surveying, DPC
LRC Engineering & Surveying, LLC
LRC Environmental Services, Inc.

PROJECT DETAILS

MUTLI USE DEVELOPMENT

47 & 51 CANNON STREET
CITY OF POUGHKEEPSIE,
DUTCHESS COUNTY, NEW YORK

Design/Calcs	SMC	CAD File	DN2128300Z.dwg	Sheet No.	
Drawn	SMC	Project No.	21-2830	DN-2	
Checked	KFC	Date	2024-09-24		
Approved	REM	Scale		SHEET 8 OF 18	

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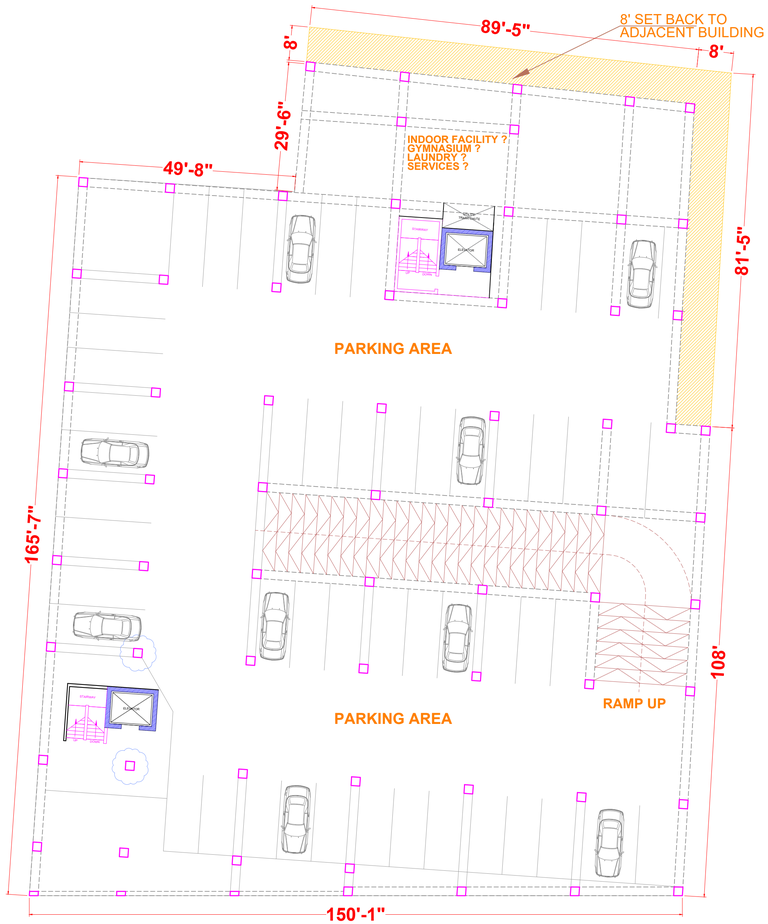
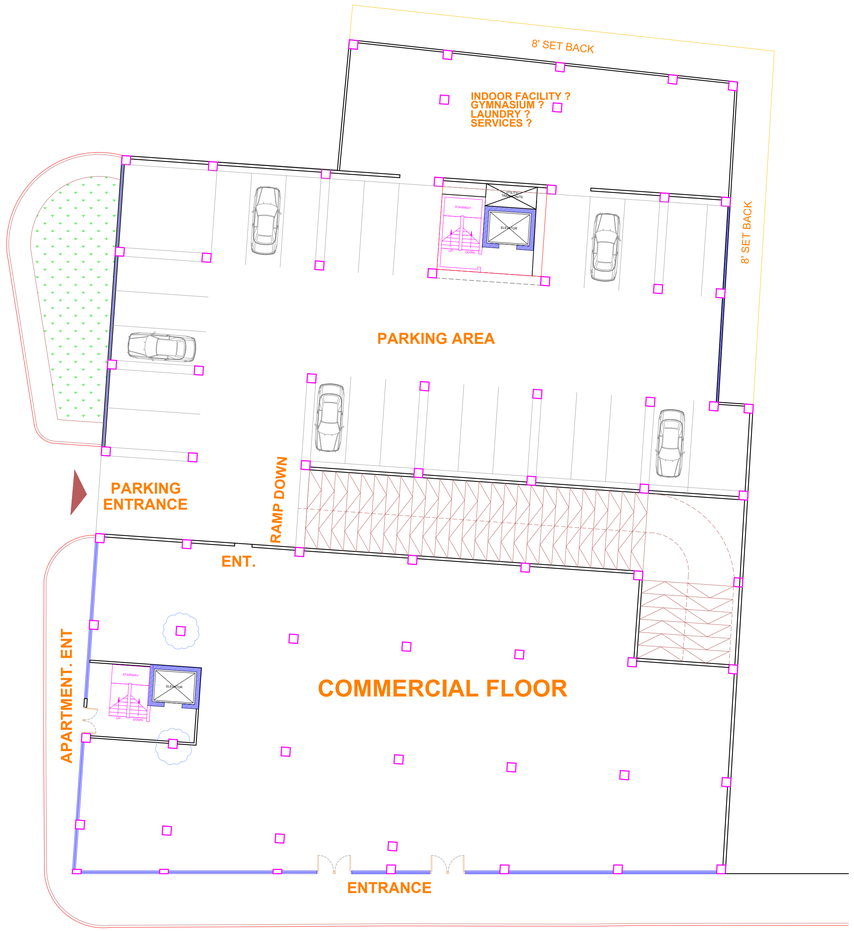


BASEMENT LAYOUT



LEVEL 1 FLOOR PLAN

DEVELOPED BY

CLIENT

JAMES J SULLIVAN CORPORATION

PROJECT

PLANNING BOARD DESIGN OF
47 CANNON ST
POUGHKEEPSIE, NY 12601

OWNER

JAMES J SULLIVAN CORPORATION
Phone: 845-380-1448 | Email: JSullivanCorp@gmail.com

PROJECT NO.

4751

SHEET NAME

FLOOR PLANS
COMMERCIAL AREAS

DATE

10-SEPTEMBER-24

SHEET NO.

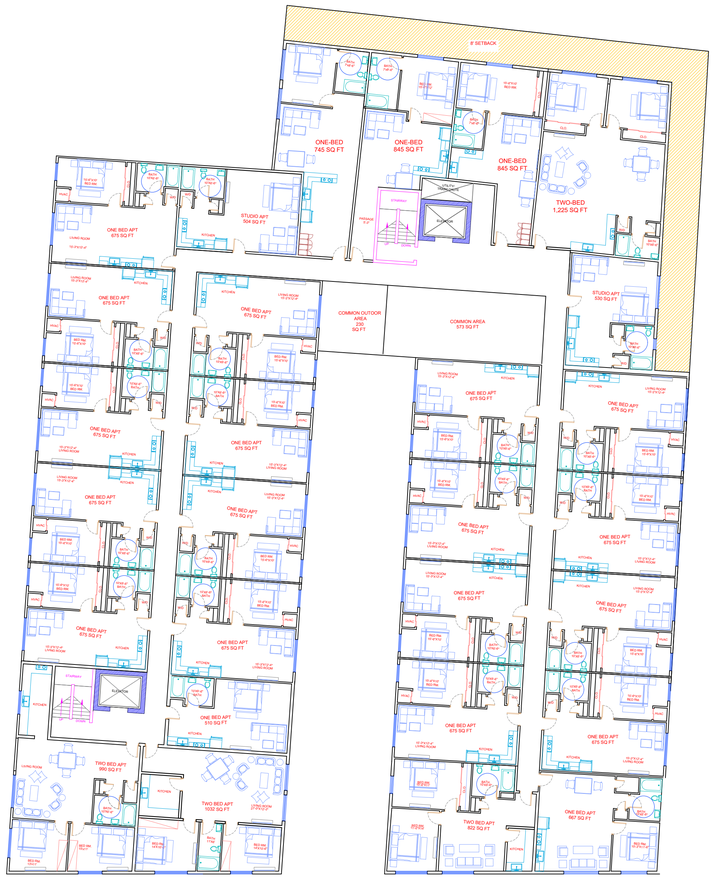
DWG-01 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



2ND LEVEL- 5TH LEVEL



6TH LEVEL

DEVELOPED BY

CLIENT

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PLANNING BOARD DESIGN OF
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POUGHKEEPSIE, NY 12601

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PROJECT NO.

4751

SHEET NAME

FLOOR PLANS
RESIDENTIAL FLOORS

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-02 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



ROOF LEVEL

DEVELOPED BY

CLIENT

JAMES J SULLIVAN CORPORATION

PROJECT

PLANNING BOARD DESIGN OF
47 CANNON ST
POUGHKEEPSIE, NY 12601

OWNER

JAMES J SULLIVAN CORPORATION
Phone: 845-380-1448 | Email: JSullivanCorp@gmail.com

PROJECT NO.

4751

SHEET NAME

ROOF TOP
OPEN SPACE

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-03 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



WEST ELEVATION

DEVELOPED BY

CLIENT

JAMES J SULLIVAN CORPORATION

PROJECT

PLANNING BOARD DESIGN OF
47 CANNON ST
POUGHKEEPSIE, NY 12601

OWNER

JAMES J SULLIVAN CORPORATION
Email: JSullivanCorp@gmail.com
Phone: 845-380-1448

PROJECT NO.

4751

SHEET NAME

ELEVATIONS
WEST ELEVATION

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-04 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



FRONT ELEVATION

DEVELOPED BY

CLIENT

JAMES J SULLIVAN CORPORATION

PROJECT

PLANNING BOARD DESIGN OF
47 CANNON ST
POUGHKEEPSIE, NY 12601

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PROJECT NO.

4751

SHEET NAME

ELEVATIONS
SOUTH ELEVATION

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-05 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



SIDE ELEVATION
ADJACENT TO OTHER PROPERTY

DEVELOPED BY

CLIENT
JAMES J SULLIVAN CORPORATION

JSullivan Corporation

PROJECT
PLANNING BOARD DESIGN OF
47 CANNON ST
POUGHKEEPSIE, NY 12601

OWNER
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Phone: 845-380-1448 | Email: JSullivanCorp@gmail.com

PROJECT NO.
4751

SHEET NAME
ELEVATIONS
EAST ELEVATION

DATE
10-SEPTEMBER-24

SHEET NO.
DWG-06 OF 10

DRAWN BY.
JJS

CHECKED BY.
JJS



REAR SIDE ELEVATION

DEVELOPED BY

CLIENT

JAMES J SULLIVAN CORPORATION

JSullivan Corporation

PROJECT

PLANNING BOARD DESIGN OF
47 CANNON ST
POUGHKEEPSIE, NY 12601

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PROJECT NO.

4751

SHEET NAME

ELEVATIONS
NORTH ELEVATION

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-07 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



SOUTHWEST RENDERING

DEVELOPED BY

CLIENT

JAMES J SULLIVAN CORPORATION

PROJECT

PLANNING BOARD DESIGN OF
47 CANNON ST
POUGHKEEPSIE, NY 12601

OWNER

JAMES J SULLIVAN CORPORATION
Phone: 845-380-1448 | Email: JSullivanCorp@gmail.com

PROJECT NO.

4751

SHEET NAME

RENDERINGS
SOUTHWEST RENDERING

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-08 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



RENDERING FROM WEST

DEVELOPED BY

CLIENT

JAMES J SULLIVAN CORPORATION

PROJECT

PLANNING BOARD DESIGN OF
47 CANNON ST
POUGHKEEPSIE, NY 12601

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PROJECT NO.

4751

SHEET NAME

RENDERINGS
WEST RENDERING

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-09 OF 10

DRAWN BY.

JJS

CHECKED BY.

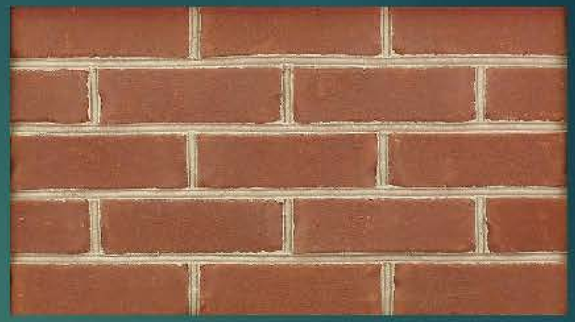
JJS



Aluminum Juliet
Balcony Matte Black



Brise Soleil –
Matte Black Aluminum



Columbus Brick
Yorktown Modular



Vertical Metal Siding



Limestone Cladding

47 Cannon Street – Multi-Use Building

Exterior
Finishes

EXTERIOR FINISHES

DEVELOPED BY

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JAMES J SULLIVAN
CORPORATION

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PLANNING BOARD DESIGN OF
47 CANNON ST
POUGHKEEPSIE, NY 12601

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PROJECT NO.
4751

SHEET NAME
MATERIALS

DATE
10-SEPTEMBER-24

SHEET NO.
DWG-10 OF 10

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JJS

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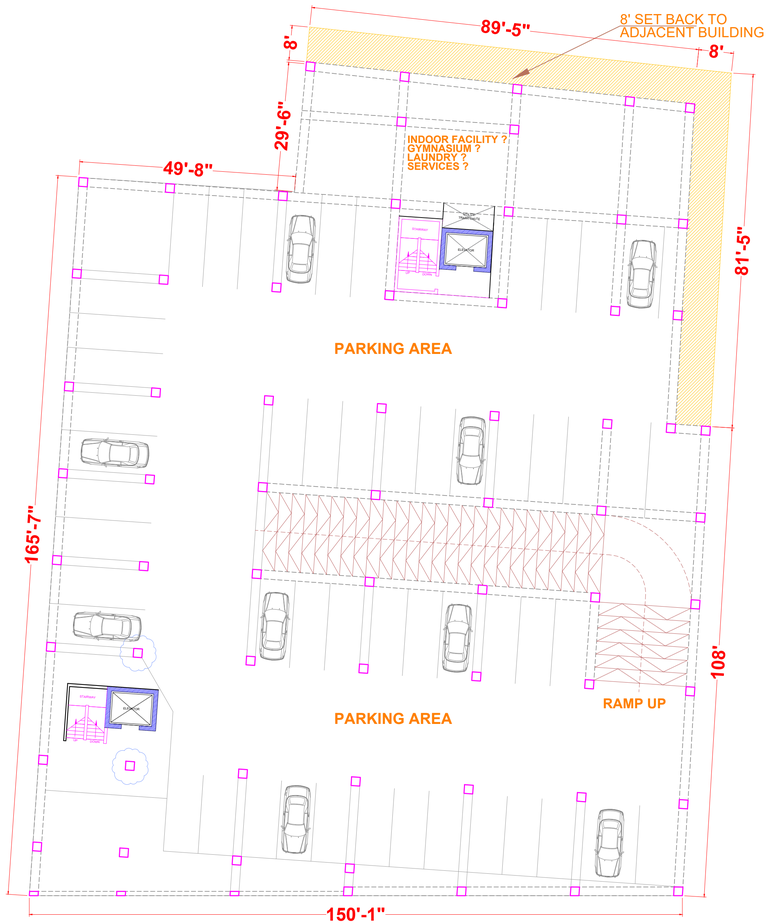
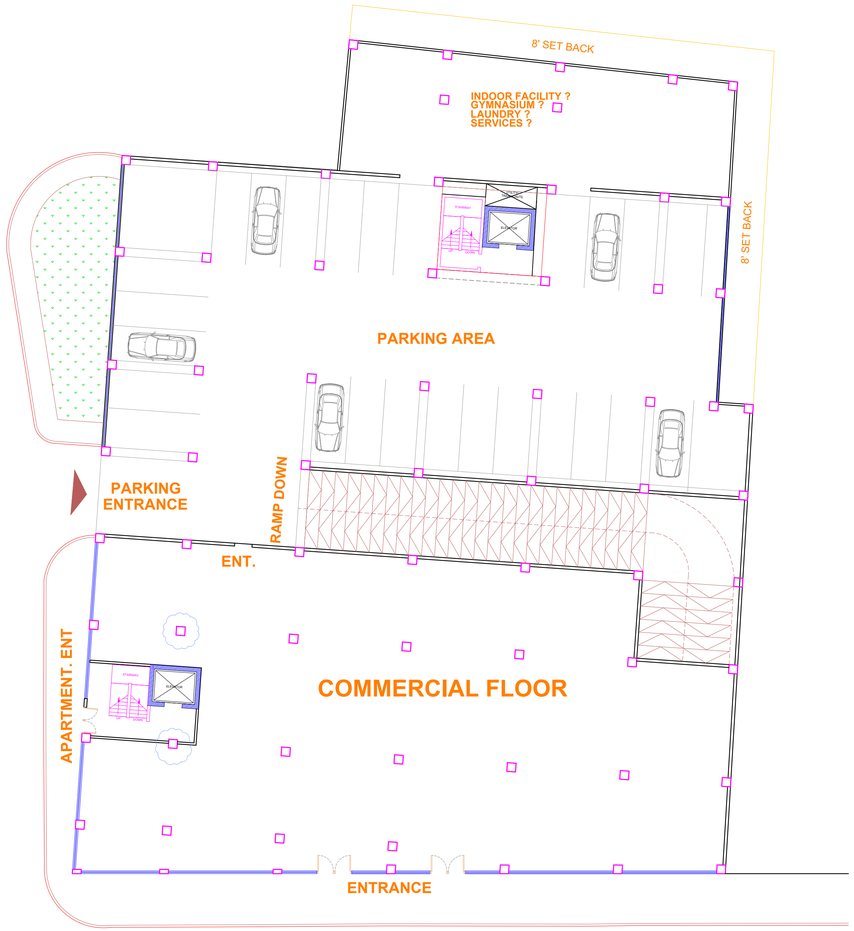


BASEMENT LAYOUT



LEVEL 1 FLOOR PLAN

DEVELOPED BY

CLIENT

JAMES J SULLIVAN CORPORATION

PROJECT

PLANNING BOARD DESIGN OF
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POUGHKEEPSIE, NY 12601

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FLOOR PLANS
COMMERCIAL AREAS

DATE

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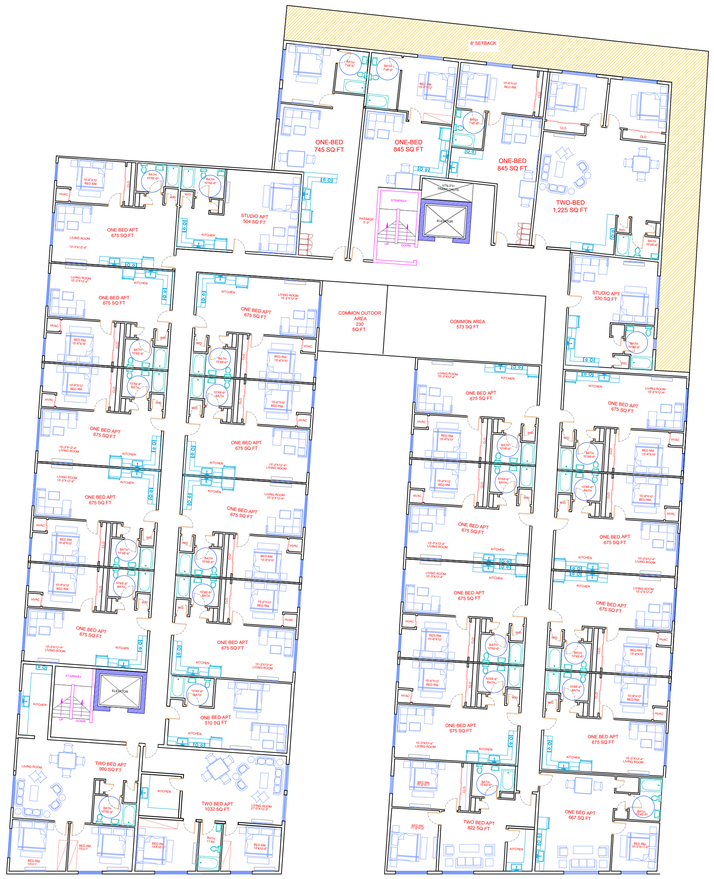
8' SETBACK
ONE-BED 745 SQ FT
ONE-BED 845 SQ FT
ONE-BED 845 SQ FT
TWO-BED 1,225 SQ FT
STUDIO APT 504 SQ FT
ONE BED APT 675 SQ FT
STUDIO APT 530 SQ FT
COMMON OUTDOR AREA 573 SQ FT
COMMON AREA 573 SQ FT
ONE BED APT 675 SQ FT
ONE BED APT 675 SQ FT
ONE BED APT 675



ROOF LEVEL

DEVELOPED BY

CLIENT

JAMES J SULLIVAN CORPORATION

PROJECT

PLANNING BOARD DESIGN OF
47 CANNON ST
POUGHKEEPSIE, NY 12601

OWNER

JAMES J SULLIVAN CORPORATION
Phone: 845-380-1448 | Email: JSullivanCorp@gmail.com

PROJECT NO.

4751

SHEET NAME

ROOF TOP
OPEN SPACE

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-03 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



WEST ELEVATION

DEVELOPED BY

CLIENT

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PROJECT

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47 CANNON ST
POUGHKEEPSIE, NY 12601

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Phone: 845-380-1448

PROJECT NO.

4751

SHEET NAME

ELEVATIONS
WEST ELEVATION

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-04 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



FRONT ELEVATION

DEVELOPED BY

CLIENT

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PROJECT NO.

4751

SHEET NAME

ELEVATIONS
SOUTH ELEVATION

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-05 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



SIDE ELEVATION
ADJACENT TO OTHER PROPERTY

DEVELOPED BY

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JSullivan Corporation

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ELEVATIONS
EAST ELEVATION

DATE
10-SEPTEMBER-24

SHEET NO.
DWG-06 OF 10

DRAWN BY.
JJS

CHECKED BY.
JJS



REAR SIDE ELEVATION

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PROJECT NO.

4751

SHEET NAME

ELEVATIONS
NORTH ELEVATION

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-07 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



SOUTHWEST RENDERING

DEVELOPED BY

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SHEET NAME

RENDERINGS
SOUTHWEST RENDERING

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-08 OF 10

DRAWN BY.

JJS

CHECKED BY.

JJS



RENDERING FROM WEST

DEVELOPED BY

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PROJECT NO.

4751

SHEET NAME

RENDERINGS
WEST RENDERING

DATE

10-SEPTEMBER-24

SHEET NO.

DWG-09 OF 10

DRAWN BY.

JJS

CHECKED BY.

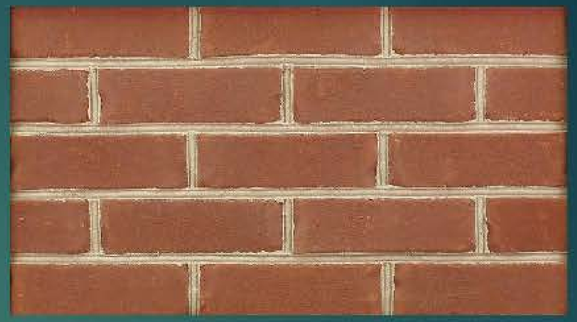
JJS



Aluminum Juliet
Balcony Matte Black



Brise Soleil –
Matte Black Aluminum



Columbus Brick
Yorktown Modular



Vertical Metal Siding



Limestone Cladding

47 Cannon Street – Multi-Use Building

Exterior
Finishes

EXTERIOR FINISHES

DEVELOPED BY

CLIENT
JAMES J SULLIVAN CORPORATION

PROJECT
PLANNING BOARD DESIGN OF
47 CANNON ST
POUGHKEEPSIE, NY 12601

OWNER
JAMES J SULLIVAN CORPORATION
Phone: 845-380-1448 | Email: JSullivanCorp@gmail.com

PROJECT NO.
4751

SHEET NAME
MATERIALS

DATE
10-SEPTEMBER-24

SHEET NO.
DWG-10 OF 10

DRAWN BY.
JJS

CHECKED BY.
JJS

Instructions for Completing Part 1

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

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

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

A. Project and Applicant/Sponsor Information.

Name of Action or Project: 47 Cannon St. LLC		
Project Location (describe, and attach a general location map): 47 & 51 Cannon Street, Poughkeepsie, NY 12601 Tax ID:131300-6162-77-086045-0000 & 131300-6162-77-092041-0000		
Brief Description of Proposed Action (include purpose or need): Proposed redevelopment of 47 Cannon Street (086045) and 51 Cannon Street (092041) into a 26,064 SF 6-story building. The building will consist of 140 residential units, 6,000 SF restaurant with artisinal beverage space, 4,000 SF of retail on the ground floor with underground parking beneath the building.		
Name of Applicant/Sponsor: 47 Cannon St. LLC c/o James Sullivan	Telephone: 845-380-1448 E-Mail: JSullivanCorp@gmail.com	
Address: P.O Box 305		
City/PO: Pawling	State: NY	Zip Code: 12564
Project Contact (if not same as sponsor; give name and title/role): Kenneth Casamento	Telephone: 845-243-2880 E-Mail: kcasamento@lrcconsult.com	
Address: 85 Civic Center Plaza, Ste. 204		
City/PO: Poughkeepsie	State: NY	Zip Code: 12601
Property Owner (if not same as sponsor):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

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

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees ☐Yes ☑No		
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Planning Board - site plan approval	October 2024
c. City, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☑Yes ☐No	Poughkeepsie Industrial Development Agency	TBD
e. County agencies ☑Yes ☐No	DC 239M	TBD
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	OPRHP-SHPO	TBD
h. Federal agencies ☐Yes ☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

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

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

C.2. Adopted land use plans.

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

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

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

If Yes, identify the plan(s):

_____

_____

_____

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

If Yes, identify the plan(s):

_____

_____

_____

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
PID-UV Poughkeepsie Innovation District Urban Village

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

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? City of Poughkeepsie School District

b. What police or other public protection forces serve the project site?
City of Poughkeepsie Police Department

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

d. What parks serve the project site?
N/A

D. Project Details

D.1. Proposed and Potential Development

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

b. a. Total acreage of the site of the proposed action? 0.63 acres
b. Total acreage to be physically disturbed? 0.63 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 0.63 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 18 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☑ Yes ☐ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				140
At completion of all phases				

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

If Yes,

i. Total number of structures 1

ii. Dimensions (in feet) of largest proposed structure: 68' height; 150' width; and 180' length

iii. Approximate extent of building space to be heated or cooled: 124,120 square feet

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

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:

_____

iii. If other than water, identify the type of impounded/contained liquids and their source.

_____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

_____

D.2. Project Operations

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

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

_____

_____

iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No

If yes, describe. _____

_____

v. What is the total area to be dredged or excavated? _____ acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: _____

_____

_____

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

If Yes:

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

_____

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

_____

_____

_____

_____

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

If Yes, describe: _____

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

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

_____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

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

_____

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

If Yes:

i. Total anticipated water usage/demand per day: 20,950 gallons/day

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

If Yes:

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

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

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

- Source(s) of supply for the district: _____

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

If, Yes:

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

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

_____

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

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

If Yes:

i. Total anticipated liquid waste generation per day: 20,950 gallons/day

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

_____

_____

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

If Yes:

- Name of wastewater treatment plant to be used: City of Poughkeepsie
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☑Yes ☐No
- Is the project site in the existing district? ☑Yes ☐No
- Is expansion of the district needed? ☐Yes ☑No

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

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

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

If Yes:

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

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

_____

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

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

If Yes:

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

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

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

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐ Yes ☐ No

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

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

If Yes, identify:

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

temporary for construction equipments

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

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

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

If Yes:

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

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

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

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

If Yes:

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

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

_____

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

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

_____

_____

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

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend

☐ Randomly between hours of _____ to _____.

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

_____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

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

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

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

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

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

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

If Yes:

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

TBD _____

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

Central Hudson Gas & Electric _____

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

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

i. During Construction:

- Monday - Friday: 6:30AM-9PM
- Saturday: _____
- Sunday: _____
- Holidays: _____

ii. During Operations:

- Monday - Friday: 24 hours
- Saturday: 24 hours
- Sunday: 24 hours
- Holidays: TBD

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Ambient noise levels will be exceeded during the construction period but limited to ordinance hours between 6:30AM-9PM weekdays

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

Describe: _____

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Safety and security lights mounted to building.

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

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities: _____

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

If Yes:

i. Describe proposed treatment(s):

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

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: TBD tons per _____ (unit of time)
- Operation : Household/Retail waste tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: remnant construction materials
- Operation: recycling operation - comply w/ city and county regulations

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

- Construction: state and/or federal disposal facilty
- Operation: state and/or federal disposal facility

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

_____

_____

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

_____

_____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

_____

_____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

_____

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

_____

_____

E. Site and Setting of Proposed Action

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

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☑ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)

☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

_____

_____

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.621	0.63	+0.009
• Forested	0	0	0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0	0	0
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	0
• Wetlands (freshwater or tidal)	0	0	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: Lawn	0.009	0	-0.009

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

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

If Yes,

i. Identify Facilities:

young children magnet elementary school, Clinton Elementary, Hudson River Healthcare, Inc. Community Family Development, Humble Life Daycare.

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑ Yes ☐ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: *See Part F ☑ Yes ☐ No

☐ Yes – Spills Incidents database Provide DEC ID number(s): _____

☑ Yes – Environmental Site Remediation database Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑ Yes ☐ No

If yes, provide DEC ID number(s): *See Part F

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

*See Part F

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

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

E.2. Natural Resources On or Near Project Site

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

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

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

Ur - Urban land	100 %
	%
	%

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

e. Drainage status of project site soils:

☐	Well Drained:	% of site
☑	Moderately Well Drained:	100 % of site
☐	Poorly Drained	% of site

f. Approximate proportion of proposed action site with slopes:

☑	0-10%:	100 % of site
☐	10-15%:	% of site
☐	15% or greater:	% of site

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

h. Surface water features.

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

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

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

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

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

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

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

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

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

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:
birds, rabbit
chipmunk, deer
squirrel

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation): _____
ii. Source(s) of description or evaluation: _____
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑ No

If Yes:
i. Species and listing (endangered or threatened): _____

See Part F

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

If Yes:
i. Species and listing: _____

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

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

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

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

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

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name: _____
ii. Basis for designation: _____
iii. Designating agency and date: _____

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

If Yes:

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

ii. Name: See Part F

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

Information obtained from the EAF Mapper.

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

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

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

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

If Yes:

i. Identify resource: Walkway Over the Hudson

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

iii. Distance between project and resource: <1 miles.

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

If Yes:

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

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

F. Additional Information

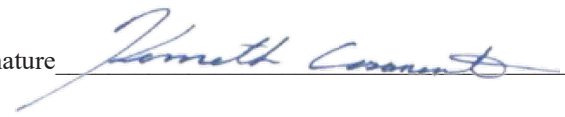
Attach any additional information which may be needed to clarify your project.

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

G. Verification

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

Applicant/Sponsor Name Kenneth Casamento Date 9/24/2024

Signature  Title As Agent for Applicant

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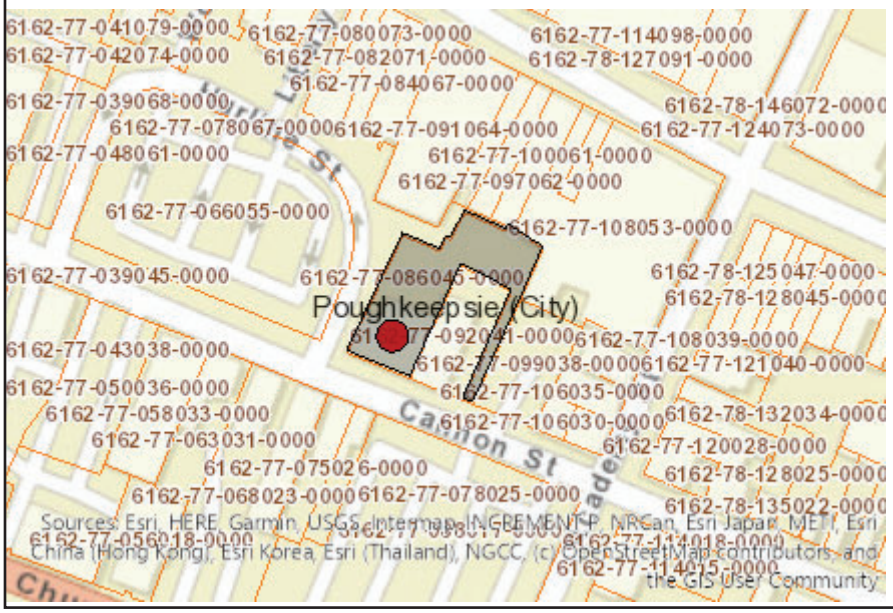

Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	314071, C314125, B00148, C314126, C314126A, 314122, C314130, C314134
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	No
E.2.h.iii [Surface Water Features]	No
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No

E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National or State Register of Historic Places or State Eligible Sites - Name]	Eligible property:Enquirer Building, Eligible property:INSURANCE AND TRAVEL STORE (KEY BANK), Eligible property:Wallace Company Department Store, Collingwood Opera House and Office Building, Farmer's and Manufacturer's Bank, Luckey, Platt & Company Department Store, New York State Armory, Lady Washington Hose Company, Main Mall Row, Poughkeepsie Savings Bank, Main Mall Row Historic District Boundary Expansion, Church Street Row, Wallace Company Department Store
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

Part F – 47 Cannon Street

E.1. h. *i.* Is any portion of the site listed on the NYSDEC Spill Incidents database or Environmental Site Remediation database?

The EAF Map indicates the following on the Environmental Site Remediation database: 314071, C314125, B00148, C314126, C314126A, 314122, C314130, C314134. The subject property is not within or near one of the remedial sites that would adversely impact the proposed project. See Appendix C for Environmental Site Remediation Database Reports.

E.2.o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas as identified as habitat for an endangered or threatened species?

The EAF Mapper does not indicate any endangered or threatened species, however, the IPac report in Appendix B indicates the presence of Indiana and Northern Long-eared Bat. Minimal tree removal is expected for this project. Any tree removal will take place at the appropriate timeframe indicated by the NYSDEC.

E.3.e.*ii.* Names of Historic/ Archeological resource:

Eligible property: Enquirer Building, Eligible property: INSURANCE AND TRAVEL STORE (KEY BANK), Eligible property: Wallace Company Department Store, Collingwood Opera House and Office Building, Farmer's and Manufacturer's Bank, Luckey, Platt & Company Department Store, New York State Armory, Lady Washington Hose Company, Main Mall Row, Poughkeepsie Savings Bank, Main Mall Row Historic District Boundary Expansion, Church Street Row, Wallace Company Department Store

APPENDIX A

Parcel Number
131300-6162-77-086045-0000

Parcel Location
47 Cannon St

Municipality
Poughkeepsie City

Owner Name
47 Cannon St LLC *(P)*

Primary Owner Mailing Address
PO Box 38
Chelsea, NY 12512



Parcel Details

Lot Size (acres):	0.39 Ac	**Split Town:**	-
Filed Map:	-	**Agri. District:**	None
File Lot #:	-	**School District:**	(131300) Poughkeepsie City SD
Land Use Class:	(464) Office bldg.		

Assessment Information (Current)

Land:	Total:	County Taxable:	Town Taxable:	School Taxable:	Village Taxable:
$110,000	$343,200	$343,200	$343,200	$343,200	$0

Tax Code:	Roll Section:	Uniform %:	Full Market Value:
N (Non-Homestead)	1 (Taxable)	100	$343,200

Tentative Roll:	Final Roll:	Valuation Date:
5/1/2024	7/1/2024	7/1/2023

Last Sale / Transfer

Sale Price:	Sale Date:	Deed Book:	Deed Page:	Sale Condition:	No. Parcels:
$350,000	9/16/2021	22021	53546	D	1

Site Information

Site 1

Water Supply:	Sewer Type:	Desirability:	Zoning Code: *	Used As:
(3) Comm/public	(3) Comm/public	(3) Normal		(E03) Profssnl off

Commercial / Industrial / Utility Building Information

Site 1, Section 1, No. 1

Year Built:	No. Stories:	Gross Floor Area:	Boeck Model:	
1983	0	10,810	(0223) 2-4 sty office load sup	

Air Cond. %:	Sprinkler %:	Alarm %:	No. Elevators:	Basement SF:
0	0	0	0	3,600

Number Identical:	Condition Code:	Constr. Qual:

0	-

Commercial Rental Information

Site 1, Use 1

Used As:			Unit Code:	Total Rent Area:	Total Units:
(E03) Profssnl off			-	10,810	0
Area 1 Bed. Apts.:	**Area 2 Bed. Apts.:**	**Area 3 Bed. Apts.:**	**No. 1 Bed. Apts:**	**No. 2 Bed. Apts:**	**No. 3 Bed. Apts:**
0	0	0	0	0	0

Special District Information

Special District: GP000

Special District Name:	Primary Units:	Ad Valorem Value:
Greater Pok Lib Dist	0	$343,200

ABSOLUTELY NO ACCURACY OR COMPLETENESS GUARANTEE IS IMPLIED OR INTENDED. ALL INFORMATION ON THIS MAP IS SUBJECT TO CHANGE BASED ON A COMPLETE TITLE SEARCH OR FIELD SURVEY.

***Please see the Dutchess County Zoning Map for the most up-to-date zoning information.**

This report was produced using ParcelAccess on 8/9/2024. Developed and maintained by OCIS - Dutchess County, NY.

Parcel Number
131300-6162-77-092041-0000

Parcel Location
51 Cannon St

Municipality
Poughkeepsie City

Owner Name
Mental Health America of *(P)*

Primary Owner Mailing Address
253 Mansion St
Ste 201
Poughkeepsie, NY 12601



Parcel Details

Lot Size (acres):	0.19 Ac (c)	**Split Town:**	-
Filed Map:	-	**Agri. District:**	None
File Lot #:	-	**School District:**	(131300) Poughkeepsie City SD
Land Use Class:	(464) Office bldg.		

Assessment Information (Current)

Land:	Total:	County Taxable:	Town Taxable:	School Taxable:	Village Taxable:
$71,000	$785,900	$0	$0	$0	$0

Tax Code:	Roll Section:	Uniform %:	Full Market Value:
N (Non-Homestead)	8 (Wholly Exempt)	100	$785,900

Tentative Roll:	Final Roll:	Valuation Date:
5/1/2024	7/1/2024	7/1/2023

Last Sale / Transfer

Sale Price:	Sale Date:	Deed Book:	Deed Page:	Sale Condition:	No. Parcels:
$900,000	6/19/2024	22024	51923	J	1

Site Information

Site 1

Water Supply:	Sewer Type:	Desirability:	Zoning Code: *	Used As:
(3) Comm/public	(3) Comm/public	(1) Poor		(Z34) Benev assoc

Commercial / Industrial / Utility Building Information

Site 1, Section 1, No. 1

Year Built:	No. Stories:	Gross Floor Area:	Boeck Model:	
1960	0	8,160	(0223) 2-4 sty office load sup	
Air Cond. %:	**Sprinkler %:**	**Alarm %:**	**No. Elevators:**	**Basement SF:**
0	0	0	0	2,720
Number Identical:	**Condition Code:**	**Constr. Qual:**		

0		-

Commercial Rental Information

Site 1, Use 1

Used As:			Unit Code:	Total Rent Area:	Total Units:
(Z34) Benev assoc			-	8,160	0
Area 1 Bed. Apts.:	**Area 2 Bed. Apts.:**	**Area 3 Bed. Apts.:**	**No. 1 Bed. Apts:**	**No. 2 Bed. Apts:**	**No. 3 Bed. Apts:**
0	0	0	0	0	0

Exemption Information

Exemption: 25230

Exemption Name:	Amount:
NP Mental Imp	$785,900

ABSOLUTELY NO ACCURACY OR COMPLETENESS GUARANTEE IS IMPLIED OR INTENDED. ALL INFORMATION ON THIS MAP IS SUBJECT TO CHANGE BASED ON A COMPLETE TITLE SEARCH OR FIELD SURVEY.

***Please see the Dutchess County Zoning Map for the most up-to-date zoning information.**

This report was produced using ParcelAccess on 8/9/2024. Developed and maintained by OCIS - Dutchess County, NY.

APPENDIX B

IPaC resource list

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

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

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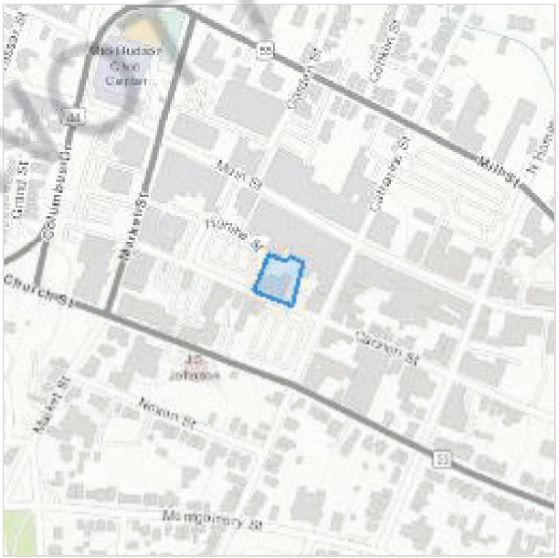
Location

Dutchess County, New York



Local office

New York Ecological Services Field Office

(607) 753-9334
(607) 753-9699
fw5es_nyfo@fws.gov

3817 Luker Road
Cortland, NY 13045-9385

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Endangered species

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

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

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

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

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

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

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

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

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

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

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Critical habitats

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

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

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

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the

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probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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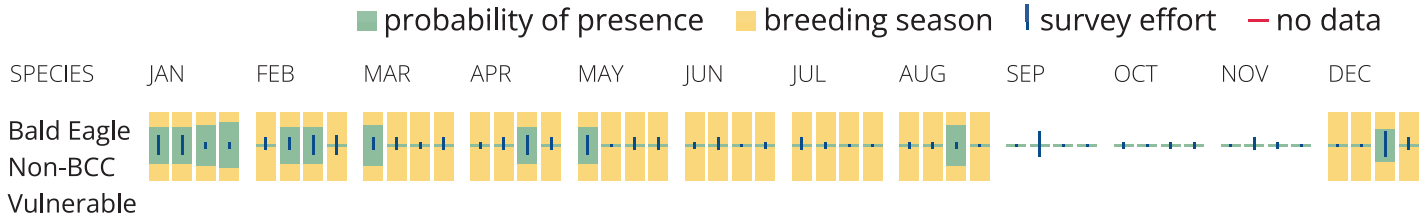

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km

grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

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

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

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Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/ documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

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

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

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31

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Belted Kingfisher Megaceryle alcyon — Breeds Mar 15 to Jul 25

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Black-billed Cuckoo Coccyzus erythropthalmus — Breeds May 15 to Oct 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9399

Blue-winged Warbler Vermivora cyanoptera — Breeds May 1 to Jun 30

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Bobolink Dolichonyx oryzivorus — Breeds May 20 to Jul 31

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

Canada Warbler Cardellina canadensis — Breeds May 20 to Aug 10

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

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25

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

Eastern Whip-poor-will Antrostomus vociferus — Breeds May 1 to Aug 20

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

Evening Grosbeak Coccothraustes vespertinus — Breeds May 15 to Aug 10

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

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

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Prairie Warbler Setophaga discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rose-breasted Grosbeak Pheucticus ludovicianus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 15 to Jul 31
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

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Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey

events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

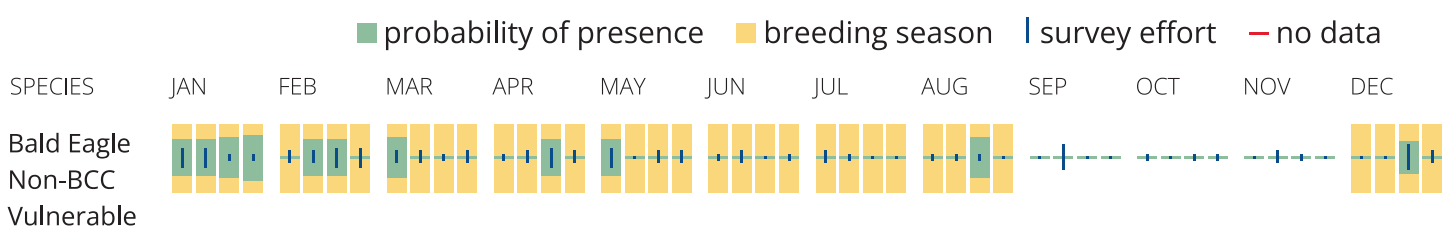
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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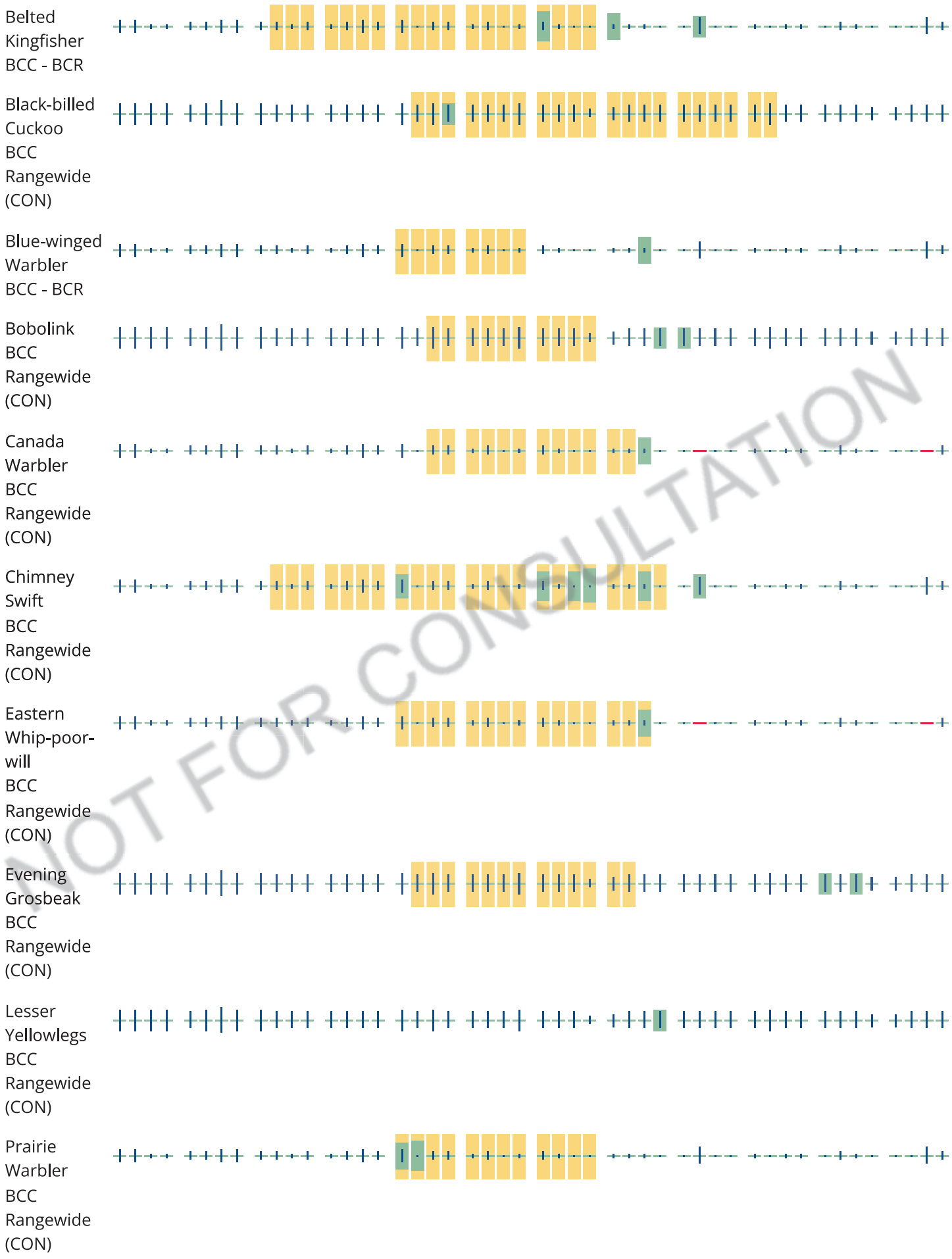

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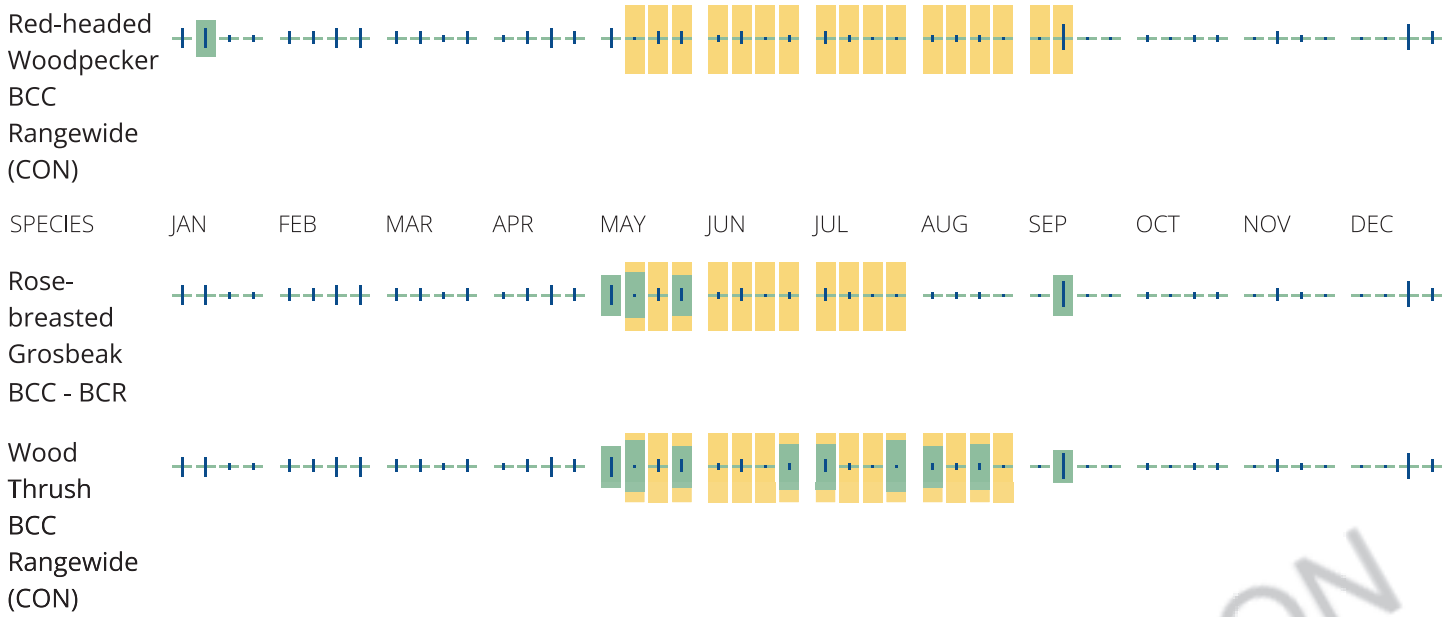

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

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

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

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

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

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

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

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

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that

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may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

NOT FOR CONSULTATION

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

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

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

NOT FOR CONSULTATION

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

NOT FOR CONSULTATION

APPENDIX C

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: Wallace Campus
Site Code: C314134
Program: Brownfield Cleanup Program
Classification: A
EPA ID Number:

Location

DEC Region: 3
Address: 319, 325, 327-329 & 331 Main Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.703661111
Longitude: -73.925775
Site Type:
Estimated Size: 2.48 Acres

Site Owner(s) and Operator(s)

Current Owner Name: Key Main LLC
Current Owner(s) Address: 80 Washington Street, Suite 400
Poughkeepsie,NY, 12601
Current Owner Name: IIC Properties Inc.
Current Owner(s) Address: 14 Catherine Street
Poughkeepsie,NY, 12601
Current Owner Name: Wallace Campus Manager LLC
Current Owner(s) Address: 48-02 25th Ave, Suite 400
Astoria,NY, 11103

Site Document Repository

Name: Adriance Memorial Library

Address: 93 Market Street
Poughkeepsie,NY 12601

Site Description

Location: The site consists of the entirety of the contiguous parcels known as 319 Main Street (Block 77, Lot 114098); 325 Main Street (Block 77, Lot 109079), 327-329 Main Street (Block 7, Lot 109077), and 331 Main Street (Block 78, Lot 127091), City of Poughkeepsie, New York. The site is a 2.48-acre commercial property, which is abutted by Mill Street to the north and Main Street to the south. Site Features: The southern portion of 319 Main Street currently contains a two-story building (former restaurant and club), 325 and 327-329 Main Street lots each contain a four-story building with rear two-story sections (former bookstore and residence, and active office building, respectively), and the southern/central portions of 331 Main Street contain a four-story building with a three-story section to the east, utilized for offices and light manufacturing. The remaining northern portions of 319 and 331 Main Street contain paved parking areas, walkways, and yards. Current Zoning and Land Use: The site tax lots are zoned C-2, central commercial district (residential use is excluded), and portions of the site fall within the Poughkeepsie Innovation District (PID) Historic Core and Urban Village Zones.The site consists of a several vacant and active commercial and light manufacturing uses, located on four tax lots. Past Use of the Site: The site, first developed prior to 1887, has primarily been a commercial site with some limited residential use. The most significant commercial uses are generally associated with 331 Main Street, including automotive repair, machining operations, furniture finishing, laundry activities, and use of gasoline USTs. A limited Phase II Subsurface Investigation performed in 2013 for the northeastern portion of 331 Main Street did not document any storage tanks or contaminated soil, but elevated levels of lead were found in groundwater at 331 Main Street. The buildings at 319 Main Street and 325 Main Street are currently vacant; 327-329 Main Street building is currently in use as an office building and 331 Main Street is in use as an office building and for light manufacturing. Site Geology and Hydrogeology: State geological data indicate that local soils are likely to be derived from glacial till deposits, which overlie metamorphic bedrock. Soils observed during subsurface investigations generally consisted of variable-texture fill (unsorted sand containing debris, primarily brick and concrete, with some coal and ash) to approximately 1 to 7 feet bgs, underlain by sands with gravel to depths of 15 feet bgs, with two borings showing layers of clayey-silt below 12 feet bgs. Soils generally below 8 feet bgs appeared to be native, undisturbed material. Bedrock was not encountered. Groundwater was documented in wells at approximately 15 to 17 feet below the casings and direction of flow was determined to be easterly.

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type

acetone
benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
chrysene
copper
indeno(1,2,3-cd)pyrene
lead
manganese
mercury
methylene chloride
nickel
perfluorooctane sulfonic acid
perfluorooctanoic acid
sodium
zinc

Site Environmental Assessment

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, metals, cyanide, and the emerging contaminants per-and poly fluoroalkyl substances (PFAS) and 1,4-dioxane. Soil vapor samples were analyzed for VOCs. Based on investigations conducted to date, the primary contaminants of concern include SVOCs and metals in soil, typical of historic fill. Soil - A total of 29 soil samples were collected during the remedial investigation from 19 borings extending 20 feet below ground surface (bgs). Bedrock was encountered at depths ranging from 41 to 62 feet bgs according to a 2020 geotechnical report. Several constituents were identified at concentrations that exceed their Unrestricted Soil Cleanup Objectives (USCOs). The following is a list of those compounds and the maximum exceedance: Acetone 0.065 parts per million (ppm) vs USCO of 0.05 ppm, methylene chloride 0.051 vs USCO of 0.05 ppm, benzo(a)anthracene 5.96 ppm vs USCO of 1 ppm, benzo(a)pyrene 5.15 ppm vs USCO of 1 ppm, benzo(k)fluoranthene 3.62 ppm vs USCO of 0.8 ppm, benzo(b)fluoranthene 3.24 ppm vs USCO of 1 ppm, chrysene 6.67 ppm vs USCO of 1 ppm, dibenzo(a,h)anthracene 0.964 ppm vs USCO of 0.33 ppm, indeno(1,2,3-cd)pyrene 2.72 ppm vs USCO of 0.5 ppm,

copper 330 ppm vs USCO of 50 ppm, lead 1,530 ppm vs USCO of 63 ppm, manganese 1,670 ppm vs USCO of 1,600, mercury 3.33 ppm vs USCO of 0.18 ppm, nickel 33.8 ppm vs USCO of 30 ppm, zinc 960 ppm vs USCO of 109 ppm. There was a minimal USCO exceedance for manganese and thus manganese is not a contaminant of concern at this site. Acetone and methylene chloride were detected at a concentration above USCO in one sample. However, acetone and methylene chloride are common laboratory artifacts, and they are not considered contaminants of concern at this site. Pesticides, cyanide, and PCBs and 1,4-dioxane were non-detect in all soil samples. PFOA, PFOS, and other PFAS compounds were detected in on-site soils but were all below their unrestricted use guidance values and thus are not considered contaminants of concern for this site. Soil contamination is not expected to migrate off-site. Groundwater - A total of 3 groundwater wells were installed in overburden groundwater and analyzed for VOCs, SVOCs, PCBs, pesticides, metals and cyanide as well as the emerging contaminants PFAS and 1,4-dioxane. The metals manganese and sodium were detected in at least one groundwater sample in exceedance of groundwater standards. However, these metals are naturally occurring and/or typically related to road salt application and are therefore not considered contaminants of concern at this site. VOCs, SVOCs, PCBs, pesticides, cyanide, and 1,4-dioxane were non-detect or below standards. While lead was detected in groundwater (unfiltered sample) in the 2013 Phase 2 investigation, it was not detected in filtered or unfiltered groundwater samples during the Remedial Investigation and is therefore not considered a contaminant of concern in groundwater. For per- and polyfluoroalkyl substances (PFAS), perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were reported in the most upgradient monitoring well at concentrations of 30.2 and 10.8 parts per trillion (ppt), respectively, exceeding the 10 ppt screening levels for groundwater for each. Perfluorobutanesulfonic acid (PFBS) was detected in the same well at 1,600 ppt exceeding the 100 ppt screening level. These data indicate that the site is not a source of PFAS to groundwater. PFAS was not detected in other wells on the site, though over time, the PFAS-contaminated groundwater flowing onto the site has the potential of migrating off-site. Soil Vapor - A total of 4 sub-slab soil vapor and 4 co-located indoor air samples and 2 additional soil vapor samples were collected from locations throughout the site. Low levels of the chlorinated solvents 1,1,1-trichloroethane with a maximum detection of 0.475 micrograms per cubic meter (ug/m3), tetrachloroethene with a maximum detection of 0.542 ug/m3, carbon tetrachloride with a maximum detection of 0.61 ug/m3, and vinyl chloride with a maximum detection of 0.877 ug/m3 were detected in on-site soil vapor and/or indoor air. Based on the 2006 Guidance for Evaluating Soil Vapor Intrusion in NYS, with updates, no further action is needed to address potential exposures via soil vapor intrusion in all cases. Off-site migration of soil vapor contamination is not a concern.

Site Health Assessment

People who dig below the ground surface may come into contact with contaminants in subsurface soil. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Environmental sampling indicates soil vapor intrusion is not a concern for on-site or off-site locations.

For more Information: E-mail Us

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: CH - Bayeaux Street Poughkeepsie MGP
Site Code: 314071
Program: State Superfund Program
Classification: C
EPA ID Number:

Location

DEC Region: 3
Address: Main Street and North Perry Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.706217571
Longitude: -73.932790146
Site Type:
Estimated Size: 1.2 Acres

Site Owner(s) and Operator(s)

Current Owner Name: ADMIRAL HALSEY SENIOR VILLAGE INCORPORATED
Current Owner(s) Address: MAIN STREET AND NORTH PERRY STREET
POUGHKEEPSIE,NY, 12601

Site Description

Site was given a class of R. Decision was made on 3/12/07 to classify as N. Reclassified to C. This was the site of a small MGP on Main Street and North Perry Street in Poughkeepsie. A senior citizens housing development occupies the site today. The site is included in a multi-site

Consent Order #D3-0134-89-05 1/12/90. A Site Assessment (PSA) was performed in 1990. No significant MGP waste material was found, and an NFA letter was sent on 03/12/07. As DER's experience with MGP sites grew, a few data gaps were identified in the original PSA. Central Hudson completed additional investigation work in 2006 to more completely cover the full footprint of the site with borings and test pits. The additional work confirmed the original conclusion that no significant MGP waste was present at the site. A letter stating this conclusion was issued on 03/12/07.

Site Environmental Assessment

The 1990 PSA found little evidence of MGP wastes in the subsurface. Additional work conducted in 2006 addressed potential data gaps in the original PSA. This second round of work also failed to detect significant levels of contamination.

Site Health Assessment

No contact with site-related contaminants is expected.

For more Information: E-mail Us

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NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: HRH Lead Abatement Site
Site Code: 314122
Program: State Superfund Program
Classification: A
EPA ID Number:

Location

DEC Region: 3
Address: 55 Garden Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.705761
Longitude: -73.925741
Site Type:
Estimated Size: 0.17 Acres

Site Owner(s) and Operator(s)

Current Owner Name: HRH Neighborhood Development Fund Company
Current Owner(s) Address: 313 Miller Street
Poughkeepsie,NY, 12601

Site Description

Location: The site is located at 55 Garden Street in the City of Poughkeepsie, Dutchess County. Site Features: The 0.17 acre site includes a single family home with small front and rear yards. Current Zoning and Land Use: The site is currently zoned and in use as a single

family residence. Past Use of the Site: The site was a single family residence that was abated for lead paint as part of a rehabilitation project. Site Geology and Hydrogeology:

Site Environmental Assessment

The primary contaminant associated with the site is lead, which resulted from the abatement of lead paint as part of the rehabilitation of the structure. All lead resulting from the abatement was containerized and properly disposed off-site.

For more Information: E-mail Us

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NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: "400 Block" Restoration Area
Site Code: B00148
Program: Environmental Restoration Program
Classification: C
EPA ID Number:

Location

DEC Region: 3
Address: 413-441 Main St
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.70237425
Longitude: -73.92231127
Site Type:
Estimated Size: 1.7 Acres

Institutional And Engineering Controls

Control Type:
Deed Restriction

Control Elements:
Landuse Restriction
Cover System
Alternate Water Supply
Soil Management Plan
Vapor Mitigation

Site Owner(s) and Operator(s)

Current Owner Name: CITY OF POUGHKEEPSIE

Current Owner(s) Address: CITY HALL, P.O. BOX 3000
POUGHKEEPSIE,NY, 12601

Site Description

Location: The “400 Block” Restoration Area Site is located at 413-441 Main Street, in Poughkeepsie, Dutchess County, New York on an irregularly shaped 1.7-acre parcel. The Site is located on the northern side of Main Street and the southern side of Mill Street. Site Features: The property contains three, 3-story structures that occupy the entirety of the property’s southern frontage along Main Street. The southern portion of the property is developed with multi-story brick and wood structures, in which portions of these buildings are partially collapsed. These structures are currently vacant. Historically, these buildings were used for retail, commercial and residential purposes. The central western portion of the property is comprised of an unpaved parking area with overgrown trees and grass. A concrete loading dock extends south from a multi-story brick building located in the north-western portion of the property. An unpaved vacant lot comprised of overgrown lawn is located in the eastern portion of the property. All structures contain ground floor residential and retail commercial uses. The Site is served by storm sewers, sanitary sewers and public water. No surface water is present at the Site. Fall Kill Creek is located approximately 200 feet north of the Site, and the Hudson River is located approximately 1 mile west of the Site. Current Zoning and Land Use: The Site’s general location is in an urban setting and is presently zoned as commercial land. The surrounding parcels are currently used for a combination of residential and commercial purposes. Manufacturing uses prior to World War II include the production of carriage mountings, fur hats, clothing, sheet metal and brass. During the period 1950-1980, portions of the Site were used for automotive repair, a machine shop, wholesale electrical supply, clothing manufacture, and residences. Past Use of the Site: In 1979, several parcels along Mill Street were acquired by Lomasney Combustion Inc. for the installation and service of oil-fired boilers. This operation included the storage and use of fuel oils, machine lubricants, hydraulic oils, and, possibly, waste oils. This operation may have also been associated with the handling of mercury switches and thermostats, as well as other electrical equipment containing PCBs. These activities continued until 1986. In 1998 the Site was acquired by the City of Poughkeepsie for construction of multi-family homes. A preliminary environmental site assessment was conducted on behalf of the City of Poughkeepsie in 1998. This assessment identified the presence of unregistered above ground storage and underground petroleum storage tanks, and the potential for asbestos- and lead- containing building materials. Test pits and soil borings confirmed the presence of subsurface petroleum

contamination in the area of underground storage tanks, and identified lead, cadmium, PCBs, and Polycyclic Aromatic Hydrocarbons (PAHs) in the soil floor of the Lomasney Building. Site Geology and Hydrogeology: The upper layer of Site soils was found to be urban fill consisting of sand, silt, and cobbles, but also including cinders, coal, and brick fragments. At depths ranging from 4 to 6 feet, a thin layer of organic soil was encountered, followed by a layer of silt containing varying amounts of clay and sand. Shale bedrock was encountered at depths ranging from 13 to 17 feet beneath the Site. Groundwater is generally found at depths ranging from 3 to 6 feet beneath the Site, flowing in a westerly direction towards the Hudson River.

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type

Site Environmental Assessment

Remediation at the site is complete. Prior to the remediation the primary contaminants of concern at the site are PCBs, mercury and PAH's in the soil, soil vapor and groundwater. Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination in the soil, soil vapor, and groundwater are being managed under a Site Management Plan.

Site Health Assessment

Soil removal actions have been completed to remove contaminated material found in surface soils. A cover system, consisting of building foundation, clean soils, concrete or asphalt, is in place to prevent contact with any remaining underlying contamination. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. An active sub-slab depressurization system (systems that ventilate/remove the air beneath the building) is no longer needed in one on-site commercial and one residential building since soil vapor intrusion is longer a potential concern.

For more Information: E-mail Us

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NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: Queen City Lofts
Site Code: C314125
Program: Brownfield Cleanup Program
Classification: C
EPA ID Number:

Location

DEC Region: 3
Address: 178-188 Main Street and 11 South Bridge Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.704788889
Longitude: -73.932219444
Site Type:
Estimated Size: 1.051 Acres

Institutional And Engineering Controls

Control Type:
Environmental Easement

Control Elements:
Landuse Restriction
Cover System
Soil Management Plan
Ground Water Use Restriction
Monitoring Plan
IC/EC Plan
Site Management Plan
Building Use Restriction

Site Owner(s) and Operator(s)

Current Owner Name: The QCL on Main Limited Partnership
Current Owner(s) Address: 34 Clayton Boulevard
Baldwin Place,NY, 10505

Site Document Repository

Name: Poughkeepsie Public Library District
Address: 93 Market Street
Poughkeepsie,NY 12601

Site Description

Location: The site consists of a portion of one tax lot located at 178-188 Main Street, City of Poughkeepsie, Dutchess County, New York. The site is an irregular shaped, approximately 1.051 acre parcel, which has 236 feet of frontage on the southern side of Main Street and 190 feet of frontage on the eastern side of South Bridge Street. Site Features: The property currently contains a four story mixed use building with restricted residential and commercial uses and an asphalt parking lot. The ground generally slopes from the northwest corner of the site to the southeast. Current Zoning and Land Use: The site is zoned C-2 (Commercial with allowances for mixed-used buildings). Past Use of the Site: The site was used for various industrial, commercial, and residential purposes, including a machine shop and laundry facility, from as early as 1887 until the early to mid-1980s when most of the former on-site structures were demolished. In 1973 a fire gutted several of the existing buildings on the site. Site Geology and Hydrogeology: Soils have been reworked by excavation and the construction and demolition of prior buildings on the site. They consist of well drained brown to gray sands, which overlie brown loamy clays. Shallow groundwater in the vicinity of the property follows overall surficial topography and flows to the southwest, toward the Hudson River. Groundwater was encountered between 10 and 12 feet below the ground.

Summary of Project Completion Dates

Projects associated with this site are listed in the Project Completion Dates table and are grouped by Operable Unit (OU). A site can be divided into a number of operable units depending on the complexity of the site and the number of issues associated with a site. Sites are often divided into operable units based on the media to be addressed (such as groundwater or contaminated soil), geographic area, or other factors.

Project Completion Dates

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type

1,2,4-trimethylbenzene
benzo(a)anthracene
ethylbenzene
lead
mercury
n-propylbenzene
xylene (mixed)

Site Environmental Assessment

Nature and Extent of Contamination: Remediation at the site is complete. Remedial actions have successfully achieved soil cleanup objectives for restricted residential use. Residual contamination in the soil, groundwater, and soil vapor is being managed under a Site Management Plan. Prior to remediation, the primary contaminants of concern were mercury, lead, and benzo(a)anthracene in soil, lead and ethylbenzene in groundwater, and tetrachloroethene in soil vapor.

Site Health Assessment

Measures are in place to control the potential for coming in contact with remaining residual contamination in subsurface soil, groundwater and soil vapor.

For more Information: E-mail Us

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: 19, 21, & 23 Academy Street
Site Code: C314126
Program: Brownfield Cleanup Program
Classification: A
EPA ID Number:

Location

DEC Region: 3
Address: 19, 21, & 23 Academy Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.701983333
Longitude: -73.925652778
Site Type:
Estimated Size: 0.216 Acres

Site Owner(s) and Operator(s)

Current Owner Name: PoK 23 Acad, LLC
Current Owner(s) Address: 333 Park Avenue South, Suite 4E
New York,NY, 10010
Current Owner Name: PoK Academy, LLC
Current Owner(s) Address: 93 Fourth Ave #1289
New York,NY, 10276

Site Document Repository

Name: Poughkeepsie Public Library
Address: 93 Market Street
Poughkeepsie,NY 12601

Site Description

Location: The site is located in an urban area at 19, 21 and 23 Academy Street in the City of Poughkeepsie, Dutchess County. The site is an irregular-shaped, 0.216-acre parcel which has 90 feet of frontage on the eastern side of Academy Street. Site Features: The site currently contains two, multi-story, commercial, residential and mixed-use (commercial and residential) buildings with a small, rear gravel parking lot, located at 21 and 23 Academy Street. 23 Academy Street also has an existing excavation for a future elevator base and utilities. Both buildings are currently vacant but are undergoing extensive renovation activities. The structure formerly on 19 Academy Street was damaged, torn down, and the parcel is currently vacant with a grassy surface. Current Zoning and Land Use: The site properties are zoned C-2, Central Commercial District and consists of two vacant buildings that were previously utilized for commercial and residential uses. Past Uses of the Site: The site was developed sometime prior to 1887 and has a long history of commercial uses, including the operation of a garage and machine shop, dry cleaning and printing facilities, paint storage area, and tire vulcanization. The portion of the site at 21 Academy Street is listed on the was formerly in the Environmental Protection Agency's Resource Conservation and Recovery Act identified by generator number NYD106619604 as a site formerly handling halogenated solvents (likely due to historical dry-cleaning operations). Site Geology and Hydrogeology: Subsurface soils generally consist of sandy fill to a depth of 4 to 5 feet below ground surface (bgs), overlying native variable texture sands and underlying silts. Soil under the basement slabs (to a depth of 2 feet, corresponding to approximately 12 feet below the sidewalks) consisted of sand overlying silt or silty clay. Competent or weathered bedrock was encountered from approximately 32 to 39 feet bgs during installation of monitoring wells (MW-02D, MW-03D, MW-07D and MW-09D). Wet to saturated soil was generally encountered in soil borings in the 9 to 15 feet bgs interval. Depth to groundwater (from top of well casings) during groundwater sampling ranged from approximately 10 to 13 feet bgs, with groundwater elevations ranging from 162.51 (MW-03D) to 165.11 (MW-10) feet above mean sea level (amsl). The direction of groundwater flow, based on static depth to water during sampling in September 2021, has been inferred to be east-southeast.

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type

arsenic

benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
chrysene
cis-1,2-dichloroethene
copper
dibenz[a,h]anthracene
indeno(1,2,3-cd)pyrene
lead
mercury
perfluorooctane sulfonic acid
perfluorooctanoic acid
tetrachloroethene (PCE)
trichloroethene (TCE)

Site Environmental Assessment

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, metals, cyanide, and the emerging contaminants per-and poly fluoroalkyl substances (PFAS) and 1,4-dioxane. Soil vapor samples were analyzed for VOCs. Based on investigations conducted to date, the primary contaminants of concern include VOCs, SVOCs, metals, and PFAS in soil; VOCs and PFAS in the groundwater; and VOCs in soil vapor. Soil - A total of 14 soil samples were collected during the remedial investigation from overburden beneath the site. Several constituents were identified at concentrations that exceed their Restricted Residential Soil Cleanup Objectives (RRSCOs). The following is a list of those compounds and their maximum exceedances: tetrachloroethene (PCE) 160 parts per million (ppm) (RRSCO of 19 ppm), benzo(a)anthracene 10.2 ppm (RRSCO of 1 ppm), benzo(a)pyrene 18.1 ppm (RRSCO of 1 ppm), benzo(k)fluoranthene 14.8 ppm (RRSCO of 3.9 ppm), benzo(b)fluoranthene 16.6 ppm (RRSCO of 1 ppm), chrysene 12 ppm (RRSCO of 3.9 ppm, dibenzo(a,h)anthracene 4.08 ppm (RRSCO of 0.33 ppm), indeno(1,2,3-cd)pyrene 10.2 ppm (RRSCO of 0.5 ppm), copper 424 ppm (RRSCO of 270 ppm), lead 1,960 ppm (RRSCO of 400 ppm), mercury 7.94 ppm (RRSCO of 0.81 ppm), arsenic 21 ppm (RRSCO of 16 ppm). PCE also exceeded the protection of groundwater (PGW) SCO of 1.3 ppm PCE breakdown products were not found in on-site soils above PGWSCOs. PCBs and Pesticides were found in on-site soils above their unrestricted soil cleanup objectives (USCOs), but below the RRSCOs. Cyanide was detected but below the USCOs in on-site soils and 1,4-dioxane was not detected.

Perfluorooctanesulfonic acid (PFOS) was detected in soil samples collected throughout the site at levels typically below 1 part per billion (ppb); however, two samples exceeded the anticipated protection of groundwater PFOS guidance value of 3.7 ppb, at concentrations of 44.9 and 100 ppb. Perfluorooctanoic acid (PFOA) was also detected in samples collected throughout the site with a maximum detection of 2.97 ppb compared to the anticipated PGW guidance value of 1.1 ppb. Data does not indicate any off-site impacts in soil. Groundwater – A total of twelve monitoring wells were installed during the remedial investigation. The following VOCs were identified exceeding their groundwater standards: PCE at 950 ppb (Ambient Water Quality Standards (AWQS) of 5 ppb), trichloroethene (TCE) at 32 ppb (AWQS of 5 ppb), cis-1,2-dichlorothene (cis-1,2-DCE) at 31 ppb (AWQS of 5 ppb), chloroethane at 5.5 ppb (AWQS of 5 ppb), and chloromethane at 15 ppb (AWQS of 5 ppb). The concentrations of sodium, manganese, and magnesium appear to be background levels with no distinction between upgradient and downgradient monitoring wells. These compounds are typically naturally occurring or related to road salt application. For PFAS, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were reported at concentrations of up to 120 and 101 parts per trillion (ppt), respectively, exceeding the groundwater standard of 6.7 ppt and 2.7 ppt, respectively. SVOCs, 1,4-dioxane, PCBs, and pesticides were detected in various monitoring wells, but below standards. Groundwater is migrating off-site based on samples collected in off-site monitoring wells containing levels of VOCs in exceedance of their groundwater standards. Soil Vapor - Three soil vapor and four sub-slab soil vapor samples were collected from locations across the site. Elevated levels of chlorinated VOCs (CVOCs) were detected in all samples. The following is a list of compounds and their maximum detections: PCE 42,700 micrograms per cubic meter (ug/m3), TCE 3,330 ug/m3, and cis-1,2-DCE 730 ug/m3. Soil vapor impacts extend off-site as evidenced from soil vapor intrusion sampling associated with the off-site State Superfund project (C314126A).

Site Health Assessment

People will not come into contact with contaminated soil since the site is covered with buildings and pavement. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the groundwater and/or soil may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The site is vacant so inhalation of site contaminants in indoor air via soil vapor intrusion in not a current concern. However, the potential exists for inhalation of site contaminants due to soil vapor intrusion for any future on-

site development. Environmental sampling indicates soil vapor intrusion is a concern for off-site buildings. Additional off-site sampling for soil vapor intrusion is recommended.

For more Information: E-mail Us

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: 19, 21, & 23 Academy Street - Off-site
Site Code: C314126A
Program: Brownfield Cleanup Program
Classification: A
EPA ID Number:

Location

DEC Region: 3
Address: 19, 21, & 23 Academy Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.701936521
Longitude: -73.92576556
Site Type:
Estimated Size: 0 Acres

Site Owner(s) and Operator(s)

Site Description

The area of concern subject to this work is considered off-site from BCP site C360141 and reflects the investigation and possible remediation of contamination that may have migrated from that site. Below is the current status of on-site information. Location: The site is located in an urban area at 19, 21 and 23 Academy Street in the City of Poughkeepsie, Dutchess County. The site is an irregular-shaped, 0.216-acre parcel which has 90 feet of frontage on the eastern side of Academy Street. Site Features: The site currently contains two, multi-story,

commercial, residential and mixed-use (commercial and residential) buildings. Both buildings are currently vacant. The buildings located at 23 Academy Street are undergoing extensive renovation activities. Current Zoning and Land Use: The site properties are zoned C-2, Central Commercial District and consists of three vacant buildings that were previously utilized for commercial and residential uses. Past Uses of the Site: The site was developed sometime prior to 1887 and has a long history of commercial uses, including the operation of a garage and machine shop, dry cleaning and printing facilities, paint storage area, and tire vulcanization. The portion of the Site at 21 Academy Street is listed on the RCRIS database as a site formerly handling halogenated solvents (likely due to historical dry cleaning operations). Site Geology and Hydrogeology: Soils on the subject properties are likely to be derived from glacial till deposits which overlie the Austin Glen Formation (consisting of greywacke and shale). The Urban Land soil series is likely to be located on the property. Subsurface soils consist of brown, variable texture sand and silty sand with gravel overlaying light brown and gray, wet, dense silty clay. Brick inclusions were observed in the 0 to 5 feet below surface grade (bsg) interval in the northeastern and west-central portions of the Site. Generally, soils deeper than 10 feet bsg appeared to be native, undisturbed material. Groundwater ranged between 10.5 to 13 feet bsg. Shallow groundwater flow in the vicinity of the property is inferred to be to the south. There are no surface water bodies, wet areas, or regulated wetlands on the property.

Site Environmental Assessment

The area of concern subject to this work is considered off-site from BCP site C360141 and reflects the investigation and possible remediation of contamination that may have migrated from that site. Below is the current status of on-site information and will be modified to show the off-site data once the site characterization is complete. Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, metals, cyanide, and the emerging contaminants per-and poly fluoroalkyl substances (PFAS) and 1,4-dioxane. Soil vapor samples were analyzed for VOCs. Based on investigations conducted to date, the primary contaminants of concern include VOCs, SVOCs, metals, and PFAS in soil and VOCs and PFAS in the groundwater, and VOCs in soil vapor. Soil - A total of 14 soil samples were collected during the remedial investigation into overburden beneath the site. Several constituents were identified at concentrations that exceed their Restricted Residential Soil Cleanup Objectives (RRSCOs). The following is a list of those compounds and the

exceedance ranges: tetrachloroethene (PCE) 160 parts per million (ppm) vs RRSCO of 19 ppm, benzo(a)anthracene 3.79-10.2 ppm vs RRSCO of 1 ppm, benzo(a)pyrene 3.42-18.1 ppm vs RRSCO of 1 ppm, benzo(k)fluoranthene 4.75-14.8 ppm vs RRSCO of 3.9 ppm, benzo(b)fluoranthene 2.9-16.6 ppm vs RRSCO of 1 ppm, chrysene 4.89-12 ppm vs RRSCO of 3.9 ppm, dibenzo(a,h)anthracene 0.71-4.08 ppm vs RRSCO of 0.33 ppm, indeno(1,2,3-cd)pyrene 2.2-10.2 ppm vs RRSCO of 0.5 ppm, copper 424 ppm vs RRSCO of 270 ppm, lead 587-1,960 ppm vs RRSCO of 400 ppm, mercury 2.79-7.94 ppm vs RRSCO of 0.81 ppm, arsenic 21 ppm vs RRSCO of 16 ppm. Emerging contaminants were detected in soil samples collected from the site. Perfluorooctanesulfonic acid (PFOS) was detected in samples collected throughout the site at lower levels typically below 1 parts per billion (ppb) with two samples showing eleveated concentrations of 44.9 and 100 ppb at the rear of the former drycleaner in the area of the PCE soil contaminaton. Perfluorooctanoic acid (PFOA) was detected in the same manner as PFOS described above at 2.97 ppb. Other PFAS compounds from the list of 21 analyzed were also elevated in the same two samples as compared to the other 15 samples that were analyzed for PFAS. It is not expected that on-site soils will migrate off-site. Groundwater - Six additional monitoring wells were installed on-site bringing the total to four on-site and eight off-site, but adjacent to the border. Several constituents were identified at concentrations that exceed their groundwater standard. The following is a list of those compounds and exceedance ranges: PCE 18-950 ppb vs groundwater standard (GA) of 5 ppb, trichloroethene (TCE) 5.2-32 ppb vs GA of 5 ppb, cis-1,2-dichlorothene (cis-1,2-DCE) 6.7-31 ppb vs GA of 5 ppb, chloroethane 5.5 ppb vs GA of 5 ppv, and chloromethane 15 ppb vs GA of 5 ppb. For PFAS, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were reported at concentrations of up to 120 and 101 parts per trillion (ppt), respectively, exceeding the 10 ppt screening levels for groundwater for each. Other PFAS compounds of the 21 analyzed were seen at elevated levels which exceed the screening level for any one PFAS compound other than PFOA and PFOS above 100 ppt including the following: Perfluorobutanoic acid (PFBA) 278 ppt, Perfluoroheptanoic acid (PFHpA) 190 ppt, Perfluorohexanoic acid (PFHxA) 670 ppt, Perfluoropentanoic acid (PFPeA) 680 ppt. On-site groundwater is migrating off-site based on samples from off-site, downgradient monitoring wells showing levels of VOCs in exceedance of their groundwater standards. Soil Vapor - A total of seven soil vapor samples were collected from locations throughout the site. Elevated levels of chlorinated VOCs (CVOCs) were detected in sub-slab samples. The following is a list of compounds and their detected ranges: PCE 75-42,700 micrograms per cubic meter (ug/m3), TCE 29.8-3,330 ug/m3. cis-1,2-DCE 30-730 ug/m3. Elevated levels of these compounds in the sub-slab pose a soil vapor intrusion risk to the on-site structures. Soil vapor

impacts extend extend off-site as evidenced from off-site soil vapor intrusion sampling associated with the off-site State Superfund project.

Site Health Assessment

As information for this site becomes available, it will be reviewed by the NYSDOH to determine if site contamination presents public health exposure concerns.

For more Information: E-mail Us

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: Crannell Square
Site Code: C314130
Program: Brownfield Cleanup Program
Classification: C
EPA ID Number:

Location

DEC Region: 3
Address: 35 Catharine Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.703861111
Longitude: -73.924555556
Site Type:
Estimated Size: 1.109 Acres

Site Owner(s) and Operator(s)

Current Owner Name: Crannell Square Housing Development Fund Company, Inc.
Current Owner(s) Address: c/o Hudson River Housing, Inc., 313 Mill Street
Poughkeepsie,NY, 12601
Current Owner Name: Crannell Square Limited Partnership
Current Owner(s) Address: 57 Route 6, Suite 207
Baldwin Place,NY, 10505

Site Document Repository

Name: Poughkeepsie Public Library
Address: 93 Market Street
Poughkeepsie,NY 12601

Site Description

Location: The site is located at 35 Catharine Street in the City of Poughkeepsie, Dutchess County, New York, on a 1.109-acre parcel. The site is a portion of tax lot parcel: Section 6162, Block 78, Lot 157094. The site is a rectangular, with approximately 235 feet of frontage on the southern side of Mill Street (Route 44/55 arterial) and approximately 220 feet of frontage on the eastern side of Catharine Street. The site approximately 0.85 miles east of the Hudson River. Site Features: The site is currently being redeveloped into a multi-story apartment complex with a planned parking lot and landscaped areas. A majority of the structure has already been erected. Current Zoning and Land Use: The site is zoned C-2 (Central Commercial District). C-2 zoning allows for multiple dwellings in new structures at urban density (R-6), provided that the first floor is devoted to retail or service use. Currently, the site is used as a municipal parking lot. The surrounding properties are zoned for commercial uses. Past Use of the Site: The site has been used for commercial and residential purposes from as early as 1887 until circa 1960 when all former on-site structures were demolished. Previous uses included: an automotive repair facility, large private garage, warehouse, school, a hotel and multiple dwellings. Notable past commercial uses at adjoining properties and in the surrounding area include manufacturing and automotive repair facilities. The site was developed by the city as a municipal parking lot by 1963. Site Geology and Hydrogeology: Site soils consist of a fill layer extending to 4 feet below ground surface (bgs), overlying brown medium sands to a depth of approximately 10 feet bgs. Soils greater than 10 feet bgs generally consist of native clayey silt. No bedrock was encountered during the investigation of the site, which included borings to a depth of 20 feet bgs. Groundwater depth ranges from 13.3 to 15.4 feet below grade. Groundwater generally flows to the northeast. No waterbodies or wet areas are on the site or in the immediate vicinity of the site.

Summary of Project Completion Dates

Projects associated with this site are listed in the Project Completion Dates table and are grouped by Operable Unit (OU). A site can be divided into a number of operable units depending on the complexity of the site and the number of issues associated with a site. Sites are often divided into operable units based on the media to be addressed (such as groundwater or contaminated soil), geographic area, or other factors.

Project Completion Dates

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type

arsenic
benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
carbon tetrachloride
chloroform
chrysene
dibenz[a,h]anthracene
indeno(1,2,3-cd)pyrene
lead
mercury
tetrachloroethene (PCE)
trichloroethene (TCE)

Site Environmental Assessment

Remediation at the site is complete. Prior to remediation, the primary contaminants of concern included SVOCs and metals in soil, and VOCs in soil vapor. Remedial actions have successfully achieved soil cleanup objectives for unrestricted use. Prior to Completion of Remediation: Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), metals, total petroleum hydrocarbons (TPH), pesticides, and the emerging contaminants per-and-polyfluoroalkyl substances (PFAS) and 1,4-dioxane. Soil vapor samples were analyzed for VOCs. Based on investigations conducted to date, the primary contaminants of concern include metals and polycyclic aromatic hydrocarbons (PAHs) in soil and VOCs in groundwater and soil vapor. Soil: A total of 44 soil samples were collected at 16 locations at depths ranging from 0 to 20 feet below ground surface (bgs). Several SVOCs and metals were identified in soils at concentrations that exceed their restricted residential soil cleanup objectives (RRSCOs) and unrestricted soil cleanup objectives (USCOs) including benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, lead, mercury, and arsenic. The highest concentration of an SVOC encountered was chrysene at a concentration of 7.77 parts per million (ppm) at a depth of 5 feet bgs compared to the RRSCO of 3.9 ppm. The highest concentrations of metals encountered were 3,110 ppm of lead at 3 feet bgs, compared to the RRSCO of 400, 3.94 ppm of mercury at 4 feet bgs compared to the RRSCO of 0.81 ppm, and

32.2 ppm of arsenic at 15 feet bgs compared to the RRSCO of 16. Metal exceedances were generally encountered within the top 5 feet bgs, with some deeper exceedances of arsenic extending up to 20 feet bgs. PFAS were detected in soil samples throughout the site to depths of 20 feet bgs. The greatest concentration of total PFAS encountered in soil was 1.54 parts per billion (ppb) at the 0-5 feet bgs interval. There were no VOCs, PCBs or pesticides detected in site soils. There is no indication that site-related soil contamination extends off-site. Groundwater: Groundwater samples were collected from six monitoring wells located throughout the site. The VOC chloroform was detected in one monitoring well in exceedance of groundwater standards at a concentration of 13 parts per billion (ppb), compared to the groundwater quality standard of 7 ppb; this is a common by-product of chlorination and may be indicative of leaking water lines in the area. The only other VOCs detected in groundwater were at trace levels as follows: carbon tetrachloride in one well at an estimated concentration 0.32 ppb, and trichloroethene (TCE) in one well as an estimated concentration of 0.29 ppb, compared to their groundwater standard of 5 ppb for each. The laboratory reported these concentrations as estimated values because they are detected below the laboratory's contract required quantitation limit and therefore can only be confirmed as present, but not quantified. One SVOC, benzo(b) fluoranthene was detected at 0.01 ppb compared to a standard of 0.002 ppb. For metals, magnesium, manganese, and/or sodium were detected in several overburden wells across the site above their respective groundwater standards, while there was one marginal detection each for cobalt (total 6.7 ppb compared to a standard of 5 ppb), and thallium (total 0.73 ppb compared to a standard of 0.5 ppb). The SVOC and metals are considered to represent typical urban background conditions (associated with presence of historic fill), are naturally occurring, or are due to road salt application. No exceedances were found above the 10 parts per trillion (ppt) screening level for either perfluorooctanoic acid (PFOA) or perfluorooctanesulfonic acid (PFOS). The highest detection of PFOS and PFOA were 9.14 ppt and 6.04 ppt, respectively in one well at the southeast corner of the site. Based on the soil data and the northeasterly groundwater flow direction, and there is no apparent on-site source for PFOA/PFOS in site groundwater. Overall, groundwater quality appears to reflect typical urban background conditions and is likely of similar condition in off-site areas. As such, there is no concern for off-site migration. Soil Vapor: Nine soil vapor samples were collected across the site under the parking lot area. Trace to low level VOC contamination was noted in site soil vapor, with levels up to 5.3 micrograms per cubic meter (ug/m3) of tetrachloroethylene (PCE), 0.67 ug/m3 of trichloroethene (TCE), and 0.51 ug/m3 of carbon tetrachloride.

Site Health Assessment

People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by site related contamination. Direct contact with any contaminated soils is not a concern because all soil contamination at the site was removed and replaced with clean fill. In addition, soil vapor intrusion is no longer expected to be a potential concern for on-site or offsite buildings.

For more Information: E-mail Us

Refine This Search

APPENDIX D



APPENDIX E

National Flood Hazard Layer FIRMette

FEMA

73°55'56"W 41°42'22"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

73°55'18"W 41°41'55"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

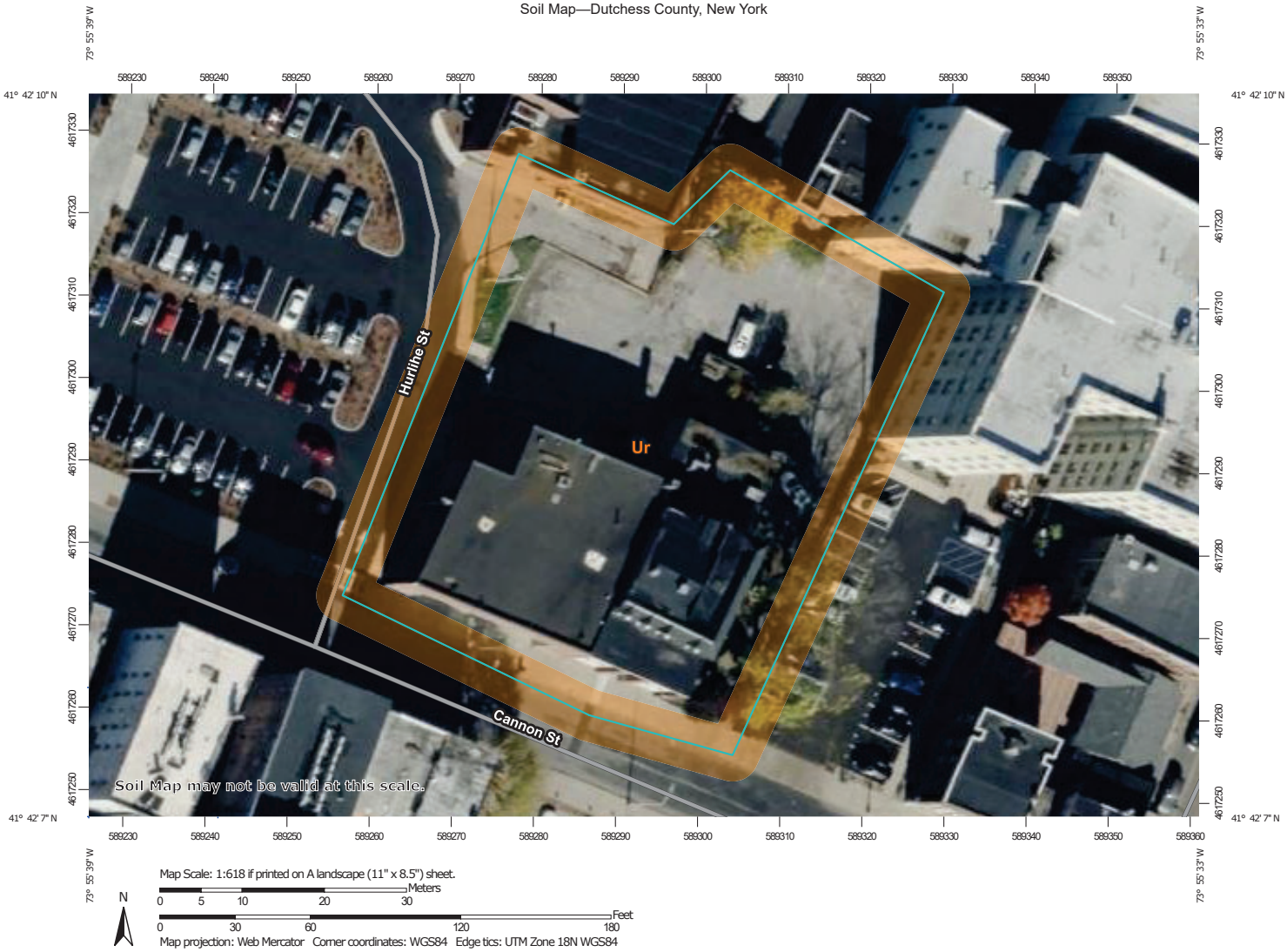
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/10/2024 at 1:34 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX F

Soil Map—Dutchess County, New York



Map Scale: 1:618 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 30 60 120 180

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 20, Sep 5, 2023

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

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ur	Urban land	0.8	100.0%
Totals for Area of Interest		**0.8**	**100.0%**

Dutchess County, New York

Ur—Urban land

Map Unit Setting

National map unit symbol: 9rjb
Mean annual precipitation: 41 to 47 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile

H1 - 0 to 6 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components

Udorthents, smoothed

Percent of map unit: 5 percent
Hydric soil rating: No

Udorthents, wet substratum

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed soils, undisturbed

Percent of map unit: 1 percent
Hydric soil rating: Unranked

Rock outcrop

Percent of map unit: 1 percent
Hydric soil rating: Unranked

Data Source Information

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 20, Sep 5, 2023

APPENDIX G

Environmental Resource Mapper



September 10, 2024

1:4,514

0 0.04 0.09 0.17 mi

0 0.05 0.1 0.2 km

New York State, Maxar, Esri, HERE, Garmin, iPC

NYS Department of Environmental Conservation
Not a legal document

APPENDIX H

Environmental Resource Mapper



September 10, 2024

1:2,257

0 0.02 0.04 0.08 mi

0 0.03 0.07 0.13 km

New York State, Maxar, Microsoft, Esri, HERE, Garmin, iPC

NYS Department of Environmental Conservation
Not a legal document

Dutchess County Department of Planning and Development

Fax Info Only		
	To	Date #pgs
	Co./Dept.	From
	Fax #	Phone #

239 Planning/Zoning Referral - Exemption Communities

Please Fill in this section

Municipality: **City of Poughkeepsie**

Referring Agency: **Planning Board**

Tax Parcel Numbers(s): **0860450000, 0920410000**

Project Name: **47-51 Cannon**

Applicant: **James Sullivan**

Address of Property: **47-51 Cannon**

**Exempt Actions:*
239 Review is NOT Required**

- Administrative Amendments (fees, procedures, penalties, etc.)
- Special Permits for residential uses (accessory apts, home occupations, etc.)
- Use Variances for residential uses
- Area Variances for residential uses
- Renewals/Extension of Site Plans or Special Permits that have no changes from previous approvals

No Authority to review these Actions

- Subdivisions / Lot Line Adjustments
- Interpretations

☐ Exempt Action submitted for informal review

Actions Requiring 239 Review

- ☐ Comprehensive/Master Plans
- ☐ Zoning Amendments (standards, uses, definitions, district regulations, etc.)
- ☐ Other Local Laws associated with zoning (wetlands, historic preservation, affordable housing, architectural review, etc.)
- ☐ Rezonings involving all map changes
- ☐ Architectural Review
- ☑ Site Plans (all)
- ☐ Special Permits for all non-residential uses
- ☐ Use Variances for all non-residential uses
- ☐ Area Variances for all non-residential uses
- ☐ Other (Describe):

Parcels within 500 feet of:

- ☑ State Road:
- ☐ County Road:
- ☐ State Property (with recreation area or public building)
- ☑ County Property (with recreation area or public building)
- ☐ Municipal Boundary
- ☐ Farm operation in an Agricultural District

Date Response Requested:

Entered By: **Maegerle, Tyler**

These actions are only exempt in municipalities that signed an intermunicipal agreemment with Dutchess County to that effect.

For County Office Use Only

Response From Dutchess County Department of Planning and Development

No Comments:

- ☐ Matter of Local Concern
- ☐ No Jurisdiction
- ☐ No Authority
- ☐ Withdrawn
- ☐ Incomplete - municipality must resubmit to County
- ☐ Exempt from 239 Review
- ☐ None

Comments Attached:

- ☑ Local Concern with Comments
- ☐ Conditional
- ☐ Denial
- ☐ Incomplete with Comments- municipality must resubmit to County
- ☐ Informal Comments Only (Action Exempt from 239 Review)

Date Submitted: **10/24/2024**	Notes:	☑ Major Project
Date Received: **10/25/2024**		Referral #: **ZR24-371**
Date Requested:		
Date Required: **11/22/2024**	☐ Also mailed hard copy	Reviewer:
Date Transmitted: **11/12/2024**		

SUE SERINO
COUNTY EXECUTIVE

EOIN WRAFTER, AICP
COMMISSIONER

DUTCHESS COUNTY GOVERNMENT
DEPARTMENT OF PLANNING & DEVELOPMENT

November 12, 2024

To: Planning Board, City of Poughkeepsie
Re: ZR24-371, 47-51 Cannon St
Parcels: 086045, 092041

The Dutchess County Department of Planning and Development has reviewed the subject referral within the framework of General Municipal Law (Article 12B, §239-l/m).

ACTION
The applicant is seeking site plan approval for a new 6-story, 140-unit apartment building with ground floor restaurant and retail.

COMMENTS

1. We suggest that the Board and applicant consider some changes to the first-floor façade, for the following reasons:
   a. As proposed the first story appears more institutional (like a bank or government building) than commercial.
   b. In the renderings the windows appear to be heavily tinted. This site is south-facing and does need to take into account direct sunlight, but tinting the windows is not the preferred solution on an urban commercial street, where façade transparency is vital to the experience of people walking by. Use of awnings or overhangs and new street trees in tree wells along Cannon Street could help address this issue without darkening the windows.
   c. The proposed color choices result in a building that is dark and somewhat top-heavy in appearance despite the pedestal-like first story. The Board and applicant could consider a darker tone for the first story and lighter tones for the upper stories.

2. The Board and applicant could consider including a small central recess in the first story (shallower than the recess for the upper stories) to allow for an outdoor restaurant seating area. Outdoor seating was included in previous proposals for this site and could help bring additional activity to the Cannon St neighborhood.

3. Some of the building's architectural bays appear oddly spaced. On the west (parking lot) side the gap between windows and changes in cladding material varies considerably, to the extent that one line of windows appears to butt directly up against the metal siding. We suggest slight adjustments to the cladding to provide more uniformity of bays.

4. The front elevation (DWG-05) shows rows of five windows at the rear of the central recession, but the floor plans identify a "common outdoor area" at the end of the recesses. A rendering that more clearly shows the architecture of the recessed portion of the building may be helpful.

5. Any proposed building-mounted lighting should be shown, and spec sheets provided. Fixtures should be dark sky compliant. Best practice is a maximum color temperature of 3,000K.

(ZR24-371, cont.)

6. We encourage the inclusion of regularly spaced street trees along Cannon Street, as was recently done along the neighboring parking lot.

7. Some common tenant amenities – including a laundry room, bike storage room and package room – are not shown on the floor plans, though spaces on the basement and first floor are labeled with multiple potential uses. The Board and applicant could discuss locations for these features.

RECOMMENDATION
The Department recommends that the Board rely upon its own study of the facts in the case with due consideration of the above comments.

Eoin Wrafter, AICP
Commissioner
By



Dylan Tuttle, Senior Planner

Agency Use Only [If applicable]

Project : 47-51 Cannon St.

Date :

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "**Yes"** to a numbered question, please complete all the questions that follow in that section.
- If you answer "**No"** to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land
Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1)
If "Yes", answer questions a - j. If "No", move on to Section 2.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☐	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☐	☐
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☐	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☐	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☐	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☐	☐
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☐	☐
h. Other impacts: _____ _____		☐	☐

2. Impact on Geological Features

The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g)

☑ NO ☐ YES

If "Yes", answer questions a - c. If "No", move on to Section 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Identify the specific land form(s) attached: _____ _____	E2g	☐	☐
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: _____	E3c	☐	☐
c. Other impacts: _____ _____		☐	☐

3. Impacts on Surface Water

The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h)

☑ NO ☐ YES

If "Yes", answer questions a - l. If "No", move on to Section 4.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may create a new water body.	D2b, D1h	☐	☐
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	☐	☐
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	☐	☐
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	☐	☐
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	☐	☐
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	☐	☐
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	☐	☐
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	☐	☐
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	☐	☐
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	☐	☐
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	☐	☐

l. Other impacts: _____ _____		☐	☐

4. Impact on groundwater

The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. (See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t)

☐ NO ☑ YES

If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	☑	☐
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: _____	D2c	☑	☐
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	☑	☐
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	☑	☐
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	☑	☐
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	☑	☐
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	☑	☐
h. Other impacts: _____ _____		☐	☐

5. Impact on Flooding

The proposed action may result in development on lands subject to flooding. (See Part 1. E.2)

☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	☐	☐
b. The proposed action may result in development within a 100 year floodplain.	E2j	☐	☐
c. The proposed action may result in development within a 500 year floodplain.	E2k	☐	☐
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	☐	☐
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	☐	☐
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	☐	☐

g. Other impacts: _____ _____		☐	☐

6. Impacts on Air

The proposed action may include a state regulated air emission source. (See Part 1. D.2.f., D.2.h, D.2.g) ☑ NO ☐ YES

If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	☐	☐
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	☐	☐
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	☐	☐
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	☐	☐
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	☐	☐
vi. 43 tons/year or more of methane	D2h	☐	☐
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	☐	☐
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	☐	☐
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	☐	☐
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	☐	☐
f. Other impacts: _____ _____		☐	☐

7. Impact on Plants and Animals

The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☑ NO ☐ YES

If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	☐	☐
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	☐	☐
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	☐	☐
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	☐	☐

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	☐	☐
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: _____	E2n	☐	☐
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	☐	☐
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: _____ _____	E1b	☐	☐
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	☐	☐
j. Other impacts: _____ _____		☐	☐

8. Impact on Agricultural Resources

The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	☐	☐
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, Elb	☐	☐
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	☐	☐
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	☐	☐
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	El a, E1b	☐	☐
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	☐	☐
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	☐	☐
h. Other impacts: _____		☐	☐

9. Impact on Aesthetic Resources

The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)

☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", go to Section 10.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☐	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☐	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	 ☐ ☐	 ☐ ☐
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	 ☐ ☐	 ☐ ☐
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☐
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☐	☐
g. Other impacts: _____ _____		☐	☐

10. Impact on Historic and Archeological Resources

The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)

☐ NO ☑ YES

If "Yes", answer questions a - e. If "No", go to Section 11.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on the National or State Register of Historical Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places.	E3e	☑	☐
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	☑	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: _____	E3g	☑	☐

d. Other impacts: _____ _____		☑	☐
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	☐	☐
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	☐	☐
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	☐	☐

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	☐	☐
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	☐	☐
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	☐	☐
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	☐	☐
e. Other impacts: _____ _____		☐	☐

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)
If "Yes", answer questions a - c. If "No", go to Section 13.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
c. Other impacts: _____ _____		☐	☐

13. Impact on Transportation

The proposed action may result in a change to existing transportation systems. ☑ NO ☐ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☐	☐
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☐	☐
c. The proposed action will degrade existing transit access.	D2j	☐	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☐	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☐	☐
f. Other impacts: _____ _____		☐	☐

14. Impact on Energy

The proposed action may cause an increase in the use of any form of energy. ☑ NO ☐ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☐	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☐	☐
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☐	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☐	☐
e. Other Impacts: _____ _____			

15. Impact on Noise, Odor, and Light

The proposed action may result in an increase in noise, odors, or outdoor lighting. ☑ NO ☐ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☐	☐
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☐	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☐	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☐	☐
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☐	☐
f. Other impacts: _____ _____		☐	☐

16. Impact on Human Health

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.) ☑ NO ☐ YES

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No,or small impact may cccur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☐	☐
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☐	☐
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☐	☐
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☐	☐
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☐	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☐	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☐	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☐	☐
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☐	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☐	☐
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☐	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☐	☐
m. Other impacts: _____ _____			

17. Consistency with Community Plans

The proposed action is not consistent with adopted land use plans. (See Part 1. C.1, C.2. and C.3.) ☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☐	☐
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☐	☐
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☐	☐
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☐	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, Elb	☐	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☐	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☐	☐
h. Other: _____ _____		☐	☐

18. Consistency with Community Character

The proposed project is inconsistent with the existing community character. (See Part 1. C.2, C.3, D.2, E.3) ☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", proceed to Part 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☐	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☐	☐
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☐	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☐	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☐	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☐	☐
g. Other impacts: _____ _____		☐	☐

PRINT FULL FORM

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:
To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

4. The project is anticipated to use 20,950 gallons of water a day. As the project will tap into a public water supply with adequate capacity a small impact is anticipated.

10a. 47 Cannon Street is adjacent to 332 Main Street, the prior Luckey, Platt & Company Department Store which has been on the National Register of Historic Places since 1982.

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☐ Type 1 ☐ Unlisted

Identify portions of EAF completed for this Project: ☐ Part 1 ☐ Part 2 ☐ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information

_____

_____

_____

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the _____ as lead agency that:

☐ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

_____

_____

_____

_____

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.7(d)).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action:	
Name of Lead Agency:	
Name of Responsible Officer in Lead Agency:	
Title of Responsible Officer:	
Signature of Responsible Officer in Lead Agency:	Date:
Signature of Preparer (if different from Responsible Officer)	Date:

For Further Information:

Contact Person:

Address:

Telephone Number:

E-mail:

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

PRINT FULL FORM

APPLICATION TO THE PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

Application for Site Plan, Special Permit & Facade Approval

OFFICE USE ONLY

CODE: PLSF

ID #_____

FEE: _____
Total, from:
$500, plus
$_____
($150 per 1000 square feet of floor area), plus
$_____
($35 per number of required parking spaces), plus
$_____
($500 for special permit, if applicable)

I. PROPERTY ADDRESS: 31-39 Market Street

II. PROPERTY OWNER: 31 Market LLC
ADDRESS: 35 Main Street, Suite 311
Poughkeepsie
NY, 12601 (state and zip code)
PHONE NUMBER: c/o 845-874-7166 (include area code)

III. NAME OF APPLICANT: same as owner
ADDRESS: _____
_____
_____ (state and zip code)
PHONE NUMBER: _____ (include area code)
EMAIL ADDRESS: c/o natalie@karcpc.com

(If applicant is NOT the owner, proof of owner's consent to the application MUST be provided.)

IV. CONSULTANT: Natalie Quinn, KARC Planning Consultants
ADDRESS: P.O. Box 924
Poughkeepsie
NY, 12602 (state and zip code)
PHONE NUMBER: 845-874-7166 (include area code)

V. PROPOSED USE or FAÇADE CHANGE (Summarize proposed use or uses): Conversion of office space at 31 Market to apartments on floor 2-5, raising 39 Market to 5 stories with apartments on floor 2-5 + 2-bed on flr 1 of 39 Market

VI. ZONING DISTRICT: PID-HC

(Proceed to XVII for special permit & façade approval only)

PROJECT INFORMATION

New construction: _____X_____(yes)_____ (no)

Change of use:_____X_____ (yes) _____ (no)

Expansion/addition:_____X_____ (yes) _____ (no)

Alteration:_____X_____ (yes) _____ (no)

Cost of Construction: $4,000,000.00

LOT AND BULK INFORMATION:

Lot area: 0.16 (acres) 6,969.6 (square feet)

Building Footprint: 6,730 SF (proposed square feet for new construction)

_____ (existing square feet for change of use/expansion)

_____ (additional proposed square feet for expansion)

6,730 SF (total building footprint, square feet)

Lot Coverage: 94% (percentage, building coverage only)

Gross Floor Area: 35,868 SF (proposed square feet for new construction)

_____ (existing square feet for change of use/expansion)

_____ (additional proposed square feet for expansion)

35,868 SF (total gross floor area, square feet)

Building Height: 5 (stories) 64'5" (feet)

Floor Area Ratio: 5.15 (ratio of gross floor area divided by lot area)

VIII. PROJECT PARKING INFORMATION

A) Number of Off-Street Parking Spaces required: 0

B) Number of Off-Street Parking Spaces provided: 0

C) Waiver Requested: _____ (Yes) X (No)

Is municipal parking available within 600 feet? X (Yes) _____ (No)

If yes, name all such municipal facilities: Liberty St Lot, Financial Plaza Parking Deck, Academy St Lot

(If a waiver is requested based on proximity to municipal facilities, a written request for such waiver, addressed to the City Planning Staff and the Chairman of the Planning Board, must be submitted with the application.)

If a private parking facility is to be utilized, is such facility within 600 feet?

_____ (Yes) _____ (No)

If yes, provide the address of the facility, name of the property owner, number of spaces in the lot, number of spaces available for lease, and length of lease. Attach copy of lease. Additional information may be required by the Planning Board): _____

IX. RESIDENTIAL PROPOSALS

A) Type of Development: Mixed-use residential and commercial
(Townhouse, condominium, multiple residence rental, etc.)

B) Unit Breakdown:

Number of efficiency or "studio" units: 40

Number of one (1) bedroom units: 8

Number of two (2) bedroom unit's 1

Number with three or more bedrooms: _____

Total number of units: 49

C) Is funding public? ____ Yes _X_ No
If yes, describe funding source: _____

X. OFFICE PROPOSALS (____ Medical/Dental ____ Professional ____ Business)

A) Number of Employees: _____
B) Number of doctors/dentists/medical practitioners: _____
C) Days/Hours of Operation: _____

XI. SERVICE BUSINESS PROPOSALS

A) Specify Business: _____
(e.g., laundromat, drycleaner, beauty parlor, travel agency, banks)

B) Number of Employees: _____

C) Number of Washing Machines (for laundromat): _____

D) Days/Hours of Operation: _____

XII. MERCANTILE PROPOSALS (Retail _____ Wholesale _____)

A) Type of Mercantile (specify): _____

B) Number of Employees: _____

C) Days/Hours of Operation: _____

XIII. STANDARD RESTAURANT/FAST FOOD RESTAURANT/COFFEE SHOP/DONUT SHOP/NIGHTCLUB/DISCOTHEQUE/BAR PROPOSALS

A) Specify Use: _____

B) Number of seats (excluding bar stools and outdoor seating):_____

C) Meals served (i.e., breakfast, lunch, dinner): _____

D) Type of Menu: _____

E) Days/Hours of Operation: _____

F) Entertainment (live and/or recorded):_____

G) Will the restaurant contain a bar/lounge?: _____ Yes _____ No

H) If yes, how many seats at the bar? _____

I) Is a drive-through window proposed? _____

J) Is a walk-up window proposed? _____

K) Is an outdoor seating area proposed? _____

L) If yes, how many seats are proposed? _____

M) If yes, is outdoor cooking proposed? _____

XIV. INDUSTRIAL/COMMERCIAL PROPOSALS (Automobile repair, taxi, motor vehicle sales, warehouse, manufacturing, animal hospital, research facilities, etc.)

A) Specify Use: _____

B) Number of shifts (if any): _____

C) Number of employees: _____
(If shifts are proposed, list number of employees per shift)

E) Number of work bays (if automobile repair): _____

F) Days/Hours of operation: _____

XV. EDUCATIONAL/INSTITUTIONAL/RECREATIONAL PROPOSALS (e.g., Museums, Theatres, Conference Centers, Hotels, Motels, Hospitals, Nursing Homes, Assisted Living Facilities, Nursery Schools, Private Schools, Day Care Centers, Places of Worship, Marinas, Membership Clubs, etc.)

A) Specify: _____

B) Number of shifts (if any): _____

C) Number of employees: _____
(If shifts are proposed, list number of employees per shift)

D) Number of beds (hospitals, nursing homes, etc): _____

E) Number of seats in largest assembly space: _____

F) Number of classrooms (schools): _____

G) Number of rental units (hotels, motels, etc.) _____

H) Number of boat slips/courts (e.g., tennis, handball, etc.), alleys: _____

I) Days/Hours of Operation: _____

XVI. PROPOSALS NOT MENTIONED ABOVE (Please be specific):

_____

_____

_____

_____

_____

XVII. APPLICANT CERTIFICATION

I, Bernard Kohn, 31 Market LLC, certify that the this application has addressed the objectives outlined in the Zoning Ordinance with consideration given to the public health, safety and welfare; the comfort and convenience of the public in general or the residents or users of the proposed development and of the immediate neighborhood.

The applicant certifies that all information contained herein is accurate and complete as of the date of this application.



_____ 9/20/2024

Signature of Applicant Date

KARC
PLANNING CONSULTANTS, INC.

September 24, 2024

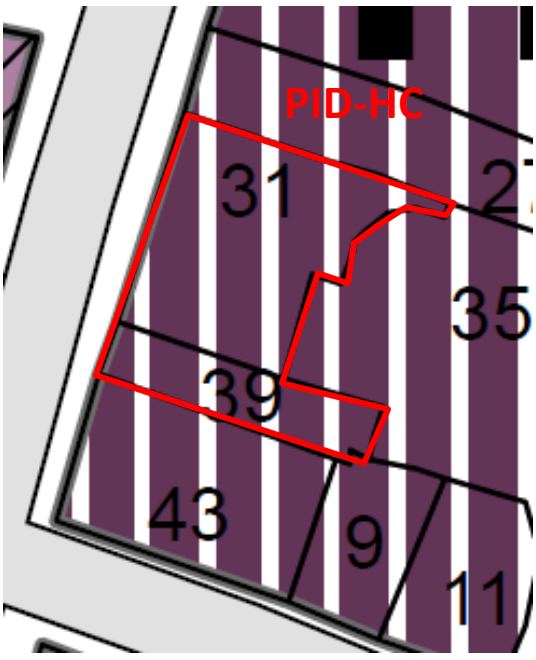
Lori Garcia, Board Administrative Assistant
City of Poughkeepsie
62 Civic Center Plaza
Poughkeepsie, NY 12601

Re: 31-39 Market Street
131300-6162-77-030072 & 131300-6162-77-031066
City of Poughkeepsie
Site Plan Application

Dear Ms. Garcia:

The applicant is seeking to renovate two existing buildings on Market Street in the City of Poughkeepsie. The buildings are located on two parcels identified as Lot #030072 and Lot #031066, currently addressed as 31 Market Street and 39 Market Street, respectively. The properties are approximately 0.16 acres total. The project area is located in the Poughkeepsie Innovation District – Historic Core, which encourages mixed use development, preservation of historic architecture, and new development that compliments the existing character of the corridor.





Under the submitted proposal, the two buildings will be internally linked on the upper floors via a shared residential corridor, with the underlying building footprint of 31 and 39 Market Street remaining the same.

Proposed renovations to 31 Market Street include preservation of the existing ground floor commercial spaces and the historic Bardavon lobby and ticket office, with conversion of the existing office spaces on floors 2-5 into residential apartments.

At 39 Market Street, the applicant proposes to increase the building height to 5 stories to match the height of 31 Market Street, adding residential apartments on floors 2-5. The ground floor will consist of one (1) commercial unit facing Market Street and a two-bedroom duplex at the rear of the building.

The rooftop level will consist of a terrace for resident use.

The existing exterior façades of both buildings will remain the same, with restoration work and window replacements completed pursuant to the regulations and oversight of NYS State Historic Preservation Office (SHPO). The two additional floors proposed at 39 Market Street will be "stepped back" at increasing intervals to reduce or eliminate their visibility from Market Street, which will allow the existing cornice line of both buildings to be preserved.

Overall, renovation of 31 and 39 Market Street will result in the creation of 49 residential units within the City's downtown core, and preservation of the historic icon that is the Bardavon Theatre. The addition of residential units will draw new residents to the downtown and increase the customer base of existing businesses within the ground floor commercial spaces. The proposed unit mix includes 40 studio units, 8 one-bedroom units, and 1 two-bedroom unit.

Unit Type	Count
Studio	40
1-Bed	8
2-Bed	1
Total	**49**

KARC
PLANNING CONSULTANTS, INC.

Enclosed, please find eight (8) copies of the following:

1. Cover Letter and Narrative prepared by KARC Planning Consultants, dated September 24, 2024
2. Site Plan Application prepared by KARC Planning Consultants, dated September 20, 2024
3. Site Plan prepared by LRC Group dated September 19, 2024
4. Elevations/Renderings prepared by Matthew Cordone Architect PLLC, dated September 20, 2024
5. EAF part 1 by KARC Planning Conusltants, dated September 20, 2024
6. Financial Capability Statement by Chai Builders, dated September 2, 2024
7. Application Fee in the amount of $6,380.20

Calculation:

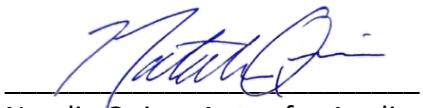
Application Fee	$ 500.00
FEAF Review Fee	$ 500.00
35,868 SF * $150 / 1000 SF	$5,380.20
	$6,380.20

Please advise if you require anything further to complete your review.

We kindly request that this matter be placed on the next City of Poughkeepsie Planning Board Agenda scheduled for October 22, 2024.

Thank you.

Sincerely,



Natalie Quinn, Agent for Applicant

PO Box 924 |Poughkeepsie NY 12602 | 845.874.7166 | natalie@karcpc.com
DBE Certified |WBE in NY and NJ |US SBA WOSB & EDWOSB Certified

KARC
PLANNING CONSULTANTS, INC.

November 12, 2024

Lori Garcia, Board Administrative Assistant
City of Poughkeepsie
62 Civic Center Plaza
Poughkeepsie, NY 12601

Re: 31 & 39 Market Street
131300-6162-77-030072 & 131300-6162-77-031066
City of Poughkeepsie
Site Plan Application

Dear Ms. Garcia:

As you are aware, the applicant is seeking to renovate two existing buildings on Market Street in the City of Poughkeepsie. The buildings are located on two parcels identified as Lot #030072 and Lot #031066, currently addressed as 31 Market Street and 39 Market Street, respectively.

Below please find responses to comments prepared by the City of Poughkeepsie Building Department, dated September 30, 2024:

> These properties also share a common space with 35 Market St without a fire wall without openings in it. Before a permit for this work would be able to be issued proof that the building maximum height and area requirements of all three properties comply with the NYS building code and there shall be easements and contractual agreements that permit the owners of portions of the buildings located on either side of the lot line access to the other side for the purposes of maintaining fire and life safety systems necessary for the operation of the building, copied of such must be submitted with the building permit applications for the approved planning board work. Additionally, 31 and 39 Market St will need to be merged into one property of record before CO's can be issued.
>
> **Response:** Please see enclosed letter from Matthew Cordone Architect PLLC to address the issue of the fire separation wall and complying with the NYS building code. Comment noted, 31 and 39 Market Street will be merged into one property of record prior to the issuance of CO's.

KARC
PLANNING CONSULTANTS, INC.

Below please find responses to comments prepared by the City of Poughkeepsie Engineering Department, dated October 10, 2024:

1. Show on Site Plan property adjoiners.

   Response: Property adjoiners are shown on site plan sheet SP-1.

2. Show on Site Plan all utilities in Market Street and indicate size.

   Response: A site visit and review of utility maps provided by the City of Poughkeepsie Engineering Department was completed by the project engineer, LRC Group. All known utilities are shown on the Utilities Plan (sheet UT-1) for reference.

3. Provide utility report indicating water, sanitary sewer and storm sewer usage/ demand for proposed alterations to both 31 and 39 Market Street. Coordinate with City Fire Department and demonstrate what is being asked is achieved.

   Response: A utility letter from LRC Group is included with this submission.

4. NYS licensed design professional to verify existing and proposed water and sewer connections are sufficient for proposed alterations.

   Response: Comment noted. Please see utility letter prepared by LRC Group.

5. Any combined sanitary sewer and storm sewer connections, including roof leaders, to be separated for both 31 and 39 Market Street.

   Response: As there are no existing storm services on Market Street, the applicant will work with the project architect to disconnect all existing storm services from the sewer services within the building. We request that the City provide a location to which we can connect the existing and future stormwater leaders.

6. Show on Site Plan sanitary sewer connection from building to main for both 31 and 39 Market Street. Indicate pipe size, Indicate which sewer main these discharge to in Market Street. Reconfiguration/ reconnection may be required. NYS licensed design professional to certify discharge points.

   Response: The existing utilities have been identified on the proposed UT-1 Plan. All new services are shown on the plans and existing services are shown based on visual observation within the buildings.

7. Show on Site Plan storm sewer connection from building to main for both 31 and 39 Markert Street. Indicate pipe size. Indicate which sewer main these discharge to in Market Street. Reconfiguration/ reconnection may be required. NYS licensed design professional to certify discharge points.

   Response: As noted above, there are no existing storm services on Market Street. The applicant will work with the project architect to disconnect all existing storm services from the sewer services within the building. We request that the City provide a location to which we can connect the existing and future stormwater leaders. Once identified, all new storm services will be shown on the plans.

8. Show on Site Plan location of water meter and backflow prevention devices for both 31 and 39 market Street.

   Response: Existing backflow devices were observed within the basement of 31 Market Street, which will remain, and new services are proposed within the basement of 39 Market Street. The locations have been shown on the UT-1 Plan.

9. Show on site plan any new utility connections through street to be delineated, hatched and edges shown as saw cut. Provide City Standard Details for any proposed connections and restoration.

   Response: Noted and shown on the UT-1 Plan.

10. Indicate and show on Site Plan size and material of water connection for both 31 and 39 Market Street.

    Response: The size and location of all known utilities are shown on sheet UT-1. The following note has been added to address the question of material: “Final certification of water service material to be supplied to City of Poughkeepsie Engineering Department and City of Poughkeepsie Building Department prior to issuance of any Certification of Occupancy and will also be a condition of any issued City of Poughkeepsie Building Permit.”

11. No lead water service lines permissible. Applicant/ Owner to replace section(s) containing lead with new copper.

    Response: Comment noted. The applicant/owner will replace lead water service lines with new copper lines as a condition of approval.

12. NYS licensed design professional to certify material type of water service at the following locations:
    i. Foundation and/or slab penetration,
    ii. Inlet side of water meter,
    iii. Outlet side of water meter,
    iv. Inlet side of curb box valve located in sidewalk,
    v. Outlet side of curb box valve located in sidewalk.

    Response: Comment noted. The following language has been added to the UT-1 Plan to address this comment as a condition of approval: "Final certification of water service material to be supplied to City of Poughkeepsie Engineering Department and City of Poughkeepsie Building Department prior to issuance of any Certification of Occupancy and will also be a condition of any issued City of Poughkeepsie Building Permit."

13. Indicate method of determination of water service material. Include all notes and photos obtained from investigation in certification. Implement method that minimizes disturbance to extents practical.

    Response: See comment above.

14. Is there any interaction of water and sewer utilities between 31 Market Street and 35 Market Street – Bardavon 1869 Opera House (Parcel #: 131300-6162-77-039068-0000)? Are the utility connections shared or separate? Show and indicate existing configuration.

    Response: It is our understanding that the Bardavon has separate utility connections that are located through the building within the existing easement.

15. Indicate if any food prep is proposed for building alterations.

    Response: Only the existing food services are proposed to remain.

16. Show on Site Plan location of any existing or proposed grease traps. Include size and maintenance schedule on Site Plan.

    Response: The existing grease traps will remain within the building. No new grease traps are proposed.

17. Indicate and Show on Site Plan location of refuse container to be utilized.

    Response: The refuse container is shown on the Site Plan (sheet SP-1). The garbage is intended to be kept in the basement and will be brought out to the pickup location on the days of pickup.

18. Prepare and submit itemized estimate of proposed site work.

    Response: The proposed project will have minimal site work. It is estimated that the site work will consist of new water, lead pipe replacement, and sidewalk repair. This will total approximately $50,000.00.

Below please find responses to comments prepared by the City of Poughkeepsie Fire Department, dated October 10, 2024:

The site plan is acceptable and will be signed with the following conditions:

1. *Full fire sprinkler system with calculations showing water supply meets demand of system.*

   Response: Comment noted. A full fire sprinkler system design and demand calculations will be provided as part of the building permit application.

2. *Clarity if projects sprinkler system will be fed by 1 sprinkler system or separate systems.*

   Response: The sprinklers for 31 and 39 Market Street will be fed by one sprinkler system. Please note that it is our understanding that 35 Market Street (Bardavon Theatre) is on a separate sprinkler system. We will further this existing condition in our next submission.

Below please find comments prepared by the City of Poughkeepsie Police Department, dated October 11, 2024:

The site plan is acceptable and will be signed with no conditions.

Below please find comments prepared by the Dutchess County Department of Planning and Development, dated November 4, 2024:

Matter of local concern.

KARC
PLANNING CONSULTANTS, INC.

Enclosed, please find four (4) copies of the following:

1. Cover Letter and Narrative prepared by KARC Planning Consultants, dated November 12, 2024
2. Letter Addressing Building Department Comment on Fire Wall Separation prepared by Matthew Cordone Architect PLLC, dated October 9, 2024
3. SHPO Correspondence, dated October 31, 2024
4. Site Plan prepared by LRC Group dated November 12, 2024
5. Utility Letter by LRC Group dated November 12, 2024

*Please Note: The project team has not made any changes to the proposed elevations or renderings at this time. The previously submitted elevation are included within our digital submission for reference. Comments noted in the SHPO correspondence dated October 31, 2024 will be considered and any necessary revisions addressed in our next submission.

Please advise if you require anything further to complete your review.

We kindly request that this matter be placed on the next City of Poughkeepsie Planning Board Agenda scheduled for November 26, 2024.

Thank you.

Sincerely,

_____
Natalie Quinn, Agent for Applicant

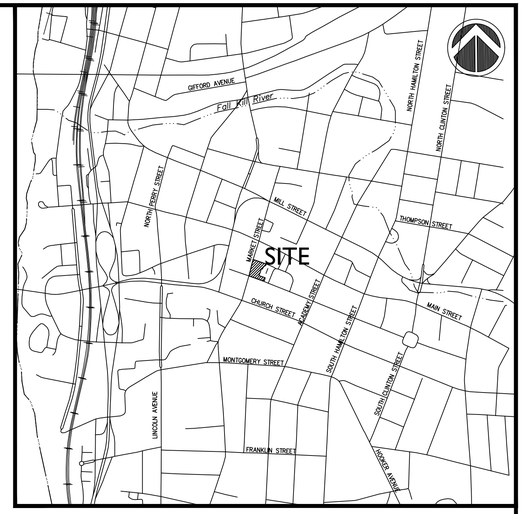
PO Box 924 |Poughkeepsie NY 12602 | 845.874.7166 | natalie@karcpc.com
DBE Certified |WBE in NY and NJ |US SBA WOSB & EDWOSB Certified





TAX MAP

SCALE: 1"=500'



LOCATION MAP

SCALE: 1"=1,000'

NOTES:

1. SURVEY BASED ON ENTITLED "TITLE/BOUNDARY SURVEY OF THE LANDS OF CGR ASSOCIATES, LLC. PREPARED BY JONATHAN MILLEN, LLS DATED OCTOBER 24, 2022 WITH SUPPLEMENTAL UTILITY INFORMATION ADDED FROM CITY OF POUGHKEEPSIE HISTORICAL MAPPING.

2. NO WATERCOURSE, MARSHES, WOODED AREAS, ROCK OUTCROPS, ISOLATED TREES ARE PRESENT AT THE SITE.

3. NO FLOOD PLAINS ARE LOCATED AT THE SITE.

ZONING SUMMARY TABLE

ZONING INFORMATION			
PARCEL SIZE	0.1254 acres and 0.04 acres = 0.1654 acres total		
TAX MAP IDENTIFICATION	030072 AND 031066		
ZONING DISTRICT	PID– HC HISTORIC CORE ZONE		
PROPOSED USE	MIXED USE		
ITEM	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA (SF)	–	7204.8 SF	7204.8 SF
MINIMUM LOT COVERAGE	75%	94%	94%
FRONTAGE OCCUPANCY (MIN/MAX) HC	100%	100%	100%
MINIMUM FRONT YARD (FT)	0 FT	0 FT	0 FT
MINIMUM/MAX SIDE YARD (FT)	0 FT	0 FT	0 FT
MINIMUM REAR YARD (FT)	0 FT	0 FT	0 FT
MINIMUM BUILDING HEIGHT (FT)	2 STORIES	–	64'–5"
MAXIMUM BUILDING HEIGHT (FT)	5 STORIES	5 STORIES / 3 STORIES *	5 STORIES

* DENOTES EXISTING STORIES

31 MARKET–5 STORIES
39 MARKET–3 STORIES

CITY PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK
SITE PLAN APPROVAL
FILE NO:
PROJECT NAME:
PROJECT LOCATION:
APPLICANT:
OFFICIALLY APPROVED AT THE PLANNING BOARD
MEETING HELD THE _____DAY OF_____2_____
PLANNING CHAIR:
DESIGNEE:
DATE SIGNED:
CONDITION(S)

FIRE CHIEF

POLICE CHIEF

BUILDING INSPECTOR

CITY ENGINEER

COMMISSIONER OF PUBLIC WORKS

SURVEY MAP REFERENCE

1. SURVEY BASED ON ENTITLED "TITLE/BOUNDARY SURVEY OF THE LANDS OF CGR ASSOCIATES, LLC, PREPARED BY JONATHAN MILLEN, LLS DATED OCTOBER 24, 2022.

PROPERTY OWNERS

TAX MAP ID#6162-77-030072
31 MARKET LLC
35 MAIN STREET, SUITE 311
POUGHKEEPSIE, NY 12601

TAX MAP ID#6162-77-031066
DARIN & JAMES GARTNER
PO BOX 8352
NEW FAIRFIELD, CT 06812

GRAPHIC SCALE
20 10 0 20
SCALE IN FEET

STATE OF NEW YORK
RODNEY E. MORRISON
074194
LICENSED PROFESSIONAL ENGINEER

No.	Revisions
1.	2024–11–12 REVISED PER COMMENTS

LRC GROUP
- Land Planning
- Civil Engineering
- Environmental Services
- Land Surveying
- Landscape Architecture

160 West Street, Suite E
Cromwell, CT 06416
Tel: 860.635.2877

85 Civic Center Plaza, Suite 204
Poughkeepsie NY 12601
Tel: 845.243.2880

1000 Wyckoff Avenue, 3rd Floor
Mahwah, NJ 07430
Tel: 908.603.5730

www.lrcconsult.com
LRC Engineering & Surveying, DPC
LRC Engineering & Surveying, LLC
LRC Environmental Services, Inc.

SITE PLAN

PROPOSED MIXED USE BUILDING

31 & 39 MARKET STREET
CITY OF POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK

Design/Calcs	SMC	CAD File	SP24322001.dwg	Sheet No.
Drawn	SMC	Project No.	24–3220	SP-1
Checked	KFC	Date	2024–09–18	
Approved	REM	Scale	1"=20'	

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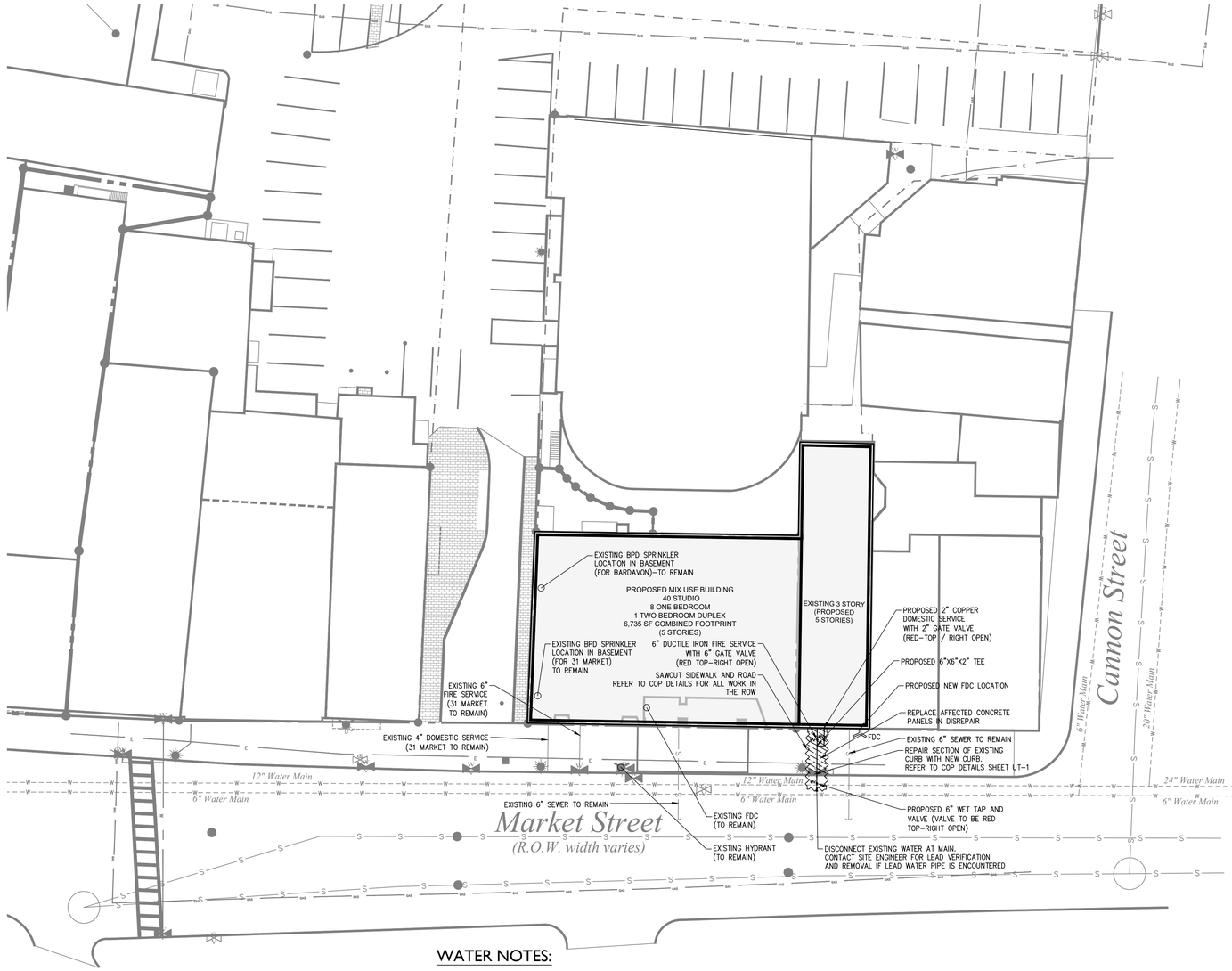
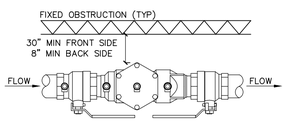


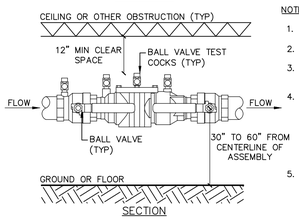
WATER NOTES:

ALL EXISTING WATER SERVICES TO REMAIN WILL BE EXCAVATED AT MAIN TRENCH TO VERIFY MATERIAL TYPES. IF LEAD BASE JOINTS ARE ENCOUNTERED, THEN A REPLACEMENT LINE WILL BE REQUIRED

FINAL CERTIFICATION OF WATER SERVICE MATERIAL TO BE SUPPLIED TO CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT AND CITY OF POUGHKEEPSIE BUILDING DEPARTMENT PRIOR TO ISSUANCE OF ANY CERTIFICATION OF OCCUPANCY AND WILL ALSO BE A CONDITION OF ANY ISSUED CITY OF POUGHKEEPSIE BUILDING PERMIT."



PLAN VIEW



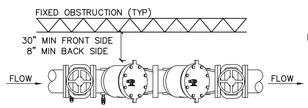
SECTION

NOTES:

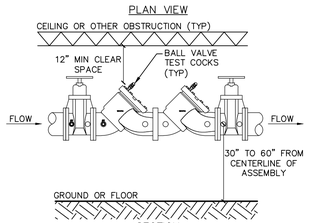
1. ASSEMBLY TO BE INSTALLED HORIZONTALLY.
2. WATTS SERIES LF709 2" DOUBLE CHECK VALVE OR APPROVED EQUAL.
3. DCV TO BE INSTALLED IN MECHANICAL SPACE AND MUST MEET ALL CLEARANCES AS OUTLINED ABOVE.
4. ASSEMBLY TO BE TESTED BY A LICENSED BACKFLOW PREVENTION DEVICE TESTER AFTER INSTALLATION AND PRIOR TO ACTIVATION OF NEW WATER SUPPLY. THE RESULTS MUST BE SUBMITTED TO THE DCDOH AND CITY OF POUGHKEEPSIE AS PART OF THE ENGINEER'S CERTIFICATION.
5. ASSEMBLY MUST BE TESTED ANNUALLY BY A LICENSED BACKFLOW PREVENTION TESTER. COPIES OF THE TEST RESULTS MUST BE SUBMITTED TO THE OWNER, CITY OF POUGHKEEPSIE WATER DEPARTMENT, AND THE DUTCHESS COUNTY DEPARTMENT OF HEALTH.

DOMESTIC DOUBLE CHECK VALVE DETAIL

SCALE: N.T.S.



PLAN VIEW



SECTION

NOTES:

1. ASSEMBLY TO BE INSTALLED HORIZONTALLY.
2. WATTS SERIES LF709 6" DOUBLE CHECK VALVE OR APPROVED EQUAL.
3. DCV TO BE INSTALLED IN MECHANICAL SPACE AND MUST MEET ALL CLEARANCES AS OUTLINED ABOVE.
4. ASSEMBLY TO BE TESTED BY A LICENSED BACKFLOW PREVENTION DEVICE TESTER AFTER INSTALLATION AND PRIOR TO ACTIVATION OF NEW WATER SUPPLY. THE RESULTS MUST BE SUBMITTED TO THE DCDOH AND CITY OF POUGHKEEPSIE AS PART OF THE ENGINEER'S CERTIFICATION.
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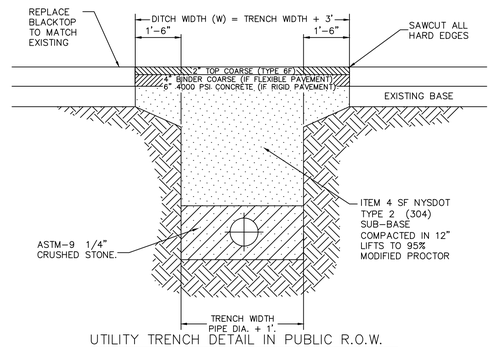
FIRE SUPPLY DOUBLE CHECK VALVE DETAIL

SCALE: N.T.S.

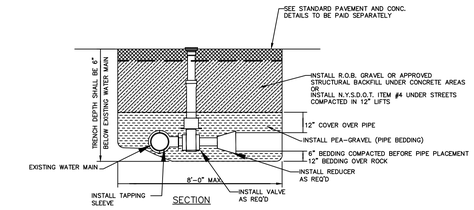


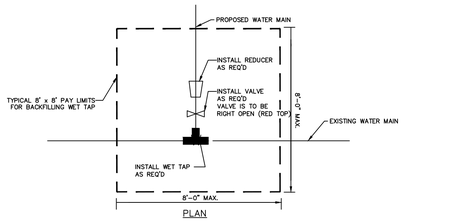
UTILITY TRENCH DETAIL IN PUBLIC R.O.W.

NOTES:

1. DITCH WIDTH SHALL EXTEND A MINIMUM OF ONE AND ONE–HALF FT. FROM THE EDGES OF THE TRENCH.
2. REPLACED BASE MATERIAL OVER TRENCH SHALL BE ITEM 4 COMPACTED IN 12" LIFTS.
3. PIPE BEDDING SHALL BE A MINIMUM OF 6" ABOVE AND BELOW PIPE
4. ALL JOINTS SHALL BE MECHANICALLY SAWED.
5. ALL JOINTS SHALL BE SQUARED TO THE EXISTING EDGE OF CURB AND/OR PAVEMENT, AND TACK COATED PER DETAIL.
6. ROAD SURFACE REPLACEMENT SHALL BE MINIMUM OF SIX INCHES OF ASPHALTIC CONCRETE.
7. ASPHALT PAVEMENT TO BE PLACED IN TWO LIFTS AS SHOWN.

CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT			
62 CIVIC CENTER PLAZA POUGHKEEPSIE, NY 12602	FILE NO.:	FLEXPAVE.DWG	TRENCH AND PAVEMENT DETAIL
	DATE:	9–9–04	
	SCALE:	AS NOTED	
	DRAWN BY:	ENGINEERING	





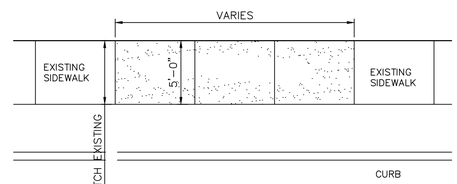
NOTE: ALL BACKFILL TO BE PLACED IN 1' LIFTS AND COMPACTED TO 95% OF MODIFIED PROCTOR (ASTM 1557)

TAPPING SLEEVE & VALVE

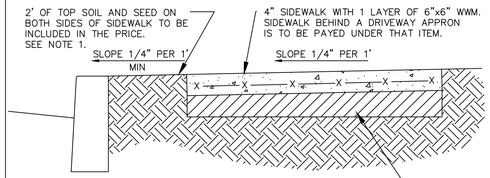
SCALE: N.T.S.

CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT			
80 WASHINGTON STREET POUGHKEEPSIE, NY 12602	FILE NO.:		TAPPING SLEEVE & VALVE 1
	DATE:	3–6–00	
	SCALE:	AS NOTED	
	DRAWN BY:	JP	

PAGE NO.



PLAN
SCALE: N.T.S.



NOTES:

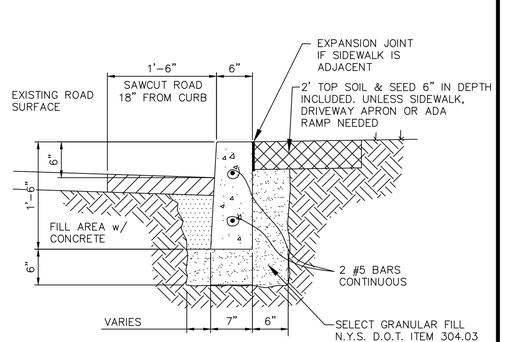
1. WHERE MATERIAL IS NOT USED THE CITY OF POUGHDEEPSIE WILL BE CREDITED IN AREAS WHERE MORE THAN THE SPECIFIED AMOUNT OF MATERIAL IS USED. MAJOR GRADE CHANGES WILL BE APROVED BY THE CITY ENGINEERING DEPT. AND WILL BE PAYED UNDER APROPRIATE ITEMS.

SECTION

SIDEWALK DETAIL REPLACE & NEW

CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT			
62 CIVIC CENTER PLAZA POUGHKEEPSIE, NY 12602	PROJECT:	001–DET	SIDEWALK DETAIL
	DATE:	5–16–00	
	SCALE:	AS NOTED	
	DRAWN BY:	JP	

DETAILS PROVIDED BY THE CITY OF POUGHKEEPSIE. FOR ALL WORK TO BE PERFORMED IN THE CITY ROW.



FORMED CURB DETAIL

SCALE: 1"–1'–0"

CITY OF POUGHKEEPSIE ENGINEERING DEPARTMENT			
62 CIVIC CENTER PLAZA POUGHKEEPSIE, NY 12602	FILE NO.:	001–DET	FORMED CURB DETIAL 1
	DATE:	3–6–00	
	SCALE:	AS NOTED	
	DRAWN BY:	JP	

PAGE NO.

DETAILS PROVIDED BY THE CITY OF POUGHKEEPSIE. FOR ALL WORK TO BE PERFORMED IN THE CITY ROW.

GRAPHIC SCALE
20 10 0 20
SCALE IN FEET

No.	Date	Revisions
1	2024–11–12	REVISED PER COMMENTS

LRC GROUP
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• Civil Engineering
• Environmental Services
• Land Surveying
• Landscape Architecture
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LRC Engineering & Surveying, LLC
LRC Environmental Services, Inc.

STATE OF NEW YORK
RODNEY E. MORRISON
074194
LICENSED PROFESSIONAL ENGINEER

UTILITIES PLAN

PROPOSED MIXED USE BUILDING

31 & 39 MARKET STREET
CITY OF POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK

Design/Calcs	SMC	CAD File	UT24322001.dwg	Sheet No.	UT-1
Drawn	SMC	Project No.	24–3220		
Checked	KFC	Date	2024–09–18		
Approved	REM	Scale	1"=20'		

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BARADAVON 31-37 MARKET STREET

BUILDING FOOTPRINT:	4,679.4 SF
FIRST FLOOR SQUARE FOOTAGE:	5,024.5 SF
SECOND FLOOR SQUARE FOOTAGE	5,024.5 SF
THIRD FLOOR SQUARE FOOTAGE:	5,024.5 SF
FOURTH FLOOR SQUARE FOOTAGE:	5,024.5 SF
FIFTH FLOOR SQUARE FOOTAGE:	5,024.5 SF

39 MARKET STREET

BUILDING FOOTPRINT:	2,056 SF
BASEMENT SQUARE FOOTAGE:	733 SF
FIRST FLOOR SQUARE FOOTAGE:	2,056 SF
SECOND FLOOR SQUARE FOOTAGE:	2,056 SF
THIRD FLOOR SQUARE FOOTAGE:	2,056 SF
FOURTH FLOOR SQUARE FOOTAGE:	2,009 SF
FIFTH FLOOR SQUARE FOOTAGE:	1,838 SF

COMBINED BUILDINGS

BUILDING FOOTPRINT:	6,735 SF
BASEMENT SF. (39 MARKET DUPLEX)	733 SF
FIRST FLOOR SQUARE FOOTAGE:	7,080 SF
SECOND FLOOR SQUARE FOOTAGE:	7,080 SF
THIRD FLOOR SQUARE FOOTAGE:	7,080 SF
FOURTH FLOOR SQUARE FOOTAGE:	7,033 SF
FIFTH FLOOR SQUARE FOOTAGE:	6,862 SF

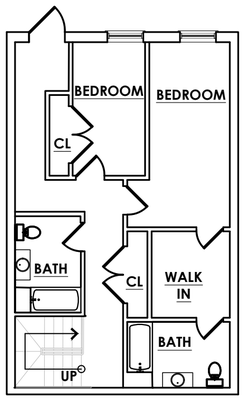
BARDOVAN
BUILDING HEIGHT: 64'-5"
84.2' X 60.21'
HEIGHT W/ ADDITION 73'-2"

39 MARKET W/ ADDITION
BUILDING HEIGHT: 64'-5"
BUILDING DIMENSION: 23' X 90.2'

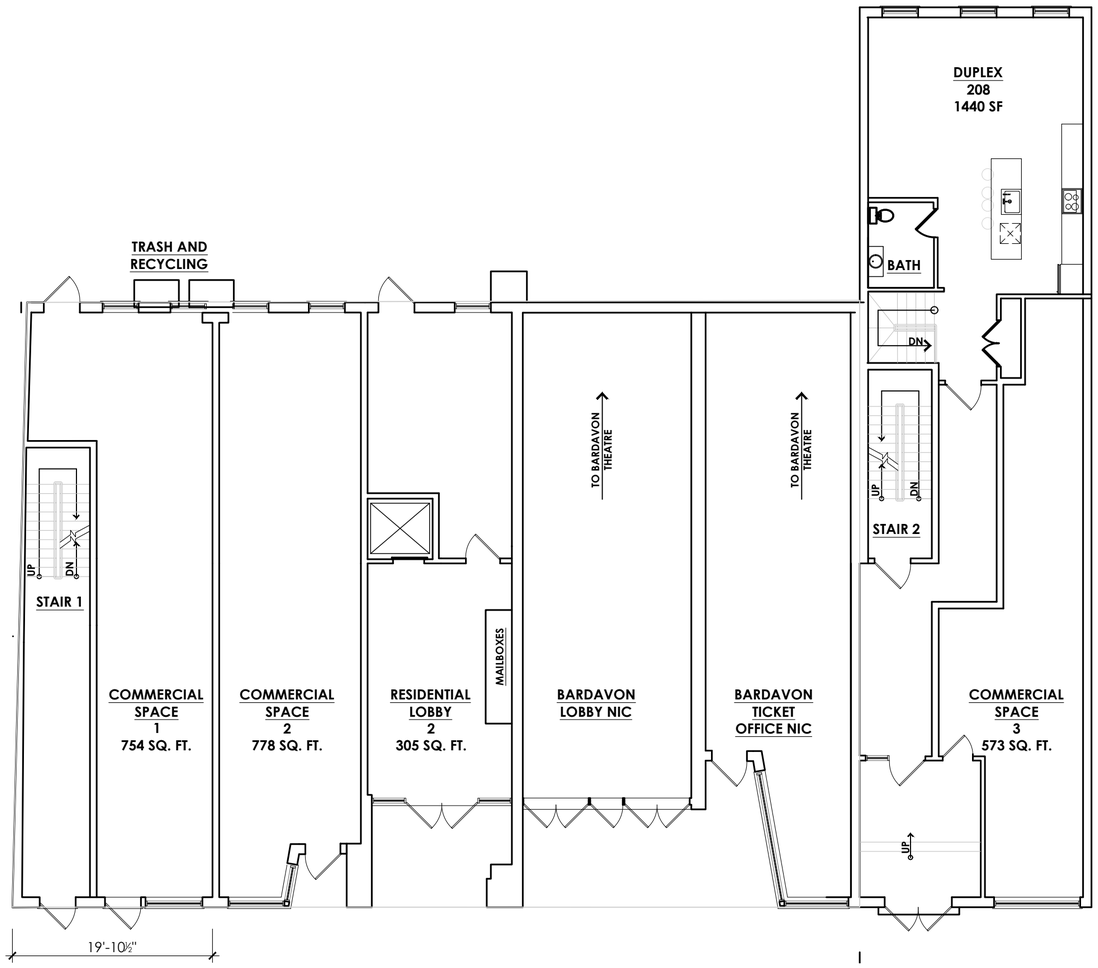
OUTDOOR/OPEN SPACE CALCULATION:
BARDAVON 779.5 (REAR YARD AND FRONT SETBACKS) + 2,792 SF
ROOF TERRACES = 3,571.5 SF
39 MARKET 121 SF
TOTAL: 3,692.5

APARTMENT COUNTS

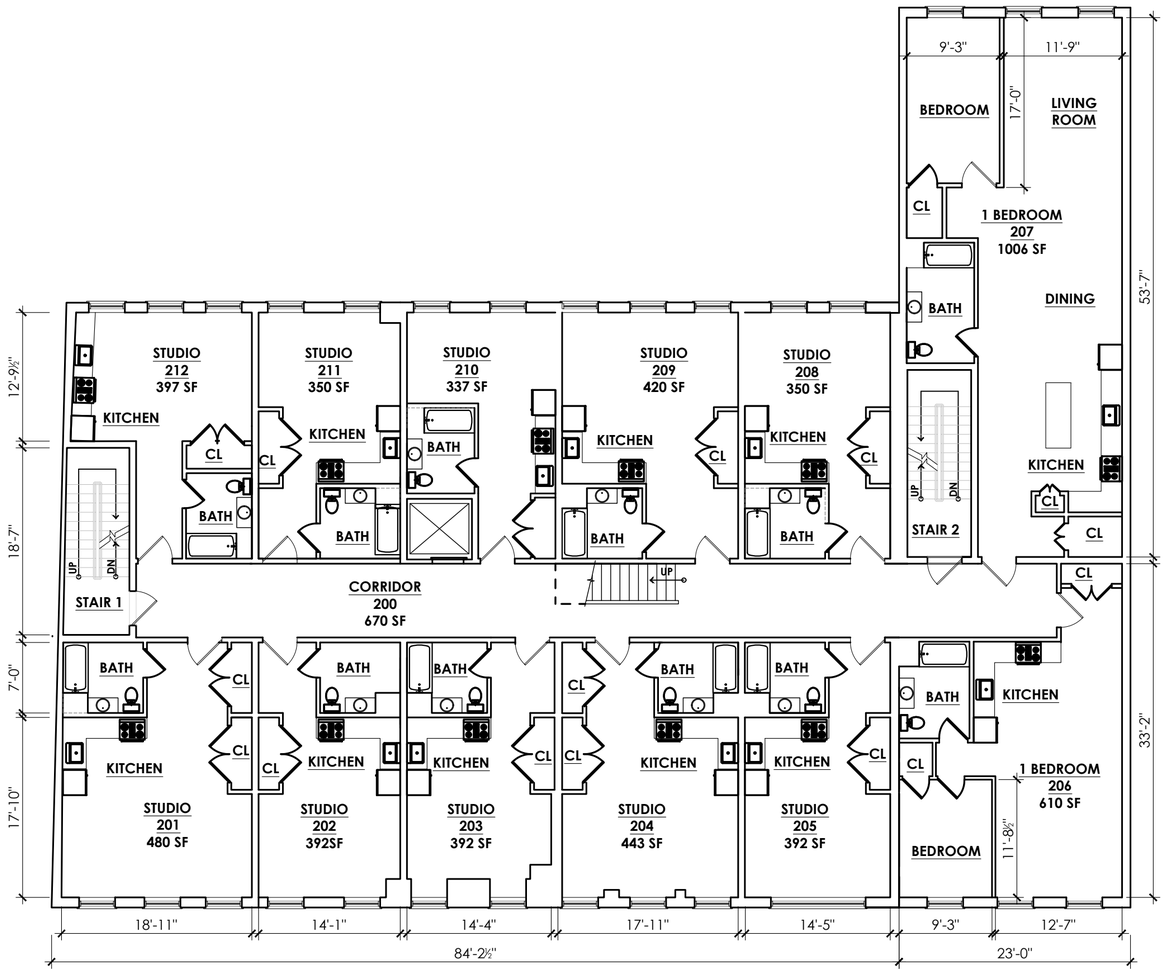
1ST FLOOR:	1 TWO BEDROOM DUPLEX
2ND FLOOR:	10 STUDIOS 2 ONE BEDROOMS
3RD FLOOR:	10 STUDIOS 2 ONE BEDROOMS
4TH FLOOR:	10 STUDIOS 2 ONE BEDROOMS
5TH FLOOR:	10 STUDIOS 2 ONE BEDROOMS
TOTAL:	**40 STUDIOS** **8 ONE BEDROOMS** **1 TWO BEDROOM DUPLEX** **49 UNITS**



1 BASEMENT PLAN AT DUPLEX



2 FIRST FLOOR PLAN



3 SECOND FLOOR PLAN

0 4 12 28

A-1
09.18.2024

THE BARDAVON BUILDING
31-39 MARKET STREET
POUGHKEEPSIE, NY. 12601

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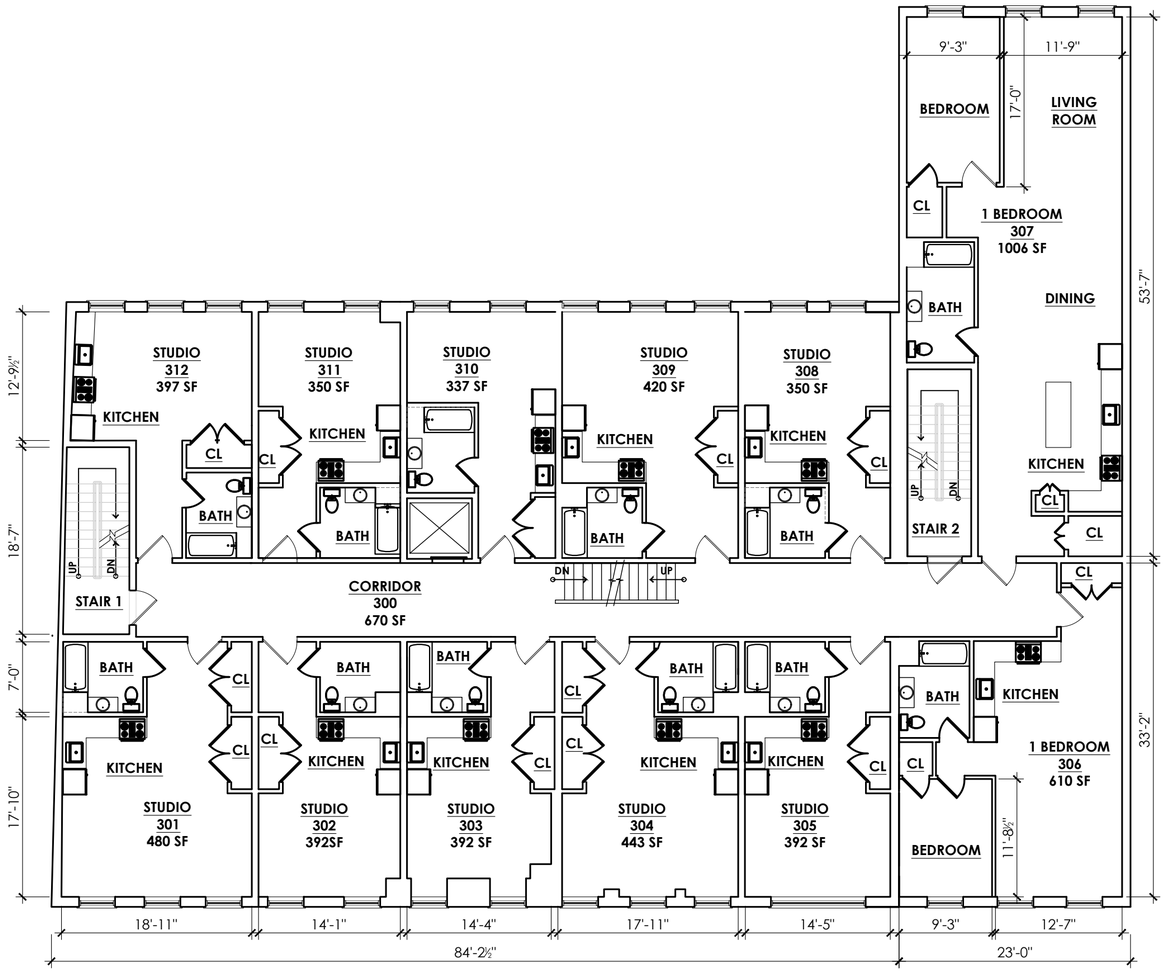
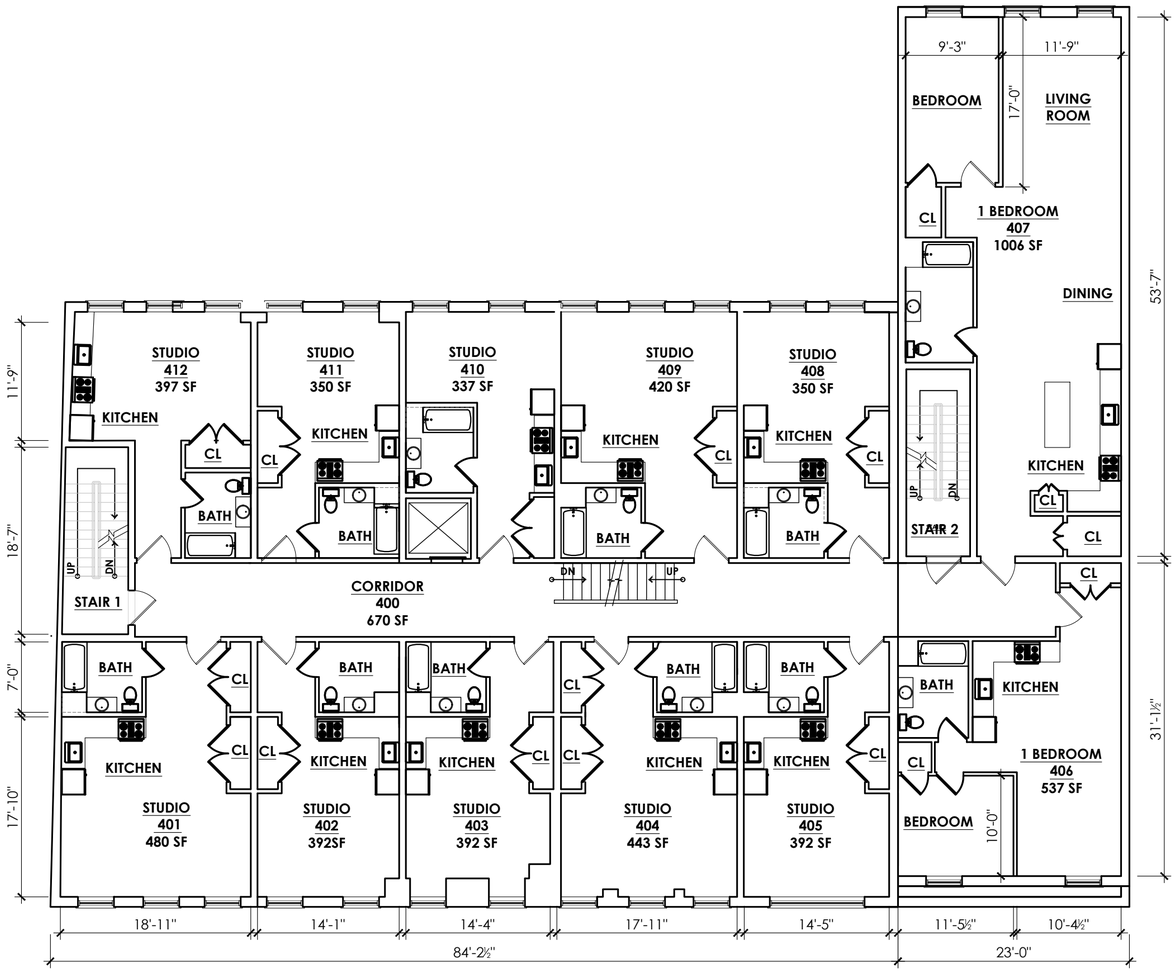


1 THIRD FLOOR PLAN



2 FOURTH FLOOR PLAN

0 4 12 28

A-2
09.18.2024

THE BARDAVON BUILDING
31-39 MARKET STREET
POUGHKEEPSIE, NY. 12601

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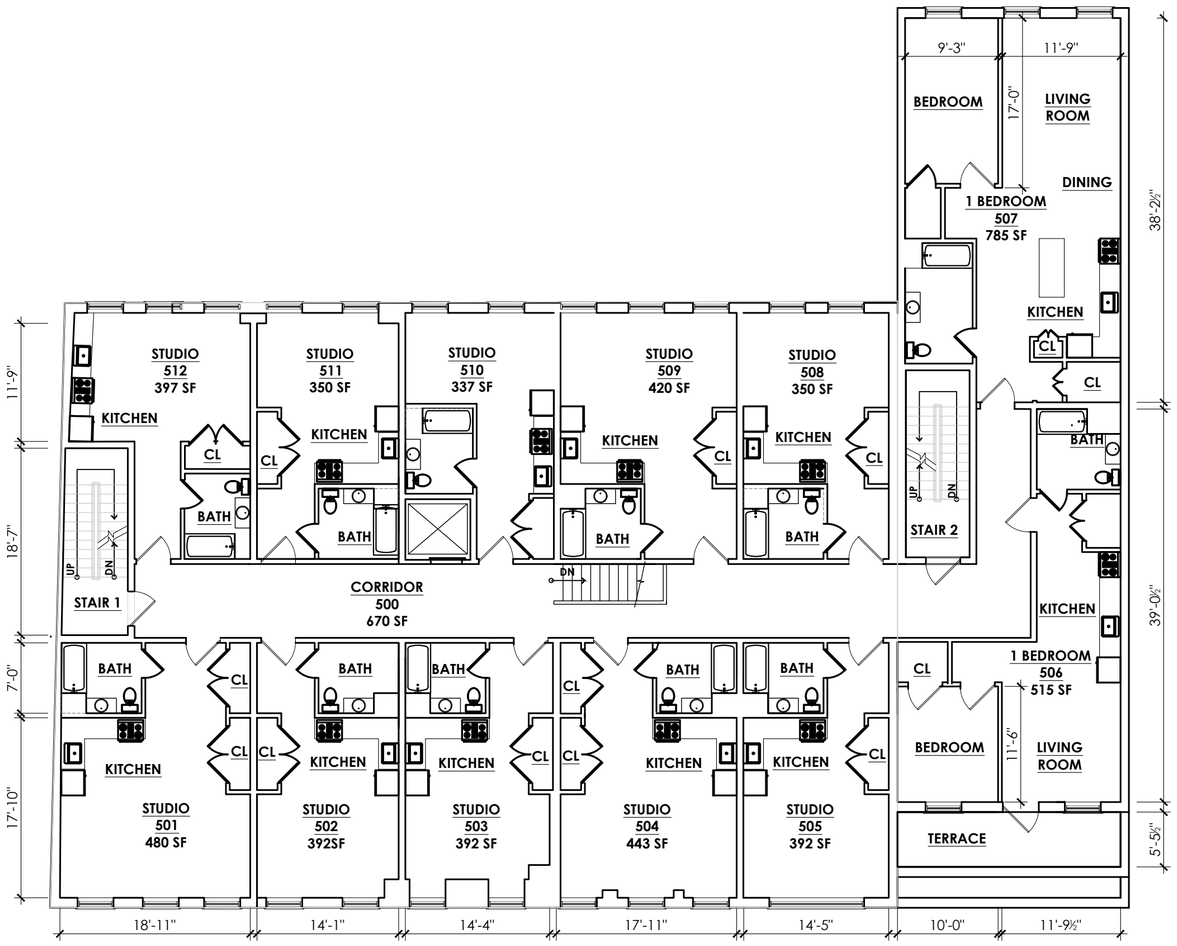
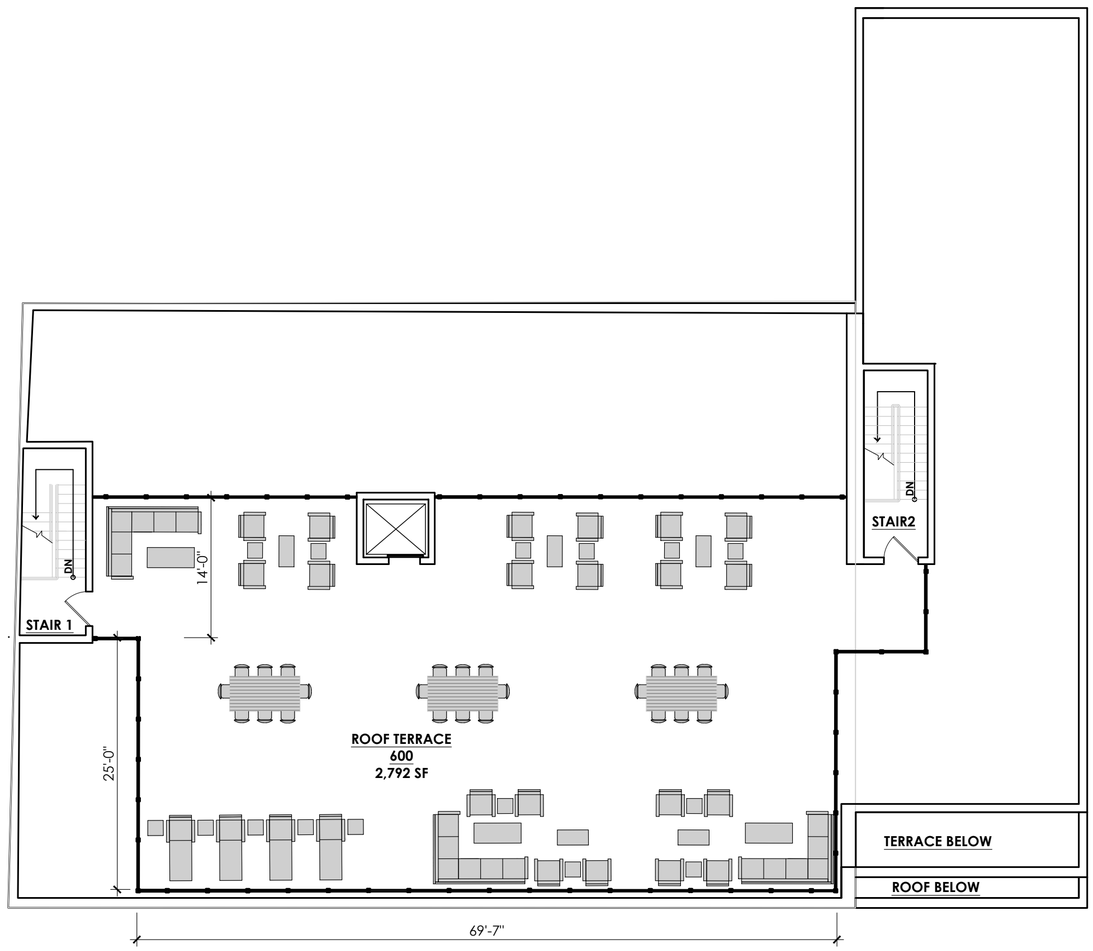
KARC PLANNING CONSULTANTS, INC.
MATTHEW CORDONE ARCHITECT PLLC



1 FIFTH FLOOR PLAN



2 ROOF PLAN

0 4 12 28

A-3
09.18.2024

THE BARDAVON BUILDING
31-39 MARKET STREET
POUGHKEEPSIE, NY. 12601

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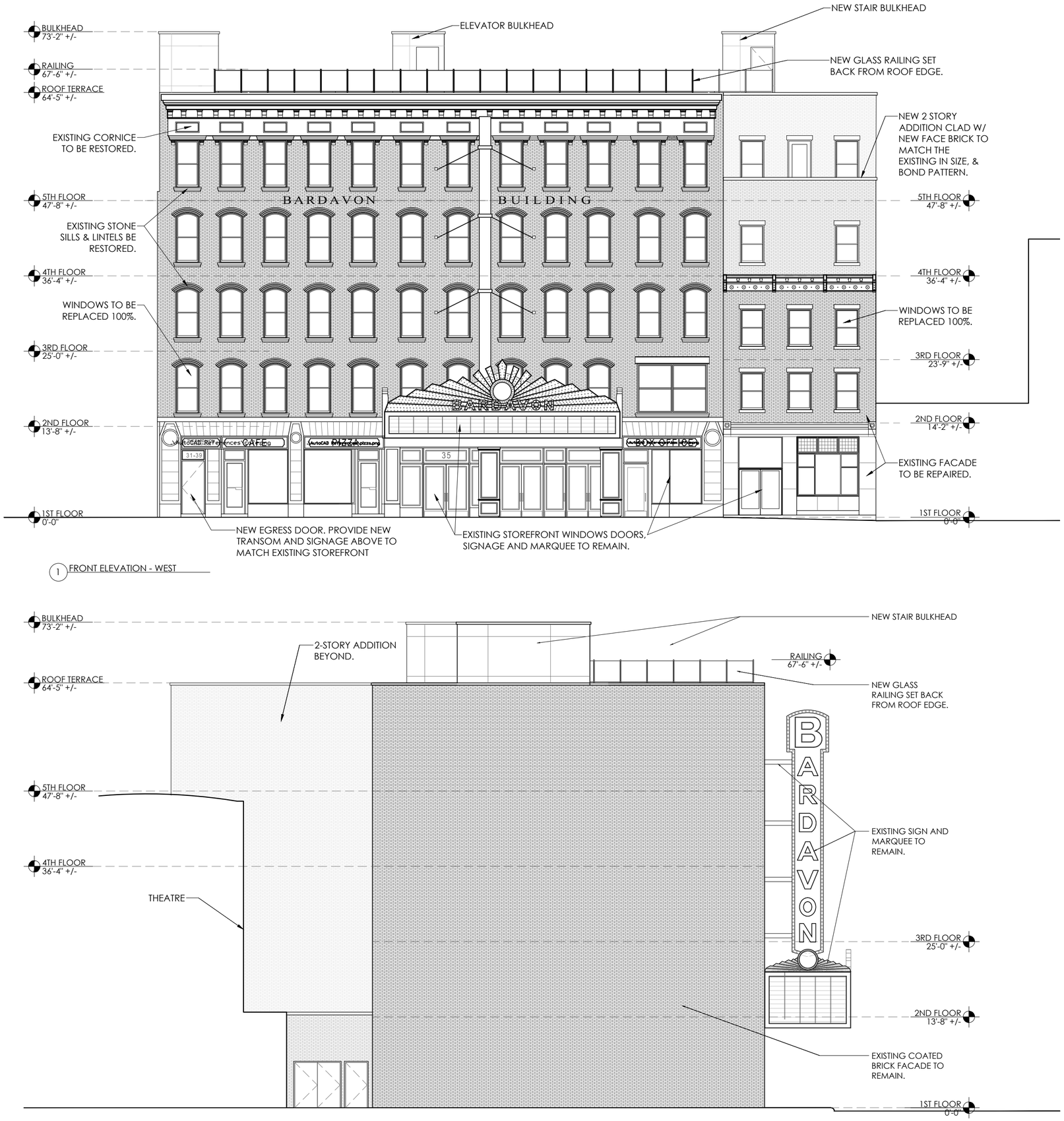
MATTHEW CORDONE ARCHITECT PLLC



A-4
09.18.2024

THE BARDAVON BUILDING
31-39 MARKET STREET
POUGHKEEPSIE, NY. 12601

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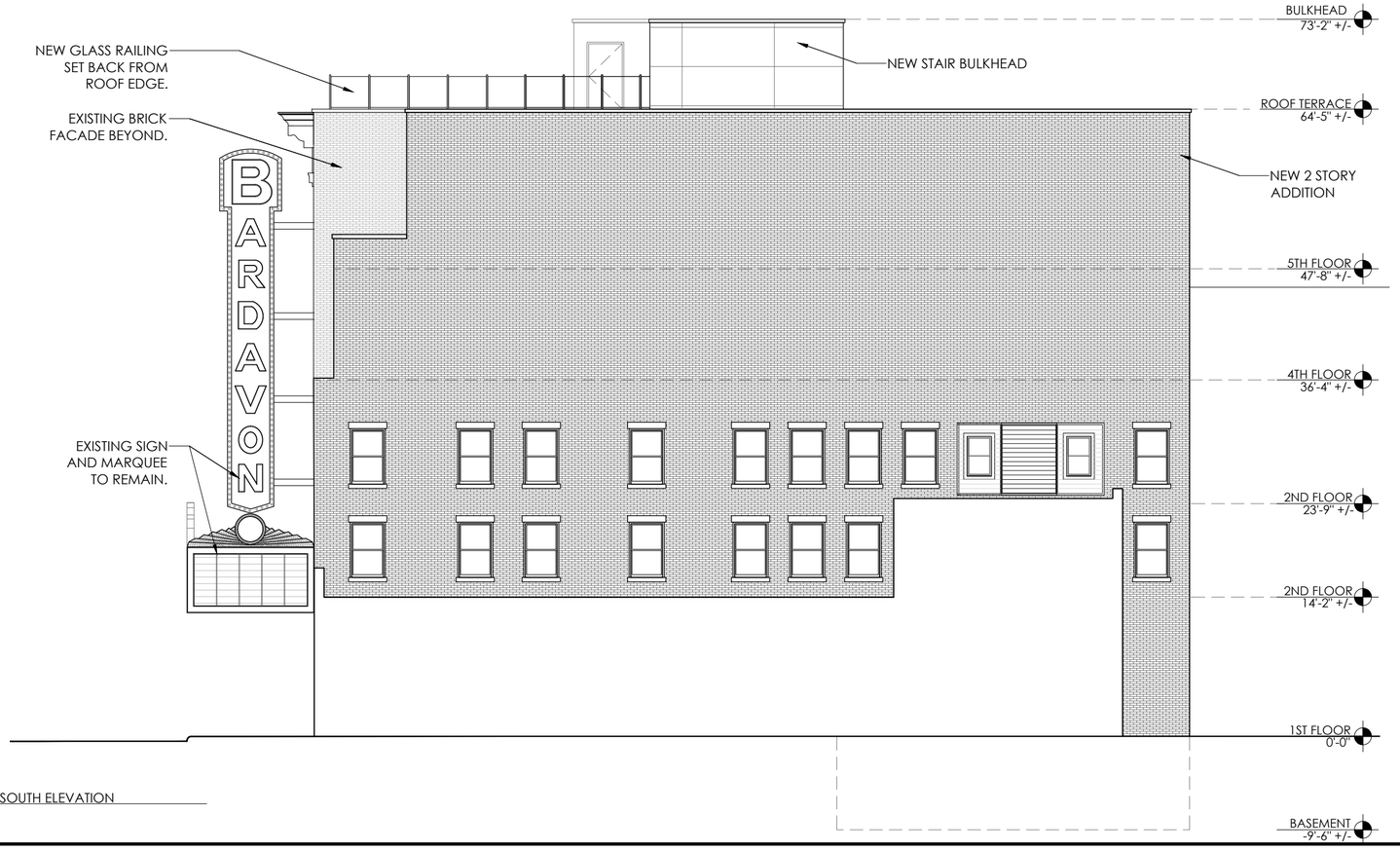
KARC PLANNING CONSULTANTS, INC.
MATTHEW CORDONE ARCHITECT PLLC



1 REAR ELEVATION - EAST



2 SOUTH ELEVATION

0 4 12 28

A-5
09.18.2024

THE BARDAVON BUILDING
31-39 MARKET STREET
POUGHKEEPSIE, NY. 12601

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MATTHEW CORDONE ARCHITECT PLLC



1 VIEW OF FRONT FACADE



2 VIEW LOOKING NORTHEAST ON MARKET STREET

Instructions for Completing Part 1

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

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

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

A. Project and Applicant/Sponsor Information.

Name of Action or Project: 31-39 Market Street		
Project Location (describe, and attach a general location map): 31 Market St (131300-6162-77-030072) & 39 Market St (131300-6162-77-031066) Poughkeepsie, NY 12601 APPENDIX A - PARCEL CARDS		
Brief Description of Proposed Action (include purpose or need): 31 Market Street - Conversion of office units to apartment units on floors 2-5, preservation of commercial space on floor 1. 39 Market Street - Raising the building to 5 stories with residential until on floors 2-5 to match that of 31 Market Street, commercial space fronting Market Street and a 2-bedroom duplex at the rear. Both 31 and 39 market will be connected through a shared residential corridor.		
Name of Applicant/Sponsor: 31 Market LLC	Telephone: c/o 845-874-7166 E-Mail: c/o natalie@karcpc.com	
Address: 35 Main Street Suite 311		
City/PO: Poughkeepsie	State: NY	Zip Code: 12601
Project Contact (if not same as sponsor; give name and title/role): Natalie Quinn, KARC Planning Consultants	Telephone: 845-874-7166 E-Mail: natalie@karcpc.comm	
Address: PO Box 924		
City/PO: Poughkeepsie	State: NY	Zip Code: 12602
Property Owner (if not same as sponsor): same as sponsor	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

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

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees ☐Yes ☑No		
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	site plan approval	
c. City, Town or Village Zoning Board of Appeals ☑Yes ☐No	possible area variances	
d. Other local agencies ☐Yes ☑No		
e. County agencies ☑Yes ☐No	County Planning	
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	OPRHP	
h. Federal agencies ☐Yes ☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

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

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

C.2. Adopted land use plans. APPENDIX B - COMPREHENSIVE PLAN

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

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

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

APPENDIX C - HRV GREENWAY MAPS

If Yes, identify the plan(s):

Hudson River Valley National Heritage Area & Hudson River Valley Greenway

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

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district? APPENDIX D - ZONING MAP
Poughkeepsie Innovation District - Historic Core (PID-HC)

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

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? City of Poughkeepsie

b. What police or other public protection forces serve the project site?
City of Poughkeepsie Police Department

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

d. What parks serve the project site?
None

D. Project Details

D.1. Proposed and Potential Development

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

b. a. Total acreage of the site of the proposed action? 0.1654 acres
b. Total acreage to be physically disturbed? 0.1654 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 0.1654 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: _____ months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☑ Yes ☐ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				48
At completion of all phases				

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

If Yes,

i. Total number of structures 1

ii. Dimensions (in feet) of largest proposed structure: 64'5" height; 90.2' width; and 107.2' length

iii. Approximate extent of building space to be heated or cooled: 35,868 square feet

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

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:

_____

iii. If other than water, identify the type of impounded/contained liquids and their source.

_____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

_____

D.2. Project Operations

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

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

_____

_____

i*v.* Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No

If yes, describe. _____

_____

v. What is the total area to be dredged or excavated? _____acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: _____

_____

_____

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

If Yes:

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

_____

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

_____

_____

_____

_____

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

If Yes, describe: _____

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

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

_____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

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

_____

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

If Yes:

i. Total anticipated water usage/demand per day: TBD based on commercial tenants gallons/day

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

If Yes:

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

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

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

- Source(s) of supply for the district: _____

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

If, Yes:

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

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

_____

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

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

If Yes:

i. Total anticipated liquid waste generation per day: TBD gallons/day

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

_____

_____

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

If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No

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

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

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

If Yes:

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

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

_____

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

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

If Yes:

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

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

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

_____

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐ Yes ☑ No

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

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

If Yes, identify:

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

Heavy construction equipment during construction period

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

N/A

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

HVAC units to provide heat and A/C for the buildings

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

If Yes:

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

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

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

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

If Yes:

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

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

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

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

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

If Yes:

i. When is the peak traffic expected (Check all that apply): ☑ Morning ☑ Evening ☑Weekend ☐ Randomly between hours of _____ to _____.

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

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

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

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

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☑Yes ☐No

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

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

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

If Yes:

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

To be estimated based on the full build of the project

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

Central Hudson Gas & Electric

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

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

i. During Construction:

- Monday - Friday: 6:30am - 9:00pm
- Saturday: N/A
- Sunday: N/A
- Holidays: NA

ii. During Operations:

- Monday - Friday: 24 hours
- Saturday: 24 hours
- Sunday: 24 hours
- Holidays: TBD

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

_____

_____

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

Describe: _____

_____

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Safety & security lighting mounted to the building

_____

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

Describe: _____

_____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

_____

_____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities:_____

_____

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

If Yes:

i. Describe proposed treatment(s):

_____

_____

_____

_____

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

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: TBD tons per _____ (unit of time)
- Operation : Household/retail waste tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: Recycle all reusable construction and demolition items

  _____
- Operation: Compliance with City and County regulations

  _____

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

- Construction: State and/or Federal disposal facility

  _____
- Operation: State and/or Federal disposal facility

  _____

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

_____

_____

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

_____

_____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

_____

_____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☑ No

If Yes: provide name and location of facility: _____

_____

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

_____

_____

E. Site and Setting of Proposed Action

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

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☑ Urban ☐ Industrial ☑ Commercial ☐ Residential (suburban) ☐ Rural (non-farm)

☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

This property is located within an urban setting containing mixed-use residential and commercial

_____

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.1654	0.1654	0
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____ _____			

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

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

If Yes,

i. Identify Facilities:

Young Children Magnet Elementary School, Clinton Elementary School, Hudson River Healthcare, Community Family Development, Humble Life Family Daycare

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑ Yes ☐ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑ Yes ☐ No

☑ Yes – Spills Incidents database — Provide DEC ID number(s): 1304134 APPENDIX E - SPILLS

☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:_____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑ Yes ☐ No

If yes, provide DEC ID number(s): 314068, V00292, 314071, C314125, B00148, C314126, C314126A, 314122, C314130, C314134

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s): APPENDIX F - REMEDIATIONS

Spill 1304134 has been remedied and closed. All remediation sites are either under remediation or identified as not a risk to public health unless in contact with the soils. Further, none of the remediations indicated impact the project site.

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

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

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? >6.6 feet APPENDIX G - SOILS

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

c. Predominant soil type(s) present on project site:
Urban Land 100 %
_____ _____%
_____ _____%

d. What is the average depth to the water table on the project site? Average: >6.6 feet

e. Drainage status of project site soils:
☑ Well Drained: 100 % of site
☐ Moderately Well Drained: _____% of site
☐ Poorly Drained _____% of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 100 % of site
☐ 10-15%: _____% of site
☐ 15% or greater: _____% of site

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

h. Surface water features.

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

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

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

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

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

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

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

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

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

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

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

_____ _____ _____

_____ _____ _____

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

_____

ii. Source(s) of description or evaluation: _____

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑ No

If Yes:

i. Species and listing (endangered or threatened):_____

_____

_____

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

If Yes:

i. Species and listing:_____

_____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☑ No

If yes, give a brief description of how the proposed action may affect that use: _____

_____

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

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No

If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No

i. If Yes: acreage(s) on project site? _____ APPENDIX H - FARMLAND CLASSIFICATION _____

ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

_____

_____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No

If Yes:

i. CEA name: _____

ii. Basis for designation: _____

iii. Designating agency and date: _____

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

If Yes: APPENDIX I - CRIS MAP

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

ii. Name: Insurance and Travel Store (Key Bank), Collingwood Opera House and Office Building, Amrita Club... See EAF Mapper for additional info

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

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

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

If Yes:

i. Describe possible resource(s):

ii. Basis for identification:

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

If Yes:

i. Identify resource: Poughkeepsie Waterfront

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

iii. Distance between project and resource: approx. 0.75 miles.

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

If Yes:

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

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

F. Additional Information

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

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

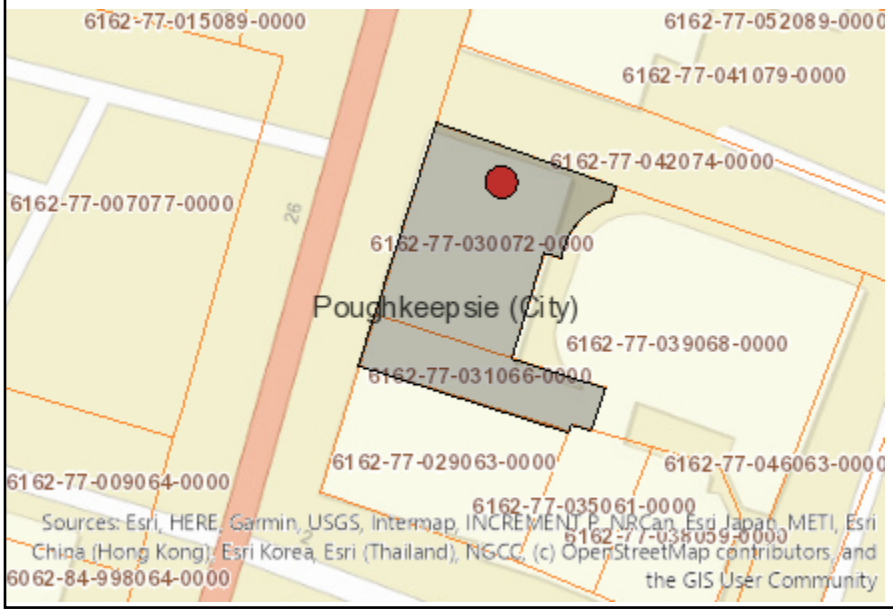
G. Verification

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

Applicant/Sponsor Name Bernard Kohn - 31 Market LLC Date 9/20/2024

Signature  Title Owner

PRINT FORM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	314068, V00292, 314071, C314125, B00148, C314126, C314126A, 314122, C314130, C314134
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	No
E.2.h.iii [Surface Water Features]	No
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No

E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National or State Register of Historic Places or State Eligible Sites - Name]	Eligible property:INSURANCE AND TRAVEL STORE (KEY BANK), Collingwood Opera House and Office Building, Amrita Club, Farmer's and Manufacturer's Bank, New York State Armory, Young Men's Christian Association, Union Street Historic District, Poughkeepsie City Hall, Dutchess County Court House, Main Mall Row, Poughkeepsie Trust Company, Poughkeepsie Savings Bank, Church Building
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

ParcelAccess | Property Details

APPENDIX A - PARCEL CARDS
FINAL ROLL

Parcel Number
131300-6162-77-030072-0000

Parcel Location
31 Market St

Municipality
Poughkeepsie City

Owner Name
31 Market LLC *(P)*

Primary Owner Mailing Address
147 Union St
Ste 101
Poughkeepsie, NY 12601



Parcel Details

Lot Size (acres):	0.12 Ac	**Split Town:**	-
Filed Map:	5567	**Agri. District:**	None
File Lot #:	B	**School District:**	(131300) Poughkeepsie City SD
Land Use Class:	(464) Office bldg.		

Assessment Information (Current)

Land:	**Total:**	**County Taxable:**	**Town Taxable:**	**School Taxable:**	**Village Taxable:**
$59,500	$1,100,000	$1,100,000	$1,100,000	$1,100,000	$0

Tax Code:	**Roll Section:**	**Uniform %:**	**Full Market Value:**
N (Non-Homestead)	1 (Taxable)	100	$1,100,000

Tentative Roll:	**Final Roll:**	**Valuation Date:**
5/1/2024	7/1/2024	7/1/2023

Last Sale / Transfer

Sale Price:	**Sale Date:**	**Deed Book:**	**Deed Page:**	**Sale Condition:**	**No. Parcels:**
$1,850,000	10/31/2022	22022	4654	J	1

Site Information

Site 1

Water Supply:	**Sewer Type:**	**Desirability:**	**Zoning Code: ***	**Used As:**
(3) Comm/public	(3) Comm/public	(3) Normal		(E03) Profssnl off

Commercial / Industrial / Utility Building Information

Site 1, Section 1, No. 1

Year Built:	**No. Stories:**	**Gross Floor Area:**	**Boeck Model:**	
1920	5	25,500	(0232) 5-9 sty office reinf conc	
Air Cond. %:	**Sprinkler %:**	**Alarm %:**	**No. Elevators:**	**Basement SF:**
0	0	0	1	5,100
Number Identical:	**Condition Code:**	**Constr. Qual:**		
0	3	(1) Average -		

Commercial Rental Information

Site 1, Use 1

Used As:			**Unit Code:**	**Total Rent Area:**	**Total Units:**
(E03) Profssnl off			-	25,500	0
Area 1 Bed. Apts.:	**Area 2 Bed. Apts.:**	**Area 3 Bed. Apts.:**	**No. 1 Bed. Apts:**	**No. 2 Bed. Apts:**	**No. 3 Bed. Apts:**

0	0	0	0	0	0

Improvements

Site 1, Improvement 1

Structure Code:	Dim. 1:	Dim. 2:	Quantity:
(CP8) Canpy-com st	0	0	1
Year Built:	**Condition:**	**Grade:**	**Sq. Ft.:**
1930	(3) Normal	C	224

Special District Information

Special District: GP000

Special District Name:	Primary Units:	Ad Valorem Value:
Greater Pok Lib Dist	0	$1,100,000

ABSOLUTELY NO ACCURACY OR COMPLETENESS GUARANTEE IS IMPLIED OR INTENDED. ALL INFORMATION ON THIS MAP IS SUBJECT TO CHANGE BASED ON A COMPLETE TITLE SEARCH OR FIELD SURVEY.

***Please see the Dutchess County Zoning Map for the most up-to-date zoning information.**

This report was produced using ParcelAccess on 8/30/2024. Developed and maintained by OCIS - Dutchess County, NY.

ParcelAccess | Property Details

APPENDIX A - PARCEL CARDS
FINAL ROLL

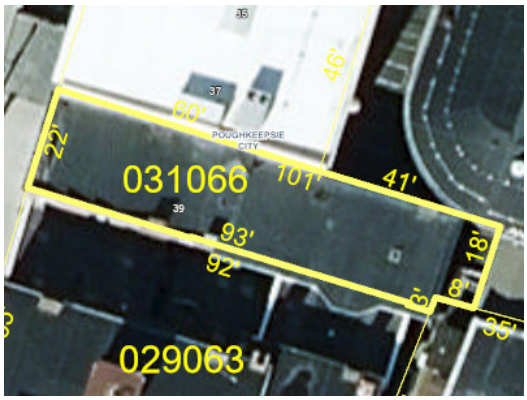
Parcel Number
131300-6162-77-031066-0000

Parcel Location
39 Market St

Municipality
Poughkeepsie City

Owner Name
Gartner, Darin *(P)*
Gartner, James *(A)*

Primary Owner Mailing Address
PO Box 8352
New Fairfield, CT 06812



Parcel Details

Lot Size (acres):	0.04 Ac	**Split Town:**	-
Filed Map:	-	**Agri. District:**	None
File Lot #:	-	**School District:**	(131300) Poughkeepsie City SD
Land Use Class:	(482) Det row bldg		

Assessment Information (Current)

Land:	**Total:**	**County Taxable:**	**Town Taxable:**	**School Taxable:**	**Village Taxable:**
$35,200	$583,400	$583,400	$583,400	$583,400	$0

Tax Code:	**Roll Section:**	**Uniform %:**	**Full Market Value:**
N (Non-Homestead)	1 (Taxable)	100	$583,400

Tentative Roll:	**Final Roll:**	**Valuation Date:**
5/1/2024	7/1/2024	7/1/2023

Last Sale / Transfer

Sale Price:	**Sale Date:**	**Deed Book:**	**Deed Page:**	**Sale Condition:**	**No. Parcels:**
$510,000	10/10/2021	22021	54392	J	1

Site Information

Site 1

Water Supply:	**Sewer Type:**	**Desirability:**	**Zoning Code: ***	**Used As:**
(3) Comm/public	(3) Comm/public	(2) Fair		(D08) Small retail

Commercial / Industrial / Utility Building Information

Site 1, Section 1, No. 1

Year Built:	**No. Stories:**	**Gross Floor Area:**	**Boeck Model:**	
1952	3	6,124	(0320) 3 sty Str/off/apt load sup	
Air Cond. %:	**Sprinkler %:**	**Alarm %:**	**No. Elevators:**	**Basement SF:**
0	0	0	0	0
Number Identical:	**Condition Code:**	**Constr. Qual:**		
0	3	(1) Average -		

Commercial Rental Information

Site 1, Use 1

Used As:			**Unit Code:**	**Total Rent Area:**	**Total Units:**
(D08) Small retail			-	6,124	0
Area 1 Bed. Apts.:	**Area 2 Bed. Apts.:**	**Area 3 Bed. Apts.:**	**No. 1 Bed. Apts:**	**No. 2 Bed. Apts:**	**No. 3 Bed. Apts:**

0	0	0	0	0	0

Special District Information

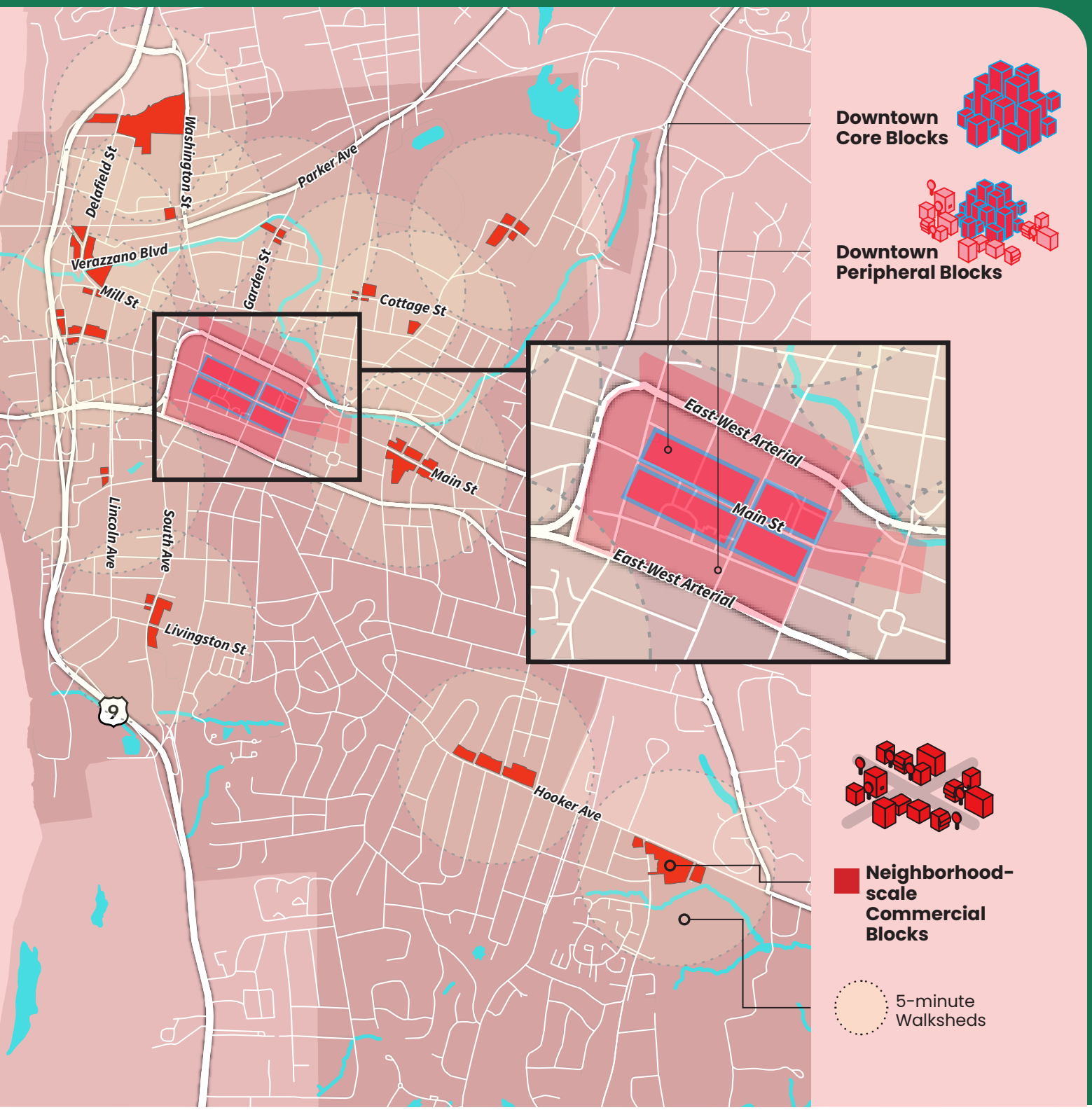
Special District: GP000

Special District Name:	Primary Units:	Ad Valorem Value:
Greater Pok Lib Dist	0	$583,400

ABSOLUTELY NO ACCURACY OR COMPLETENESS GUARANTEE IS IMPLIED OR INTENDED. ALL INFORMATION ON THIS MAP IS SUBJECT TO CHANGE BASED ON A COMPLETE TITLE SEARCH OR FIELD SURVEY.

***Please see the Dutchess County Zoning Map for the most up-to-date zoning information.**

This report was produced using ParcelAccess on 8/30/2024. Developed and maintained by OCIS - Dutchess County, NY.


Downtown Core Blocks
Downtown Peripheral Blocks
Neighborhood-scale Commercial Blocks
5-minute Walksheds
Delafield St
Washington St
Parker Ave
Verazzano Blvd
Mill St
Garden St
Cottage St
Main St
Lincoln Ave
South Ave
Livingston St
Hooker Ave
East-West Arterial
Main St
East-West Arterial
9

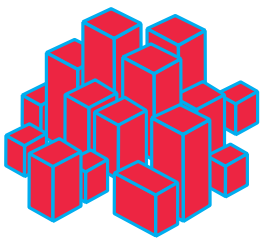
STEP 1

Tool Identification and Assembly

What is essential about each commercial block type?

Summary of guidance for the commercial block types

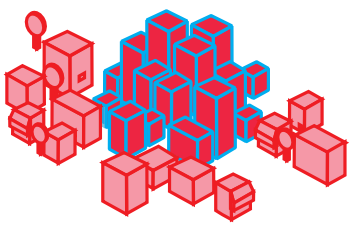
Downtown Core Blocks



Prevailing Conditions

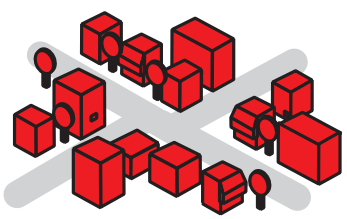
The Downtown Core Blocks—Main Street from Market to Hamilton—is a largely intact stretch of charming older buildings with a few notable gaps. But the quality of public spaces and property maintenance are highly uneven. Underutilized upper floor and even street-level spaces are abundant. Vacancies, poor maintenance, and inconsistency of space contributes to inadequate levels of perceived safety, as does the presence of individuals struggling with homelessness.

Downtown Peripheral Blocks

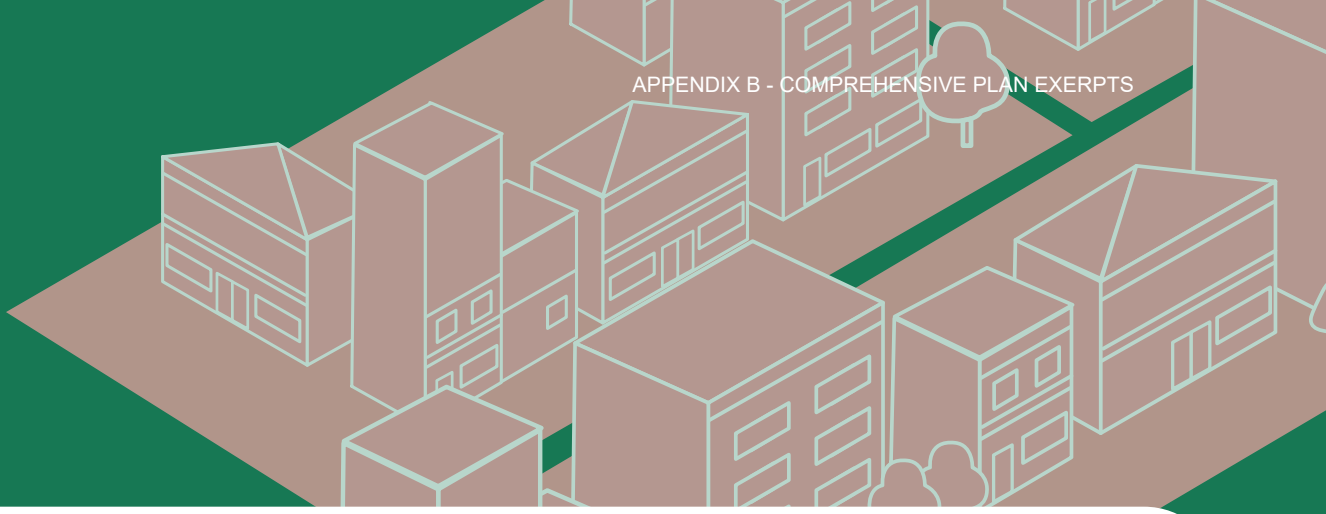


The downtown blocks that surround the core blocks on Main Street have some of the city's key assets, such as the Bardavon Theater, the Mid-Hudson Civic Center, and many popular businesses. But these blocks are dominated by surface parking and leftover spaces that make them feel incomplete and have a low sense of place. They play an important utility function for downtown (especially parking) but this is outweighed by their sense of emptiness and disorder.

Neighborhood-scale Commercial Blocks



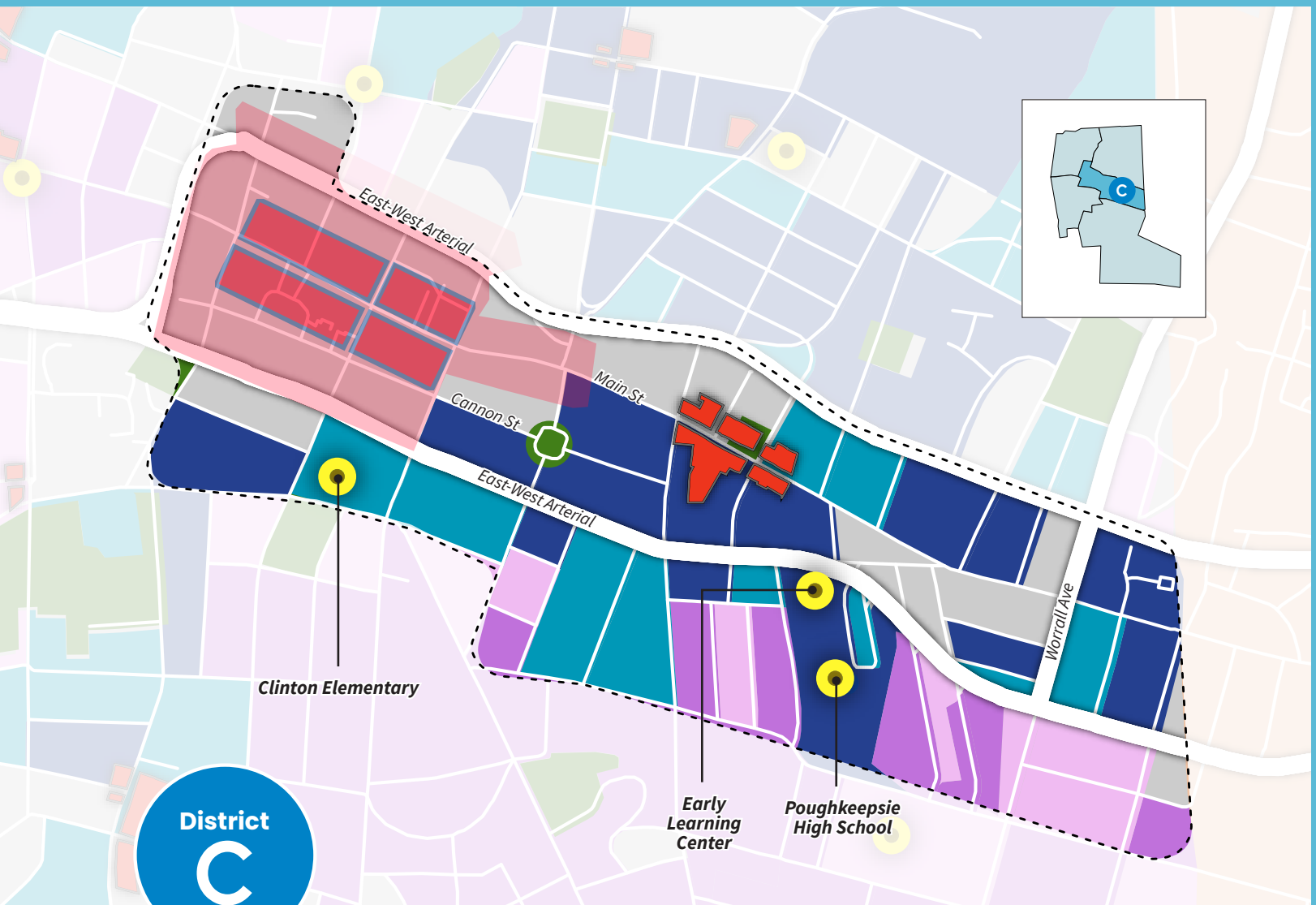
Poughkeepsie's 13 neighborhood-scale commercial blocks vary considerably in size, scale, and condition. To a large extent, they reflect the residential blocks that surround them and reinforce prevailing residential conditions. At the parcel level, the typical building type on these blocks is a two- to three-story structure that is currently—or has the potential for—a mixture of commercial and residential uses.



Opportunities	Challenges	Goals
The core blocks are a well-defined space given the rapid drop-off in density around them due to surface parking—this makes focused attention to them easier. Major mixed-income residential developments are ongoing and will contribute to greater vibrancy.	However well-defined, the core is still large and will require significant and carefully phased resources to transform public spaces and reactivate older buildings.	These core blocks become two of the strongest commercial blocks in the Hudson Valley—a magnet for a vibrant mix of businesses with an exceptional sense of place.
Some simple and creative methods can be used to enhance the pedestrian experience on these blocks until infill development takes place—as outdoor dining during COVID demonstrated. Large empty parcels will ultimately support forms of infill that are better suited for new construction than adaptive reuse.	Patience will be a critical ingredient on these blocks, as infill may not be feasible for several years (and until the core blocks have been fully revitalized).	These blocks emerge as stronger utility blocks in the near-term with an improved sense of place; in the long-term, as core blocks fully revitalize, the peripheral blocks become critical locations for supportive residential and commercial infill development.
Neighborhood-scale commercial blocks offer opportunities for place-making that support commercial and residential improvement efforts. Active and vibrant neighborhood commercial blocks can contribute to goals related to walkability and residential quality of life.	A vision for a given block must be grounded in the potential for surrounding neighborhoods to support commercial activities, and/or for the block to attract outside income.	One by one, these blocks contribute what they can to the emergence of mixed-use neighborhood hubs that have a distinctive sense of place and contribute to residential quality of life.

STEP 2

Guidance for Block Selection and Strategy Development



District C

District C encompasses downtown Poughkeepsie, most of the city's Main Street corridor, multiple public schools, and a wide range of residential environments. More than any other district, the legacy of mid-20th Century urban renewal and highway development is apparent here—especially in the form of the East-West Arterial and its impact on neighborhood livability. But much remains intact, including a large and diverse supply of space for small business development.

Efforts here should include a fixed focus on the Downtown Core Blocks—making them as healthy and vibrant as possible—and on ensuring that Downtown Peripheral Blocks contribute to strength on the Core Blocks. Outside of downtown, efforts should focus on tying mixed-income reinvestments in residential properties to infrastructure upgrades and improvements—especially in relation to Poughkeepsie 9.44.55 planning.

RESIDENTIAL BLOCK TYPE

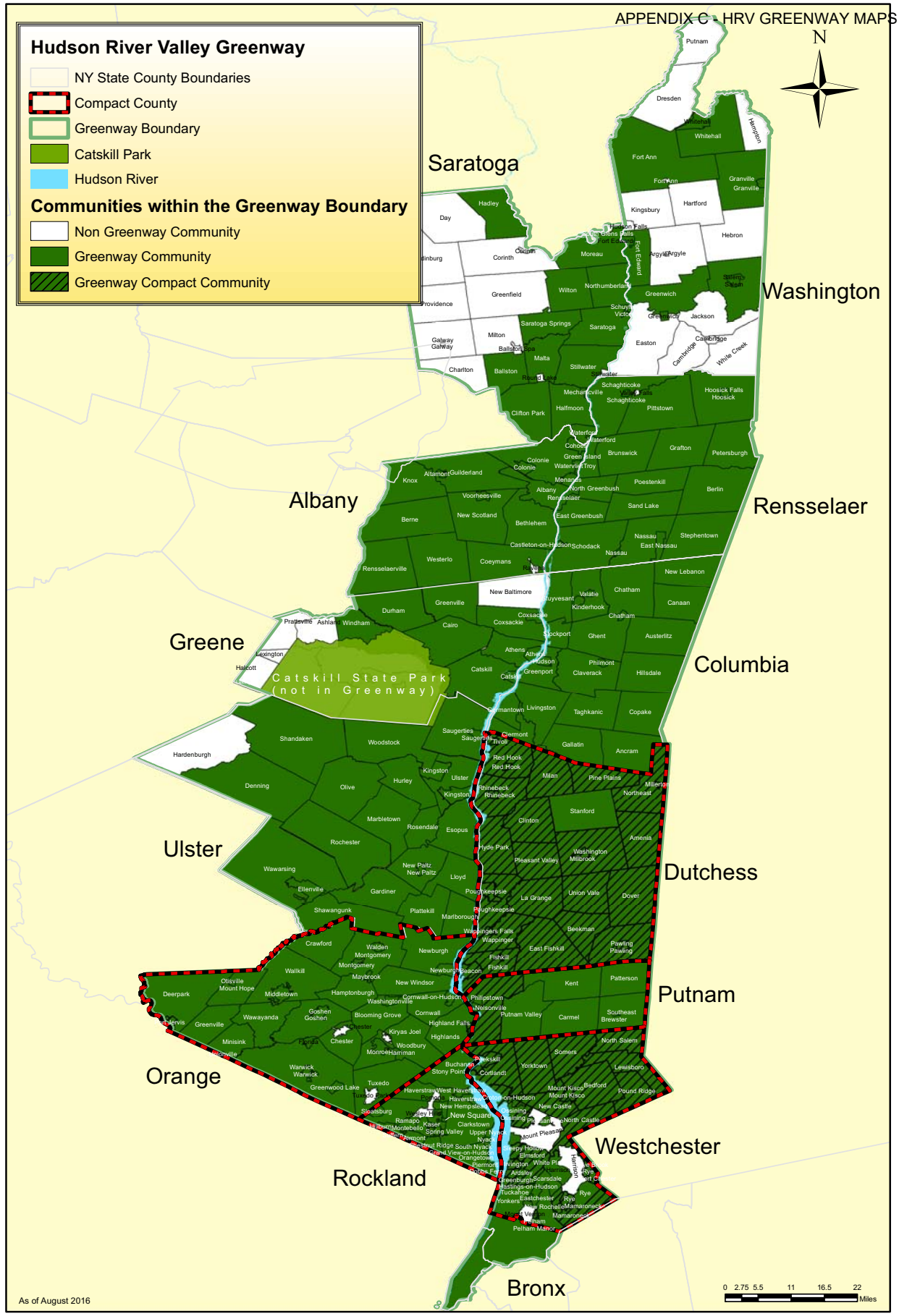
1 2 3 4

COMMERCIAL BLOCK TYPE

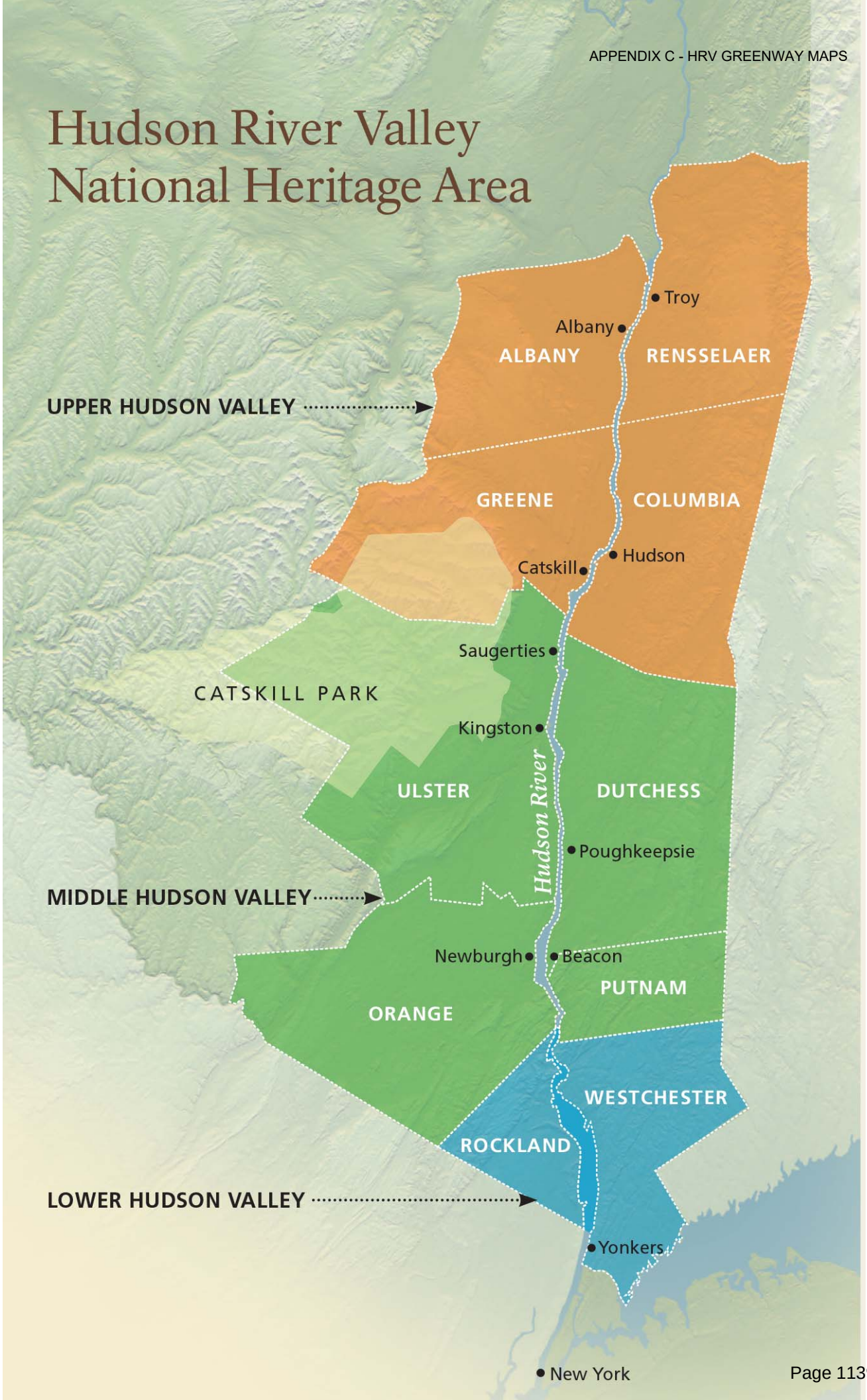
- Downtown Core Blocks
- Downtown Peripheral Blocks
- Neighborhood-scale Commercial Blocks

ASSET TYPE

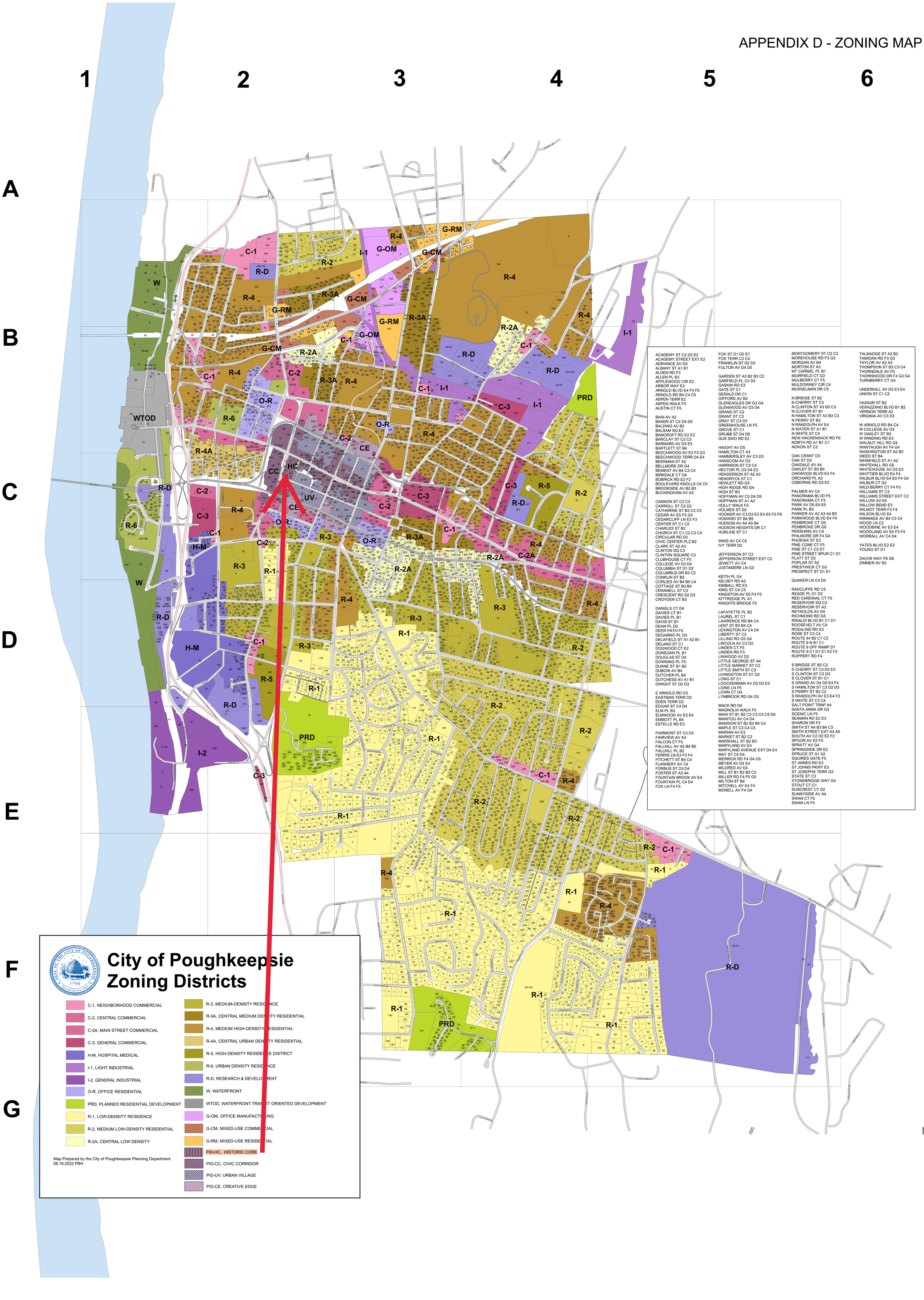
- Parks and Recreation Assets
- Public Schools



NEW YORK STATE OF OPPORTUNITY. | Hudson River Valley Greenway


Hudson River Valley
National Heritage Area
Troy
Albany
ALBANY
RENSSELAER
UPPER HUDSON VALLEY
GREENE
COLUMBIA
Catskill
Hudson
Saugerties
CATSKILL PARK
Kingston
ULSTER
DUTCHESS
Hudson River
Poughkeepsie
MIDDLE HUDSON VALLEY
Newburgh
Beacon
PUTNAM
ORANGE
WESTCHESTER
ROCKLAND
LOWER HUDSON VALLEY
Yonkers
New York

APPENDIX D - ZONING MAP



NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Details

Spill Record

Administrative Information

DEC Region: 3
Spill Number: 1304134

Spill Date/Time

Spill Date: 07/17/2013 **Spill Time:** 12:15:00 PM
Call Received Date: 07/17/2013 **Call Received Time:** 12:43:00 PM

Location

Spill Name: M B M COMP./TRI.CO.PLAN.SER.: 1K UST
Address: 39 MARKET ST
City: POUGHKEEPSIE **County:** Dutchess

Spill Description

Material Spilled	Amount Spilled	Resource Affected
#2 fuel oil	UNKNOWN	Unknown

Cause: Tank Test Failure
Source: Commercial/Industrial
Waterbody:

Record Close

Date Spill Closed: 07/26/2013

"Date Spill Closed" means the date the spill case was closed by the case manager in the Department of Environmental Conservation (the Department). The spill case was closed because either; a) the records and data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial activities are necessary, or b) the case was closed for administrative reasons (e.g., multiple reports of a single spill consolidated into a single spill number). The Department however reserves the right to require additional remedial work in relation to the spill, if in the future it determines that further action is necessary.

If you have questions about this reported incident, please contact the Regional Office where the incident occurred.

Return To Results

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: CH - Poughkeepsie MGP Laurel Street
Site Code: 314068
Program: State Superfund Program
Classification: N *
EPA ID Number:

Location

DEC Region: 3
Address: Laurel Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.70008875
Longitude: -73.93601208
Site Type:
Estimated Size: 0 Acres

Site Owner(s) and Operator(s)

Current Owner Name: CENTRAL HUDSON GAS & ELECTRIC
Current Owner(s) Address: LAUREL STREET
POUGHKEEPSIE,NY, 12601
Current Owner Name: Dutchess Beer Distributors
Current Owner(s) Address: LAUREL STREET
POUGHKEEPSIE,NY, 12601
Current Owner Name: NYS Dept. of Transportation
Current Owner(s) Address: STATE OFFICE BLDG. CAMPUS, BLDG. #5
ALBANY,NY, 12232
Owner(s) during disposal: Central Hudson Gas & Electric
Current On-Site Operator: CENTRAL HUDSON GAS & ELECTRIC
Stated Operator(s) Address: 284 SOUTH AVE.
POUGHKEEPSIE,NY 12601
Current On-Site Operator: Central Hudson Gas & Electric
Stated Operator(s) Address: 284 South Avenue
Poughkeepsie,NY 12601

Site Description

See V00292

* **Class N Sites:** "DEC offers this information with the caution that the amount of information provided for Class N sites is highly variable, not necessarily based on any DEC investigation, sometimes of unknown origin, and sometimes is many years old. Due to the preliminary nature of this information, significant conclusions or decisions should not be based solely upon this summary."

For more Information: E-mail Us

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: CH - Laurel St. - Poughkeepsie MGP
Site Code: V00292
Program: Voluntary Cleanup Program
Classification: C
EPA ID Number:

Location

DEC Region: 3
Address: Laurel Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.70010088
Longitude: -73.93590927
Site Type:
Estimated Size: 1.5 Acres

Site Owner(s) and Operator(s)

Site Description

Site Location: This 1.5 acre site is located in the City of Poughkeepsie, Dutchess County and it is bounded to the north by Laurel Street, to the east by former Gate Street, to the west by the median between the north and south bound lanes of the Route 9, and to the south by residences along Grove Street. This area of Poughkeepsie is zoned C-3, a general commercial district. Site Features: The site consists of a steep grass covered slope with small trees, and a wooded area that comprises the areas adjacent to and within the median of the Rte 9 divided highway. Current Land Use and Zoning: With the exception of the highway, the site is vacant. This area of Poughkeepsie is zoned C-3, a general commercial district. Past Uses of the Site: The site was formerly used as a manufactured gas plant (MGP). Seven investigations performed at the site, including a soil vapor survey, identified presence of PAHs and BTEX contamination related to coal tar from the MGP operation. Based on the current conditions at the site, exposure to contaminants released to the air is unlikely due to an absence of elevated organic readings in the ambient air. An additional investigation of river sediments was performed, with no contamination identified. The portion of the site lying to the east of NY Route 9 was remediated using in-situ stabilization (ISS) in 2008. A soil boring/groundwater monitoring program was conducted after the completion of the remediation to assess the extent of tar contamination beneath Route 9 and the impact on groundwater. Significant MGP source material associated with the gas holder remains under the northbound lanes of Rte 9 where it is currently inaccessible.

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type
coal tar
other

Site Environmental Assessment

Remediation at this site is complete. Prior to remediation, the primary contaminant was coal tar, which contains PAHs and BTEX compounds. Tar-impacted subsurface soils were found in an area beneath Route 9 (where most of the plant stood) and in a small grassy lot immediately to the east. This eastern area was remediated by in situ stabilization down to bedrock in 2008. The source areas beneath Route 9, including a gas holder foundation, are inaccessible due to the presence of a highway interchange and are expected to remain so indefinitely. The westward extent of contamination is delineated. A series of perimeter monitoring well clusters have been installed at the edge of the site boundaries (in the median of Rte 9) to assess off-site migration of contamination. Step-out wells to the west of Route 9 (along the upgradient edge of the adjacent Pura site) were installed in early 2011. Currently, quarterly ground water monitoring is ongoing. With significant source areas still remaining beneath NY Route 9, it is anticipated that groundwater contamination will continue to exist indefinitely. No groundwater receptors have been identified.

Site Health Assessment

Exposure to site related contaminants in drinking water is not expected because public water is supplied to all commercial and residential locations in the vicinity of the site.

For more Information: E-mail Us

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: CH - Bayeaux Street Poughkeepsie MGP
Site Code: 314071
Program: State Superfund Program
Classification: C
EPA ID Number:

Location

DEC Region: 3
Address: Main Street and North Perry Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.706217571
Longitude: -73.932790146
Site Type:
Estimated Size: 1.2 Acres

Site Owner(s) and Operator(s)

Current Owner Name: ADMIRAL HALSEY SENIOR VILLAGE INCORPORATED
Current Owner(s) Address: MAIN STREET AND NORTH PERRY STREET
POUGHKEEPSIE,NY, 12601

Site Description

Site was given a class of R. Decision was made on 3/12/07 to classify as N. Reclassified to C. This was the site of a small MGP on Main Street and North Perry Street in Poughkeepsie. A senior citizens housing development occupies the site today. The site is included in a multi-site Consent Order #D3-0134-89-05 1/12/90. A Site Assessment (PSA) was performed in 1990. No significant MGP waste material was found, and an NFA letter was sent on 03/12/07. As DER's experience with MGP sites grew, a few data gaps were identified in the original PSA. Central Hudson completed additional investigation work in 2006 to more completely cover the full footprint of the site with borings and test pits. The additional work confirmed the original conclusion that no significant MGP waste was present at the site. A letter stating this conclusion was issued on 03/12/07.

Site Environmental Assessment

The 1990 PSA found little evidence of MGP wastes in the subsurface. Additional work conducted in 2006 addressed potential data gaps in the original PSA. This second round of work also failed to detect significant levels of contamination.

Site Health Assessment

No contact with site-related contaminants is expected.

For more Information: E-mail Us

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: Queen City Lofts
Site Code: C314125
Program: Brownfield Cleanup Program
Classification: C
EPA ID Number:

Location

DEC Region: 3
Address: 178-188 Main Street and 11 South Bridge Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.704788889
Longitude: -73.932219444
Site Type:
Estimated Size: 1.051 Acres

Institutional And Engineering Controls

Control Type:
Environmental Easement

Control Elements:
Monitoring Plan
Ground Water Use Restriction
Soil Management Plan
Landuse Restriction
Cover System
IC/EC Plan
Site Management Plan
Building Use Restriction

Site Owner(s) and Operator(s)

Current Owner Name: The QCL on Main Limited Partnership
Current Owner(s) Address: 34 Clayton Boulevard
Baldwin Place,NY, 10505

Site Document Repository

Name: Poughkeepsie Public Library District
Address: 93 Market Street
Poughkeepsie,NY 12601

Site Description

Location: The site consists of a portion of one tax lot located at 178-188 Main Street, City of Poughkeepsie, Dutchess County, New York. The site is an irregular shaped, approximately 1.051 acre parcel, which has 236 feet of frontage on the southern side of Main Street and 190 feet of frontage on the eastern side of South Bridge Street. Site Features: The property currently contains a four story mixed use building with restricted residential and commercial uses and an asphalt parking lot. The ground generally slopes

from the northwest corner of the site to the southeast. Current Zoning and Land Use: The site is zoned C-2 (Commercial with allowances for mixed-used buildings). Past Use of the Site: The site was used for various industrial, commercial, and residential purposes, including a machine shop and laundry facility, from as early as 1887 until the early to mid-1980s when most of the former on-site structures were demolished. In 1973 a fire gutted several of the existing buildings on the site. Site Geology and Hydrogeology: Soils have been reworked by excavation and the construction and demolition of prior buildings on the site. They consist of well drained brown to gray sands, which overlie brown loamy clays. Shallow groundwater in the vicinity of the property follows overall surficial topography and flows to the southwest, toward the Hudson River. Groundwater was encountered between 10 and 12 feet below the ground.

Summary of Project Completion Dates

Projects associated with this site are listed in the Project Completion Dates table and are grouped by Operable Unit (OU). A site can be divided into a number of operable units depending on the complexity of the site and the number of issues associated with a site. Sites are often divided into operable units based on the media to be addressed (such as groundwater or contaminated soil), geographic area, or other factors.

Project Completion Dates

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type
1,2,4-trimethylbenzene
benzo(a)anthracene
ethylbenzene
lead
mercury
n-propylbenzene
xylene (mixed)

Site Environmental Assessment

Nature and Extent of Contamination: Remediation at the site is complete. Remedial actions have successfully achieved soil cleanup objectives for restricted residential use. Residual contamination in the soil, groundwater, and soil vapor is being managed under a Site Management Plan. Prior to remediation, the primary contaminants of concern were mercury, lead, and benzo(a)anthracene in soil, lead and ethylbenzene in groundwater, and tetrachloroethene in soil vapor.

Site Health Assessment

Measures are in place to control the potential for coming in contact with remaining residual contamination in subsurface soil, groundwater and soil vapor.

For more Information: E-mail Us

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Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: "400 Block" Restoration Area
Site Code: B00148
Program: Environmental Restoration Program
Classification: C
EPA ID Number:

Location

DEC Region: 3
Address: 413-441 Main St
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.70237425
Longitude: -73.92231127
Site Type:
Estimated Size: 1.7 Acres

Institutional And Engineering Controls

Control Type:
Deed Restriction

Control Elements:
Soil Management Plan
Landuse Restriction
Cover System
Alternate Water Supply
Vapor Mitigation

Site Owner(s) and Operator(s)

Current Owner Name: CITY OF POUGHKEEPSIE
Current Owner(s) Address: CITY HALL, P.O. BOX 3000
POUGHKEEPSIE,NY, 12601

Site Description

Location: The “400 Block” Restoration Area Site is located at 413-441 Main Street, in Poughkeepsie, Dutchess County, New York on an irregularly shaped 1.7-acre parcel. The Site is located on the northern side of Main Street and the southern side of Mill Street.
Site Features: The property contains three, 3-story structures that occupy the entirety of the property’s southern frontage along Main Street. The southern portion of the property is developed with multi-story brick and wood structures, in which portions of these buildings are partially collapsed. These structures are currently vacant. Historically, these buildings were used for retail, commercial and residential purposes. The central western portion of the property is comprised of an unpaved parking area with overgrown trees and grass. A concrete loading dock extends south from a multi-story brick building located in the north-western portion of the property. An unpaved vacant lot comprised of overgrown lawn is located in the eastern portion of the property. All structures contain ground floor residential and retail commercial uses. The Site is served by storm sewers, sanitary sewers and public water. No surface water is present at the Site. Fall Kill Creek is located approximately 200 feet north of the Site, and the Hudson River is

located approximately 1 mile west of the Site. Current Zoning and Land Use: The Site's general location is in an urban setting and is presently zoned as commercial land. The surrounding parcels are currently used for a combination of residential and commercial purposes. Manufacturing uses prior to World War II include the production of carriage mountings, fur hats, clothing, sheet metal and brass. During the period 1950-1980, portions of the Site were used for automotive repair, a machine shop, wholesale electrical supply, clothing manufacture, and residences. Past Use of the Site: In 1979, several parcels along Mill Street were acquired by Lomasney Combustion Inc. for the installation and service of oil-fired boilers. This operation included the storage and use of fuel oils, machine lubricants, hydraulic oils, and, possibly, waste oils. This operation may have also been associated with the handling of mercury switches and thermostats, as well as other electrical equipment containing PCBs. These activities continued until 1986. In 1998 the Site was acquired by the City of Poughkeepsie for construction of multi-family homes. A preliminary environmental site assessment was conducted on behalf of the City of Poughkeepsie in 1998. This assessment identified the presence of unregistered above ground storage and underground petroleum storage tanks, and the potential for asbestos- and lead- containing building materials. Test pits and soil borings confirmed the presence of subsurface petroleum contamination in the area of underground storage tanks, and identified lead, cadmium, PCBs, and Polycyclic Aromatic Hydrocarbons (PAHs) in the soil floor of the Lomasney Building. Site Geology and Hydrogeology: The upper layer of Site soils was found to be urban fill consisting of sand, silt, and cobbles, but also including cinders, coal, and brick fragments. At depths ranging from 4 to 6 feet, a thin layer of organic soil was encountered, followed by a layer of silt containing varying amounts of clay and sand. Shale bedrock was encountered at depths ranging from 13 to 17 feet beneath the Site. Groundwater is generally found at depths ranging from 3 to 6 feet beneath the Site, flowing in a westerly direction towards the Hudson River.

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type

Site Environmental Assessment

Remediation at the site is complete. Prior to the remediation the primary contaminants of concern at the site are PCBs, mercury and PAH's in the soil, soil vapor and groundwater. Remedial actions have successfully achieved soil cleanup objectives for commercial use. Residual contamination in the soil, soil vapor, and groundwater are being managed under a Site Management Plan.

Site Health Assessment

Soil removal actions have been completed to remove contaminated material found in surface soils. A cover system, consisting of building foundation, clean soils, concrete or asphalt, is in place to prevent contact with any remaining underlying contamination. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. An active sub-slab depressurization system (systems that ventilate/remove the air beneath the building) is no longer needed in one on-site commercial and one residential building since soil vapor intrusion is longer a potential concern.

For more Information: E-mail Us

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Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: 19, 21, & 23 Academy Street
Site Code: C314126
Program: Brownfield Cleanup Program
Classification: A
EPA ID Number:

Location

DEC Region: 3
Address: 19, 21, & 23 Academy Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.701983333
Longitude: -73.925652778
Site Type:
Estimated Size: 0.216 Acres

Site Owner(s) and Operator(s)

Current Owner Name: PoK 23 Acad, LLC
Current Owner(s) Address: 333 Park Avenue South, Suite 4E
New York,NY, 10010
Current Owner Name: PoK Academy, LLC
Current Owner(s) Address: 93 Fourth Ave #1289
New York,NY, 10276

Site Document Repository

Name: Poughkeepsie Public Library
Address: 93 Market Street
Poughkeepsie,NY 12601

Site Description

Location: The site is located in an urban area at 19, 21 and 23 Academy Street in the City of Poughkeepsie, Dutchess County. The site is an irregular-shaped, 0.216-acre parcel which has 90 feet of frontage on the eastern side of Academy Street. Site Features: The site currently contains two, multi-story, commercial, residential and mixed-use (commercial and residential) buildings with a small, rear gravel parking lot, located at 21 and 23 Academy Street. 23 Academy Street also has an existing excavation for a future elevator base and utilities. Both buildings are currently vacant but are undergoing extensive renovation activities. The structure formerly on 19 Academy Street was damaged, torn down, and the parcel is currently vacant with a grassy surface. Current Zoning and Land Use: The site properties are zoned C-2, Central Commercial District and consists of two vacant buildings that were previously utilized for commercial and residential uses. Past Uses of the Site: The site was developed sometime prior to 1887 and has a long history of commercial uses, including the operation of a garage and machine shop, dry cleaning and printing facilities, paint storage area, and tire vulcanization. The portion of the site at 21 Academy Street is listed on the was formerly in the Environmental Protection Agency’s Resource Conservation and Recovery Act identified by generator number NYD106619604 as a site formerly handling halogenated solvents (likely due to historical dry-cleaning operations). Site Geology and Hydrogeology: Subsurface soils generally consist of sandy fill to a depth of 4 to 5 feet below ground surface (bgs), overlying native variable texture

sands and underlying silts. Soil under the basement slabs (to a depth of 2 feet, corresponding to approximately 12 feet below the sidewalks) consisted of sand overlying silt or silty clay. Competent or weathered bedrock was encountered from approximately 32 to 39 feet bgs during installation of monitoring wells (MW-02D, MW-03D, MW-07D and MW-09D). Wet to saturated soil was generally encountered in soil borings in the 9 to 15 feet bgs interval. Depth to groundwater (from top of well casings) during groundwater sampling ranged from approximately 10 to 13 feet bgs, with groundwater elevations ranging from 162.51 (MW-03D) to 165.11 (MW-10) feet above mean sea level (amsl). The direction of groundwater flow, based on static depth to water during sampling in September 2021, has been inferred to be east-southeast.

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type

arsenic
benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
chrysene
cis-1,2-dichloroethene
copper
dibenz[a,h]anthracene
indeno(1,2,3-cd)pyrene
lead
mercury
perfluorooctane sulfonic acid
perfluorooctanoic acid
tetrachloroethene (PCE)
trichloroethene (TCE)

Site Environmental Assessment

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, metals, cyanide, and the emerging contaminants per-and poly fluoroalkyl substances (PFAS) and 1,4-dioxane. Soil vapor samples were analyzed for VOCs. Based on investigations conducted to date, the primary contaminants of concern include VOCs, SVOCs, metals, and PFAS in soil; VOCs and PFAS in the groundwater; and VOCs in soil vapor. Soil - A total of 14 soil samples were collected during the remedial investigation from overburden beneath the site. Several constituents were identified at concentrations that exceed their Restricted Residential Soil Cleanup Objectives (RRSCOs). The following is a list of those compounds and their maximum exceedances: tetrachloroethene (PCE) 160 parts per million (ppm) (RRSCO of 19 ppm), benzo(a)anthracene 10.2 ppm (RRSCO of 1 ppm), benzo(a)pyrene 18.1 ppm (RRSCO of 1 ppm), benzo(k)fluoranthene 14.8 ppm (RRSCO of 3.9 ppm), benzo(b)fluoranthene 16.6 ppm (RRSCO of 1 ppm), chrysene 12 ppm (RRSCO of 3.9 ppm, dibenzo(a,h)anthracene 4.08 ppm (RRSCO of 0.33 ppm), indeno(1,2,3-cd)pyrene 10.2 ppm (RRSCO of 0.5 ppm), copper 424 ppm (RRSCO of 270 ppm), lead 1,960 ppm (RRSCO of 400 ppm), mercury 7.94 ppm (RRSCO of 0.81 ppm), arsenic 21 ppm (RRSCO of 16 ppm). PCE also exceeded the protection of groundwater (PGW) SCO of 1.3 ppm PCE breakdown products were not found in on-site soils above PGWSCOs. PCBs and Pesticides were found in on-site soils above their unrestricted soil cleanup objectives (USCOs), but below the RRSCOs. Cyanide was detected but below the USCOs in on-site soils and 1,4-dioxane was not detected. Perfluorooctanesulfonic acid (PFOS) was detected in soil samples collected throughout the site at levels typically below 1 part per billion (ppb); however, two samples exceeded the anticipated protection of groundwater PFOS guidance value of 3.7 ppb, at concentrations of 44.9 and 100 ppb. Perfluorooctanoic acid (PFOA) was also detected in samples collected throughout the site with a maximum detection of 2.97 ppb compared to the anticipated PGW guidance value of 1.1 ppb. Data does not indicate any off-site impacts in soil. Groundwater – A total of twelve monitoring wells were installed during the remedial investigation. The following VOCs were identified exceeding their groundwater standards: PCE at 950 ppb (Ambient Water Quality Standards (AWQS) of 5 ppb), trichloroethene (TCE) at 32 ppb (AWQS of 5 ppb), cis-1,2-dichlorothene (cis-1,2-DCE) at 31 ppb (AWQS of 5 ppb), chloroethane at 5.5 ppb (AWQS of 5 ppb), and chloromethane at 15 ppb (AWQS of 5 ppb). The concentrations of

sodium, manganese, and magnesium appear to be background levels with no distinction between upgradient and downgradient monitoring wells. These compounds are typically naturally occurring or related to road salt application. For PFAS, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were reported at concentrations of up to 120 and 101 parts per trillion (ppt), respectively, exceeding the groundwater standard of 6.7 ppt and 2.7 ppt, respectively. SVOCs, 1,4-dioxane, PCBs, and pesticides were detected in various monitoring wells, but below standards. Groundwater is migrating off-site based on samples collected in off-site monitoring wells containing levels of VOCs in exceedance of their groundwater standards. Soil Vapor - Three soil vapor and four sub-slab soil vapor samples were collected from locations across the site. Elevated levels of chlorinated VOCs (CVOCs) were detected in all samples. The following is a list of compounds and their maximum detections: PCE 42,700 micrograms per cubic meter (ug/m3), TCE 3,330 ug/m3, and cis-1,2-DCE 730 ug/m3. Soil vapor impacts extend off-site as evidenced from soil vapor intrusion sampling associated with the off-site State Superfund project (C314126A).

Site Health Assessment

People will not come into contact with contaminated soil since the site is covered with buildings and pavement. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the groundwater and/or soil may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The site is vacant so inhalation of site contaminants in indoor air via soil vapor intrusion in not a current concern. However, the potential exists for inhalation of site contaminants due to soil vapor intrusion for any future on-site development. Environmental sampling indicates soil vapor intrusion is a concern for off-site buildings. Additional off-site sampling for soil vapor intrusion is recommended.

For more Information: E-mail Us

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Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: 19, 21, & 23 Academy Street - Off-site
Site Code: C314126A
Program: Brownfield Cleanup Program
Classification: A
EPA ID Number:

Location

DEC Region: 3
Address: 19, 21, & 23 Academy Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.701936521
Longitude: -73.92576556
Site Type:
Estimated Size: 0 Acres

Site Owner(s) and Operator(s)

Site Description

The area of concern subject to this work is considered off-site from BCP site C360141 and reflects the investigation and possible remediation of contamination that may have migrated from that site. Below is the current status of on-site information. Location: The site is located in an urban area at 19, 21 and 23 Academy Street in the City of Poughkeepsie, Dutchess County. The site is an irregular-shaped, 0.216-acre parcel which has 90 feet of frontage on the eastern side of Academy Street. Site Features: The site currently contains two, multi-story, commercial, residential and mixed-use (commercial and residential) buildings. Both buildings are currently vacant. The buildings located at 23 Academy Street are undergoing extensive renovation activities. Current Zoning and Land Use: The site properties are zoned C-2, Central Commercial District and consists of three vacant buildings that were previously utilized for commercial and residential uses. Past Uses of the Site: The site was developed sometime prior to 1887 and has a long history of commercial uses, including the operation of a garage and machine shop, dry cleaning and printing facilities, paint storage area, and tire vulcanization. The portion of the Site at 21 Academy Street is listed on the RCRIS database as a site formerly handling halogenated solvents (likely due to historical dry cleaning operations). Site Geology and Hydrogeology: Soils on the subject properties are likely to be derived from glacial till deposits which overlie the Austin Glen Formation (consisting of greywacke and shale). The Urban Land soil series is likely to be located on the property. Subsurface soils consist of brown, variable texture sand and silty sand with gravel overlaying light brown and gray, wet, dense silty clay. Brick inclusions were observed in the 0 to 5 feet below surface grade (bsg) interval in the northeastern and west-central portions of the Site. Generally, soils deeper than 10 feet bsg appeared to be native, undisturbed material. Groundwater ranged between 10.5 to 13 feet bsg. Shallow groundwater flow in the vicinity of the property is inferred to be to the south. There are no surface water bodies, wet areas, or regulated wetlands on the property.

Site Environmental Assessment

The area of concern subject to this work is considered off-site from BCP site C360141 and reflects the investigation and possible remediation of contamination that may have migrated from that site. Below is the current status of on-site information and will be modified to show the off-site data once the site characterization is complete. Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, metals, cyanide, and the emerging contaminants per-and poly fluoroalkyl substances (PFAS) and 1,4-dioxane. Soil vapor samples were analyzed for VOCs. Based on investigations conducted to date, the primary contaminants of concern include VOCs, SVOCs, metals, and PFAS in soil and VOCs and PFAS in the groundwater, and VOCs in soil vapor. Soil - A total of 14 soil samples were collected during the remedial investigation into overburden beneath the site. Several constituents were identified at concentrations that exceed their Restricted Residential Soil Cleanup Objectives (RRSCOs). The following is a list of those compounds and the exceedance ranges: tetrachloroethene (PCE) 160 parts per million (ppm) vs RRSCO of 19 ppm, benzo(a)anthracene 3.79-10.2 ppm vs RRSCO of 1 ppm, benzo(a)pyrene 3.42-18.1 ppm vs RRSCO of 1 ppm, benzo(k)fluoranthene 4.75-14.8 ppm vs RRSCO of 3.9 ppm, benzo(b)fluoranthene 2.9-16.6 ppm vs RRSCO of 1 ppm, chrysene 4.89-12 ppm vs RRSCO of 3.9 ppm, dibenzo(a,h)anthracene 0.71-4.08 ppm vs RRSCO of 0.33 ppm, indeno(1,2,3-cd)pyrene 2.2-10.2 ppm vs RRSCO of 0.5 ppm, copper 424 ppm vs RRSCO of 270 ppm, lead 587-1,960 ppm vs RRSCO of 400 ppm, mercury 2.79-7.94 ppm vs RRSCO of 0.81 ppm, arsenic 21 ppm vs RRSCO of 16 ppm. Emerging contaminants were detected in soil samples collected from the site. Perfluorooctanesulfonic acid (PFOS) was detected in samples collected throughout the site at lower levels typically below 1 parts per billion (ppb) with two samples showing eleveated concentrations of 44.9 and 100 ppb at the rear of the former drycleaner in the area of the PCE soil contaminaton. Perfluorooctanoic acid (PFOA) was detected in the same manner as PFOS described above at 2.97 ppb. Other PFAS compounds from the list of 21 analyzed were also elevated in the same two samples as compared to the other 15 samples that were analyzed for PFAS. It is not expected that on-site soils will migrate off-site. Groundwater - Six additional monitoring wells were installed on-site bringing the total to four on-site and eight off-site, but adjacent to the border. Several constituents were identified at concentrations that exceed their groundwater standard. The following is a list of those compounds and exceedance ranges: PCE 18-950 ppb vs groundwater standard (GA) of 5 ppb, trichloroethene (TCE) 5.2-32 ppb vs GA of 5 ppb, cis-1,2-dichlorothene (cis-1,2-DCE) 6.7-31 ppb vs GA of 5 ppb, chloroethane 5.5 ppb vs GA of 5 ppv, and chloromethane 15 ppb vs GA of 5 ppb. For PFAS, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were reported at concentrations of up to 120 and 101 parts per trillion (ppt), respectively, exceeding the 10 ppt screening levels for groundwater for each. Other PFAS compounds of the 21 analyzed were seen at elevated levels which exceed the screening level for any one PFAS compound other than PFOA and PFOS above 100 ppt including the following: Perfluorobutanoic acid (PFBA) 278 ppt, Perfluoroheptanoic acid (PFHpA) 190 ppt, Perfluorohexanoic acid (PFHxA) 670 ppt, Perfluoropentanoic acid (PFPeA) 680 ppt. On-site groundwater is migrating off-site based on samples from off-site, downgradient monitoring wells showing levels of VOCs in exceedance of their groundwater standards. Soil Vapor - A total of seven soil vapor samples were collected from locations throughout the site. Elevated levels of chlorinated VOCs (CVOCs) were detected in sub-slab samples. The following is a list of compounds and their detected ranges: PCE 75-42,700 micrograms per cubic meter (ug/m3), TCE 29.8-3,330 ug/m3. cis-1,2-DCE 30-730 ug/m3. Elevated levels of these compounds in the sub-slab pose a soil vapor intrusion risk to the on-site structures. Soil vapor impacts extend extend off-site as evidenced from off-site soil vapor intrusion sampling associated with the off-site State Superfund project.

Site Health Assessment

As information for this site becomes available, it will be reviewed by the NYSDOH to determine if site contamination presents public health exposure concerns.

For more Information: E-mail Us

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Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: HRH Lead Abatement Site
Site Code: 314122
Program: State Superfund Program
Classification: A
EPA ID Number:

Location

DEC Region: 3
Address: 55 Garden Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.705761
Longitude: -73.925741
Site Type:
Estimated Size: 0.17 Acres

Site Owner(s) and Operator(s)

Current Owner Name: HRH Neighborhood Development Fund Company
Current Owner(s) Address: 313 Miller Street
Poughkeepsie,NY, 12601

Site Description

Location: The site is located at 55 Garden Street in the City of Poughkeepsie, Dutchess County. Site Features: The 0.17 acre site includes a single family home with small front and rear yards. Current Zoning and Land Use: The site is currently zoned and in use as a single family residence. Past Use of the Site: The site was a single family residence that was abated for lead paint as part of a rehabilitation project. Site Geology and Hydrogeology:

Site Environmental Assessment

The primary contaminant associated with the site is lead, which resulted from the abatement of lead paint as part of the rehabilitation of the structure. All lead resulting from the abatement was containerized and properly disposed off-site.

For more Information: E-mail Us

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Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: Crannell Square
Site Code: C314130
Program: Brownfield Cleanup Program
Classification: C
EPA ID Number:

Location

DEC Region: 3
Address: 35 Catharine Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.703861111
Longitude: -73.924555556
Site Type:
Estimated Size: 1.109 Acres

Site Owner(s) and Operator(s)

Current Owner Name: Crannell Square Housing Development Fund Company, Inc.
Current Owner(s) Address: c/o Hudson River Housing, Inc., 313 Mill Street
Poughkeepsie,NY, 12601
Current Owner Name: Crannell Square Limited Partnership
Current Owner(s) Address: 57 Route 6, Suite 207
Baldwin Place,NY, 10505

Site Document Repository

Name: Poughkeepsie Public Library
Address: 93 Market Street
Poughkeepsie,NY 12601

Site Description

Location: The site is located at 35 Catharine Street in the City of Poughkeepsie, Dutchess County, New York, on a 1.109-acre parcel. The site is a portion of tax lot parcel: Section 6162, Block 78, Lot 157094. The site is a rectangular, with approximately 235 feet of frontage on the southern side of Mill Street (Route 44/55 arterial) and approximately 220 feet of frontage on the eastern side of Catharine Street. The site approximately 0.85 miles east of the Hudson River. Site Features: The site is currently being redeveloped into a multi-story apartment complex with a planned parking lot and landscaped areas. A majority of the structure has already been erected. Current Zoning and Land Use: The site is zoned C-2 (Central Commercial District). C-2 zoning allows for multiple dwellings in new structures at urban density (R-6), provided that the first floor is devoted to retail or service use. Currently, the site is used as a municipal parking lot. The surrounding properties are zoned for commercial uses. Past Use of the Site: The site has been used for commercial and residential purposes from as early as 1887 until circa 1960 when all former on-site structures were demolished. Previous uses included: an automotive repair facility, large private garage, warehouse, school, a hotel and multiple dwellings. Notable past commercial uses at adjoining properties and in the surrounding area include manufacturing and automotive repair facilities. The site was developed by the city as a municipal parking lot by 1963. Site Geology and Hydrogeology: Site soils consist of a fill layer extending to 4 feet below ground surface (bgs), overlying brown medium sands to a depth of

approximately 10 feet bgs. Soils greater than 10 feet bgs generally consist of native clayey silt. No bedrock was encountered during the investigation of the site, which included borings to a depth of 20 feet bgs. Groundwater depth ranges from 13.3 to 15.4 feet below grade. Groundwater generally flows to the northeast. No waterbodies or wet areas are on the site or in the immediate vicinity of the site.

Summary of Project Completion Dates

Projects associated with this site are listed in the Project Completion Dates table and are grouped by Operable Unit (OU). A site can be divided into a number of operable units depending on the complexity of the site and the number of issues associated with a site. Sites are often divided into operable units based on the media to be addressed (such as groundwater or contaminated soil), geographic area, or other factors.

Project Completion Dates

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type

arsenic
benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
carbon tetrachloride
chloroform
chrysene
dibenz[a,h]anthracene
indeno(1,2,3-cd)pyrene
lead
mercury
tetrachloroethene (PCE)
trichloroethene (TCE)

Site Environmental Assessment

Remediation at the site is complete. Prior to remediation, the primary contaminants of concern included SVOCs and metals in soil, and VOCs in soil vapor. Remedial actions have successfully achieved soil cleanup objectives for unrestricted use. Prior to Completion of Remediation: Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), metals, total petroleum hydrocarbons (TPH), pesticides, and the emerging contaminants per-and-polyfluoroalkyl substances (PFAS) and 1,4-dioxane. Soil vapor samples were analyzed for VOCs. Based on investigations conducted to date, the primary contaminants of concern include metals and polycyclic aromatic hydrocarbons (PAHs) in soil and VOCs in groundwater and soil vapor. Soil: A total of 44 soil samples were collected at 16 locations at depths ranging from 0 to 20 feet below ground surface (bgs). Several SVOCs and metals were identified in soils at concentrations that exceed their restricted residential soil cleanup objectives (RRSCOs) and unrestricted soil cleanup objectives (USCOs) including benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, lead, mercury, and arsenic. The highest concentration of an SVOC encountered was chrysene at a concentration of 7.77 parts per million (ppm) at a depth of 5 feet bgs compared to the RRSCO of 3.9 ppm. The highest concentrations of metals encountered were 3,110 ppm of lead at 3 feet bgs, compared to the RRSCO of 400, 3.94 ppm of mercury at 4 feet bgs compared to the RRSCO of 0.81 ppm, and 32.2 ppm of arsenic at 15 feet bgs compared to the RRSCO of 16. Metal exceedances were generally encountered within the top 5 feet bgs, with some deeper exceedances of arsenic extending up to 20 feet bgs. PFAS were detected in soil samples throughout the site to depths of 20 feet bgs. The greatest concentration of total PFAS encountered in soil was 1.54 parts per billion (ppb) at the 0-5 feet bgs interval. There were no VOCs, PCBs or pesticides detected in site soils. There is no indication that site-related soil contamination extends off-site. Groundwater: Groundwater samples were collected from six monitoring wells located throughout the site. The VOC chloroform was detected in one monitoring well in exceedance of groundwater standards at a concentration of 13 parts per billion (ppb), compared to the groundwater quality standard of 7 ppb; this

is a common by-product of chlorination and may be indicative of leaking water lines in the area. The only other VOCs detected in groundwater were at trace levels as follows: carbon tetrachloride in one well at an estimated concentration 0.32 ppb, and trichloroethene (TCE) in one well as an estimated concentration of 0.29 ppb, compared to their groundwater standard of 5 ppb for each. The laboratory reported these concentrations as estimated values because they are detected below the laboratory's contract required quantitation limit and therefore can only be confirmed as present, but not quantified. One SVOC, benzo(b) fluoranthene was detected at 0.01 ppb compared to a standard of 0.002 ppb. For metals, magnesium, manganese, and/or sodium were detected in several overburden wells across the site above their respective groundwater standards, while there was one marginal detection each for cobalt (total 6.7 ppb compared to a standard of 5 ppb), and thallium (total 0.73 ppb compared to a standard of 0.5 ppb). The SVOC and metals are considered to represent typical urban background conditions (associated with presence of historic fill), are naturally occurring, or are due to road salt application. No exceedances were found above the 10 parts per trillion (ppt) screening level for either perfluorooctanoic acid (PFOA) or perfluorooctanesulfonic acid (PFOS). The highest detection of PFOS and PFOA were 9.14 ppt and 6.04 ppt, respectively in one well at the southeast corner of the site. Based on the soil data and the northeasterly groundwater flow direction, and there is no apparent on-site source for PFOA/PFOS in site groundwater. Overall, groundwater quality appears to reflect typical urban background conditions and is likely of similar condition in off-site areas. As such, there is no concern for off-site migration. Soil Vapor: Nine soil vapor samples were collected across the site under the parking lot area. Trace to low level VOC contamination was noted in site soil vapor, with levels up to 5.3 micrograms per cubic meter (ug/m3) of tetrachloroethylene (PCE), 0.67 ug/m3 of trichloroethene (TCE), and 0.51 ug/m3 of carbon tetrachloride.

Site Health Assessment

People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by site related contamination. Direct contact with any contaminated soils is not a concern because all soil contamination at the site was removed and replaced with clean fill. In addition, soil vapor intrusion is no longer expected to be a potential concern for on-site or offsite buildings.

For more Information: E-mail Us

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Document Repository

Site-related documents are available for review through the DECInfo Locator on line at DECInfoLocator

Administrative Information

Site Name: Wallace Campus
Site Code: C314134
Program: Brownfield Cleanup Program
Classification: A
EPA ID Number:

Location

DEC Region: 3
Address: 319, 325, 327-329 & 331 Main Street
City: Poughkeepsie Zip: 12601
County: Dutchess
Latitude: 41.703661111
Longitude: -73.925775
Site Type:
Estimated Size: 2.48 Acres

Site Owner(s) and Operator(s)

Current Owner Name: Key Main LLC
Current Owner(s) Address: 80 Washington Street, Suite 400
Poughkeepsie,NY, 12601
Current Owner Name: IIC Properties Inc.
Current Owner(s) Address: 14 Catherine Street
Poughkeepsie,NY, 12601
Current Owner Name: Wallace Campus Manager LLC
Current Owner(s) Address: 48-02 25th Ave, Suite 400
Astoria,NY, 11103

Site Document Repository

Name: Adriance Memorial Library
Address: 93 Market Street
Poughkeepsie,NY 12601

Site Description

Location: The site consists of the entirety of the contiguous parcels known as 319 Main Street (Block 77, Lot 114098); 325 Main Street (Block 77, Lot 109079), 327-329 Main Street (Block 7, Lot 109077), and 331 Main Street (Block 78, Lot 127091), City of Poughkeepsie, New York. The site is a 2.48-acre commercial property, which is abutted by Mill Street to the north and Main Street to the south. Site Features: The southern portion of 319 Main Street currently contains a two-story building (former restaurant and club), 325 and 327-329 Main Street lots each contain a four-story building with rear two-story sections (former bookstore and residence, and active office building, respectively), and the southern/central portions of 331 Main Street contain a four-story building with a three-story section to the east, utilized for offices and light manufacturing. The remaining northern portions of 319 and 331 Main Street contain paved parking areas, walkways, and yards. Current Zoning and Land Use: The site tax lots are zoned C-2, central commercial district (residential use is excluded), and portions of the site fall within the Poughkeepsie Innovation District (PID) Historic Core and Urban Village Zones.The site consists of a several vacant and active commercial and light manufacturing

uses, located on four tax lots. Past Use of the Site: The site, first developed prior to 1887, has primarily been a commercial site with some limited residential use. The most significant commercial uses are generally associated with 331 Main Street, including automotive repair, machining operations, furniture finishing, laundry activities, and use of gasoline USTs. A limited Phase II Subsurface Investigation performed in 2013 for the northeastern portion of 331 Main Street did not document any storage tanks or contaminated soil, but elevated levels of lead were found in groundwater at 331 Main Street. The buildings at 319 Main Street and 325 Main Street are currently vacant; 327-329 Main Street building is currently in use as an office building and 331 Main Street is in use as an office building and for light manufacturing. Site Geology and Hydrogeology: State geological data indicate that local soils are likely to be derived from glacial till deposits, which overlie metamorphic bedrock. Soils observed during subsurface investigations generally consisted of variable-texture fill (unsorted sand containing debris, primarily brick and concrete, with some coal and ash) to approximately 1 to 7 feet bgs, underlain by sands with gravel to depths of 15 feet bgs, with two borings showing layers of clayey-silt below 12 feet bgs. Soils generally below 8 feet bgs appeared to be native, undisturbed material. Bedrock was not encountered. Groundwater was documented in wells at approximately 15 to 17 feet below the casings and direction of flow was determined to be easterly.

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type

acetone
benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
chrysene
copper
indeno(1,2,3-cd)pyrene
lead
manganese
mercury
methylene chloride
nickel
perfluorooctane sulfonic acid
perfluorooctanoic acid
sodium
zinc

Site Environmental Assessment

Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, metals, cyanide, and the emerging contaminants per-and poly fluoroalkyl substances (PFAS) and 1,4-dioxane. Soil vapor samples were analyzed for VOCs. Based on investigations conducted to date, the primary contaminants of concern include SVOCs and metals in soil, typical of historic fill. Soil - A total of 29 soil samples were collected during the remedial investigation from 19 borings extending 20 feet below ground surface (bgs). Bedrock was encountered at depths ranging from 41 to 62 feet bgs according to a 2020 geotechnical report. Several constituents were identified at concentrations that exceed their Unrestricted Soil Cleanup Objectives (USCOs). The following is a list of those compounds and the maximum exceedance: Acetone 0.065 parts per million (ppm) vs USCO of 0.05 ppm, methylene chloride 0.051 vs USCO of 0.05 ppm, benzo(a)anthracene 5.96 ppm vs USCO of 1 ppm, benzo(a)pyrene 5.15 ppm vs USCO of 1 ppm, benzo(k)fluoranthene 3.62 ppm vs USCO of 0.8 ppm, benzo(b)fluoranthene 3.24 ppm vs USCO of 1 ppm, chrysene 6.67 ppm vs USCO of 1 ppm, dibenzo(a,h)anthracene 0.964 ppm vs USCO of 0.33 ppm, indeno(1,2,3-cd)pyrene 2.72 ppm vs USCO of 0.5 ppm, copper 330 ppm vs USCO of 50 ppm, lead 1,530 ppm vs USCO of 63 ppm, manganese 1,670 ppm vs USCO of 1,600, mercury 3.33 ppm vs USCO of 0.18 ppm, nickel 33.8 ppm vs USCO of 30 ppm, zinc 960 ppm vs USCO of 109 ppm. There was a minimal USCO exceedance for manganese and thus manganese is not a contaminant of concern at this site. Acetone and methylene chloride were detected at a concentration above USCO in one sample. However, acetone and methylene chloride are common laboratory artifacts, and they are not considered contaminants of concern at this site. Pesticides, cyanide, and PCBs and 1,4-dioxane were non-detect in all soil

samples. PFOA, PFOS, and other PFAS compounds were detected in on-site soils but were all below their unrestricted use guidance values and thus are not considered contaminants of concern for this site. Soil contamination is not expected to migrate off-site. Groundwater - A total of 3 groundwater wells were installed in overburden groundwater and analyzed for VOCs, SVOCs, PCBs, pesticides, metals and cyanide as well as the emerging contaminants PFAS and 1,4-dioxane. The metals manganese and sodium were detected in at least one groundwater sample in exceedance of groundwater standards. However, these metals are naturally occurring and/or typically related to road salt application and are therefore not considered contaminants of concern at this site. VOCs, SVOCs, PCBs, pesticides, cyanide, and 1,4-dioxane were non-detect or below standards. While lead was detected in groundwater (unfiltered sample) in the 2013 Phase 2 investigation, it was not detected in filtered or unfiltered groundwater samples during the Remedial Investigation and is therefore not considered a contaminant of concern in groundwater. For per- and polyfluoroalkyl substances (PFAS), perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were reported in the most upgradient monitoring well at concentrations of 30.2 and 10.8 parts per trillion (ppt), respectively, exceeding the 10 ppt screening levels for groundwater for each. Perfluorobutanesulfonic acid (PFBS) was detected in the same well at 1,600 ppt exceeding the 100 ppt screening level. These data indicate that the site is not a source of PFAS to groundwater. PFAS was not detected in other wells on the site, though over time, the PFAS-contaminated groundwater flowing onto the site has the potential of migrating off-site. Soil Vapor - A total of 4 sub-slab soil vapor and 4 co-located indoor air samples and 2 additional soil vapor samples were collected from locations throughout the site. Low levels of the chlorinated solvents 1,1,1-trichloroethane with a maximum detection of 0.475 micrograms per cubic meter (ug/m3), tetrachloroethene with a maximum detection of 0.542 ug/m3, carbon tetrachloride with a maximum detection of 0.61 ug/m3, and vinyl chloride with a maximum detection of 0.877 ug/m3 were detected in on-site soil vapor and/or indoor air. Based on the 2006 Guidance for Evaluating Soil Vapor Intrusion in NYS, with updates, no further action is needed to address potential exposures via soil vapor intrusion in all cases. Off-site migration of soil vapor contamination is not a concern.

Site Health Assessment

People who dig below the ground surface may come into contact with contaminants in subsurface soil. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Environmental sampling indicates soil vapor intrusion is not a concern for on-site or off-site locations.

For more Information: E-mail Us

Refine This Search

Soil Map—Dutchess County, New York



Map Scale: 1:240 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 3 7 14 21

Feet: 0 10 20 40 60

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 20, Sep 5, 2023

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

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ur	Urban land	0.2	100.0%
Totals for Area of Interest		**0.2**	**100.0%**

Dutchess County, New York

Ur—Urban land

Map Unit Setting

National map unit symbol: 9rjb
Mean annual precipitation: 41 to 47 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile

H1 - 0 to 6 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components

Udorthents, smoothed

Percent of map unit: 5 percent
Hydric soil rating: No

Udorthents, wet substratum

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed soils, undisturbed

Percent of map unit: 1 percent
Hydric soil rating: Unranked

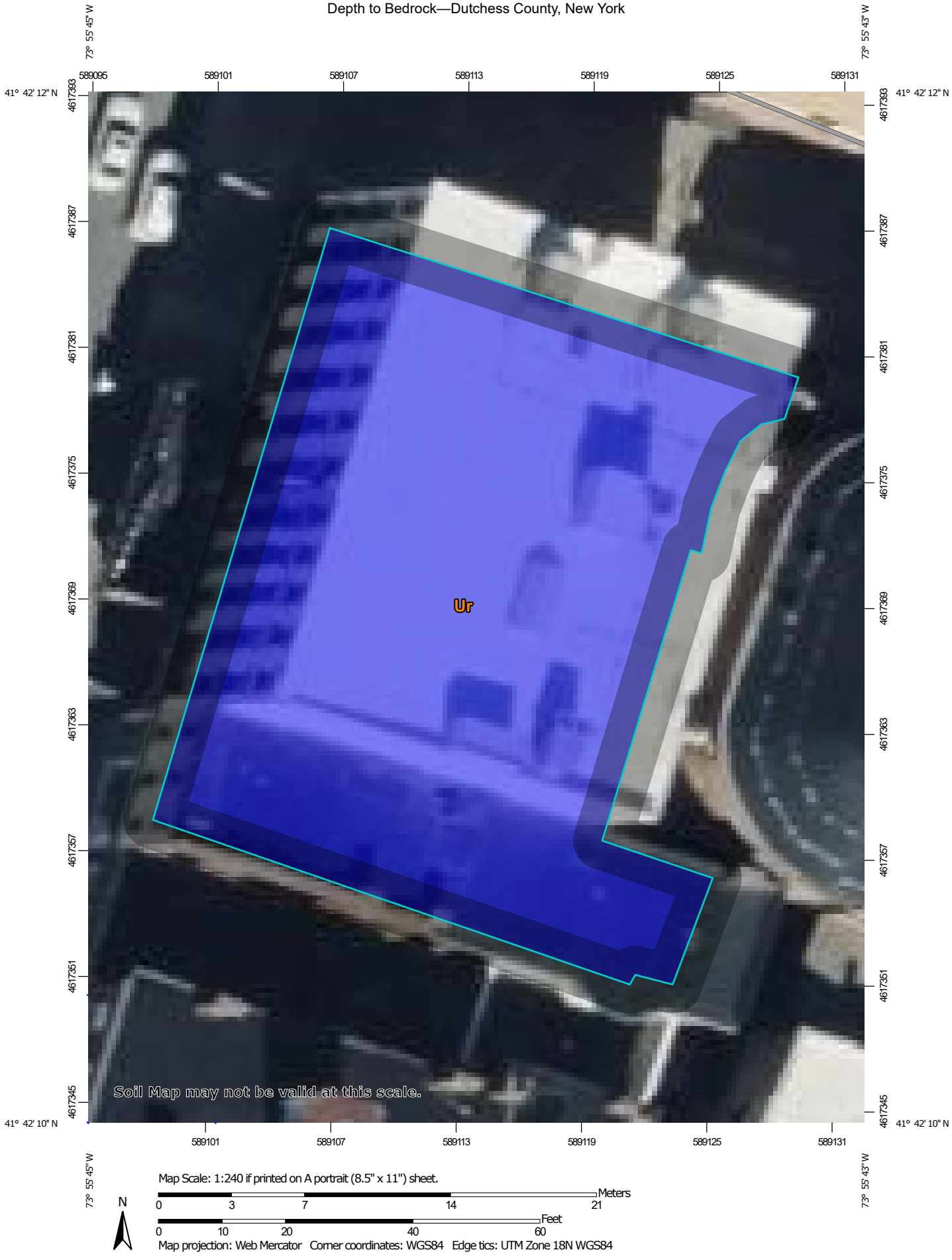
Rock outcrop

Percent of map unit: 1 percent
Hydric soil rating: Unranked

Data Source Information

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 20, Sep 5, 2023

Depth to Bedrock—Dutchess County, New York



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N

Meters: 0 3 7 14 21

Feet: 0 10 20 40 60

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

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Coordinate System: Web Mercator (EPSG:3857)

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Depth to Bedrock

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Ur	Urban land	>200	0.2	100.0%
Totals for Area of Interest			**0.2**	**100.0%**

Description

The term bedrock in soil survey refers to a continuous root and water restrictive layer of rock that occurs within the soil profile.

There are many types of restrictions that can occur within the soil profile but this theme only includes the three restrictions that use the term bedrock. These are:

1) Lithic Bedrock

2) Paralithic Bedrock

3) Densic Bedrock

Lithic bedrock and paralithic bedrock are comprised of igneous, metamorphic, and sedimentary rocks, which are coherent and consolidated into rock through pressure, heat, cementation, or fusion. Lithic bedrock represents the hardest type of bedrock, with a hardness of strongly coherent to indurated. Paralithic bedrock has a hardness of extremely weakly coherent to moderately coherent. It can occur as a thin layer of weathered bedrock above harder lithic bedrock. Paralithic bedrock can also be much thicker, extending well below the soil profile.

Densic bedrock represents a unique kind of bedrock recognized within the soil survey. It is non-coherent and consolidated, dense root restrictive material, formed by pressure, heat, and dewatering of earth materials or sediments. Densic bedrock differs from densic materials, which formed under the compaction of glaciers, mudflows, and or human-caused compaction.

If more than one type of bedrock is described for an individual soil type, the depth to the shallowest one is given. If no bedrock is described in a map unit, it is represented by the "greater than 200" depth class.

Depth to bedrock is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

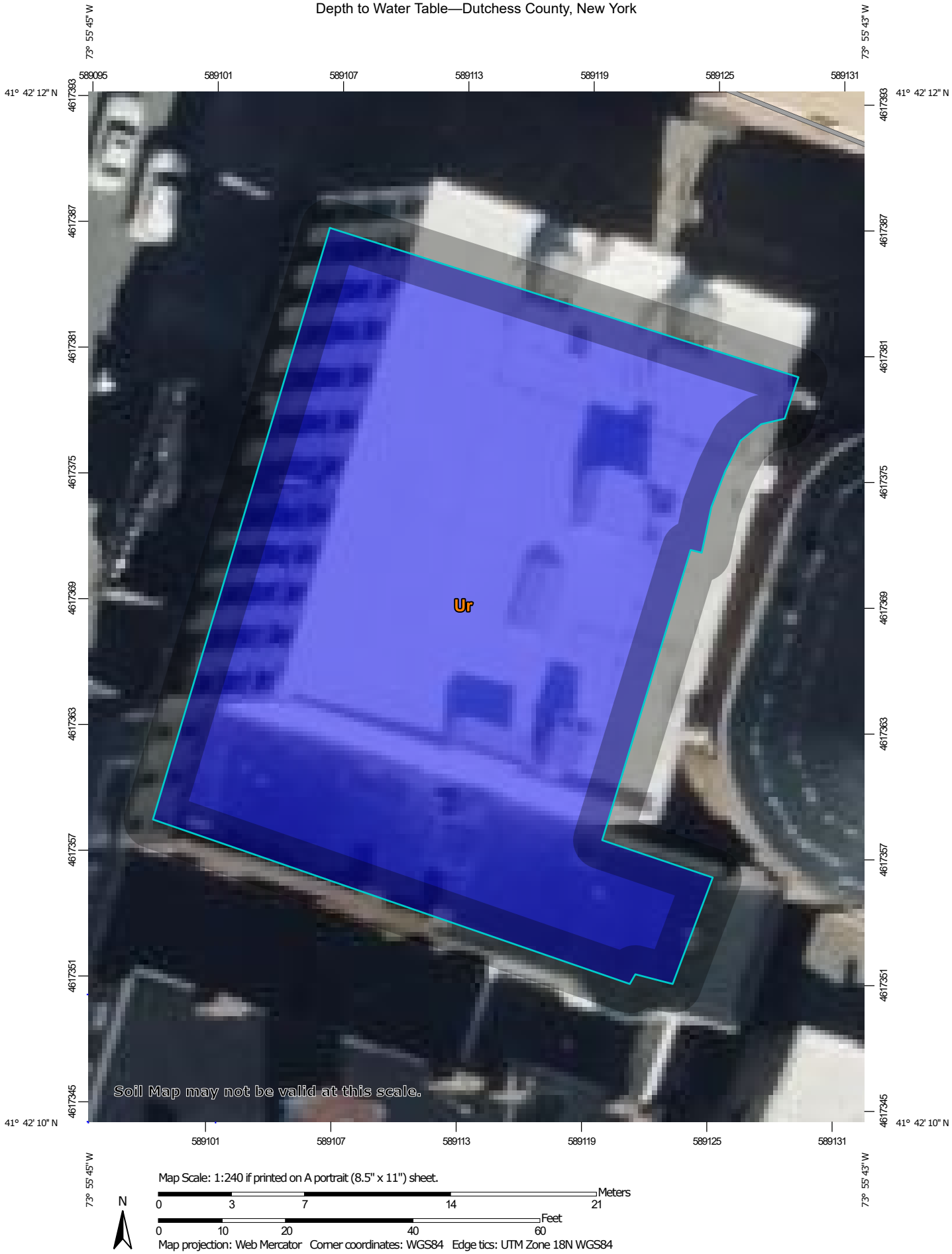
Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Depth to Water Table—Dutchess County, New York



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N

Meters: 0 3 7 14 21

Feet: 0 10 20 40 60

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

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Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Ur	Urban land	>200	0.2	100.0%
Totals for Area of Interest			**0.2**	**100.0%**

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

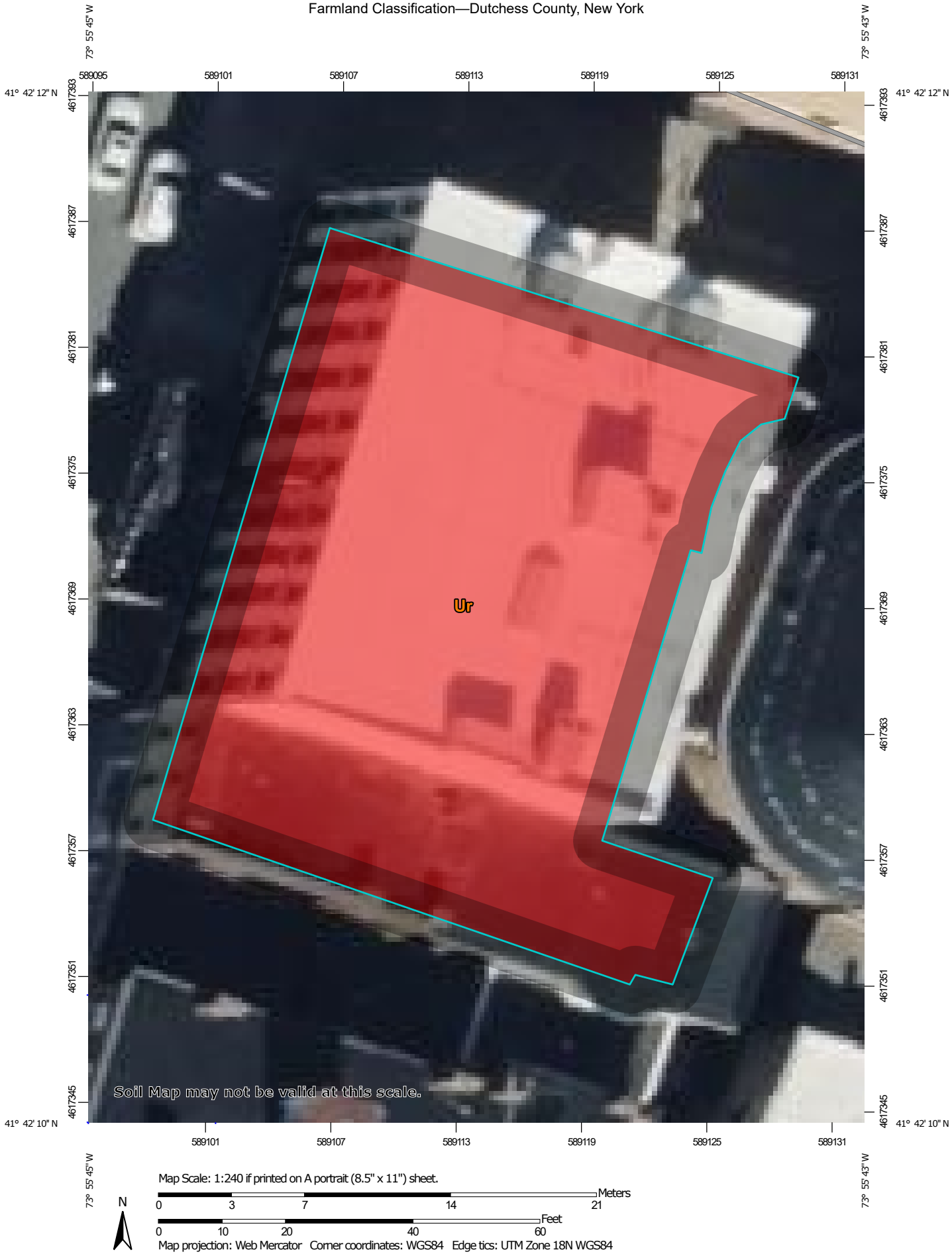
Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

Farmland Classification—Dutchess County, New York



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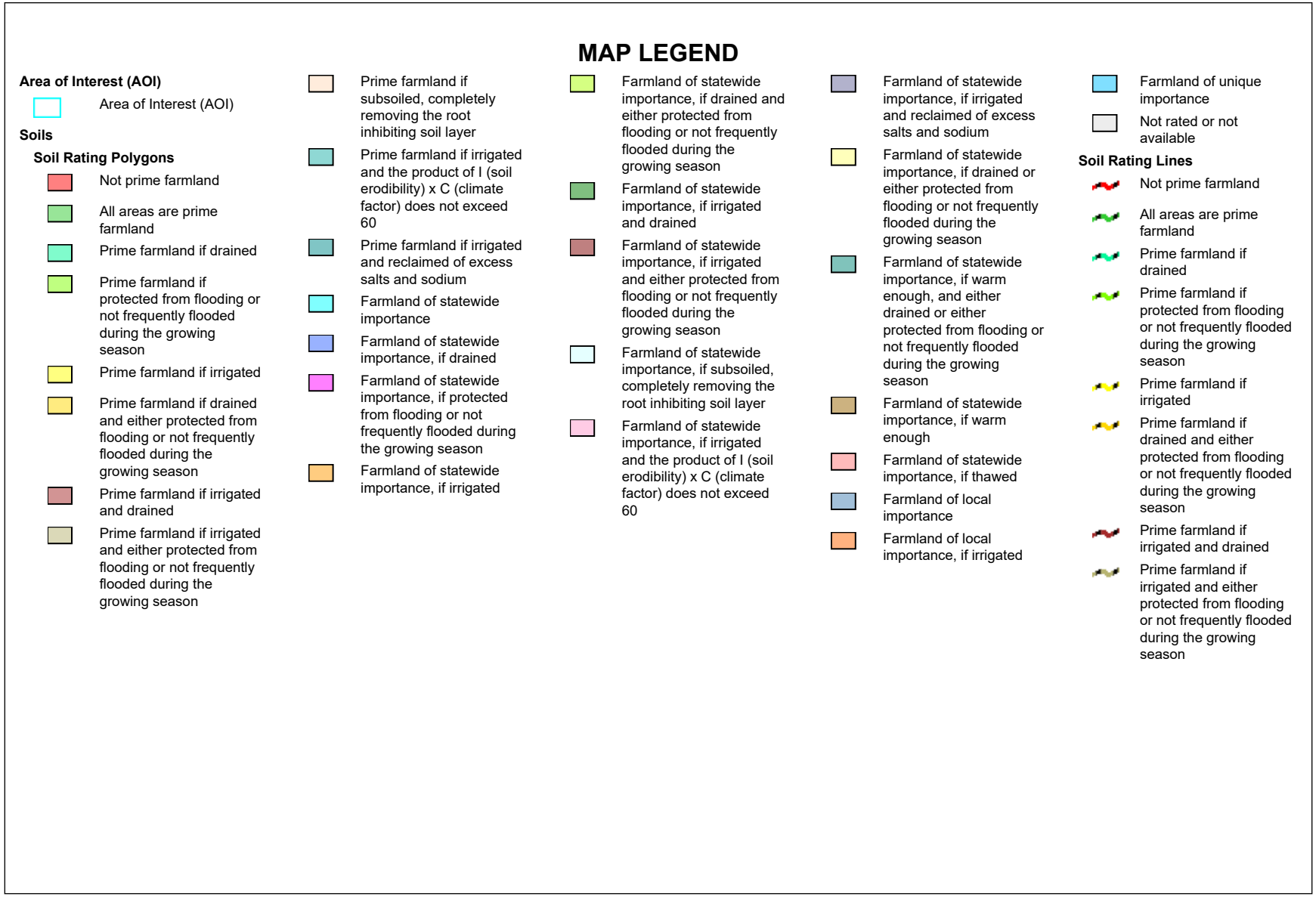
N

Meters: 0 3 7 14 21

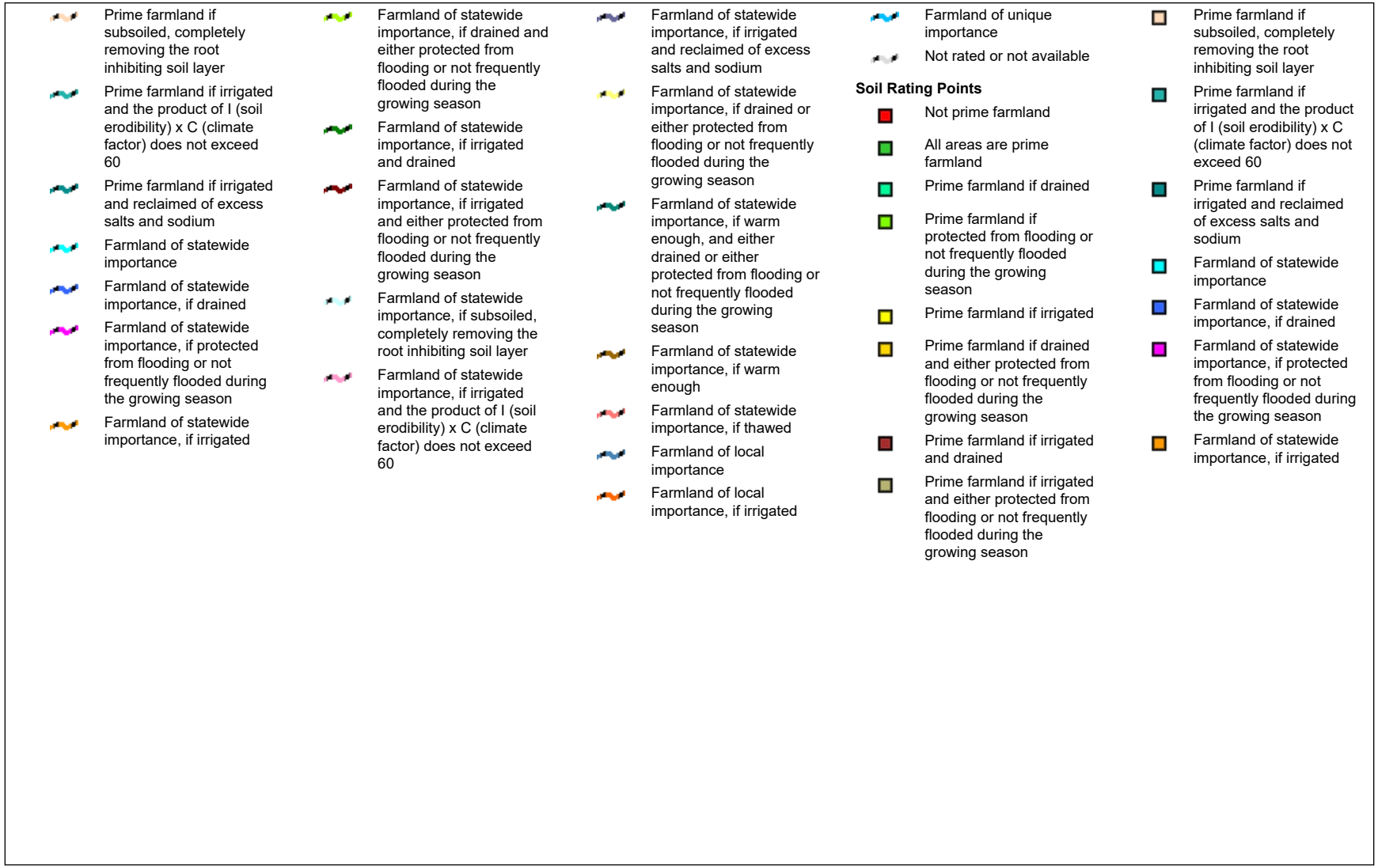
Feet: 0 10 20 40 60

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

Farmland Classification—Dutchess County, New York



Farmland Classification—Dutchess County, New York



- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

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Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 20, Sep 5, 2023

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

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

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

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ur	Urban land	Not prime farmland	0.2	100.0%
Totals for Area of Interest			**0.2**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

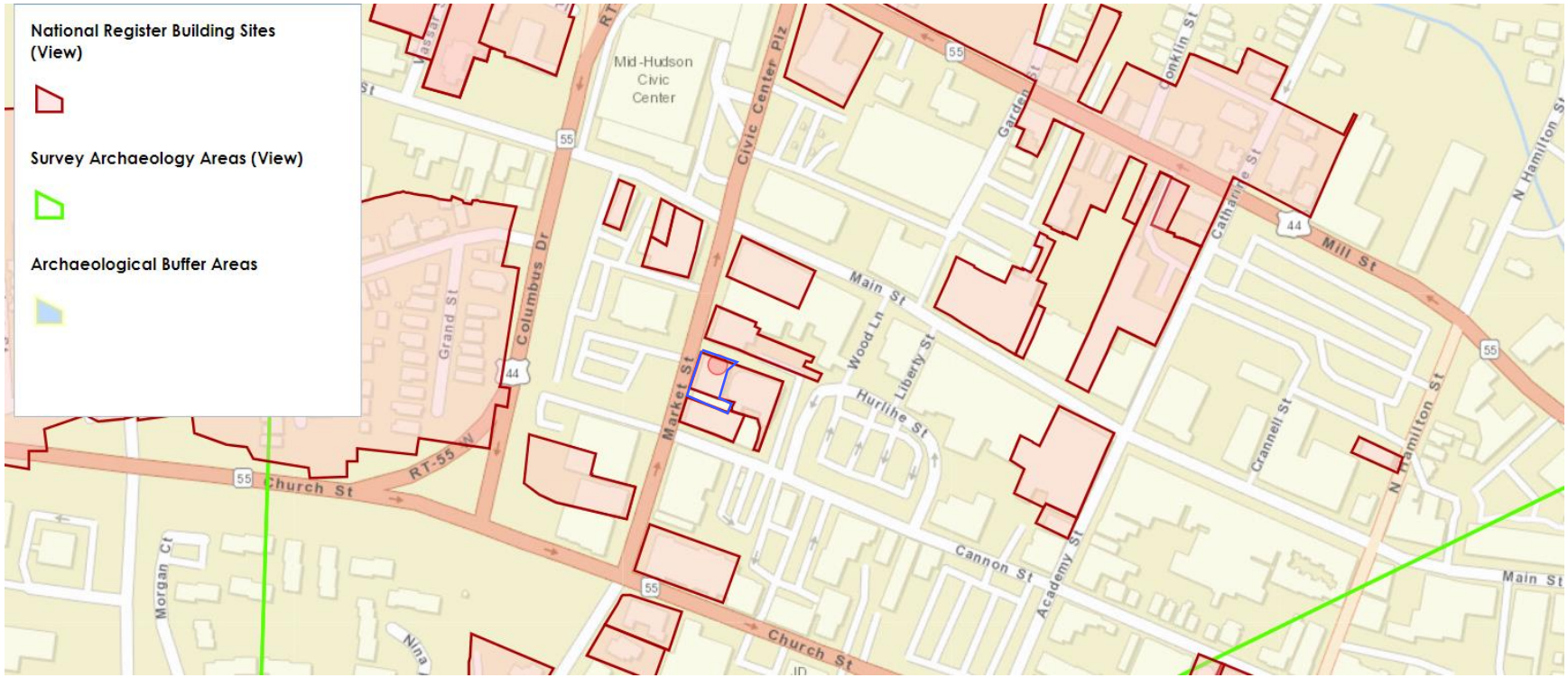
Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

APPENDIX I – CRIS MAP

31-39 MARKET STREET



New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

RANDY SIMONS
Commissioner *Pro Tempore*

October 31, 2024

Natalie Quinn
KARC
PO Box 924
Poughkeepsie, NY 12602

Re: SEQRA
31-39 Market Street
31 Market St, Poughkeepsie, NY 12601
24PR09081

Dear Natalie Quinn:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted documents under the State Environmental Quality Review Act (SEQRA) as requested. These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

We note that the Bardavon Operahouse & Office building is listed in the State and National Registers of Historic Places. We further note there is an active preservation covenant on the property due to prior Environmental Protection Fund grant funding. Our office, in its capacity as a subject-matter expert in historic resources under SEQRA, has reviewed the project description, existing condition site plan, proposed drawings including elevations and renderings, all submitted to our office on September 23, 2024, and we offer the following comments regarding potential impacts to architectural resources:

1. Submit interior photos. Project information should be sufficiently detailed so that we can understand how historic features on the interior and exterior will be treated.
2. 39 Market Street Addition. Revise the design to include a setback as much as possible to minimize the visual impact and create a more cohesive streetscape.
3. 39 Market Street Materials. The proposed addition's use of identical materials and details creates a false sense of history. We recommend submitting a new proposal with a simpler, more minimal approach to distinguish the addition from the historic structure. The difference may be subtle, but it must be clear; for example, windows with no sills.

Please be aware that if this project will involve state or federal permits, funding or licenses it may be subject to review under Section 14.09 of the NYS Parks, Recreation and Historic Preservation Law or Section 106 of the National Historic Preservation Act.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

If you have any questions, you can call or e-mail me at the contact information below.

Sincerely,

Mariana Staines
Historic Site Restoration Coordinator
518-268-2142 | mariana.montesstaines@parks.ny.gov

518 262 4942

November 12, 2024

Joseph A. Chenier
Assistant Civil Engineer
City Engineering Department
62 Civic Center Plaza
Poughkeepsie, NY 12601

RE: 31 & 39 Market Street
Redevelopment Project
Poughkeepsie, NY

Dear Mr. Chenier,

39 Market Street

Currently has a ¾" water service that will be disconnected and removed at the existing water main. A new 6" ductile iron fire service is proposed in addition to a new 2" domestic service entering from the Market Street side that will be installed for 39 Market Street. The proposed building will utilize the existing 6" sanitary sewer connection.

The proposed building for 39 Market will consist of approx.1,250 SF of commercial space, and a total of 10 bedrooms. The commercial office space will have approximately 10 employees at 15 GPD. This would equate to a total of 150 gallons per day (GPD) for the commercial portion. The proposed bedroom flow rate is 1,100 GPD. The total proposed flow rate would be 1,250 GPD. Using a peaking factor of 4.0 as recommended by NYSDEC, the design maximum hourly flow rate is 3.47 gallons per minute (GPM). The existing 6" sanitary has adequate capacity to handle the proposed development from 39 Market Street.

31 Market Street

31 Market Street has an existing 6" fire suppression system that services the existing building. There is an additional 6" fire suppression system, that services the Bardavon building in the rear of 31 Market Street through an easement. Additionally, there is a 4" domestic service that enters the basement. Both existing fire suppression systems and the 4" domestic are to remain. There is an existing 6" sanitary line that exits the basement towards Market Street that will also remain. The commercial spaces existing at 31 Market are both restaurants and are to remain unchanged in use as part of this project.

The proposed building for 31 Market will consist of a combined total of 40 bedrooms. The total proposed flow rate would be 4,400 GPD. Using a peaking factor of 4.0 as recommended by NYSDEC, the design maximum hourly flow rate is 12.2 gallons per minute (GPM). The existing 6" sanitary has adequate capacity to handle the proposed development from 31 Market Street.

If any further information is needed or should you have any questions, please do not hesitate to let us know.

Sincerely,
LRC Engineering & Surveying, DPC

Shawn Curran, Project Manager

31 Market LLC

35 Main St
Suite 311
Poughkeepsie, NY 12601

September 2, 2024

To whom it may concern:

Please accept this letter as a statement that 31 Market LLC is financially capable of completing the proposed development at 31-39 Market Street.

Sincerely,



Bernard Kohn
31 Market LLC

MATTHEW CORDONE
ARCHITECT PLLC
DESIGN + PRESERVATION + PLANNING +
STRUCTURAL ENGINEERING

09 October 2024

Building Department
City of Poughkeepsie
c/o Eric Philipp
62 Civic Center Plaza
City Hall - 2nd Floor
Poughkeepsie, NY 12601

re: 31-37 Market Street Conversion
MCA: C01.24034

Dear Inspector Philipp,

Per your initial review, it has come to our attention that there may be a requirement to provide fire separation between the proposed residential portions of the building and the theater. Due to the configuration of the structures and the previously approved easement, the fire egress calculation will consider the additional square footage of the theater. The additional square footage will be used to calculate the allowable square footage set forth by 2020 NY State Building code, Table 506.2 “Allowable Floor Area Factor”.

We will be able to meet the additional square foot area requirements by using one or more of the following strategies:

1. Install fire doors at the Bardavon Theater that will ensure fire separation between the spaces. In addition, establish a new easement that allows safe passage through the fire doors from the two use groups.

2. Provided the required fire rated wall and ceiling assemblies around the existing easement that allows for the Bardavon Theater’s circulation and egress.

3. Install fire doors at 37 Market Street establishing the separation of 37 Market Street as a stand-alone structure.

Per our discussion and our review of code, we are satisfied that the requirements set forth in Table 506.2 can be achieved in our proposed design and strategies. Should you have any questions, please do not hesitate to call me.

Best Regards

Matthew Cordone, AIA
Matthew Cordone Architect PLLC



Matthew Cordone Architect PLLC
92 North Broadway, Irvington, New York 10533
Telephone: 917 749 8071 – Email: mcordone@mcapllc.net

THE CITY OF POUGHKEEPSIE

DEPARTMENT OF PUBLIC WORKS & ENGINEERING

SITE PLAN REVIEW

Form #1

1. Date: October 10, 2024

2. Name of Site Plan: 31-39 Market Street

3. Address or Location: 31-39 Market Street

4. Owner: 31 Market LLC

5. Engineer/ Architect: Natalie Quinn, KARC Planning Consultants

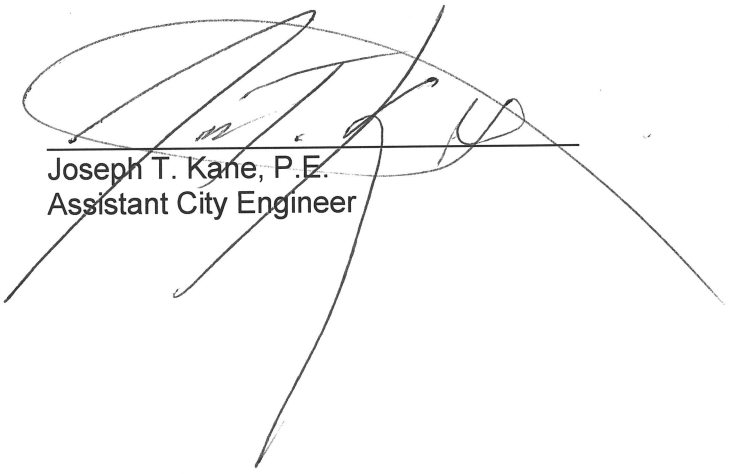
6. Yes ☐ No ☐ The site plan as forwarded by the Planning Department is acceptable and will be signed off on with no condition(s).

7. Yes ☐ No ☐ The site plan as forwarded by the Planning Department is acceptable and has been signed off on with no condition(s).

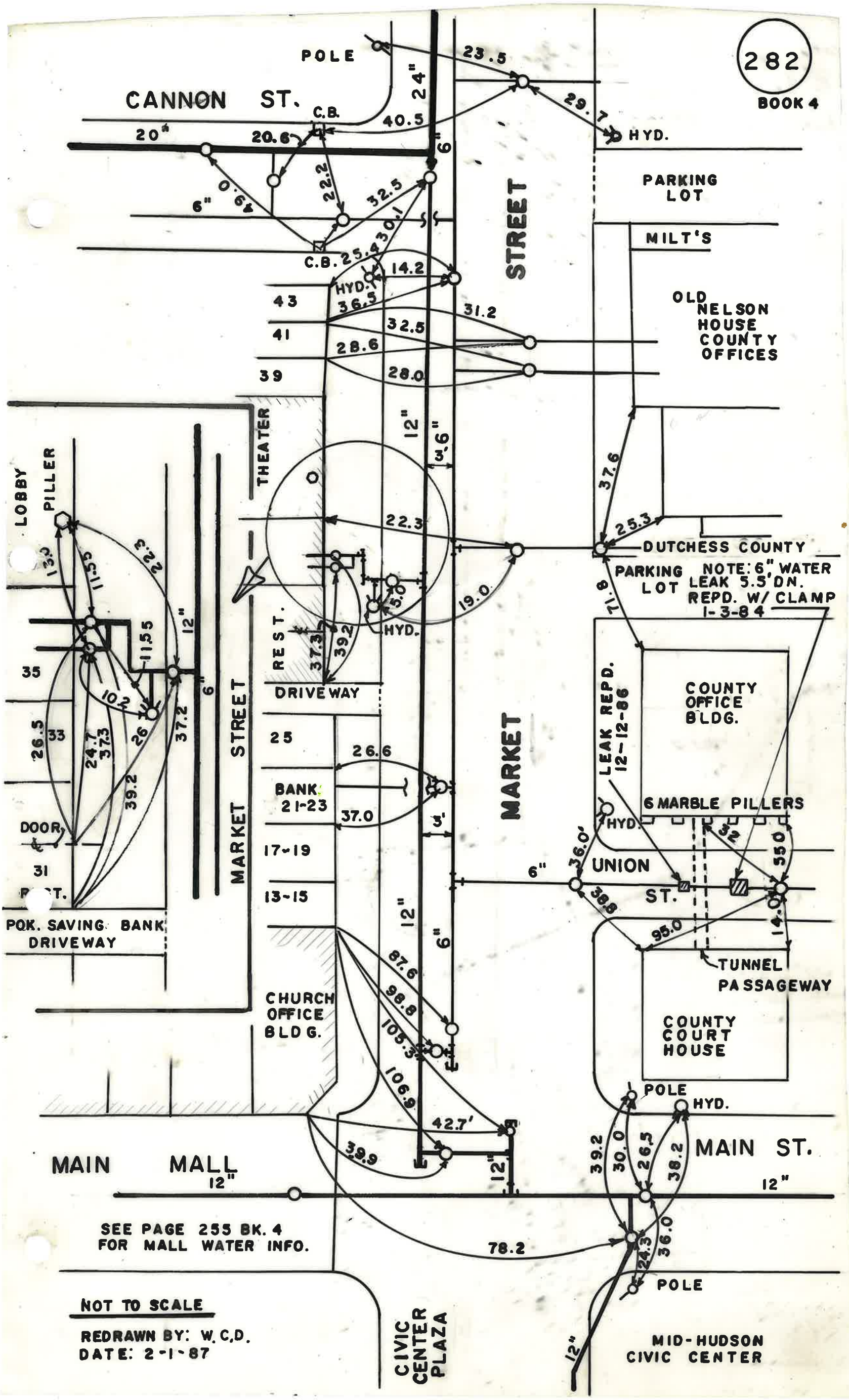
8. Yes ☒ No ☐ The applicant should be notified that the Dept. of Public Works/Engineering requires the following comment(s) be addressed:

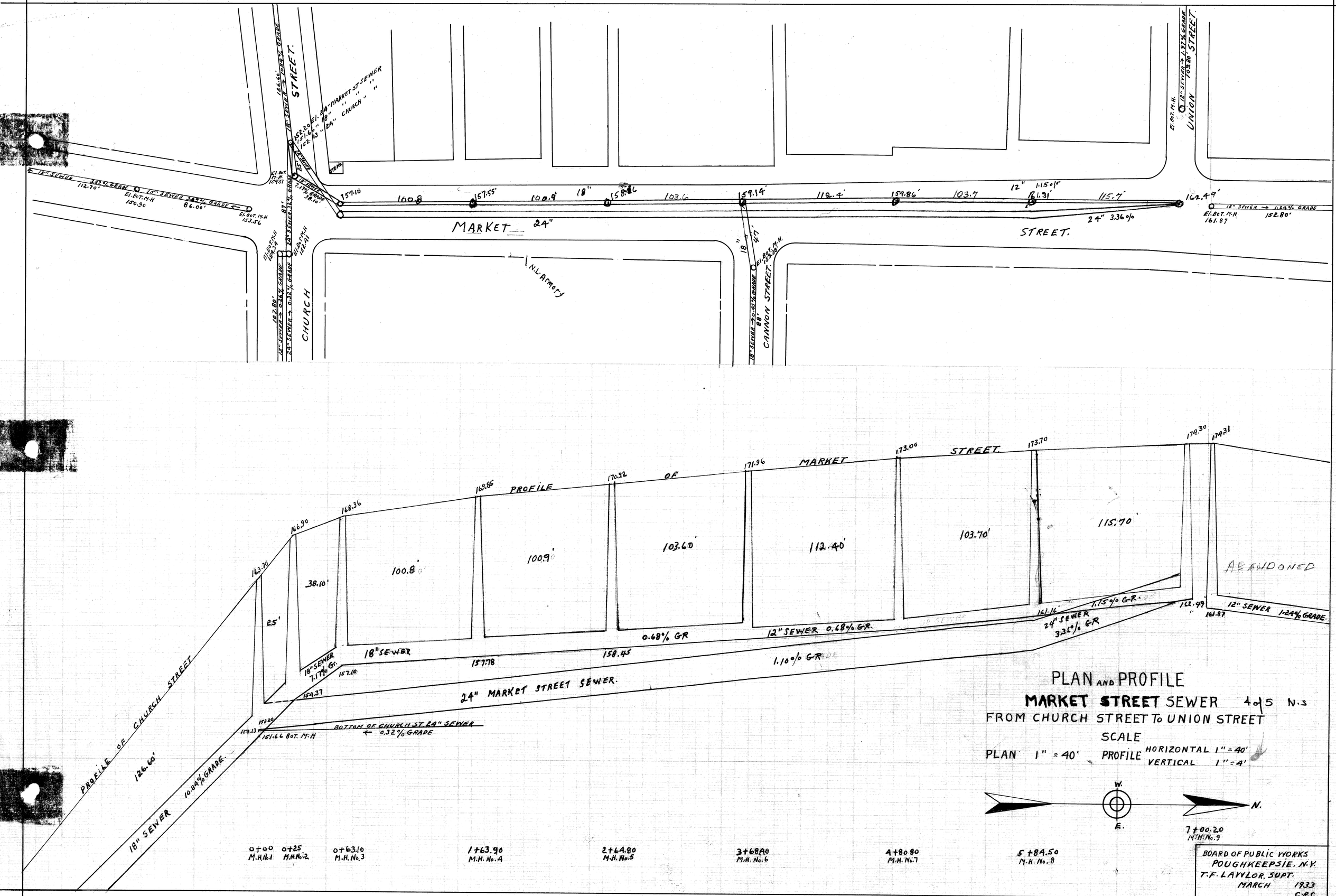
    1. Show on Site Plan property adjoiners.
    2. Show on Site Plan all utilities in Market Street and indicate size.
    3. Provide utility report indicating water, sanitary sewer and storm sewer usage/ demand for proposed alterations to both 31 and 39 Market Street. Coordinate with City Fire Department and demonstrate what is being asked is achieved.
    4. NYS licensed design professional to verify existing and proposed water and sewer connections are sufficient for proposed alterations.
    5. Any combined sanitary sewer and storm sewer connections, including roof leaders, to be separated for both 31 and 39 Market Street.
    6. Show on Site Plan sanitary sewer connection from building to main for both 31 and 39 Market Street. Indicate pipe size. Indicate which sewer main this discharges to in Market Street. Reconfiguration/ reconnection may be required. NYS licensed design professional to certify discharge points.
    7. Show on Site Plan storm sewer connection from building to main for both 31 and 39 Market Street. Indicate pipe size. Indicate which sewer main this discharges to in Market Street. Reconfiguration/ reconnection may be required. NYS licensed design professional to certify discharge points.
    8. Show on Site Plan location of water meter and backflow prevention devices for both 31 and 39 market Street.
    9. Show on site plan any new utility connections through street to be delineated, hatched and edges shown as saw cut. Provide City Standard Details for any proposed connections and restoration.
    10. Indicate and show on Site Plan size and material of water connection for both 31 and 39 Market Street.
    11. No lead water service lines permissible. Applicant/ Owner to replace section(s) containing lead with new copper.

12. NYS licensed design professional to certify material type of water service at the following locations:
    i. Foundation and/or slab penetration,
    ii. Inlet side of water meter,
    iii. Outlet side of water meter,
    iv. Inlet side of curb box valve located in sidewalk,
    v. Outlet side of cub box valve located in sidewalk.
13. Indicate method of determination of water service material. Include all notes and photos obtained from investigation in certification. Implement method that minimizes disturbance to extents practical.
14. Are there any interaction of water and sewer utilities between 31 Market Street and 35 Market Street – Bardavon 1869 Opera House (Parcel #: 131300-6162-77-039068-0000)? Are the utility connections shared or separate? Show and indicate existing configuration.
15. Indicate if any food prep is proposed for building alterations.
16. Show on Site Plan location of any existing or proposed grease traps. Include size and maintenance schedule on Site Plan.
17. Indicate and Show on Site Plan location of refuse container to be utilized.
18. Prepare and submit itemized estimate of proposed site work.



Joseph T. Kane, P.E.
Assistant City Engineer


282
BOOK 4
CANNON ST.
POLE
C.B.
20"
20.6
24"
6"
40.5
23.5
29.7
HYD.
PARKING LOT
STREET
22.2
32.5
30.1
6"
0.6
C.B.
25.4
14.2
HYD.
36.5
MILT'S
OLD NELSON HOUSE COUNTY OFFICES
43
41
39
31.2
32.5
28.6
28.0
THEATER
12"
3.6"
37.6
25.3
DUTCHESS COUNTY
PARKING LOT
NOTE: 6" WATER LEAK 5.5' DN. REPD. W/ CLAMP 1-3-84
22.3
19.0
5.0
HYD.
REST.
37.3
39.2
DRIVEWAY
LOBBY
PILLER
13.3
11.5
22.3
11.55
12"
6"
35
10.2
26
37.2
26.5
33
24.7
37.3
39.2
DOOR
31
POK. SAVING BANK DRIVEWAY
MARKET STREET
25
26.6
BANK
21-23
37.0
3'
17-19
13-15
12"
6"
MARKET
LEAK REPD. 12-12-86
COUNTY OFFICE BLDG.
6 MARBLE PILLERS
HYD.
36.0'
32
35.0
6"
UNION ST.
38.8
14.0
95.0
TUNNEL PASSAGEWAY
COUNTY COURT HOUSE
87.6
98.8
105.3
106.9
CHURCH OFFICE BLDG.
42.7'
39.9
12"
POLE
HYD.
39.2
30.0
26.5
38.2
MAIN ST.
MAIN MALL
12"
12"
SEE PAGE 255 BK. 4 FOR MALL WATER INFO.
78.2
24.3
36.0
POLE
NOT TO SCALE
REDRAWN BY: W.C.D.
DATE: 2-1-87
CIVIC CENTER PLAZA
12"
MID-HUDSON CIVIC CENTER



PLAN AND PROFILE

MARKET STREET SEWER 4 of 5 N.S

FROM CHURCH STREET To UNION STREET

SCALE

PLAN 1" = 40' PROFILE HORIZONTAL 1" = 40'
VERTICAL 1" = 4'

W. N. E.

BOARD OF PUBLIC WORKS
POUGHKEEPSIE, N.Y.
T.F. LAWLOR, SUPT.
MARCH 1933
C.R.C.

-36.0

BUILDING DEPARTMENT

CITY OF POUGHKEEPSIE
62 CIVIC CENTER PLAZA, 2ND FLOOR
POUGHKEEPSIE, NY 12601
Phone: (845) 451-4007 Fax: (845) 451-4006

Eric Philipp
Building Inspector

SITE PLAN REVIEW

DATE: 9-30-24

PROJECT ADDRESS: 31 and 39 Market St

PROJECT NAME: office to apartment conversion

OWNER: 31 Market Place, LLC

ENGINEER/ARCHITECT:

☐ **The site plan is acceptable and will be signed with no conditions.**

☑ **The site plan cannot be approved as submitted. The following comments must be addressed or conditions satisfied:**

These properties also share a common space with 35 Market St without a fire wall without openings in it. Before a permit for this work would be able to be issued proof that the building maximum height and area requirements of all three properties comply with the NYS building code and there shall be easements and contractual agreements that permit the owners of portions of the buildings located on either side of the lot line access to the other side for the purposes of maintaining fire and life safety systems necessary for the operation of the building, copies of such must be submitted with the building permit applications for the approved planning board work. Additionally 31 and 39 Market St will need to be merged into one property of record before CO's can be issued.

Eric Philipp
Building Inspector

THE CITY OF POUGHKEEPSIE
FIRE DEPARTMENT

505 MAIN STREET
POUGHKEEPSIE, NY 12601
TEL: 845-451-4079 FAX: 845-451-4191
FIRE CHIEF JOSEPH FRANCO
JFRANCO@CITYOFPOUGHKEEPSIE.COM

SITE PLAN REVIEW FORM

TO: Planning Board

FROM: Fire Chief Joseph Franco

DATE: October 10, 2024

ADDRESS: 31-39 Market St

_____ The site plan is acceptable and will be signed.

__X___ The site plan is acceptable and will be signed with the following conditions:

1. Full fire sprinkler plans with calculations showing water supply meets demand of system.
2. Clarity if projects sprinkler system will be fed by 1 sprinkler system or separate systems.

Vincent Parise, Deputy Fire Chief

10/30/2024
Date

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "**Yes"** to a numbered question, please complete all the questions that follow in that section.
- If you answer "**No"** to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land
Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1)
If "Yes", answer questions a - j. If "No", move on to Section 2.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☐	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☐	☐
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☐	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☐	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☐	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☐	☐
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☐	☐
h. Other impacts: _____ _____		☐	☐

2. Impact on Geological Features

The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g)

☑ NO ☐ YES

If "Yes", answer questions a - c. If "No", move on to Section 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Identify the specific land form(s) attached: _____ _____	E2g	☐	☐
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: _____	E3c	☐	☐
c. Other impacts: _____ _____		☐	☐

3. Impacts on Surface Water

The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h)

☑ NO ☐ YES

If "Yes", answer questions a - l. If "No", move on to Section 4.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may create a new water body.	D2b, D1h	☐	☐
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	☐	☐
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	☐	☐
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	☐	☐
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	☐	☐
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	☐	☐
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	☐	☐
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	☐	☐
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	☐	☐
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	☐	☐
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	☐	☐

l. Other impacts: _____ _____		□	□

4. Impact on groundwater

The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. (See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t)

☐ NO ☑ YES

If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	☑	☐
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: _____	D2c	☑	☐
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	☑	☐
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	☑	☐
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	☑	☐
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	☑	☐
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	☑	☐
h. Other impacts: _____ _____		☑	☐

5. Impact on Flooding

The proposed action may result in development on lands subject to flooding. (See Part 1. E.2)

☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	□	□
b. The proposed action may result in development within a 100 year floodplain.	E2j	□	□
c. The proposed action may result in development within a 500 year floodplain.	E2k	□	□
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	□	□
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	□	□
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	□	□

g. Other impacts: _____ _____		☐	☐

6. Impacts on Air

The proposed action may include a state regulated air emission source. (See Part 1. D.2.f., D.2.h, D.2.g) ☑ NO ☐ YES

If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	☐	☐
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	☐	☐
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	☐	☐
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	☐	☐
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	☐	☐
vi. 43 tons/year or more of methane	D2h	☐	☐
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	☐	☐
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	☐	☐
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	☐	☐
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	☐	☐
f. Other impacts: _____ _____		☐	☐

7. Impact on Plants and Animals

The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☑ NO ☐ YES

If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	☐	☐
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	☐	☐
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	☐	☐
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	☐	☐

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	☐	☐
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: _____	E2n	☐	☐
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	☐	☐
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: _____ _____	E1b	☐	☐
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	☐	☐
j. Other impacts: _____ _____		☐	☐

8. Impact on Agricultural Resources

The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	☐	☐
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, Elb	☐	☐
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	☐	☐
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	☐	☐
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	El a, E1b	☐	☐
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	☐	☐
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	☐	☐
h. Other impacts: _____		☐	☐

9. Impact on Aesthetic Resources

The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)

☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", go to Section 10.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☐	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☐	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	 ☐ ☐	 ☐ ☐
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	 ☐ ☐	 ☐ ☐
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☐
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☐	☐
g. Other impacts: _____ _____		☐	☐

10. Impact on Historic and Archeological Resources

The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)

☐ NO ☑ YES

If "Yes", answer questions a - e. If "No", go to Section 11.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on the National or State Register of Historical Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places.	E3e	☑	☐
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	☑	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: _____	E3g	☑	☐

d. Other impacts: _____ _____		☐	☐
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	☐	☐
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	☐	☐
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	☐	☐

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	☐	☐
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	☐	☐
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	☐	☐
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	☐	☐
e. Other impacts: _____ _____		☐	☐

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)
If "Yes", answer questions a - c. If "No", go to Section 13.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
c. Other impacts: _____ _____		☐	☐

13. Impact on Transportation

The proposed action may result in a change to existing transportation systems. ☑ NO ☐ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☐	☐
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☐	☐
c. The proposed action will degrade existing transit access.	D2j	☐	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☐	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☐	☐
f. Other impacts: _____ _____		☐	☐

14. Impact on Energy

The proposed action may cause an increase in the use of any form of energy. ☑ NO ☐ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☐	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☐	☐
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☐	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☐	☐
e. Other Impacts: _____ _____			

15. Impact on Noise, Odor, and Light

The proposed action may result in an increase in noise, odors, or outdoor lighting. ☑ NO ☐ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☐	☐
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☐	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☐	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☐	☐
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☐	☐
f. Other impacts: _____ _____		☐	☐

16. Impact on Human Health

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.) ☑ NO ☐ YES

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No,or small impact may cccur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☐	☐
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☐	☐
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☐	☐
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☐	☐
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☐	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☐	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☐	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☐	☐
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☐	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☐	☐
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☐	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☐	☐
m. Other impacts: _____ _____			

17. Consistency with Community Plans

The proposed action is not consistent with adopted land use plans. (See Part 1. C.1, C.2. and C.3.) ☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☐	☐
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☐	☐
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☐	☐
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☐	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, Elb	☐	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☐	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☐	☐
h. Other: _____ _____		☐	☐

18. Consistency with Community Character

The proposed project is inconsistent with the existing community character. (See Part 1. C.2, C.3, D.2, E.3) ☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", proceed to Part 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☐	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☐	☐
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☐	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☐	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☐	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☐	☐
g. Other impacts: _____ _____		☐	☐

PRINT FULL FORM

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:
To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☐ Type 1 ☐ Unlisted

Identify portions of EAF completed for this Project: ☐ Part 1 ☐ Part 2 ☐ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information

_____

_____

_____

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the _____ as lead agency that:

☐ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

_____

_____

_____

_____

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.7(d)).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action:	
Name of Lead Agency:	
Name of Responsible Officer in Lead Agency:	
Title of Responsible Officer:	
Signature of Responsible Officer in Lead Agency:	Date:
Signature of Preparer (if different from Responsible Officer)	Date:

For Further Information:

Contact Person:

Address:

Telephone Number:

E-mail:

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

PRINT FULL FORM

CITY OF POUGHKEEPSIE
PLANNING BOARD
MEETING DATES 2025

City Hall – Common Council Chambers at 6:00 P.M.

The agenda will be posted on the city's website one (1) week prior to the scheduled meeting.
Applications to be considered must be submitted four (4) weeks prior to the scheduled meeting.

TUESDAY, JANUARY 28

TUESDAY, FEBRUARY 25

TUESDAY, MARCH 25

TUESDAY, APRIL 22

TUESDAY, MAY 27

TUESDAY, JUNE 24

TUESDAY, JULY 22

TUESDAY, AUGUST 26

TUESDAY, SEPTEMBER 23

TUESDAY, OCTOBER 28

TUESDAY, NOVEMBER 25

WEDNSDAY, DECEMBER 17

Motion to approve the 2025 Planning Board meeting schedule
Motion:
Second:
Carried:

*Meeting dates may change as necessary. Updates to dates and times can be found on the Agenda & Minutes page of the website.