



**City of Poughkeepsie
Waterfront Advisory Committee
Meeting Agenda**

Common Council Chambers
Tuesday, August 22, 2023
6:00 PM

I. APPROVAL OF MEETING MINUTES

1. Approval of June 27, 2023 Meeting Minutes

II. NEW BUSINESS

1. 10 Rinaldi Blvd

III. OLD BUSINESS

1. WAC consistency review process

APPLICATION TO THE PLANNING BOARD
CITY OF POUGHKEEPSIE, NEW YORK

Application for Site Plan, Special Permit & Facade Approval

- I. PROPERTY ADDRESS:** 10 Rinaldi Boulevard
- II. PROPERTY OWNER:** Rip Van Winkle House LLC
ADDRESS: c/o Related Cos, 30 Hudson Yards, 72nd Floor
New York
NY 10001 (state and zip code)
PHONE NUMBER: 646-767-3207 (include area code)
- III. NAME OF APPLICANT:** RVW Preservation, L.P.
ADDRESS: c/o Related Cos, 30 Hudson Yards, 72nd Floor
New York
NY 10001 (state and zip code)
PHONE NUMBER: 646-767-3207 (include area code)
EMAIL ADDRESS: david.pearson@related.com
- (If applicant is NOT the owner, proof of owner's consent to the application MUST be provided.)
- IV. CONSULTANT:** Hershberg & Hershberg c/o Nicholas Daniels, P.E
ADDRESS: 18 Locust Street
Albany
NY 12205 (state and zip code)
PHONE NUMBER: 518-459-3096 (include area code)
- V. PROPOSED USE or FAÇADE CHANGE** (Summarize proposed use or uses): Proposed building
addition containing a community area for tenants at Rip Van Winkle House. No new units are proposed.
- VI. ZONING DISTRICT:** WTOD

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: X (yes) _____ (no)

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

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

Alteration: _____ (yes) X (no)

Cost of Construction: \$ 12,393,111.00

LOT AND BULK INFORMATION:

Lot area: 4.95 (acres) 215,915 (square feet)

Building Footprint: 2,350 ± (proposed square feet for new construction)

10,000 ± (existing square feet for change of use/expansion)

2,350 ± (additional proposed square feet for expansion)

12,350 ± (total building footprint, square feet)

Lot Coverage: 5.7% (percentage, building coverage only)

Gross Floor Area: 4,700 (proposed square feet for new construction)

180,000 (existing square feet for change of use/expansion)

4,700 (additional proposed square feet for expansion)

184,700 (total gross floor area, square feet)

Building Height: 18 (stories) 180 (feet)

Floor Area Ratio: 0.85 (ratio of gross floor area divided by lot area)

VIII. PROJECT PARKING INFORMATION

A) Number of Off-Street Parking Spaces required: N/A

B) Number of Off-Street Parking Spaces provided: N/A

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

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

If yes, name all such municipal facilities: Parking on Rinaldi Boulevard

(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):
N/A

IX. RESIDENTIAL PROPOSALS

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

B) Unit Breakdown:

Number of efficiency or "studio" units: N/A - No New Units

Number of one (1) bedroom units: N/A - No New Units

Number of two (2) bedroom unit's N/A - No New Units

Number with three or more bedrooms: N/A - No New Units

Total number of units: N/A - No New Units

C) Is funding public? ☒ Yes _____ No

If yes, describe funding source: Tax-Exempt Bonds & Tax Credit Equity

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):

N/A

XVII. APPLICANT CERTIFICATION

I, David Pearson, 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.

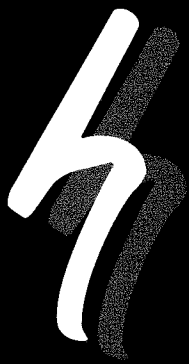
The applicant certifies that all information contained herein is accurate and complete as of the date of this application.

DocuSigned by:
DAVID PEARSON
C93D0577FF8A402...

3/20/23

Signature of Applicant

Date



**HERSHBERG
&
HERSHBERG**

*Consulting
Engineers*



Land Surveyors



Land Planners

18 Locust Street
Albany, New York 12203
(518) 459-3096
FAX (518) 459-5683
E-Mail Address:
hhershberg@aol.com

BY EMAIL

August 1, 2023

Ms. Lori Garcia
Board Administrative Assistant
City of Poughkeepsie Planning & Zoning
62 Civic Center Plaza
Poughkeepsie, New York 12610

**RE: Site Plan Application
Rip Van Winkle Apartments
No.10 Rinaldi Boulevard
H&H File #2023-0038**

Dear Ms. Garcia:

Revised copies of site plans and architectural renderings were recently delivered to you for the August Planning Board Meeting.

The following changes were made to the site plans:

- Existing trees and shrubs are shown along the sidewalk adjacent to the parking lot
- A picnic table and two benches have been added to Sheet C3.
- Light fixture information updated on Sheet C5.
- Additional landscaping provided along sidewalk adjacent to parking lot on Sheet C6.

Three architectural renderings have been provided:

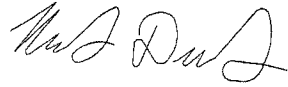
- The first rendering shows the building addition looking toward the northwest. This rendering is just provided to show the color scheme of the addition, as this does not accurately account for topography.
- The second rendering shows the building addition looking toward the northwest, but accounts for topography. The elevation change from the parking lot to the building addition is significant, so a majority of the building addition is not visible.
- The third rendering shows the existing building looking toward the southeast. Due to the dense treeline and topography change, the building addition would not be visible to anyone from this sight line, or any sight line looking in an easterly direction

If you require any additional information, please contact me at your convenience.

FOUNDER
Ben B. Hershberg, P.E., L.S.
(1901-2002)

PARTNERS
Daniel R. Hershberg, P.E., L.S.
Francis G. McCloskey, L.S.
Nicholas J. Daniels, P.E.

Sincerely yours,
HERSHBERG & HERSHBERG
CONSULTING ENGINEERS & LAND SURVEYORS



Nicholas Daniels, P.E.

Enclosures

Ec: Jennifer Chan
Michael Antonik
Justin Glanda
Robert Kurzon
Sean Fernandes

ND/nick/230038 LG 8 1 23.doc

MAP REFERENCE

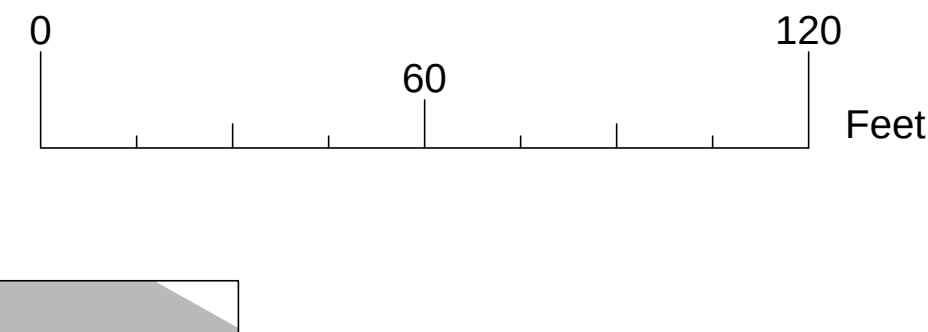
1. A MAP ENTITLED "10 RINALDI BLVD, ALTA/NSPS SURVEY PREPARED FOR RIP VAN WINKLE HOUSE, LLC" PREPARED BY BRENDAN JOHNSON, P.L.S DATED DECEMBER 16, 2022

SCHEDULE B EXCEPTIONS

5 - UTILITY EASMENTS - LIBER 1316, PAGE 657 - AS SHOWN HEREIN

FLOOD ZONE

SUBJECT PARCEL IS LOCATED IN ZONE "X" UNSHADED. AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS PER FLOOD INSURANCE RATE MAP: NO.36027C0354E EFFECTIVE DATE: MAY 2, 2012

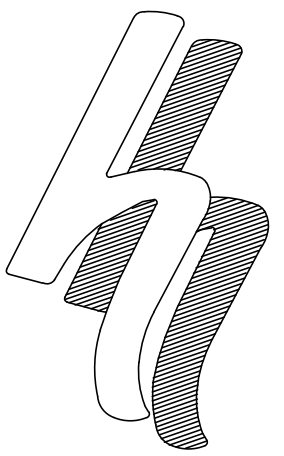


VICINITY MAP

MAP NOT TO SCALE

SURVEY NOTES

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3. ONLY BOUNDARY SURVEY MAPS WITH THE SURVEYOR'S EMBOSSED OR RED INKED SEAL ARE GENUINE TRUE AND CORRECT COPIES OF THE SURVEYOR'S ORIGINAL WORK AND OPINION. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED INKED SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.
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7. SUBJECT TO COVENANTS, EASEMENTS, RESTRICTIONS, CONDITIONS AND AGREEMENTS OF RECORD.
8. SUBJECT TO ANY RIGHT, TITLE OR INTEREST THE PUBLIC MAY HAVE FOR HIGHWAY USE.
9. BEARINGS AND NORTH SHOWN HEREON ARE REFERENCED TO NAD 83-NY EAST USING NYSNET RTN GPS.
10. CONTOUR INTERVAL IS TWO FOOT. ELEVATIONS SHOWN HEREON ARE REFERENCED TO NAVD 88 USING NYSNET RNT GPS.



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and Land Surveyors

18 Locust Street
Albany, New York 12203

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DATE	7/14/23
REMARKS	PLANNING REVISIONS
REVISIONS	

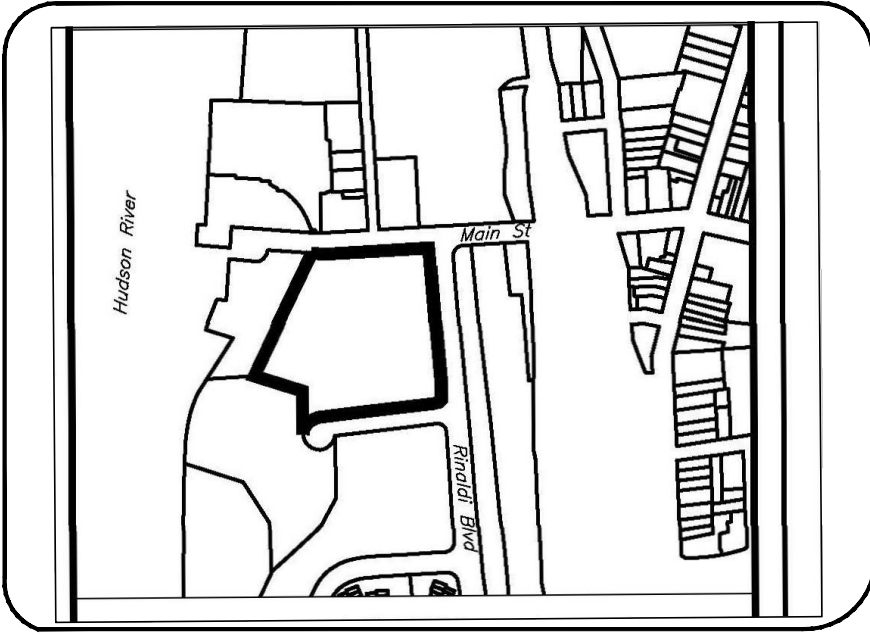
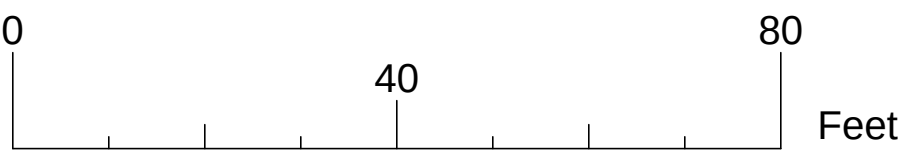
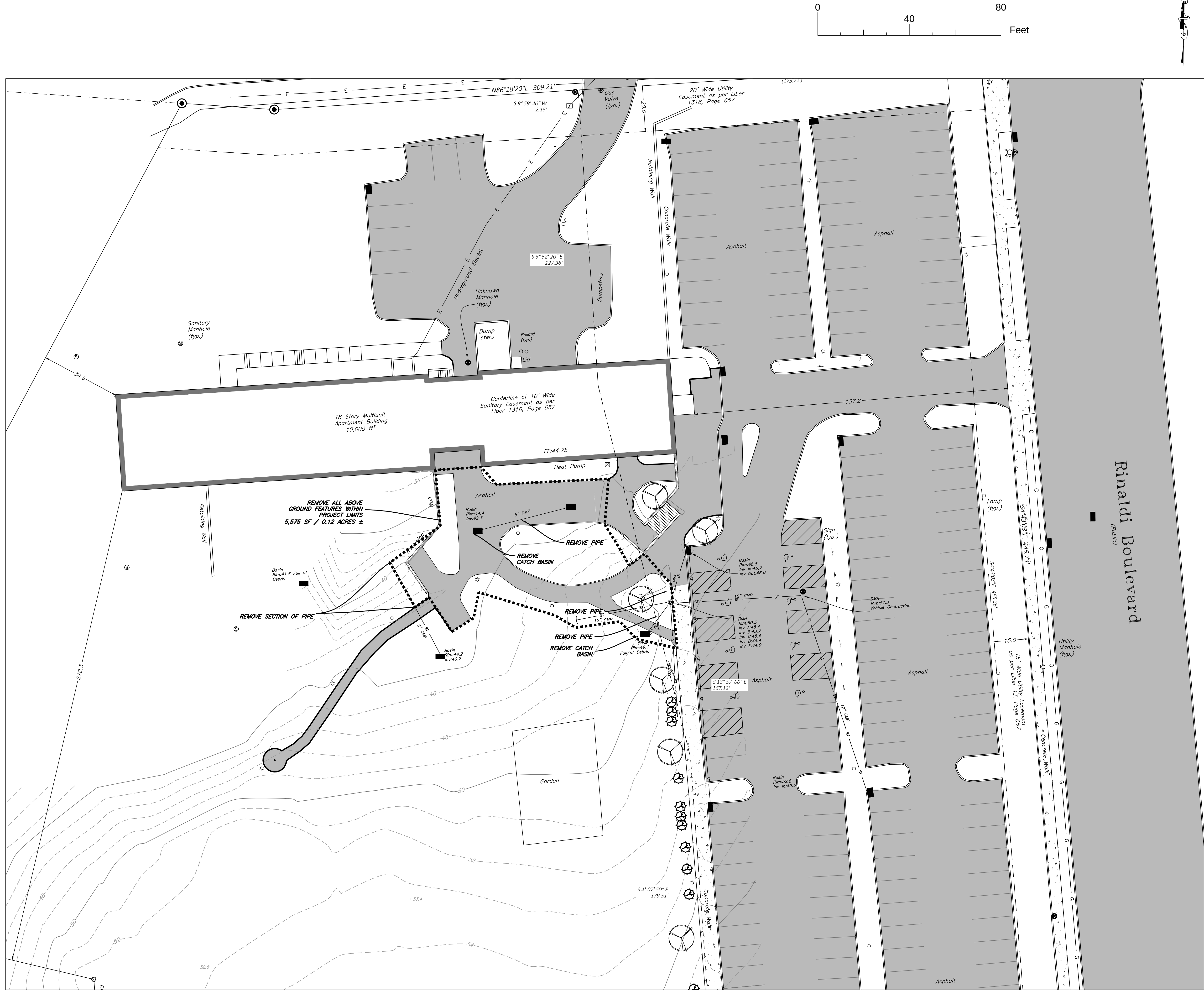
DRAWING INDEX

DRAWING INDEX	SHEET NAME
C1	EXISTING CONDITIONS PLAN
C2	DEMOLITION PLAN
C3	SITE PLAN
C4	DRAINAGE PLAN
C5	LIGHTING PLAN
C6	LANDSCAPING PLAN
C7	DETAILS

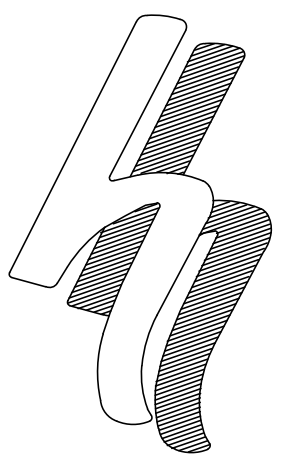
EXISTING CONDITIONS PLAN
RIP VAN WINKLE APARTMENTS
10 RINALDI BOULEVARD
CITY OF Poughkeepsie, DUTCHESS COUNTY, NEW YORK STATE

FILE: 230038
DATE: 2/2/23
CHK: DRH
BY: ND
SCALE: 1"=20'
230038-1.DWG

C1



VICINITY MAP
MAP NOT TO SCALE



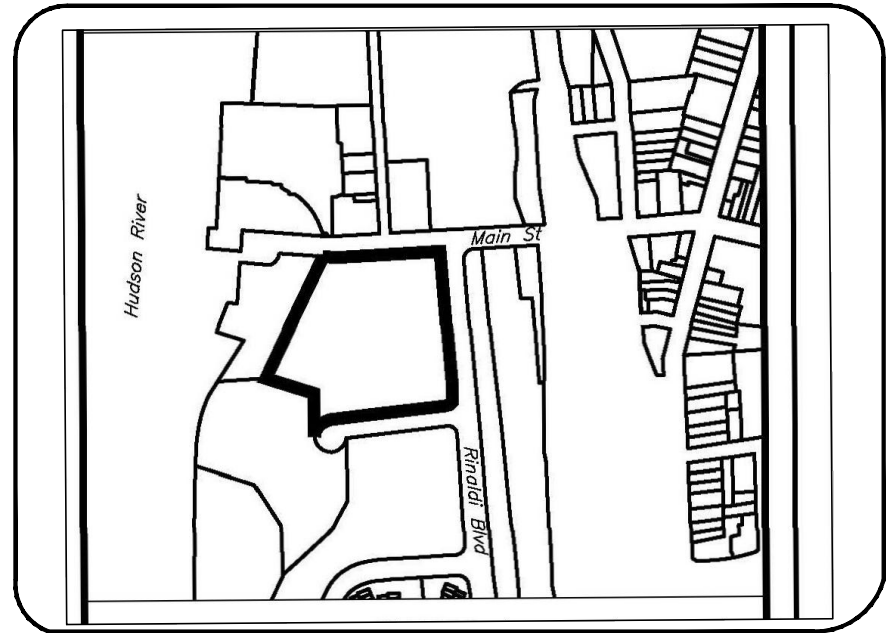
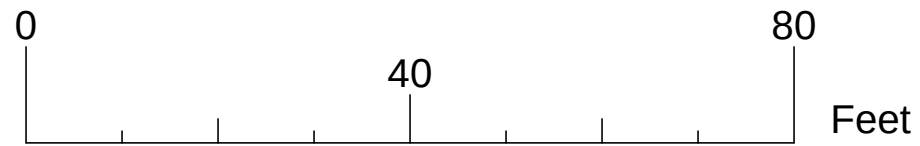
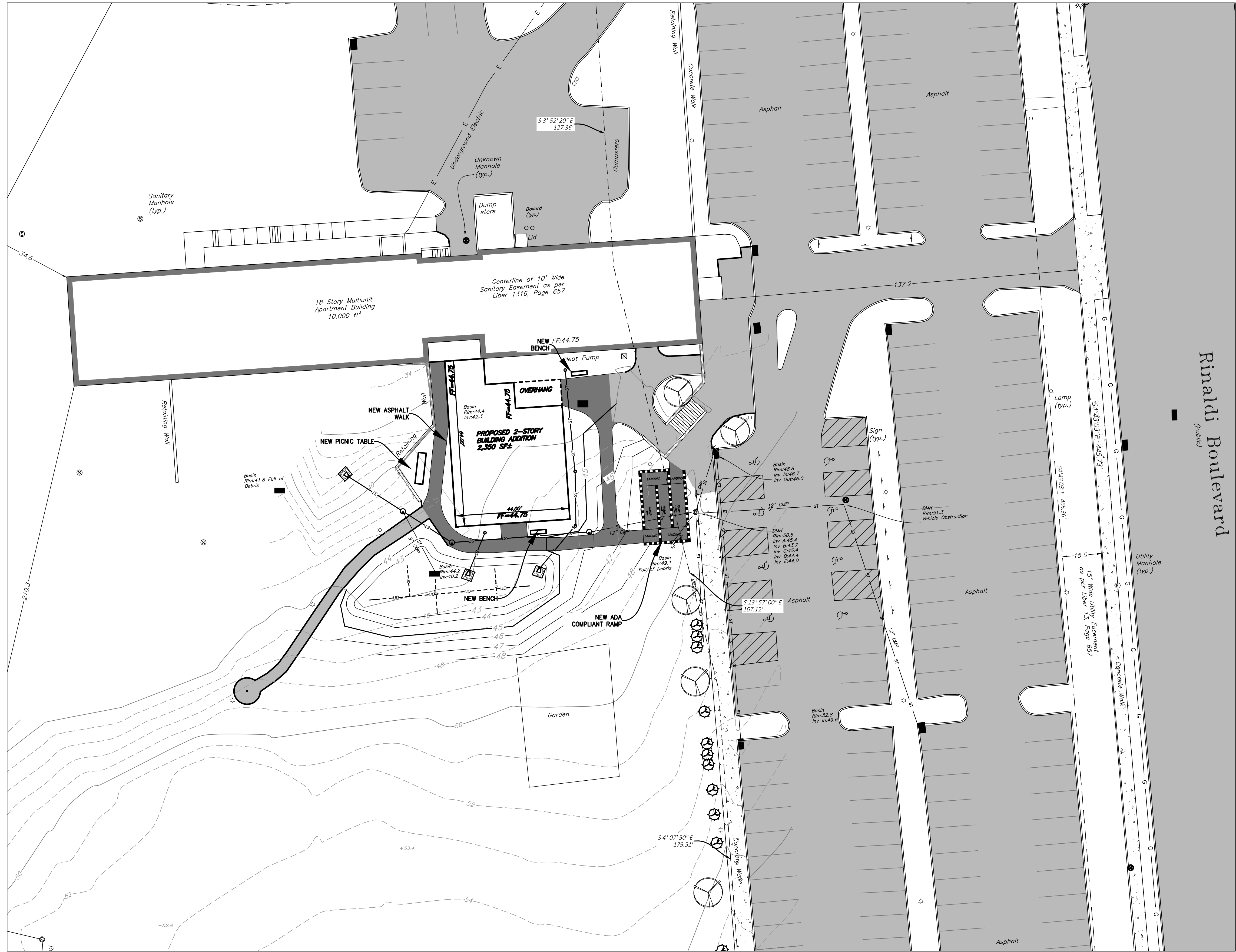
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REVISIONS	DATE	REVISIONS
PLANNING	7/14/23	
REVISIONS		

DEMOLITION PLAN
RIP VAN WINKLE APARTMENTS
10 RINALDI BOULEVARD
CITY OF POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK STATE
FILE: 230038
SCALE: 1"=20'
DATE: 2/21/23
CHK: DRH
BY: NO
230038-LDWS

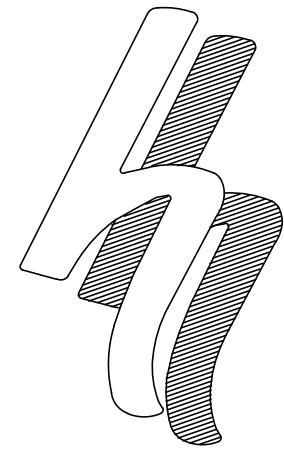


VICINITY MAP
MAP NOT TO SCALE

ZONING INFORMATION

WATERFRONT TRANSIT ORIENTED DEVELOPMENT (WTOD) DISTRICT	
MINIMUM LOT AREA	1,600 SQUARE FEET
MINIMUM FRONT YARD	20 FEET
MINIMUM SIDE YARD	15 FEET
MINIMUM REAR YARD	25 FEET
MINIMUM STREET FRONTAGE	100 FEET
MAXIMUM HEIGHT	35 FEET
MAXIMUM LOT WIDTH	100 FEET
MAXIMUM BUILDING COVERAGE	70%

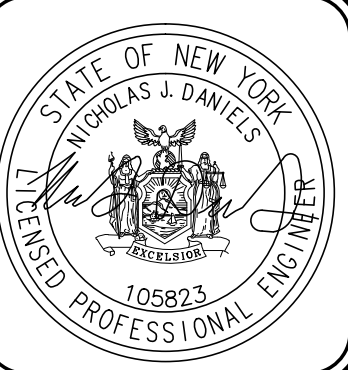
SUBJECT PARCEL IS LOCATED WITHIN THE WATERFRONT TRANSIT ORIENTED DEVELOPMENT DISTRICT AS PER MAP ENTITLED "CITY OF Poughkeepsie Zoning Districts" PREPARED BY CITY OF Poughkeepsie PLANNING DEPARTMENT. ISSUED NOVEMBER 29, 2019



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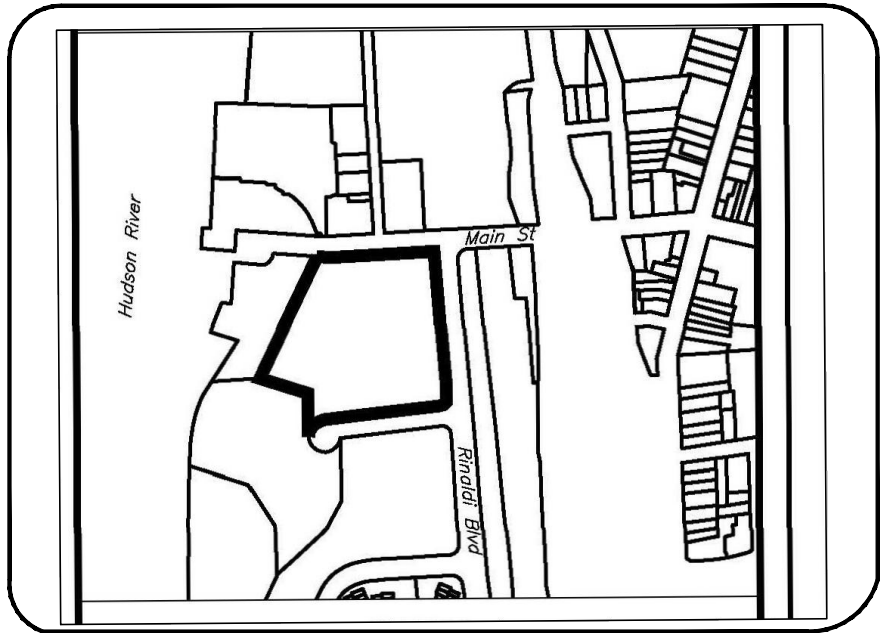
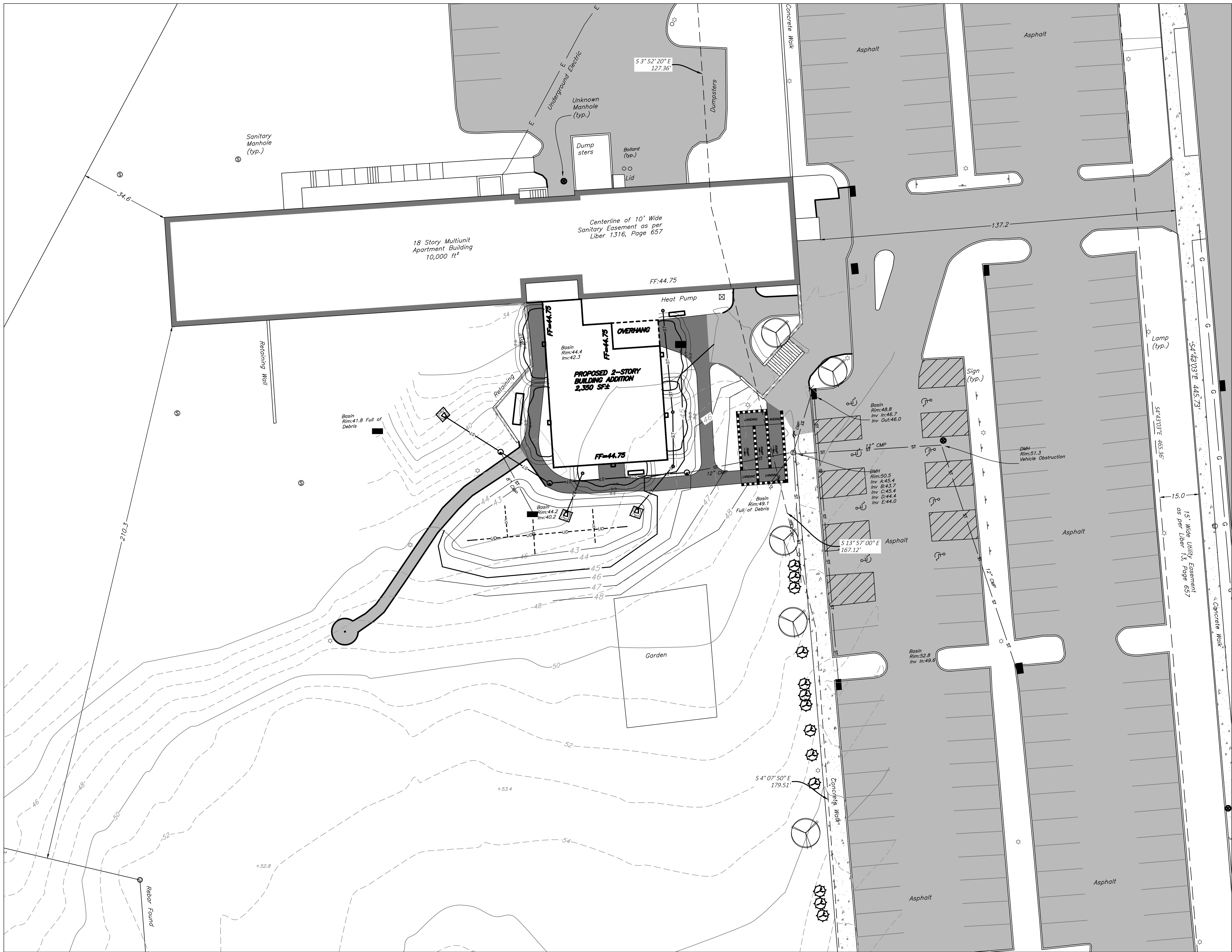
DATE	7/14/23
REMARKS	PLANNING REVISIONS
REVISIONS	

SITE PLAN
RIP VAN WINKLE APARTMENTS
10 RINALDI BOULEVARD
CITY OF Poughkeepsie, Dutchess County, New York State

FILE: 230208
 SCALE: 1"=20'
 CHK: DRH
 DATE: 2/27/23
 230208-LDWG

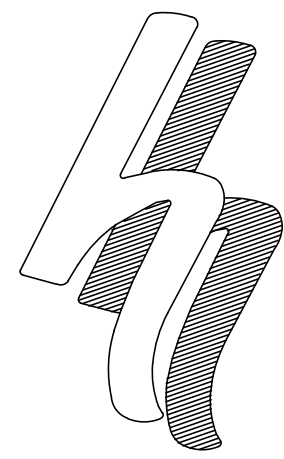
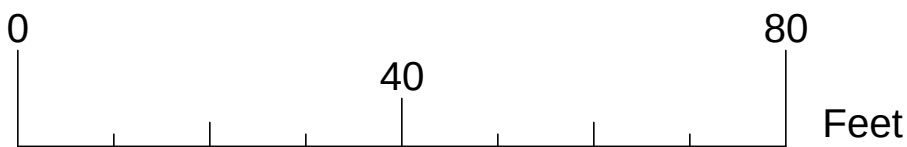
LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lumens	LLF	Watts
	B	5	WSR LED P1 30K SR2 MVOLT DBLXD	WSR LED P1 WITH 2 LIGHT ENGINES, 3000K LED	2,111	0.95	20



VICINITY MAP

MAP NOT TO SCALE

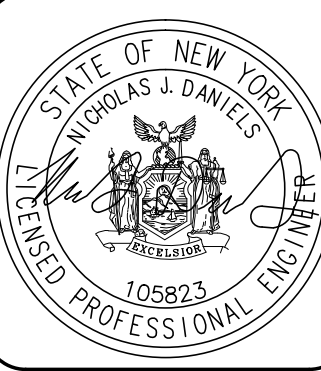


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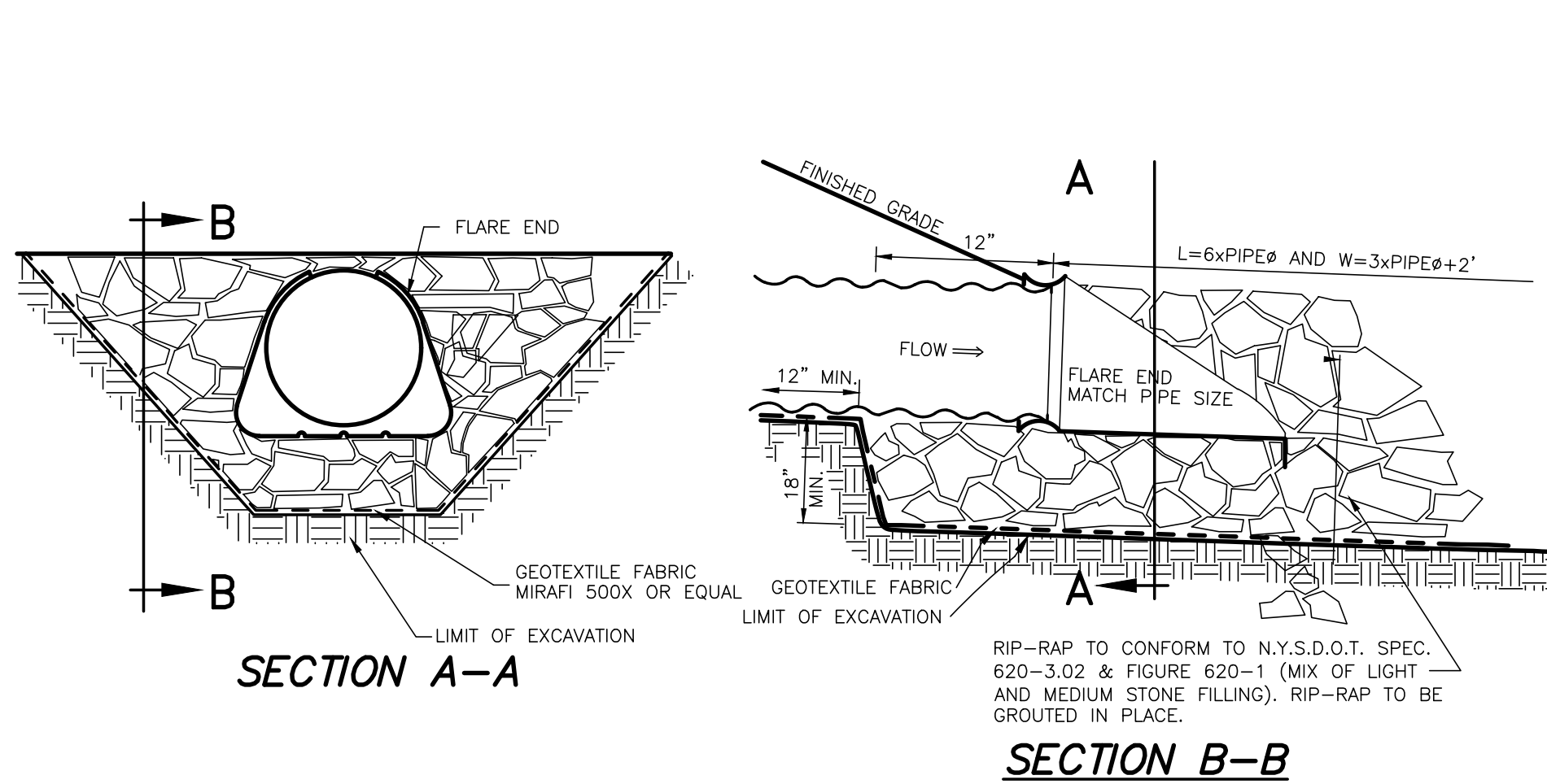


DATE	REVISIONS
7/14/23	PLANNING REVISIONS

REVISIONS

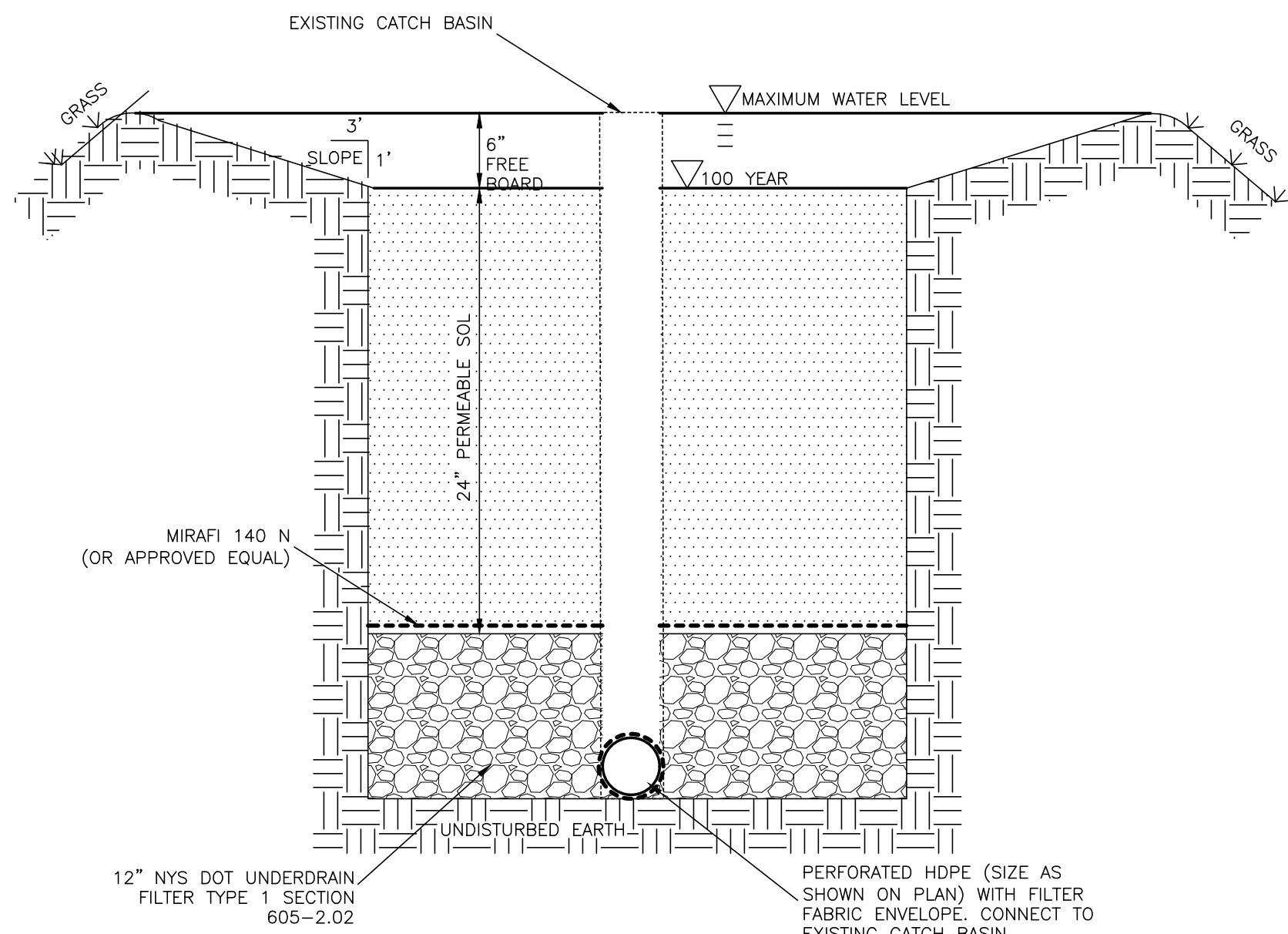
LIGHTING PLAN
RIP VAN WINKLE APARTMENTS
10 RINALDI BOULEVARD
CITY OF Poughkeepsie, Dutchess County, New York State

FILE: 230208
SCALE: AS NOTED
DATE: 2/21/23
CHK: DRH
230208-LDWG

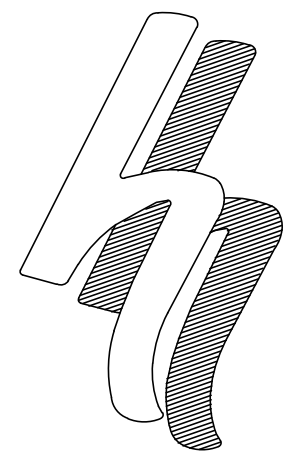
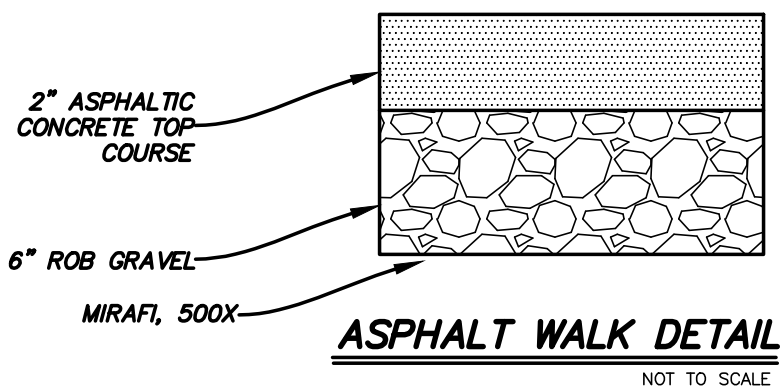
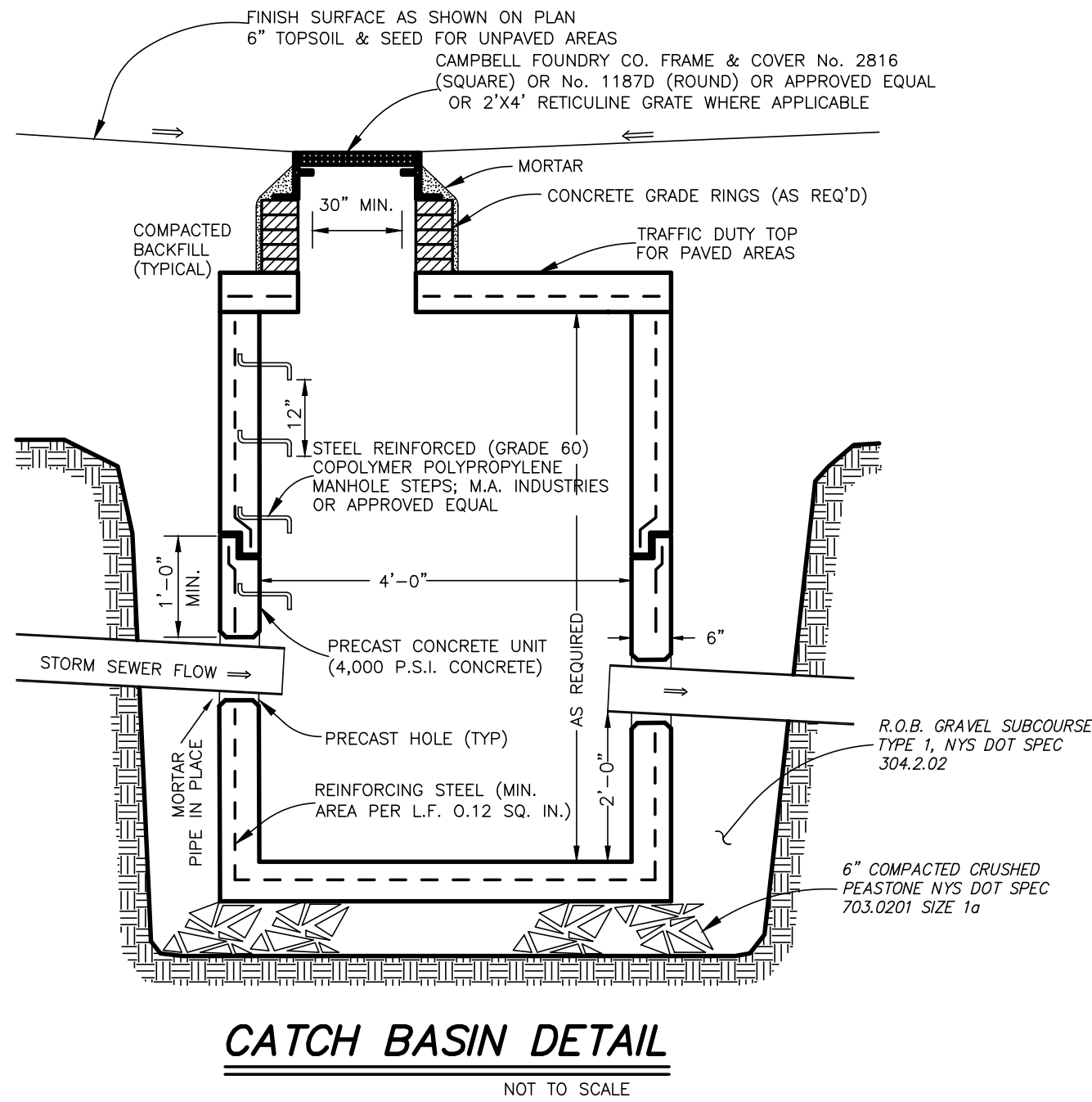
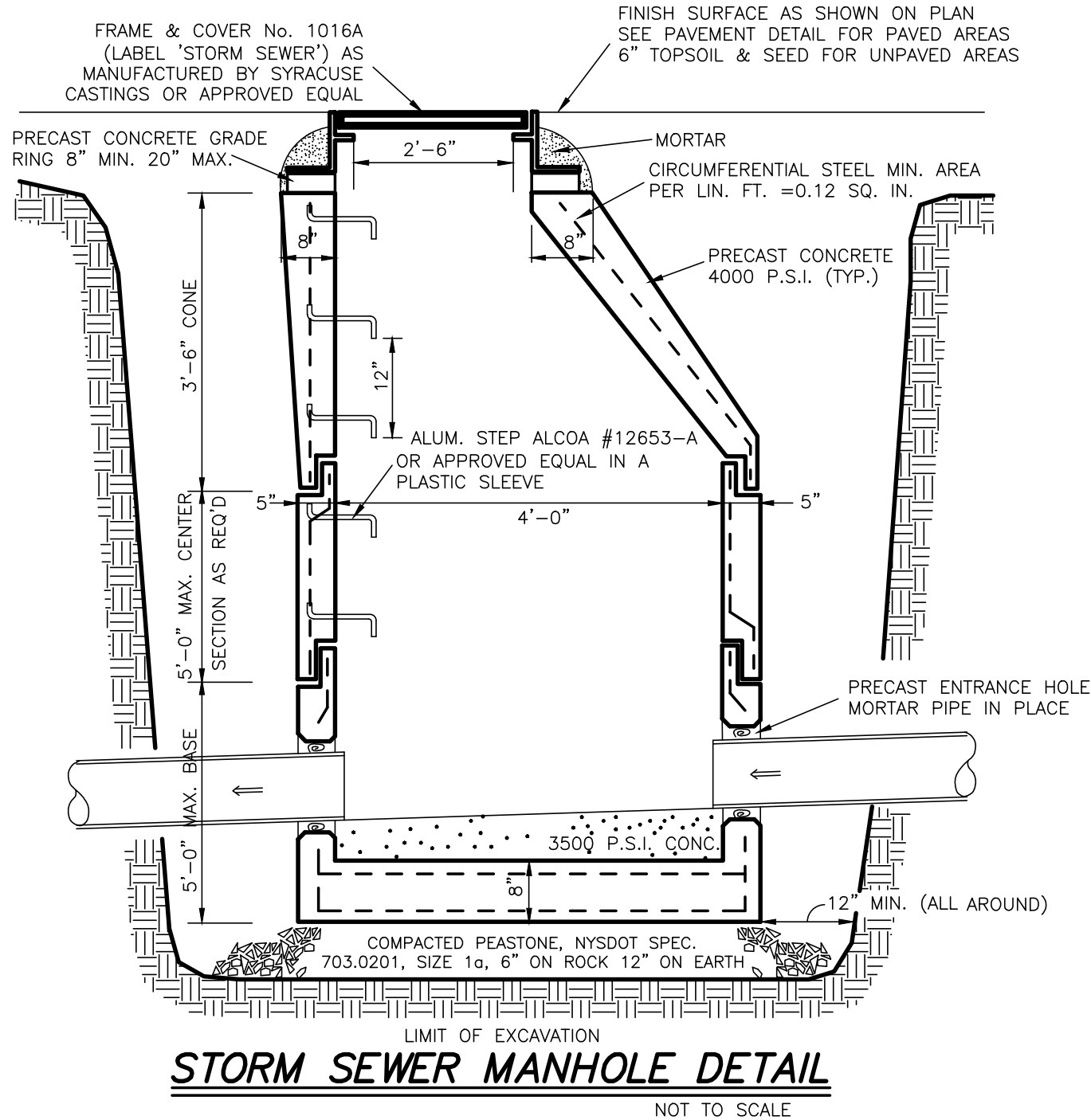
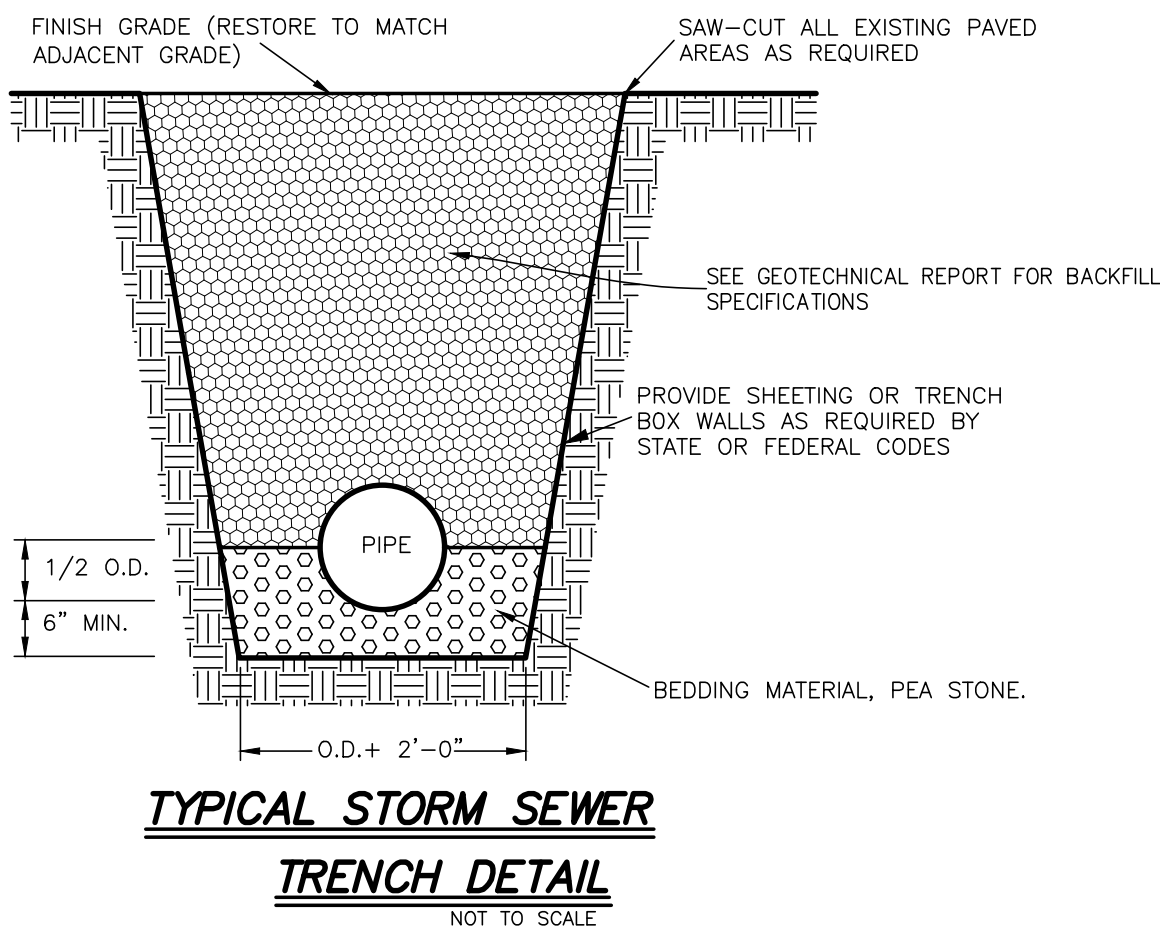
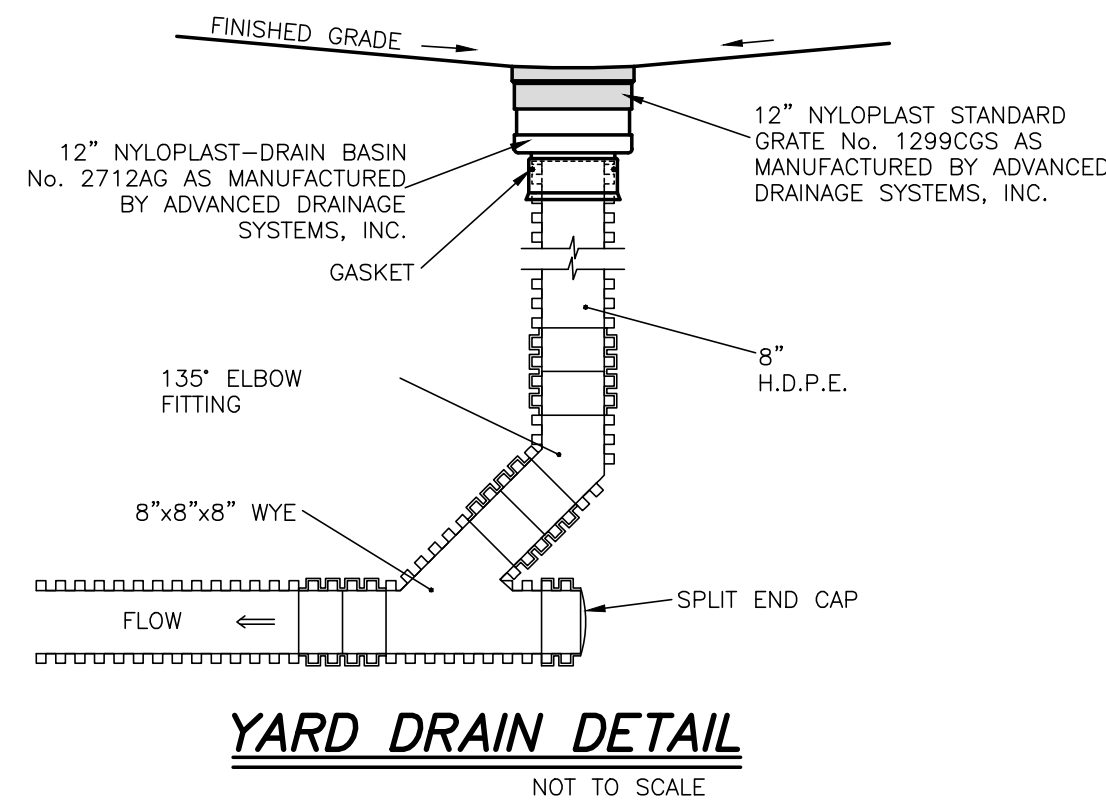


NOTE: RIP-RAP SHALL BE GROUTED IN PLACE.

FLARE END SECTION DETAIL
NOT TO SCALE



RAIN GARDEN DETAIL
NOT TO SCALE



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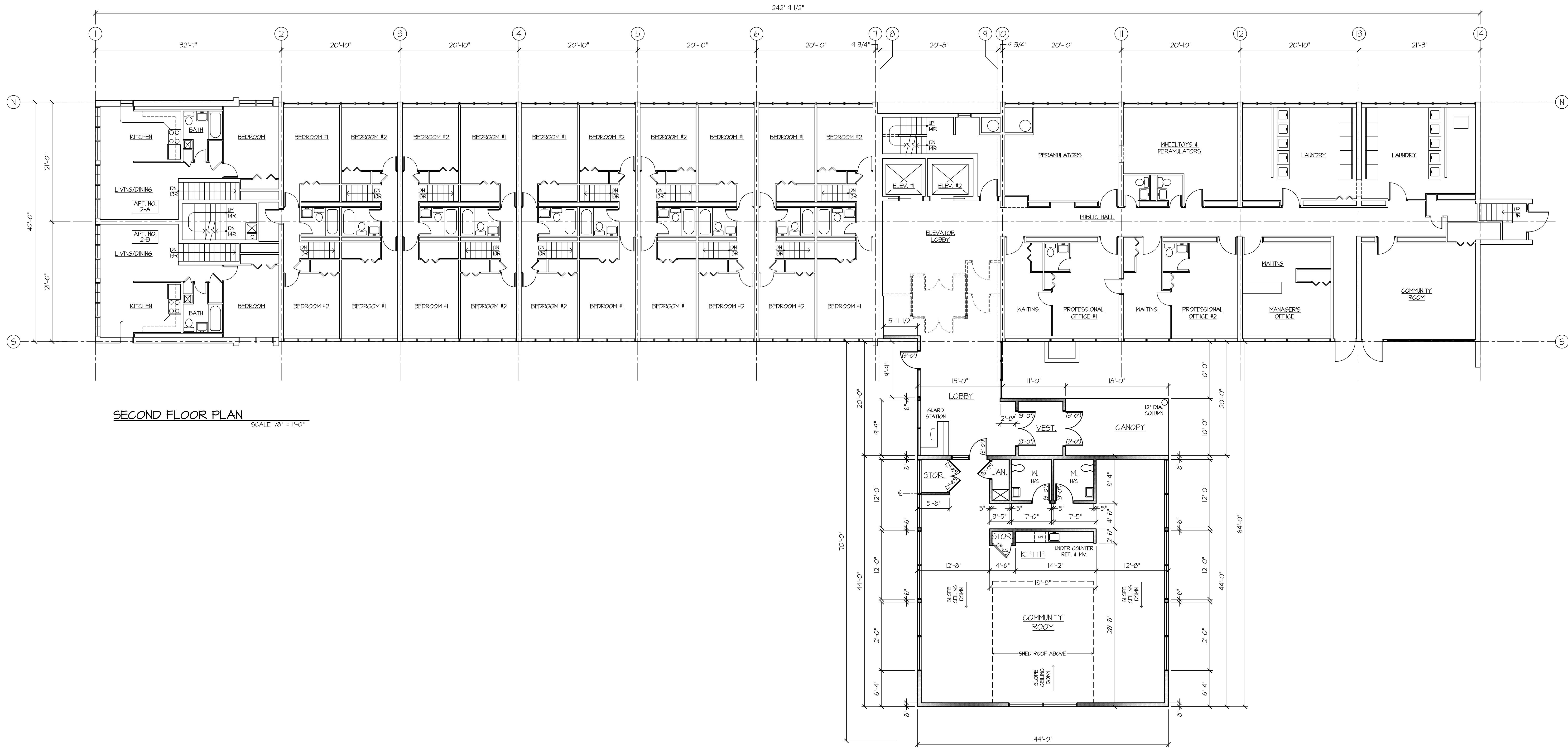
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DATE	7/14/23
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DETAILS
RIP VAN WINKLE APARTMENTS
10 RINALDI BOULEVARD
CITY OF POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK STATE

FILE: 230208
SCALE: AS NOTED
CHK: DRH
DATE: 2/27/23
230208-LDWG



SECOND FLOOR PLAN
SCALE 1/8" = 1'-0"

KEY		
	NEW WALL	
	EXISTING WALL	
	ITEM TO BE REMOVED	

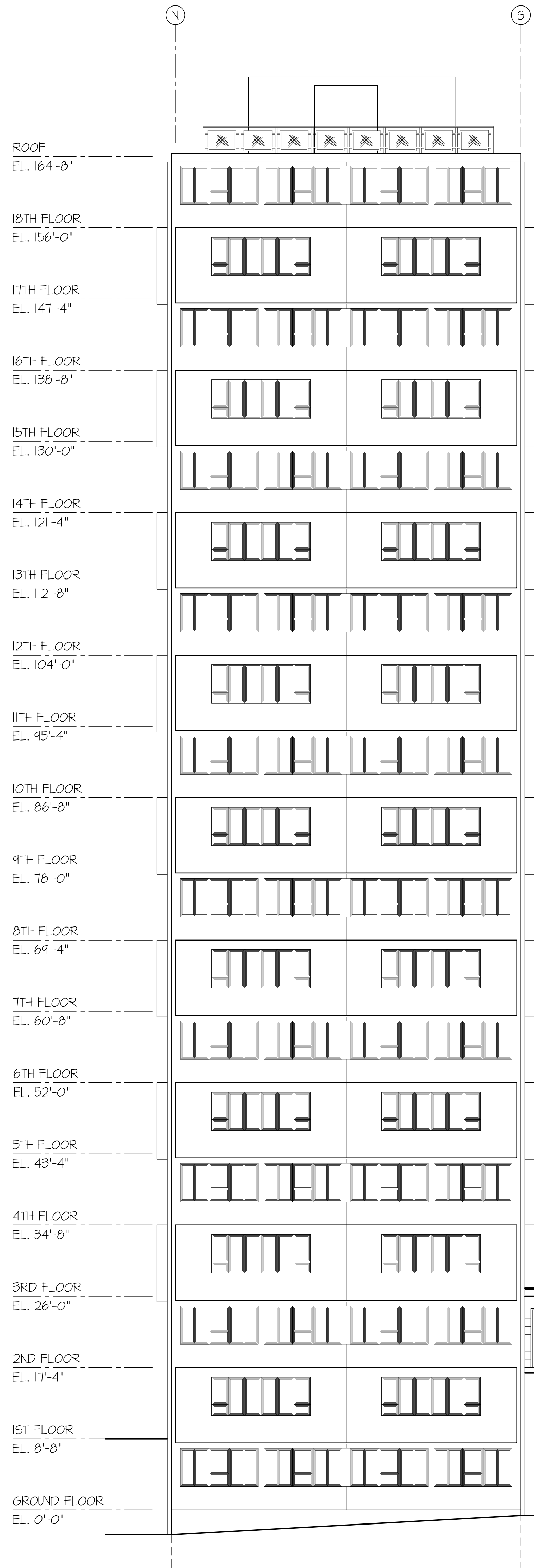
REHABILITATION & ADDITION
RIP VAN WINKLE HOMES
10 RIVALDI BOULEVARD
POGKEEPSIE, N.Y. 12801

SECOND FLOOR PLAN

by	DRL	scale	A.N.
ckd.		rvsd.	
app.		issue	
no.	22-1008	date	2/1/23

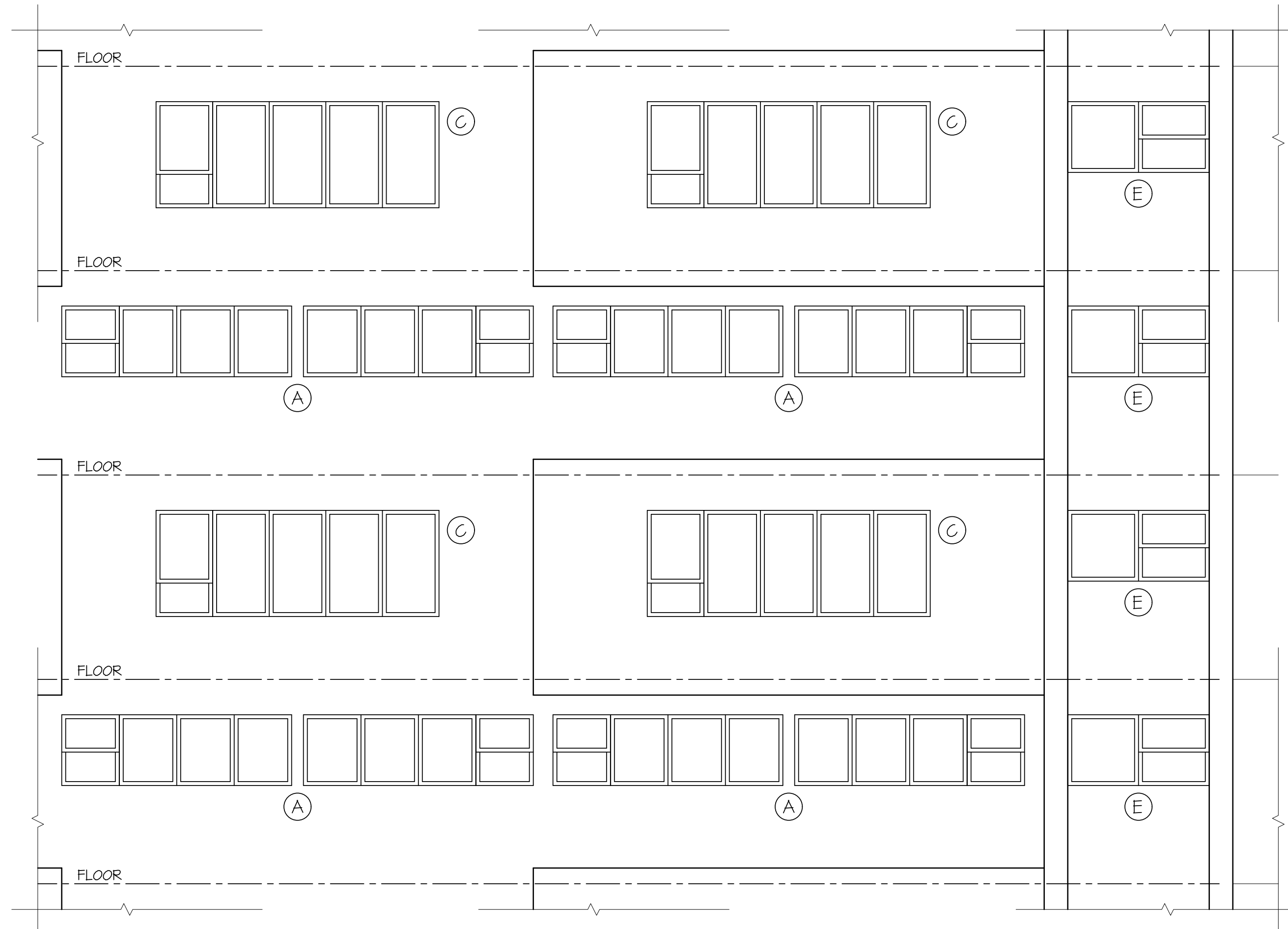
SD 1

KURZON
ARCHITECTS
90 STATE STREET
ALBANY, N.Y. 12207
518-463-3492
FAX 518-465-8802



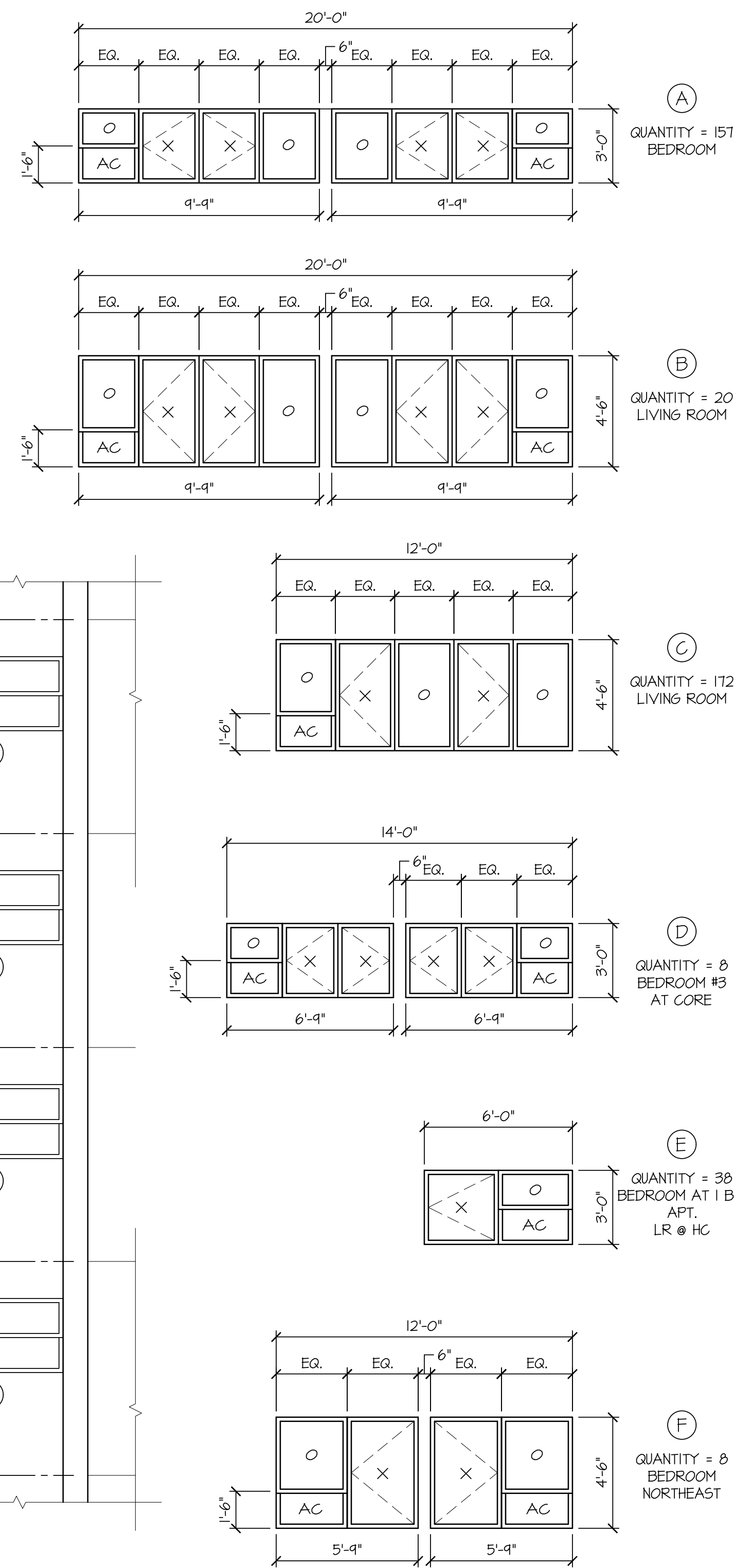
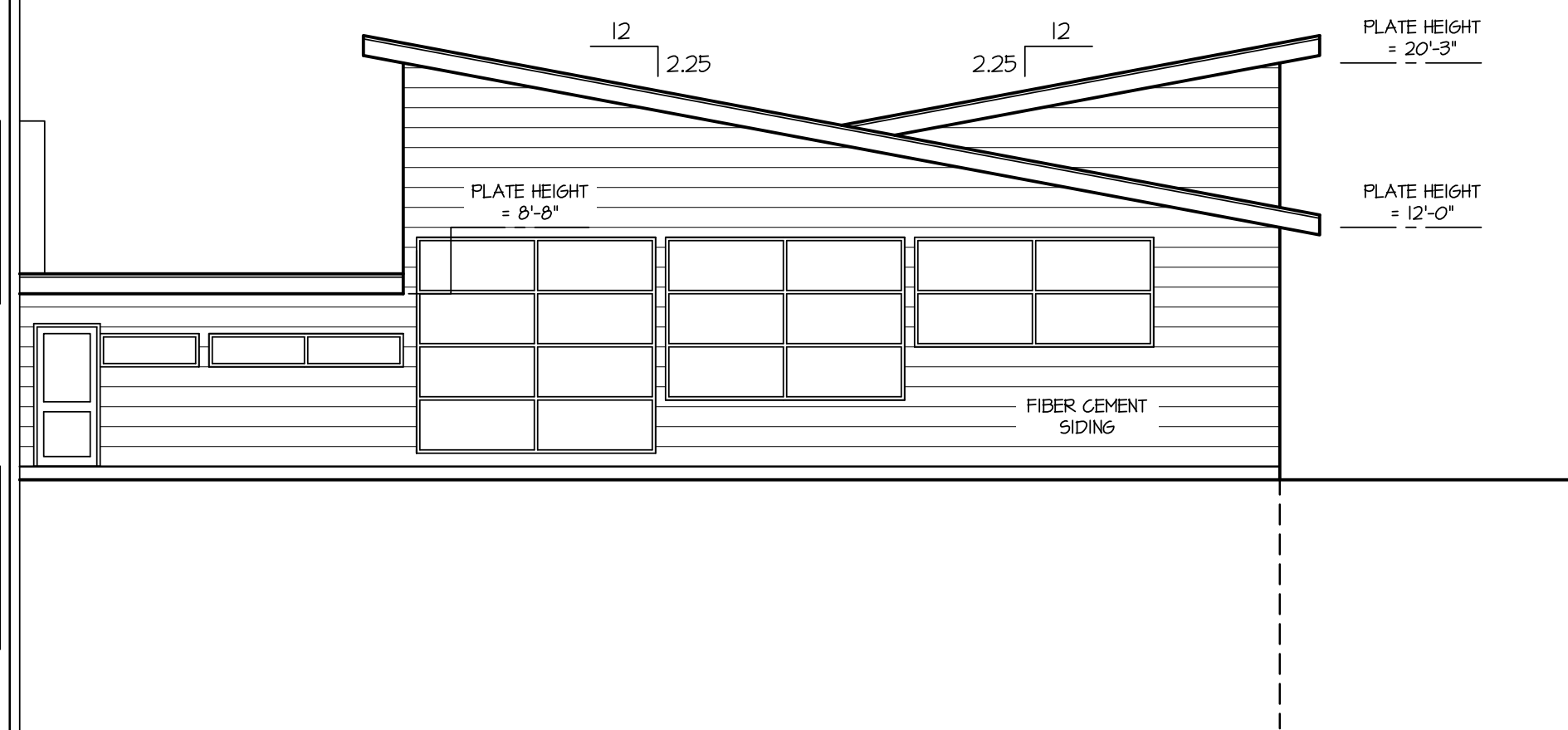
WEST ELEVATION

SCALE 1/8" = 1'-0"



PARTIAL ELEVATION

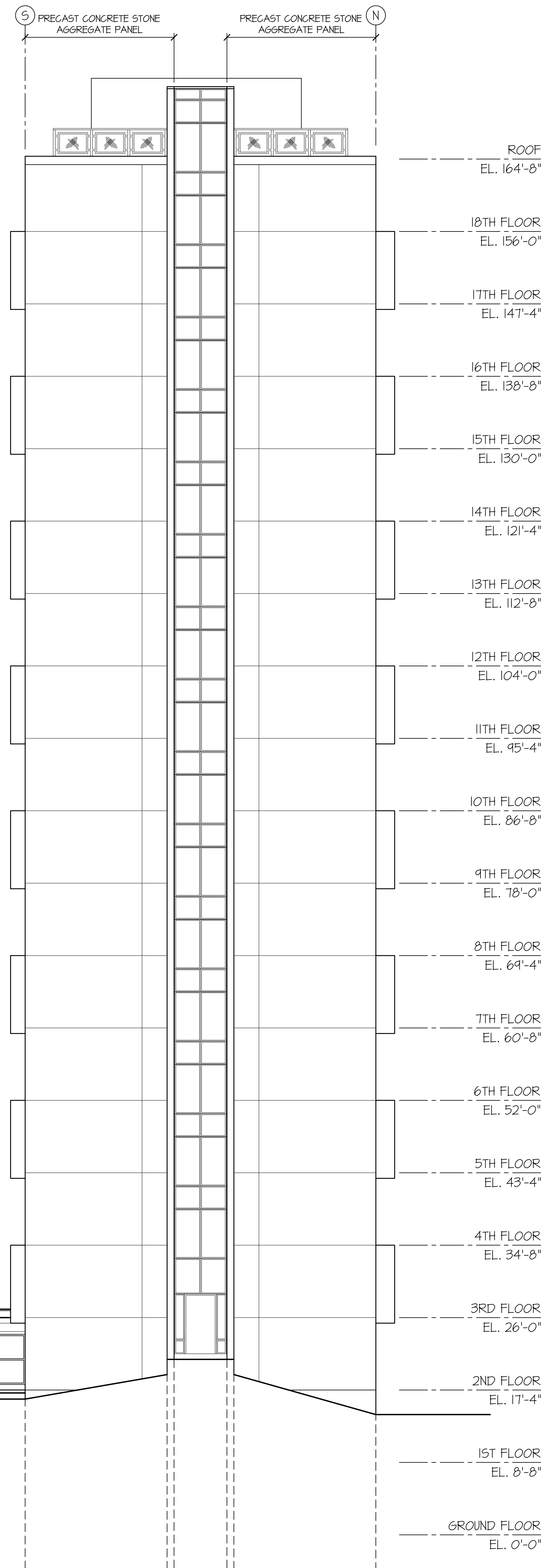
SCALE 1/4" = 1'-0"



REPLACEMENT WINDOWS

SCALE 1/4" = 1'-0"

INTUS WINDOW CO.
U = .029, DP 10
LOW E GLASS
BLACK POLYMER FRAMES



EAST ELEVATION

SCALE 1/8" = 1'-0"

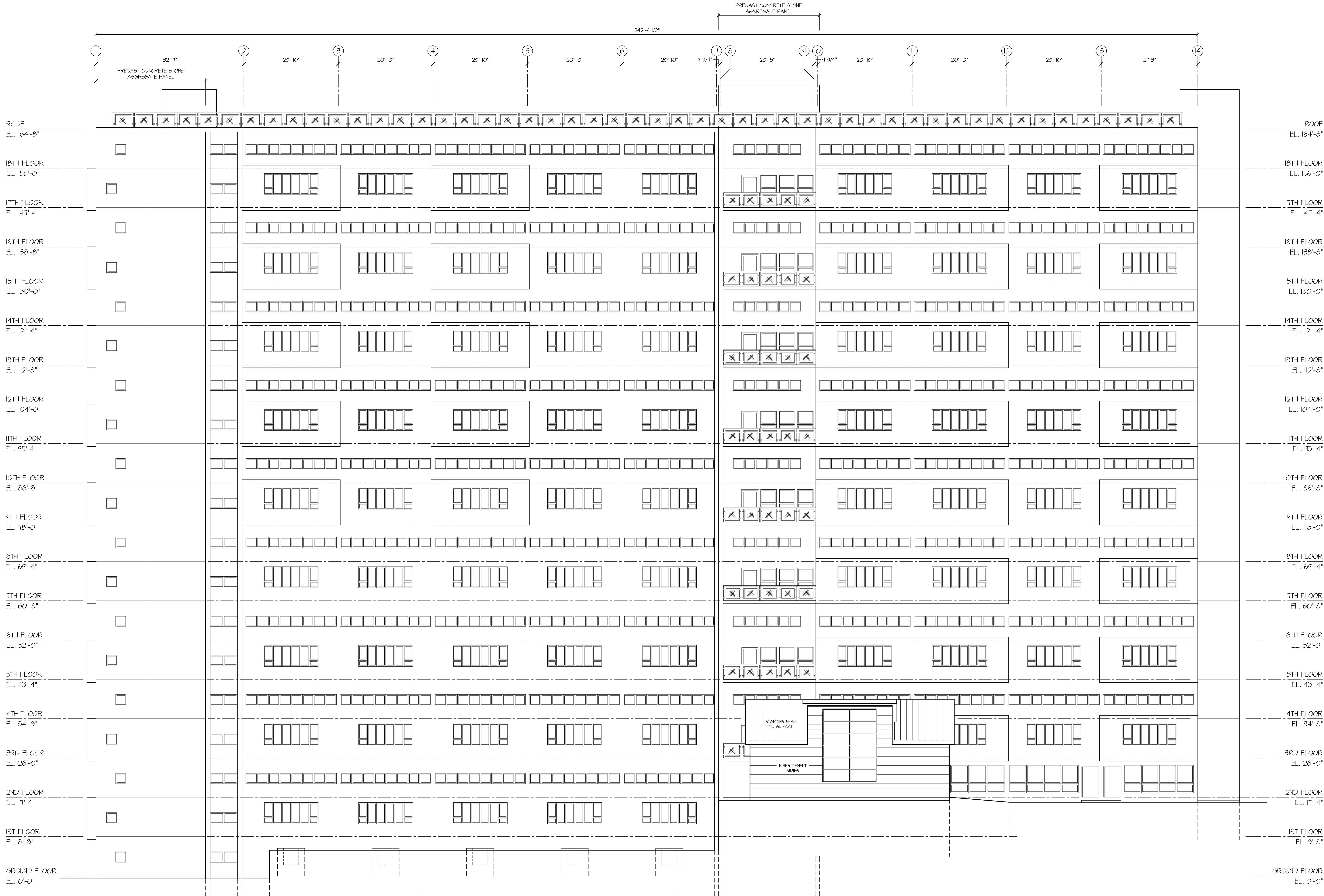
REHABILITATION & ADDITION
RIP VAN WINKLE HOMES
10 RIVARD BOULEVARD
POGHKEEPSIE, N.Y. 12601

WEST & EAST ELEVATIONS

by DRL scale A.N.
ckd. rvsd.
app. issue
no. 22-1008 date 2/1/23

SD 2

KURZON
ARCHITECTS
90 STATE STREET
ALBANY, N.Y. 12207
518-463-3492 FAX 518-465-8902



SOUTH ELEVATION
SCALE 1/8" = 1'-0"









**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: Rip Van Winkle House LLC

From: Tyler Maegerle, Junior Planner

Date: 6/12/2023

Re: 10 Rinaldi Boulevard

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 addition of a 2,350 square foot community room to the existing building.

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)(9) "construction or expansion of a primary or accessory/ appurtenant, non-residential structure or facility involving less than 4,000 square feet of gross floor area and not involving a change in zoning or a use variance and consistent with local land use controls, but not radio communication or microwave transmission facilities." The action is therefore not subject to further environmental review.



**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: Rip Van Winkle house LLC

From: Tyler Maegerle, Junior Planner

Date: 8/14/2023

Re: 10 Rinaldi Boulevard

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 addition of a two-story community room to an apartment building.

Based on the above description it is the determination of the planning division staff that the proposed action is classified as an Unlisted Action with regards to SEQRA, and therefore is subject to an uncoordinated or coordinated (optional) environmental review. This determination was made due to the fact that the proposed action was not expressly listed in 6 NYCRR Section 617.4 (Type I Actions) or 617.5 (Type II Actions).

Short Environmental Assessment Form

Part 1 - Project Information

Instructions for Completing

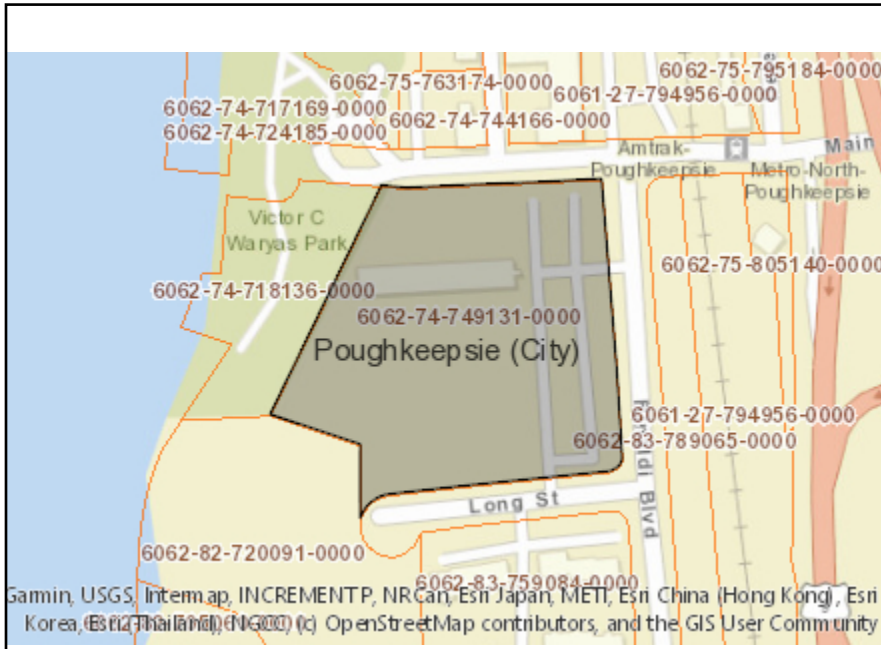
Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. 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: Rip Van Winkle Apartment Building Addition			
Project Location (describe, and attach a location map): 10 Rinaldi Boulevard, Poughkeepsie, NY 12601			
Brief Description of Proposed Action: The Applicant proposes to construct a two-story, 2,350 S.F.± building addition to the existing Rip Van Winkle Apartments. The building addition is a community room for tenants, and does not contain any additional apartment units. New asphalt walks will be provided along with new storm sewers, landscaping, and a rain garden.			
Name of Applicant or Sponsor: RVW Preservation, L.P c/o Related Cos		Telephone: 646-767-3207 E-Mail: david.pearson@related.com	
Address: 30 Hudson Yards			
City/PO: New York		State: NY	Zip Code: 10001
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.		NO ☒	YES ☐
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: City of Poughkeepsie Site Plan Approval, City of Poughkeepsie Building Permit		NO ☐	YES ☒
3. a. Total acreage of the site of the proposed action? _____ 4.95 acres b. Total acreage to be physically disturbed? _____ 0.25 acres c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ 4.95 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			

5. Is the proposed action,	NO	YES	N/A
a. A permitted use under the zoning regulations?	☐	☒	☐
b. Consistent with the adopted comprehensive plan?	☐	☒	☐
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?	NO	YES	
If Yes, identify: _____	☒	☐	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO	YES	
	☒	☐	
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?	☐	☒	
9. Does the proposed action meet or exceed the state energy code requirements?	NO	YES	
If the proposed action will exceed requirements, describe design features and technologies: _____ _____	☐	☐	
10. Will the proposed action connect to an existing public/private water supply?	NO	YES	
If No, describe method for providing potable water: _____ Site is already served by public water supply _____	☒	☐	
11. Will the proposed action connect to existing wastewater utilities?	NO	YES	
If No, describe method for providing wastewater treatment: _____ Site is already served by existing wastewater utilities. _____	☒	☐	
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?	NO	YES	
	☐	☒	
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?	☐	☒	
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?	NO	YES	
	☐	☒	
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: _____ No wetlands or waterbodies are identified on the NYSDEC Environmental Resource Mapper within the site, but the site is near the Hudson River _____			

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		
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? Atlantic Sturgeon, Peregrin...	NO	YES
	☐	☒
16. Is the project site located in the 100-year flood plan?	NO	YES
	☒	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,	NO	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:	☐	☒
_____ New runoff is directed toward a rain garden, where it will be treated and discharged down the sloped toward the Hudson River. _____		
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:	NO	YES
_____ _____	☒	☐
49. 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:	NO	YES
_____ _____	☒	☐
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:	NO	YES
_____ No remediation sites were found in the vicinity of this site on the NYSDEC Environmental Remediation Database	☐	☒
I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE Applicant/sponsor/name: <u>Nicholas Daniels, P.E For the Applicant</u> Date: <u>3/24/23</u> Signature: _____ Title: <u>Partner</u>		



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.



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]	Yes
Part 1 / Question 15 [Threatened or Endangered Animal - Name]	Atlantic Sturgeon, Peregrine Falcon, Shortnose Sturgeon
Part 1 / Question 16 [100 Year Flood Plain]	No
Part 1 / Question 20 [Remediation Site]	Yes

July 17, 2023

Related Affordable
Care of David Pearson
30 Hudson Yards
New York, New York 10001

Subject: Poughkeepsie Natural Resource Inventory Conservation Analysis
Rip Van Winkle Apartments
10 Rinaldi Boulevard
Poughkeepsie, NY 12601
AEI Project No. 457901

The City of Poughkeepsie Natural Resources Inventory (NRI) provides baseline information on natural resources including parks, tributaries to the Hudson, the Poughkeepsie waterfront and city trees. AEI is pleased to present the following National Resources Inventory Conservation Analysis for the proposed renovation of the Rip Van Winkle Apartments.

The project is being submitted for a Section 8 HAP contract renewal with capital improvements. The 4.9-acre subject property is located southwest of the intersection of Main Street and Rinaldi Boulevard in a mixed-use area of Poughkeepsie, NY. The Dutchess County tax parcel number is 131300-6062-74-749131-0000. The site is developed with the Rip Van Winkle Apartments multifamily residential community, which includes one (1) 18-story apartment building with 179 residential units. Constructed in 1968, additional site improvements include a playground, asphalt-paved parking areas, and associated landscaping. The subject property is accessed through three (3) entrances to the north, east, and south.

Based on review of the proposed scope of work, extensive interior renovations and limited exterior renovations are planned, including but not limited to bathroom and kitchen renovations, ADA unit upgrades, new flooring and painting, window and entry door replacement, interior and exterior lighting upgrades, general signage upgrades, parking lot and concrete repairs, and landscaping. The project will not involve new ground-disturbing activities.

Geology and Soils: Based on review of the Poughkeepsie NRI Chapter 2, bedrock geology underpins the City of Poughkeepsie's landforms and topography and has shaped patterns of soil development, habitats, and water movement that define the ecological landscape. According to the NRI Map, the site's bedrock geology consists of water. This bedrock geology category is described as unknown and/or adjacent to the Hudson River.

According to the NRI, surficial geology refers to the layer of unconsolidated sediment that sits above bedrock. Surficial geology materials mapped in the City of Poughkeepsie include sand and gravel, clay and silts, and glacial tills. These materials influence soil development and can affect suitability for development projects such as the construction of new roads, and buildings, or septic systems. Based on review of the NRI Map, most of the site's surficial geology consists

of Alluvium and the remaining portion is Bedrock Outcrop. Alluvium is described as permeable oxidized fine sand to gravel formed by riverine deposits and subject to flooding and is generally 1-10 meters thick. It is generally confined to flood plains within a valley; larger valleys may be overlain by silt. Bedrock Outcrop is described as exposed bedrock, generally within 1 meter of the surface.

Soil is the foundation for ecosystems and many natural processes and strongly influences feasibility for land use and development. Soil controls the decomposition of organic matter, and biogeochemical cycles; regulates water flow; and influences the vegetation, habitat type, and agricultural potential of certain locations. Based on review of the NRI map, the subject property soils include NwD and Ur. NwD soil is described as Nassau-Cardigan Complex, rolling/rocky. The soil type is somewhat excessively drained has a strongly acidic soil reaction; the depth to bedrock is 20-40 inches. Ur soil is described as Urban Land, covered by impervious materials.

The proposed project consists of the renovation of an existing multifamily residential complex and would not involve the new development of roads, buildings, or septic systems. The project is not expected to impact Geology and Soils.

Water Resources: According to the Poughkeepsie NRI Chapter 3, the City of Poughkeepsie is on the east bank of the Hudson River, at the midpoint of a 153-mile estuary from the City of Troy to New York Harbor – nearly half the entire river's length. An estuary is a partially enclosed coastal body of brackish water with one or more rivers or streams flowing into it and with a free connection to the open sea. The Chapter states that groundwater feeds the city's rivers and streams and is the primary source of water for aquatic habitats during times of drought. Aquifers are areas with significant amounts of groundwater saturation, and the groundwater is used to supply wells and other water sources. Based on review of the NRI map, the subject property is not located on or within the vicinity of an aquifer.

The Chapter states that a watershed or drainage basin is the area of land from which all water drains into a particular stream, river, lake, or other waterbody. Surface topographic features (such as ridges, mountains, and hills) constitute watershed or basin boundaries. Watersheds are nested, with smaller subwatersheds existing within larger watersheds. For example, the Fall Kill watershed is a subwatershed of the Hudson River watershed. A healthy watershed has adequate pervious areas for water to infiltrate, which reduces direct inputs of polluted runoff to the waterway. This helps to recharge groundwater, mitigate flood and erosion impacts, and minimize the cost of water treatment and public infrastructure. The City of Poughkeepsie is part of the Hudson River basin and has four watersheds. The majority of the City is within the Fall Kill and Casperkill watersheds, with the remaining area within the Hudson River Direct Drainage E and F basins. Based on review of the NRI map, the subject property is in the Hudson River Direct Drainage E watershed.

According to Chapter 3, Poughkeepsie's major waterbodies are the Hudson River and the Fall Kill, and the Casperkill borders it at the southeast corner. Additionally, there are small lakes, ponds, and reservoirs that are important surface water resources in the city, most notably Morgan Lake, which is in the northeastern corner of the city, and the Victorian reservoir at

College Hill Park. Hudson River habitats, including the main channel, tidal shallows, intertidal shallows, and the tidal tributary mouth of the Fall Kill, make up the largest contiguous habitat type in the city. The subject property is located approximately 230 feet east of the Hudson River.

A wetland is a distinctive habitat that provides important ecosystem services. Wetlands are defined by saturation of surface water or groundwater for a period throughout the year, and the presence of plants that are adapted to saturated soil conditions. In addition to providing habitat for a diversity of plants and animals, they play an important role in stormwater management. Wetlands slow down runoff, increase infiltration into groundwater, and help to filter out sediment and other contaminants. The Chapter states that wetlands are not common in the City of Poughkeepsie. Historically, many wetlands in developing areas were filled, which is likely what occurred in the city. According to the NRI map, subtidal shallow wetlands are located along the edge of the Hudson River, approximately 230 feet west of the subject property. No wetlands occur on the subject property.

Chapter 3 states that floodplains are low-lying areas adjacent to streams or rivers that become inundated during times of high flow. Streams naturally overflow their banks to disperse floodwaters. This flooding helps slow the water, recharge groundwater, and increase water quality by letting particulates settle out instead of being carried downstream. Stream channelization is a modification to the banks of the stream that stops overbank flooding and moves water quickly downstream. Based on review of the NRI map, the subject property is not located within a floodplain. Zone AE is located approximately 60 feet from the subject property. Zone AE is classified as areas located within the 100-year floodplain with a 1% chance or greater annual chance flood hazard and Base Flood Elevations (BFEs) established. The BFE in the area is identified as 8 feet.

An MS4 Outfall is located approximately 200 feet northwest of the subject property. According to Chapter 3, MS4 is a Municipal Separate Storm Sewer System. The City of Poughkeepsie has storm drains that are separate from the sewer system and are part of the Municipal Separate Storm Sewer System (MS4). MS4 is a specific type of SPDES permit and requires that the community have a stormwater collection and conveyance system that is owned by the city, is not a combined sewer and is not part of the sewage treatment plant or publicly owned treatment works. As an MS4 community, the City of Poughkeepsie must develop, implement and enforce a Stormwater Management Program (SWMP). In Poughkeepsie, storm drains that are not connected to the wastewater treatment facility (are not CSOs) move water directly from roads and rooftops into the nearest waterbody. A total of 24 storm drains, the majority on the north side of Poughkeepsie, drain directly into the Fall Kill. On the south side of Poughkeepsie, most outfalls drain into small wetlands and streams, with eight (8) outfalls located on tributaries of the Casperkill. There are six (6) outfalls that drain directly into the Hudson River.

The subject property does not contain any water resources. The proposed renovation project would not involve any new stormwater discharges and is not expected to have an impact on Water Resources.

Habitats: According to the Poughkeepsie NRI Chapter 4, Biological Communities and Habitats, in May 2018, Hudsonia Ltd. compiled a Significant Habitats Report as part of the Natural Resources Inventory project. This report assessed the types of habitats present in the city and developed conservation priorities for the protection and restoration of the City's habitats. A habitat can be defined as "the place where an organism or population lives or where a community occurs and is defined according to both its biological and non-biological components." Habitats include large, ecologically significant areas such as the Hudson River, the Fall Kill, and the Vassar Farm and Ecological Preserve. The Hudsonia report identifies 18 habitat types of potential ecological significance and notes that each of these habitats have been modified by past or present human activities. The ecologically significant habitats located within the City of Poughkeepsie are categorized into three general categories - Upland Habitats, Non-Tidal Wetland Habitats, and Hudson River Habitats - and further subdivided into specific habitat types. Based on review of the NRI map, the north and east/southeast portions of the subject property are not designated as Habitat and are considered Developed. However, the south/southwest portion of the subject property is classified as Cultural Habitat and Upland Hardwood Forest Habitat.

Chapter 4 describes Cultural Habitat as "open area (may have scattered trees) mowed frequently or otherwise managed in an intensive way (lawn, playing field, golf course, garden, park, cemetery)". The portion of the subject property that is mapped as Cultural Habitat consists of the subject property's open green space which is landscaped. Upland Hardwood Forest Habitat is described as "non-wetland forest dominated by hardwood trees (conifers make up < 25% of canopy)". A small portion of the western subject property corner that is forested is mapped as Upland Hardwood Forest Habitat.

The proposed renovation project does not involve new ground disturbance and is not expected to have an impact on Habitats.

Land Use: Based on review of the Poughkeepsie Zoning Map, the subject property is in the Waterfront Transit Oriented Development (WTOD) Zoning District. According to the NRI map, the subject property Land Use is designated as Residential. The Hudson River, located approximately 230 feet west of the subject property, is identified as a Registry Class 2 site as part of the Hudson River PCB Sediments State Superfund Program Remediation Site, which is listed on the National Priorities List (NPL) and includes the entire river from Hudson Falls in Washington County, NY to the Battery in New York City. There are no Brownfields on or in the vicinity of the subject property. A brownfield is an abandoned, idled, or underused industrial or commercial property whose redevelopment may be complicated by the presence or potential presence of contamination.

The proposed renovation project is not expected to have an impact on Land Use.

Historic Resources: According to the NRI map, the Poughkeepsie Railroad Station, Union Street Historic District, and Mill Street-North Clover Street Historic District, all listed on the National Register of Historic Places, are in the vicinity of the subject property. No historic resources were identified on the subject property. According to a letter dated March 24, 2023 from the New York State Historic Preservation Office (SHPO), the apartment tower that is

proposed for rehabilitation (“subject property”) is not historic but is substantially visible from a number of historic buildings that are eligible for or listed in the National Register. However, following review of the project, the SHPO deemed the project appropriate and determined that the project will have No Adverse Effect on historic resources.

Therefore, the proposed renovation project will not have an adverse impact on Historic Resources.

Recreational Resources: According to Chapter 7 of the Natural Resources Inventory, publicly accessible recreational resources provide the opportunity for people to engage with the outdoors and have positive place-based experiences. A variety of important recreational resources exist within and near Poughkeepsie. Located in the Mid-Hudson region, many large recreational areas, including the Catskills, Shawangunks, Taconic Mountains, and Hudson Highlands, are within an hour’s drive from the city, through farmland, forested hills, and a broad urban-rural gradient. Features such as the Hudson River, Dutchess County Rail Trail, Vassar Farm and Ecological Preserve, and Fall Kill Creek connect Poughkeepsie to the surrounding areas. Within the City, Poughkeepsie’s many public parks provide green space, gardens, playgrounds, picnicking, and athletic fields and courts (Map 6.1, Table 6.1). The 24 public parks and green spaces in the city total nearly 500 acres, with about 250 acres located on the Vassar Farm and Ecological Preserve. Based on review of the NRI map, the subject property is located adjacent to Waryas Circle Flower Garden, Kaal Rock Park, and Victor C. Waryas Park, which includes a waterfront walkway and playground. In addition, the Walkway Loop Trail is located west of the subject property.

The proposed renovation project involves minimal site work and is not expected to have an impact on Recreational Resources.

Pollinator Pathway: Based on review of the NRI map, the subject property is located within a Potential Pollinator Pathway. The map indicates the name of the pathway is CPOUGHKE but does not provide additional information. According to the Vassar College website, Poughkeepsie is working towards becoming a Pollinator Pathway. The city is aiming to establish pollinator-friendly habitats and food sources for bees, butterflies, hummingbirds, and other pollinating insects and wildlife along a series of continuous corridors. It is a project of the Conservation Advisory Commission (CAC), supported by numerous stakeholders in the community including the colleges, public and private schools, environmental organizations, local legislators, our Climate Smart Task Force, parks, nurseries, and more.

The proposed renovation project involves minimal site work and is not expected to have an impact on Potential Pollinator Pathways.

If you have questions regarding this assessment, please direct them to Staige Miller at 804-938-3935.

Sincerely,



Hannah Moran
Senior Project Manager



Staige Miller
Senior Vice President – HUD Environmental Services

Natural Resources Inventory



Exposed bedrock near the Fall Kill.
Photo credit: Camelia Manring



Pollinator garden at College Hill Park.



Upper Landing Park.

The Poughkeepsie [Natural Resources Inventory \(PDF\)](#) (NRI) provides baseline information on the city's natural resources including parks, tributaries to the Hudson, the Poughkeepsie waterfront and city trees. The NRI was developed by the Environmental Cooperative at Vassar Barns through their [Healthy Habitats Initiative](#) in partnership with Hudsonia. While NRIs traditionally have a standard set of components, care was taken to include sections specific to Poughkeepsie, such as an assessment of the health of the City's ash trees and a management plan for Emerald Ash Borer, which threatens our ash population. The final [Hudsonia report on significant habitats \(PDF\)](#) can be found online.

To memorialize the vital work done by the Environmental Cooperative and Hudsonia, the City of Poughkeepsie Common Council passed a local law adopting the Poughkeepsie NRI on September 9th, 2019. The local law added Section 19-6.4 to the Code of Ordinances that expressly integrates the use of the Inventory into all land-use decision-making, including site plan review.

Poughkeepsie Natural Resource Inventory

[Overview](#)[Geology and Soils](#)[Water Resources](#)[Habitats](#)[Land Use](#)[Historic Resource](#)

This is an aerial view of the City of Poughkeepsie. You can view additional layers on the aerial image by turning them on using the Layers widget in the lower-right.

City of Poughkeepsie Natural Resource Inventory Interactive Map



In February of 2019, the [Environmental Cooperative at Vassar Barns](#) completed an assessment of the City of Poughkeepsie. By identifying and documenting the current natural resources of the city and expand them. Contact the [City of Poughkeepsie Planning office](#) for more information on how to view the Natural Resources Inventory report.

These maps can be navigated by tabbed categories, which reflect the different chapters of the report. Go to the full address on this page and then choosing which information layers to reveal.

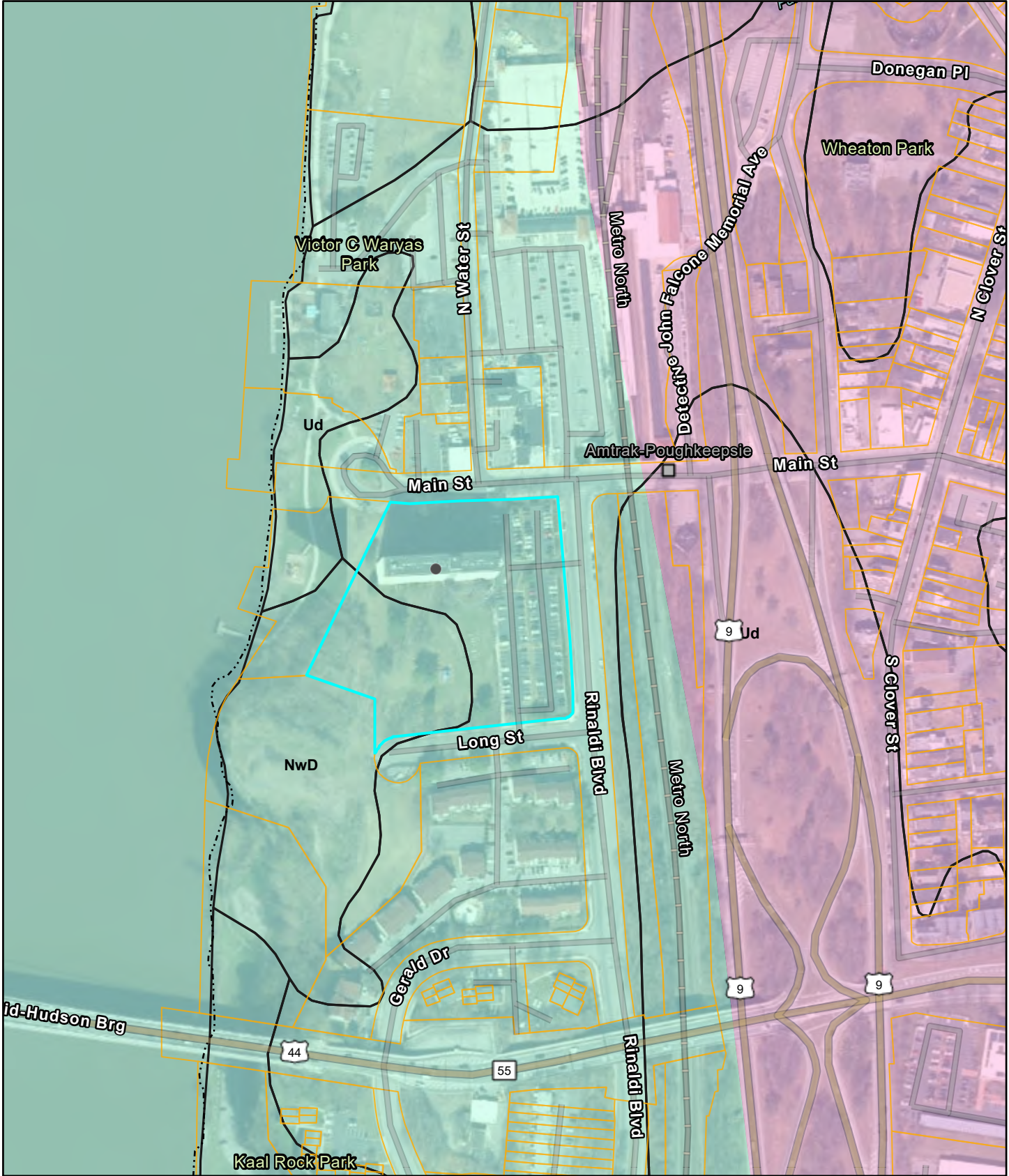
Click this button  to look at the legend

Click this button  to turn layers on and off

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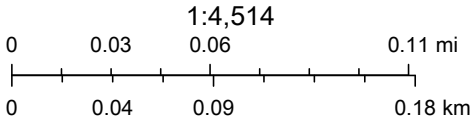


Bedrock Geology



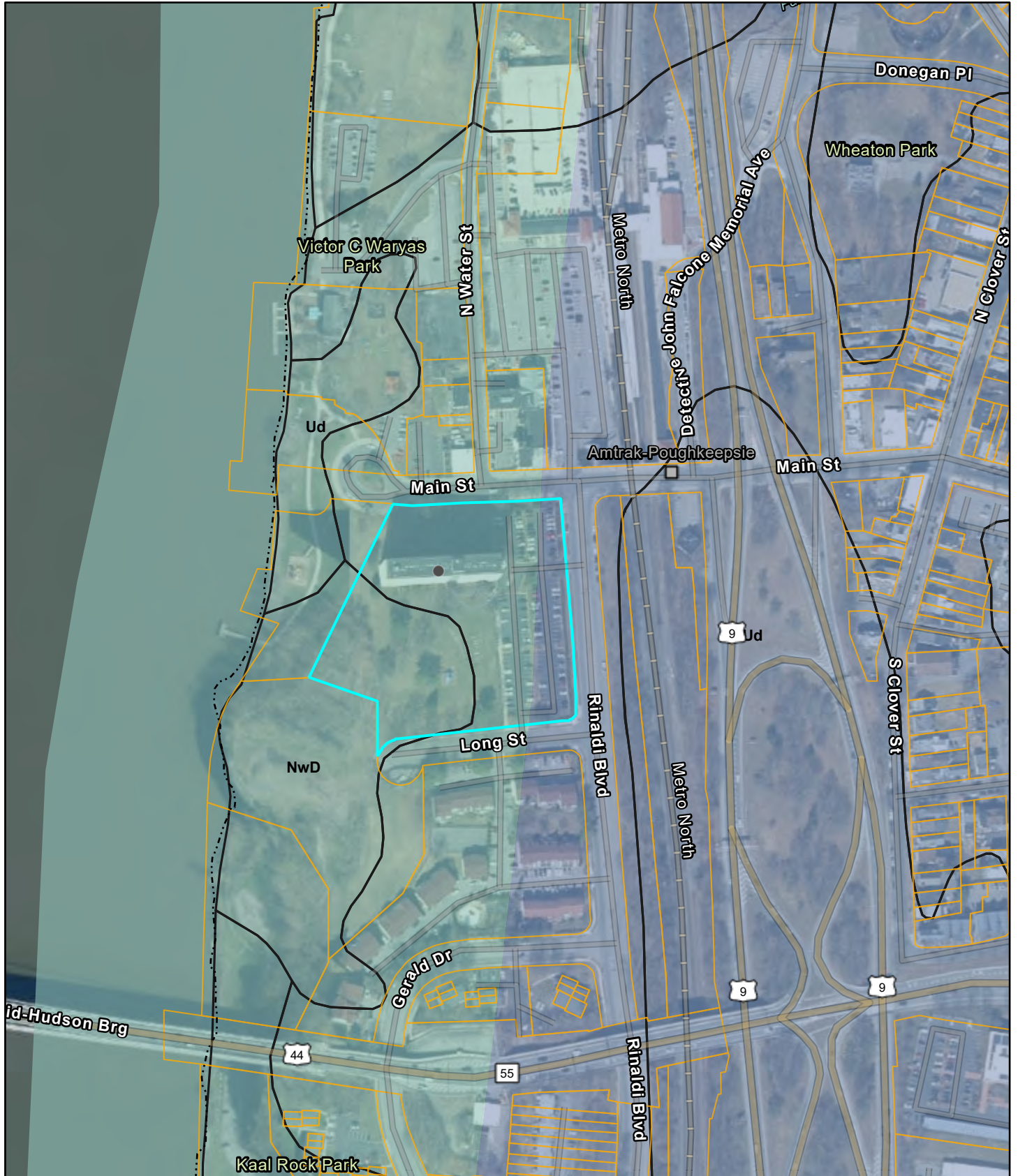
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- City of Poughkeepsie Boundary
- Parcel Boundaries
- Soils
- Bedrock Geology
- Taconic melange (Otm)
- Water



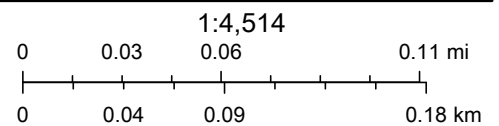
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Surficial Geology



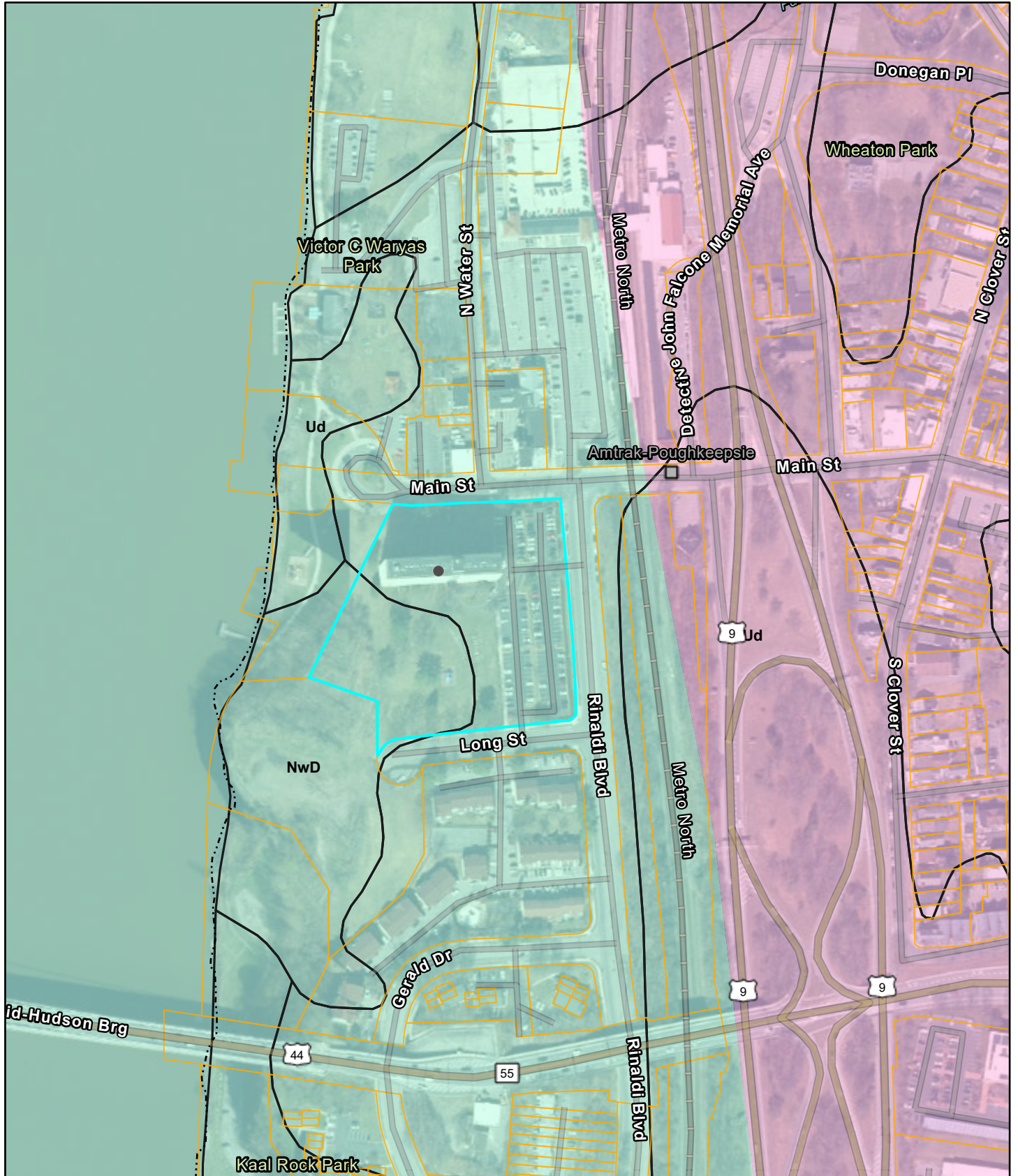
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- City of Poughkeepsie Boundary
- Parcel Boundaries
- Soils
- Alluvium
- Bedrock outcrop



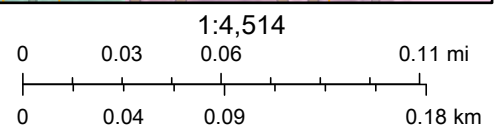
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Geology and Soils



7/14/2023, 11:26:02 AM

- City of Poughkeepsie Boundary
- Parcel Boundaries
- Soils
- Bedrock Geology
- Taconic melange (Otm)
- Water



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Chapter 2. Geology and Soils

Julia Blass and Jennifer Rubbo



Exposed bedrock near the Fall Kill.
Photo credit: Camelia Manring

Geology shapes the landscape in visible and invisible ways - influencing landforms and topography, soil depth and chemistry, resulting in plant communities, as well as the above- and below-ground movement of water and contaminants. These factors influence the establishment of ecosystems and can be important considerations for land development. Geology and soils also contribute important natural and economic resources for human populations, including groundwater recharge and storage, minerals, and construction materials, as well as agricultural resources.

The maps presented in this chapter are only intended to give a general sense of the geologic features and soils of the city, as the data presented were collected at broad scales. The information can be enhanced through local knowledge and site-specific surveys.

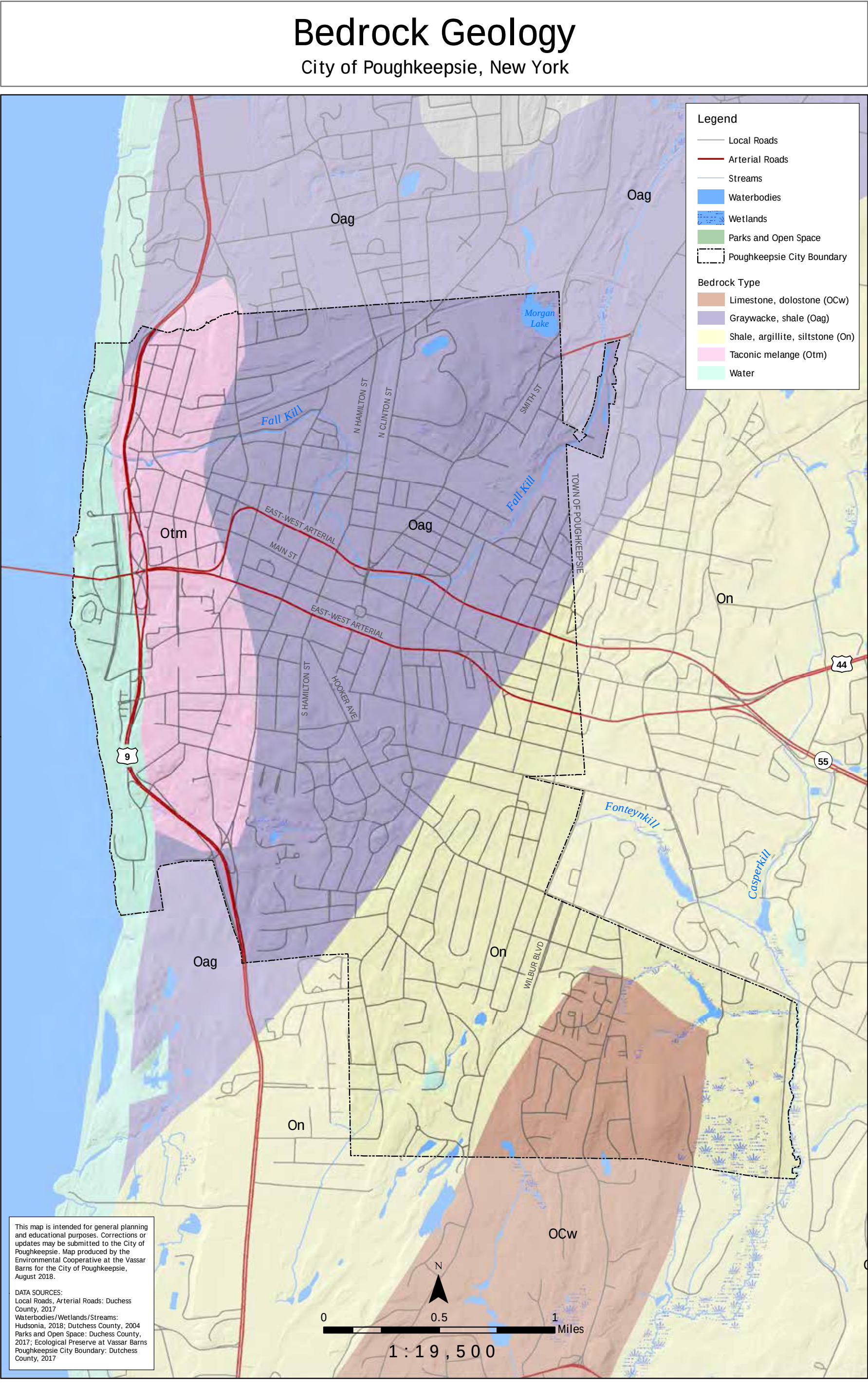
Bedrock Geology

Bedrock geology underpins the City of Poughkeepsie's landforms and topography and has shaped patterns of soil development, habitats, and water movement that define the ecological landscape. Characteristics of the bedrock geology strongly influences above and below ground water movement and can determine groundwater storage capacity and the

movement of contaminants in water supplies. According to general bedrock geology maps from the New York State Museum ([Map 2.1](#)), bedrock in the City of Poughkeepsie is composed primarily of shale and greywacke which is less permeable (Lower Hudson Bedrock Sheet). The City's southeastern corner is partially underlain by limestone and dolostone, which are typically more permeable and therefore more susceptible to groundwater contamination from surface water runoff. These calcium-rich carbonate bedrock materials are also more likely to support alkaline or calcareous habitats and plant communities. [Table 2.1](#) describes the various bedrock formations in the City of Poughkeepsie

Table 2.1: Bedrock geology descriptions of the City of Poughkeepsie

Map Symbol	Bedrock Type	Description
OCw	Limestone, dolostone	Wappinger Formation; water-soluble rocks "formed primarily from the precipitation of calcium and magnesium carbonate in seawater, commonly through the action of algae and other organisms like corals and mollusks." (Budnik, Walker, & Menking, 2010) Calcareous (Kiviak & Stevens, 2001)
Otm	Taconic Melange	"Relatively unaltered to moderately metamorphosed autochthonous clastic sedimentary rocks...a jumbled mix of sandstone blocks in a matrix of mud." (Budnik, Walker, & Menking, 2010)
Oag	Graywacke, shale	Austin Glen Formation; Coarse-grained sandstone containing >15% clay. Potentially calcareous (Haeckel & Heady, 2014)
On	Shale argillites, siltstone	Normanskill Formation; gray to black shales and argillites with silty laminations. (Fisher, Isachsen, & Rickard, 1970)
N/A	Water	Unknown; adjacent to Hudson River. (Budnik, Walker, & Menking, 2010)

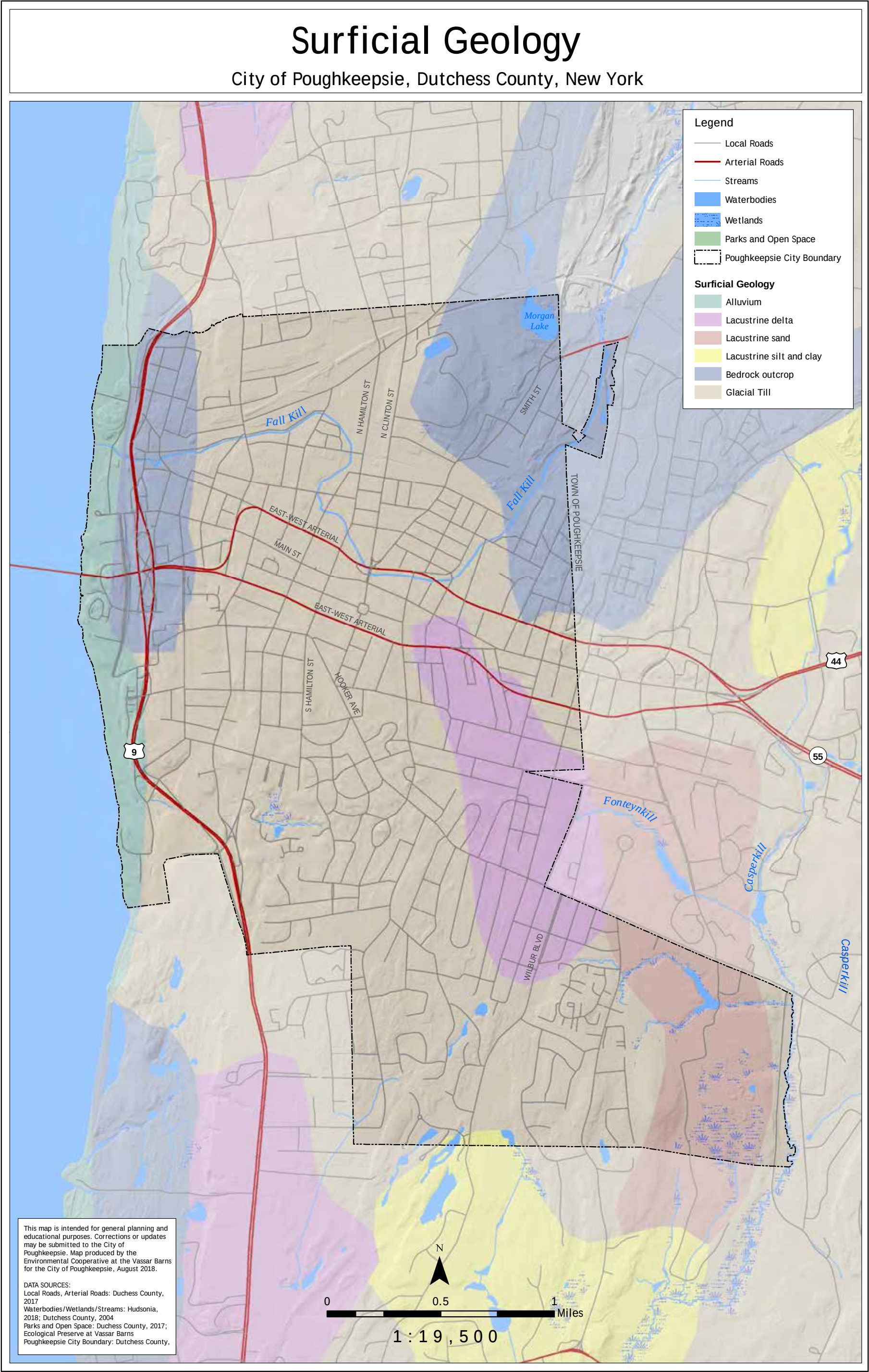


Surficial Geology

Surficial geology refers to the layer of unconsolidated sediment that sits above bedrock. Surficial geology materials mapped in the City of Poughkeepsie include sand and gravel, clay and silts, and glacial tills, presented in [Table 2.2](#). These materials influence soil development and can affect suitability for development projects such as the construction of new roads, and buildings, or septic systems. They are therefore important to consider in urban planning. Surficial materials also affect surface and groundwater flow and storage; for example, alluvium, which are formed by riverine deposits, are often associated with high-yield unconsolidated aquifers (Gilchrist, et al., 2010). Certain surficial deposits also have important economic value; for example, sand deposits may be mined for road maintenance and construction uses.

Table 2.2: Surficial geology descriptions in the City of Poughkeepsie (NYS Museum, 2018)

Surficial Material	Description (Lower Hudson Surficial Shape)
Alluvium	Formed by riverine deposits. Oxidized fine sand to gravel, permeable, generally confined to flood plains within a valley, in larger valleys may be overlain by silt, subject to flooding, thickness 1-10 meters
Lacustrine delta	Formed by ancient lakes. Coarse to fine gravel and sand, stratified, generally well sorted, deposited at a lake shoreline, thickness variable (3-15 meters).
Lacustrine sand	Formed by ancient lakes. Generally, quartz sand, well sorted, stratified, usually deposited in proglacial lakes, but may have been deposited on remnant ice, generally a near-shore deposit or near a sand source, permeable, thickness variable (2-20 meters).
Lacustrine silt and clay	Formed by ancient lakes. Generally laminated silt and clay, deposited in proglacial lakes, generally calcareous, low permeability, potential land instability, thickness variable (up to 50 meters).
Bedrock outcrop	Exposed bedrock, generally within 1 meter of surface.
Glacial Till	Variable texture (boulders to silt), usually poorly sorted sand-rich diamict, deposition beneath glacier ice, permeability varies with compaction, thickness variable (1-50 meters).



Soils

Soil is the foundation for ecosystems and many natural processes and strongly influences feasibility for land use and development. Soil controls the decomposition of organic matter and biogeochemical cycles; regulates water flow; and influences the vegetation, habitat type, and agricultural potential of particular locations (Haeckel & Heady, 2014). Some important soil characteristics include pH, soil texture, reaction (acidity), permeability, drainage, organic content, depth to bedrock, and slope. These soil characteristics determine the establishment of habitats and distinct plant communities. From a land use perspective, consideration of soil properties is important. It will impact such things as planning and design of drainage systems, the siting of structures, septic system evaluation, properly engineering foundations, basements, and roads, and determining the feasibility of excavation.

There are many soil types in the City of Poughkeepsie, and each soil type is further classified by variation of slope and topography. The reaction (pH), depth to bedrock, and drainage classifications for each soil survey unit are displayed in [Table 2.3](#). Full descriptions of each listed soil type can be found with the Dutchess County Soil Survey or using the USDA Web Soil Survey.

Table 2.3: Soil types of the City of Poughkeepsie. (Web Soil Survey, 2018, Soil Survey of Dutchess County, New York, 2001)

Name on Map	Full Name	Soil Reaction	Depth to bedrock (inches)	Drainage
BeC	Bernandon Silt Loam, 8-15% slopes	Very strongly acid to moderately acid	>60	Well-drained
BeD	Bernandon Silt Loam, 15-25% slopes	Very strongly acid to moderately acid	>60	Well-drained
BgB	Bernandon Silt Loam, 3-8% slopes	Very strongly acid to moderately acid	>60	Well-drained
Ca	Canandaigua Silt Lam	Moderately acid to neutral in the surface and upper subsoil, neutral in the lower subsoil and substratum	>60	Very poorly drained
DwB	Dutchess Cardigan Complex, undulating/rocky	Very strongly acid to moderately acid in solum, strongly acid to slightly acid in the substratum	>60	Well-drained

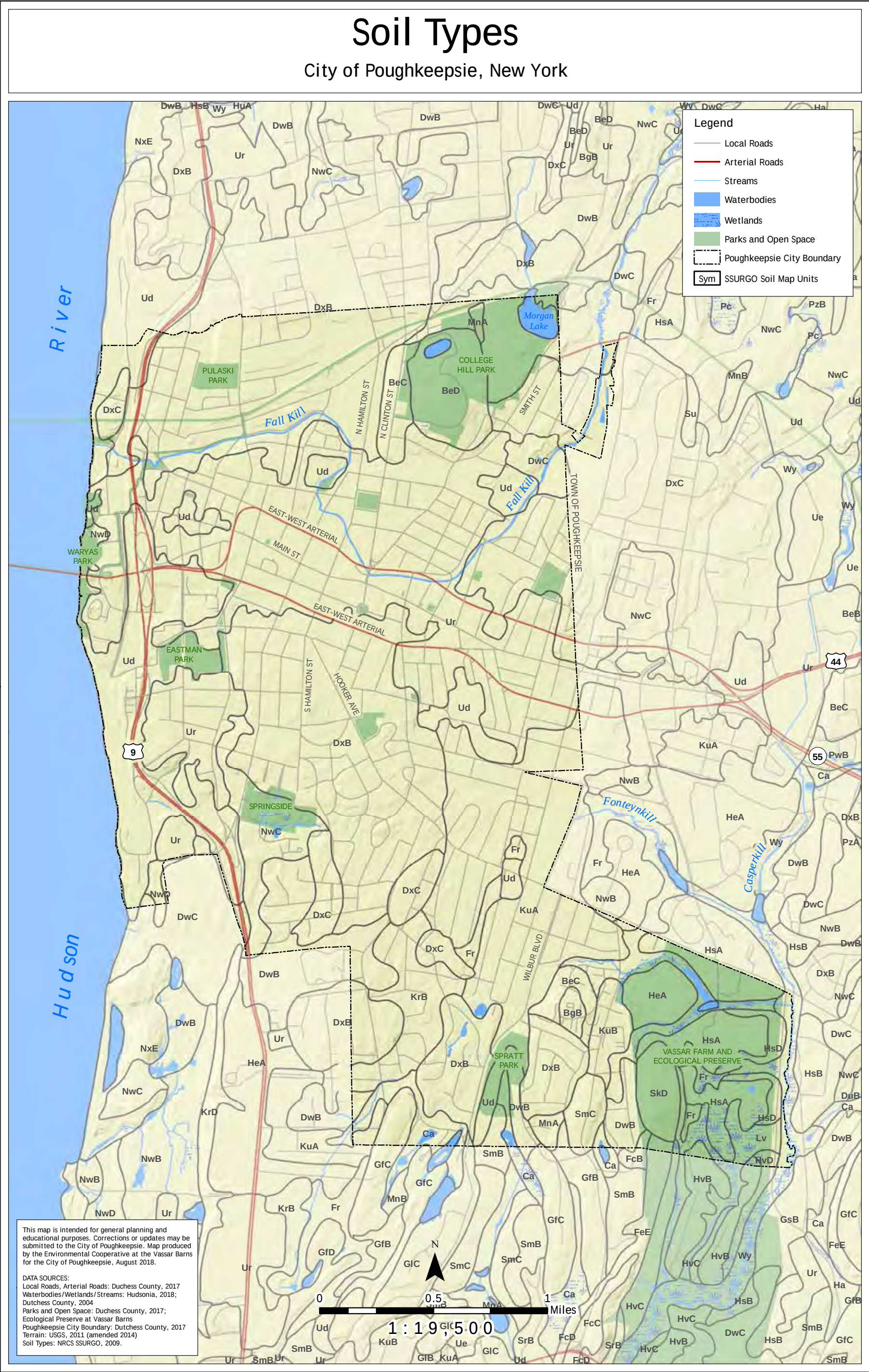
Table 2.3: Soil types of the City of Poughkeepsie. (Web Soil Survey, 2018, Soil Survey of Dutchess County, New York, 2001) (Continued)

DwC	Dutchess Cardigan Complex, rolling/rocky	Very strongly acid to moderately acid in solum, strongly acid to slightly acid in the substratum	>60	Well-drained
DxB	Dutchess Cardigan Urban Land Complex, undulating/rocky	Very strongly acid to moderately acid in the solum, and strongly acid to slightly acid in the substratum	20-40	Well-drained
DxC	Dutchess Cardigan Urban Land Complex, rolling/rocky	Very strongly acid to moderately acid in the solum, and strongly acid to slightly acid in the substratum	>60	Well-drained
Fr	Fredon Silt Loam	Moderately acid to neutral in the surface and subsoil, and slightly acid to moderately alkaline in the substratum	>60	Somewhat poorly drained
HeA	Haven Loam, nearly level	Very strongly acid to moderately acid	>60	Well-drained
HsA	Hoosic Gravelly Loam, nearly level	Very strongly acid or strongly acid above 30 inches, very strongly acid to slightly acid below 30 inches	>60	Somewhat excessively drained
HsD	Hoosic Gravelly Loam, hilly	Very strongly acid or strongly acid above 30 inches, very strongly acid to slightly acid below 30 inches	>60	Somewhat excessively drained
KrB	Knickerbocker Fine Sandy Loam, undulating	Very strongly acid to moderately acid	>60	Somewhat excessively drained

Table 2.3: Soil types of the City of Poughkeepsie. (Web Soil Survey, 2018, Soil Survey of Dutchess County, New York, 2001) (Continued)

KuA	Knickerbocker Urban Land Complex, nearly level	Very strongly acid to moderately acid	>60	Somewhat excessively drained
KuB	Knickerbocker Urban Land Complex, undulating	Very strongly acid to moderately acid	>60	Somewhat excessively drained
Lv	Livingston Silt Clay Loam	Strongly acid to neutral in the surface and upper subsoil, neutral to moderately alkaline in the lower subsoil and substratum	>60	Very poorly drained
NwC	Nassau-Cardigan Complex, rolling/very rocky	Very strongly acid to moderately acid	20-40	Somewhat excessively drained
NwD	Nassau-Cardigan Complex, rolling/rocky	Very strongly acid and strongly acid	20-Oct	Somewhat excessively drained
SkD	Stockbridge Silt Loam, 15-25% slopes	Strongly acid to neutral in the surface, moderately acid to neutral in the subsoil, moderately acid to moderately alkaline in the substratum	>60	Well-drained
SmC	Stockbridge-Farmington Complex, rolling/rocky	Strongly acid to neutral in the surface, moderately acid to neutral in the subsoil, moderately acid to moderately alkaline in the substratum	>60	Well-drained
Ud	Udorthents, smoothed	N/A	>80	Well-drained
Ur	Urban Land	N/A	Variable	Covered by impervious materials

Map 2.3 Soil types in the City of Poughkeepsie



References

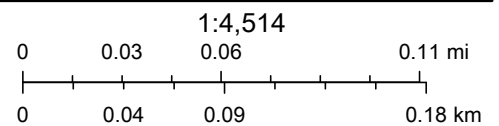
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Water Resources



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- Parcel Boundaries
- City of Poughkeepsie Boundary
- MS4 Outfalls
- Streams
- Stream Barriers
- Insignificant barrier
- No barrier
- no score - missing data
- Perennial Stream or Not Classified
- Wetlands
- Surface Water
- Riparian Buffers
- Flood Hazard Areas



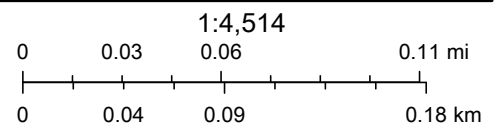
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Wetlands



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- Parcel Boundaries
- City of Poughkeepsie Boundary
- ~ ~ ~ Wetlands



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Watersheds

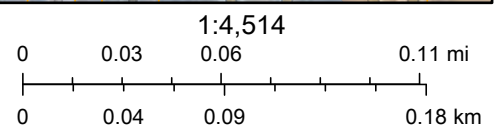


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- Parcel Boundaries
- City of Poughkeepsie Boundary

Watershed

- Fallkill Creek Watershed
- Hudson River Direct Drainage E



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Chapter 3. Water Resources

Jen Rubbo, Neil Curri, Elise Chessman, Julia Blass



The Fall Kill near Dongan Park.
Photo credit: Jennifer Rubbo

Introduction

The City of Poughkeepsie is located where the mouth of the Fall Kill drains into the Hudson River, and the City's founding was based predominantly around its access to water. Though the exact translation is debated, the name Poughkeepsie is derived from a Wappinger phrase meaning "reed-covered lodge by the little water place" (Britannica, n.d.). The Fall Kill and the Hudson River were the major factors that drew settlers to this area. Water was a source of power to early industrial activity, and the Fall Kill powered the processing of corn, lumber, and cloth through dammed millponds. (The Fall Kill Plan, 2012).

The City of Poughkeepsie is on the east bank of the Hudson River, at the midpoint of a 153-mile estuary from the City of Troy to New York Harbor – nearly half the entire river's length (Hudson River Watershed Alliance, 2013). An estuary is a partially enclosed coastal body of brackish water with one or more rivers or streams flowing into it and with a free connection to the open sea (Pritchard, 1967). Salty seawater pushes up the Hudson River during flood tide, diluted by freshwater runoff as it moves northward; during ebb tide, the salt front recedes southward. The alternating tides raise and lower the surface of the Hudson River approximately 3 feet at Poughkeepsie, and causes the river to change its direction of flow four times a day. The combination of tidal flows, saltwater, and freshwater inputs creates diverse habitats

throughout the Hudson River estuary, which support important commercial and recreational species like striped bass, bluefish, and blue crab (NYS Department of Environmental Conservation, 2019a).

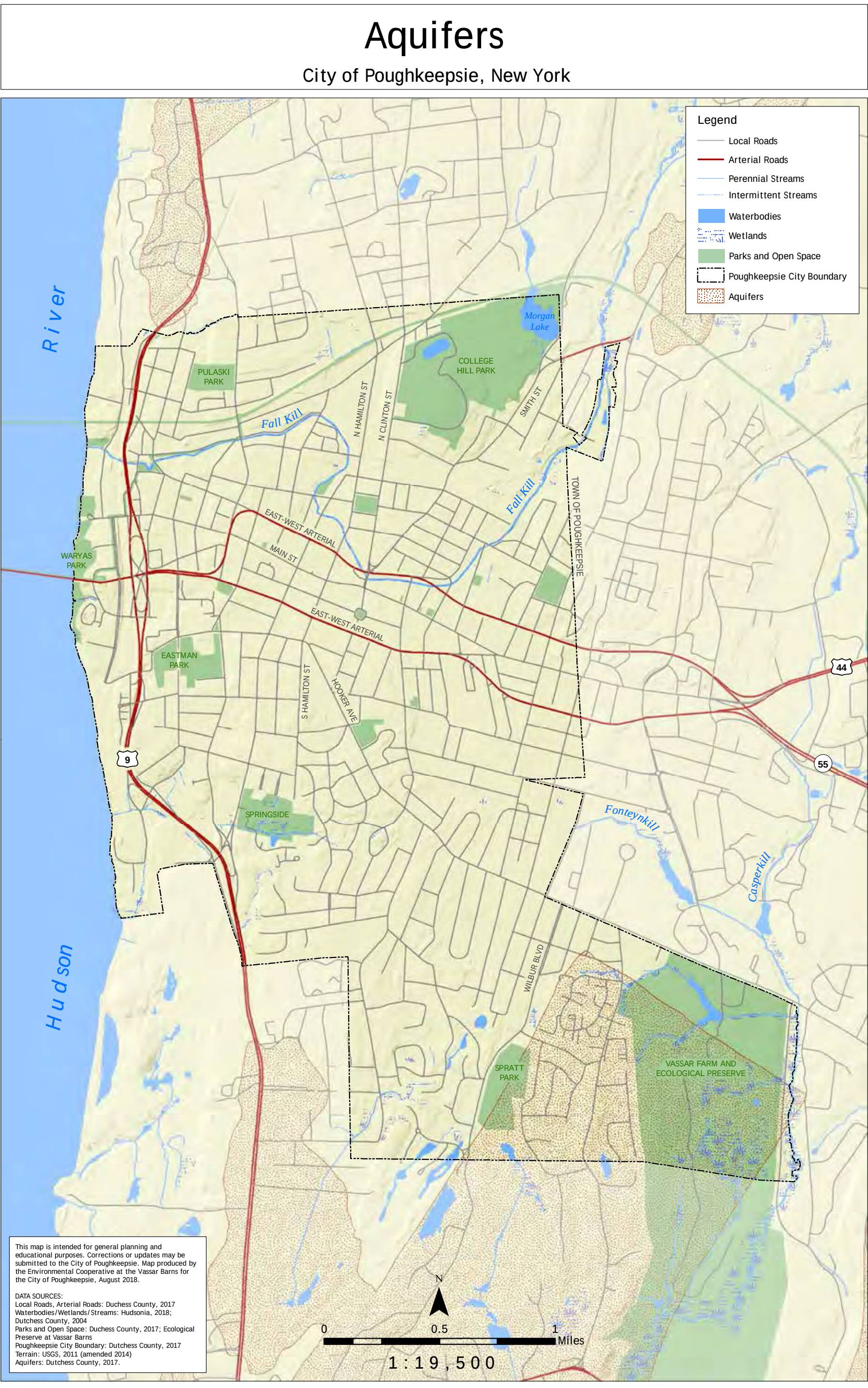
Not only does the Hudson River provide important habitat, but it also supplies the City of Poughkeepsie residents with potable drinking water. The salt front in the Hudson River estuary is typically well south of Poughkeepsie, but in times of drought it moves north, potentially impacting the City's drinking water intake and treatment plant.

Threats to water quality in the Hudson River, Fall Kill, and other small streams include point-source pollution from current and former industrial sites, stormwater runoff, and releases of untreated sewage during storms (i.e., combined sewer overflows). In addition, contaminants in the watershed, such as fertilizers and septic systems, also impact the quality of water in the Fall Kill and the Hudson River. Healthy water resources not only ensure a clean drinking water source but also provide important habitat for many organisms.

Groundwater and Aquifers

Groundwater feeds our rivers and streams and is the primary source of water for aquatic habitats during times of drought. Aquifers are areas with significant amounts of groundwater saturation. This groundwater is used to supply wells and other water sources. Groundwater recharge occurs primarily through infiltration of precipitation. The amount of impervious surface in a watershed can impact groundwater recharge, by both reducing the rate at which water infiltrates into the ground and the quality of the water infiltrating into the ground. Polluted runoff practices such as salting roads and the use of chemicals on yards can impact the groundwater quality and subsequently the water quality in the City's aquifers, streams, and rivers.

The City of Poughkeepsie does not utilize groundwater as a drinking water resource. However, aquifers within and surrounding the City should be identified, as these areas are important to the biological health of many natural areas ([Map 3.1](#)). For example, both the Fall Kill and Casperkill receive water from groundwater sources, maintaining flow during dry times of the year. While several aquifers exist just outside of the City boundary, only one major aquifer exists within the City limits in the Southeast corner. About half of this one aquifer in the City exists within the Vassar Farm and Ecological Preserve. The conservation of natural areas in the Vassar Preserve is very important to the aquifer's health, supporting both groundwater recharge and filtration.



Watersheds and Surface Water

Watersheds in Poughkeepsie

A watershed or drainage basin is the area of land from which all water drains into a particular stream, river, lake, or other waterbody. Surface topographic features (such as ridges, mountains, and hills) constitute watershed or basin boundaries. Watersheds are nested, with smaller subwatersheds existing within larger watersheds. For example, the Fall Kill watershed is a subwatershed of the Hudson River watershed. A healthy watershed has adequate pervious areas for water to infiltrate, which reduces direct inputs of polluted runoff to the waterway. This helps to recharge groundwater, mitigate flood and erosion impacts, and minimize the cost of water treatment and public infrastructure. Land use influences the quantity and quality of water supplies, and therefore understanding watersheds is critical to making informed natural resource management and land use decisions. The City of Poughkeepsie is part of the Hudson River basin and has four watersheds ([Map 3.2](#)). The majority of the City is within the Fall Kill and Casperkill watersheds, with the remaining area within the Hudson River Direct Drainage E and F basins.

The Dutchess County planning office created watershed boundaries for this map from high-resolution elevation surveys. As part of this dataset, there have been 5,272 subwatersheds delineated for every small stream and drainage within Dutchess County - 57 of which are located within or partially within the City of Poughkeepsie. The average size of these subwatersheds is approximately 100 acres. This level of watershed detail was provided to allow finely detailed analysis of water resources, a framework for organizing research, and as a potential basis for public outreach and education of stormwater issues on a neighborhood level. Watershed boundaries can encourage residents to think about how water naturally flows through their neighborhood as well as the geography of the built environment in which they live (Wills, 2010).

In an urbanized area like Poughkeepsie, the storm sewer and wastewater systems likely subvert many of the topographic subwatershed boundaries depicted in the map by collecting stormwater in catch basins and conducting it through underground pipes to other subwatersheds. Likewise, wastewater entering the combined sewer system may be entering these pipes in one subwatershed and pumped directly to the sewage treatment plant or Hudson River (during times of high precipitation), located in another subwatershed. (see Potential and Known Sources of Pollution Map for locations of CSO drainage areas; [Map 3.6](#)). In contrast to a watershed, a *sewershed* is the area of land where all the *sewers* flow to a single end point. Precipitation that falls on impervious surfaces in Poughkeepsie, for the most part, would follow these sewershed delineations rather than topographic watershed delineations. Topographic watershed delineations are still a helpful guide to understanding water flows in a specific area.

Surface Water in Poughkeepsie

The City of Poughkeepsie's major waterbodies are the Hudson River and the Fall Kill, and the Casperkill borders it at the Southeast corner. Additionally, there are small lakes, ponds, and reservoirs that are important surface water resources in the City. Most notably, Morgan Lake, which is located in the northeastern corner of the City, and the Victorian reservoir at College Hill Park.

The Hudson River is a defining natural feature in the City of Poughkeepsie. In addition to its historical, economic and cultural significance, the river provides an important connection to nature for residents and fosters local identity. The entire western border of the City of Poughkeepsie is located on the shores of the Hudson River. Hudson River habitats including the main channel, tidal shallows, intertidal shallows and the tidal tributary mouth of the Fall Kill, make up the largest contiguous habitat type in the City (Heffernan & Stevens, 2018). The Hudson River watershed drains 13,390 square miles (Hudson River Watershed Alliance, 2013) and all of the land in the City of Poughkeepsie eventually drains into the Hudson River. Land use in the City of Poughkeepsie has significant impacts on both water quality of the tributaries that feed into the Hudson River and the river itself.

The primary tributary that flows through the City of Poughkeepsie is the Fall Kill, which originates in the towns of Clinton and Pleasant Valley, flows through Hyde Park, the Town of Poughkeepsie, and finally the City of Poughkeepsie where it enters the Hudson (Bean, Lynch, & Burns, 2006). Its watershed covers an area of 19.5 square miles and is approximately 38 miles long. The northern reaches of the creek are largely undisturbed, with many woodlands, wetlands, and marshes present in these sections of the watershed. As the stream enters the City of Poughkeepsie, the buffer of natural area that borders the creek decreases and developed surfaces get closer to the stream. The Fall Kill is channelized by New Deal Era stone walls for 2.5 miles through the City of Poughkeepsie. There is little to no buffer, and the stream channel rapidly conveys water through the City to the Hudson River. Channelization and the highly developed impervious surroundings make certain areas of Poughkeepsie especially susceptible to flooding, as was witnessed during Hurricane Irene in August 2011. There is, however, a small portion of the creek within the City boundary that is not channelized in stone walls. This section is located primarily near a parcel of land owned by the City of Poughkeepsie Department of Public Works and privately owned adjacent parcels to the south. This section of the creek has been identified as a significant habitat area and should be considered an important flood retention area due to the presence of small sections of an undeveloped forested riparian buffer, (Heffernan & Stevens, 2018) (see [Appendix A](#) for complete report). The Fall Kill Management Plan, which was completed in 2006, is the most comprehensive study of the biology and water quality of the creek and provides important recommendations for the improvement of water quality that are still relevant today (Bean, Lynch, & Burns, 2006).

The Casperkill is 11 miles long, with the mainstem of the stream located mostly in the Town of Poughkeepsie there is about $\frac{3}{4}$ of a mile of the creek in the City of Poughkeepsie bordering the easternmost edge of the City. The watershed spans a total of 12 square miles. Twenty percent of the watershed lies within the City boundaries, mostly in the southern and eastern portions of the City (Menking K. , Cunningham, Foley, Freimuth, & Smith, 2009). The creek flows through an area of mixed land use dominated by suburban and urban development including shopping centers, parking lots, and residential homes. The most natural section of the creek is located within the Vassar Farm and Ecological Preserve where a 300-2000 ft. vegetated buffer exists. While not located in the City of Poughkeepsie, this section

of the creek is an important area to note. The protection of the forest and open space in this area help to mitigate the inputs of non-point source pollution entering the creek further upstream. The Casperkill finally enters the Hudson River near Tilcon Quarry, just south of the Poughkeepsie Galleria.

Inputs to the Casperkill include surface runoff, and small tributaries, including a small unnamed tributary located in the City at the entrance of the Vassar Farm and Ecological Preserve and the Fonteynkill. The Fonteynkill is located in the Town and is presumed to drain a residential portion of the City of Poughkeepsie via underground sewers and pipes contributing to the water quality of the stream (Cunningham, Livingston, & Cardillo, 2013). The Fonteynkill surfaces about 3,300ft upstream of the confluence with the Casperkill at the boundary of the City and Town of Poughkeepsie (Menking K. , Cunningham, Foley, Freimuth, & Smith, 2009).

Typical urban development practice during industrialization included burying most small streams and/or using them as sewers to transport waste out of cities. Because infrastructure and development has disconnected these small streams from the surrounding watershed, buried streams cannot provide ecosystem services such as nutrient pollution reduction in stormwater runoff (Trice, 2013). In Poughkeepsie, several small streams no longer appear in recent maps and GIS data, or, such as the Fonteynkill appear with significant sections buried underground. The paths of these streams are difficult to ascertain but can be inferred from historic maps.

Based on an 1891 map of portions of Ulster and Dutchess County, the Fonteynkill historically began further west in the City of Poughkeepsie, near the intersection of Hooker Avenue and present-day S. Cherry Street ([Figure 3.1](#)) (Beers F. , 1891). Historic maps from 1867 and 1834 depict a stream called Kidney Creek (or Kidney Kill) at the north edge of the City of Poughkeepsie ([Figure 3.2](#) (Beers F. W., 1867) ; [Figure 3.3](#) (Winfield, 1834). Recent topographic maps do not depict this stream nor does recent GIS data or aerial photographs. However, an outlet to the Hudson River is visible in recent aerial photographs emerging from the approximate location of the former mouth of Kidney Creek, suggesting that the entire creek has been buried underground. The above-referenced 1834 map also shows two streams emptying into the Hudson near Pine Street; no evidence of these creeks can be seen in recent maps, aerial images, or GIS data ([Figure 3.4](#) (Winfield, 1834).



Figure 3.1. 1891 Map of the City of Poughkeepsie showing the Fonteynkil extending into what is now the City of Poughkeepsie.

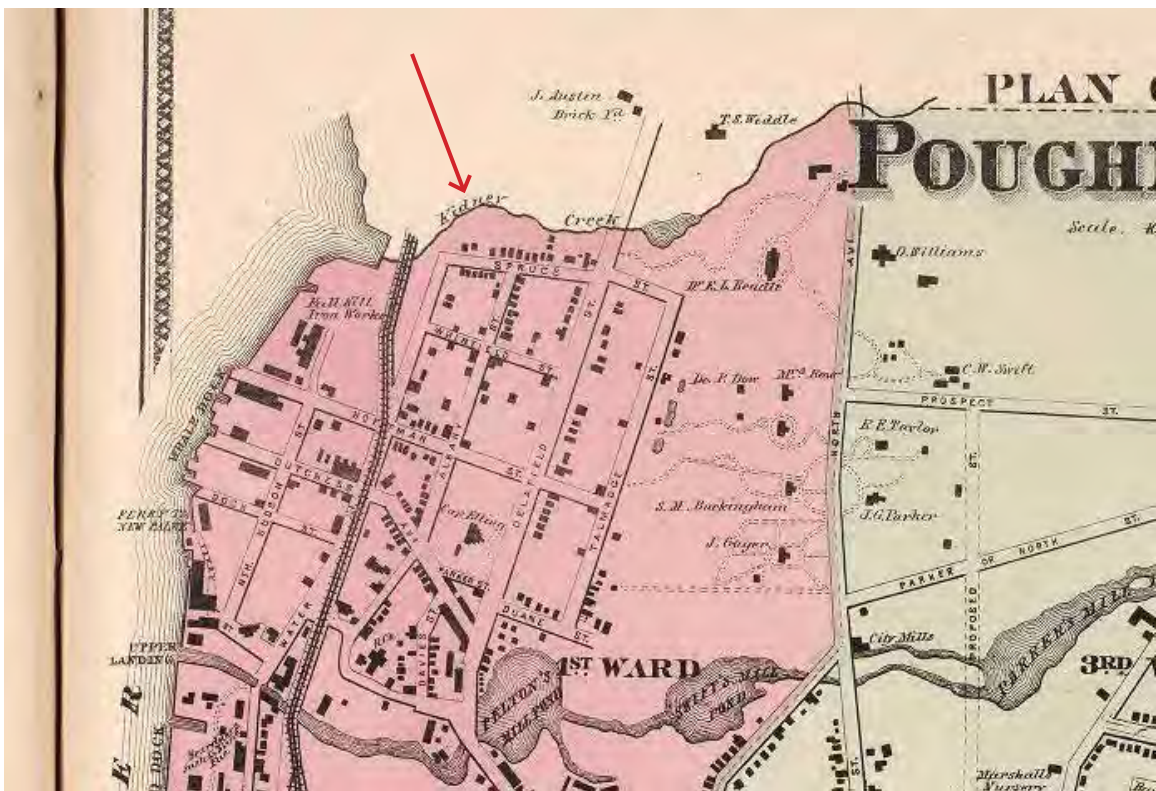


Figure 3.2. 1867 map of the City of Poughkeepsie showing the now buried Kidney Creek and its outfall into the Hudson River.



Figure 3.3. 1834 map the City of Poughkeepsie showing the now buried Kidney Kill (creek).



Figure 3.4. 1834 Map of small streams flowing into the Hudson River near Pine Street in the City of Poughkeepsie.

As part of the Significant Habitats Report ([Appendix A](#)) Hudsonia delineated the streams and stream fragments illustrated in [Map 3.2](#), as well as waterbodies and wetlands within the City of Poughkeepsie boundary. They describe a network of seemingly disconnected stream fragments located in the southern portion of the City that are presumed to be portions of streams that are now partially piped or buried so their complete paths were not detectable.

There are efforts by many organizations to maintain the health of the Hudson River, its subwatersheds and tributaries. Within Poughkeepsie, the Fall Kill Watershed Committee and the Casperkill Watershed Alliance have done important work to contribute to the health and knowledge of our watersheds. The Fall Kill Watershed Committee and the Casperkill Watershed Alliance have been inactive in recent years however these local groups have assessed the Fall Kill and Casperkill extensively in the past (see [Health of the Casperkill, Dutchess County, New York](#) (Menking K. , Cunningham, Foley, Freimuth, & Smith, 2009) and [A Watershed Management Plan for the Fall Kill, Dutchess County, New York](#) (Bean, Lynch, & Burns, 2006). Vassar College has continued to monitor water quality in the Fonteynkill until 2017. Since 2017, the local non-profit Scenic Hudson has worked to gain community support for the revitalization of the creek, based on work completed in the [2012 Fall Kill Plan](#) (The Fall Kill Plan, 2012).

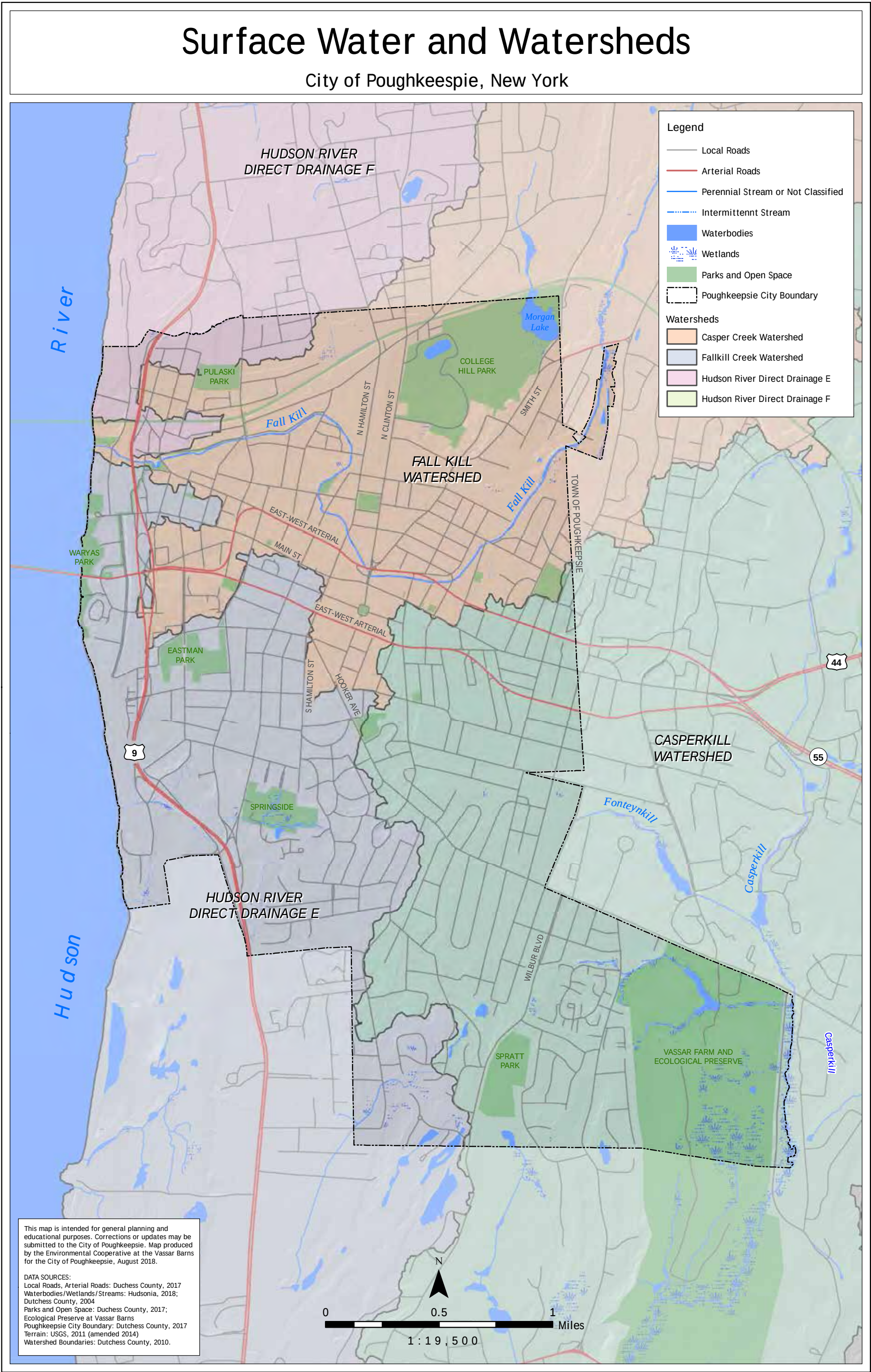
Additional resources that discuss the Fall Kill and Casperkill include:

[Fall Kill Neighborhood Source Assessment Report](#) (Palmer & Hesse, 2013)

Fall Kill Trash Assessment (Rubbo, 2008a)

[Fall Kill Stream Walk](#) (Rubbo, 2008)

The Suburban Stream Syndrome: Evaluating Land Use and Stream Impairments in the Suburbs (Cunningham, et al., 2009)



Wetlands

A wetland is a distinctive habitat that provides important ecosystem services. Wetlands are defined by saturation of surface water or groundwater for a period of time throughout the year, and the presence of plants that are adapted to saturated soil conditions. In addition to providing habitat for a diversity of plants and animals, they play an important role in stormwater management. Wetlands slow down runoff, increase infiltration into groundwater, and help to filter out sediment and other contaminants. In an urban or suburban area, they are an important part of the natural landscape that helps mitigate the impacts of flooding, and are especially important today as storms become more severe and flooding increases due to global climate change.



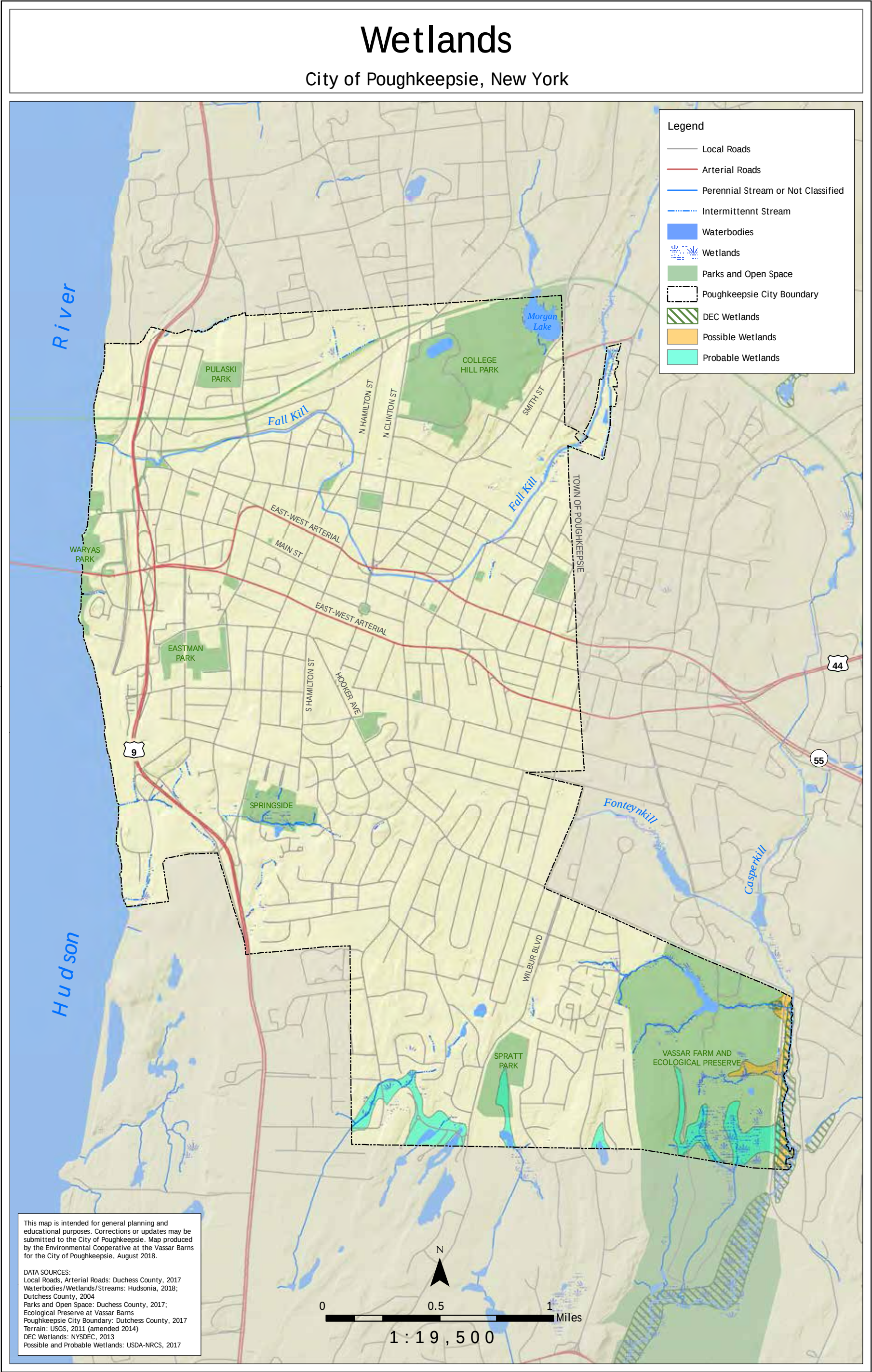
Figure 3.5. Section of the Fall Kill with small wetlands that are likely important in flood mitigation.

Wetlands are not common in the City of Poughkeepsie. Historically, many wetlands in developing areas were filled, which is likely what occurred in Poughkeepsie. The few remaining wetlands should be preserved as they function as important areas for mitigating the impact of floods by storing flood waters and slowing surface runoff, and help to improve water quality. Wetlands in [Map 3.3](#) were identified using data from Hudsonia's Significant Habitat Report (Heffernan & Stevens, 2018) and NYS DEC freshwater wetland data. Wetlands and their importance as habitat are further addressed in the Significant Habitat Report (Heffernan & Stevens, 2018).

Freshwater wetlands regulated by New York State can be viewed using the DEC [Environmental Resource Mapper](#) (NYS Department of Environmental Conservation, 2019b). These maps show approximate extent and location of wetlands subject to State regulation under the Freshwater Wetlands Act and include wetlands above 12.4 acres or of unusual local importance. NYSDEC also regulates the 100 ft adjacent area around these wetlands. NYSDEC wetland maps are incomplete and often contain inaccuracies. There is a 500 ft check zone around NYSDEC identified wetlands, in which the DEC recognizes that additional wetland area may exist. There is only one New York State DEC regulated wetland within City boundaries, and it is on the Vassar Farm and Ecological Preserve.

The wetlands that are located adjacent to the Fall Kill near the Department of Public Works parcel and just south of that on a privately owned parcel are worth noting ([Figure 3.5](#)) since the Fall Kill is not channelized by stone walls yet at this point. This means that during flood events the creek may overflow into these wetlands, located within the 100-year flood plain. The wetlands thus may play an important role in retaining floodwaters where the Fall Kill enters the City. There may be other important hydrologic and habitat connections between these wetlands and the Fall Kill given their close proximity.

Also worth considering along with confirmed wetlands are the City's possible and probable wetland areas. These can be categorized based on the drainage class of soil groups. Soils that are somewhat poorly drained can be considered possible wetland areas, while soils that are poorly drained or very poorly drained can be considered probable wetland areas (Kiviat & Stevens, 2001). Researchers often use soil drainage classes to identify potential wetlands that are missing from existing wetland maps. Not only do poorly drained soils indicate that a wetland may be present, but they may also indicate previously drained areas with the potential for wetland creation or restoration.



Flood Hazard Areas and Riparian Buffer Areas

Floodplains are low-lying areas adjacent to streams or rivers that become inundated during times of high flow. Streams naturally overflow their banks to disperse floodwaters. This flooding helps slow the water, recharge groundwater and increase water quality by letting particulates settle out instead of being carried downstream. Stream channelization is a modification to the banks of the stream that stops overbank flooding and moves water quickly downstream. While channelization might succeed in reducing flooding locally, it generally has negative impacts on the stream ecosystem as a whole. As the volume and velocity of the water increase through channelized areas, bankside erosion increases, suspended sediment increases, stream habitat is destroyed, and the risk of flooding downstream of channelized areas increases.

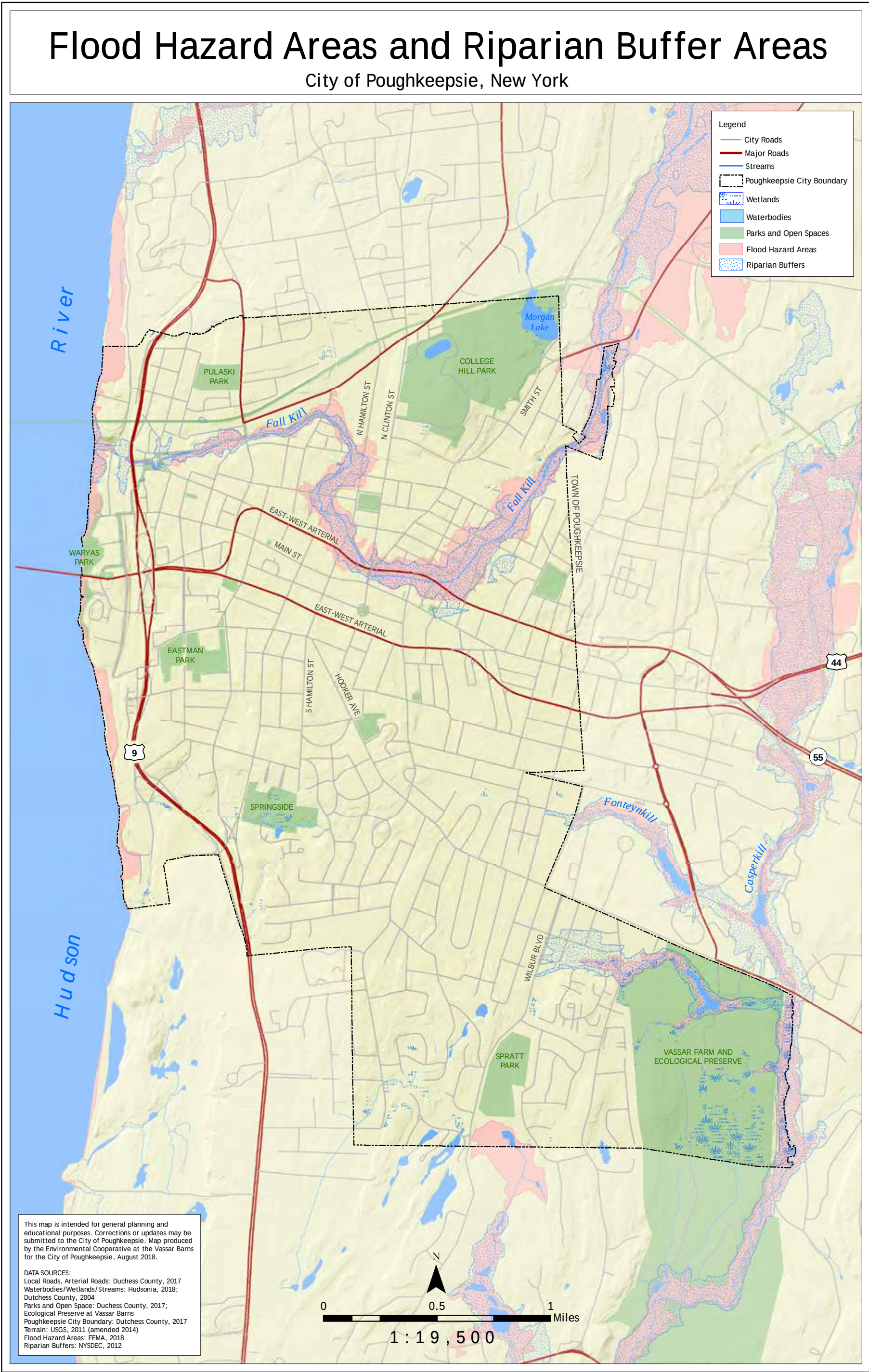
The Flood Hazard Areas and Riparian Buffer Areas map ([Map 3.4](#)) shows data from the Federal Emergency Management Agency (FEMA). FEMA maps flood zones with boundaries that represent the 1% chance annual flood (the “100-year” floodplain). The FEMA designation determines low-cost federal flood insurance rates and facilitates local land use controls that comply with FEMA’s requirements (FEMA, 2019). The City participates in FEMA’s National Flood Insurance Program (NFIP), with 164 policies in place as of 2015, insuring a total of \$40,731,800 worth of property. NFIP has paid 39 claims since 1978 (City of Poughkeepsie Hazard Mitigation Plan, 2016). The flood hazard areas map can help to understand which areas of the City are at greatest risk of flooding, and where to focus on flood mitigation like green infrastructure and grey stormwater infrastructure improvements. Some of the major flood hazard areas fall within highly developed parts of the City of Poughkeepsie along the Fall Kill. The Fall Kill is an identified vulnerability in the City in the event of a flood because the channel is in disrepair in places (City of Poughkeepsie Hazard Mitigation Plan, 2016).

Knowing the locations of key water-related infrastructure such as storm drain outfalls and combined sewer overflows (CSOs) and their relationship to flood zones is important for discussions of future development and planning in the City (See [Map 3.6](#). Potential and Known Sources of Pollution Map, and [Map 3.7](#) Stream Barriers Map). Properly sized bridge crossing and culverts, as well as the removal of large debris from the stream, will aid in reducing flooding in the City. Additionally, reducing the amount of water that enters storm drains through the increase of pervious surfaces and other Green Infrastructure practices will help to decrease flooding potential.

Flood zones are not static. Land use, climate change, impervious surfaces, obstructions in floodways, precipitation and runoff changes, technological improvements in measuring topography, and new hydrologic modeling techniques can all alter the boundary of the flood zone (Findlay, Burns, Urban-Mead, & Lynch, 2010). Any map of flood hazard areas is therefore always subject to change. Furthermore, areas outside the mapped flood hazard areas may still flood during intense storms. These boundaries simply delineate areas with a higher risk of flooding (1% annual chance) based on historic rainfall and hydraulic modeling of the stream channel and watershed characteristics.

The Flood Hazard Areas and Riparian Buffer Areas map also illustrates riparian areas subject to the 2% annual chance flood (New York Natural Heritage Program, 2018). These areas may not be included in FEMA’s flood zones. In Poughkeepsie one of these areas exists in the southeastern corner of the City near Wilbur Blvd. Riparian buffers are vegetated areas

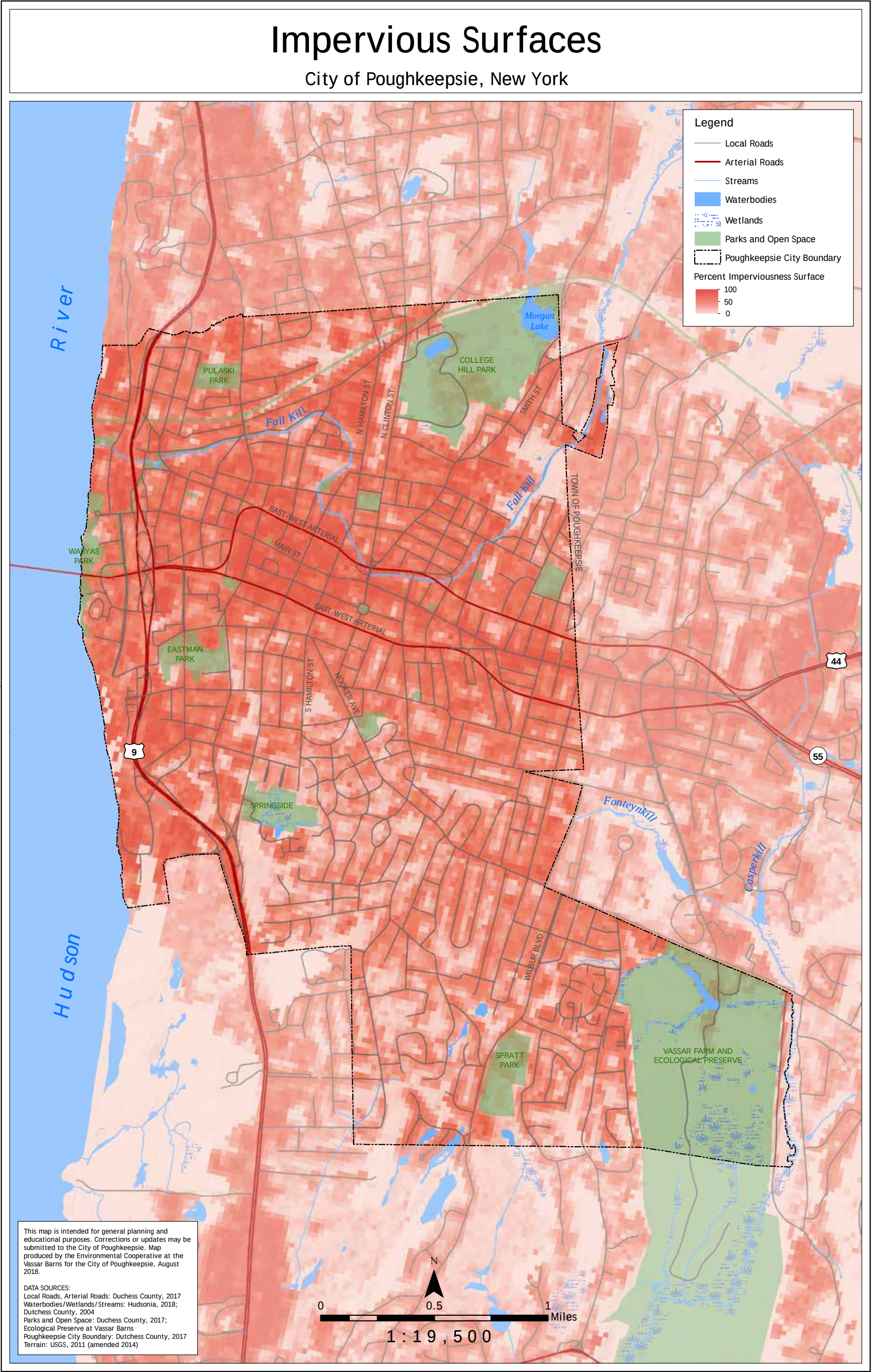
alongside the creek that help to protect the creek by slowing runoff, infiltrating water, providing shade that cools the water, and reducing the amount of sediment and pollutants entering the stream. NYS regulates, up to 50 ft. from the mean high water line, the disturbance of the bed or banks of streams with classifications of AA, A, B, C(T) or C(TS) (NYS Department of Environmental Conservation, 2019c). NYS does not protect the Fall Kill under this regulation because it is designated as a Class C stream (see [Table 3.1](#)). However, the City of Poughkeepsie Code does state specific provisions for uses abutting the Fall Kill (<https://ecode360.com/27017455>). The code requires setbacks of 30 feet from the top of the creek banks for any structure or use of land other than parking, recreation or open space. Parking areas may be located nearer than 20 feet to the top of the banks. Additionally, developers must direct surface drainage for parking and loading areas away from the creek and these areas are required to be landscaped and stabilized to reduce erosion (City of Poughkeepsie, 2017).



Impervious Surfaces

Poughkeepsie is an urban environment with 14.2% of the land cover in the City classified as “high density developed” implying a high percentage of impervious surfaces (Homer, et al.). An impervious surface is anything that prevents the infiltration of water, such as parking lots, pavement, roads, or buildings. When precipitation falls on impervious surfaces it rapidly flows into storm drains which lead directly to streams and rivers. This runoff carries with it pollutants and trash and impacts the water quality of the waterbodies it flows into. Large volumes of water runoff from impervious areas also increase the potential for flooding. The Impervious Surfaces map ([Map 3.5](#)) shows where high percentages of impervious surfaces exist in the City of Poughkeepsie. Areas with high impervious surfaces that are located near the Fall Kill or the Hudson River could be prioritized as areas that should be targeted for stormwater practices that reduce runoff and keep stormwater on site. Green infrastructure practices, specifically, should be considered and would help to reduce runoff by mimicking and preserving natural features and increasing on-site infiltration (New York State Stormwater Management Design Manual, 2015). Additionally, reducing the amount of runoff from impervious surfaces in areas that drain into Combined Sewer Overflows would help to reduce the amount of polluted runoff entering the Hudson River (See Potential and Known Sources of Pollution Map ([Map 3.6](#)) and the Combined Sewer Overflows section for more information about CSOs).

Map 3.5 Impervious Surfaces of the City of Poughkeepsie



Water Quality Assessments and Classifications

The New York State Department of Environmental Conservation assesses freshwater stream segments and open waterbodies and designates “best uses” for waterbodies across the state.

The classifications and best uses for state waterbodies are:

- Class A, AA, A-S, or AA-S - water supply, primary and secondary contact recreation, and fishing
- Class B - primary and secondary contact recreation, fishing
- Class C - fishing and wildlife propagation
- Class D - fishing

Waterbodies classified as A, B, or C may also have an associated standard of (T), indicating they are trout waters, or (TS), indicating they are trout-spawning waters. For more information about the water body classifications see DEC’s webpage [Water Quality Standards and Classification](#) and the DEC’s [Classification - Surface Waters and Groundwaters](#) website. The DEC assesses water bodies using various monitoring techniques, including biomonitoring and water quality assessments. When a water body is not meeting the standards for its designated “best use” it may be listed on the [Priority Waterbody List](#) as impaired. Impaired water bodies are considered for inclusion on the state’s Clean Water Act Section 303(d) List and reported to Congress (New York State Department of Environmental Conservation, 2018a).

The Hudson River Estuary Program’s [Hudson Valley Natural Resource Mapper](#) is a convenient way to view waterbodies and their classifications in the Hudson Valley and easily download fact sheets from the Waterbody Inventory/Priority Waterbody List. (www.dec.ny.gov/gis/hre/)

There are four major waterbodies in the City of Poughkeepsie: The Hudson River, the Fall Kill, the Casperkill and tributaries and Morgan Lake. The Fall Kill is classified as a Class C stream and designated as Impaired due to nutrient pollution from urban stormwater runoff and suspected municipal sources (Lower Hudson River Waterbody Inventory/ Priority Waterbodies List, 2008). The Fall Kill Management Plan, documents how human activity has negatively impacted the overall health of the creek (Bean, Lynch, & Burns, 2006). The creek contains high levels of nitrate and phosphate, high chloride levels, and high levels of toxic heavy metals in stream sediments. Additionally, researchers found high levels of fecal coliform and *E. coli* bacteria at all sample sites on the length of the creek. Studies of the fish in the Fall Kill showed that all the species were tolerant to moderately tolerant of pollution, and studies of the macroinvertebrates indicated that while most of the length of the creek is “slightly impacted” by pollution, the lower end is “moderately impacted” (Bean, Lynch, & Burns, 2006).

The Hudson River is a Class A tidal estuary due to its use as a water source for the City of Poughkeepsie and neighboring communities. NYS has designated the River as impaired with known pollutants including metals (cadmium) and PCBs. Sources of pollutants include toxic and contaminated sediments, combined sewer overflows and urban stormwater runoff (Lower Hudson River Waterbody Inventory/ Priority Waterbodies List, 2008). Presence of these contaminants has led to fish consumption advisories. Several NY DEC and DOH networks monitor water quality and use of the Hudson as a source of drinking water and for recreation purposes. In 2018, an intermunicipal council of the seven communities that source their drinking water from the Hudson created the Hudson River Drinking Water Intermunicipal Council, with the focus of long-term protection of the Hudson as a source of drinking water (Riverkeeper, 2018)

Table 3.1. Summary of Waterbody Classification and Impacted Uses in the City of Poughkeepsie, NY (from the [Waterbody Inventory/Priority Waterbody List](#)) (Lower Hudson River Waterbody Inventory/ Priority Waterbodies List, 2008)

Waterbody	ID	Class	Water Quality	Uses Impacted	Pollutants	Pollutant source	303(d) list	Notes
Hudson River	1301-0001	A	Impaired	Known: Impaired - Fish Consumption, Stressed - Recreation Suspected: Stressed - public bathing, habitat/hydrology	Known: Metals (cadmium), priority organics (PCBs) Suspected: pathogens, thermal changes	Known: Toxic contaminated sediment, combined sewer overflow, urban storm-water runoff Suspected: Habitat modification, power generation	Yes 2b (Multiple Segment/Categorical Water, Fish Consumption)	Fish consumption use in this portion of the Lower Hudson is impaired by elevated levels of priority organics (PCBs, dioxin), heavy metals (cadmium) and other toxics primarily the result of past industrial discharges Roseton on west shore and Low Point on east shore in general area of Chelsea, to the mouth of the Rondout River in Kingston
Fall Kill	1301-0087	C	Impaired	Known: Impaired - Aquatic Life, Recreation, Stressed - Aesthetics	Known: Aesthetics (debris/trash), Pathogens Suspected: Nutrients (phosphorus, D.O./Oxygen Demand, Silt/Sediment, Unknown Toxicity	Known: Urban/Storm Runoff Suspected: Municipal, Industrial Possible: Other Sanitary Discharge	Yes, 3a (Waterbody Requiring Verification of Impairment)	Aquatic life support and recreational uses in the Fall Kill are impaired by nutrient enrichment, pathogens and various other pollutants attributed to municipal inputs and urban nonpoint sources.
Casper Creek and Tribs	1301-0195	C	Minor impacts	Suspected: Aquatic Life - Stressed	Suspected: nutrients (Phosphorus)	Possible: Agriculture, Urban/Storm runoff	n/a	Aquatic life support thought to experience impacts due to nutrient enrichment from non-point sources.
Morgan Lake	1301-0198	Unassessed						
Unnamed trib	1301-0197	Unassessed						Small stream segment near Beechwood Ave.

Potential and Known Sources of Surface Water Pollution

In the City of Poughkeepsie, known and potential sources of surface water pollution include discharges from regulated facilities, stormwater runoff from industrial facilities, discharges from Municipal Separate Storm Sewer Systems (MS4s), and Combined Sewer Overflows (CSOs). [Map 3.6](#) has these potential sources of pollution compiled together on this one map and described in more detail below. Additional resources that provide information about wastewater and stormwater are included in Table 3.2.

Table 3.2: Summary of Resources about Wastewater and Stormwater Infrastructure

Potential Pollutant Source	Agency	Website
Combined Sewer Overflows (CSO)	NYS DEC	Sewage Discharge Notifications
Multiple Separate Storm Sewer System (MS4)	EPA	Stormwater Discharges from Municipal Sources
Multiple Separate Storm Sewer System (MS4)	NYS DEC	Stormwater
State Pollutant Discharge Elimination System (SPDES)	EPA	Enforcement and Compliance History Online (ECHO)
State Pollutant Discharge Elimination System (SPDES)	NYS DEC	State Pollutant Discharge Elimination System (SPDES) Permit Program
DECinfo Locator Tool – a mapping tool that provides information about the environmental quality of specific sites	NYSDEC	DECInfo Locator

State Pollutant Discharge Elimination System (SPDES)

In accordance with the Federal Clean Water Act, New York State regulates wastewater and stormwater discharges through the State Pollutant Discharge Elimination System (SPDES) program. The SPDES program is designed to eliminate the pollution of New York waters and to maintain reasonable standards of purity (NYS Department of Environmental Conservation, 2019d). Several sites in the City of Poughkeepsie are regulated under individual permits as well as the Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity. In addition, stormwater discharges from the City of Poughkeepsie's municipal stormwater system are regulated under the SPDES Municipal Separate Storm Sewer System (MS4) general permit.

Individual Permits

A SPDES individual permit is required for constructing or using an outlet or discharge pipe ("point source") that discharges wastewater into the surface waters (or ground waters) of the state. Sewage treatment plants and other disposal systems that discharge into waters of the state also require individual permits (New York State Department of Environmental Conservation, 2019e). There are four sites with individual permits in the City of Poughkeepsie. Information about Individual Discharge Permits (Table 3.3) is available through the EPA's Enforcement and Compliance History Online (ECHO, <https://echo.epa.gov>) and NYSDEC's SPDES Permit Program page (<http://www.dec.ny.gov/permits/6054.html>).

Table 3.3 SPDES individual permits - Site locations and permit numbers

Permit ID	Facility Name	Location
NY0005673	Poughkeepsie Terminal	Sunfish Cover Road
NY0036731	Poughkeepsie Water Treatment Plant	Dutchess Avenue
NY0071897	Effron Fuel Oil Corp Terminal	Prospect Street
NY0026255	Poughkeepsie Stp	North Water Street

Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity

Industrial facilities must obtain permit coverage for stormwater discharges through either an individual industrial SPDES permit, the SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, or provide certification using the No Exposure Exclusion that industrial activities are not exposed to stormwater (New York State Department of Environmental Conservation, 2019f). There are four industrial sites in the City of Poughkeepsie with coverage under the MSGP for Stormwater Discharges Associated with Industrial Activity. Information about MSGP facilities in the City of Poughkeepsie (Table 3.4) can be found at <https://www.dec.ny.gov/chemical/9009.html>. An index of MSGP sites is available through the NYSDEC's SPDES Permit Program page at <http://www.dec.ny.gov/permits/6054.html>.

Table 3.4 MSGP Facilities – Site locations and permit numbers

Permit ID	Facility Name	Location
NYR00C508	Eisner Brothers Inc	67 Parker Ave.
NYR00F897	Baroni Scrap Metal	20 Van Kleeck Drive
NYR00B032	Clinton Point Quarry	Sheafe Rd.
NYR00D602	Cranesville Block Co Inc	18 Sunfish Cove Rd.

Municipal Separate Storm Sewer System (MS4)

The City of Poughkeepsie has storm drains that are separate from the sewer system and are part of the Municipal Separate Storm Sewer System (MS4). MS4 is a specific type of SPDES permit and requires that the community have a stormwater collection and conveyance system that is owned by the City, is not a combined sewer and is not part of the sewage treatment plant or publicly owned treatment works (US EPA, 2018). As an MS4 community, the City of Poughkeepsie must develop, implement and enforce a Stormwater Management Program (SWMP). The SWMP must include 6 Minimum Control Measures (MCMs): Public Education and Outreach, Public Participation/Involvement, Illicit Discharge Detection and Elimination, Construction Site Runoff Control, Post Construction Run-off Control, and Pollution Prevention/Good Housekeeping (NYS Department of Environmental Conservation, 2019g). For more information about MS4s in the City of Poughkeepsie and their SWMP, contact the City of Poughkeepsie Engineering Department.

In the City of Poughkeepsie, storm drains that are not connected to the wastewater treatment facility (are not CSOs) move water directly from roads and rooftops into the nearest waterbody. Twenty-four storm drains, the majority on the north side of Poughkeepsie, drain directly into the Fall Kill. On the south side of Poughkeepsie, most outfalls drain into small wetlands and streams, with eight outfalls located on tributaries of the Casperkill. There are six outfalls that drain directly into the Hudson River.

Combined Sewer Overflows

Combined Sewer Overflows (CSOs) convey sewage from homes and businesses as well as stormwater from roads and rooftops through the same system. They are physically separate from MS4s described above which only convey stormwater. In a CSO, all of the water is transported to a sewage treatment facility (POTW, Publicly Owned Treatment Works). During times of dry weather or light rain, these facilities can handle the water entering the system, but when there are significant rainfall events the system cannot handle the volume of water and it overflows directly to the Hudson River. Therefore, during high flow events, there is a combination of stormwater runoff and sewage from homes and business being piped directly into the nearest waterbody.

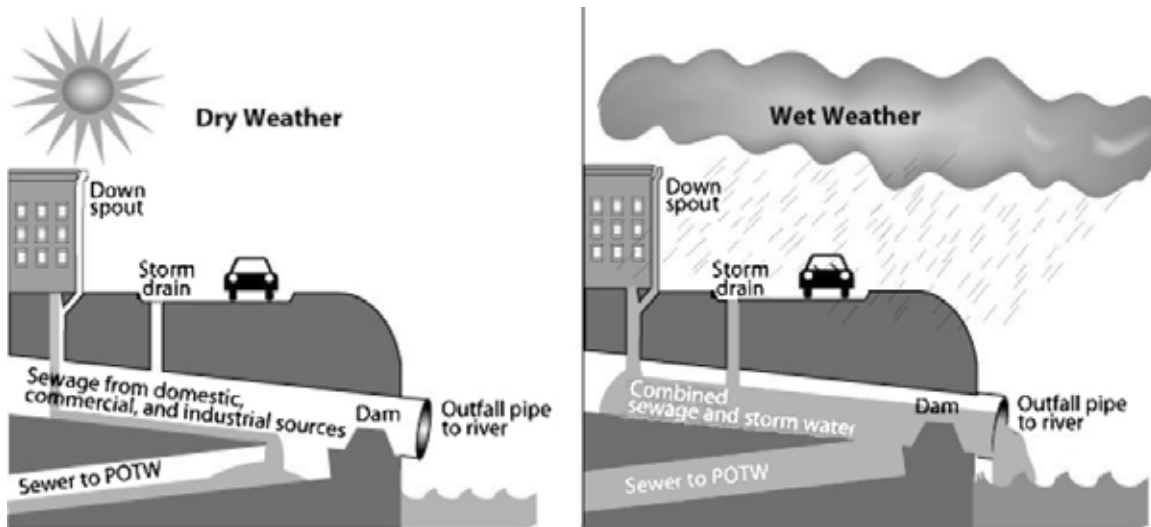
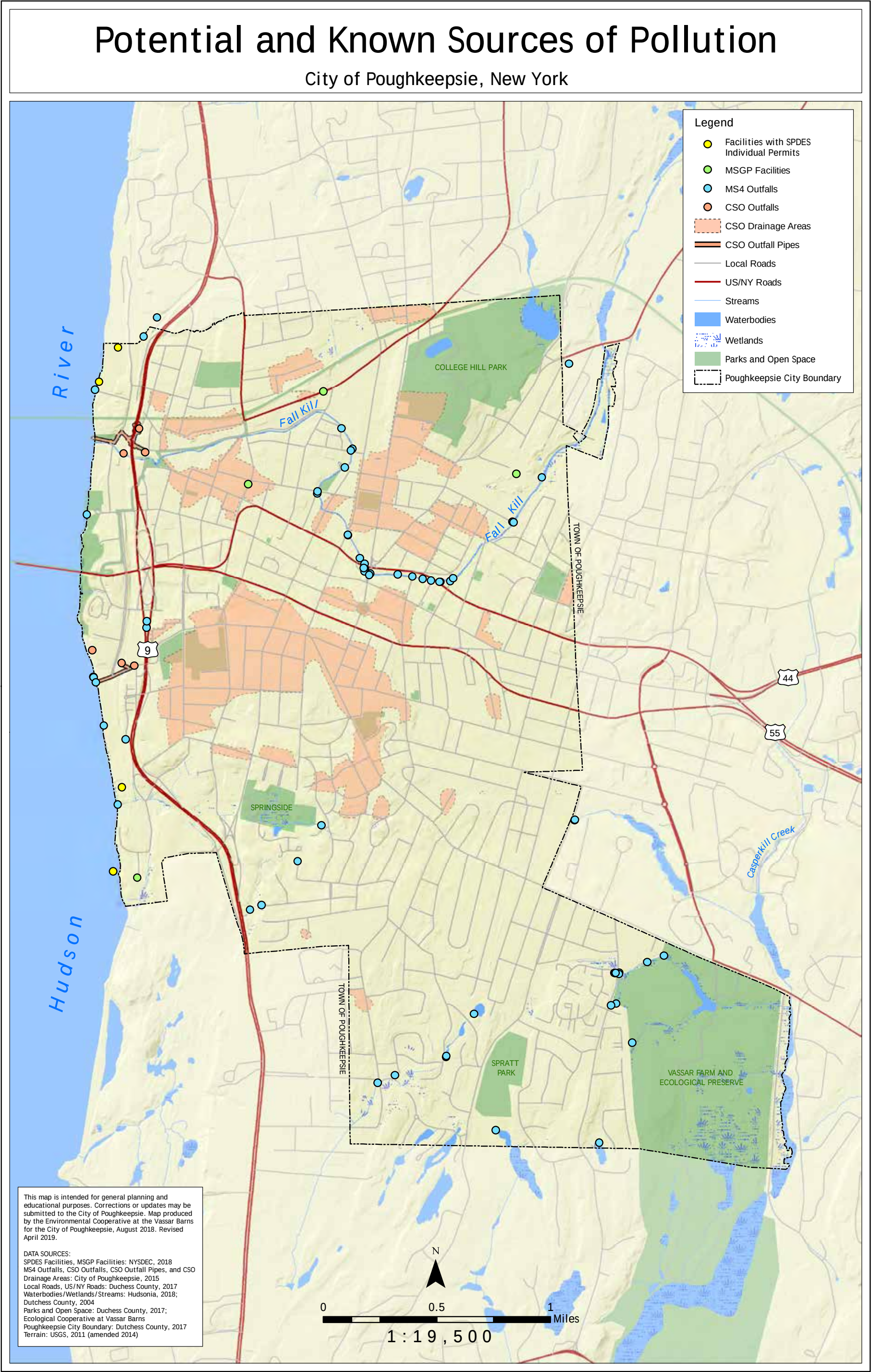


Figure 3.6 Schematic of a typical combined sewer system that discharges directly to surface waters. credit: US EPA

There are about 800 CSOs in New York State, and the City of Poughkeepsie has six CSOs that empty into the Hudson River (NYS Department of Environmental Conservation, 2019h). The Potential and Known Sources of Pollution map ([Map 3.6](#)) shows the location of CSO outfalls in the City as well as the drainage areas that contribute to these outfalls. The City is aware of the frequency of the overflows and required to report them to the NYS DEC through a new initiative, the Sewage Pollution Right To Know (SPRTK Act). Under this policy CSO discharges must be reported to the public through NY-Alert within two hours of the incident (DiNapoli, 2018). The City has a long-term plan in the works to separate the sewer system. They have allocated \$10 million for future sewer repairs over the next few years that would help reduce, but not eliminate, the CSO discharge (Rolison, 2018). However, the long-term plan for sewer repairs and CSO separation has an estimated cost of over \$50 million, and at this time the City can only allocate \$2.7 million (Rolison, 2018). Until the sewer system can be separated, sewage will continue to be discharged into the Hudson and the mouth of the Fall Kill through the combined sewer overflows during periods of heavy precipitation. Though the sewage is diluted as it enters the river, it is still a threat to the overall health of the river's ecosystems. Another, perhaps more feasible, strategy for decreasing the impact of CSOs is to prioritize stormwater mitigation in CSO drainage areas, which are identified on [Map 3.6](#). Green infrastructure practices that can be implemented into new development or retrofitted during upgrades is one way to decrease and slow down the amount of stormwater entering the sewer system (New York State Stormwater Management Design Manual, 2015; Palmer & Hesse, 2013).



Culverts and Aquatic Barriers

It is important to understand the condition of infrastructure at points where streams and roads intersect. Culverts and bridge crossing can become barriers to the movement of aquatic organisms if they are inappropriately placed or sized, resulting in the stream becoming disconnected at these points. This disconnect results in habitat fragmentation and the decline of animal populations, especially migratory fish such as the American eel, who depend on movement up and down stream for reproduction and life history. These crossings may also become sources of flooding if the culverts and bridge are blocked by woody debris or trash, slowing or blocking the flow of water through the structure. In the City of Poughkeepsie common impacts from stream crossings include an increase in flooding due to clogged culverts and bridge crossings, altered sediment and nutrient processes, increases in erosion of stream banks, and changes in water quality.

Grant funding is available through NYS to support the City in its efforts to become better stewards of its water resources. For more information visit the NYS Department of Environmental Conservation Grant Application website. (<http://www.dec.ny.gov/pubs/grants.html>)

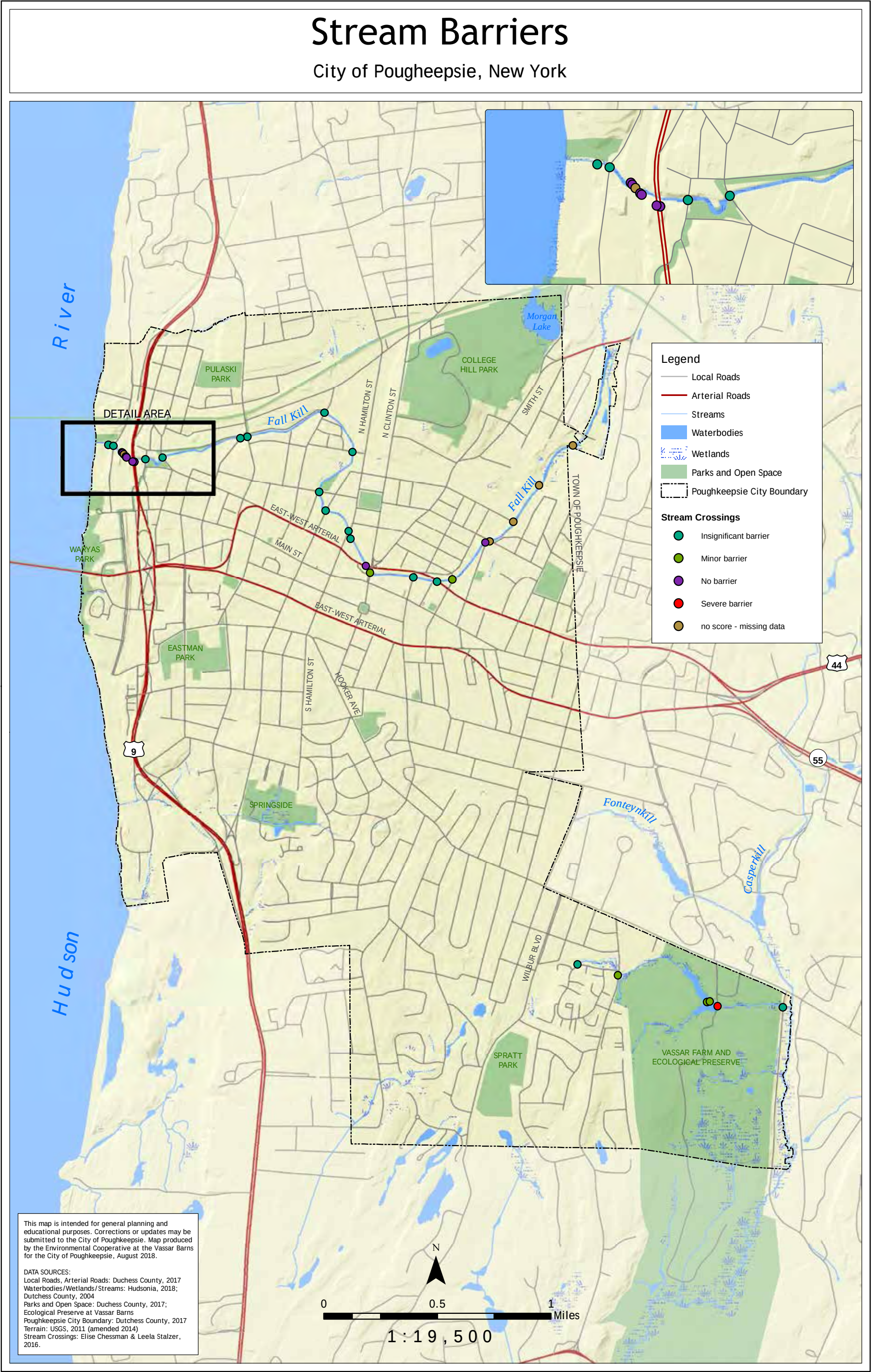
In 2016, The Environmental Cooperative at the Vassar Barns conducted a culvert assessment of the Fall Kill and Casperkill Watersheds (Stalzer, Chessman, Schmidt, & Rubbo, 2016) as part of a larger effort by the Hudson River Estuary Program to map and assess aquatic barriers in Hudson Valley streams. This effort is in conjunction with the [North Atlantic Aquatic Connectivity Collaborative](#) (NAACC). The NAACC's primary goals are to assess infrastructure to determine how well it maintains the ecological function, hydrology, and passability of the stream for organisms, organic debris, and sediment.

In the City of Poughkeepsie, there were 29 road crossings assessed along the Fall Kill. Researchers assessed each road crossing based the NAAC protocol which includes a suite of 13 variables. These variables are used to create a weighted composite Aquatic Passability score that falls between 0-1, with a score of 1 representing a crossing that meets all passability standards. For mapping purposes, these scores were translated into narrative descriptors ([Table 3.5](#)) (Scoring Road-Stream Crossings as Part of the North Atlantic Aquatic Connectivity Collaborative (NAACC), 2015), which are presented on the Stream Barriers map ([Map 3.7](#)). Of the 29 road crossings that were assessed, five could not be scored for various reasons. In-depth results from the Fall Kill and Casperkill study, including assessments of individual culverts and bridge crossing can be accessed at the [North Atlantic Aquatic Connective Collaborative Website](#). While none of the road crossings in the Fall Kill were considered more than a minor barrier, researchers did note that often the amount and composition of trash in the creek could act as a barrier to connectivity as there were several observations of debris piled up to the extent that it was diverting water flow. Blockages of debris at bridge crossing along the Fall Kill contributed, in part, to flooding of neighborhoods during Hurricane Irene in 2011. The City of Poughkeepsie does clean these areas periodically, when reported, however regular clearing of the creek is necessary to maintain connectivity.

A small portion of the Casperkill watershed falls within the City boundaries and in this area, there were six road crossings assessed along the Casperkill. Researchers designated one crossing located on the Vassar Farm and Ecological Preserve as a severe barrier.

Table 3.5. Aquatic passability scores for road crossings within the City of Poughkeepsie.

Descriptor	Aquatic Passability Score	# of Fall Kill Crossings	# of Casperkill Crossings
No Barrier	1.0	8	0
Insignificant Barrier	0.80 - 0.99	14	2
Minor Barrier	0.60 - 0.79	2	3
Moderate Barrier	0.40 - 0.59	0	0
Significant Barrier	0.20 - 0.39	0	0
Severe Barrier	0.00 - 0.19	0	1



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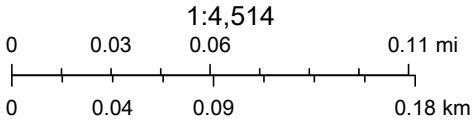
Habitats



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- Parcel Boundaries
- City of Poughkeepsie Boundary
- Wetlands
- Hudsonia Surface Water
- Hudsonia Streams
 - Perennial Stream or Not Classified

- Hudsonia Habitats
 - Developed
 - Cultural
 - Stream
 - Hudson River
 - Subtidal shallows
 - Estuarine rocky shore



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Chapter 4: Biological Communities and Habitats

Significant Habitats in the City of Poughkeepsie, Dutchess County, NY

By Elise Heffernan and Gretchen Stevens, Hudsonia Ltd. May 2018

Summarized by Julia Blass and Jennifer Rubbo



Pollinator garden at College Hill Park.
Photo credit: Camelia Manning

Introduction

In May 2018, Hudsonia Ltd. compiled a Significant Habitats Report for the City of Poughkeepsie as part of the Natural Resources Inventory project funded by the Hudson River Estuary Program (Heffernan & Stevens, 2018). This report assessed the types of habitats present in the City and developed conservation priorities for the protection and restoration of the City's habitats. The report offers important information regarding habitats and the species that live in them in the urban environment. The Hudsonia report outlines the state of the City's habitats, and provides the foundational ecological information necessary for future decisions regarding the intersection of conservation, urban planning and development. The full report is available in [Appendix A](#) and it is highly recommended that the report be read in its entirety.

Poughkeepsie is a heavily urbanized area dominated by paved surfaces and the built environment; it is still home, however, to significant areas of habitat that play an important role in the ecological health of the City and the greater Hudson Valley Region. A **habitat** can be defined as "the place where an organism or population lives or where a biological

community occurs, and is defined according to both its biological and non-biological components.”¹ Habitats include large, **ecologically significant areas** such as the Hudson River, the Fall Kill, and the Vassar Farm and Ecological Preserve. These are areas that include:

- “habitats that are rare or declining in the region, or those that support rare species and other species of other conservation concern;
- common habitats that meet a minimum size criterion for the habitat type;
- complexes of connected habitats that, by virtue of their size, composition, or configuration, appear to have significant biodiversity value.”²

Other cultivated natural landscapes, such as College Hill Park and Springside, play important roles as habitats that preserve the biodiversity and ecological health of Poughkeepsie’s communities. Preservation of the natural areas in the City of Poughkeepsie--from individual trees on the street to the larger tracts of natural land--is important for many reasons. Preserving the City’s natural areas provides dual benefits for both Poughkeepsie’s human and wildlife populations as these areas function in a variety of ways including: providing habitat, reducing stormwater runoff, mitigating the effects of climate change, providing shade and recreation areas, and beautifying the City.

Moving forward the Significant Habitats Report is a valuable resource to city planners, administration and residents and may be useful as the City:

- reviews a new comprehensive plan,
- approves proposed developments,
- improves its parks,
- and manages land use in the City of Poughkeepsie

Habitats in Poughkeepsie

Almost 20% of the 5.1 mi² (3258 ac) of terrestrial area of the City was mapped as ecologically significant habitat. If the Hudson River is included in this calculation, that percentage increases to 29.0% of the City.³ The Hudsonia report identifies 18 habitat types of potential ecological significance and notes that each of these habitats have been modified by past or present human activities. The ecologically significant habitats located within the City of Poughkeepsie are categorized into three general categories: Upland Habitats, Non-Tidal Wetland Habitats, and Hudson River Habitats and further subdivided into specific habitat types ([Map 4.1](#), [Table 4.1](#)). A complete description of the methods Hudsonia used to map habitats can be found in the full report.⁴

1 Hudsonia, 2018 p. 8.

2 Hudsonia, 2018 p. 8.

3 Hudsonia, 2018 p. 23.

4 Hudsonia, 2018 p. 17

Table 4.1 Ecologically significant habitats present in the City of Poughkeepsie, identified by Hudsonia, 2018.⁵

Habitat Category	Specific Habitat Type	Brief Description ⁶
Upland Habitats	Upland Hardwood Forest	Non-wetland forest dominated by hardwood trees (conifers make up < 25% of canopy).
	Upland Conifer Forest	Non-wetland forest dominated by conifer trees (>75% of canopy).
	Upland Mixed Forest	Non-wetland forest with a mix of hardwoods and conifers (conifers make up 25-75% of canopy).
	Crest/Ledge	Upland area with shallow soil and partially exposed bedrock.
	Upland shrubland	Open (nonforested) area with shrubs making up > 20% of ground cover
	Cultural	Open area (may have scattered trees) mowed frequently or otherwise managed in an intensive way (lawn, playing field, golf course, garden, park, cemetery).
	Waste Ground	Land that has been severely altered by human activity but lacks pavement or structures. Gravel mines, quarries, dumps, wetland fill, abandoned lots, or construction sites. Places where soil has been removed, and sometimes replaced [like fill].
Non-Tidal Wetland Habitats	Hardwood and shrub swamp	Wetland (identified by predominance of hydrophytic vegetation) dominated by trees and/or shrubs.
	Intermittent woodland pool	Small wetland partially or fully surrounded by forest with no surface water inlet or outlet.
	Marsh	Wetland dominated by hydrophytic herbaceous vegetation that stays saturated/flooded most of the time.
	Wet meadow	Area of seasonally saturated or flooded soils dominated by hydrophytic herbaceous vegetation.
	Spring/seep	Location where groundwater discharges to ground surface

⁵ Hudsonia, 2018 p. 24.

⁶ Hudsonia, 2018, unpublished brief descriptions of habitats

	Constructed pond	Man-made body of water with a mostly managed shoreline (bordered by developed or cultural areas).
	Open water	Body of water (natural or manmade) with a mostly undeveloped shoreline.
	Stream	Intermittent stream – stream that has flow at least part of the year, including man-made ditches. Perennial stream – stream that generally flows year-round.
Hudson River Habitats	Riprap and native rocky shore	Manmade or naturally occurring rocky shore, sparse plant life and unknown faunal diversity
	Tidal tributary mouth	Area where mixing of tidal and non-tidal water occurs, where tributary and river meet.

Detailed descriptions of all habitat types, including their ecological attributes, the species that they could potentially support, and their conservation values can be found beginning on p.24 of Hudsonia's report. A list of species of conservation concern that have been documented in or near the City of Poughkeepsie is provided in [Appendix F](#), (Species of Conservation Concern in the City of Poughkeepsie, NY). The largest habitat types in Poughkeepsie, which include the Hudson River, streams, upland hardwood forests, and cultural areas, are discussed below.

The Hudson River is the largest contiguous habitat in the City of Poughkeepsie and its most significant ecological resource. Poughkeepsie is located within the tidal portion of the Hudson River, known as an estuary. Though connected to the Atlantic Ocean by tides, the Hudson is entirely freshwater in Poughkeepsie, a globally-rare habitat. It is a designated NYSDEC Significant Biodiversity Area that supports many rare species as well as regionally important fisheries (Penhollow, Jensen, & Zucker, 2006). Poughkeepsie also lies within the [Kingston-Poughkeepsie Deepwater](#) Significant Coastal Fish and Wildlife Habitat as designated by the New York State Department of State (NYS Department of State). It is a well-known spawning area for the Atlantic sturgeon and overwintering grounds for the shortnose sturgeon, both of which are listed as federally endangered species (NYS Department of State, 2012). It is an important habitat for many other migratory and resident fish species including the American eel, American shad, blueback herring, striped bass, fourspine stickleback, hogchoker, and white perch (NYS Department of State, 2012). In addition to fish it provides habitat and food for many other organisms, such as blue crab, bald eagles, and a variety of waterfowl (NYS Department of State, 2012).

Seventy percent of the shoreline in Poughkeepsie is made up of rock riprap and native rock⁷ (Map 4.2). These rocky areas are harsh environments since temperature fluctuates radically, they are temporarily inundated due to tides, ice scours the banks in the winter, and there is wind and wave disturbance. The largest threat to these areas is sea-level rise and more frequent flooding. Development of the shoreline should take into account these potential and predicted changes to the water levels at the shoreline (see Ch.7 for more information about Climate Change in Poughkeepsie). The Hudson River Sustainable Shorelines project is an effort through the Hudson River National Estuarine Research Reserve to disseminate and facilitate best practices for shoreline management in light of potential climate change impacts. More information about this project can be found at <https://www.hrner.org/hudson-river-sustainable-shorelines>

Streams in Poughkeepsie include both perennial streams, which have water year-round, and intermittent streams which only flow seasonally or after heavy rain (see Chapter 3. Water Resources). Streams provide important aquatic habitat for a variety of fish, invertebrates, amphibians and bird species. Equally important is the riparian area adjacent to the stream. Intact riparian areas are typically forested, providing shade to the stream as well as habitat to a host of both aquatic and terrestrial animal species. Two perennial streams located in the City of Poughkeepsie are major tributaries to the Hudson River: the Fall Kill on the north side, and the Casperkill, which flows along the southeastern border of the City. The Fall Kill is highly impacted by channelization and pollution, nonetheless it continues to serve as an important habitat for migratory fish species such as the American eel and river herring. The area along the Fall Kill, adjacent to the City Department of Public Works, is an important site when considering ecosystem services of the creek. The stream is not channelized in this area and there are intact areas of floodplain forest that provide important habitat and floodwater retention and storage (see Ch. 3 Water Resources).

The small portion of the mainstem of the Casperkill within the City is located on the Vassar Farm and Ecological Preserve. The Casperkill is exposed to high levels of non-point source pollution for much of its length; however, as it flows through the Vassar Preserve, water quality improves due to an intact riparian buffer. Biomonitoring studies have shown a change in benthic macroinvertebrate indicators from “poor” upstream of the Preserve to “very good” at sampling points on the Preserve (Menking, Cunningham, Foley, Freimuth, & Smith, 2009). Practices that will increase the quality of habitat within streams include: 1) reducing surface runoff into the stream; 3) decreasing impervious surfaces in the watershed; and 2) maintaining and restoring a vegetated riparian buffer that includes shade providing trees where possible. Historically, there were more streams in the City of Poughkeepsie which are now mapped as small stream fragments throughout the City. It is likely that these are now buried or piped and no longer provide the ecosystem services of a natural stream. (see Ch. 3 Water Resource for more information about buried streams in the City).

Upland Hardwood Forests comprise the most extensive terrestrial habitat type in the City of Poughkeepsie, with the largest habitat patches of forest found on the Vassar Farm and Ecological Preserve. Large mature trees also exist throughout the City in smaller remnants of forest, such as at College Hill Park and Springside. These patches of large mature trees potentially provide habitat for important small mammals such the federally endangered Indiana Bat (Appendix F) which has been observed in Poughkeepsie and its vicinity. Several priority bird species associated with larger forest habitats have been identified in or near

7 Hudsonia 2018 p. 61

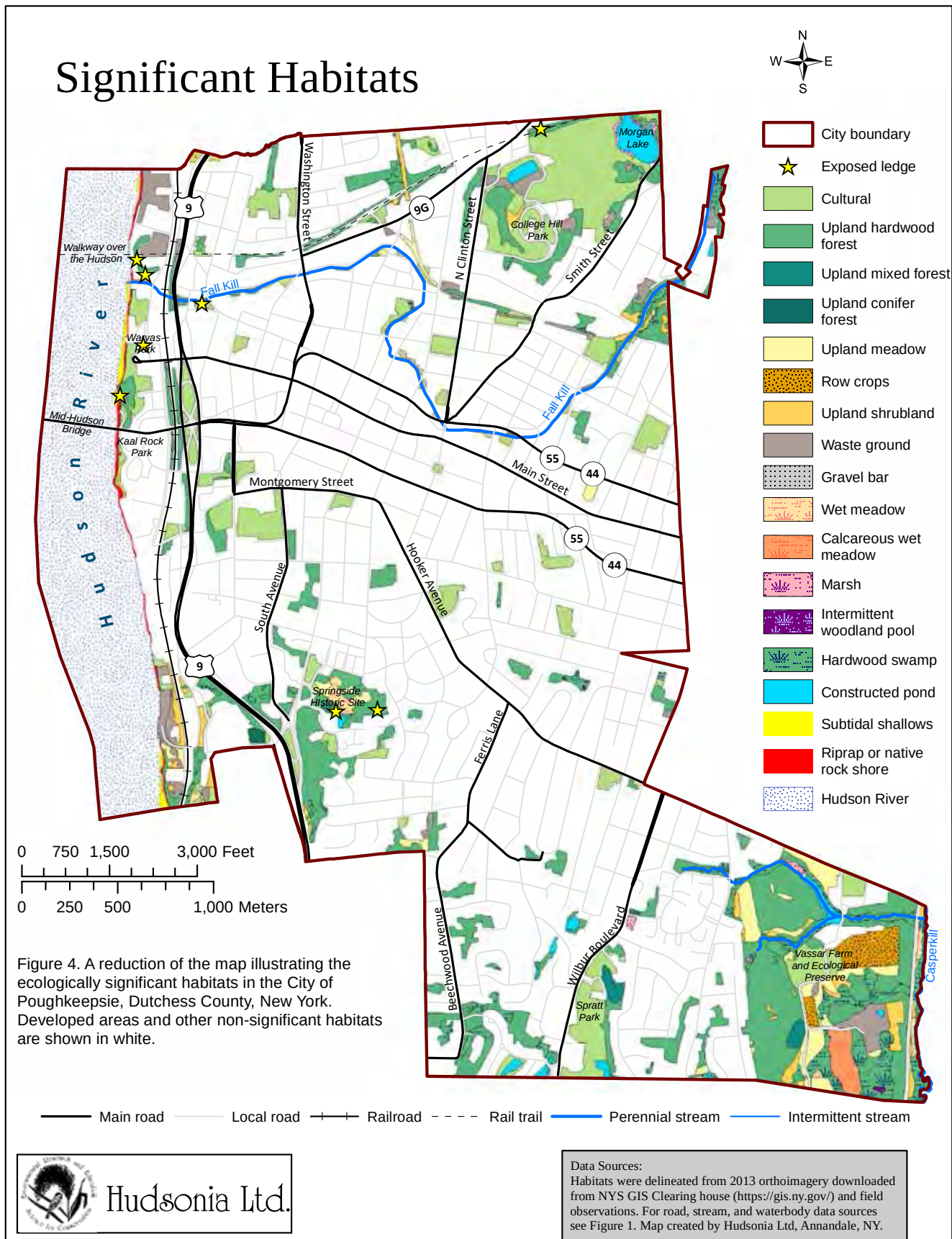
Poughkeepsie and might use forest areas in the City, including Kentucky warbler, scarlet tanager, and wood thrush, among others ([Appendix F](#)). It is important to note that, while the Hudsonia maps only depict forest areas that are 0.2 acres or greater, street trees and backyard trees also contribute to the urban forest ecosystem. In addition to acting as refuge and food source for many species of birds, butterflies, and other insects, mature trees provide a multitude of services to people as well. These include cooling from shade, carbon sequestration, reducing stormwater runoff, and improvement of air quality. (Chapter 5 of the Natural Resources Inventory discusses the benefits of urban trees in more detail.)

Cultural areas are second largest habitat type in Poughkeepsie. These consist of areas that are actively managed yet not paved, such as mowed lawns, public parks, athletic fields and golf courses. Due to high levels of management these areas may not support a large diversity of plant and animals species. However, a few rare species that have adapted to urban areas occur in or near the City, including the state endangered peregrine falcon and state special concern common nighthawk ([Appendix F](#)). Additionally, cultural areas serve an important role in connecting more natural undeveloped habitats while offering open space for people, facilitating outdoor activities and engagement with nature in this otherwise paved and built landscape (See Chapter 6 Cultural, Recreational and Historic Resources).

Access to these public greenspaces is important when considering their benefit to the health of Poughkeepsie residents. Studies have shown the positive impacts of greenspaces and parks on both the mental and physical health of residents (Liu, Li, Li, & Zhang, 2017; Richardson, Pearce, Mitchell, & Kingham, 2013; Wood, Hooper, Foster, & Bull, 2017). Living close to (within 1/3 mile) parks or open spaces, especially those that allow interactions with nature, has been significantly associated with mental health benefits such as increased self-confidence and relaxation (Liu, Li, Li, & Zhang, 2017). Residents living within a 10-15 minute walk (1 mile) of a park or greenspace, whether nature focused, recreation, or athletic, had more positive states of mental well-being, with a corresponding increase in mental well-being as the number of and access to parks increased (Wood, Hooper, Foster, & Bull, 2017). Additionally, the risk of cardiovascular disease decreased in neighborhoods with >15% greenspace (Richardson, Pearce, Mitchell, & Kingham, 2013). Hudsonia's report identifies areas that are within walking distance (500m, 10-minute walk) of habitat areas located on public land ([Map 4.3](#)).⁸ Several areas in the City have been identified as lacking in public greenspace, including the area near Main Street and Cannon Street and the south-central portion of the City.

⁸ Hudsonia, 2018 pg. 40

Map 4.1 Significant Habitat Areas in the City of Poughkeepsie



Map 4.2 Shoreline materials and models of the sea – level rise in the City of Poughkeepsie

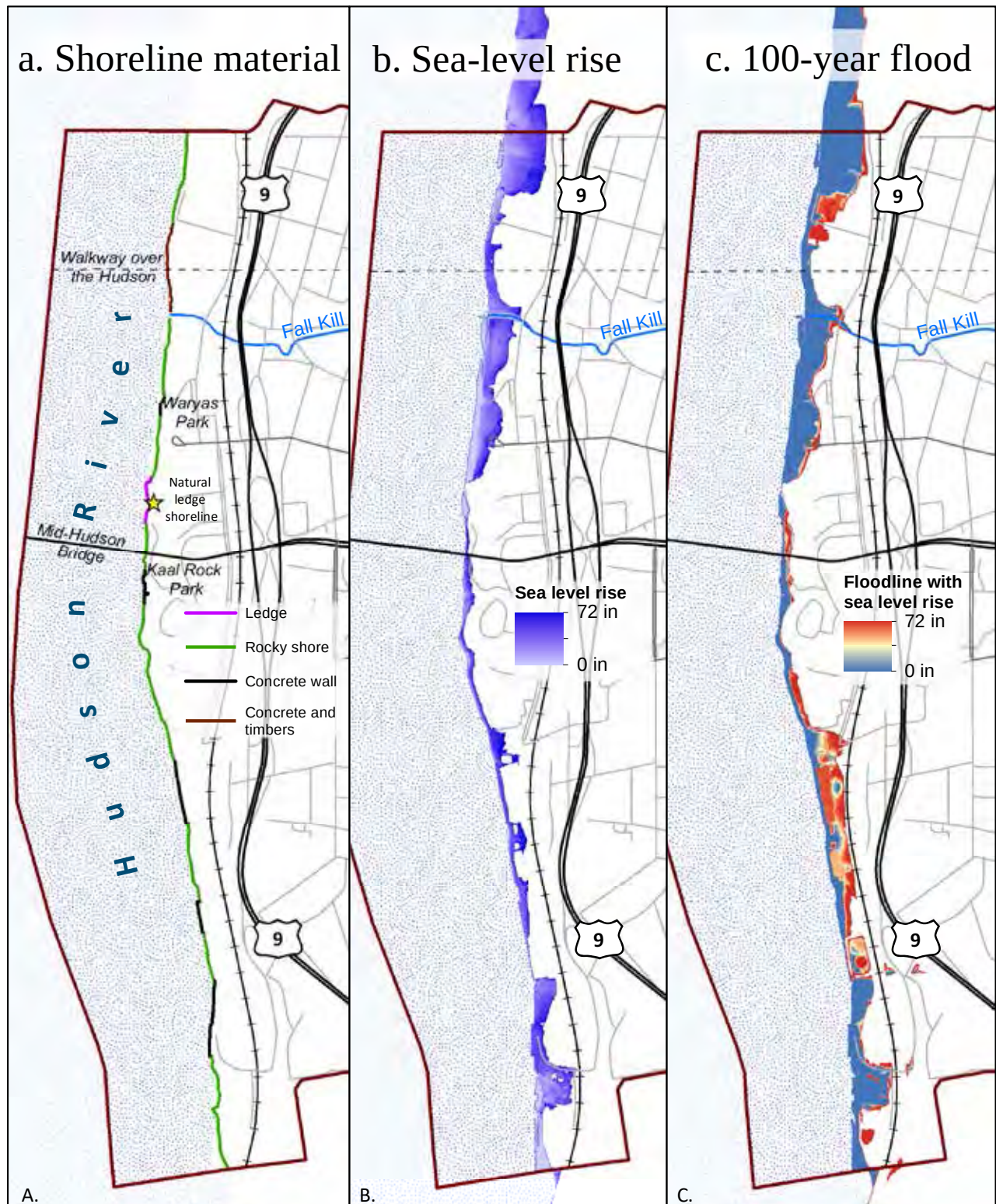
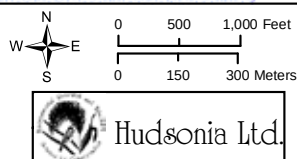
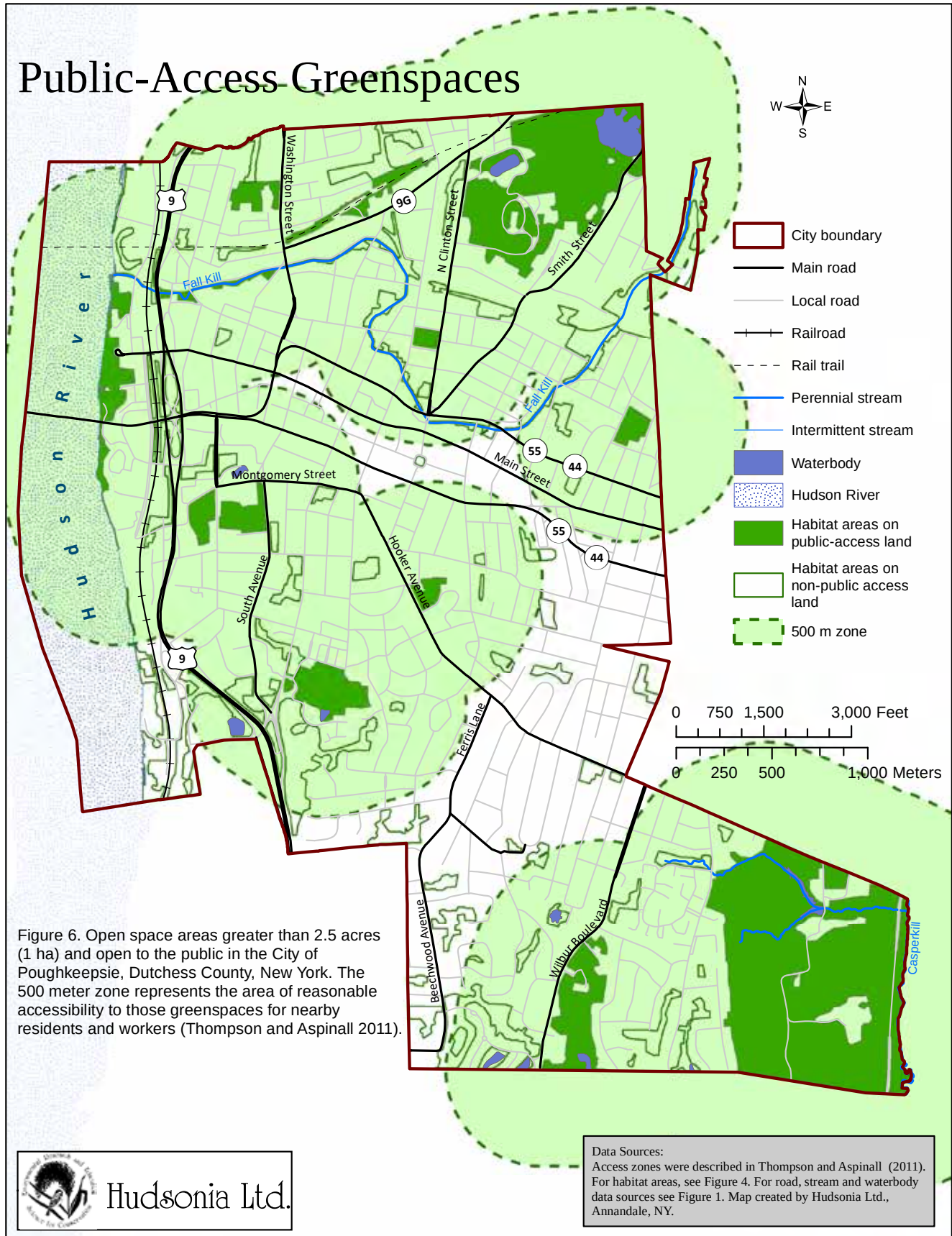


Figure 7. Shoreline material and models of sea level rise and floodlines through 2100 in the City of Poughkeepsie, Dutchess County, New York. "0 in" indicates present day sea levels and 100-year flood predictions.



Data Sources:
Sea level rise and flood model data from Scenic Hudson 2013 (<https://www.scenichudson.org/slr/mapper>). Shoreline material from Hudsonia field observations and 2013 orthoimagery. For road and stream data sources, see Figure 1. Map created by Hudsonia Ltd., Annandale, NY.

Map 4.3 Public Access Greenspaces in the City of Poughkeepsie



Conservation Priorities and Planning

The City of Poughkeepsie is a predominantly developed landscape. However, of the 3,258 terrestrial acres of the City, 658 acres (20.2%) of the landscape is undeveloped at present. This number represents the 162 acres (5%) of intensively managed parkland and recreation areas and the 496 acres (15.2%) of undeveloped areas that are considered ecologically significant habitat.⁹⁸ These habitats are explained in [Table 4.2](#) and include representative species that might occur in these habitats although have not necessarily been recorded in the City of Poughkeepsie. Hudsonia provides a detailed list of conservation strategies specific to each priority habitat, and these recommendations can be found beginning on p. 85 of the full report.

Table 4.2 Priority habitats and conservation zones in the City of Poughkeepsie identified by Hudsonia, 2018.¹⁰

Priority Habitat	Representative Species or Group of Concern	Priority Conservation Zone	Rationale
Large contiguous forest	Forest interior-breeding birds	Unfragmented areas with a high percentage of forest cover and/or wetland complexes	Maximizes the occurrence and breeding success of species.
Large meadow	Grassland-breeding birds	Unfragmented patches greater than 10 ac (4 ha)	Required for successful breeding and maintenance of viable populations.
Intermittent woodland pool	Pool-breeding amphibians	750 ft. (50 m) from stream edge	Encompasses non-breeding season foraging and refuge habitats and dispersal routes between pools.
Fall Kill and intermittent streams	Aquatic communities of streams	160 ft. (50 m) from stream edge	Provides streamside habitats, helps to reduce and filter surface runoff, provides shading vegetation, and provides organic material that supports the food web and habitat structure of the stream.
Casperkill	Aquatic communities of streams and wood turtle	650 ft. (200 m) from stream edge	Encompasses most of the critical habitat including hibernacula, nesting areas, spring basking sites, foraging habitat, and overland travel corridors.
Hudson River shoreline zone	Hudson River freshwater tidal communities	400 ft. (120 m) from mean high water	Accommodates for storm surges, and allows for inland migration of tidal habitats in response to sea level rise.

⁹ Hudsonia, p. 74.

¹⁰ Hudsonia, p. 78 (full references for table information as well).

Many historical land use decisions in the region have been made on a site-by-site basis without considering the ecological impacts on the surrounding lands. The goal of presenting detailed ecological information is that both individual landowners and City officials and planners will become more familiar with how their lands fit in with the larger ecological landscape, and that this will inspire habitat protection measures. With these measures, the City of Poughkeepsie can curb the loss of natural resources that can result from urban development. Additionally, the maintenance and conservation of greenspaces (both managed and natural) benefit the human population of the City. Aside from the aesthetic and ecological services provided by natural areas in urban settings, these spaces can be used for recreation, social gathering, community gardens, and environmental education. In these ways, greenspaces can benefit the social networks and foster place-based belonging in a community.

The means of habitat protection can be both regulatory and non-regulatory. Some examples include: volunteer conservation efforts, master planning, zoning ordinances, tax incentives, land stewardship incentives, changing permit conditions, and public education. Hudsonia suggests that the City can implement some of these general City-wide practices to foster biodiversity and habitat conservation¹¹.

- Protect large, contiguous, undeveloped tracts wherever possible;
- Protect high quality isolated habitat patches;
- Plan landscapes with interconnected networks of undeveloped habitats;
- Preserve natural disturbance processes;
- Restore and maintain broad buffer zones;
- Direct human uses toward the least sensitive areas and previously-disturbed areas and minimize the alteration of natural features;
- Encourage development of altered land instead of unaltered land;
- Encourage and provide incentives for developers to consider environmental concerns early in the planning process;
- Minimize areas of impervious surfaces;
- Establish land uses along the riverfront that are resilient to flooding;
- Expand public access to the Hudson River shoreline;
- Restore degraded habitats wherever possible;
- Modify the urban landscape to provide more habitat elements; and
- Promote the establishment of conservation agreements on parcels of greatest ecological value.

¹¹ Hudsonia, 2018 p.71.

More information on all of these practices can be found beginning on p. 71 of Hudsonia's full report.

Specific recommendations for City-wide conservation planning include¹²:

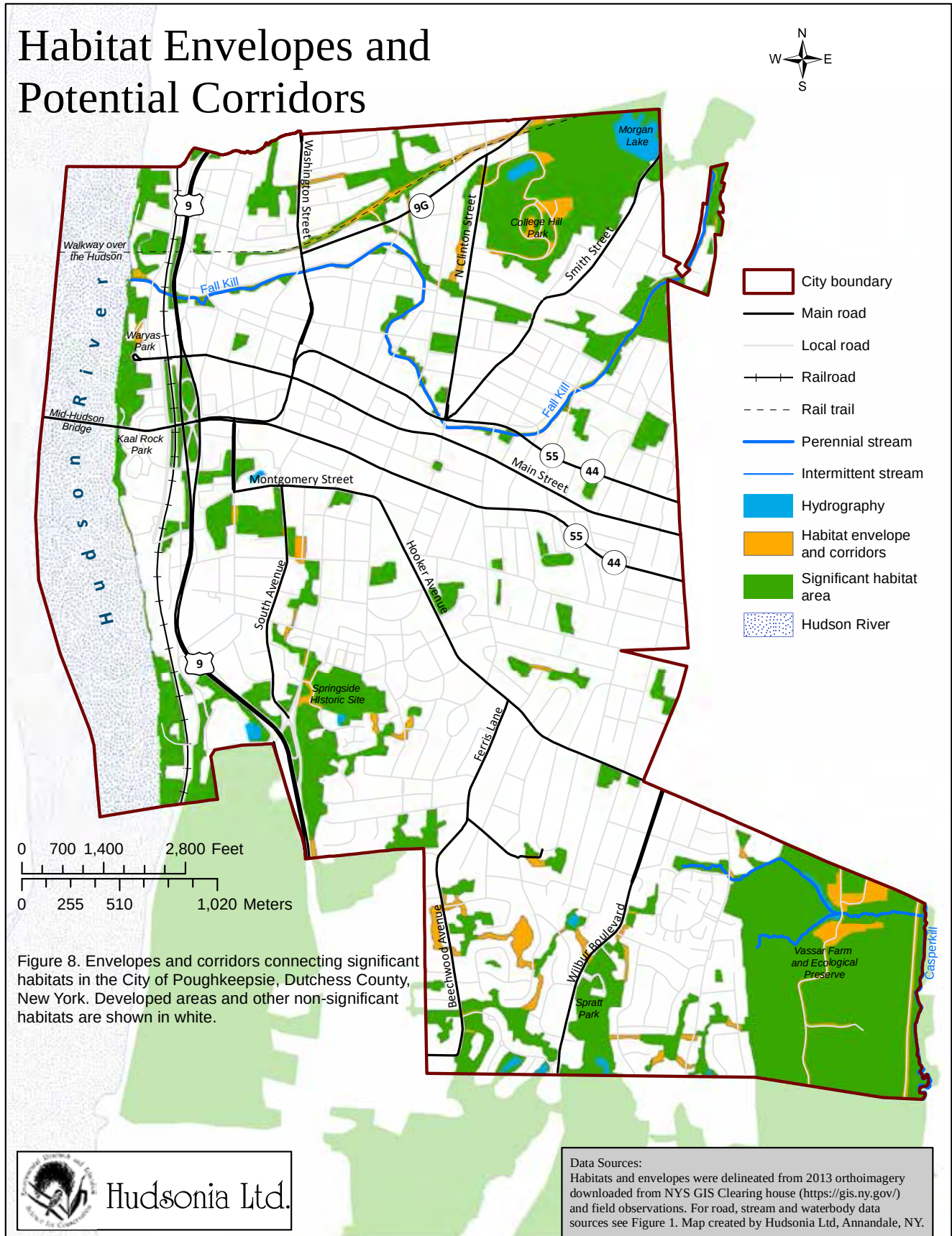
1. Protecting and Restoring Habitats – large blocks of habitat that were identified as priority areas in the City of Poughkeepsie include the area along the Fall Kill near and adjacent to the DPW transfer station, Springside, and the Vassar Farm and Ecological Preserve. Specific recommendations for the conservation and management of habitats found in the City can be found starting on page 85 of the Hudsonia report.
2. Enhancement of Developed Areas – Within developed areas of the City small habitat patches exist. These small areas are important for many species and act as buffers to intact habitats and provide travel corridors as well as food and refuge for a number of different wildlife species. Specific activities that will enhance small habitats, as well as examples of ways to minimize disturbance to resident and migratory biota, can be found starting on page 89 of the Hudsonia report.

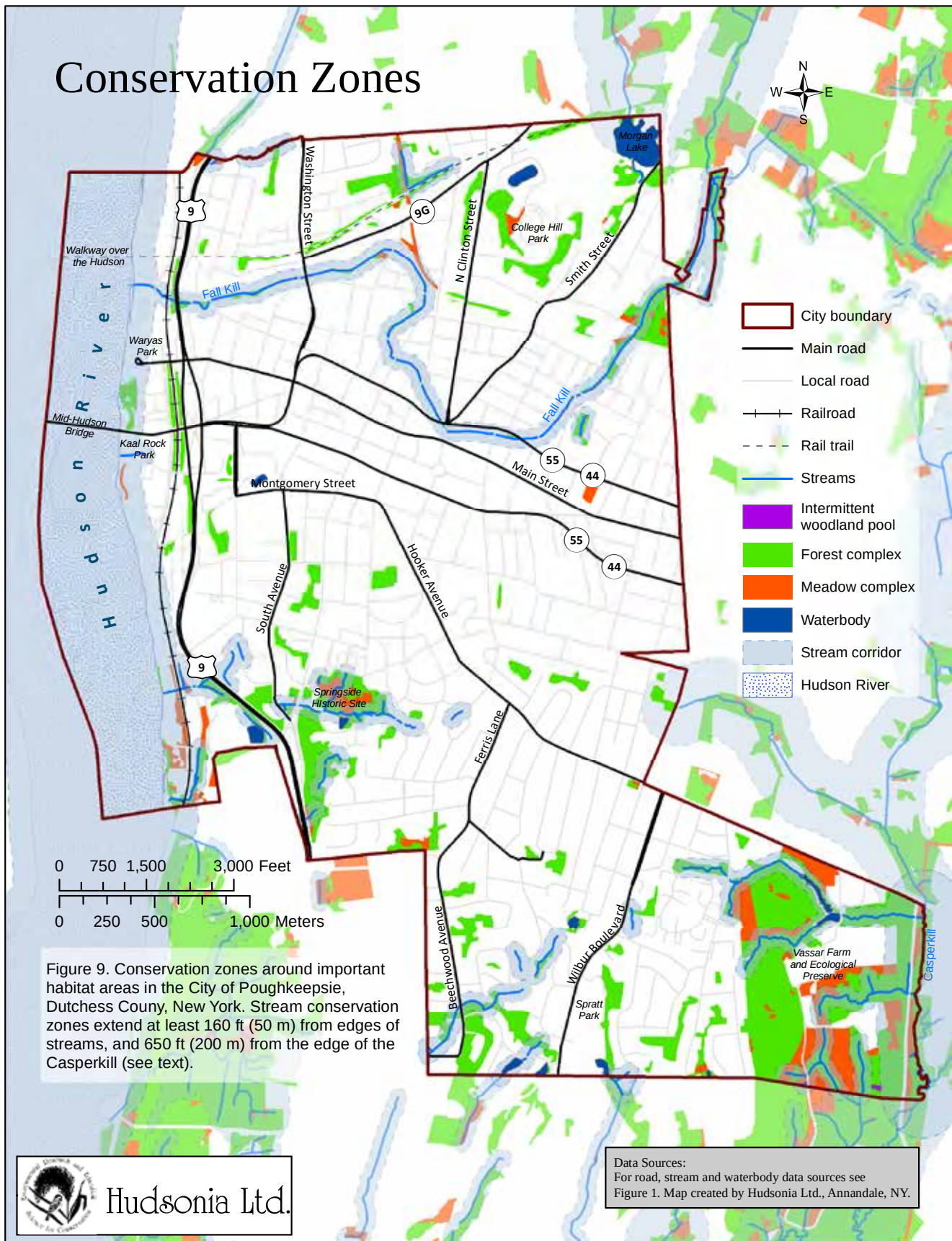
Two tools specific to the City of Poughkeepsie in the Hudsonia report are a map of Habitat Envelopes and Potential Corridors ([Map 4.4](#)) and a map of Conservation Zones ([Map 4.5](#)). Often green spaces in urban areas that provide habitat for organisms and services to the human population are quite small. However, these areas such as hedgerows, vacant lots, and even backyard trees can provide stepping stones between large habitats or refuge for many important species as well as aesthetic benefits to local neighborhoods. The Habitat Envelopes and Potential Corridors map identifies these small areas that are not large enough to be mapped as “significant habitat” but are likely acting as habitat and connecting larger habitat patches.

Conservation zones in the City of Poughkeepsie focuses on areas adjacent to the waterways located within the City: the Hudson River, Fall Kill and the Casperkill Creek. Much of the adjacent land to these waterways is already developed, but when possible actions to restore the buffer, plant trees, and create pocket parks can occur. These actions will not only increase the amount of small habitats within the City but also improve in-stream conditions.

As the City of Poughkeepsie undergoes revitalization, the natural habitats now present and possible in the City should be considered and understood as ways to reduce flooding, increase cooling, beautification, foster social cohesion and community pride, and sustain biodiversity.

¹² Hudsonia, 2018 p.85





Full Citation:

Heffernan, Elise, and Gretchen Stevens. *Significant Habitats in the City of Poughkeepsie, Dutchess County, New York*. Hudsonia Ltd., 2018, pp. 1–123.

References

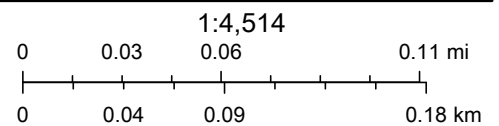
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Land Uses



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- City of Poughkeepsie Boundary
- Forest Canopy Areas
- Registry Sites (Class "2")
- Parks and Open Spaces
- Land Use by Parcel
- Commercial
- Community Services
- Public Services
- Recreation and Entertainment
- Residential
- Vacant Land



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Chapter 5: Land Use

Camelia Manring, Elise Chessman, India Futterman, Mitchell Davis, Neil Curri and Jennifer Rubbo



Upper Landing Park.
Photo credit: Camelia Manring

Land use is a general term that refers to “human activities on land which are directly related to the land” (Clawson, 1965). Land use includes the stewardship of natural landscapes such as forested and wetland areas, as well as the regulation and management of developed areas, including residential, commercial, and industrial sites. Some examples of land use management that have implications for natural resources are zoning, surveying, real property tax regulations, and conservation efforts. This chapter explores and identifies current land use in the City of Poughkeepsie and looks closely at status and management of the urban forests.

Zoning

The City of Poughkeepsie implements zoning regulations intended to promote public health, safety, and general welfare of its inhabitants.

[Section 19.1-2](#) of the City’s zoning code elaborates on the key purposes of local land use regulations, explaining that the zoning code is in place to ensure “the continued viability and improvement of the City’s residential environment and economy and the assurance of adequate and necessary sites for a full range of residential, industrial, commercial, recreational, open space and public and quasi-public uses reflecting local and appropriate regional needs.” (1979 City of Poughkeepsie Zoning Ordinance)

From “residential” and “commercial” uses to “recreational” and “public” uses, the City of Poughkeepsie’s zoning code exists for the improvement, management, and protection of the City’s land and inhabitants, fulfilling its purpose through a series of specific regulatory standards. These standards are applied to different zones throughout the City designated for specific types of land uses.

Based on the current zoning map (City of Poughkeepsie Zoning Districts, 2017), there are 24 different zoning districts in the City of Poughkeepsie ([Table 5.1](#)). A copy of the zoning map is provided in [Appendix G](#). In general, commercial use is permitted in the C zones, industrial use is permitted in the I zones, residential use is permitted in the R zones, and other uses are permitted in various other zones designated below.

Table 5.1. Zoning Districts in the City of Poughkeepsie

Zoning District (Abbr.)	Zoning District Name
C-1	NEIGHBORHOOD COMMERCIAL
C-2	RESEARCH AND DEVELOPMENT
C-2A	MAIN STREET COMMERCIAL
C-3	GENERAL COMMERCIAL
H-M	HOSPITAL MEDICAL
I-1	LIGHT INDUSTRIAL
I-2	GENERAL INDUSTRIAL
O-R	OFFICE RESIDENTIAL
PRD	PLANNED RESIDENTIAL DEVELOPMENT
R-1	LOW-DENSITY RESIDENCE
R-2	MEDIUM LOW-DENSITY RESIDENTIAL
R-2A	CENTRAL LOW DENSITY
R-3	MEDIUM-DENSITY RESIDENCE
R-3A	CENTRAL MEDIUM DENSITY RESIDENTIAL
R-4	MEDIUM HIGH-DENSITY RESIDENTIAL
R-4A	CENTRAL URBAN DENSITY RESIDENTIAL
R-5	HIGH-DENSITY RESIDENCE DISTRICT
R-6	URBAN DENSITY RESIDENCE
R-D	RESEARCH & DEVELOPMENT
W	WATERFRONT
WTOD	WATERFRONT TRANSIT ORIENTED DEVELOPMENT
G-OM	OFFICE MANUFACTURING
G-CM	MIXED-USE COMMERCIAL
G-RM	MIXED-USE RESIDENTIAL

Residential districts comprise about one third (> 1,000 acres) of the City's approximately 3,300 acres of land area (i.e., excluding the Hudson River). This represents the largest zoned use in the City compared to commercial, industrial, and other uses.

Since permitted land uses in different districts may have different impacts to natural resources or provide different opportunities for natural resource management and conservation, the location and extent of the districts indicate where those potential impacts and opportunities are present. City managers may wish to implement zoning regulations that incorporate mitigation and conservation strategies specific to uses within each district. For example, several industrial and commercial districts are located along the Fall Kill. Permitted uses within these districts may impact water quality in the creek from point or non-point source pollution. Therefore, Poughkeepsie officials may wish to require any new developments in these districts to implement management strategies and/or specific techniques to remove or mitigate their impacts to the creek.

Land Use

[Map 5.1](#) illustrates the different land uses in the City of Poughkeepsie using real property tax assessment information for each land "parcel." The City of Poughkeepsie's assessor classifies the use of each parcel based on the New York State Department of Taxation and Finance property type classification codes (New York State Department of Taxation and Finance, 2018).

Many specific classification codes are provided in the New York State Assessor's Manual and used by the City's assessor to classify the uses of all the properties in the City as part of assessing their real property value. For the purpose of [Map 5.1](#), the land uses were condensed into broader categories. For example, properties with the assessed land use classes for one-, two-, and three-family residences, and larger multi-unit residences are all represented in the map simply as "residential". Since the assessor's purpose in classifying properties is to ensure that land can be taxed appropriately, it is not necessarily suitable for land management or other natural resource management purposes. However, it does illustrate the general distribution of land uses across the City and reveals some land uses patterns in specific areas.

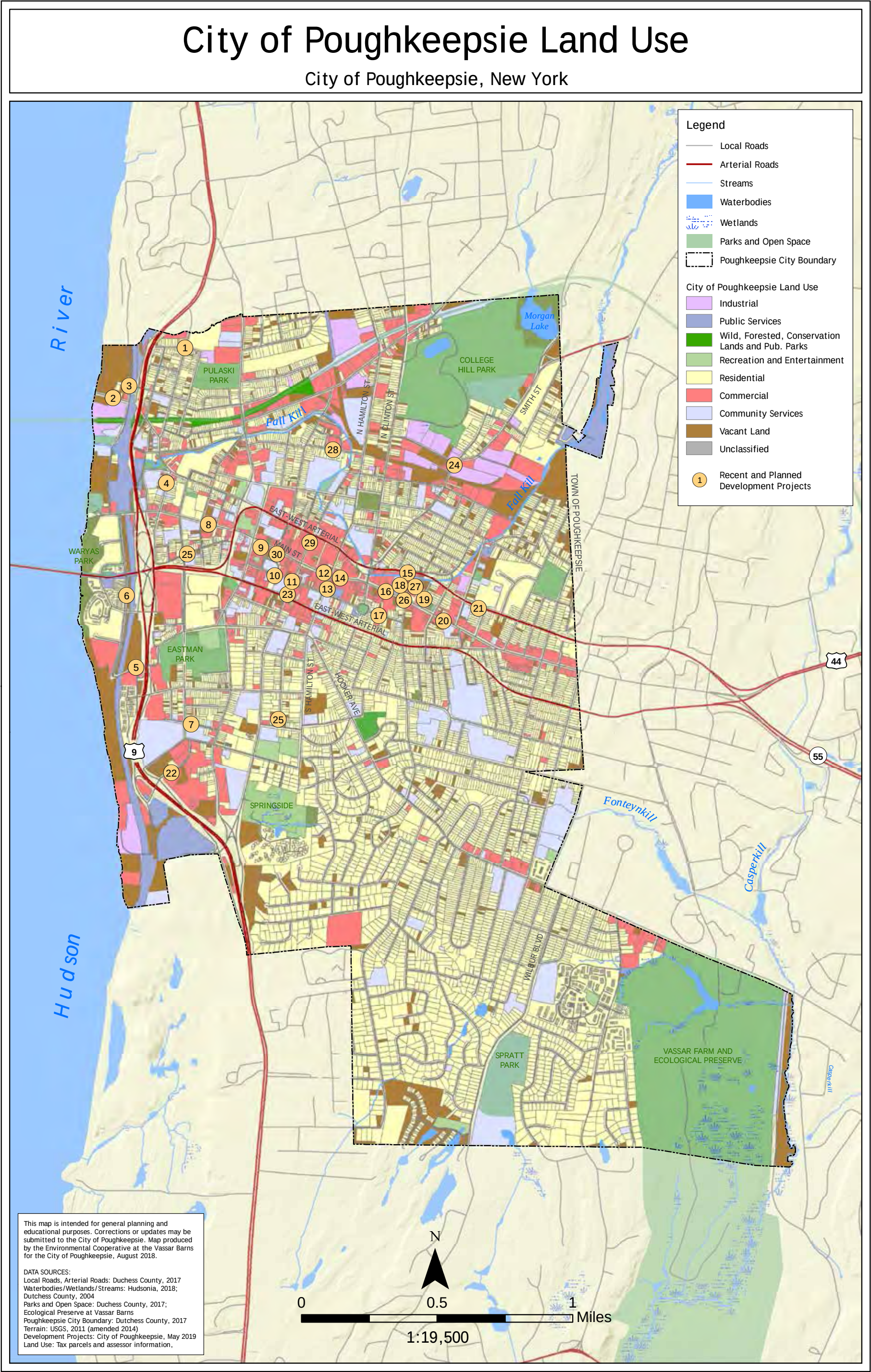
For example, land uses south of the eastbound US-44/NY-55 arterial and east of US-9 are largely residential. A commercial corridor is present along Main Street, between the east and westbound US-44/NY-55 arterial. The pattern of land use north of the westbound US-44/NY-55 arterial and west of US-9 is comprised of a heterogeneous mix of residential, commercial, industrial and other uses.

While those general patterns are not likely to change in the near future, there has been an increase in development as the City undergoes revitalization efforts, which will convert the uses of some individual properties over time as projects are completed. [Map 5.1](#) ([Table 5.3](#)) includes sites that are in the process of or have been approved for development, based on information obtained from the City of Poughkeepsie (Quinn, 2019). For the most up-to-date information, please contact the city planning office using the contact information at <http://cityofpoughkeepsie.com/building>.

Table 5.2 Current development projects in the City of Poughkeepsie (Quinn, 2019)

Map Key #	Project Name	Address	Residential Units	Commercial (sf)	Status
1	North Point Centre	Delafield and Spruce St	18	12,000	Under Construction
2	One Dutchess Avenue	One Dutchess Avenue	300	13,800	Under Construction
3	141 N Water St	141 N. Water Street	15	-	Approved site plan
4	Pelton Manor	36 N. Clover Street	44	-	Planning Board
5	Water Club	36 Pine Street	136	-	Completed
6	Poughkeepsie Landing (DeLaval)	Rinaldi Blvd	50	30,000	Pre-planning
7	Vassar Hospital Expansion	Reade Place	-	752,000	Under Construction
8	Queen City Lofts	178 Main Street	70	12,000	Under Construction
9	Up to Date	278-282 Main Street	19	11,000	Pre-planning
10	40 Cannon (Cardinal Court)	40-44 Cannon Street	49	7,000	Completed
11	23 Academy/77 Cannon	23 Academy/77 Cannon	30	6,000	Planning Board
12	387 Main Street	387 Main Street	22	4,200	Approved site plan
13	12 S. Hamilton	12 S. Hamilton Street	9	2,100	Completed
14	407 Main Street	407 Main Street	14	3,000	Under Construction
15	400 Maple Street	400 Maple Street	20	1,500	Under Construction
16	Trolley Barn Redevelopment	489 Main Street	1	28,000	Under Construction

17	148 Cannon Street	148 Cannon Street	13	-	Planning Board
18	Poughkeepsie Underwear Factory	8 N. Cherry Street	15	7,000	Completed
19	Fallkill Commons on Rose	Rose Street	78	-	Under Construction
20	560-564 Main street	560-564 Main Street	20	2,300	Approved site plan
21	Heart of the Block (Maple Street)	Maple Street	40	-	Under Construction
22	Marist Health Quest School of Medicine	Fox Street	-	100,000	Pre-planning
23	The Hive	33-35 Academy Street	28	24,000	Approved site plan
24	MPI Expansion	165 Smith Street	-	10,000	Approved site plan
25	84-86 Carroll Street	84-86 Carroll Street	16	-	Approved site plan
25	160 Union Street	160 Union Street	41		Planning Board
26	508-516 Main Street	508-516 Main Street	60		Common Council for Rezone
27	Cigar Factory	15 N. Cherry Street	40		Conceptual
28	27 High Street	27 High Street	60	-	Pre-planning
29	Crannell Square	35 Catharine Street	75		Planning Board
30	289 Main Street	289 Main Street	6	5,700	Planning Board



Brownfields

A brownfield is an abandoned, idled, or underused industrial or commercial property whose redevelopment may be complicated by the presence or potential presence of contamination (US Environmental Protection Agency, 2018). Sources of environmental contamination at brownfields are often associated with former industrial and commercial operations involving the use or disposal of hazardous materials. In some cases, former uses at brownfields predate modern environmental laws regulating the handling, storage, and disposal of hazardous substances. Contamination at brownfields may also be the result of outdated, malfunctioning, or poorly-maintained equipment, leaking petroleum or chemical bulk storage tanks, accidental spills, improper handling of equipment and materials, or intentional dumping or on-site disposal of materials. Based on the anticipated use of the property, some contamination may remain at brownfields after remediation. These sites must have engineering controls (e.g., soil capping, subsurface venting systems, mitigation barriers, fences) and institutional controls (e.g., use restrictions, environmental easements) that are designed to prevent human exposure to contaminants.

Like many other former manufacturing and commercial centers in the northeastern US, Poughkeepsie contains several properties that may be considered brownfields due to their former industrial and commercial use and the presence or potential presence of environmental contamination. Some of these sites have been remediated through various programs implemented by New York State Department of Environmental Conservation (NYSDEC).

The U.S. Environmental Protection Agency (USEPA) and NYSDEC implement several environmental cleanup and brownfields programs to remediate contaminated sites and encourage their redevelopment. Abandoned hazardous waste sites placed on the federal National Priorities List (NPL) are eligible for remediation under the Superfund Program. NYSDEC implements environmental cleanup and brownfields programs on properties where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria or guidance.

The City of Poughkeepsie contains 17 sites managed under the following NYSDEC environmental cleanup and brownfields programs (New York State Department of Environmental Conservation, 2019):

- State Superfund Program
- Brownfield Cleanup Program
- Environmental Restoration Program
- Voluntary Cleanup Program

For more information about these programs, see the NYSDEC Environmental Cleanup & Brownfields website at <http://www.dec.ny.gov/chemical/brownfields.html>.

The remediation sites are given a “Site Class” based on their inclusion in the state Registry of Inactive Hazardous Waste Disposal Sites, or “Registry.” Sites listed on the Registry are commonly said to be sites in the “State Superfund Program” and whose cleanup status is indicated by a Site Class of 1 through 5. Non-Registry sites are those that are being investigated and remediated in a brownfield program or other environmental remediation program and are not listed in the Registry. The cleanup status of Non-Registry sites is

indicated by a Site Class of A (Active), C (Completed), P (Potential), PR (Potential RCRA Corrective Action, and N (No Further Action at This Time).

There are two Registry sites in the State Superfund Program, classified as "2" ([Table 5.3](#)). The "2" Site Class is assigned to a site at which:

- the disposal of hazardous waste has been confirmed and the presence of such hazardous waste or its components or breakdown products represents a significant threat to public health or the environment; or
- hazardous waste disposal has not been confirmed, but the site has been listed on the Federal National Priorities List (NPL).

One of the two Registry sites in the City of Poughkeepsie is the Hudson River, part of the Hudson River PCB Sediments site that includes the entire river from Hudson Falls in Washington County, New York, to the Battery in New York City, and is also listed on the NPL.

Table 5.3 NYSDEC Environmental Cleanup and Brownfields Sites in the City of Poughkeepsie

Site Name (link to the description on NYSDEC website)	NYSDEC Program	Site Class	Address
19, 21, & 23 Academy Street	Brownfield Cleanup Program	A	19, 21, & 23 Academy Street
400 Block Restoration Area	Environmental Restoration Program	C	413-441 Main St
A.C. Dutton Greenway City	Brownfield Cleanup Program	C	1 Dutchess Avenue
CH - Bayeaux Street Poughkeepsie MGP	State Superfund Program	C	Main Street and North Perry Street
CH - Laurel St. - Poughkeepsie MGP	Voluntary Cleanup Program	C	Laurel Street
CH - Water St. - Poughkeepsie MGP	Brownfield Cleanup Program	A	North Water Street
Former A.C. Dutton Lumber Yard	Brownfield Cleanup Program	C	1 Dutchess Avenue
Former City of Poughkeepsie Sewage Plant	Brownfield Cleanup Program	C	176 Rinaldi Boulevard
Former Hamilton Reproduction	Environmental Restoration Program	C	166-186 North Hamilton Street
HRH Lead Abatement Site	State Superfund Program	A	55 Garden Street
Hudson River PCB Sediments	State Superfund Program	2	Hudson River, Hudson Falls-NYC Battery
Hudson River Waterfront-DeLaval Property	Environmental Restoration Program	C	202-204 Rinaldi Blvd.
PURA -14 Property	Environmental Restoration Program	C	Pine Street
PURA-14 Site	Brownfield Cleanup Program	C	36 Pine Street
Qual Krom Site	Environmental Restoration Program	C	28 Orchard Place
Queen City Lofts	Brownfield Cleanup Program	C	178-188 Main Street and 11 South Bridge Street
Schatz Plant	State Superfund Program	2	70 Fairview Avenue

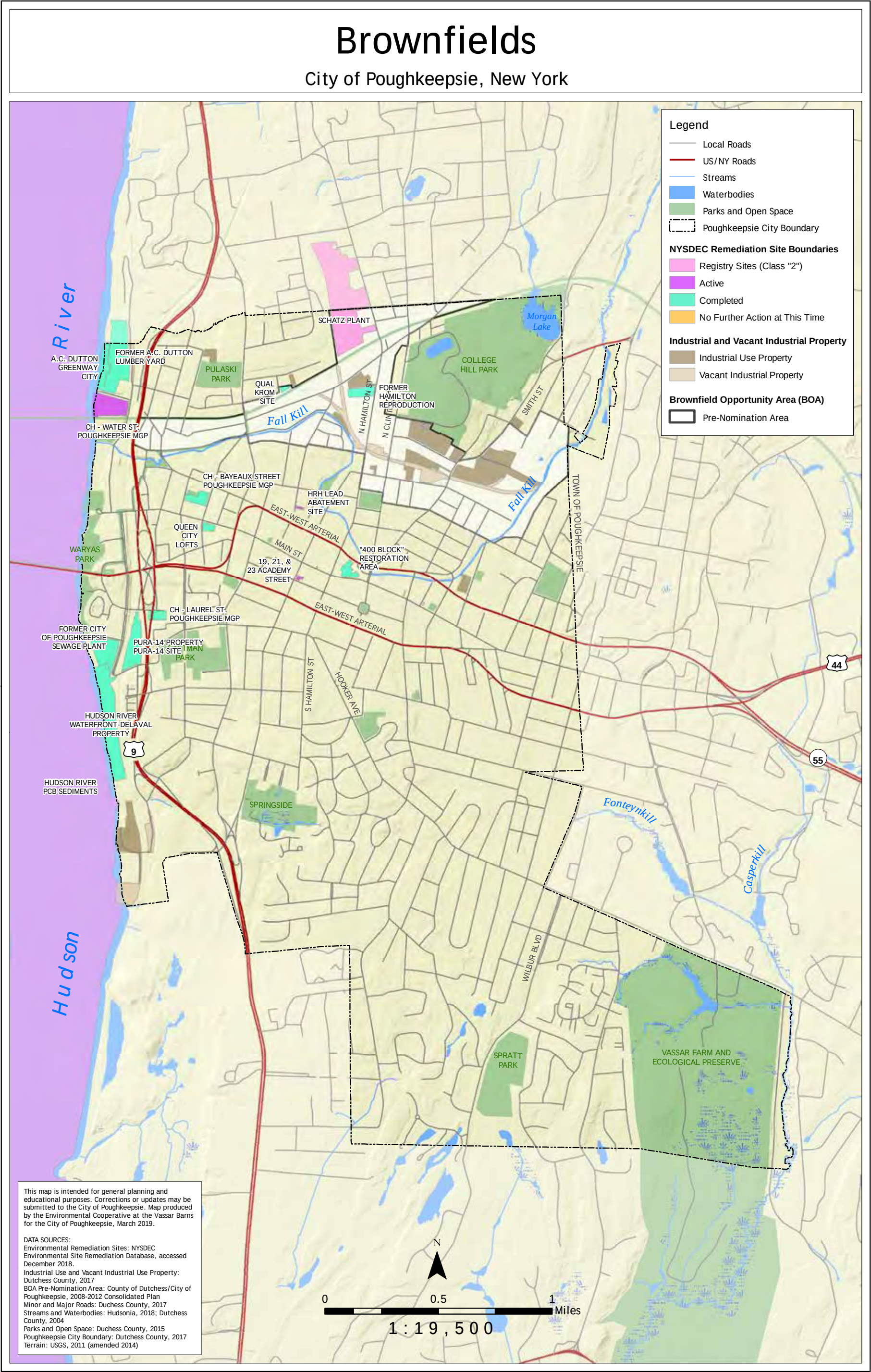
2 - Registry site / A – Active / C – Completed / N - No Further Action at This Time

Of the other 15 non-registry sites in the City of Poughkeepsie, three are designated Site Class A (active) sites and twelve are C (completed) ([Table 5.3](#)). Active sites are those in any of the state's programs where work is underway and not yet complete. Completed sites are those where remediation has been satisfactorily completed under one of the state's remedial programs. Sites classified as "No Further Action at this Time" may include sites deemed not warranted to place on the Registry; where conditions after initial waste removal did not require additional work; where the site was being addressed under another program; where remediation under a brownfield program was not completed; or where the site was withdrawn from the program. For more detailed descriptions of these classifications, see the NYSDEC Site Classification page at <http://www.dec.ny.gov/chemical/8663.html>.

In addition to programs for owners and developers to incentivize the clean-up of individual brownfield sites, New York State also implements the Brownfield Opportunity Areas (BOA) Program through the Department of State (NYSDOS). This program provides communities with guidance, expertise and financial assistance to complete BOA Nomination Plans, which are revitalization strategies for neighborhoods or areas affected by brownfields or economic distress. A pre-nomination study was conducted for the City of Poughkeepsie, which outlined a historically industrial area in the northern portion of the City along sections of the Fall Kill Creek and a former rail line (County of Dutchess, City of Poughkeepsie, 2007). This area contains several industrial and vacant industrial properties based on tax parcel and assessment data obtained from Dutchess County. No further steps in the BOA nomination process have been completed nor are any currently planned (Hesse, 2019).

[Map 5.2](#) includes the NYSDEC environmental remediation sites listed in [Table 5.3](#), the above-mentioned BOA pre-nomination area, and the assessed industrial and vacant industrial properties in the City of Poughkeepsie.

Map 5.2 Brownfields in the City of Poughkeepsie



Urban Canopy Cover

Urban canopy cover describes the area covered by trees within a city's limits, specifically street trees, trees on public parklands, and trees on private residences. This "urban forest" contributes significantly to local human and environmental health, economic prosperity, and the overall sustainability of an urban area. Among the most influential physical benefits of urban canopy cover are substantial storage and sequestration of carbon, reduction of air pollution and urban heat islands, interception of stormwater, wildlife habitat, and improvement of aesthetics and property value (Peper, et al., 2007, Mullaney, et al., 2015). There are social and psychological benefits to urban forests as well, improving the perceived safety of an area, alleviating mental stress, and providing social infrastructure for community building (Beyer, et al., 2014, Shanahan, et al. 2015, Beatly, 2017). These benefits of urban forestry quantify the environmental, economic, and social value necessary to ensure proper management, planning and policy decision-making.

Carbon Storage and Sequestration:

Carbon sequestration for urban forests can be defined as the amount of carbon annually removed from the atmosphere and stored within the biomass of trees. With the gradual increase of carbon emissions globally, urban trees will have a critical role in removing these harmful chemicals from our cities, improving the health and longevity of these environments. Urban forests in the United States are estimated to have stored 700 million metric tons of carbon at an annual rate of about 22.8 million metric tons. (Nowak & Crane, 2002)

Air Pollution and Heat Island Reduction:

As urban areas grow, so does their potential for increased pollutants. Poor air quality is known to be harmful to human and environmental health. Urban canopy cover can drastically improve air quality through the direct removal of airborne pollutants such as ozone, sulfur dioxide, nitrogen dioxide, and carbon monoxide (Nowak & Crane, 2002). This removal has implications beyond health improvements. Increased urban canopy cover reduces energy consumption in buildings, which consequently reduces air pollutant emissions from power plants and other sources (Nowak, Appleton, Ellis, & Greenfield, 2017). Urban areas are additionally experiencing severe heat island effects, whereby a built area is hotter than its peripheral rural areas, consequently increasing summertime peak energy demand, air conditioning costs, air pollution, greenhouse gas emissions, heat-related illness, and mortality, and negatively impacting water quality (US Environmental Protection Agency, 2019). Urban canopy cover can significantly reduce these negative externalities by providing shade and through evapotranspiration, effectively cooling surface and air temperatures (Nowak, Hirabayashi, Bodine, & Greenfield, 2014).

Stormwater Mitigation:

Vegetation intercepts rainfall and runoff during heavy rainfall events and can improve the resilience and safety of an urban area. The monetary value of this natural infrastructure in protecting a neighborhood from flooding or water damage far exceeds any built system. This does not only aid in protecting from storm events, but also helps to filter runoff before it enters local waterbodies, benefiting water quality, habitat values, and human water uses.

Increased Property Value:

With the percentage of the world's population expected to live in cities by 2050 nearing 70% (United Nations, 2018), conserving and prioritizing the natural environments of urban settings will be crucial. Property value is known to increase with proximity to parks and greenspace, as does the number of trees per lot, so maintaining and improving urban forests will serve to both increase property value as well as environmental integrity (Beatly, 2017).

Individual and Social Benefits:

Trees in an urban setting have profoundly positive social and health implications, ranging from reduced crime to alleviation of stress and overall happiness. There has been significant research on how more frequent contact with nature improves mental and physical health, is positively correlated with decreased crime and increased perceived safety of an area, and promotes general happiness of urban residence (Beatly, 2017).

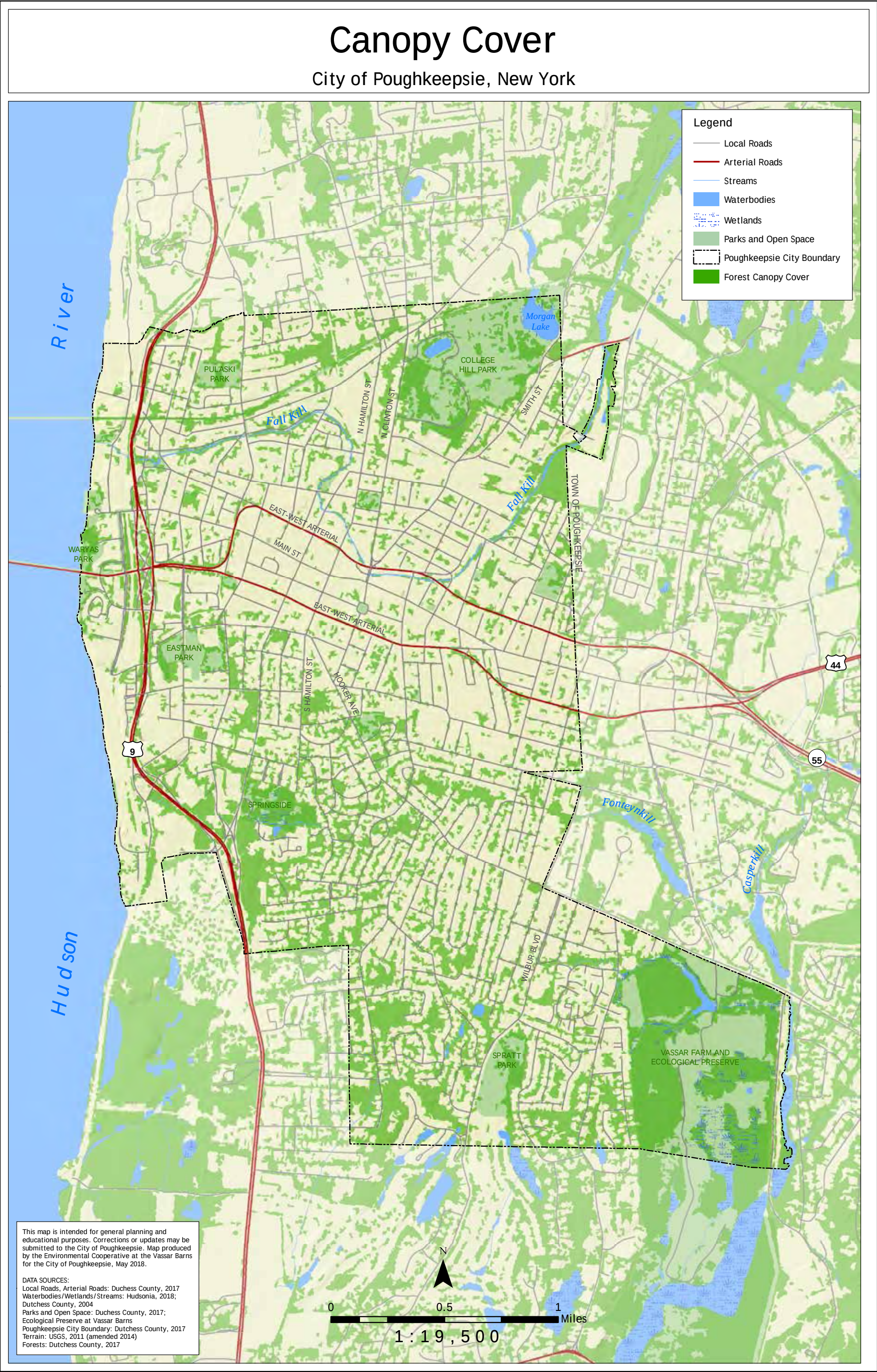
Urban Canopy Cover in Poughkeepsie:

Dutchess County planning recently conducted a survey gauging the City's canopy cover at 30% (Wills, 2017). [Map 5.3](#) illustrates that the tree canopy is highly concentrated in parks and preserve areas, and south of the Main Street corridor. Interestingly, there are parks and open spaces that currently do not have canopy cover, signifying the potential of the areas for future tree plantings. Trees provide the city with considerable benefits that can be amplified with awareness, maintenance, and improvement of the existing canopy. Urban canopy cover remains a vital but primarily unrecognized part of the urban ecosystem, especially for Poughkeepsie as it continues to develop.

Quantifying and protecting this resource and its myriad of environmental, social, individual, and economic assets will be critical to the future of Poughkeepsie's development and sustainable urban-nature balance. Tools such as i-Tree, a software that provides urban and rural forestry analysis and benefits assessment, can help the City understand the importance of urban canopy cover (USDA Forest Service, 2019).

The i-Tree software randomly selects points in a provided area in a Google Maps Aerial image to be determined either as tree canopy or not. These data are then compiled to produce a percentage of canopy cover for that specific area. Information about stormwater drainage, carbon sequestration, and heat reduction can then be calculated to help understand the benefit of the City's network of trees.

Map 5.3 Canopy Cover in the City of Poughkeepsie



Street Trees

[The City of Poughkeepsie Shade Tree Commission](#) was established in 1978 to oversee the planting and care of public street trees in the City of Poughkeepsie (City of Poughkeepsie, 2019). According to a 2006 street tree inventory commissioned by the Committee and conducted by Urban Forestry, LLC (Pleninger, 2006), there are 84 species of trees throughout the City, with a total of 6,987 individual street trees. Visualizing the locations and distributions of street trees is an important component of urban planning. The trees are displayed as points on [Map 5.4](#) with no symbolic distinction between species (see [Table 5.4](#) for individual species populations). It should also be noted that these points are based on the address of the property they are associated with, not their actual physical position. In other words, these points have not been “ground-truthed” in the field, and as such the location of these points on the map may be slightly different than the actual location of the trees. Moreover, many trees may have been removed or planted in the last decade since the 2006 inventory was created. Currently, the City of Poughkeepsie is in the process of updating the street tree inventory (City of Poughkeepsie, 2018).

i-Tree in Poughkeepsie – Future Analysis

A worthwhile future project for the City of Poughkeepsie would be to use i-Tree to analyze the current canopy cover. This would dovetail nicely with the current City tree inventory that focuses on street and park trees. To accurately analyze canopy cover of all trees in the City of Poughkeepsie we suggest plotting enough points in i-Tree to sufficiently account for the average parcel size and total number of parcels in city limits, resulting in about 11,500 points. i-Tree is simple to use and we feel this is a feasible goal if ample time can be devoted to it, perhaps through the help of local college interns. This analysis would provide a real world reference for understanding the presence and frequency of canopy cover in the urban environment to inform management of the urban forest. www.itreetools.org

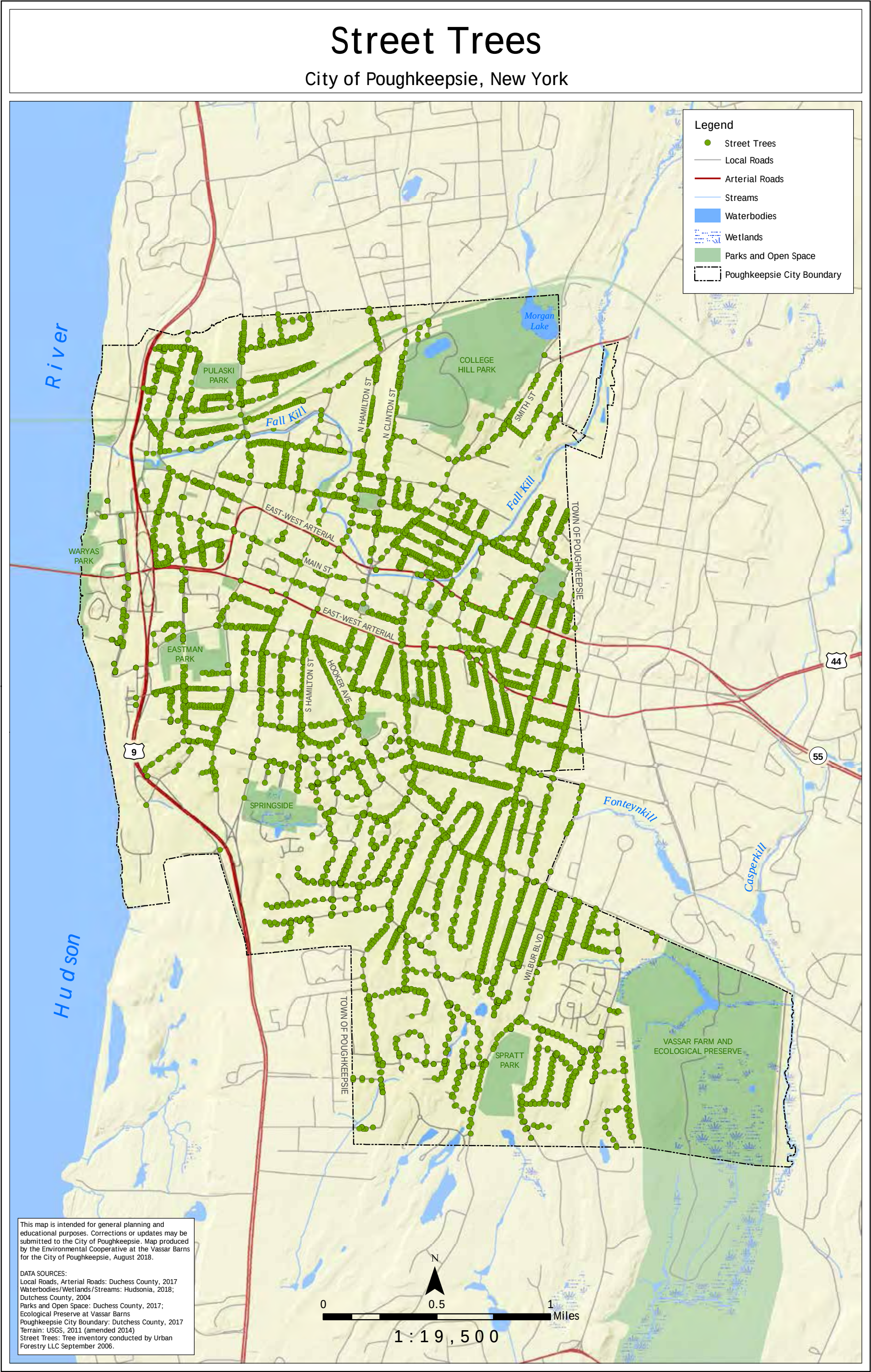
Table 5.4 Number of Street Trees Per Species (2006 Data)

Tree Species	Population
<i>Acer platanoides</i> (Norway Maple)	2,370
<i>Malus species</i> (Crabapple species)	753
<i>Cercis canadensis</i> (Eastern Redbud)	433
<i>Prunus serrulata</i> (Kwanzan Cherry)	383
<i>Fraxinus pennsylvanica</i> (Green Ash)	341
<i>Gleditsia triacanthos</i> (Honeylocust)	320
<i>Quercus palustris</i> (Pin Oak)	236
<i>Pyrus calleryana</i> (Bradford Pear Cultivars)	235
<i>Tilia cordata</i> (Littleleaf Linden)	217
<i>Acer platanoides</i> (Crimson King)	147
<i>Acer rubrum</i> (Red Maple)	125
<i>Quercus rubra</i> (Red Oak)	108
<i>Acer saccharum</i> (Sugar Maple)	106
<i>Platanus x acerifolia</i> (London Planetree)	102
<i>Syringa reticulata</i> (Japanese Tree Lilac)	72
<i>Acer saccharinum</i> (Silver Maple)	68
<i>Crataegus species</i> (Hawthorn species)	66
<i>Ginkgo biloba</i> (Ginkgo)	51
<i>Pinus strobus</i> (Eastern White Pine)	48
<i>Prunus species</i> (Cherry Plum species)	46
<i>Acer ginnala</i> (Amur Maple)	43
<i>Fraxinus americana</i> (White Ash)	42
<i>Robinia pseudoacacia</i> (Black Locust)	40
<i>Ulmus americana</i> (American Elm)	38
<i>Picea pungens</i> (Blue Spruce)	35
<i>Acer campestre</i> (Hedge Maple)	33
<i>Acer platanoides</i> <i>Schwedleri</i>	32
<i>Platanus occidentalis</i> (Sycamore)	29
<i>Pyrus species</i> (Pear species)	26
<i>Prunus cerasifera</i> (Purple Leaf Plum)	25
<i>Picea abies</i> (Norway Spruce)	24
<i>Sophora japonica</i> (Japanese Pagoda Tree)	24
<i>Koelreuteria paniculata</i> (Golden Raintree)	20

<i>Pinus nigra</i> (Austrian pine)	20
<i>Populus deltoides</i> (Cottonwood)	19
<i>Morus alba</i> (White Mulberry)	18
<i>Crataegus phaenopyrum</i> (Washington Hawthorn)	16
<i>Pseudotsuga menziesii</i> (Douglas Fir)	16
<i>Ulmus pumila</i> (Siberian Elm)	16
<i>Juniperus virginiana</i> (Eastern Red Cedar)	15
<i>Ailanthus altissima</i> (Tree of Heaven)	13
<i>Zelkova serrata</i> (Japanese Zelkova)	13
<i>Acer hippocastanum</i> (Horsechestnut)	12
<i>Liquidambar styraciflua</i> (American Sweetgum)	12
<i>Phellodendron amurense</i> (Amur Corktree)	12
<i>Acer palmatum</i> (Japanese Maple)	11
<i>Cornus florida</i> (Flowering Dogwood)	10
<i>Carpinus betulus</i> (European Hornbeam)	9
<i>Malus sylvestris</i> (Common Apple)	9
<i>Prunus serotina</i> (Black Cherry)	9
<i>Catalpa speciosa</i> (Northern Catalpa)	8
<i>Picea glauca</i> (White Spruce)	8
<i>Quercus alba</i> (White Oak)	8
<i>Tsuga canadensis</i> (Eastern Hemlock)	8
<i>Juglans nigra</i> (Black Walnut)	7
<i>Acer negundo</i> (Boxelder)	6
<i>Acer pseudoplatanus</i> (Sycamore Maple)	6
<i>Fagus sylvatica</i> (European Beech)	6
<i>Prunus x yedoensis</i> (Yoshino Cherry)	6
<i>Betula pendula</i> (European White Birch)	5
<i>Carya ovata</i> (Shagbark Hickory)	4
<i>Magnolia species</i>	4
<i>Quercus macrocarpa</i> (Bur Oak)	4
<i>Cercidiphyllum japonicum</i> (Katsura)	3
<i>Cladrastis kentukea</i> (Yellowwood)	3
<i>Cornus kousa</i> (Kousa Dogwood)	3
<i>Rhamnus cathartica</i> (Buckthorn)	3

<i>Sorbus aucuparia</i> (European Mountain Ash)	3
<i>Tilia americana</i> (Basswood)	3
<i>Carya glabra</i> (Pignut Hickory)	2
<i>Castanea mollissima</i> (Chinese Chestnut)	2
<i>Celtis occidentalis</i> (Hackberry)	2
<i>Liriodendron tulipifera</i> (Tuliptree)	2
<i>Salix species</i> (Willow species)	2
<i>Thuja occidentalis</i> (Eastern Arborvitae)	2
<i>Cornus mas</i> (Cornelian Cherry Dogwood)	1
<i>Cotinus purpurea</i> (Smoke Tree)	1
<i>Ilex opaca</i> (American Elm)	1
<i>Larix decidua</i> (Common Larch)	1
<i>Prunus persica</i> (Common Peach)	1
<i>Prunus virginiana</i> (Common Chokecherry)	1
<i>Quercus coccinea</i> (Scarlet Oak)	1
<i>Quercus velutina</i> (Black Oak)	1
<i>Taxus species</i> (Yew species)	1
TOTAL	6,987

Map 5.4 Street trees in the City of Poughkeepsie based on the 2006 tree inventory



Ash Trees and the Emerald Ash Borer

The emerald ash borer (EAB) is an invasive beetle first discovered in Michigan in 2002 after arriving in wooden packing material from Asia. It was first seen in New York State in 2009. The Emerald Ash Borer has become established in the Mid-Hudson Valley in recent years, and once a tree is infested with the insect it dies within 2-4 years (NYS Department of Environmental Conservation, 2019). The insect is well established among ash populations in Dutchess County, posing a serious threat to Poughkeepsie's ash tree population. [Map 5.5](#) is the result of a 2017 survey of the City's street ash tree population, undertaken to assess the current impact of EAB on City trees. The map is based on data from the Shade Tree Commission's 2006 street tree inventory. Ash tree locations were identified from the 2006 tree inventory and each location was ground-truthed in the field, and points removed or added as needed. A total of 387 trees were assessed in the field.

In the summer of 2017, over half of the 387 ash trees in the City were symptomatic for EAB infestation ([Figure 5.1](#)). Symptomatic trees were defined as those displaying any combination of crown dieback, epicormic branching (branching at the base of the trunk), blanding (absence of outer bark due to woodpecker activity), and/or vertical bark splitting. 35 individual ash trees could be definitively diagnosed with EAB infestation, indicated by the presence of distinct d-shaped exit holes and s-shaped galleries underneath the bark. About a third of the ash trees surveyed displayed no noticeable symptoms of EAB or stress, and were thus designated "asymptomatic". The City has since developed a website to disseminate information about EAB to residents (<http://cityofpoughkeepsie.com/shade-tree-commission/eab>). A detailed report and management proposal for ash trees was also provided to the City of Poughkeepsie ([Appendix B](#)).

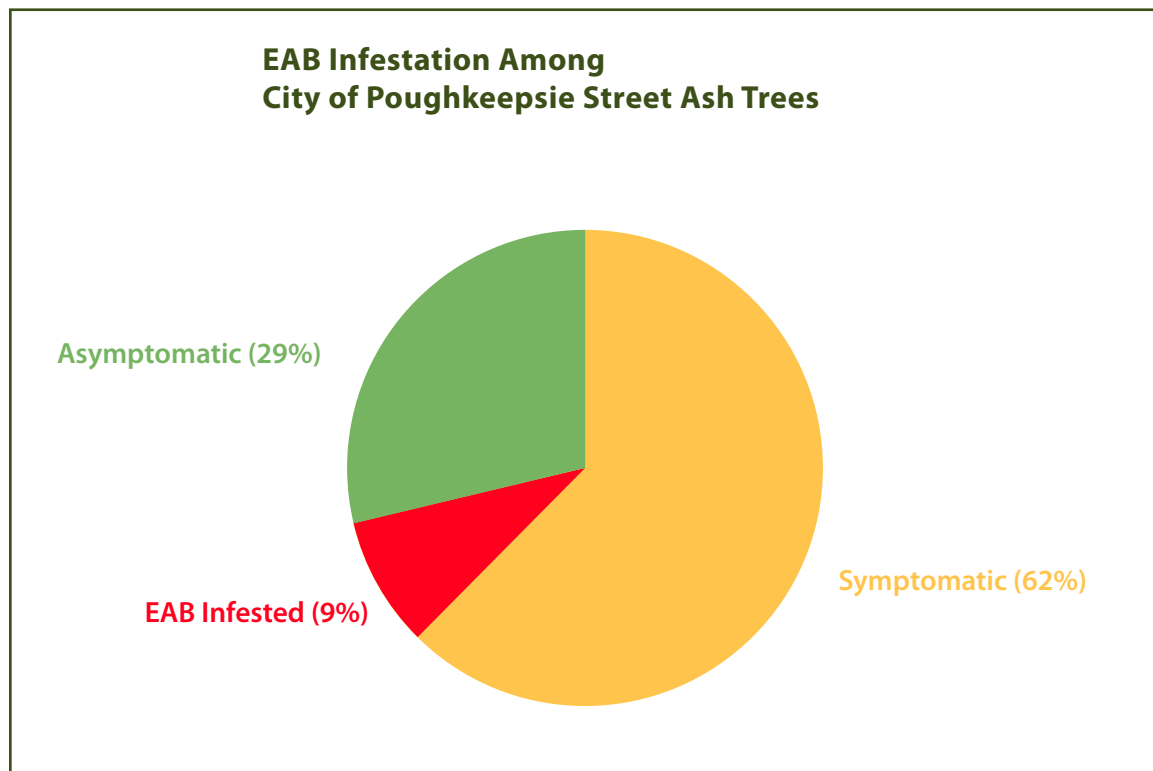


Figure 5.1 Percentage of ash trees along streets in the City of Poughkeepsie that were identified with signs of the Emerald Ash Borer, based on the 2017 survey.

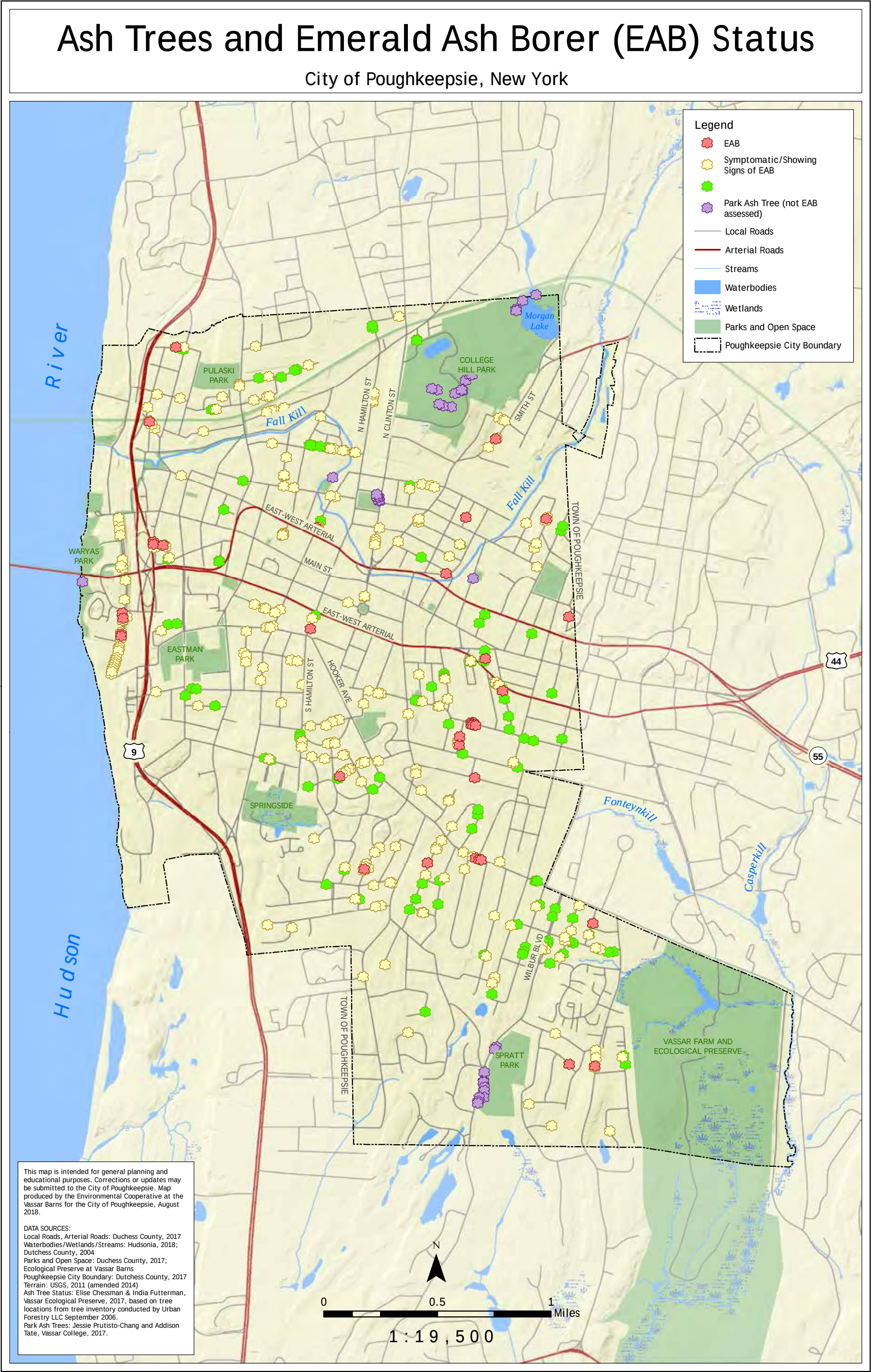
EAB will likely kill most, if not all of the City of Poughkeepsie's ash trees, both public and private, within the next few years. Because infested street trees were found at disparate locations throughout the city, rather than concentrated in one cluster or core of infestation, it will most likely be impossible to prevent EAB from spreading to non-infested ash trees across the city. The high numbers of symptomatic ash trees indicate that most of the City's ash are stressed if not already colonized by EAB, and are therefore more vulnerable to infestation. While it is generally considered too late to save most of Poughkeepsie's street ash trees, the following steps can be taken in response to EAB:

- Selected healthy, young (but mature), seed-bearing street trees may be treated with pesticides to ward off their infestation by EAB.
- EAB-infested street ash trees may be removed in a phased process: dead trees removed first, symptomatic trees closely monitored in successive years and removed accordingly, etc.
- Removed trees should be replaced as soon as possible with appropriate species, i.e., those that have comparable acid and pollutant tolerance, size, and canopy cover as ash trees.
- Private homeowners may assume responsibility for their own private ash trees, choosing to treat or remove depending on their financial and time resources.

Please see [Appendix B](#) for the full EAB Management Plan, including costs of pesticide treatments and removal, information on pesticides, and recommended replacement street trees.

The results of this survey indicate that EAB infestation is well underway in Poughkeepsie. Over half of Poughkeepsie's ash trees display clear symptoms of stress, while 9% are definitely infested. This percentage will only increase in the coming years, likely leading to the demise of the City's entire ash population. Ash trees are being carefully monitored and removed when necessary. Replacement trees should contribute to the urban forest diversity of Poughkeepsie in the event that another invasive pest should arrive and target another tree species.

Map 5.5 Ash Trees in Poughkeepsie that are impacted by the Emerald Ash Borer



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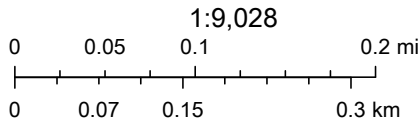
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Historic Sites and Districts



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|--|---|
|  Parcel Boundaries |  Local, State, and National |
| Historic Districts (2021) |  State |
|  Local, State and National |  State and National |
|  State and National |  City of Poughkeepsie Boundary |
| Historic Sites (2021) | |
|  Local | |



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**New York State
Parks, Recreation and
Historic Preservation**

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

March 24, 2023

Lindsay Garrard
NEPA Compliance Specialist
AEI Consultants
112 Water St
5th Floor
Boston, MA 02109

Re: HUD
Rip Van Winkle Apartments
10 Rinaldi Blvd, Poughkeepsie, NY 12601
22PR07951
457901

Dear Lindsay Garrard:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966.

The apartment tower that is proposed for rehabilitation is not historic but is substantially visible from a number of historic buildings that are eligible or listing in the National Register. Because of this, we have reviewed the project.

The project is appropriate. Therefore, it is the opinion of SHPO that the project will have No Adverse Effect on historic resources.

If you have any questions, I can be reached at sloane.bullough@parks.ny or 518-268-2158.

Sincerely,

Sloane Bullough
Historic Sites Restoration Coordinator by email only

Chapter 7: Historical Resources

Harvey Flad, Addison Tate, and Jennifer Rubbo



The Dudley Memorial Shelter at historic College Hill Park.
Photo credit: Camelia Manring

Historic, cultural and recreational resources, like natural resources, are vital to the city's community and identity and are important to consider in land-use and development decision-making. Patterns of land use and development are often closely linked to the natural resources available to a community. For example the Hudson River and its tributaries have played an important role in the settlement and industrialization of the area. Open spaces in the City are also closely linked with Historic sites. Two of the largest green spaces in the city, Springside and College Hill Park are both designated historic landmarks. As the City moves forward with development and revitalization, it is important to understand why land use patterns exist, and how these patterns are impacting natural resources such as water resources and open spaces. Future development should take into account these past and potential future impacts.

The City of Poughkeepsie Historic Resources maps include a downtown map ([Map 7.1](#)), focused on the dense area of historic sites and districts in central Poughkeepsie, and a full city map that displays the widespread historic sites in the city ([Map 7.2](#)). Data for historic sites and districts was gathered from Dutchess County, New York State, and Historic District and Landmark Preservation Commissioner Holly Wahlberg. The map was presented to the Historic District and Landmark Preservation Commission for comment. Data was updated by Addison Tate at the Environmental Cooperative at the Vassar Barns with the consultation of Harvey Flad, Professor Emeritus of Geography at Vassar College. The following descriptions of historic locations identified in these maps were prepared by Harvey Flad, July 2018.

Historic Preservation and City of Poughkeepsie Natural Resource Inventory

By Harvey K. Flad, Professor Emeritus of Geography, Vassar College

The Introduction to the Dutchess County Natural Resource Inventory (2010) included a brief history of efforts over two centuries of compiling information about both natural and cultural resources for use in regional planning and local land use decision-making. Prior studies by members of the Dutchess County Historical Society and The Women's City and County Club of Dutchess County promoted concern for the preservation of the city's historic resources. In the *Dutchess County Guide*, published in the American Guide Series (1937), sites of particular historical, cultural and contemporary interest, including local industries, were mentioned. It remains a useful guide to places that remain resonant to the city's cultural identity. The volume was a product of President Franklin D. Roosevelt's Works Progress Administration.

Following the passage of the Historic Preservation Act of 1966 and the creation of the National Register of Historic Places, specific historic sites, buildings and landmarks in the county began to be listed and described. For example, in the late 1960s, the county began a cultural resources survey to update New York State's Hudson River Valley Commission report *Historic Sites and Buildings in the Hudson River Valley*. In the 1969 *Landmarks of Dutchess County, 1683-1867*, published in the Architecture Worth Saving in New York series by the New York State Council on the Arts, over 300 structures were researched and photographed as a tool to guide "growth and development" and "encourage preservation of this inheritance." Several sites in the City of Poughkeepsie were included in the *Landmarks* survey such as the pre-Revolutionary era Frear/Freer House; Springside; and a proposed historic district encompassing Victorian-era houses on Garfield, Academy, and South Hamilton streets. The Dutchess County Landmarks Association shortly thereafter surveyed structures in the area of Union Street that were impacted by the development of the E-W Arterial. In 1971, the Union Street Historic District, containing approximately eight blocks and 122 historic structures, was officially listed on the National Register, along with the Garfield Place Historic District of two-dozen properties. The Academy Street Historic District with over forty properties was listed five years later. Another four historic districts have been created that acknowledge the diversity of architecture and social history throughout the city.

Sites Included on the Historic Maps of the City of Poughkeepsie

Settlement

In 1664 the lands along the Hudson River, known as New Netherland and controlled by the Dutch, came under English rule. Subsequently, the Crown divided the land into patents. In 1686, Robert Sanders, an Englishman and Myndert Harmense of Dutch heritage, purchased the land where Poughkeepsie would be located from the Wappinger Indians. Poughkeepsie would be named after a local spring, variously spelled as U-puku-ipi-sing or Apokeepsing, meaning "the reed-covered lodge by the little water place." Early settlers included both Dutch and English families who built houses and a mill along the Fall Kill at Upper Landing in the early decades of the 18th C. Although much of the pre-Revolutionary footprint has been lost,

both the [Hoffman House](#) (1789) and [Reynolds Homestead](#) (1840) at Upper Landing remain as among the earliest existing structures in the city. In 2013 Upper Landing Park opened with extensive signage of the history of Poughkeepsie.

Early Settlers

Both the Dutch and English settlers built their own churches in the village's emerging downtown. The first English, or Anglican, church was located at the intersection of Church and Market Street, while a "glebe", or farm and rectory was purchased east on Filkintown Road (Main Street) for the rector Rev. John Beardsley. During the Revolution, Rev. Beardsley remained loyal to the King, and so was removed downriver to New York City, then under English command. [Glebe House](#) (1767) was sold by the church in 1792 and remained in private hands until 1929 when it was rescued from possible demolition by the Dutchess County Historical Society, the Junior League of Poughkeepsie, and the City of Poughkeepsie. As one of the earliest examples of efforts to preserve one of the city's historic resources, the city-owned property is currently enjoying a rebirth as a site to promote the city's 300-year history and managed by the Mid-Hudson Heritage Center. [Christ Episcopal Church](#) expanded as the village grew into a city after 1854 and eventually moved to the Old English Burying Ground on Academy Street and built an impressive "Early English" Gothic style church (1888). Two other Episcopal churches were also built during the 19th C. The Gothic Revival style [Church of the Holy Comforter](#) (1859-60) on Davies Place is a significant example of the work of the architect Richard Upjohn, while St. Paul's Church (1872) at Mansion Square repeated the Gothic Revival theme.

In the early 1700s the Van Kleeck family and other Dutch settlers built a Reformed Dutch Church in the center of downtown, but as its congregation grew, it rebuilt, and would eventually move from its property at the intersection of Market and Main Streets to the South Side. The [Reformed \(Dutch\) Church of Poughkeepsie](#) (1919-1923) now sits comfortably on Hooker Avenue next to Bartlett Park. The Art Deco architectural style [Church Building](#) (1920s) was built on its former site.

American Revolution (1775-1788)

Poughkeepsie had a significant role in the Revolution and its aftermath. During the early part of the war the British occupied New York City, so the Provincial capitol moved upriver to Kingston. However, after the British burned Kingston in 1777, Poughkeepsie became the temporary capitol. George Clinton, Governor of the State 1777-1783) lived in the [Clinton House](#) (1765, 1783) on Main Street, not far from the second courthouse at the intersection of Market and Main streets. However, as the war came to a close in 1785 the courthouse was destroyed by fire. A third courthouse was quickly constructed and in place for the New York State convention to ratify the Constitution. Clinton was an Anti-Federalist, but after debates with Federalists Alexander Hamilton and John Jay in the summer of 1788, agreed to a compromise that would become the amendments known as the Bill of Rights. Upon ratification, New York became the eleventh of the original thirteen colonies to form the United States of America. The third courthouse was burned in 1806, rebuilt in 1809, and replaced by the current [Dutchess County Courthouse](#) (1903-1904).

Churches

Religious institutions such as churches offer insight into the city's settlement and social history. The original locations of the Dutch and English churches on Market Street framed

political, economic and social power in the village core, while the Poughkeepsie Meeting House (1927) on Hooker Avenue follows the architectural features of the early Quakers. The oldest surviving church building in the city is a relatively small Greek revival style structure on the corner of Vassar and Mill Streets. Constructed in 1835 as a Presbyterian church, reorganized as a Congregational church two years later, and in 1869 as a Jewish synagogue; it became the Second Baptist Church later in the twentieth century. Organized in 1837, the Smith Metropolitan AME Zion Church (1910-11) indicates clusters of early African-American settlement on Main Street's lower slope and on the northern margins. In the mid-19th C immigration from Germany and Ireland filled out the tenements on the lower slope with Germans locating in the Second Ward and Irish in the First Ward; for example the German-American Nativity Church (1853) in the Union Street Historic District. By the late 19th C and early 20th C, Italian immigrants displace the Irish, holding Roman Catholic services in Italian in the original Our Lady of Mount Carmel Church (1910), then moving to the previously Irish church Old St. Peter's Church (Our Lady of Mount Carmel) whose first church and rectory were built in 1837. In the 20th C the Italian community would purchase the former Victorian style Reynolds mansion as the Italian Center. As the Irish households joined the professional workforce such as the police and fire departments, they moved upslope into the city center and established both St. Mary's and Holy Trinity Roman Catholic churches. Meanwhile, early 20th C immigration by German and East European Jews built synagogues in both the Second and First Wards, such as Congregation Schomre Hadath (1923-24) on South Bridge Street. They would move their synagogues along Hooker Avenue and neighboring streets as their emerging middle-class congregations moved to houses on the South Side and in the Town.

Waterfront

From the beginning of settlement the waterfront from the Fall Kill to Kaal Rock was busy. Farms in the hinterland supplied grain, beef and other agricultural products for shipment downriver by sloops in the 18th C and steamboats in the 19th C. The Clearwater Sloop dock at Waryas Park promotes the role of Poughkeepsie in the early shipping and fishing industries as well as the role of the Clearwater Sloop Restoration, Inc. as a non-profit environmental educational and advocacy organization. The organization's office occupied the Fite House (1810) during the 1970s and 80s. The ferry dock at Upper Landing and steamboat dock at the foot of Main Street offered river access while the railroad became the main transportation mode for passenger and freight traffic. In 1888 the Poughkeepsie Railroad Bridge across the Hudson River was constructed to transport freight between New England and Pennsylvania. After a fire in the 1970s it was abandoned, but has been restored as the Walkway Over the Hudson (2009), "the longest pedestrian bridge in the world." The Hudson River has also been a recreational resource, with the Apokeepsing Boat Club established in 1879 and the famous Intercollegiate Regatta begun in 1895.

Waterfront industries over the course of the 18th and 19th centuries included:

Matthew Vassar's Brewery (1891); the Poughkeepsie Glass Works (1880); a cigar factory; a tannery that used hemlock bark from the nearby Catskill Mountains; an iron foundry (1801); ship building and ships' stores such as cooperage, rope, and black-smithing; and soap and candle making, including the Poughkeepsie Whaling Co. (1832). On the southern waterfront Adriance-Platt Buckeye Mower and Reaper Works was a major manufacturer of agricultural machinery in the 1890s and early 20th C, along with the city's largest employer De Laval Separator Co., maker of pumps for the dairy industry. All of these factories were abandoned and removed from the waterfront by Urban Renewal projects in the mid-20th C to make room for Waryas Park in 1975.

Industrial Age Economic Growth

In 1854 the city received its charter. The Industrial Age gained speed with numerous industries along the waterfront and the Fall Kill and the arrival of the Railroad in 1850-51; the impressive Poughkeepsie Railroad Station was built in 1918, modeled after New York City's Grand Central Station (1903-1913). Adjacent to the station on Water Street is the former Reynolds Warehouse (1872). Mill ponds along the Fall Kill served as water power for grain and grist mills, saw mills, and the fulling and carding of wool for cloth and rugs, for example carpets at Pelton Mill (1803-1892), as well as pins and nails. The Pelton family built Pelton Mansion (ca. 1859) on a small rock outcrop overlooking the mill and the Fall Kill. Innis Dye Works (1825) manufactured dyes from dyewoods at the mouth of the Fall Kill; it ceased operation in 1913 and reopened as Schmidt Piano Hammer Factory until 1934. The main building next to the waterfall on the Fall Kill has been renovated into apartments and a smaller structure on the waterfront is now occupied by the Children's Museum (2007). Also located nearby was the Arnold Chair Factory (1870s-80s). Further east along the Fall Kill were cotton mills and clothing factories, such as the Poughkeepsie Underwear Factory (1874; renovated 2017 as apartments, artist studios and a coffee brewer), and the J.O.Whitehouse Boot & Shoe Factory (1879) on Main and Cherry.

19th C Residential Expansion

As the population increased after the Civil War, residential housing included areas of high density tenements, rooming houses and workmen's dwelling on the lower slope, such as Union Street Historic District, and on the city's northern edges along the Fall Kill of one- and two-story homes, as well as mansions up into the Mill Street-North Clover Street Historic District, Upper Mill Street Historic District, and Balding Avenue Historic District. South of Main Street's retail establishments and apartments, single-family homes on large lots for the city's elite emerged, including the Victorian-era properties of Academy Street Historic District, Garfield Place Historic District, and South Hamilton Street Row, and later development of lots in the Dwight Street-Hooker Avenue Historic District, including many individually listed historic homes such as the Brinkerhoff (1860) house designed in the shape of a steamboat. Other individually listed houses are listed outside historic districts, such as Barrett House (ca. 1835) home of the artist Tom Barrett in the 1920s and 30s and now of the Barrett Art Center. Matthew Vassar established his summer estate Springside (1850-52) south along Academy Street, east of the Poughkeepsie Rural Cemetery (1852). Horticulturist Andrew Jackson Downing and architect Calvert Vaux designed the estate's landscape and buildings, such as the Springside Porter's Lodge. Many other historic residential properties from the 17th – 19th centuries are scattered south and east throughout the formerly agricultural lands.

City Downtown: Market Street

For 300 years, the financial, political, commercial, retail and cultural life of the city centered on the area of Market Street and Main Street. The location of the first courthouse established the village center and city with the Old City Hall (1831). Hotels were established near the courthouse, such as the Nelson House (1876), famous as the campaign headquarters for President Franklin Delano Roosevelt in the 1930s was demolished in 1965 to make way for the Dutchess County Office Building during urban renewal. Banks also clustered along the Market Street corridor, such as the Farmers & Manufactures Trust (1834-1835), Poughkeepsie Trust Company (1906-1907) and Poughkeepsie Savings Bank (1911-1912) with its stained glass panel of Henry Hudson's *Half Moon* above the vault. Lawyers chose offices close-by in

Market Street Row and the Church Building and often met others of the elite at the Amrita Club (1912). Civic and cultural institutions similarly located along Market Street, including the Bardavon (Collingwood Opera House, 1869), State Armory (1891) and Adriance Memorial Library (1898), south to Soldiers Fountain and Park (1870) and the Old YMCA (1909) at Eastman Park and Eastman Terrace (1872-1873).

City Downtown: Main Street

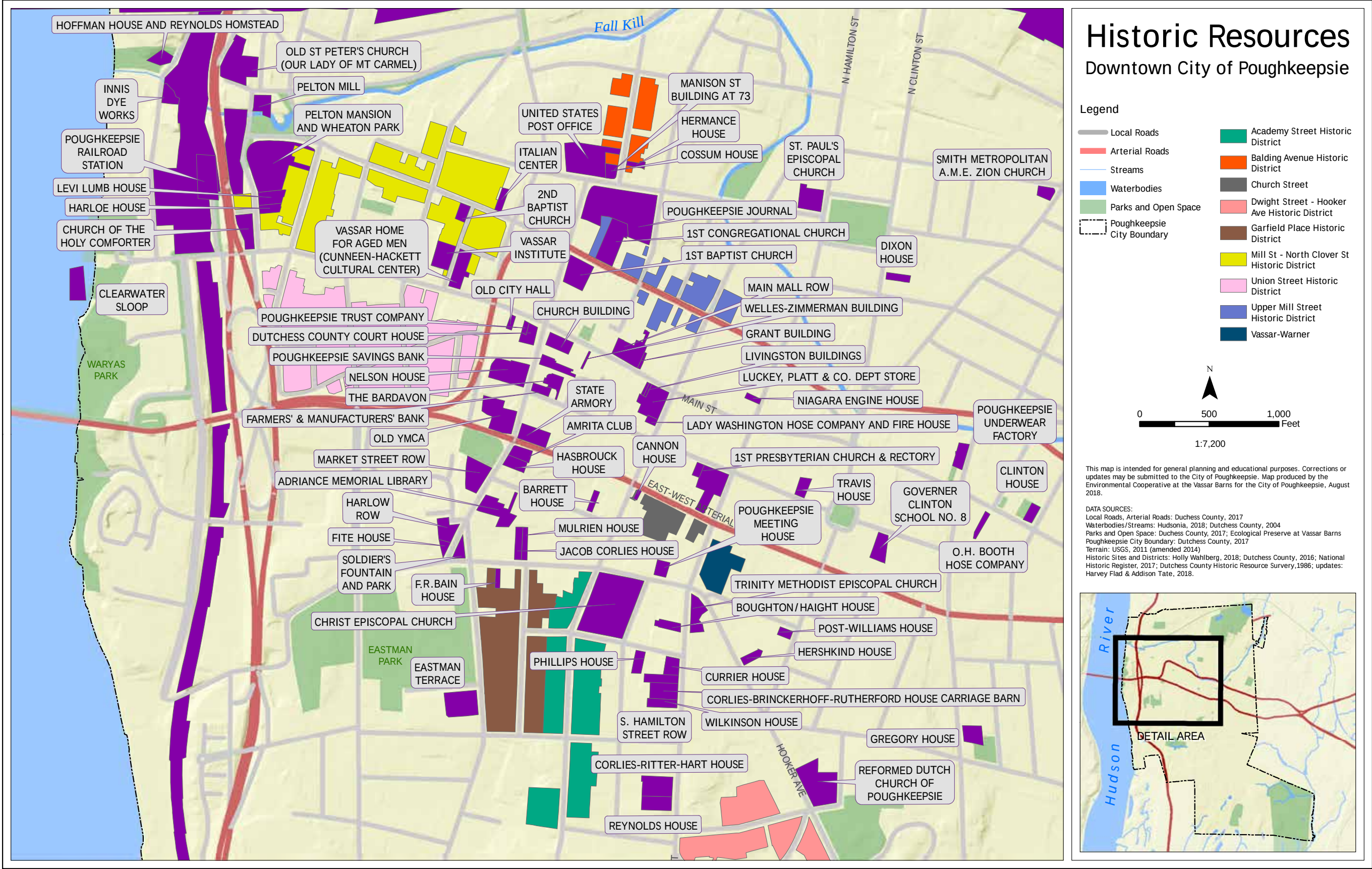
Main Street has been the commercial and retail hub for three centuries. Fires and remodeling of storefronts have altered many 19th C facades, but the streetscape retains its historic character. Main Mall Row is named after the pedestrian mall developed during urban renewal in the 1970s and 80s, and re-opened as Main Street in 2001. Individual buildings that offer a window into the city's retail history on the historic register include: the Grant Building, Welles-Zimmerman Building and Livingston Buildings. The Luckey, Platt & Co. Dept. Store (1901) advertised itself as the mid-Hudson Valley's department store with signs stretching eastward to the Connecticut border. Lady Washington Hose Company and Fire House, Niagara Fire House and O. H. Booth Hose Company are three of Poughkeepsie's early firehouses (1908-1909) located in the Main Street corridor.

Cultural and Civic History

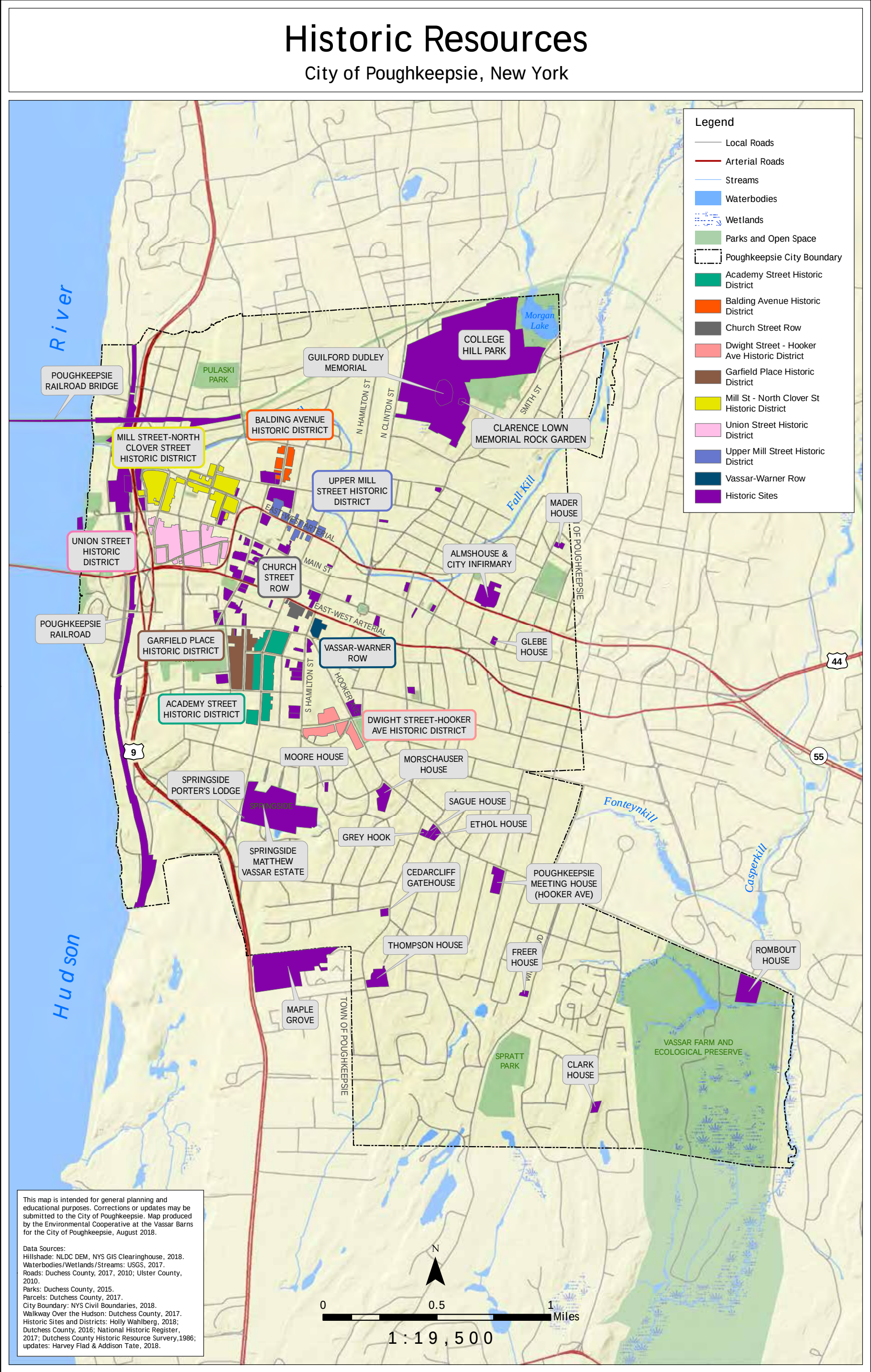
Historic sites offer insight into a city's civic duties and pride. Poughkeepsie was often called "the city of schools" after the number of collegiate schools located throughout in the 19th C. The Guilford Dudley Memorial (1931) on the crest of College Hill includes a 1937 "Parthenon" as a historical monument to the Collegiate Hill School and Riverview Military Academy that occupied the site during the late 19th C. William W. Smith purchased the site and offered it to the city as College Hill Park; the park includes a golf course and the historic Clarence Lown Memorial Rock Garden (1931). Ragged Lane was renamed Academy Street after a collegiate school; public schools included the 19th C Governor Clinton School No. 8, a number of elementary schools and the former Poughkeepsie High School (1911-14) on South Hamilton Street that became Our Lady of Lourdes parochial high school in the 1950s and subsequently the Family Partnership Center when Lourdes moved to the Town. In 1861 Vassar Female College opened its historic landmark Main Building at the east end of College Avenue. Matthew Vassar's nephews built the Vassar Home for Aged Men (Cunneen Hackett Cultural Center), including the Vassar Institute, on the site of Matthew Vassar's former city home, in 1880. Also, the Alms House & City Infirmary (1869) was located north and east of Main Street and the downtown; it now houses Maplewood senior apartments.

The Franklin Delano Roosevelt Mid-Hudson Bridge opened in 1930. As a federal project during the Depression, President Roosevelt had the United States Post Office (1937) built at the north end of Market Street. Its design resembles that of the third Dutchess County Courthouse where, in 1788, New York State legislators ratified the Constitution. Murals by local artist Olin Dows depicting the event, as well as the mythic spring of Poughkeepsie's name, adorn the second-floor balcony. The Old Dutch-inspired architecture of the Poughkeepsie Journal (1941-1943) building continues the historic theme of Poughkeepsie's origins. Other twentieth century historic, cultural and civic buildings have yet to be added to the official list of resources. Cultural venues such as The Chance, Mid-Hudson Heritage Center and the Trolley Barn inhabit 19th C buildings that reflect the city's growth into the 21st C.

Map 7.1 Historic Resources in the downtown area of the City of Poughkeepsie



Map 7.2 Historic sites and districts throughout the entire City of Poughkeepsie



Additional Resources for the Historical Map include:

National Register of Historic Places, National Park Service, U.S. Department of Interior

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Rhoads, William, "Poughkeepsie's Architectural Styles, 1835-1940," *New Perspectives on Poughkeepsie's Past*, ed. Clyde Griffen (Poughkeepsie, NY: Dutchess County Historical Society Yearbook vol 72, 1987), pp. 18-35.

Wahlberg, Holly, Local National Historic Places List, 2018.

Public Historians: William P. Tatum III, County Historian; George Lucas, City Historian; Bill Jeffway, Dutchess County Historical Society executive director

Recreational Resources



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Parcel Boundaries

City of Poughkeepsie Boundary

Recreational Features

Boat Launch

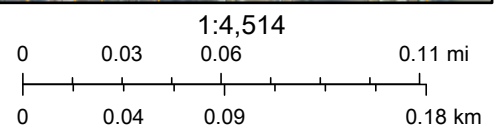
Flower Garden

Playground

Skate Park

Trails

Parks and Open Spaces



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Chapter 6. Recreational Resources

Addison Tate, Jennifer Rubbo



Spratt Park,
Photo credit: Lauren White

Publicly-accessible recreational resources provide the opportunity for people to engage with the outdoors and have positive place-based experiences. Access to natural space is especially critical in the age of nature deficit disorder, where lack of time spent in nature has been shown to lead to a range of behavioral problems in children (Louv, 2008). Recreational areas also are essential to a healthy lifestyle by providing access to open spaces for outdoor sport and recreation. Furthermore, areas such as parks and sports facilities also act as dynamic community spaces, where education and community-building occur, and neighborhood identities are cultivated.

A variety of important recreational resources exist within and nearby the City of Poughkeepsie. Located in the Mid-Hudson region, many large recreational areas, including the Catskills, Shawangunks, Taconic Mountains, and Hudson Highlands, are within an hour's drive from the City, through farmland, forested hills, and a broad urban-rural gradient. Features such as the Hudson River, Dutchess County Rail Trail, Vassar Farm and Ecological Preserve, and Fall Kill Creek connect Poughkeepsie to the surrounding areas. Within the City, Poughkeepsie's many public parks provide green space, gardens, playgrounds, picnicking, and athletic fields and courts ([Map 6.1](#), [Table 6.1](#)). The 24 public parks and green spaces in the City total nearly 500 acres, with about 250 acres located on the Vassar Farm and Ecological Preserve. The City of Poughkeepsie owns 18 of the recreational areas identified here and the recreation office, overseen by the City's Department of Public Works (DPW), oversees maintenance of these

parks. Nubian Directions II, a local workforce skills development organization, assists the City DPW by maintaining many of the park's flower gardens, pots, and raised beds through a cooperative agreement. The remaining open spaces are privately owned or are part of the New York State Park system.

The City of Poughkeepsie Recreational Resources map displays parks and green spaces in the City and the recreational features that may be found there. Park, trail, and golf course data was procured from Dutchess County. Park data was updated and recreational resources mapped by Addison Tate (Environmental Cooperative at the Vassar Barns) with consultation from Natalie Quinn (City of Poughkeepsie) and Paul Hesse (Dutchess County Planning).

Table 6.1. Parks and recreation areas in the City of Poughkeepsie.

Name	Ownership	Amenities
Bartlett Park	City Park	Playground
Clinton House State Historic Site	NYS State Park	Historic building, flower garden
College Hill Park	City Park	Basketball court, playground, flower garden, hiking trails, historic site, golf course
Dongan Place	City Park	Basketball court, Fall Kill view
Earline Patrice Park	City Park	Flower garden, memorial
Eastman Park	City Park	Stitzel Field (baseball diamond)
Forbus Park	NY Champion Tree Project	Open space, historic relevance
Fall Kill Community Garden	Family Partnership Center	Community Garden, Fall Kill view
Hulme Park	City Park	Basketball court
Jardin de las Rosas	Hudson River Housing	Garden
Kaal Rock Park	City Park	River views, picnicking
King Street Park	City Park	Basketball court, baseball diamond, tennis court
Lincoln Park	City Park	Soccer field
Malcolm X Park	Poughkeepsie City School District	Basketball court, tennis court (not functional), Fall Kill views
Morgan Lake Park	City Park	Fishing, rail trail access point
Mural Square	City-owned lot	Event space
Murphy Park	Hudson River Housing	Gardens, play equipment

North Perry Street	City Park	Picnicking
Pershing Ave Park	City Park	Basketball court
Pulaski Park	City Park	Swimming pool, playground
Reservoir Square Park	City Park	Gardens, memorial
Soldiers Memorial	City Park	Gardens, a memorial fountain
Spratt Park	City Park	Pool, baseball diamonds, tennis court, dog park, golf course
Springside National Historic Landmark	Springside Landscape Restoration	Historic site, interpretive walking trails
Skate Park	City Park	Skateboarding facility, river views
Upper Landing Park	NYS State Park	River views, Elevator to Walkway Over the Hudson, picnicking
Vassar Farm and Ecological Preserve	Vassar College	Hiking trails, community garden, flower garden
Victor C. Waryas Park	City Park	Boat Launch, fishing, playground, picnicking, river views
Walkway Loop Trail	NYS State Park	Interpretive walking trail
Walkway Over the Hudson	NYS State Park	Interpretive walking trail
William R. Steinhaus Dutchess Rail Trail	County Park	Walking trail

The Hudson River has driven centuries of development in Poughkeepsie and continues to provide important recreational opportunity, natural habitat, and economic activity. Poughkeepsie's western waterfront along the Hudson consists of a number of parks. Upper Landing Park, opened by the Dyson Foundation in 2013, sits at the outflow of the Fall Kill into the Hudson River and provides access to the Walkway Over the Hudson State Historic Park's glass elevator. A walking bridge over the Fall Kill Creek leads from Upper Landing Park to the Mid-Hudson Children's Museum and waterfront pavilion, which hosts a fishing pier and the weekly Poughkeepsie Waterfront Farmers Market. Waryas Park Promenade skirts the shoreline to the south, passing the Poughkeepsie Skate Park. Victor C. Waryas Park sits at the foot of Main Street and includes a playground, green space, picnic tables, grills, a pavilion, a boat launch, and a dock. Further south, Kaal Rock is a high ledge and wooded area that sits to the north of Kaal Rock Park, a quieter park for picnicking along the waterfront. Kaal Rock Promenade leads south to Shadows Marina and Promenade.

The average size of parks in Poughkeepsie is about 14 acres, however, most parks in the City are less than ten acres. There are several larger parks and open spaces that serve important roles for recreation and access to nature in the City, specifically College Hill Park, Springside, and the Vassar Farm and Ecological Preserve. These have also been identified as significant habitat areas in the City and support not only human health and well-being but also a

diversity of wildlife and plant communities (for more information about the habitat value of these spaces see Hudsonia's *Significant Habitats of the City of Poughkeepsie* Report, [Appendix A](#)). The Dutchess Rail Trail, Walkway Over the Hudson, and the Walkway Loop Trail are also important recreational assets that provide a connection to nature to those pursuing healthy lifestyle habits through walking, running and biking.

College Hill Park is the largest park in the City of Poughkeepsie, totaling around 100 acres including the College Hill Golf Course. Designated a local historic landmark in 2017, the park includes two local historic sites, the Guilford Dudley Memorial Shelter, and the Clarence Lown Memorial Rock Garden (Wahlberg, 2013). The Guilford Dudley Memorial is at the top the hill. Built in 1934, it sits at the highest point in the City of Poughkeepsie and marks the location of the Collegiate School, which occupied the space until 1865. This structure was added to the National Register of Historic Places in 1982 (Wahlberg, 2016). The Lown Memorial Rock Garden was added to the Local Register of Historic Places in 2014 (Wahlberg, 2013) and was partially restored in 2015. Restored areas are currently being managed as a pollinator garden and plans are underway to restore the remaining portion of the garden with native rock garden plants. College Hill Park is an important community resource as it also hosts a ballfield, basketball court, playground, and the privately-owned College Hill Golf Course. The park abuts Morgan Lake Park and the Dutchess County Rail Trail. College Hill Park is maintained by the City of Poughkeepsie and the Revive College Hill Park Coalition.

Springside is a designated National Historic Landmark and large green space that is owned and maintained by [Springside Landscape Restoration](#) (Springside Landscape Restoration, 2015). The property is the site of the country estate of Matthew Vassar, Poughkeepsie brewer, philanthropist and founder of Vassar College, and is the only landscape of Andrew Jackson Downing, famous landscape architect, to remain largely intact. The only remaining original structure on site is the Porter's Lodge/Gatehouse. The site is currently a part of the Hudson River Valley Greenway Trail and hosts a network of interpretive trails that are open to the public year round.

The [Vassar Farm and Ecological Preserve](#) (Vassar College, 2018) lies across the southern border of Poughkeepsie, with 243 of its 522 acres within city limits, and the remainder extending into the Town of Poughkeepsie. The land is privately owned by Vassar College, however, there are hiking trails open to the public from dawn to dusk daily. The area was farmed to provide food for Vassar College until 1957 and was converted into an ecological preserve in 1967. It features a network of hiking and biking trails, rugby fields, and a variety of ecological habitats. The Poughkeepsie Farm Project is located at the entrance to the Preserve and hosts a working farm with educational programs, community gardens, and community supported agriculture. Research and education opportunities occur on the Preserve through Vassar College, the Environmental Cooperative at the Vassar Barns, and the Student Conservation Association.

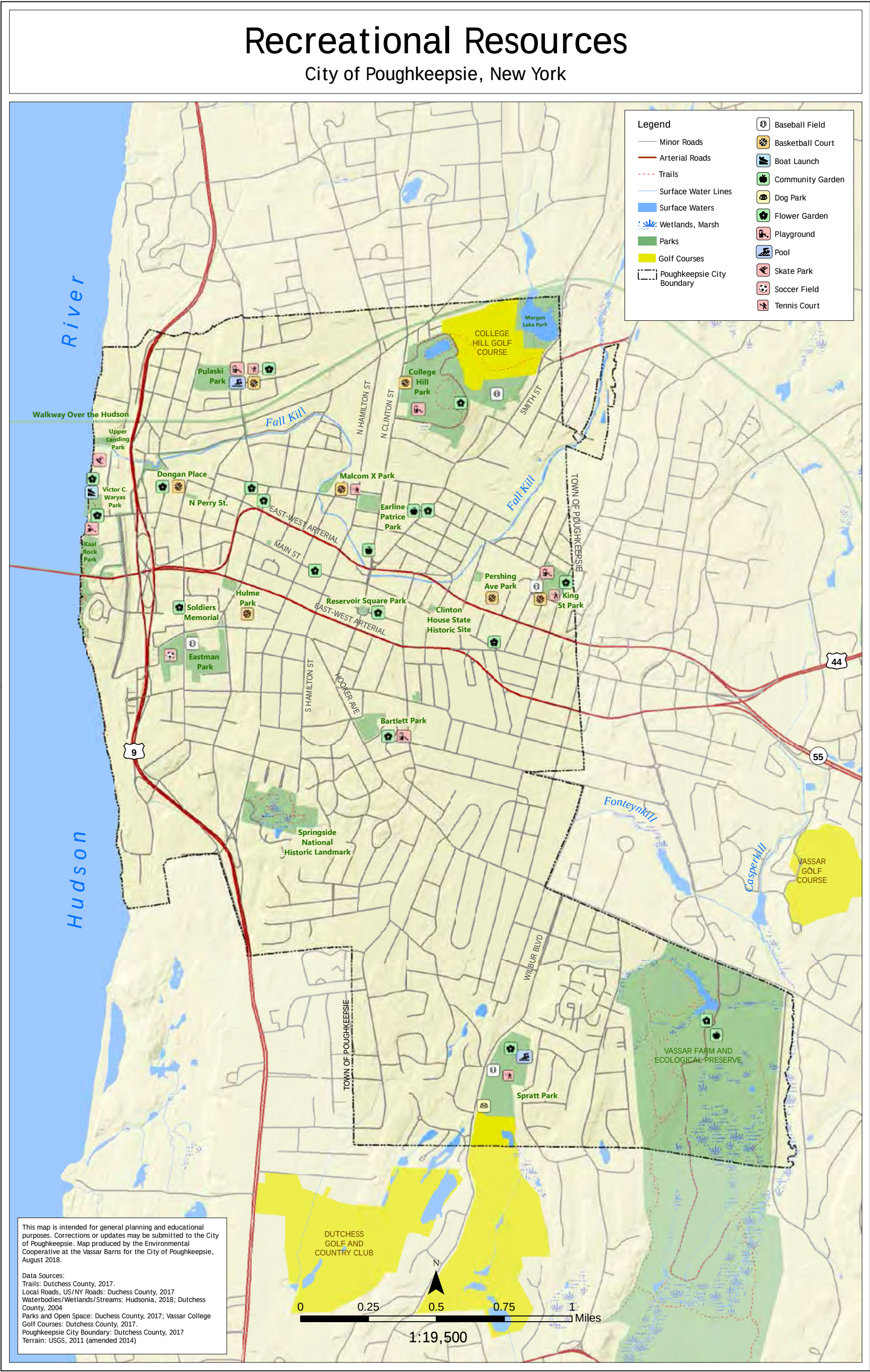
The [William R. Steinhaus Dutchess Rail Trail](#) (Dutchess County Government, 2018) and [Walkway Over the Hudson State Historic Park](#) (New York State, 2018) connect Poughkeepsie to broader Dutchess County and neighboring Ulster County. Since opening its first section in 2008, the Rail Trail has been converted from the Maybrook Rail corridor into a 13.4-mile paved trail that runs from Hopewell Junction to Poughkeepsie (Dutchess County Department of Planning and Development, 2014). It connects directly to the Walkway Over the Hudson, a paved scenic walkway that spans the Hudson River to reach Highland on the converted

Poughkeepsie-Highland Railroad Bridge. The Walkway is part of the Walkway Loop Trail, and also part of the Empire State, a 3.6-mile loop that includes the FDR Mid-Hudson Bridge and connects to trails in Dutchess and Ulster Counties.

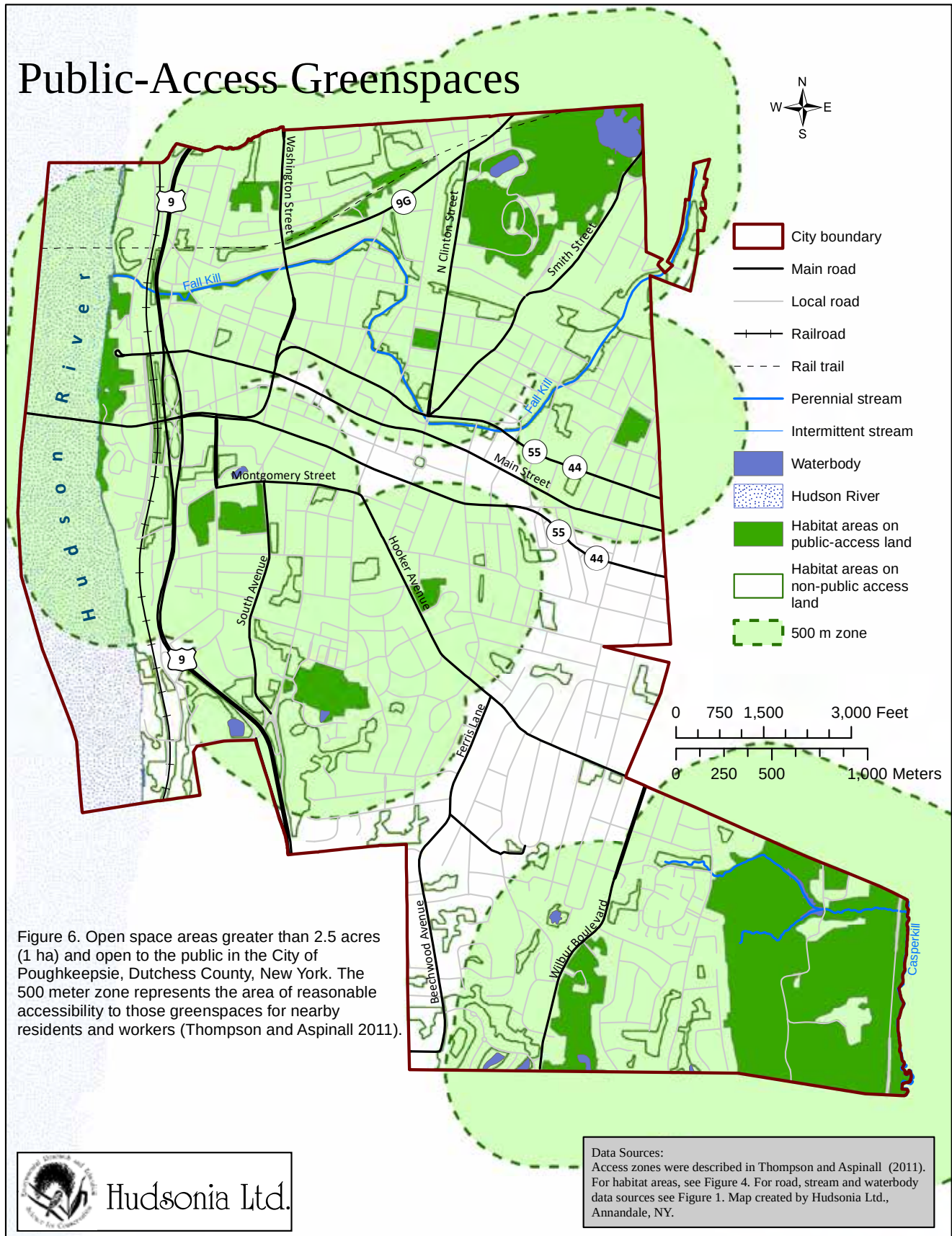
Community gardens and farmers' markets in Poughkeepsie provide residents with opportunities to grow their own food and connect with farmers in the surrounding areas. Dutchess Outreach coordinates the Fall Kill Partnership Garden at the Family Partnership Center. Garden plots are also available at the Vassar Farm and Ecological Preserve. The Waterfront Farmers Market at the Mid-Hudson Children's Museum offers farm-fresh food Monday afternoons during the summer.

While parks are abundant in the City of Poughkeepsie, access to these spaces should be taken into consideration. [Map 6.2](#) shows open space areas in the City of Poughkeepsie greater than 2.5 acres with a 500m (.31 miles) radius, representing a ten-minute walk, around each open space (Heffernan & Stevens, 2018). While much of the Northside of Poughkeepsie has access to public parks and open spaces, there are gaps near Main Street and on the Southside. Additionally, high traffic roads and park conditions need to be considered when discussing accessibility. In 2018, the City of Poughkeepsie began comprehensive parks improvement planning to address infrastructure in the City park system (City of Poughkeepsie, 2018).

Map 6.1 Recreational Resources in the City of Poughkeepsie



Map 6.2 Access to public green spaces from Hudsonia's Significant Habitats of Poughkeepsie Report.



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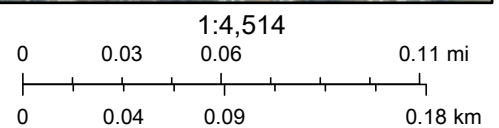
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Pollinator Pathways



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- Existing Gardens
- Poughkeepsie Greenspace
- Potential Pathway
- Poughkeepsie Boundary
- Dutchess County Parks



New York State, Maxar



The Environmental Cooperative at the Vassar Barns

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Our Healthy Habitats Initiative focuses on how individuals can create an environment in their backyard and neighborhood that supports nature and balances our needs with those of other living things. We work to support local efforts that increase the beauty of our surroundings and bring more people outdoors, creating healthier lifestyles, while also sustaining a habitat in which plants and animals can thrive.

Natural Resources Inventory

The City of Poughkeepsie Natural Resources Inventory (NRI) provides baseline information on natural resources including parks, tributaries to the Hudson, the Poughkeepsie waterfront and city trees.

[Natural Resources Inventory \(NRI\) for Poughkeepsie \(PDF\)](#).

PDFs of individual sections:

- [NRI 0 Executive Summary \(PDF\)](#).
- [NRI 1 Introduction \(PDF\)](#).
- [NRI 2 Geology and Soils \(PDF\)](#).
- [NRI 3 Water Resources \(PDF\)](#).
- [NRI 4 Botanical Communities and Habitats \(PDF\)](#).
- [NRI 5 Land Use \(PDF\)](#).
- [NRI 6 Recreational Resources \(PDF\)](#).
- [NRI 7 Historical Resources \(PDF\)](#).
- [NRI 8 Climate Change \(PDF\)](#).

- [NRI Apdx A Significant Habitats](#) (PDF).
- [NRI Apdx B Ash Tree Assessment](#) (PDF).
- [NRI Apdx C College Hill Park Invasive Species Survey](#) (PDF).
- [NRI Apdx D Poughkeepsie Scenic Resource Inventory](#) (PDF). [5 MB]
- [NRI Apdx E Map Metadata](#) (PDF).
- [NRI Apdx F Species of Conservation Concern](#) (PDF).
- [NRI Apdx G Poughkeepsie Zoning Map](#) (PDF).
- [NRI Apdx H Climate Smart Resilience Planning](#) (PDF).
- [NRI Apdx I Fall Kill Intermunicipal Agreement](#) (PDF).

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[Mapping Emerald Ash Borer in the City of Poughkeepsie](#)

[Emerald Ash Borer Information](#)



Assessing Urban Ash Trees, Summer 2017

Bee Campus



Vassar College Campus is a certified Bee Campus, committed to creating pollinator-friendly habitats. We have created resources about local native plants to help educate the Vassar community and Poughkeepsie residents about beneficial plants for the area.

- [Local Native Plant List](#) (PDF).

- [Local Native Plant Suppliers](#) (PDF).
- [IPM Plan](#) (PDF).

Pollinator Pathways

The Town of Poughkeepsie is working towards becoming a [Pollinator Pathway](#). Poughkeepsie is working to establish pollinator-friendly habitats and food sources for bees, butterflies, hummingbirds, and other pollinating insects and wildlife along a series of continuous corridors.

You can learn about creating pollinator habitats by checking out the Environmental Cooperative's [Pollinator Pathway padlet](#) (Password: [PollinatorPathway2021](#)) and by reading more about the Town of Poughkeepsie's [Pollinator Pathway](#) project.

Tree Campus USA

Vassar College, home to 230 tree species, has been a certified Tree Campus since 2012. As a Tree Campus, Vassar is dedicated to managing all campus trees, integrating the campus with the surrounding city to promote urban forests, and engaging students in campus and community forestry work.

More information about Tree Campus USA can be found [here](#).



What is it? Solidago, commonly called Golden Rod, flowers on the preserve in the late fall.
Photo: Ellie Opdahl

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