TOWN OF ROSENDALE –
JAMES STREET FLOOD CONTROL

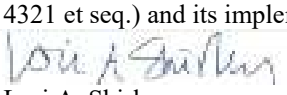
ENVIRONMENTAL ASSESSMENT

New York State Governor's Office of Storm Recovery
October 20, 2017

Town of Rosendale – James Street Flood Control
Environmental Assessment

October 20, 2017

Project Name:	Town of Rosendale – James Street Flood Control
Project Location:	James Street between John Street and Route 32 and along and within Rondout Creek, Town of Rosendale, Ulster County, New York 12472
Federal Agency:	U.S. Department of Housing and Urban Development (HUD)
Responsible Entity:	New York State Homes and Community Renewal (HCR) Governor's Office of Storm Recovery (GOSR)
Responsible Agency's Certifying Officer:	Lori A. Shirley, Certifying Environmental Officer 38-40 State Street, Hampton Plaza Albany, New York 12207 (518) 474-0755, Lori.Shirley@nyshcr.org
Project Sponsor: **Primary Contact:**	Town of Rosendale Jeanne L. Walsh, Town Supervisor 1915 Lucas Avenue Cottekill, NY 12419 (845) 658-3159, supervisor@townofrosendale.com
Project NEPA Classification:	24 CFR 58.36 (Environmental Assessment)

Environmental Finding:	☒ Finding of No Significant Impact - The project will not result in a significant impact on the quality of the human environment.
	☐ Finding of Significant Impact - The project may significantly affect the quality of the human environment.
Certification	The undersigned hereby certifies that New York State Homes and Community Renewal has conducted an environmental review of the project identified above and prepared the attached environmental review record in compliance with all applicable provisions of the National Environmental Policy Act of 1969, as amended (42 USC Sec. 4321 et seq.) and its implementing regulations at 24 CFR Part 58.
Signature	 Lori A. Shirley

Environmental Assessment Prepared By:	Tectonic Engineering & Surveying PO Box 37, 70 Pleasant Hill Road Mountainville, NY 10953

CERTIFICATION OF NEPA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in its 2015 NYS CDBG-DR project, Town of Rosendale – James Street Flood Control are:
Project Year Project Name

Check the applicable classification.

☐ Exempt as defined in 24 CFR 58.34 (a).

☐ Categorically Excluded as defined in 24 CFR 58.35(b).

☐ Categorically Excluded as defined in 24 CFR 58.35(a) and no activities are affected by federal environmental statues and executive orders [i.e., exempt under 58.34(a)(12)].

☐ Categorically Excluded as defined in 24 CFR 58.35(a) and some activities are affected by federal environmental statues and executive orders.

☒ "Other" neither exempt (24 CFR 58.34(a)) nor categorically excluded (24 CFR 58.35).

☒ Part or all of the project is located in an area identified as a floodplain or wetland. For projects located in a floodplain or wetland, evidence of compliance with Executive Orders 11988 and/ or 11990 is required.

For activities excluding those classified as "Other", attached is the appropriate Classification Checklist (Exhibit 2-4) that identifies each activity and the corresponding citation.

Lori A Shirley

Signature of Certifying Officer

October 20, 2017
Date

Lori A. Shirley
Print Name

Certifying Environmental Officer
Title

CERTIFICATION OF SEQRA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in its 2015 NYS CDBG-DR project, Town of Rosendale – James Street Flood Control are:
Project Year Project Name

Check the applicable classification:

☐ Type I Action (6NYCRR Section 617.4)

☐ Type II Action (6NYCRR Section 617.5)

☒ Unlisted Action (not Type I or Type II Action)

Check if applicable:

☐ Environmental Impact Statement (EIS) Prepared

☐ Draft EIS

☐ Final EIS

Lori A Shirley

Signature of Certifying Officer

October 20, 2017
Date

Lori A. Shirley
Print Name

Certifying Environmental Officer
Title

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:

The James Street Flood Control Project (proposed project) is a stormwater management improvement project located on James Street between John Street and Route 32 and along and within Rondout Creek in the Town of Rosendale, Ulster County, New York (see project location maps in **Attachment 1** and project site plans in **Attachment 2**). The Town of Rosendale proposes to replace the existing small-bore stone-built culvert that passes beneath James Street near the intersection of Parkcrest Drive. This existing 48-inch pipe is to be replaced with a 60-inch HDPE pipe culvert that will run under James Street, with a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A proposed catch basin and storm manhole are to be installed on the western side of the Parkcrest Drive and James Street intersection, with a new 36-inch HDPE pipe to replace the existing 36-inch pipe running under Parkcrest Drive. This 36-inch HDPE pipe connects to the 60-inch HDPE pipe and storm manhole located on the eastern side of the Parkcrest Drive and James Street intersection.

Four additional catch basins are proposed to be built along James Street, west of Parkcrest Drive. The catch basins will be located on the north and south side of James Street, with two catch basins located approximately 170 feet west of Parkcrest Drive on James Street and two catch basins located 520 feet west of Parkcrest Drive on James Street. The proposed construction includes flattening the south bank slope with a buttress toe for slope stability on the south bank of the Rondout Creek. Additionally, the proposed construction includes armoring Rondout Creek's south bank with riprap. This riprap will begin at the western edge of the existing riprap and extend 600 feet upstream. A point bar along the northern bank of Rondout Creek will be removed, which will restore the original Rondout Creek flood control creek bottom to 39.5 feet. The Town also proposes to construct guide rails along James Street, as well as a 5-foot asphalt pedestrian walkway that will run parallel to the north side of James Street, extending approximately 330 feet west of Parkcrest Drive to the intersection of James Street and Route 32.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:

This funding assistance will provide for culvert and HDPE replacements; retaining wall, manhole and catch basins installations; constructing guide rails along James Street and a 5-foot asphalt pedestrian walkway; flattening the southern bank slope and constructing a buttress toe for stability aton the slope on the south bank of Rondout Creek; armoring Rondout Creek's southern bank with riprap; and removing a point bar along the northern bank of Rondout Creek in the Town of Rosendale to address flooding during heavy rainfall events. The FEMA Flood Insurance Rate Map (Firmette) is included in **Attachment 4**.

The purpose of the proposed project is to ensure that James Street, a critical connector road, will be accessible during and after future storm events. On August 28, 2011, Hurricane Irene dropped approximately 6 inches of rain during a 24-hour period. A few weeks later in early September 2011, Tropical Storm Lee dropped several more inches of rain on already saturated soils and overloaded Rondout Creek leading to record high water levels and severe flash flooding. As a result of the high water during these storm events, the lower portion of James Street washed out and collapsed causing a substantial safety risk for vehicles and residences located on James Street and in the surrounding area. During these storm events, residents were unable to access necessary health and social service facilities. James Street serves as a critical alternate vehicular and pedestrian route, providing an ingress/ egress thoroughfare that connects NY Route 32/213 and an emergency route for Rosendale's Downtown District (See NYRCR Program Flood Control Along James Street Project Pre-application Report, December 2014).

Existing Conditions and Trends [24 CFR 58.40(a)]:

Project activities will occur along James Street between John Street and Route 32 and along and within Rondout Creek, which has been washed out during historic high water events and collapsed during Hurricane Irene and Tropical Storm Lee. As a result of the high waters, the washout created substantial risk for vehicles and residences located on James Street and in the surrounding area. During these storm events, residents were unable to access necessary health and social service facilities.

According to the *Multi-Jurisdictional Natural Hazard Mitigation Plan for Ulster County*, New York, approximately 9.8% of the properties (Page 3a-46), and approximately 12.7 % of the improved land value (Page 3a-47) in the Town of Rosendale are located in a High Flood Risk area. This Plan highlights past actions that have been taken in the Town to mitigate damages from natural disasters. Still, flooding is identified as a hazard vulnerability for the Town. The proposed project, described herein, is specifically identified in the Hazard Mitigation Plan as a mitigation initiative that has a high estimated benefit to the community.

According to the New York Rising Community Reconstruction (NYRCR) Plan for Ulster Communities, this proposed project will allow the installed infrastructure to withstand future storm events without damage, will likely improve the Town's emergency response and recovery efforts, and will provide continued access for EMS providers and to health and social service facilities.

Funding Information

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]**: $600,000.00**

Estimated Total HUD Funded Amount:

CDBG-DR	$ 48,330.00	Public Facilities and Improvements (Phase I)
CDBG-DR	$551,670.00	Public Facilities and Improvements (Phase II)
Total	**$600,000.00**	

Compliance with 24 CFR 58.5, and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes ☐ No ☒	Based on guidance provided by HUD via Fact Sheet #D1, the National Plan of Integrated Airport Systems (NPIAS) was reviewed for civilian, commercial service and military airports located near the site. There are no civilian, commercial service airports located within 2,500 feet of the proposed project. There are no military airports located within 15,000 feet of the site (**Attachment 1**). No additional review is required. Fact Sheet #D1: Siting HUD-Assisted Projects in Accident Potential Zones
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes ☐ No ☒	Based on the USFWS Coastal Barrier Resources System Map, the proposed project is not located in or immediately adjacent (within 150 feet) to a Coastal Barrier Resource System Unit or Otherwise Protected Area (**Attachment 3**). https://www.fws.gov/ecological-services/habitat-conservation/cbra/Maps/index.html
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes ☐ No ☒	Based on the FEMA Firmette 36111C0605E, the proposed project is located within a FEMA designated flood zone (100-year floodplain, Special Flood Hazard Area - AE Zone) and floodway (**Attachment 4**). The Floodplain Management Determination (Executive Order 11988) for the proposed project is included in **Attachment 4**. However, proof of National Flood Insurance Program (NFIP) insurance is not required as the

		proposed project does not involve insurable structures. https://msc.fema.gov/portal
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5		
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes ☐ No ☒	The proposed project site is located in Ulster County, which is listed as a current attainment county for particulate matter ($PM_{2.5}$ or PM_{10}), carbon monoxide, and ozone. Therefore, a conformity and screening analysis was not performed according to the requirements of 40 CFR 93, Subpart B (federal general conformity regulations). The proposed project involves: culvert replacement under James Street; retaining wall, manhole and catch basins installations; HDPE pipe replacements; flattening the southern bank slope and constructing a new toe at the base of the slope on the southern bank of Rondout Creek; armoring Rondout Creek's southern bank with riprap; removing a point bar along the northern bank of Rondout Creek; constructing guide rails along James Street; and constructing a 5-foot asphalt pedestrian walkway that will run parallel to the north side of James Street, extending approximately 330 feet west of Parkcrest Drive to the intersection of James Street and Route 32. Construction of the proposed project would not generate significant levels of vehicular traffic; therefore, no exceedances of the National Ambient Air Quality Standard (NAAQS) associated with carbon monoxide (CO) or particulate matter (PM) is anticipated occur. The proposed project will not result in siting any new source of air pollutants. The proposed project will not adversely affect the State Implementation Plan (SIP). Any air quality impacts would be short-term and localized during construction and, therefore, no significant adverse impacts to air quality are anticipated. However, it is recommended that construction activities are conducted in such a way as to ensure acceptable air quality during these activities (e.g., through minimization of volatile organic compounds and nitrogen oxides emissions, mindful operation of gas-powered construction equipment to avoid prolonged idling, or fugitive dust management

		during construction). It is also recommended that low-VOC materials and inventory and energy star efficient equipment are used, as practicable. *Idling Restriction*. In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time will also be restricted to five minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine. *Utilization of Newer Equipment*. U.S. Environmental Protection Agency's (EPA) Tier 1 through 4 standards for non-road engines regulates the emission of criteria pollutants from new engines, including PM, CO, NOx, and hydrocarbons (HC). All non-road construction equipment with a power rating of 50 horsepower (hp) or greater would meet at least the Tier 2 emissions standard to the extent practicable. *Best Available Tailpipe Reduction Technologies*. Non-road diesel engines with a power rating of 50 hp or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the Project) including but not limited to concrete mixing and pumping trucks would utilize the best available tailpipe (BAT) technology for reducing DPM emissions. Diesel particulate filters (DPFs) have been identified as being the tailpipe technology currently proven to have the highest reduction capability. Construction contracts would specify that all diesel non-road engines rated at 50 hp or greater would utilize DPFs, either installed by the original equipment manufacturer (OEM) or retrofitted. Retrofitted DPFs must be verified by EPA or the California Air Resources Board (CARB). Active DPFs or other technologies proven to achieve an equivalent reduction may also be used. EPA, Nonattainment Areas for Criteria Pollutants https://www.epa.gov/green-book Ozone specific: https://www3.epa.gov/airquality/greenbook/hbca.html#Ozone_8-hr.2008.New_York

		EPA, Recent Updates: Federal Register Notices Published or Effective After September 22, 2016 http://www.epa.gov/airquality/greenbook/adden.html
Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes ☐ No ☒	Not applicable. The proposed project is not located within the New York State Coastal Boundary (**Attachment 3**).
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes ☒ No ☐	**Records Review for the Subject Property** **Subject Property Description:** This environmental review was completed for the James Street Flood Control Project in the Rosendale, New York. The proposed action involves: culvert replacement under James Street; retaining wall, manhole and catch basins installations; HDPE pipe replacements; flattening the southern bank slope and constructing a new toe at the base of the slope on the southern bank of Rondout Creek; armoring Rondout Creek's southern bank with riprap; removing a point bar along the northern bank of Rondout Creek; constructing guide rails along James Street; and constructing a 5-foot asphalt pedestrian walkway that will run parallel to the north side of James Street, extending approximately 330 feet west of Parkcrest Drive to the intersection of James Street and Route 32. Any properties located along James Street within the proposed project area and the immediately surrounding areas to be impacted by construction will collectively be referred to as the Subject Property throughout the environmental review. **EPA Records:** The Subject Property is not listed on an EPA Superfund National Priorities or CERCLA list or equivalent State list. A review of the EPA Facilities Database provides no indication of past uses of the Subject Property that could have contaminated the Subject Property, or potentially adversely affect the occupants of the Subject Property. **County and New York State Department of Environmental Conservation (NYSDEC) Records:** The Subject Property is not located within 3,000 feet of a toxic or solid waste landfill site. According to the NYSDEC Environmental

		Remediation Database, the Subject Property is listed in the Spill Incidents Database. Two spills were reported on the Subject Property; both spills have been closed. A spill closure by the NYSDEC indicates that the records and data submitted for the spill demonstrated that the necessary cleanup and removal actions have been completed and no further remedial actions are necessary under these spill reports. As such, these two spills are not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Subject Property. The Subject Property is not listed in the NYSDEC Environmental Site Remediation or Bulk Storage Databases. **<u>Surrounding Properties</u>** **EPA Records:** There are 12 EPA-permitted hazardous waste, air emissions, and water discharger facilities located within 3,000 feet of the Subject Property. Of the 12 facilities, 11 are located across Rondout Creek or have no violations reported at the facility. Facilities with no permit violations are not considered a hazard because the facilities are in compliance with permit conditions that are enforced and meet standards that protect public health and the environment by preventing releases to the environment. As such, these 11 facilities are not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Subject Property. One facility with violations and in non-compliance with permit conditions is identified as the **Rosendale WWT Facility**. This facility was reviewed in detail in the HUD Environmental Standards Review included in **Attachment 5**. The facility is determined to NOT pose a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Subject Property because hazardous substances have not been released from the facility. **NYSDEC Records:** A review of the NYSDEC Spill Incidents, Bulk Storage, and Environmental Site Remediation Databases resulted in the identification of: 34 spills located on properties within 1,000 feet of the Subject Property, seven (7) bulk storage sites within 3,000 feet of the Subject Property, and two

		(2) Environmental Remediation Sites within 3,000 feet of the Subject Property. Of the 34 spills identified within 1,000 feet of the Subject Property, 31 have been closed by the NYSDEC. A spill closure by the NYSDEC indicates that the records and data submitted for the spill demonstrated that the necessary cleanup and removal actions have been completed and no further remedial actions are necessary under these spill reports. As such, these 31 spills are not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Subject Property. The three (3) remaining spills are associated with a single site located at **1083 Route 32**, currently known as **Azam & Sons (3-168874)**. These spills have not been closed by the NYSDEC and are discussed in detail in **Attachment 5**. While these open spills do constitute a potential hazardous condition, this site is not considered a hazard that could conflict with the intended utilization of the Subject Property. Seven Bulk Storage sites were identified within the NYSDEC Bulk Storage Database. These seven Bulk Storage sites including any associated spills are reviewed in detail in the HUD Environmental Standards Review in **Attachment 5**. The registered tanks are permitted and regulated by NYSDEC which requires leak detection, containment and monitoring. Any site that has registered tanks and no reported or closed spills is not considered a hazard to the Subject Property. Therefore, these Bulk Storage sites are not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Subject Property. Two Environmental Remediation Sites were identified within 3,000 feet of the Subject Property and are briefly discussed below: **1083 Route 32 (356031)** is a State Superfund site located approximately 1,160 feet south of the Subject Property. Primary contaminants of concern at the site include volatile organic compounds. This contamination has been attributed to the nearby **Rosendale Cleaners site (356050)**. The Rosendale Cleaners site is also a

		State Superfund site located adjacent to the 1083 Route 32 site, approximately 1,100 feet south of the Subject Property. A Remedial Investigation was completed at the sites, which included investigation on the spill at the gas station located at 1083 Route 32. These sites are reviewed in detail in the HUD Environmental Standards Review in **Attachment 5**. However, while there is potential for soil vapor intrusion in down-gradient buildings and enclosed structures, the proposed work to be performed does not involve the construction of buildings or structures. As such, while the contamination at this site does constitute a hazardous condition, this site is not considered a hazard that could conflict with the intended utilization of the Subject Property. **In Summary:** Based on a review of available environmental records for the Subject Property and surrounding area, two (2) Superfund sites and three (3) open spills with known petroleum contamination located directly up-gradient of the Subject Property were identified as potential sources of contamination. As such, the Subject Property is likely to contain hazardous materials and contamination and it is recommended any soil be tested for petroleum and chlorinated VOCs prior to disposal or reuse on site. The proposed project does not involve the construction of buildings or enclosed structures that would contain occupants. Rather, the proposed project involves the construction of stormwater management improvements. Therefore, the Subject Property is unlikely to contain toxic chemicals and gases, or radioactive substances which would constitute a hazard that could conflict with the intended utilization of the Subject Property. A Phase I Environmental Site Assessment (ESA) or Phase II Investigation is not warranted. Maps, NYSDEC reports, and EPA reports are provided in **Attachment 5**.
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes ☒ No ☐	A formal request was submitted to the NYSDEC Natural Heritage Program (NHP) for records of threatened or endangered species in the vicinity of the proposed project site. On May 24, 2017, a response was received from the NHP indicating their database contained records of rare or state-listed animals or plants, or significant natural communities within the vicinity of the proposed

		project site. These records indicated the endangered Indiana Bat and threatened Northern Long-eared Bat have been documented within one mile from the proposed project site. Also, the NHP response indicated that a high-quality occurrence of the rare community type of Limestone Woodland and uncommon community type of Calcareous Talus Slope Woodland are present in the greater Rosendale woods, located west of the proposed project site. However, Limestone Woodland and Calcareous Talus Slope Woodland are not present at the proposed project site. In addition, NHP indicated that the endangered Cut-leaved Evening-primrose may be present in the vicinity of the proposed project site, however, that is based upon documentation from 1979 or earlier and there is uncertainty regarding its continued presence in the area. According to the NHP Website, the Cut-leaved Evening-primrose is found primarily in New York City and Long Island, but may have found its way north to Ulster County within the Hudson River Valley. However, the habitat of this species includes dry, sandy, successional old fields, sandy embankments, and disturbed areas of maritime grasslands. The project locations do not include these types of habitats. Also, the project locations are primarily located within previously disturbed areas. The point bar removal is not seen as an area of concern considering it is often inundated with water, therefore, would be habitat for aquatic plants and the Cut-leaved Evening-primrose is not defined as aquatic. Furthermore, conservation measures include the need of disturbance to reduce competition from woody plants. However, it is recommended that this disturbance be conducted when the Cut-leaved Evening-primrose is dormant (not flowering or fruiting), which is from late-September/early-October to mid-May. Therefore, it is not anticipated that the proposed project activities will have an effect on the Cut-leaved Evening-primrose and no further review is necessary. NHP documentation is included in **Attachment 6**. NHP Website: http://www.acris.nynhp.org/guide.php?id=9207&part=3 Note: The Rondout Creek is classified under Article 15 as "B." In perennial warm-water

		fisheries (Class "A, B or C"), in-water work is prohibited beginning March 1st and ending July 15th. The USFWS lists the threatened Northern Long-eared Bat (NLEB) (*Myotis septentrionalis*), the endangered Indiana Bat *(Myotis sodalis)*, the threatened Bog Turtle *(Clemmys muhlenbergii)*, and migratory birds of concern as species with the potential to occur within the vicinity of the proposed project site. The IPaC Resource List indicates that there are 19 species of migratory birds protected by the MBTA and BGEPA that could potentially be affected by the proposed project, including the Bald Eagle (*Haliaeetus leucocephalus*) (**Attachment 6**). However, there are no known breeding Bald Eagles within the vicinity of the proposed project site; therefore, no adverse impacts to breeding Bald Eagles are expected to occur as a result of the proposed project. There is no habitat for the Bog Turtle in the proposed project area and migratory birds are expected to temporarily leave the area during construction due to noise and disturbance. Therefore, the proposed project is likely to have no effect on the Bog Turtle and migratory birds of concern. GOSR performed a Phase I Summer Habitat Assessment in April 2017 to evaluate the trees that need to be removed for project construction (**Attachment 6**). During the Summer Habitat field inspection, it was confirmed that the trees proposed to be removed are part of a small strip of forested habitat located immediately adjacent to residential development and residential yard habitat. Any bats living in the vicinity of the proposed project area would still be able to breed, feed, and find shelter. Similar habitat (forested creek corridor surrounded by residential development) is located immediately west of the proposed project area. Since 1) tree clearing will be conducted between November 1 and March 31 when bats are hibernating, 2) the proposed project will not impact a large area of suitable habitat relative to the surrounding landscape, and 3) the proposed project will not impact high-quality habitat, a "may affect, not likely to adversely affect" determination was made for the Indiana Bat and Northern Long-eared Bat and submitted to USFWS (**Attachment 6**).

		The USFWS concurred with this determination on June 20, 2017. The USFWS stated that "[g]iven the project location, small amount of tree removal (0.86 acres), and conservation measure to **conduct all tree removal between November 1 and March 31**, we concur with your determination." The USFWS had no further comment on GOSR's no effect determination for the Bog Turtle. The response stated that "No further coordination or consultation under ESA is required with the Service at this time. Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered…Until the proposed project is complete, we recommend that you check our website every 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project is current." The USFWS also recommended that if Bald Eagles are found within the proposed project area, then GOSR and the Town of Rosendale should follow the Bald Eagle Management Guidelines on the USFWS website (**Attachment 6**). GOSR will promptly report any departures from the described proposed project activities that would change the effect determination to the New York Field Office. GOSR will provide the New York Field Office with the results of any surveys conducted for the IB and NLEB. Involved parties will promptly notify the New York Field Office upon finding a dead, injured, or sick IB or NLEB.
Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes ☐ No ☒	Not applicable. This criterion is applicable to HUD-assisted projects that involve new residential construction, conversion of non-residential buildings to residential use, rehabilitation of residential properties that increase the number of units, or restoration of abandoned properties to habitable condition. The proposed project does not include these activities. Further, the proposed project does not involve the introduction of bulk storage of hazardous materials.
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections	Yes ☐ No ☒	The proposed project, consisting of stormwater management improvements and additional work involving removal of a point bar along the

1504(b) and 1541; 7 CFR Part 658		northern bank of Rondout Creek, anticipates less than one acre of ground disturbance in the approximately 2.2 acre area shown on the USDA NRCS Land Classification Map in **Attachment 7**. This 2.2-acre area situated along James Street and along Rondout Creek is identified as approximately 60.5% or 1.3 acres in "not prime farmland," 33.8% or .8 acre in "prime farmland," and 3.7% or 0.1 acre in "farmland of statewide importance" in **Attachment 7** and excludes the point bar within the creek. The proposed project is not located in an Agricultural District and does not involve the conversion of farmland to non-agricultural use. Therefore, the proposed project would not violate the Farmland Protection Policy Act. Thus, no further review is required. http://www.agriculture.ny.gov/ap/agservices/agricultural-districts.html
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes ☒ No ☐	The proposed project is located within a FEMA designated flood zone (100-year floodplain, Special Flood Hazard Area - AE Zone) and floodway. Therefore, a formal floodplain review process is required for compliance with Executive Order 11988 Floodplain Management. This 8-step decision making process is detailed in **Attachment 4**. https://msc.fema.gov/portal
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800; Tribal notification for new ground disturbance.	Yes ☐ No ☒	On April 15, 2016, the New York State Historic Preservation Office (SHPO) reviewed the proposed project and determined that there will be No Historic Properties Affected by the proposed undertaking. An updated consultation was submitted to SHPO and a No Historic Properties Affected determination was issued by SHPO on March 3, 2017. The SHPO response documentation is included in **Attachment 8**. On April 1, 2016, GOSR sent consultations letters to the Tribal Historic Preservation Office (THPO) of the following Tribes, Communities and Nations: Delaware Nation Delaware Tribe of Indians Mohawk Nation St. Regis Mohawk Tribe

		Stockbridge-Munsee Community Band of Mohicans The THPO of the Delaware Tribe of Indians, Delaware Nation, St. Regis Mohawk Tribe, and Stockbridge-Munsee Community Band of Mohicans responded that they have no objection to the proposed project activities. No response was received from the Mohawk Nation to the 2016 Consultation Letter. An updated Consultation Letter was sent on February 24, 2017 to the THPO of the aforementioned Tribes, Communities and Nations who had responded. The Delaware Tribe of Indians and Stockbridge-Munsee Community Band of Mohicans responded that they have no objection to the proposed project activities in the updated 2017 Consultation Letter. No response was received from the Delaware Nation and St. Regis Mohawk Tribe to the updated 2017 Consultation Letter. The THPO consultations and responses have been included in **Attachment 8**. Any subsequent responses received for the THPO consultations will be incorporated into the requirements of this environmental review and appended to **Attachment 8**. In the event any unanticipated discoveries of human remains and/or cultural resources including, but not limited to, funerary objects, sacred objects, and objects of cultural patrimony are made during execution of the proposed project, work shall be halted immediately and the SHPO and the THPOs of the Delaware Tribe of Indians, Delaware Nation, Mohawk Nation, St. Regis Mohawk Tribe, and Stockbridge-Munsee Community Band of Mohicans shall be consulted before work resumes.
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes ☐ No ☒	The proposed project use is not a noise-sensitive use. The proposed project activities are not expected to generate excessive noise during the short-term construction work and will adhere to local noise control standards. The proposed project activities will be completed in accordance with all applicable federal, state and local laws, regulations, and permit requirements and

		conditions. Therefore, the proposed project is not expected to generate any significant adverse noise impacts.
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes ☐ No ☒	Not applicable. The proposed project site is not located within the surficial bounds of a designated sole source aquifer. See the EPA designated sole source aquifers map in New York State included in **Attachment 9**. http://www.dec.ny.gov/docs/water_pdf/ssa.pdf
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes ☒ No ☐	The proposed project site is located adjacent to, and partially within, a federally designated wetland as shown in **Attachment 3**. An 8-step review of the proposed project pursuant to 24 CFR Part 55 was undertaken. The Wetlands Protection (EO 11990) Determination documents the reasoning for locating the proposed project in wetland as shown in **Attachment 4**. The proposed project area is adjacent to and within the Rondout Creek. The require following permits are required: • USACE Section 404 Permit • NYSDEC Article 15 - Protection of Waters • NYSDEC Article 15 - Stream Disturbance • NYSDEC Article 15 - Excavation and Fill in Navigable Waters • NYSDEC Article 16, 6 NYCRR Part 501 - Permit for Flood Control Land Use • CWA Section 401 Water Quality Certification Project activities will be completed in accordance with all applicable federal, state and local laws, regulations, and permit requirements and conditions. Permits required for this project shall be obtained by the Town before commencing work and appended to the environmental review record when received from the permitting agencies. NYSDEC Environmental Resource Mapper http://www.dec.ny.gov/gis/erm/ USFWS National Wetland Inventory - V2

		https://www.fws.gov/wetlands/Data/Mapper.html
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes ☐ No ☒	The proposed project is not located near any wild, scenic or recreational rivers, as designated by the U.S. Department of the Interior and NYSDEC or included in the National Wild and Scenic Rivers System (**Attachment 3**). Thus, there is compliance with this section. http://www.rivers.gov/new-york.php http://www.dec.ny.gov/permits/32739.html https://www.nps.gov/ncrc/programs/rtca/nri/states/ny.html
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes ☐ No ☒	The proposed project site is not located in an area defined by the NYSDEC as a potential environmental justice area, see map included in **Attachment 10**. Therefore, the proposed project does not contribute to, or promote, environmental injustice. http://www.dec.ny.gov/public/899.html

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.
(1) Minor beneficial impact
(2) No impact anticipated
(3) Minor Adverse Impact – May require mitigation
(4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	1	The Town of Rosendale Official Zoning Map and Ulster County Zoning Map, as shown in **Attachment 7**, depicts the properties surrounding the proposed project area to be primarily residential with some nearby areas of designated commercial use. The proposed project involves: culvert replacement under James Street; retaining wall, manhole and catch basins installations; HDPE pipe replacements; flattening the southern bank slope and constructing a new toe at the base of the slope on the southern bank of Rondout Creek; armoring Rondout Creek's southern bank with riprap; removing a point bar along the northern bank of Rondout Creek; constructing guide rails along James Street; and constructing a 5-foot asphalt pedestrian walkway. The proposed project is situated primarily within the existing right-of-way on the roadway, and along and in Rondout Creek (**Attachment 1**). According to the NYRCR Plan for Ulster Communities, *Rosendale Flood Control Project Improvement* (March 2014), the proposed project would help prevent future roadway compromise or failure. The proposed work will improve flood control measures and protect community residents in the event of high-water events, while allowing for easier access to the business district from the residential area. The NYRCR Plan also stated that the proposed project "would support the Mid-Hudson Regional Economic Development Council's goal of promoting infrastructure investments in established city or village centers." The James Street Flood Control Project is a stormwater management improvement project. The proposed project will not change the current use or characteristics of the local area. Additionally, it will not alter residential or commercial density nor adversely affect the

		infrastructure in these neighborhoods. The proposed project would enhance public access throughout the proposed project area by creating more reliable and resilient travel routes and a walkway. The proposed project is intended to provide flood and stormwater controls and increase the economic and environmental resiliency of the Rosendale community to future climate-related events. Furthermore, the NYRCR Plan on the proposed project stated "[m]itigated upstream and downstream flooding protects roadways from inundation protecting public and private property." Town of Rosendale, *Building Zone Ordinance* http://ecode360.com/6614028 NYRCR Plan for Ulster Communities, *Rosendale Flood Control Project Improvement*, March 2014. (pg 176) https://stormrecovery.ny.gov/sites/default/files/crp/community/documents/ulstercounty_nyrcr_plan.pdf *Ulster County Comprehensive Plan* http://ulstercountyny.gov/planning/land-use *Ulster County Open Space Plan* http://ulstercountyny.gov/planning/open-space-plan
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	2	Per the USGS Topographic Map, the proposed project site is located in an area of moderate to light slope (**Attachment 1**). The proposed project activities would not significantly alter the overall slope of the site, although the shoreline of Rondout Creek will be stabilized and the slope flattened to reduce future erosion on the southern bank of Rondout Creek (**Attachment 2**). USDA NRCS maps provide information on soils types and properties that influence development of building sites. According to the USDA NRCS soils map data for "Local Roads and Streets," "Shallow Soil Excavation," and Soil classification, the proposed project site contains Hamlin silt loam (Ha), and 3 to 8 percent and 8 to 15 percent sloped Riverhead fine sandy loam (RvB and RvC) (**Attachment 7**). The RvB soils, reported at the proposed slope flattening and streambank stabilization, was rated as somewhat limited on the "Local Roads and Streets" and "Shallow Excavations" soils map. According to the NRCS, "somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. Therefore, the proposed project conforms to the soil ratings assigned by the USDA. As such, the soils at the proposed project site will not limit the construction activities and designs. The proposed project includes slope flattening, streambank stabilization, and upgrading existing stormwater infrastructure with increased drainage for these areas. Also, removing a point bar along the northern bank of Rondout Creek. No potential undesirable impacts are anticipated and the area should be improved in terms

		of its landscape and stability upon completion of the proposed project. The proposed project will be implemented in accordance with all applicable federal, state and local laws, regulations, and permit requirements and conditions. Thus, no potential impacts from the proposed project are anticipated.
Hazards and Nuisances including Site Safety and Noise	2	Based on a review of available environmental records for the Subject Property and surrounding area, two (2) Superfund sites and three (3) open spills with known petroleum contamination located directly up-gradient of the Subject Property were identified as potential sources of contamination. As such, the Subject Property is likely to contain hazardous materials and contamination and it is recommended any soil be tested for petroleum and chlorinated VOCs prior to disposal or reuse on site. The proposed project does not involve the construction of buildings or enclosed structures that would contain occupants. Rather, the proposed project involves the construction of stormwater management improvements. Therefore, the Subject Property is unlikely to contain toxic chemicals and gases, or radioactive substances which would constitute a hazard that could conflict with the intended utilization of the Subject Property. A Phase I Environmental Site Assessment (ESA) or Phase II Investigation is not warranted. Maps, NYSDEC reports, and EPA reports are provided in **Attachment 5**. The proposed project use is not a noise-sensitive use. The proposed activities are not expected to generate excessive noise during the short-term construction work and will adhere to local noise control standards. The proposed project will be completed in accordance with all applicable federal, state and local laws, regulations, and permit requirements and conditions. Therefore, the proposed project is not expected to generate any significant adverse noise impacts.
Energy Consumption	2	The proposed project would not cause an increase in long-term energy consumption.

Environmental Assessment Factor	Impact Code	Impact Evaluation
SOCIOECONOMIC		
Employment and Income Patterns	2	The proposed project will not adversely affect employment opportunities or income patterns, is not likely to impact traffic and potential customer access to residences and businesses in the area, either during construction or operation. Rather, the proposed project would decrease the vulnerability of the surrounding community through the proposed stormwater management improvements. One main purpose of the proposed

		project is to ensure that a critical connector road will be accessible during future storm events. James Street serves as a critical alternate vehicular and pedestrian route, providing an ingress/ egress thoroughfare that connects NY Route 32/213 and an emergency route for Rosendale's Downtown District. Furthermore, the NYRCR Plan on the proposed project stated "[m]itigated upstream and downstream flooding protects roadways from inundation protecting public and private property." Thus, the proposed project will have beneficial effects on the local business community by improving transportation accessibility, safeguarding infrastructure, and enhancing emergency response operations during and after severe storm events. Ulster County, *NY Rising Community Reconstruction Program Plan*, March 2014 https://stormrecovery.ny.gov/sites/default/files/crp/community/documents/ulstercounty_nyrcr_plan.pdf
Demographic Character Changes, Displacement	1	The proposed project will not cause any change in the demographic character of the area. The proposed project will not involve residential or commercial development activities. Also, the proposed project will not present the potential to cause the displacement of individuals or families, destroy jobs, local businesses or public community facilities, or disproportionately affect particular populations. Instead, this project entails mitigation measures which will protect residential homes and prevent possible displacement of residents that might occur if the erosion along this creek were allowed to continue unmitigated.

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	1	The proposed project will not introduce any new populations that would increase the student population of the area. As such, the proposed project would not have an adverse impact on educational or cultural facilities. Rather, the NYRCR Plan on the proposed project stated "[m]itigated upstream and downstream flooding protects roadways from inundation protecting public and private property." Thus, the proposed project will have beneficial effects for public facilities by improving transportation accessibility, safeguarding infrastructure, and enhancing emergency response operations during and after severe storm events.
Commercial Facilities	1	The proposed project will not introduce any new commercial development that would require additional retail services or other commercial facilities. Rather, the NYRCR Plan on the proposed project stated "[m]itigated upstream and downstream flooding

		protects roadways from inundation protecting public and private property." Also, the NYRCR Program Flood Control Along James Street Project Pre-application Report (December 2014), states "[t]he residents and businesses within the target area remain highly vulnerable to future flooding." Thus, the proposed project will have beneficial effects on the local business community by improving transportation accessibility, safeguarding infrastructure, and enhancing emergency response operations during and after severe storm events.
Health Care and Social Services	1	The proposed project will not introduce any new development that would require the availability of additional routine or emergency health services. Rather, the proposed project is likely to help provide better access for emergency health services to the local community during and after future storm events. Hurricane Irene and Tropical Storm Lee overloaded Rondout Creek causing severe flash flooding and the lower portion of James Street to wash out and collapse which caused a substantial risk for vehicles and residences located on James Street and in the surrounding area. During these storm events, residents were unable to access necessary health and social service facilities. One main purpose of the proposed project is to ensure that a critical connector road will be accessible during and after future storm events. According to the NYRCR Plan for Ulster Communities on the proposed project, "[t]he entire community will benefit from flood control measures and the protection of Town roads from inundation and collapse during acute storm events by providing continued access for EMS providers and to health and social service facilities."
Solid Waste Disposal / Recycling	2	The proposed project will not introduce new development that would generate solid wastes on an ongoing basis. All construction wastes will be appropriately disposed of according to the type of waste generated and construction waste management practices in an appropriate, legally compliant receiving facility.
Waste Water / Sanitary Sewers	2	The proposed project will not introduce any new development that would generate waste water. Mitigative measures such as Best Management Practices (BMPs) will be utilized during construction to prevent soil and/ or debris from being washed off-site. No additional waste water will be generated during construction.
Water Supply	2	The proposed project will not increase demand for water. As such, the proposed project will not have an impact on local water supplies.

Public Safety - Police, Fire and Emergency Medical	1	The proposed project will not generate new demand for police, fire, or emergency services. Therefore, there will be no adverse effect on the access and travel time for emergency services. Rather, the proposed project will improve access for emergency services to the local community during and after future storm events. During Hurricane Irene and Tropical Storm Lee, the lower portion of James Street collapsed and impeded emergency responders and recovery efforts. One main purpose of the proposed project is to ensure that this critical connector road will be accessible during and after future storm events. According to the NYRCR Plan for Ulster Communities on the proposed project, "[t]he entire community will benefit from flood control measures and the protection of Town roads from inundation and collapse during acute storm events by providing continued access for EMS providers and to health and social service facilities."
Parks, Open Space and Recreation	2	The proposed project will not introduce new development that would generate demand for open space resources or impede open space access. Instead, the proposed project aims to reduce flooding in the area, safeguard infrastructure, and public and private properties, and reduce the vulnerability of assets by increasing the resiliency of the community during future flooding events. As such, the proposed project would not have an adverse effect on existing open space resources, or impede open space access.
Transportation and Accessibility	1	Besides limited trips generated by construction vehicles during a short window of construction, the proposed project will not introduce new development that generates continuing demand for transportation access or transportation services. One main purpose of the proposed project is to ensure that a critical connector road will be accessible during and after future storm events. James Street serves as a critical alternate vehicular and pedestrian route, providing an ingress/ egress thoroughfare that connects NY Route 32/213 and an emergency route for Rosendale's Downtown District. During Hurricane Irene and Tropical Storm Lee, most of the area residents were stranded until the floodwaters receded; additionally, stormwater washed out and collapsed the lower portion of James Street. The proposed stormwater management improvements will protect the residents' public health and safety by improving transportation accessibility, safeguarding infrastructure, and enhancing emergency response operations during and after severe storm events. According to the NYRCR Plan for Ulster Communities on the proposed project, "[t]he risk reduction benefits include a substantial decrease in in safety risks for vehicles during storm events by minimizing road inundation. Implementation of the improvement measures would reduce risk of isolation to adjacent residences due to road inundation, by ensuring that key

		intersections remain open providing uninterrupted access during and after storm events." Furthermore, the NYRCR Plan stated "[i]mplementation of this project would result in long-term sustainable benefits by reducing the risk of flooding of the roadways in the target area for the foreseeable future" and "[m]itigated upstream and downstream flooding protects roadways from inundation protecting public and private property."

Environmental Assessment Factor	Impact Code	Impact Evaluation
NATURAL FEATURES		
Unique Natural Features, Water Resources	2	According to NYSDEC, there are no unique geological features located on or adjacent to the proposed project. According to NYSDEC's Environmental Resource Map, the proposed project is not located in or adjacent to "Significant Natural Communities." This data layer identifies locations within ½ mile of an identified significant natural community (**Attachment 3**). NYSDEC *Unique Geologic Features* http://www.dec.ny.gov/permits/53826.html Based on the USFWS National Wetlands Inventory (NWI) map and NYSDEC Environmental Resource Mapper, there is a federally designated riverine (R5UBH) and the NYSDEC classifies Rondout Creek as a Class B waterway, while the tributary running under James Street is classified as a Class C waterway (**Attachment 3**). Therefore, a formal wetland management review process is required for compliance with Executive Order 11990 Protection of Wetlands, as documented in **Attachment 4**. NYSDEC *Environmental Resource Mapper* http://www.dec.ny.gov/gis/erm/ USFWS *National Wetland Inventory - V2* https://www.fws.gov/wetlands/Data/Mapper.html The proposed project will not interfere with the restoration of a vital ecosystem and preservation of its natural heritage. The proposed project will be implemented in accordance with all applicable federal, state and local laws, regulations, and permit requirements and conditions in order to ensure the preservation of water quality. Thus, no potential impacts from the proposed project are anticipated. The proposed project will not introduce new demand for groundwater or surface water, nor would the proposed project introduce septic flows that may affect groundwater.

		Additionally, the proposed project will not significantly increase impervious surfaces. Rather, the proposed project involves: culvert replacement under James Street; retaining wall, manhole and catch basins installations; HDPE pipe replacements; flattening the southern bank slope and constructing a new toe at the base of the slope on the southern bank of Rondout Creek; armoring Rondout Creek's southern bank with riprap; removing a point bar along the northern bank of Rondout Creek; constructing guide rails along James Street; and constructing a 5-foot asphalt pedestrian walkway. According to the NYRCR Plan for Ulster Communities on the proposed project, "[i]mproving the flow capacity of a waterway minimizes rates of erosion, decreases surface water elevations, undercut/eroded banks, and an imbalance in their erosion/deposition budget." Therefore, unique natural features or water resources are not expected to be adversely affected by this proposed project.
Vegetation, Wildlife	2	The proposed project involves: culvert replacement under James Street; retaining wall, manhole and catch basins installations; HDPE pipe replacements; flattening the southern bank slope and constructing a new toe at the base of the slope on the southern bank of Rondout Creek; armoring Rondout Creek's southern bank with riprap; removing a point bar along the northern bank of Rondout Creek; constructing guide rails along James Street; and constructing a 5-foot asphalt pedestrian walkway. Disturbed areas will be restored to pre-existing and/ or improved conditions after construction is complete. For a detailed vegetation and wildlife analysis, see the Endangered Species (Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402) section above.
Other Factors	1	This project will ensure that emergency responder services and residents can carry out a post-disaster survival and recovery plan by improving access to the area during and after a major storm event. Therefore, the proposed project activities are needed to greatly reduce flood risk by increasing the stormwater drainage capabilities of the existing stormwater sewer system, improving the flow capacity of the waterway, and armoring portions of Rondout Creek's southern bank. The proposed project is intended to sustain and build resiliency of this area during future flooding events while not detracting from visual quality. Additionally, this will further protect the residents' public health and safety, safeguard infrastructure, and enhance emergency response operations during and after severe storm events.

Attachments:

- **Attachment 1:** Project Location Maps
    - Aerial Photograph
    - Street Map
    - Topographic Map
    - Airport Hazards Map
    - Airport Site Documentation
- **Attachment 2:** Project Site Plans and Hydrology and Hydraulic Analysis
    - Flood Control Along James Street 30% Site Plans (March 2016)
    - USACE Jurisdiction Review – Point Bar Removal Plan (November 2016)
    - Hydrology and Hydraulic Analysis (December 2015)
- **Attachment 3:** Wetlands, Coastal and River Maps
    - USFWS Coastal Barrier Resources System Mapper
    - NYSDEC Coastal Boundary Map
    - NYSDEC Environmental Resource Map
    - USFWS NWI Map
    - NYSDEC Tidal Wetlands Map
    - NYSDEC Wild and Scenic Rivers Map
- **Attachment 4:**
    - Floodplain Management (EO 11988) and Protection of Wetlands (EO 11990) Determination
        - Appendix I
            - NYSDEC Environmental Resources Map
            - USFWS NWI Map
        - Appendix II
            - FEMA Firmette
        - Appendix 1
            - Notice of Early Public Review
        - Appendix 2
            - Notice of Early Public Review Affidavit
        - Appendix 3
            - Notice of Final Public Review
- **Attachment 5:** HUD Environmental Standards Review
- **Attachment 6:** Section 7 Documents
    - NHP Documentation
    - USFWS Acknowledgment and Determination Letter
    - Phase I Bat Summer Habitat Assessment (April 2017)
- **Attachment 7:** Agricultural, NRCS and Zoning Maps
    - New York State Agricultural Districts Map
    - USDA NRCS Soil Resource Map
    - USDA NRCS Building Site Development
    - USDA NRCS Land Classification Map
    - *Zoning Maps*
        - Town of Rosendale, NY
        - Ulster County, NY
- **Attachment 8:** SHPO and THPO Documentation
    - SHPO Responses (March 3, 2017 and April 15, 2016)
    - THPO Consultation Letter Responses
        - Delaware Tribe
        - St. Regis Mohawk Tribe
        - Stockbridge-Munsee Community Band of Mohicans
    - THPO Consultation Update Letter Responses

        - Delaware Tribe (Request and Responses)
        - Stockbridge-Munsee Community Band of Mohicans
    - THPO Consultation & Update letters (as applicable)
        - Delaware Nation
        - Delaware Tribe of Indians
        - Mohawk Nation
        - St. Regis Mohawk Tribe
        - Stockbridge-Munsee Community Band of Mohicans
- **Attachment 9:** EPA Sole Source Aquifer Maps
- **Attachment 10:** Potential Environmental Justice Areas Map
- **Attachment 11:** Permit Documentation (To be added upon receipt)
- **Attachment 12:** SEQR Documentation

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]**:**

- Federal Aviation Administration (FAA)
- Federal Emergency Management Agency (FEMA)
- United States Environmental Protection Agency (USEPA)
- United States Fish and Wildlife Service (USFWS)
- U.S. Department of Agriculture (USDA)
- Natural Resources Conservation Service (NRCS)
- United States Department of Interior (USDOI)
- National Parks Service (NPS)
- United States Geological Survey (USGS)
- New York State Department of Environmental Conservation (NYSDEC)
- Natural Heritage Program (NHP)
    - NHP Website: http://www.acris.nynhp.org/guide.php?id=9207&part=3
- New York State Department of State (NYSDOS)
- New York State Historic Preservation Office (SHPO)
- Tribal Historic Preservation Office (THPO)
    - Delaware Nation
    - Delaware Tribe of Indians
    - Mohawk Nation
    - St. Regis Mohawk Tribe
    - Stockbridge-Munsee Community Band of Mohicans
- *NY Rising Community Reconstruction (NYRCR) Plan for Ulster Communities,* March 2014 https://stormrecovery.ny.gov/sites/default/files/crp/community/documents/ulstercounty_nyrcr_plan.pdf
- NYRCR Program Flood Control Along James Street Project Pre-application Report, December 2014
- Ulster County, *All Hazards Mitigation Plan* (Approved February 2009) http://ulstercountyny.gov/emergency-services/hazard-mitigation
- Broome County, *Comprehensive Plan* http://ulstercountyny.gov/planning/land-use
- Broome County, *Comprehensive Plan – Housing*
- http://ulstercountyny.gov/planning/housing/housing-strategies-plan
- Town of Rosendale, *Comprehensive Plan* https://ulstercountyny.gov/sites/default/files/documents/rosendale-comp_plan.pdf
- Town of Rosendale, *Zoning,* February 8, 1995 http://ecode360.com/6614028

- *Flood Control Along James Street 30% Design Site Plans*, developed by Brinnier And Larios, (March 2016)

List of Permits Obtained or Required:

- USACE Section 404 Permit
- NYSDEC Article 15 - Protection of Waters
- NYSDEC Article 15 - Stream Disturbance
- NYSDEC Article 15 - Excavation and Fill in Navigable Waters
- NYSDEC Article 16, 6 NYCRR Part 501 - Permit for Flood Control Land Use
- CWA Section 401 Water Quality Certification

Public Outreach [24 CFR 50.23 & 58.43]:

- June 19, 2017 – Publication of Notice of Early Public Review of a Proposed Activity in 100-year Floodplain and Wetland.
- October 20, 2017 – Publication of a combined Final Notice and Public Review of a Proposed Activity in a 100-year Floodplain and Wetland, Notice of Finding of No Significant Impact, and Notice of Intent to Request Release of Funds.
- January 4, 2012 – Rosendale Town Board Meeting
- January 4, 2017 – Rosendale Town Board Meeting

Cumulative Impact Analysis [24 CFR 58.32]:

This proposed project was evaluated according to detailed site plans which encompassed a review of proposed actions. There are no other known future projects in the area of the James Street Flood Control Project that would create environmental or social impacts in the area. The proposed project fits within the surrounding area as it repurposes existing infrastructure and implements new infrastructure to reduce flood impacts on designated flood control land.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]

The primary alternative for the proposed project is the "no action" alternative. This alternative means that there would be no work undertaken to alleviate the flood problem or mitigate the future flooding. This would leave the surrounding community vulnerable to future flood damage. The "no action" alternative would provide no protection to the residential neighborhoods and greater community from future flood events, as mitigation would be compromised due to lack of financial support. Thus, the "no action" alternative is not feasible in relation to the desired objective of creating area resiliency to future flooding events.

Summary of Findings and Conclusions:

The preceding Statutory Checklist and Environmental Assessment Checklist, and the discussion below, document that the proposed work will comply with regulations in 24 CFR part 58 and that there are no direct or cumulative adverse environmental impacts anticipated as a result of the proposed action.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority, or Factor	Mitigation Measure

Stream Protection	The proposed project area is adjacent to and within the Rondout Creek. The following permits are required: • USACE Section 404 Permit • NYSDEC Article 15 - Protection of Waters • NYSDEC Article 15 - Stream Disturbance • NYSDEC Article 15 - Excavation and Fill in Navigable Waters • NYSDEC Article 16, 6 NYCRR Part 501 - Permit for Flood Control Land Use • CWA Section 401 Water Quality Certification Project activities will be completed in accordance with all applicable federal, state and local laws, regulations, and permit requirements and conditions. Permits required for this project shall be obtained by the Town before commencing work and appended to the environmental review record when received from the permitting agencies.
Species Protection	The Rondout Creek is classified under Article 15 as "B." In perennial warm-water fisheries (Class "A, B or C"), in-water work is prohibited beginning March 1st and ending July 15th.

Determination:

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Preparer Signature: _____ Date: October 20, 2017

Name/Title/Organization: _____

_____

Certifying Officer Signature: _____ Date: October 20, 2017

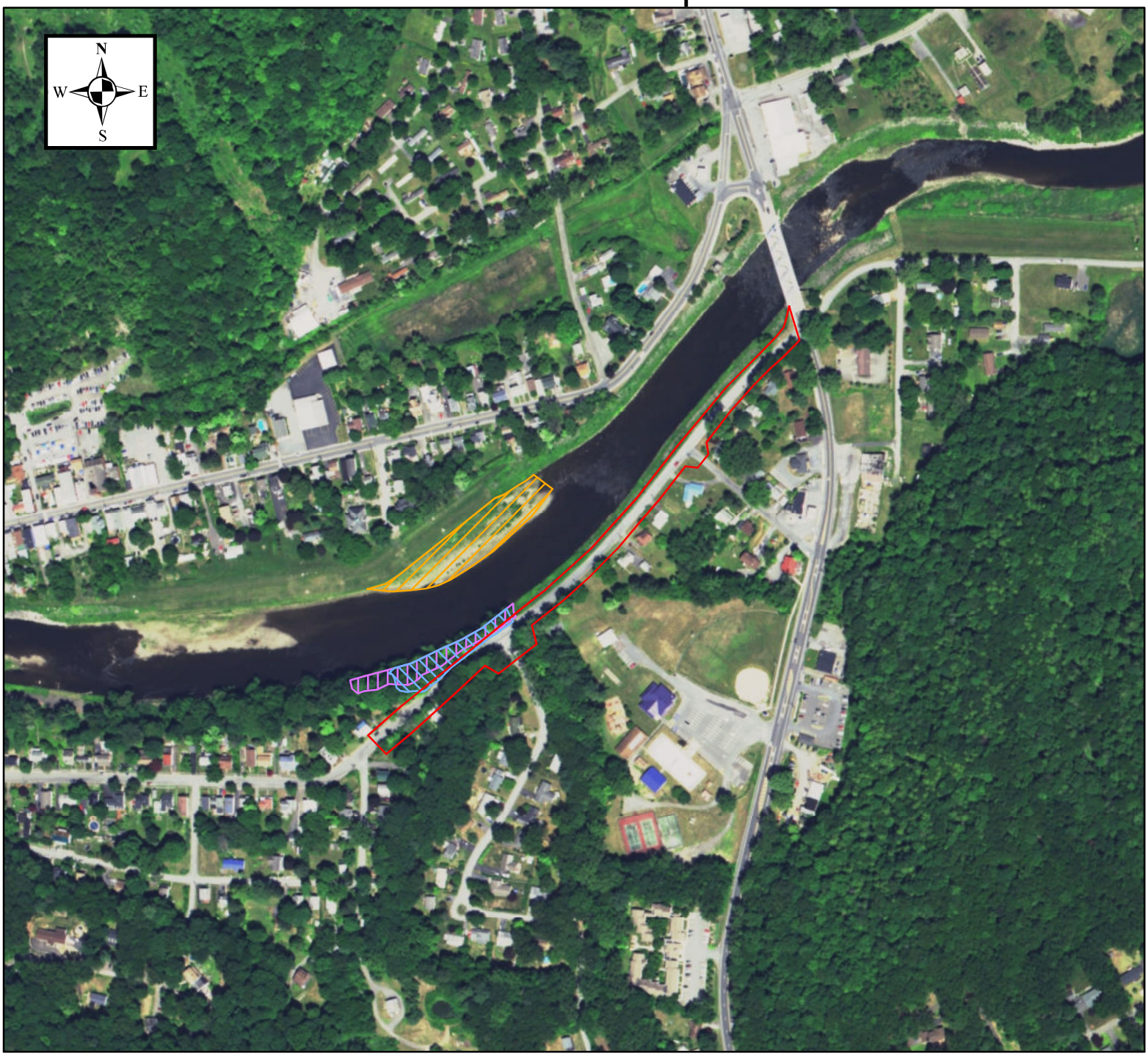
Name/Title: _____

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

Attachment 1

Aerial Photograph
Street Map
Topographic Map
Airport Hazards Map
Airport Site Documentation

Location Map



TECTONIC
Practical Solutions, Exceptional Service

0 250 500 1,000 Feet

1:5,000

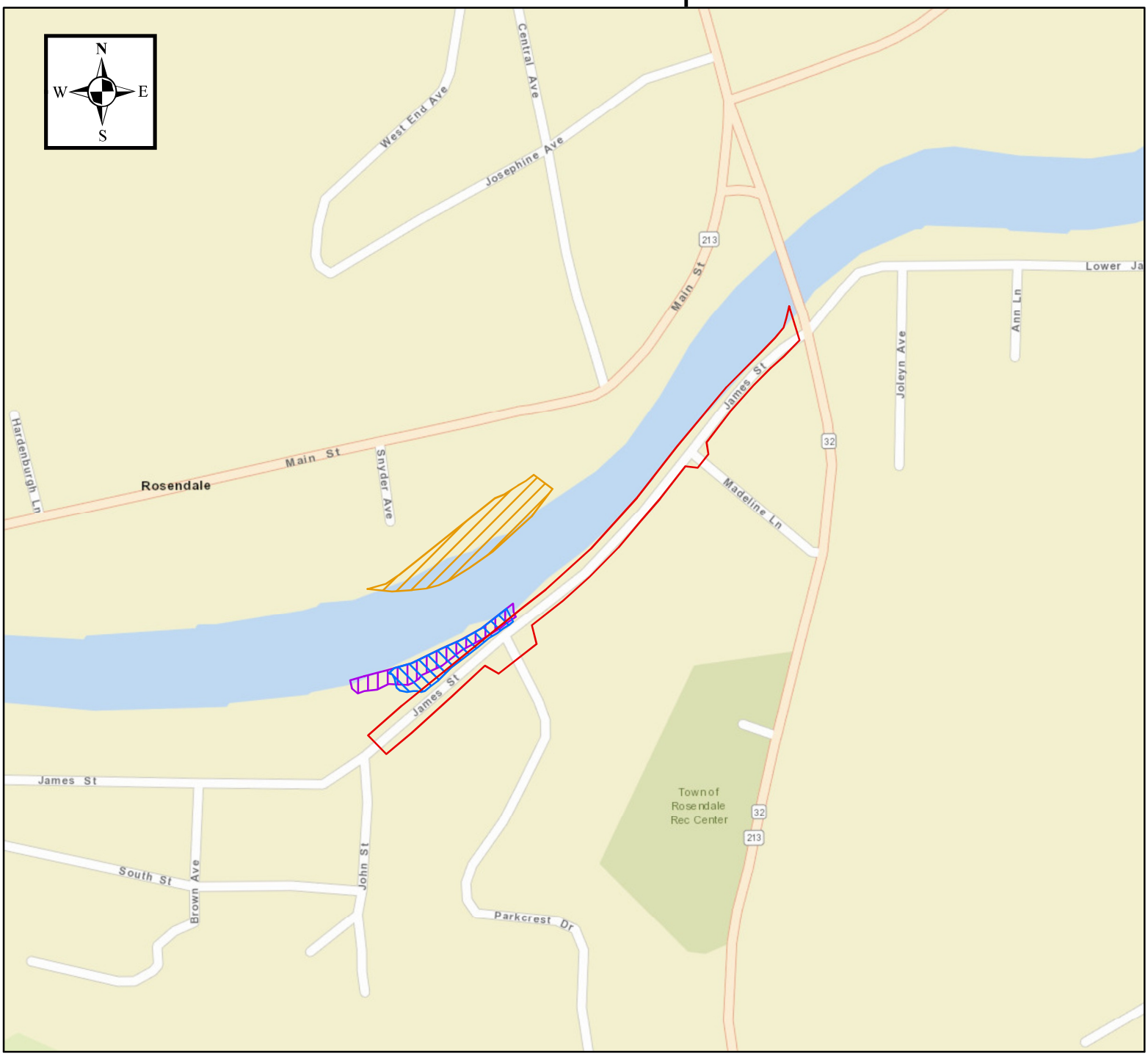
James Street Flood Control
James Street located between John Street and
Route 32 adjacent to Roundout Creek
Town of Rosendale
Ulster County, New York

Legend

Approximate Boundaries of:

- Maintenance Dredging - Point Bar Removal
- Slope Flattening
- Streambank Stabilization
- Road Work

Location Map



TECTONIC
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0 250 500 1,000 Feet

1:5,000

James Street Flood Control
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Legend

Approximate Boundaries of:

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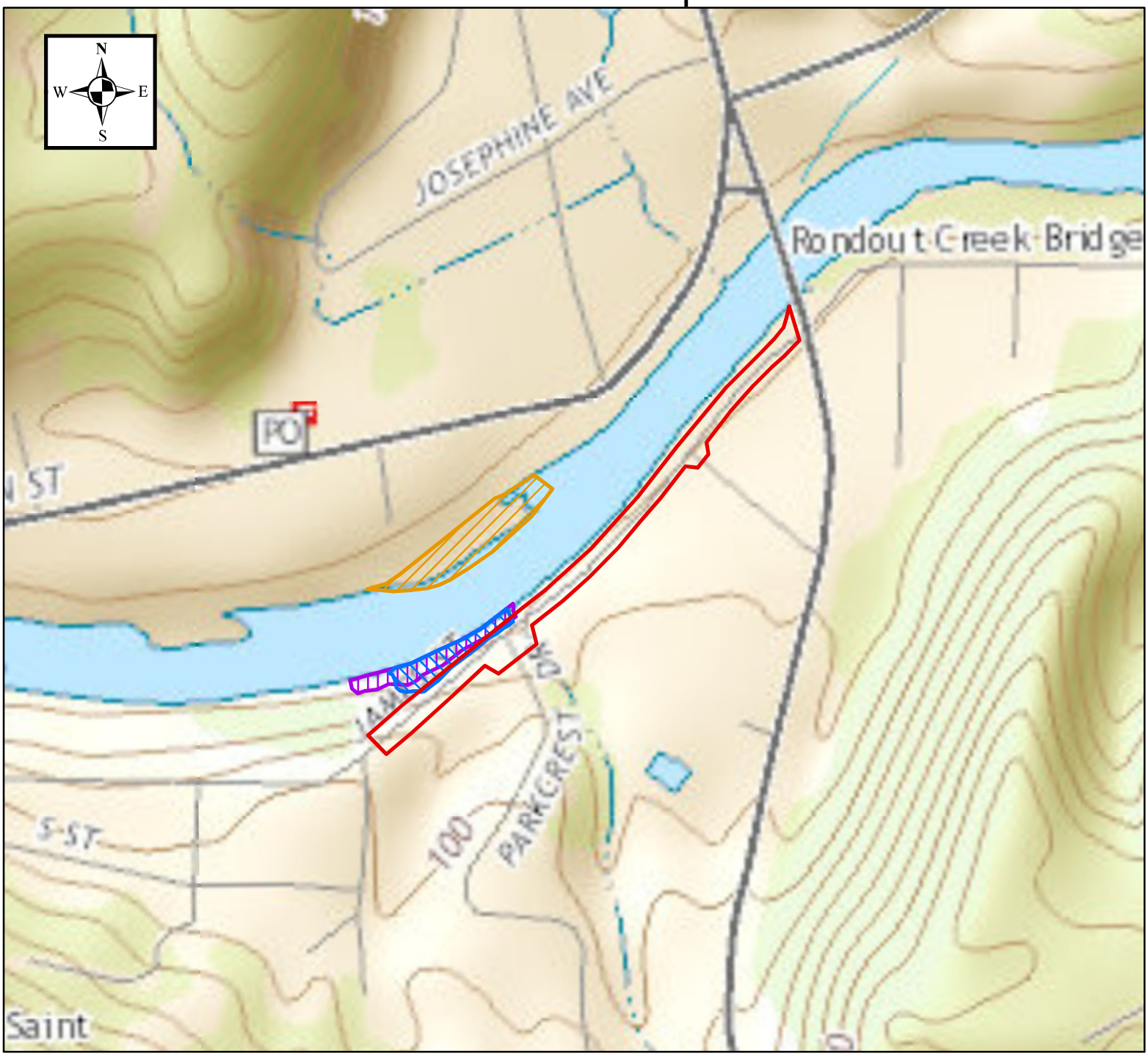
- Slope Flattening
- Streambank Stabilization
- Road Work

Location Map



TECTONIC
Practical Solutions, Exceptional Service

0 250 500 1,000 Feet

1:5,000

James Street Flood Control
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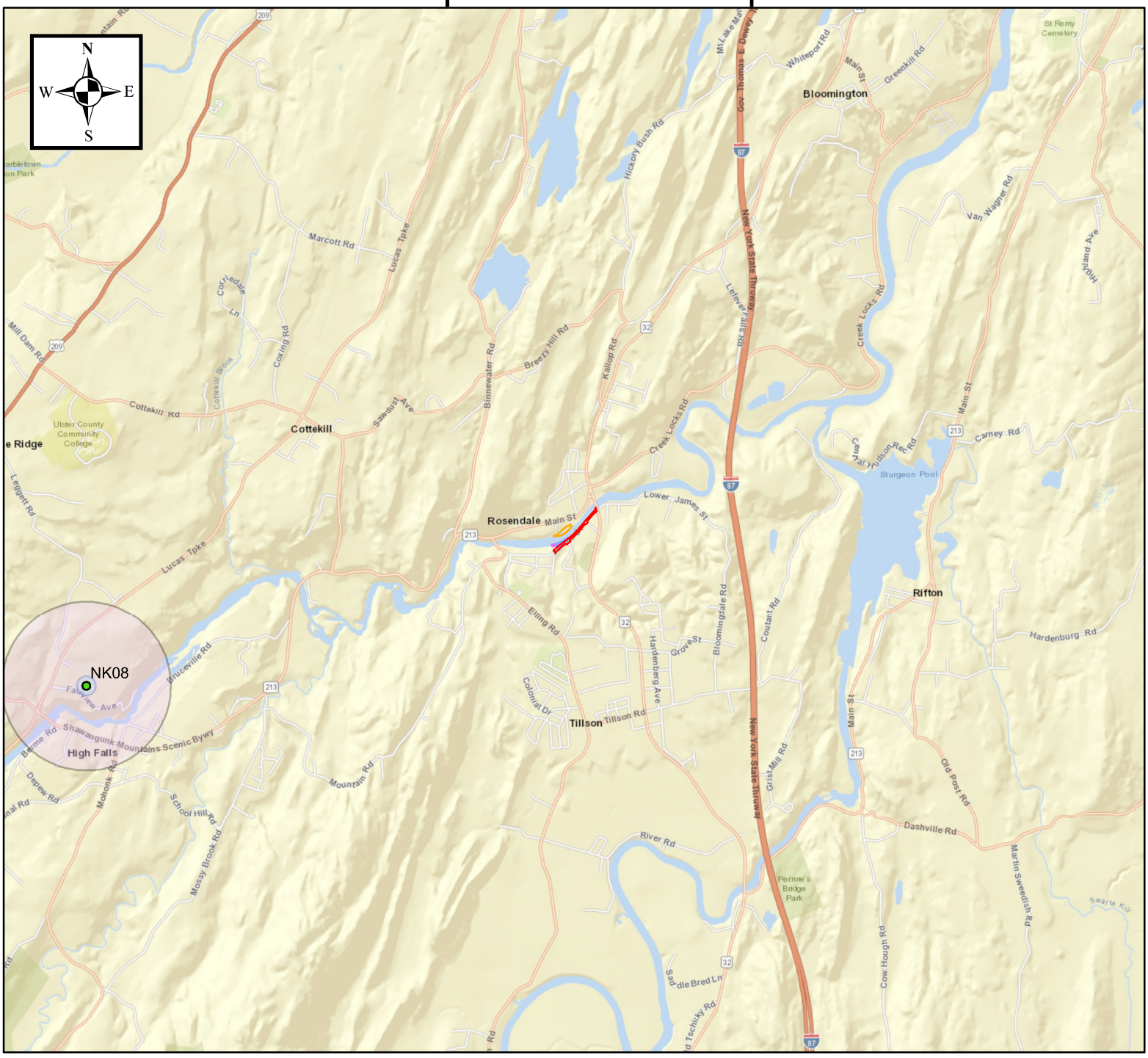
Ulster County, New York

Legend

Approximate Boundaries of:

- Maintenance Dredging - Point Bar Removal
- Slope Flattening
- Streambank Stabilization
- Road Work

Airport Hazards Map



TECTONIC
Practical Solutions, Exceptional Service

0 2,625 5,250 10,500 Feet

1:50,000

James Street Flood Control
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Route 32 adjacent to Roundout Creek
Town of Rosendale
Ulster County, New York

Created: 4/3/2017
Source data: FAA facility data and
Airport Master Records and Reports data.

Note: This map identifies all documented airport and heliport facilities located within the shown area.

Legend

Approximate Boundaries of:

- Maintenance Dredging - Point Bar Removal
- Slope Flattening
- Streambank Stabilization
- Road Work
- Airport and Heliport Locations (Location ID)
- Heliport Protection Zone (280 ft)
- Civilian Runway Protection Zone (2500 ft)

Aeronautical Information Services - National Flight Data Center (NFDC)

The NFDC website has been consolidated with the FAA's **Aeronautical Information Services** website. Please bookmark the **new Aeronautical Data/NFDC website** location.

Data Effective: **03/30/2017 - 04/27/2017**

NK08

SHEELEY'S FARM

HIGH FALLS , NY - UNITED STATES

All Summary Operations Communications NAVAIDS Weather RWY 13/31 Heliports Charts Contacts Remarks METAR/TAF

Summary/Location

View active NOTAMS

Latitude/Longitude	41-49-54.89 N / 74-7-47.6 W
Elevation	260 FT
Variation	13 W 1985
From city	1 miles NW of HIGH FALLS, NY
ARTCC	ZBW
Section chart	NEW YORK
Time Zone	UTC-5(-4DT)

OPERATIONS

Airport Status	Operational
Facility use	Private use only
Control Tower	No air traffic control tower at airport
FSS	NEW YORK FSS (ISP) Toll Free: 1-800-WX-BRIEF • TELEPHONE-TWEB 516-727-7084.
Attendance	0700-1900
Wind Indicator	Yes
Segmented Circle	No
Landing Fee	No
Fuel	NONE
Int'l Operations	

COMMUNICATIONS

UNICOM:	None
CTAF:	None
ATIS:	None

NAVAIDS

NAVAIDS:

Type	ID	Name	Frequency	Hours	Distance	Bearing	Remarks
VOR/DME	IGN	KINGSTON	117.6 MHz	24 Hours	17.0 nm	306.1°	• OPERATIONAL RESTRICTED • VOR PORTION UNUSBL 045-050 BYD 35 NM BLO 4300; 070-140 BYD 30 NM BLO 3400.

FAN MARKER	SKU	STANWYCK		24 Hours	18.6 nm	348.2°	• OPERATIONAL VFR ONLY
NDB	SKU	STANWYCK	261 KHz	24 Hours	18.6 nm	348.2°	• OPERATIONAL VFR ONLY
VORTAC	SAX	SPARTA	115.7 MHz	24 Hours	49.4 nm	21.7°	• OPERATIONAL IFR • VOR UNUSABLE 075-085 DEG BLO 6,500 FT; 155-165 DEG.
VOT	ALB	ALBANY COUNTY	108.2 MHz	24 Hours	56.3 nm	194.1°	• OPERATIONAL RESTRICTED • VOT UNUSBL NORTH OF TWY "M".

WEATHER

ID	Type	Frequency	Phone	Distance	Remarks
POU	WX ASOS	126.75 MHz	845-462-0648	16.7 nm	
MGJ	WX ASOS	119.275 MHz	845-457-1486	20.1 nm	
MSV	WX AWOS-3	124.725 MHz	845-583-5056	30.9 nm	
1B1	WX AWOS-3	133.525 MHz	518-828-2577	33.3 nm	
DXR	WX ASOS	127.75 MHz	203-791-8227	40.1 nm	

RUNWAY 13/31

Dimensions	2000 ft. x 40 ft.
Surface Type	TURF
Surface Condition	
Treatment	
Runway Edge Lights	
PCN	
Single Wheel	
Double Wheel	
Double Tandem	
Dual Double Tandem	

Base End: 13

Runway End Identifier Lights	No

Reciprocal End: 31

Runway End Identifier Lights	No

HELIPORTS

None

CHARTS

Chart data valid from 0901Z 03/02/17 to 0901Z 03/30/17.

CONTACTS

OWNER

SUE SHEELEY
161 FAIRVIEW AVE.
HIGH FALLS, NY 12440
UNITED STATES
Phone: 914-687-9695

MANAGER

SUE SHEELEY
161 FAIRVIEW AVE.
HIGH FALLS, NY 12440
UNITED STATES
Phone: 914-687-9695

REMARKS

No remarks.

METAR/TAF

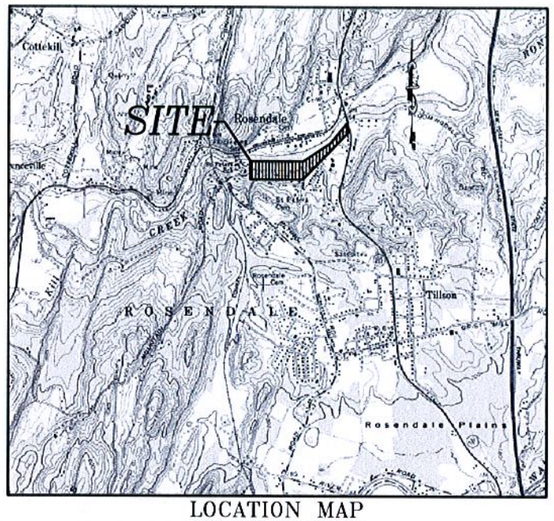
Currently no METAR data is avaliable for this airport

Currently no TAF data is avaliable for this airport

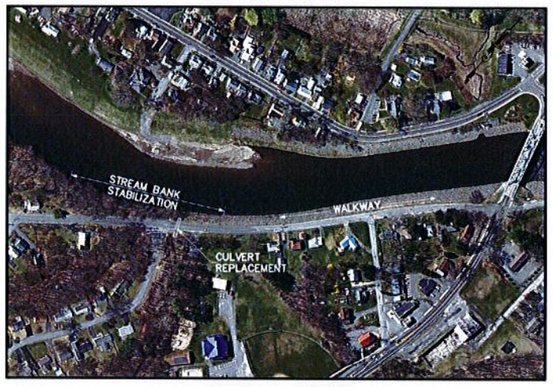
Attachment 2

Project Site Plans and Hydrology and Hydraulic Analysis

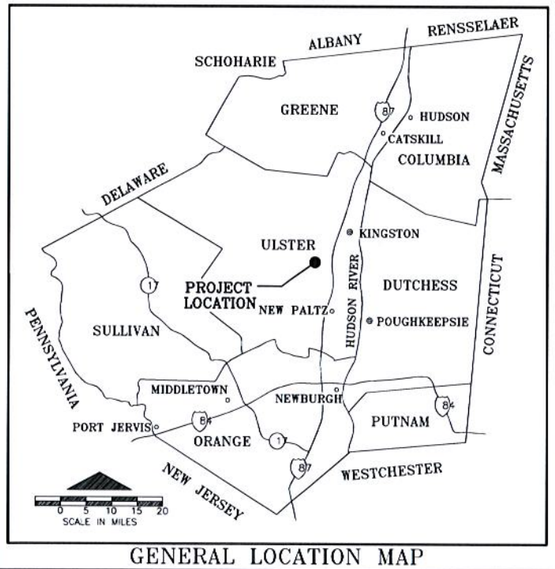
- 30% Site Plans for Flood Control Along James Street (March 2016)
- USACE Jurisdiction Review – Point Bar Removal Plan (November 2016)
- Hydrology and Hydraulic Analysis (December 2015)



LOCATION MAP
ROSENDALE QUADRANGLE
7.5' MINUTE USGS TOPOGRAPHIC MAP
SCALE: 1" = 2000'



AERIAL VIEW



GENERAL LOCATION MAP

CONTRACT NO. TR-161

FLOOD CONTROL ALONG JAMES STREET

NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNOR'S OFFICE OF STORM RECOVERY

TOWN OF ROSENDALE ULSTER COUNTY NEW YORK

TOWN OFFICIALS

JEANNE L. WALSH, TOWN SUPERVISOR

TOWN COUNCIL
JOHN P. HUGHES
JENNIFER METZGER
CHRISTOPHER PRYLOPSKI
STACY LIPARI
ROBERT GALLAGHER, HIGHWAY SUPERINTENDENT
MANDY CONSTABLE, TOWN CLERK

30% DESIGN - MARCH 2016

Know what's below. Call before you dig.

BRINNIER AND LARIOS, P.C.
PROFESSIONAL ENGINEERS AND LAND SURVEYORS
67 MAIDEN LANE
KINGSTON, NEW YORK

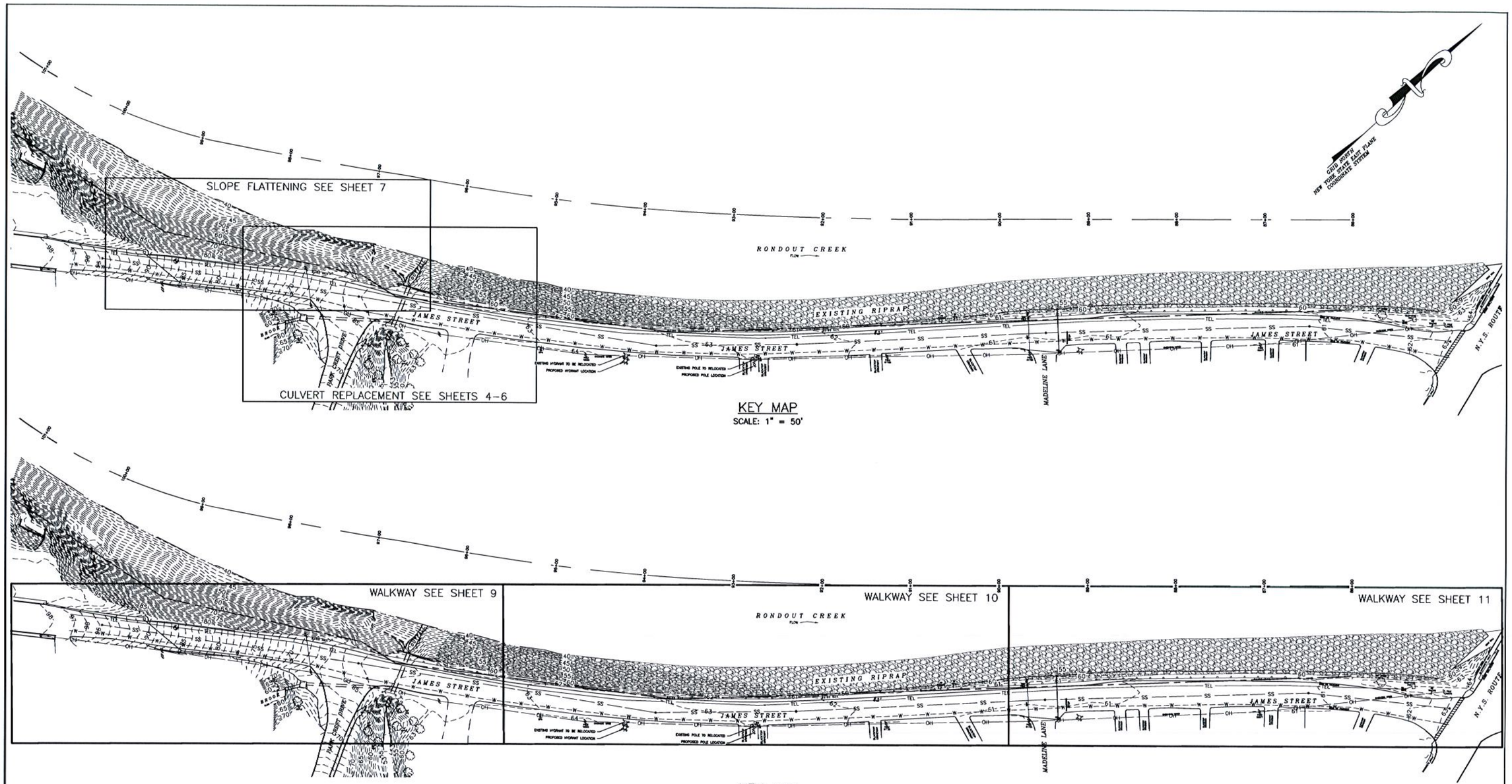
LICENSED PROFESSIONAL ENGINEER BRENT W. LARIOS 091841 STATE OF NEW YORK

LICENSED LAND SURVEYOR CHRISTOPHER J. ZELL 49879 STATE OF NEW YORK

Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.

SHEET INDEX

SHEET NO.	DESCRIPTION
1.	COVER
2.	KEY MAP
3.	WORK ZONE TRAFFIC CONTROL
4.	CULVERT REPLACEMENT EXISTING CONDITIONS
5.	EROSION AND SEDIMENT CONTROL
6.	CULVERT REPLACEMENT DEMOLITION AND REMOVALS
7.	CULVERT REPLACEMENT SITE PLAN
8.	SLOPE FLATTENING PLAN
9.	600' STREAM BANK STABILIZATION
10.	WALKWAY SITE PLAN
11.	WALKWAY SITE PLAN
12.	WALKWAY SITE PLAN
13.	DETAILS



KEY MAP
SCALE: 1" = 50'

KEY MAP
SCALE: 1" = 50'

LEGEND

- PROPERTY LINE
- CONTOUR MAJOR
- CONTOUR MINOR
- STORMWATER
- SANITARY SEWER
- OVERHEAD ELECTRICAL
- GUIDE RAIL
- EDGE OF WATER
- WATER MAIN
- UTILITY POLE
- LIGHT POLE
- SANITARY/STORM MANHOLE
- TELEPHONE MANHOLE
- CATCH BASIN
- WATER VALVE
- HYDRANT
- BORING

GRAPHIC SCALE IN FEET
50 0 50

NOTE:
The location of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.

LICENSED LAND SURVEYOR — CHRISTOPHER J. ZILL — 49178 — STATE OF NEW YORK

LICENSED PROFESSIONAL ENGINEER — JAMES A. LARIOS — 058747 — STATE OF NEW YORK

Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.

KEY MAP
CONTRACT NO. TR-161

JAMES STREET FLOOD CONTROL
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY
TOWN OF ROSENDALE — ULSTER COUNTY — NEW YORK

DATE	REVISION RECORD
3/18/16	30% DESIGN FOR REVIEW
	AND PERMITTING
3/24/16	TOWN COMMENTS

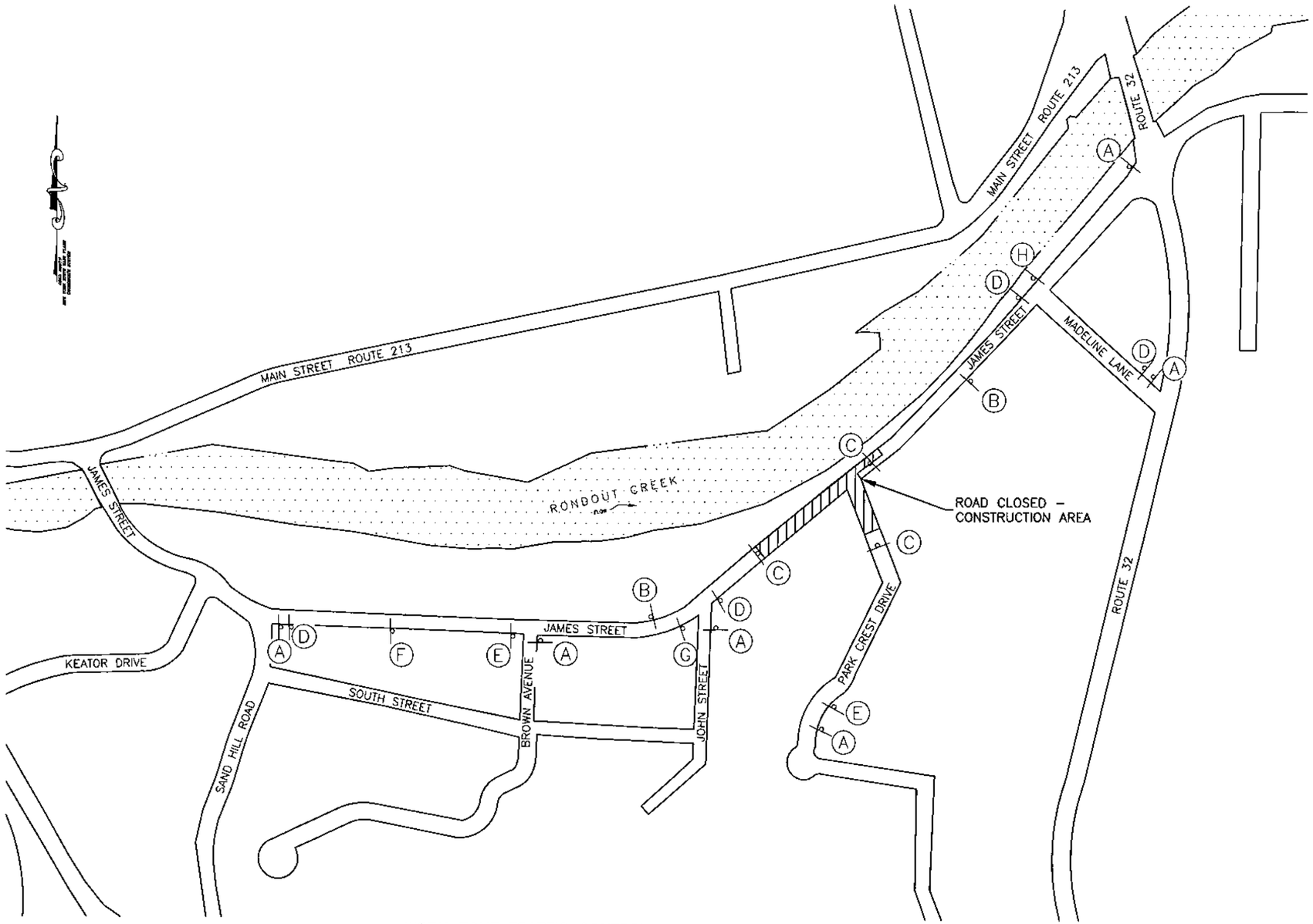
BRINNIER & LARIOS, P.C.
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE — KINGSTON, N.Y.

SCALE	DATE	SHEET NO.
1" = 50'	MARCH 2016	2 OF 13
	DWG: RJS — CHK:	

SIGN NO.	DETOUR SIGN SCHEDULE	QNTY. REQ.
(A)	W20-1 ROAD WORK AHEAD	6
(B)	G20-2 END WORK ZONE	2
(C)	R11-2 ROAD CLOSED WITH ITEM 619.04 TYPE III CONSTRUCTION BARRICADES	3
(D)	R11-3A ROAD CLOSED AHEAD LOCAL TRAFFIC ONLY WITH ITEM 619.04 TYPE III CONSTRUCTION BARRICADES	3
(E)	W20-3 ROAD CLOSED 500. FT.	1
(F)	W20-3 ROAD CLOSED 1000 FT.	1
(G)	M4-8 DETOUR M6-1	1
(H)	M4-8 DETOUR M6-1	1

GRAPHIC SCALE IN FEET

50 0 50



WORK ZONE TRAFFIC CONTROL
SCALE: 1" = 50'

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WORK ZONE TRAFFIC CONTROL
CONTRACT NO. TR-161

JAMES STREET FLOOD CONTROL
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY
TOWN OF ROSENDALE ULSTER COUNTY NEW YORK

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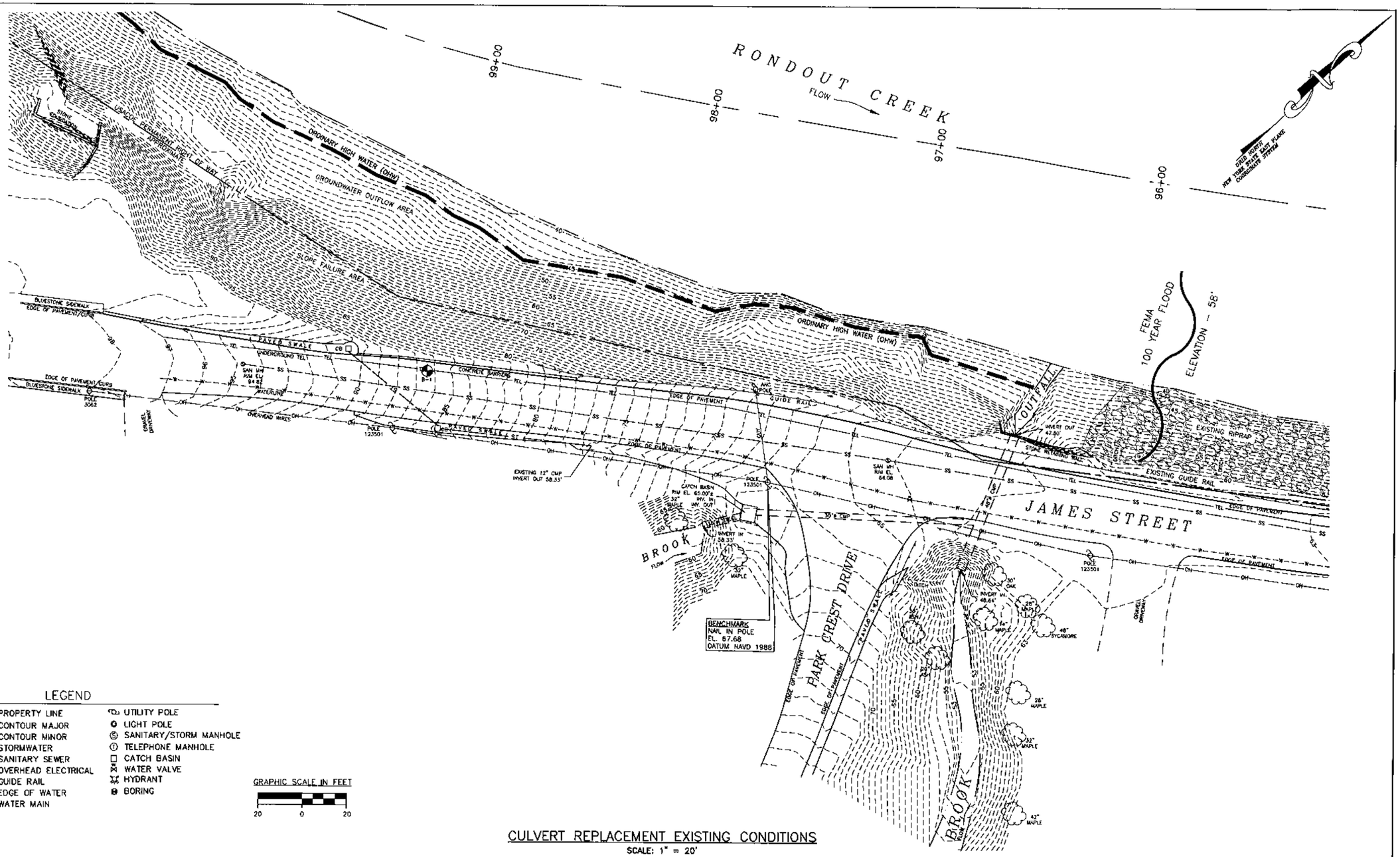
BRINNIER & LARIOS, P.C.
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE KINGSTON, N.Y.

SCALE	DATE	SHEET NO.
1" = 50'	MARCH 2016	3 OF 13
	DWG RJS CHK	



LEGEND

PROPERTY LINE	UTILITY POLE
CONTOUR MAJOR	LIGHT POLE
CONTOUR MINOR	SANITARY/STORM MANHOLE
STORMWATER	TELEPHONE MANHOLE
SANITARY SEWER	CATCH BASIN
OVERHEAD ELECTRICAL	WATER VALVE
GUIDE RAIL	HYDRANT
EDGE OF WATER	BORING
WATER MAIN	

GRAPHIC SCALE IN FEET

20 0 20

CULVERT REPLACEMENT EXISTING CONDITIONS

SCALE: 1" = 20'

NOTE:

1. FIELD SURVEY PERFORMED BY BRINNIER AND LARIOS, P.C. ON OCTOBETR 27,2015
2. USACE PERMANENT RIGHT-OF-WAY LINES OBTAINED FROM USACE, RONDOUT CREEK BASIN, ROSENDALE FLOOD CONTROL PROJECT, LOCAL COOPERATION REQUIREMENTS DRAWING NUMBER CC-RC-137 SHEET 7 OF 9 DATED JULY 14,1965.
3. ROUNDOUT CREEK STATIONING OBTAINED FROM USACE ROSENDALE FLOOD CONTROL PROJECT, SUPPLEMENT FACILITIES, PLAN EXTENT OF WORK STA 86+00 + 102+00, SHEET 7 OF 25 DATED MAY 31,1973.
4. FEMA 100 YEAR FLOOD ELEVATION OBTAINED FROM FLOOD INSURANCE RATE MAP NUMBER 36111C0605E, PANEL 605 OF 910. EFFECTIVE SEPTEMBER 25,2009.
5. ORDINARY HIGH WATER (OHW) LEVEL OF 45 FEET BASED ON FIELD OBSERVATIONS.

NOTE:
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CULVERT REPLACEMENT EXISTING CONDITIONS
CONTRACT NO. TR-161

JAMES STREET FLOOD CONTROL
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NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY
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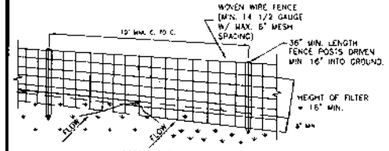
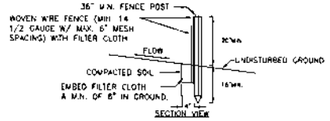
SCALE	DATE	SHEET NO.
1" = 20'	MARCH 2016	4 OF 13
	DWG RJS / CHK	



PERSPECTIVE VIEW



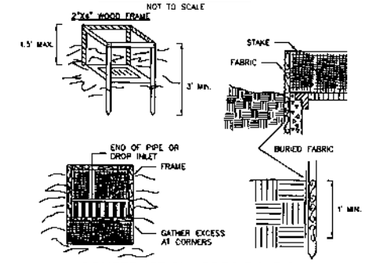
SECTION VIEW

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 1/2 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
6. SILT FENCE LOCATIONS AS DEPICTED ON PLANS ARE ILLUSTRATIVE CONTRACTOR SHALL EXERCISE DILIGENCE WHEN INSTALLING SILT FENCE TO CAPTURE ALL SEDIMENT LADEN RUNOFF.

SILT FENCE DETAIL

NOT TO SCALE



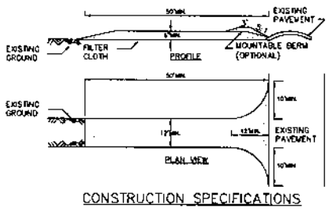
CONSTRUCTION SPECIFICATIONS

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

MAXIMUM DRAINAGE AREA 1 ACRE

FILTER FABRIC INLET PROTECTION DETAIL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.
10. STABILIZED CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED AND MAINTAINED AT SITE ENTRANCES DURING PHASE I CONSTRUCTION AND AT DRIVEWAY ENTRANCES DURING PHASE II CONSTRUCTION

STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

GENERAL NOTES:

1. AREAS OUTSIDE THE LIMIT OF DISTURBANCE, AS SHOWN HEREON, SHALL NOT BE ALTERED DURING THE CONSTRUCTION ACTIVITIES RELATED TO THE PROPOSED SITE IMPROVEMENTS
2. CONSTRUCTION ACTIVITY INCLUDES CLEARING, GRADING, EXCAVATION, STOCKPILING, REGRADING AND CONSTRUCTION OF STORM DRAINAGE. CONSTRUCTION ACTIVITY DOES NOT INCLUDE ROUTINE MAINTENANCE SUCH AS, MAINTENANCE OF ORIGINAL LINE AND GRADE, HYDRAULIC CAPACITY, OR ORIGINAL PURPOSE OF THE FACILITY.

CONSTRUCTION SCHEDULE:

1. FLAG THE LIMIT OF DISTURBANCE SO THAT WORKERS CAN SEE THE AREAS TO BE PROTECTED INCLUDING WETLANDS
2. HOLD A PRE-CONSTRUCTION MEETING PRIOR TO STARTING CONSTRUCTION
3. INSTALL TEMPORARY STABILIZED CONSTRUCTION ENTRANCE.
4. INSTALL TEMPORARY SILT FENCING. SILT FENCE LOCATIONS AS DEPICTED ON PLANS ARE ILLUSTRATIVE. CONTRACTOR SHALL EXERCISE DILIGENCE WHEN INSTALLING SILT FENCE TO CAPTURE ALL SEDIMENT LADEN RUNOFF.
5. CLEAR AND ROUGH GRADE SITE IN THE AREAS OF IMMEDIATE CONSTRUCTION ACTIVITY ONLY.
6. STOCKPILE TOPSOIL. CONSTRUCT CHANNELS. BARE AREAS SHALL BE MULCHED SHOULD GRADING BE DISCONTINUED FOR MORE THAN 14 DAYS.
7. COMPLETE FINAL GRADING FOR SLOPE STABILIZATION.
8. COMPLETE FINAL GRADING OF GROUNDS, TOPSOIL CRITICAL AREAS AND PERMANENTLY VEGETATE, LANDSCAPE AND MULCH.
9. PROVIDE SOIL RESTORATION AS REQUIRED. SOIL RESTORATION NOTES ARE PROVIDED IN THE SWPPP TEXT AND ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
10. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AT LEAST ONCE EVERY (7) SEVEN CALENDER DAYS. NECESSARY REPAIRS WILL BE MADE IMMEDIATELY. IF GREATER THAN 5 ACRES OF LAND IS DISTURBED AT ONE TIME, THE QUALIFIED INSPECTOR SHALL CONDUCT 2 SITE INSPECTIONS EVERY (7) SEVEN CALENDER DAYS.
11. AFTER THE SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS
12. EACH PHASE OF CONSTRUCTION SHALL BE STABILIZED BEFORE BEGINNING THE NEXT PHASE.

INSPECTIONS AND REPORTING:

1. FOLLOW ALL REQUIREMENTS OUTLINED IN THE SWPPP AND NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGED FROM CONSTRUCTION ACTIVITY, PERMIT GP-0-15-1-002.

SILTATION CONTROL NOTES:

1. ALL SILTATION AND EROSION CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO ANY EXCAVATION AND AS ACCEPTABLE TO THE ENGINEER. SILT FENCE SHALL BE MAINTAINED FOR THE DURATION OF SAID WORK AND SHALL NOT BE REMOVED UNTIL APPROVED BY THE ENGINEER.
2. SILT FENCE SHALL CONSIST OF 24" HIGH GEOTEXTILE FABRIC (FILTER CLOTH) INSTALLED PARALLEL WITH THE TOE OF SLOPES AS INDICATED ON THE PLAN.
3. THE FABRIC SHALL BE FASTENED SECURELY AT THE TOP AND MID SECTION TO MIN. 5' LONG FENCE POSTS PLACED A MAX. OF 10' ON CENTER. THE BOTTOM 8" OF FABRIC SHALL BE LAID INTO THE TRENCH TO PREVENT UNDERMINING.
4. ADJOINING SECTIONS OF FILTER CLOTH SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
5. SILT TRAPPING SHALL BE CLEANED OUT WHEN NEED. WHEN ACCUMULATED SEDIMENT HAS REDUCED THE CAPACITY BY 50% OR BULGES DEVELOP IN THE FABRIC. SEDIMENT REMOVED BE PROPERLY DISPOSED OF IN A MANNER WHICH PREVENTS IT FROM ENTERING THE AREA AGAIN.
6. SILT FENCE SHALL BE INSTALLED IN ALL AREAS THAT WILL HAVE AN EXCAVATION OPEN FOR MORE THAN 24 HOURS.
7. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL AND NO LESS THAN ONCE EVERY WEEK. ANY NEED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED AND INSTALLED FOR THEIR APPROPRIATE PHASE OF THE PROJECT.
8. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED (AS NECESSARY), AND MULCHED ACCORDING TO LANDSCAPING AND VEGETATION ESTABLISHMENT NOTES TO MAINTAIN A VIGOROUS DENSE VEGETATIVE COVER.

LANDSCAPING & VEGETATION ESTABLISHMENT NOTES:

1. ALL TEMPORARY SEEDING SHALL BE RYEGRASS (ANNUAL OR PERENNIAL) AT AN APPLICATION RATE OF 0.7 POUNDS PER 1,000 SQUARE FEET. MULCH IMMEDIATELY AFTER SEEDING WITH STRAW AT A RATE OF 2 BALES (80 lb) PER 1,000 SQUARE FEET.
2. ALL OTHER SITE AREAS REQUIRING PERMANENT GRASS VEGETATION SHALL BE SEEDED WITH A MIXTURE OF PERENNIAL RYEGRASS SEED OF THE PENNFINE/LION VARIETY AT A RATE OF 0.10 POUNDS PER 1,000 SQUARE FOOT. EROSION AND SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE INSPECTED UNTIL FULL VEGETATION IS ESTABLISHED.
3. STRAW MULCH SHALL BE USED FOR ALL AREAS WHERE VEGETATION IS TO BE ESTABLISHED. MULCH SHALL BE INSTALLED IMMEDIATELY AFTER SEEDING AT A RATE OF 90-100 POUNDS PER 1,000 SQUARE FEET.

MAINTENANCE SCHEDULE:

MAINTENANCE DURING CONSTRUCTION:
- ALL EROSION AND SEDIMENT CONTROL PRACTICES ALONG WITH TREE PROTECTION PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION EVERY SEVEN DAYS. ANY NEEDED REPAIRS WILL BE DONE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED AND INSTALLED FOR THEIR APPROPRIATE PHASE OF THE PROJECT.
- THE STABILIZED CONSTRUCTION ENTRANCES SHALL BE CLEANED OR REPLACED WHEN TRACKING OF SEDIMENT BECOMES EVIDENT.

LONG TERM MAINTENANCE
- WEED AND WATER TO ESTABLISH PERMANENT VEGETATION.
- REPLACEMENT/REHABILITATION SHALL BE MADE TO ANY ERODED AREAS.
- PROPER REPLACEMENT OF PLANTINGS, MULCH, RESEEDING AND THINNING TO MAINTAIN THE DESIRED APPEARANCE.
- THE STORM WATER MANAGEMENT AREAS SHALL BE KEPT CLEAN OF TRASH AND DEBRIS.
- INSPECT AT LEAST ONCE DURING THE FIRST SIX MONTHS. SUBSEQUENTLY, INSPECTIONS SHOULD BE CONDUCTED ANNUALLY AND AFTER STORM EVENTS GREATER THAN 2".

TREE PROTECTION DURING CONSTRUCTION

1. TO PRESERVE EXISTING TREES/TREE AREAS, THE CRITICAL ROOT ZONE SHALL BE PROTECTED BY PROPER INSTALLATION OF CONSTRUCTION FENCE AS SHOWN. THESE AREAS SHALL REMAIN UNDISTURBED AND PROTECTED FROM SURROUNDING MOVEMENT, MATERIAL STORAGE, COMPACTING, GRADING, EXCAVATING, AND OTHER DEVELOPMENT RELATED ACTIVITIES DURING CONSTRUCTION AND IN THE FINAL LANDSCAPE DESIGN.
2. THE CRITICAL ROOT ZONE (CRZ) IS DEFINED AS A RADIUS AROUND THE TREE EQUAL TO ONE (1) FOOT FOR EVERY ONE (1) INCH DBH OF TREE TRUNK AND SHALL BE PROTECTED DURING CONSTRUCTION BY APPROVED TREE PROTECTION FENCING AND PRACTICES. THE TREE PROTECTIVE FENCE AND BARRIER SHALL BE INSTALLED PRIOR TO START OF CONSTRUCTION AND IN PLACE THROUGH COMPLETION OF CONSTRUCTION ACTIVITIES.
3. THE ENTIRE CRZ CANNOT BE PRESERVED, THE DISTURBED AREA SHALL EXTEND NO CLOSER TO THE PROTECTED TREE TRUNK THAN ONE HALF (1/2) THE RADIUS OF THE CRZ, IN NO CASE CAN MORE THAN FORTY (40) PERCENT OF THE CRZ BE DISTURBED.
4. PRIOR TO GRADING TREE ROOTS SHALL BE PRUNED USING APPROPRIATE ARBORICULTURE PRUNING TOOLS AND PRACTICES.

WITHIN A TREE PROTECTION ZONE THERE SHALL BE:
- NO CONSTRUCTION
- NO ALTERING OF GRADE BY ADDING FILL, EXCAVATING, TRENCHING, SCRAPING, DUMPING OR DISTURBANCE OF ANY KIND.
- NO STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL, CONSTRUCTION WASTE OR DEBRIS.
- NO DISPOSAL OF ANY LIQUIDS, E.G. CONCRETE SLURRY, GAS, OIL, PAINT.
- NO MOVEMENT OF VEHICLES, EQUIPMENT OR PEDESTRIANS
- NO CUTTING OF VEHICLES OR MACHINERY.

SOIL RESTORATION NOTES:

SOIL RESTORATION IS A REQUIRED PRACTICE APPLIED ACROSS AREAS OF A DEVELOPMENT SITE WHERE SOILS HAVE BEEN DISTURBED AND WILL BE VEGETATED IN ORDER TO RECOVER THE ORIGINAL PROPERTIES AND PORosity OF THE SOIL. SOIL RESTORATION IS APPLIED ON THE CLEARING, RESTORATION, AND LANDSCAPING PHASE OF CONSTRUCTION FOLLOWED BY THE PERMANENT ESTABLISHMENT OF AN APPROPRIATE, DEEP-ROOTED GROUNDCOVER TO HELP MAINTAIN THE RESTORED SOIL STRUCTURE.

SOIL RESTORATION INCLUDES MECHANICAL DECOMPACTION, COMPOST AMENDMENTS, OR BOTH. AREAS WHERE TOPSOIL IS STRIPPED ONLY NEED NO CHANGE IN GRADE (REMAIN), SPREAD 6 INCHES OF TOPSOIL AND PROTECT AREA FROM ANY ONGOING CONSTRUCTION ACTIVITIES. AREAS OF CUT OR FILL SHALL HAVE FULL SOIL RESTORATION + HEAVY TRAFFIC AREAS ON SITE (ESPECIALLY WITHIN A ZONE 5-25 FEET AROUND BUILDINGS BUT NOT WITHIN A 5 FOOT PERIMETER AROUND FOUNDATION WALLS) APPLY FULL SOIL RESTORATION (DECOMPACTION AND COMPOST ENHANCEMENT)

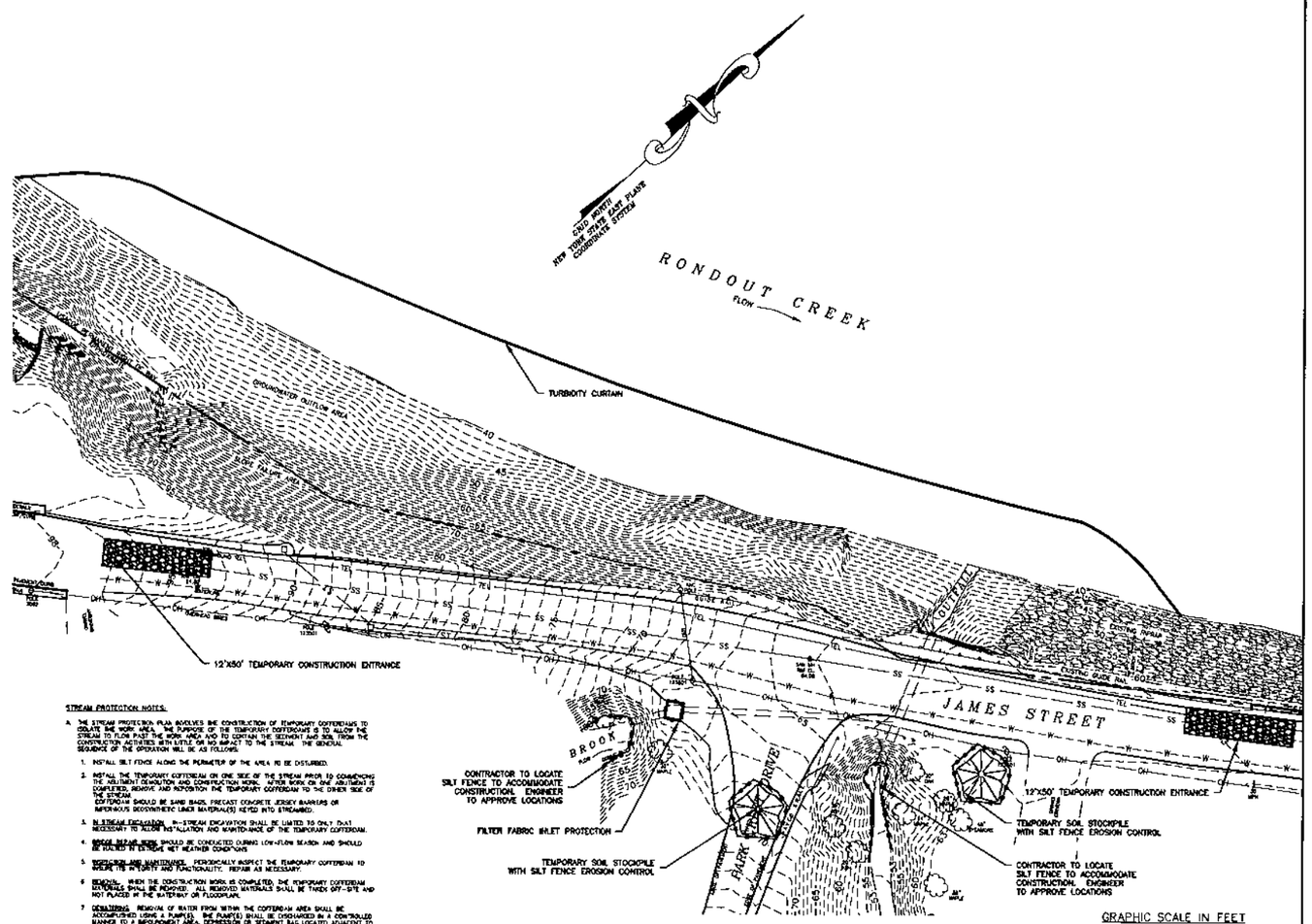
"AERATION" INCLUDES THE USE OF MACHINES SUCH AS TRACTOR-DRAWN IMPLEMENTS WITH COULTERS MAKING A NARROW SLIT IN THE SOIL, A ROLLER WITH SPIKES OR MAKING INDENTATIONS IN THE SOIL, OR MACHINES WHICH FUNCTION LIKE A MINI-SUBSOILER.
** PICK "DEEP RIPPING AND DE-COMPACTION, DEC 2008"

DURING PERIODS OF RELATIVELY LOW TO MODERATE SUBSOIL MOISTURE, THE DISTURBED SUBSOILS SHALL BE RETURNED TO ROUGH GRADE AND THE FOLLOWING SOIL RESTORATION STEPS APPLIED:
1. APPLY 3 INCHES OF COMPOST OVER DISTURBED AREAS
2. TILL COMPOST INTO SUBSOIL TO A DEPTH OF AT LEAST 12 INCHES USING A CAT-MOUNTED RIPPER, TRACTOR MOUNTED DISC, OR TILLER. MIXING AND INCORPORATING AIR AND COMPOST INTO SUBSOILS
3. ROCK-FREE UNTIL UPLIFTED STONE/ROCK MATERIALS OF FOUR INCHES AND LARGER SIZE ARE CLEARED OFF THE SITE
4. APPLY TOPSOIL TO A DEPTH OF 6 INCHES MODIFIED AS REQUIRED BY APPROVED PLAN.

EROSION & SEDIMENT CONTROL NOTES:

ALL CONSTRUCTION ACTIVITIES INVOLVING THE REMOVAL OR DISPOSITION OF SOILS ARE TO BE PROVIDED WITH APPROPRIATE PREVENTIVE MEASURES TO MINIMIZE EROSION OF, AND CONTAIN SEDIMENT WITHIN, THE AREA UNDER DEVELOPMENT. THOSE METHODS DEEMED MOST EFFECTIVE ARE DESCRIBED BELOW.

1. FOLLOW THE CONSTRUCTION SCHEDULE OUTLINED ON THIS SHEET.
2. CLEAR ONLY WHAT IS REQUIRED FOR THE IMMEDIATE CONSTRUCTION ACTIVITY. CLEARING AND GRADING SHOULD BE DONE AS CONSTRUCTION PROGRESSES. ONLY THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME DURING CONSTRUCTION.
3. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE.
4. PRIOR TO THE START OF CONSTRUCTION, TEMPORARY SILT FENCING AND/OR OTHER APPROVED DEVICES SHALL BE INSTALLED WHERE DEEMED NECESSARY TO PREVENT SOIL MIGRATION INTO WATER COURSES, WETLANDS, STORM DRAINAGE SYSTEMS, AND OFF SITE. SEE SILTATION CONTROL NOTES FOR INSTALLATION AND MAINTENANCE OF SILT FENCING.
5. WHENEVER POSSIBLE, SITE CONSTRUCTION ACTIVITIES SHALL START AT THE NEAREST POINT UPSLOPE OF THE EROSION CONTROL DEVICE, AND PROCEED TO ACTIVITIES FURTHER UPHILL/UPSLOPE
6. SILT FENCING/TRAPS SHALL BE CLEANED OUT WHEN ACCUMULATED SEDIMENT HAS REDUCED THE CAPACITY OF THE TRAP BY 50%. SEDIMENT REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF IN A MANNER WHICH PREVENTS IT FROM ENTERING THE TRAP AGAIN.
7. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE PERIOD OF EXPOSURE SHALL BE KEPT TO A MINIMUM. IF PERMANENT VEGETATION, PAVEMENT, AND/OR STRUCTURES ARE NOT COMPLETED WITHIN 14 DAYS, STRAW MULCH (OR OTHER APPROVED MATERIAL) SHALL BE SPREAD TO TEMPORARILY COVER EXPOSED SOILS.
8. NO PERMITTED CONSTRUCTION ACTIVITIES SHALL TAKE PLACE WITHIN ANY WATERCOURSES OR WETLANDS UNTIL APPROPRIATE MEASURES ARE TAKEN TO PROTECT AND/OR TEMPORARILY DIVERT FLOWING WATER PAST THE WORK AREA AND DOWNSTREAM SEDIMENT CONTROLS ARE IN PLACE. IN GENERAL, THESE SEDIMENT CONTROLS SHALL NOT BE REMOVED UNTIL UPSTREAM ACTIVITY HAS BEEN SATISFACTORILY COMPLETED AND THE STREAM FLOWS CLEAR.
9. ALL TOPSOIL, WHICH HAS BEEN STRIPPED AND STOCKPILED SHALL BE PLACED AT LEAST 50 FEET FROM ANY WETLAND OR WATERCOURSE. THE TOE OF THE STOCKPILE SHALL BE PROTECTED BY A BARRIER WHICH PREVENTS SOIL FROM WASHOUT.
10. RING ANY TEMPORARY STOCKPILES WITH SILT FENCE TO PREVENT EROSION OF THE PILE.
11. ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED REGULARLY IN PROPER FUNCTIONING CONDITION UNTIL ALL AREAS EXPOSED DURING CONSTRUCTION HAVE BEEN SUITABLY STABILIZED WITH FINAL VEGETATIVE COVER, PERMANENT STRUCTURES, OR PAVEMENT.
12. TEMPORARY SEEDING, WHERE NEEDED, SHALL CONSIST OF A PERENNIAL OR ANNUAL RYE GRASS BROADCAST AT A RATE OF 1# POUNDS PER 1000 SQ. FT. RECOMMENDED SEEDING DATES ARE FROM MARCH 15 TO JUNE 15 AND AUGUST 15 TO OCTOBER 15.
13. THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF ALL ENVIRONMENTAL/SPDES PERMITS ISSUED FOR THIS PROJECT AND LOCAL, STATE AND FEDERAL REGULATIONS.
14. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PREVENT CONTAMINATION OF THE EXISTING DRAINAGE SWALES BY SILT, SEDIMENT, FUELS, SOLVENTS, LUBRICANTS, CONCRETE LAITANCE, OR ANY OTHER POLLUTANT ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT.
15. STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT THE TRANSPORT OF SEDIMENT ONTO THE ROADWAYS ANY SEDIMENT SPILLED, TRACKED, DROPPED, OR TRANSFERRED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY.
16. FOR CONSTRUCTION SITES WHERE SOIL DISTURBANCE ACTIVITIES ARE ON-GOING, A QUALIFIED INSPECTOR SHALL CONDUCT A SITE INSPECTION AT LEAST ONCE EVERY (7) CALENDAR DAYS. AT SITES WHERE THE OWNER HAS PROVIDED AUTHORIZATION TO DISTURB GREATER THAN FIVE (5) ACRES OF SOIL AT ANY ONE TIME, THE QUALIFIED INSPECTOR SHALL CONDUCT AT LEAST TWO (2) SITE INSPECTIONS EVERY SEVEN (7) CALENDAR DAYS. THE TWO (2) INSPECTIONS SHALL BE SEPARATED BY A MINIMUM OF TWO FULL (2) FULL CALENDAR DAYS.
17. IN AREAS WHERE SOIL DISTURBANCE ACTIVITY HAS BEEN TEMPORARILY OR PERMANENTLY CEASED, TEMPORARILY AND/OR PERMANENTLY SOIL STABILIZED MEASURES SHALL BE INSTALLED AND/OR IMPLEMENTED WITHIN SEVEN (7) DAYS FROM THE DATE THE SOIL DISTURBANCE ACTIVITY CEASED. THE SOIL STABILIZATION MEASURES SELECTED SHALL BE IN CONFORMANCE WITH THE MOST CURRENT VERSION OF THE TECHNICAL STANDARD, NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.



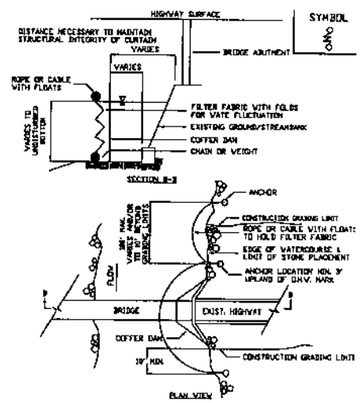
STREAM PROTECTION NOTES:

A. THE STREAM PROTECTION PLAN INVOLVES ONE CONSTRUCTION OF TEMPORARY COFFERDAMS TO ISOLATE ONE WORK AREA. THE PURPOSE OF THE TEMPORARY COFFERDAMS IS TO ALLOW THE STREAM TO FLOW PAST THE WORK AREA AND TO CONTAIN THE SEDIMENT AND SOIL FROM THE CONSTRUCTION ACTIVITIES WITH LITTLE OR NO IMPACT TO THE STREAM. THE GENERAL SEQUENCE OF THE OPERATION WILL BE AS FOLLOWS:

1. INSTALL SILT FENCE ALONG THE PERIMETER OF THE AREA TO BE DISTURBED.
2. INSTALL THE TEMPORARY COFFERDAM ON ONE SIDE OF THE STREAM PRIOR TO COMMENCING THE ABUTMENT DEMOLITION AND CONSTRUCTION WORK. AFTER WORK ON ONE ABUTMENT IS COMPLETED, REMOVE AND INSTALL THE TEMPORARY COFFERDAM TO THE OTHER SIDE OF THE STREAM.
   COFFERDAM SHOULD BE SAND BAGS, PRECAST CONCRETE JERSEY BARRIERS OR IMPERVIOUS GEOSYNTHETIC LINER MATERIAL(S) KEYED INTO STREAMBED.
3. IN-STREAM EXCAVATION. IN-STREAM EXCAVATION SHALL BE LIMITED TO ONLY THAT NECESSARY TO ALLOW INSTALLATION AND MAINTENANCE OF THE TEMPORARY COFFERDAM.
4. BRIDGE REPAIR WORK SHOULD BE CONDUCTED DURING LOW-FLOW SEASON AND SHOULD BE SCHEDULED IN EXTREME WET WEATHER CONDITIONS
5. INSPECTION AND MAINTENANCE. PERIODICALLY INSPECT THE TEMPORARY COFFERDAM TO ENSURE THE INTEGRITY AND FUNCTIONALITY. REPAIR AS NECESSARY.
6. REMOVAL. WHEN THE CONSTRUCTION WORK IS COMPLETED, THE TEMPORARY COFFERDAM MATERIALS SHALL BE REMOVED. ALL REMOVED MATERIALS SHALL BE TAKEN OFF-SITE AND NOT PLACED IN THE WATERWAY OR FLOODPLAIN.
7. DEWATERING. REMOVAL OF WATER FROM WITHIN THE COFFERDAM AREA SHALL BE ACCOMPLISHED USING A PUMP(S). THE PUMP(S) SHALL BE DISCHARGED IN A CONTROLLED MANNER TO A IMPOUNDMENT AREA, DEPRESSION OF SEDIMENT BAG LOCATED ADJACENT TO THE WORK AREA TO ALLOW REMOVAL OF SEDIMENT AND SUSPENDED SOLIDS BEFORE THE WATER RE-ENTERS THE STREAM. DISCHARGING THE PUMP DIRECTLY TO THE STREAM IS PROHIBITED.
8. PLACEMENT OF CONCRETE MATERIALS OR DISCHARGE OF CONCRETE WASH WATERS DIRECTLY INTO THE STREAM IS PROHIBITED
9. DISTURBED AREAS SHALL BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION ACTIVITY CEASES. IF WORK AREA IS TO REMAIN IDLE FOR MORE THAN TWO WEEKS, APPLY TEMPORARY SEED AND MULCH TO PROJECT THE AREA.

B. CONTRACTOR SHALL SUBMIT DETAILS OF INSTREAM PROTECTION PLAN FOR APPROVAL.

C. ALL WORK TO BE DONE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF NYSDEC AND USACE ENVIRONMENTAL PERMITS.



TURBIDITY CURTAIN DETAIL

NOT TO SCALE

EROSION AND SEDIMENT CONTROL

SCALE: 1" = 30'

GRAPHIC SCALE IN FEET

30 0 30

LEGEND

- PROPERTY LINE
- CONTOUR MAJOR
- CONTOUR MINOR
- STORMWATER
- SANITARY SEWER
- OVERHEAD ELECTRICAL
- GUIDE RAIL
- EDGE OF WATER
- WATER MAIN
- UTILITY POLE
- LIGHT POLE
- SANITARY/STORM MANHOLE
- TELEPHONE MANHOLE
- CATCH BASIN
- WATER VALVE
- HYDRANT
- BORING
- PROPOSED TEMPORARY CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE
- PROPOSED TEMPORARY SOIL STOCKPILE
- PROPOSED FILTER FABRIC PROTECTION

EROSION AND SEDIMENT CONTROL CONTRACT NO. TR-161

Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.

JAMES STREET FLOOD CONTROL

NY RISING COMMUNITY RECONSTRUCTION PROGRAM

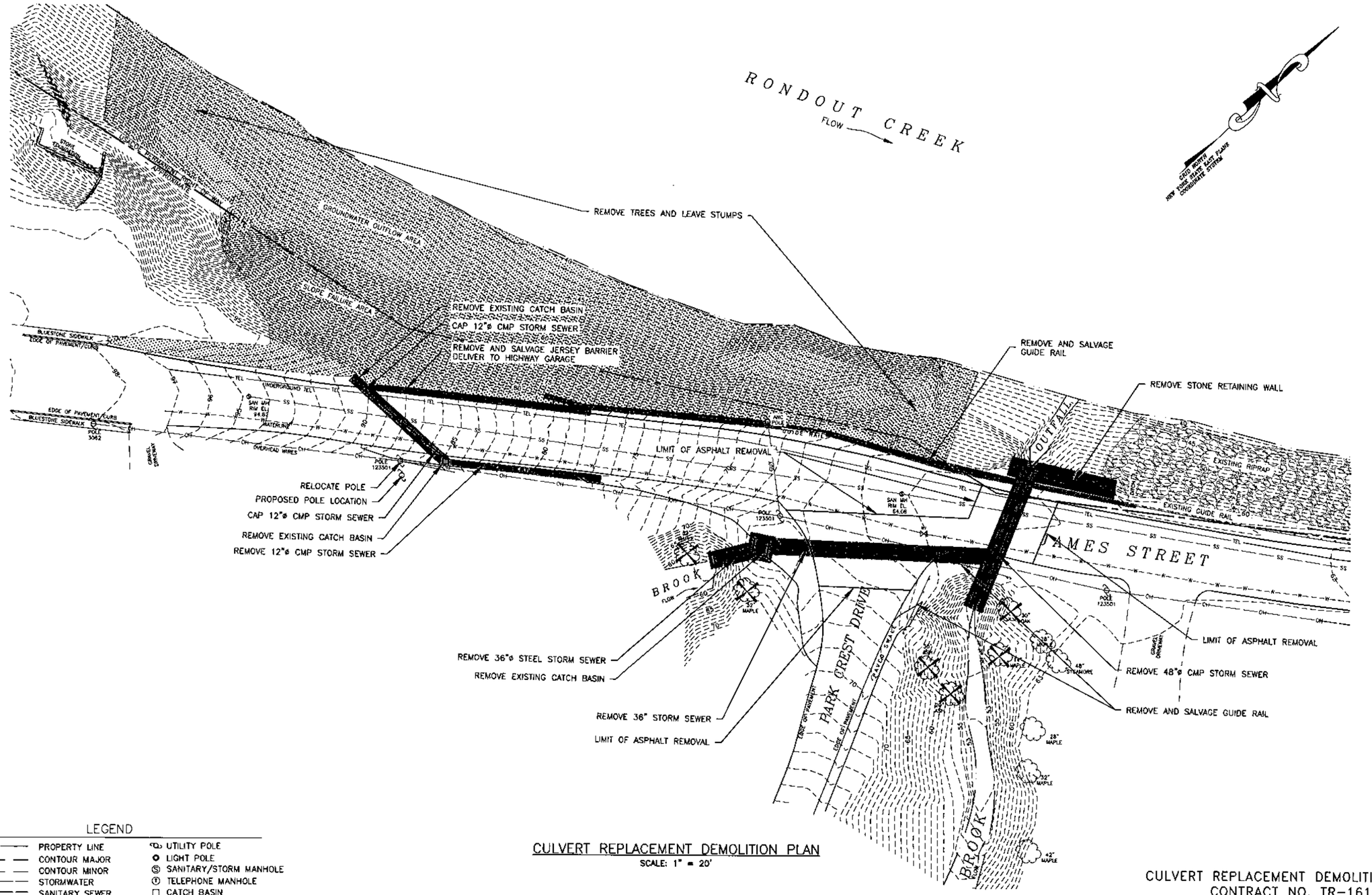
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY

TOWN OF ROSENDALE ULSTER COUNTY NEW YORK

DATE	REVISION RECORD
3/18/16	30% DESIGN FOR REVIEW
	AND PERMITTING
3/24/16	TOWN COMMENTS

BRINNIER & LARIOS, P.C.
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE KINGSTON, N.Y.

SCALE	DATE	SHEET NO.
1" = 30'	MARCH 2015	5 OF 13
	DWG RJS CHK	



CULVERT REPLACEMENT DEMOLITION PLAN
SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- CONTOUR MAJOR
- CONTOUR MINOR
- STORMWATER
- SANITARY SEWER
- OVERHEAD ELECTRICAL
- GUIDE RAIL
- EDGE OF WATER
- WATER MAIN
- UTILITY POLE
- LIGHT POLE
- SANITARY/STORM MANHOLE
- TELEPHONE MANHOLE
- CATCH BASIN
- WATER VALVE
- HYDRANT
- BORING

- X REMOVE
- AREAS OF DEMOLITION
- REMOVE TREES AND LEAVE STUMPS

NOTE:
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GRAPHIC SCALE IN FEET
20 0 20

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CULVERT REPLACEMENT DEMOLITION PLAN
CONTRACT NO. TR-161

JAMES STREET FLOOD CONTROL
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY

TOWN OF ROSENDALE — ULSTER COUNTY — NEW YORK

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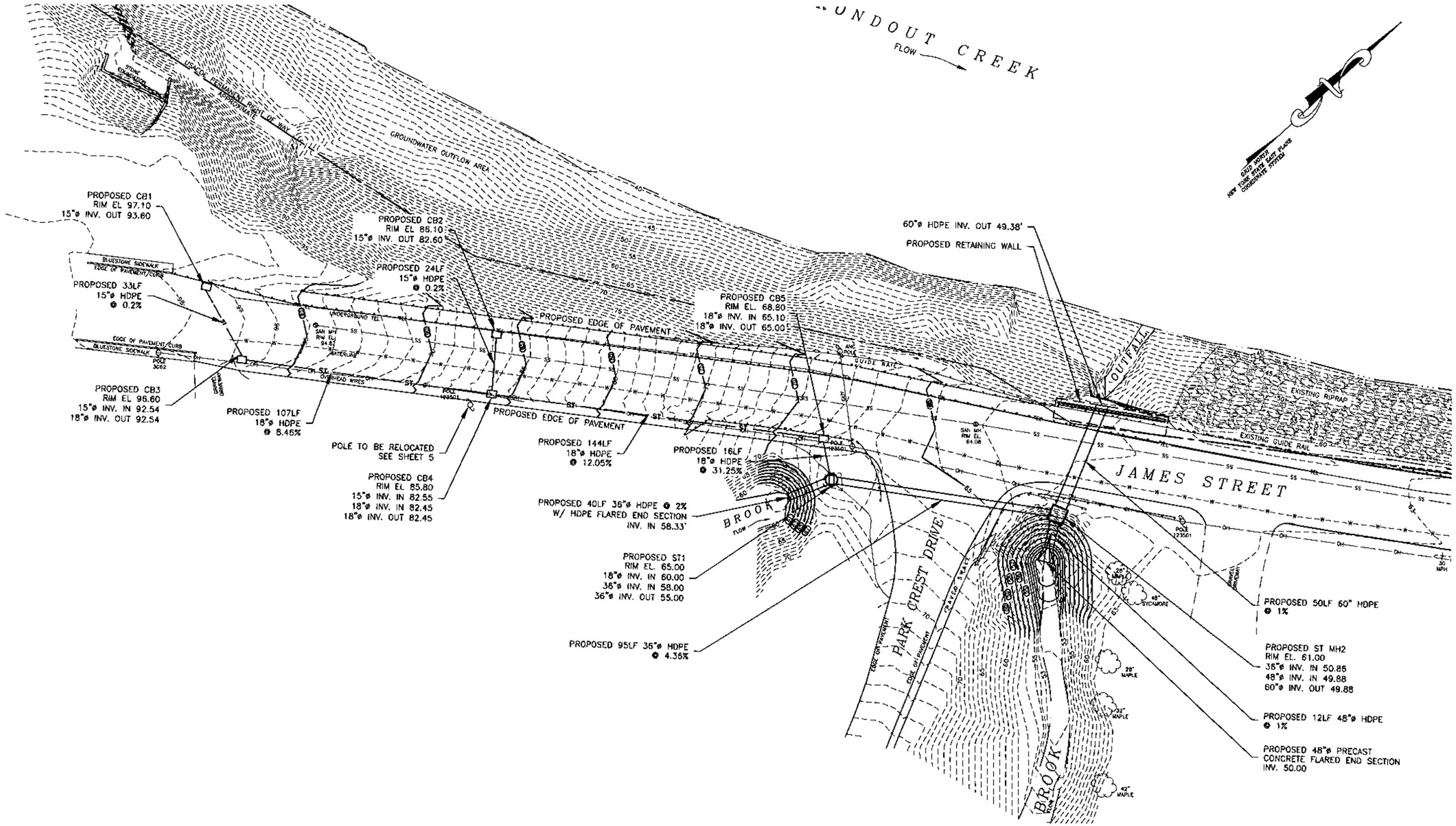
3/24/16	TOWN COMMENTS

BRINNIER & LARIOS, P.C.
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE KINGSTON, N.Y.

SCALE 1" = 20' | DATE MARCH 2016 | DWG RJS | CHK | SHEET NO. 6 OF 13



CULVERT REPLACEMENT SITE PLAN
SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- CONTOUR MAJOR
- CONTOUR MINOR
- STORMWATER
- SANITARY SEWER
- OVERHEAD ELECTRICAL
- GUIDE RAIL
- EDGE OF WATER
- WATER MAIN
- UTILITY POLE
- LIGHT POLE
- SANITARY/STORM MANHOLE
- TELEPHONE MANHOLE
- CATCH BASIN
- WATER VALVE
- HYDRANT
- BORING

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CULVERT REPLACEMENT SITE PLAN
CONTRACT NO. TR-161

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TOWN OF ROSENDALE ULSTER COUNTY NEW YORK

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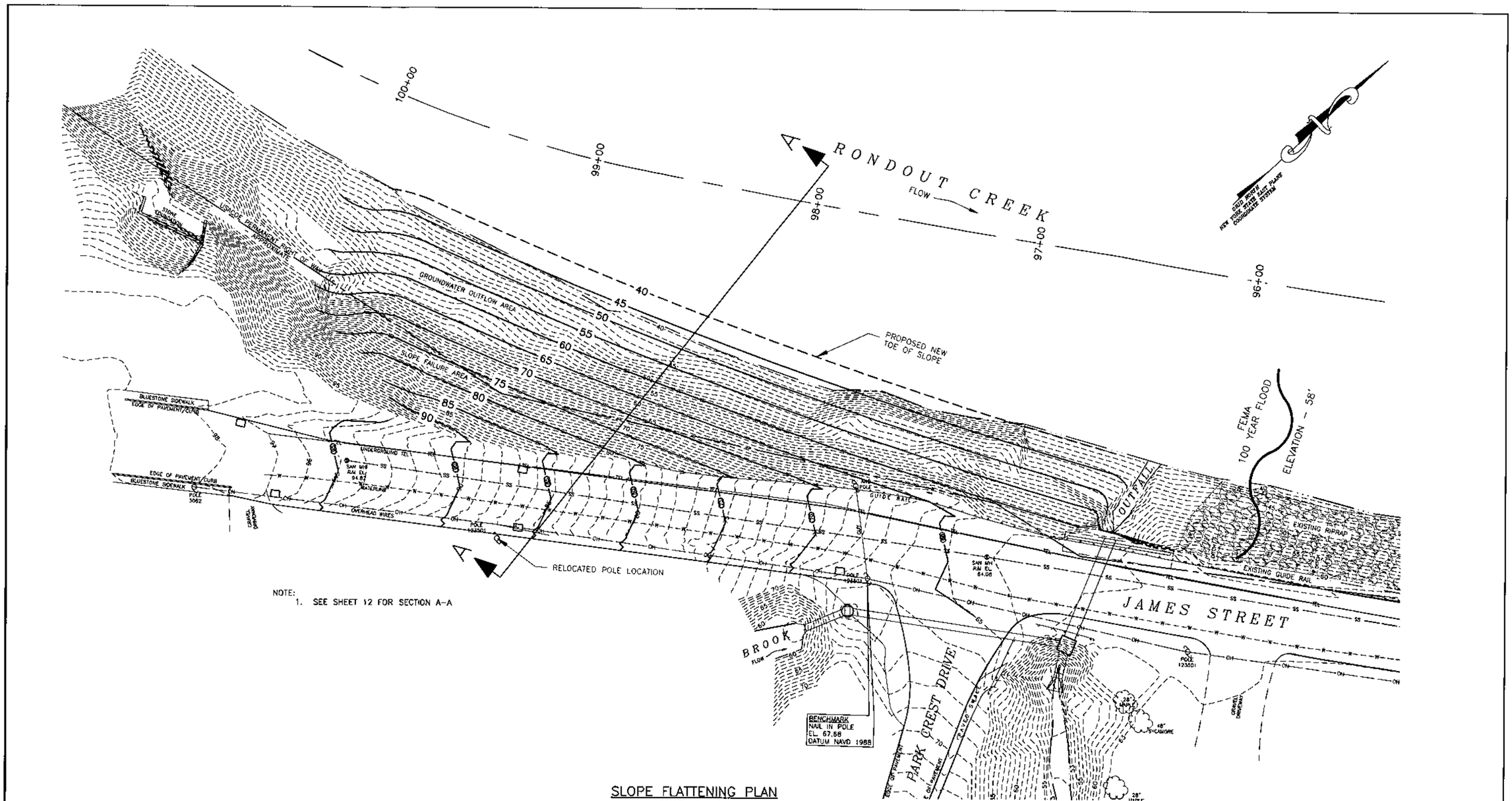

NOTE:
1. SEE SHEET 12 FOR SECTION A–A

SLOPE FLATTENING PLAN
SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- CONTOUR MAJOR
- CONTOUR MINOR
- STORMWATER
- SANITARY SEWER
- OVERHEAD ELECTRICAL
- GUIDE RAIL
- EDGE OF WATER
- WATER MAIN
- UTILITY POLE
- LIGHT POLE
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- TELEPHONE MANHOLE
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- WATER VALVE
- HYDRANT
- BORING

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GRAPHIC SCALE IN FEET
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SLOPE FLATTENING PLAN
CONTRACT NO. TR-161

JAMES STREET FLOOD CONTROL
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY
TOWN OF ROSENDALE ULSTER COUNTY NEW YORK

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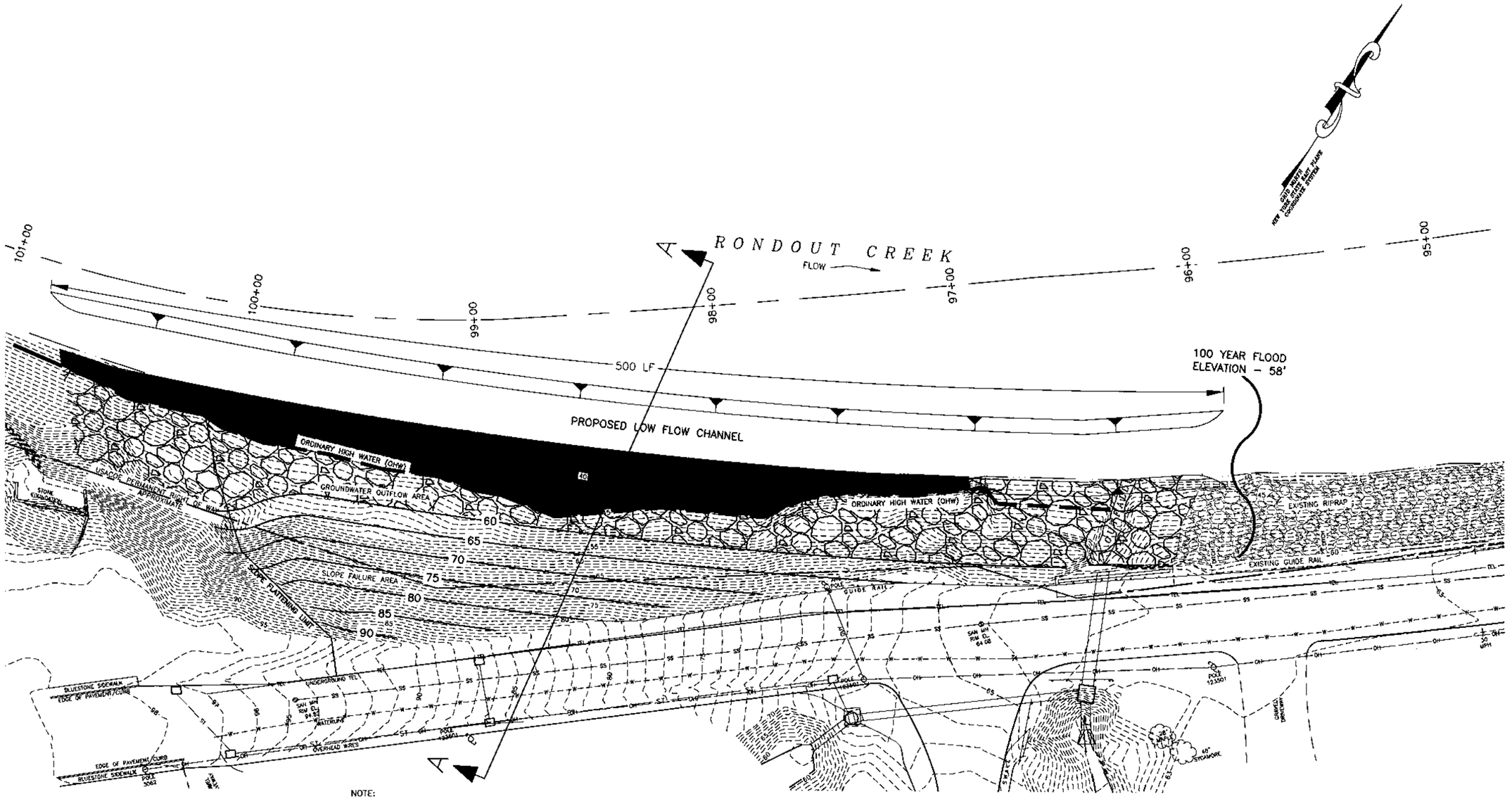
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE KINGSTON, N.Y.

SCALE	DATE	SHEET NO.
1" = 20'	MARCH 2016	8 OF 13
	DWG RJS / CHK	



NOTE:
1. SEE SHEET 12 FOR SECTION A–A

PLAN VIEW
SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- CONTOUR MAJOR
- CONTOUR MINOR
- STORMWATER
- SANITARY SEWER
- OVERHEAD ELECTRICAL
- GUIDE RAIL
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GRAPHIC SCALE IN FEET
20 0 20

BANK STABILIZATION CRITERIA:
- LINEAR FEET OF FILL BELOW OHW = 390 LF
- SQUARE FEET OF FILL BELOW OHW = 6,870 SQ. FT
- CUBIC FEET OF FILL BELOW OHW = 1,820 CU. FT
- RIPRAP SLOPE PROTECTION FROM TOE OF BANK TO ELEVATION 60 FT

LICENSED LAND SURVEYOR — CHRISTOPHER J. TILL — 49170 — STATE OF NEW YORK

LICENSED PROFESSIONAL ENGINEER — JAMES A. LARIOS — 054747 — STATE OF NEW YORK

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500' STREAMBANK STABILIZATION CONTRACT NO. TR-161

JAMES STREET FLOOD CONTROL
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY

TOWN OF ROSENDALE — ULSTER COUNTY — NEW YORK

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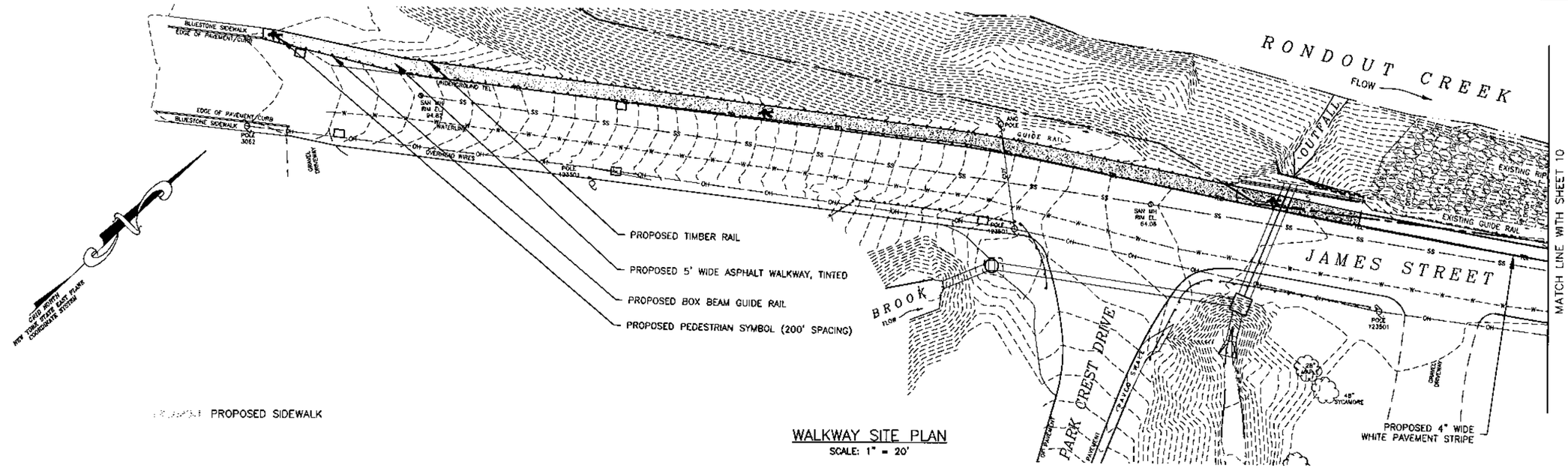
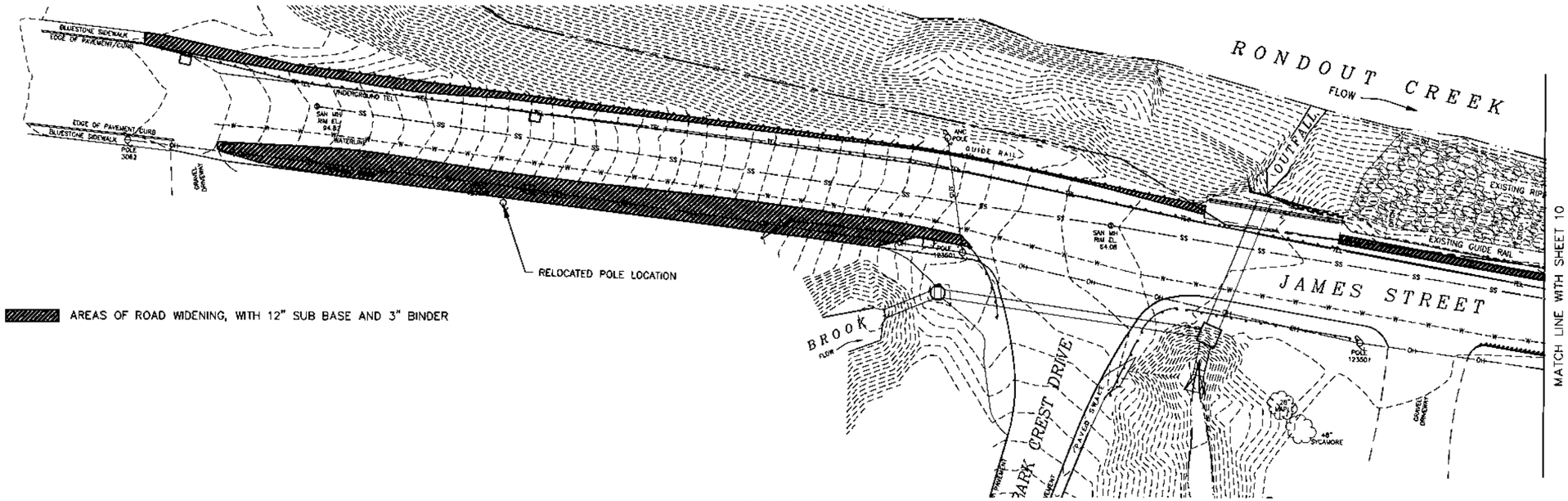
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE KINGSTON, N.Y.

SCALE	DATE	SHEET NO.
1" = 20'	MARCH 2016	9 OF 13
	DWG RJS / CHK	



WALKWAY SITE PLAN
SCALE: 1" = 20'



ROAD ALTERATIONS
SCALE: 1" = 20'

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GRAPHIC SCALE IN FEET
20 0 20

LEGEND

PROPERTY LINE	UTILITY POLE
CONTOUR MAJOR	LIGHT POLE
CONTOUR MINOR	SANITARY/STORM MANHOLE
STORMWATER	TELEPHONE MANHOLE
SANITARY SEWER	CATCH BASIN
OVERHEAD ELECTRICAL	WATER VALVE
GUIDE RAIL	HYDRANT
EDGE OF WATER	BORING
WATER MAIN	

LICENSED LAND SURVEYOR — CHRISTOPHER J. HILL — 49429 — STATE OF NEW YORK

LICENSED PROFESSIONAL ENGINEER — BRIAN K. LARIOS — 092167 — STATE OF NEW YORK

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WALKWAY SITE PLAN
CONTRACT NO. TR-161

JAMES STREET FLOOD CONTROL
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY
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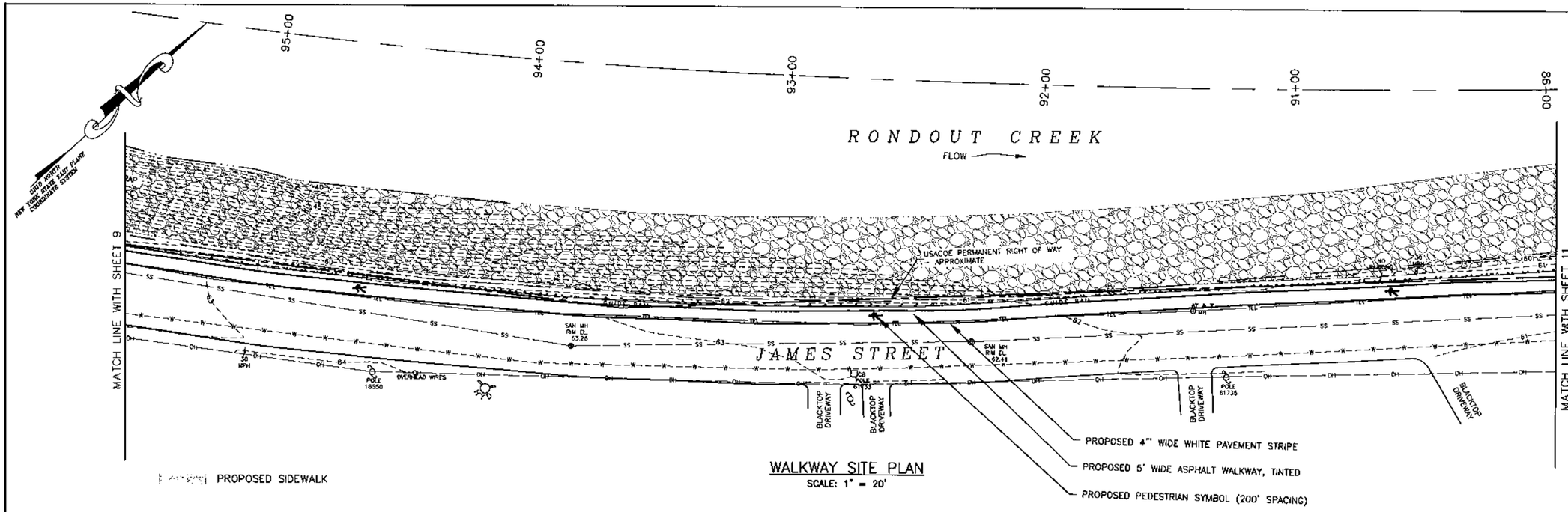
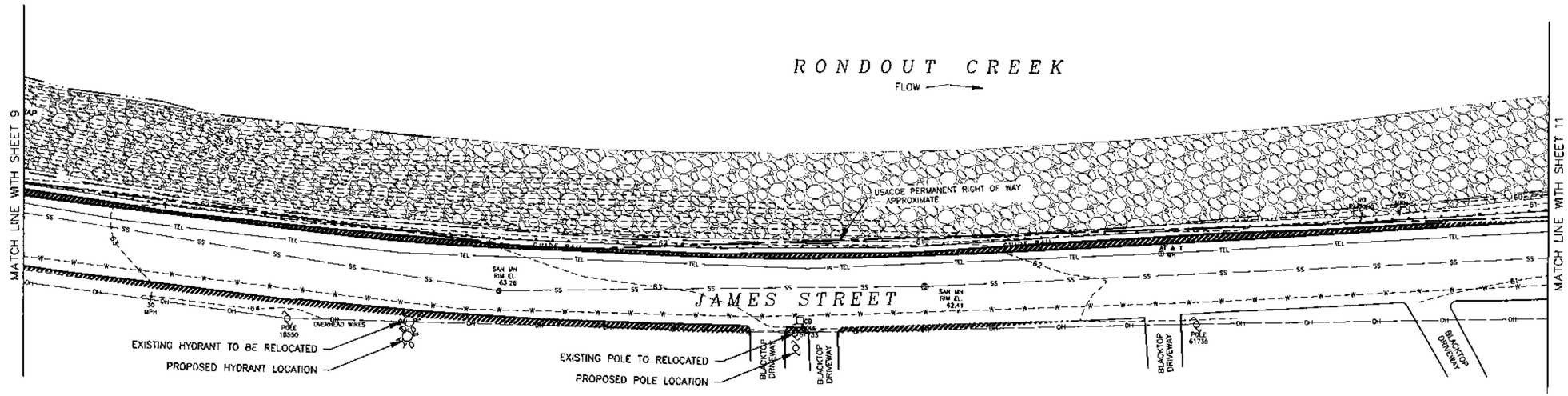
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE — KINGSTON, N.Y.

SCALE: 1" = 20' | DATE: MARCH 2016 | DWG: RJS | CHK: | SHEET NO.: 10 OF 13



WALKWAY SITE PLAN
SCALE: 1" = 20'



ROAD ALTERATIONS
SCALE: 1" = 20'

AREAS OF ROAD WIDENING, WITH 12" SUB BASE AND 3" BINDER

LEGEND

PROPERTY LINE	UTILITY POLE
CONTOUR MAJOR	LIGHT POLE
CONTOUR MINOR	SANITARY/STORM MANHOLE
STORMWATER	TELEPHONE MANHOLE
SANITARY SEWER	CATCH BASIN
OVERHEAD ELECTRICAL	WATER VALVE
GUIDE RAIL	HYDRANT
EDGE OF WATER	BORING
WATER MAIN	

NOTE:
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GRAPHIC SCALE IN FEET
20 0 20

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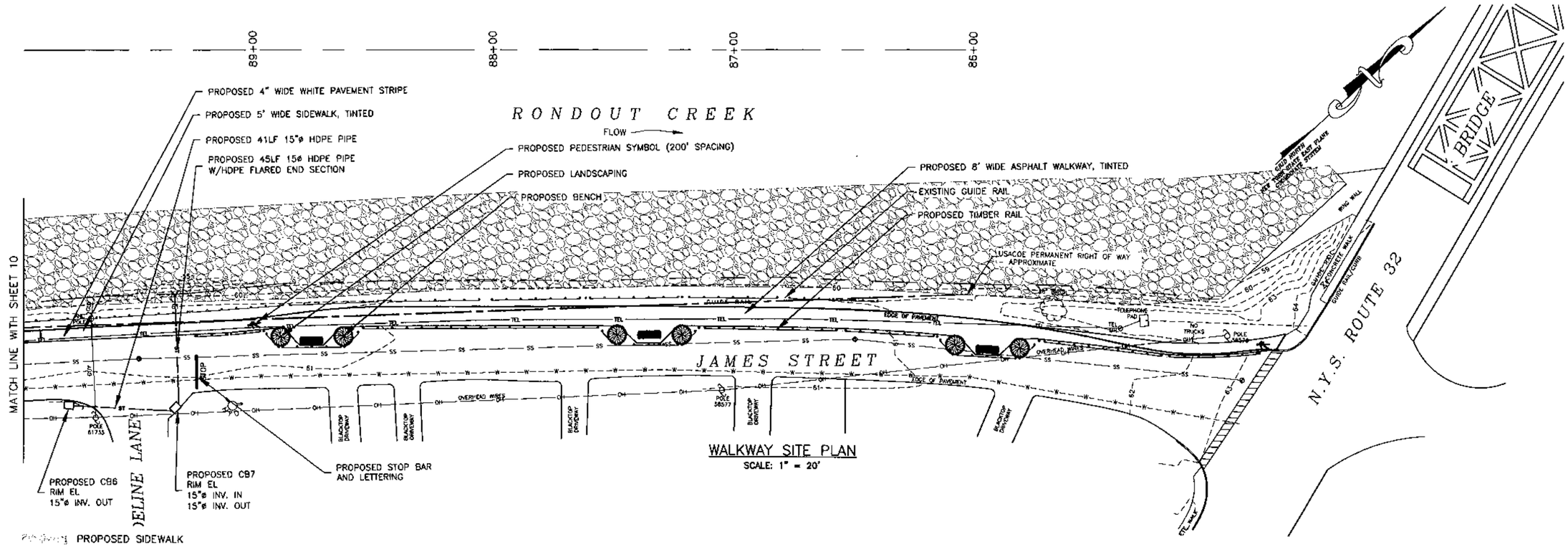
WALKWAY SITE PLAN
CONTRACT NO. TR-161

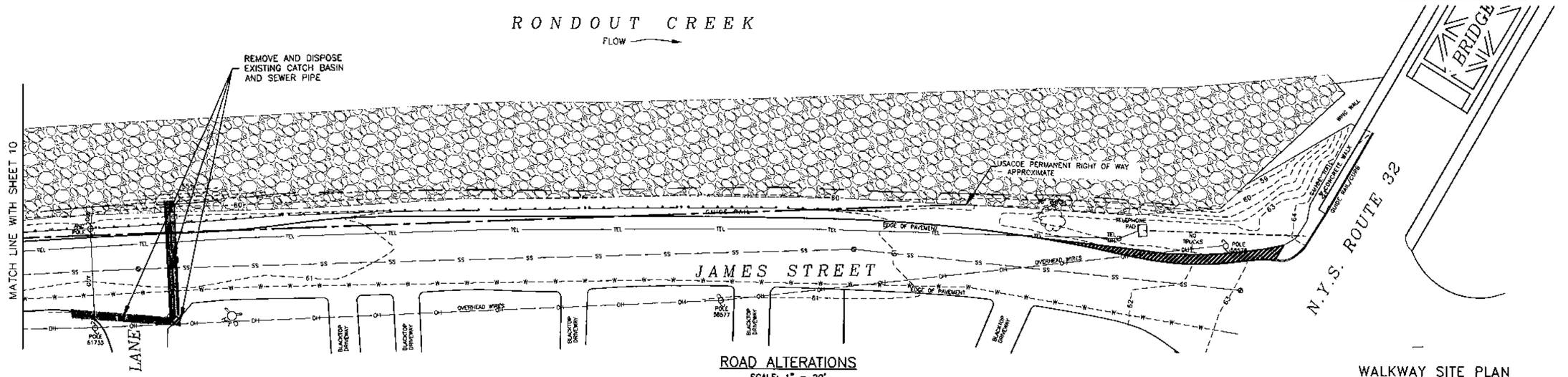
JAMES STREET FLOOD CONTROL
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY
TOWN OF ROSENDALE ULSTER COUNTY NEW YORK

DATE	REVISION RECORD
3/18/16	30% DESIGN FOR REVIEW AND PERMITTING
3/24/16	TOWN COMMENTS

BRINNIER & LARIOS, P.C.
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE KINGSTON, N.Y.

SCALE 1" = 20' | DATE MARCH 2016 | DWG RJS | CHK | SHEET NO. 11 OF 13





AREAS OF ROAD WIDENING, WITH 12" SUB BASE AND 3" BINDER

AREAS OF DEMOLITION

LEGEND

PROPERTY LINE	UTILITY POLE
CONTOUR MAJOR	LIGHT POLE
CONTOUR MINOR	SANITARY/STORM MANHOLE
STORMWATER	TELEPHONE MANHOLE
SANITARY SEWER	CATCH BASIN
OVERHEAD ELECTRICAL	WATER VALVE
GUIDE RAIL	HYDRANT
EDGE OF WATER	BORING
WATER MAIN	

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GRAPHIC SCALE IN FEET

20 0 20

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WALKWAY SITE PLAN
CONTRACT NO. TR-161

JAMES STREET FLOOD CONTROL
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY
TOWN OF ROSENDALE ULSTER COUNTY NEW YORK

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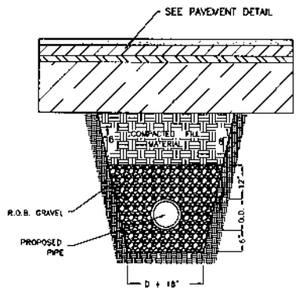
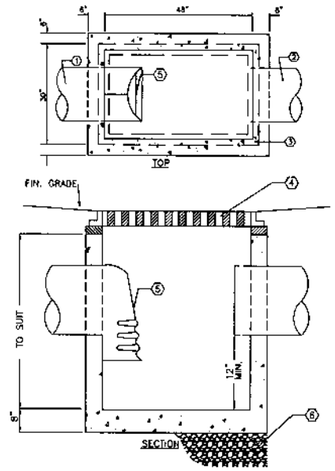
3/24/16	TOWN COMMENTS

BRINNIER & LARIOS, P.C.
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE KINGSTON, N.Y.

SCALE 1" = 20' | DATE MARCH 2016 | DWG RJS | CHK | SHEET NO. 12 OF 13



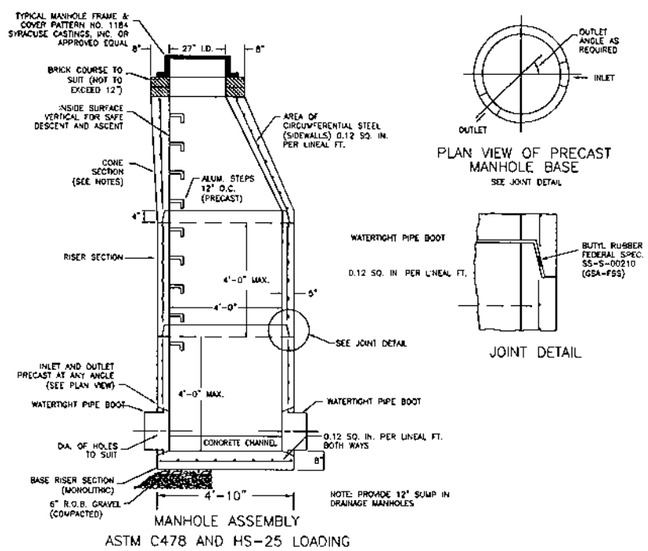
TYPICAL STORM SEWER TRENCH
NOT TO SCALE



KEYED NOTES

1. SEE SITE UTILITY PLAN FOR PIPE SIZES AND INVERTS.
2. USE PRE-FABRICATED CPP BENDS WHERE NECESSARY FOR 90° ENTRY TO BASIN.
3. PRECAST CONCRETE CATCH BASIN, 4,000 PSI CONCRETE, DESIGN FOR AASHTO H20 LOADING
4. HEAVY DUTY FRAME AND GRATE (AASHTO H20 LOADING), 30" X 48" F&G, CAMBELL 3408 OR EQUAL.
5. ALL OUTLETS SHALL BE PROVIDED WITH SHOUT OIL – WATER – DEBRIS SEPARATOR TRAP BY ADS.
6. 6" OF #1 & #2 COMPACTED CRUSHED STONE OR ITEM #4 BASE MATERIAL

TYPICAL CATCH BASIN
NOT TO SCALE

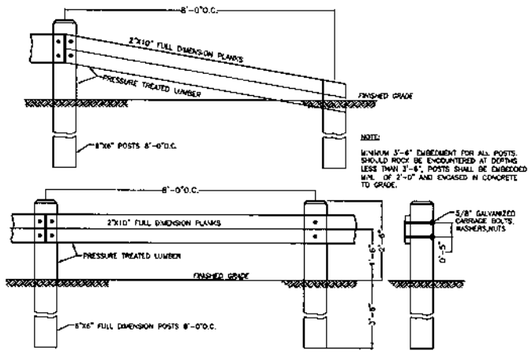


MANHOLE ASSEMBLY
ASTM C478 AND HS-25 LOADING

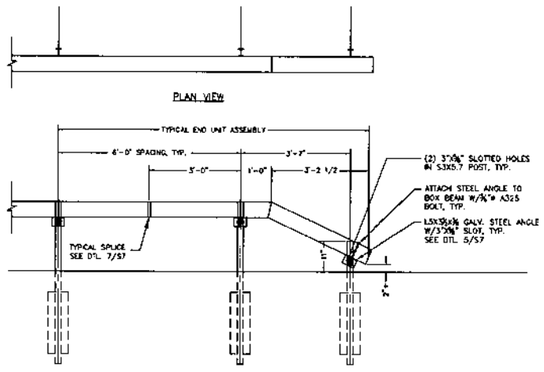
TYPICAL SEWER MANHOLE
NOT TO SCALE

PLAN VIEW OF PRECAST MANHOLE BASE
SEE JOINT DETAIL

JOINT DETAIL



TYP. TIMBER RAIL GUIDE RAIL DETAIL
NOT TO SCALE



TYP. GUIDE RAIL TERMINATION DETAIL
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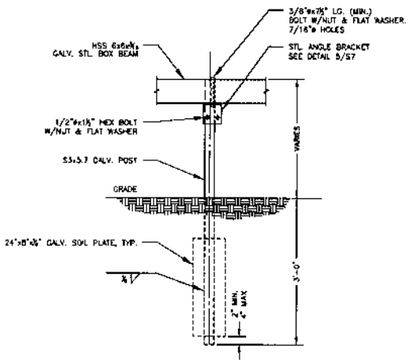
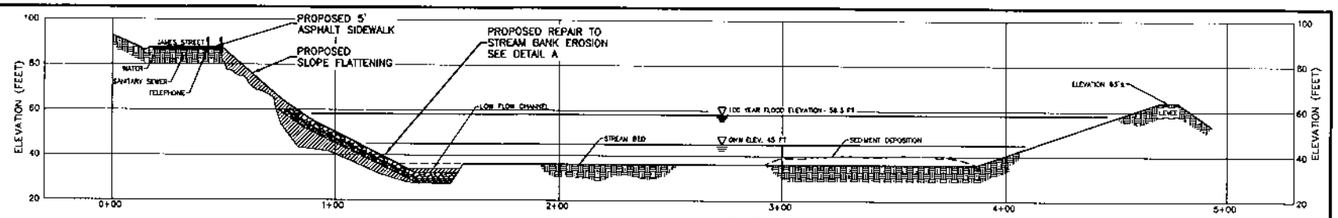
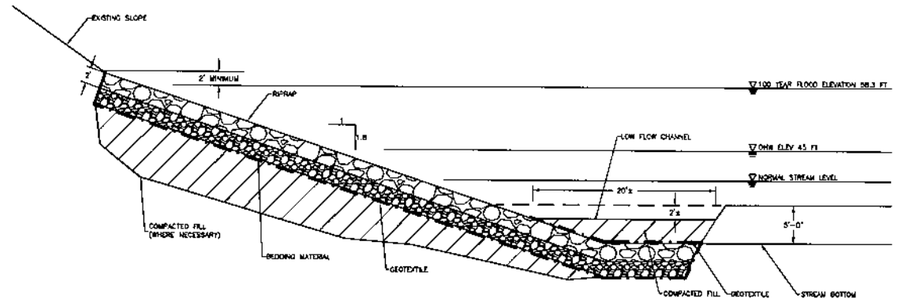


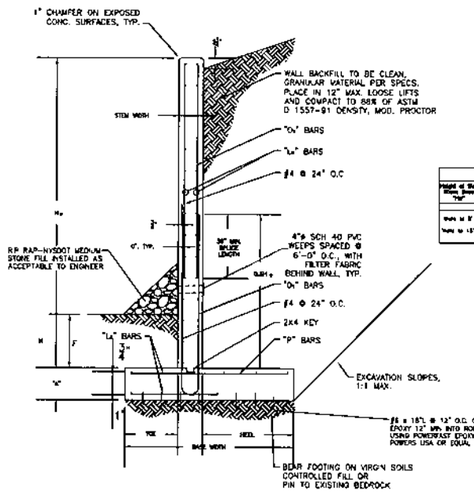
UNIVERSAL GUIDE RAIL POST DETAIL
NOT TO SCALE



SECTION A–A
USACOE STA 100+40
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 30'
VERTICAL EXAGGERATION 1:1



DETAIL A PROPOSED SLOPE FLATTENING AND RIPRAP STABILIZATION
NOT TO SCALE



RETAINING WALL DIMENSIONS							BASE REINFORCEMENT			STEM REINFORCEMENT	
Height of Wall (Stem Only) "Hs"	Base Key Depth "D"	Base Slab Thick. "T"	Heel Length	Toe Length	Width of Base "B"	Base Width/Stem Height "B/Hs"	Dowel Bars "Da"	"Ta" Bars Heel Side	"Ta" Bars Toe Side	"Da" Bars	"La" Bars
	Inches	Inches	Feet-Inches	Feet-Inches	Feet-Inches	Ratio	Bars-Spacing	Bars-Spacing	Bars-Spacing	Bars-Spacing	Bars-Spacing
Upto 6' 0"	2'-0"	1'-0"	3'-6"	1'-6"	5'-0"	1'-0"	#6 @ 24"	#6 @ 24"	#4 @ 12"	#6 @ 24"	#4 @ 12"
Upto 12' 0"	2'-0"	1'-0"	6'-0"	2'-0"	8'-0"	1'-0"	#6 @ 24"	#7 @ 24"	#6 @ 12"	#6 @ 12"	#5 @ 12"

REINFORCED CONCRETE CANTILEVER RETAINING WALL
NOT TO SCALE

DETAILS
CONTRACT NO. TR-161

JAMES STREET FLOOD CONTROL
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY
TOWN OF ROSENDALE ULSTER COUNTY NEW YORK

DATE	REVISION RECORD
3/18/16	30% DESIGN FOR REVIEW AND PERMITTING

BRINNIER & LARIOS, P.C.
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE KINGSTON, N.Y.

SCALE	DATE	SHEET NO.
1" = 20'	MARCH 2016	13 OF 13
	DWG. RJS CHK	

LICENSED LAND SURVEYOR CHRISTOPHER J. TILL 49928 STATE OF NEW YORK

LICENSED PROFESSIONAL ENGINEER MARK W. LARIOS 076741 STATE OF NEW YORK

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AERIAL VIEW
SCALE: 1" = 60'

MAINTENANCE DREDGING TO REMOVE POINT BAR

STREAMBANK STABILIZATION

SLOPE FLATTENING

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GRAPHIC SCALE IN FEET
60 0 60

LICENSED LAND SURVEYOR
CHRISTOPHER J. TILL
49629
STATE OF NEW YORK

LICENSED PROFESSIONAL ENGINEER
JENNIS M. LARIOS
058741
STATE OF NEW YORK

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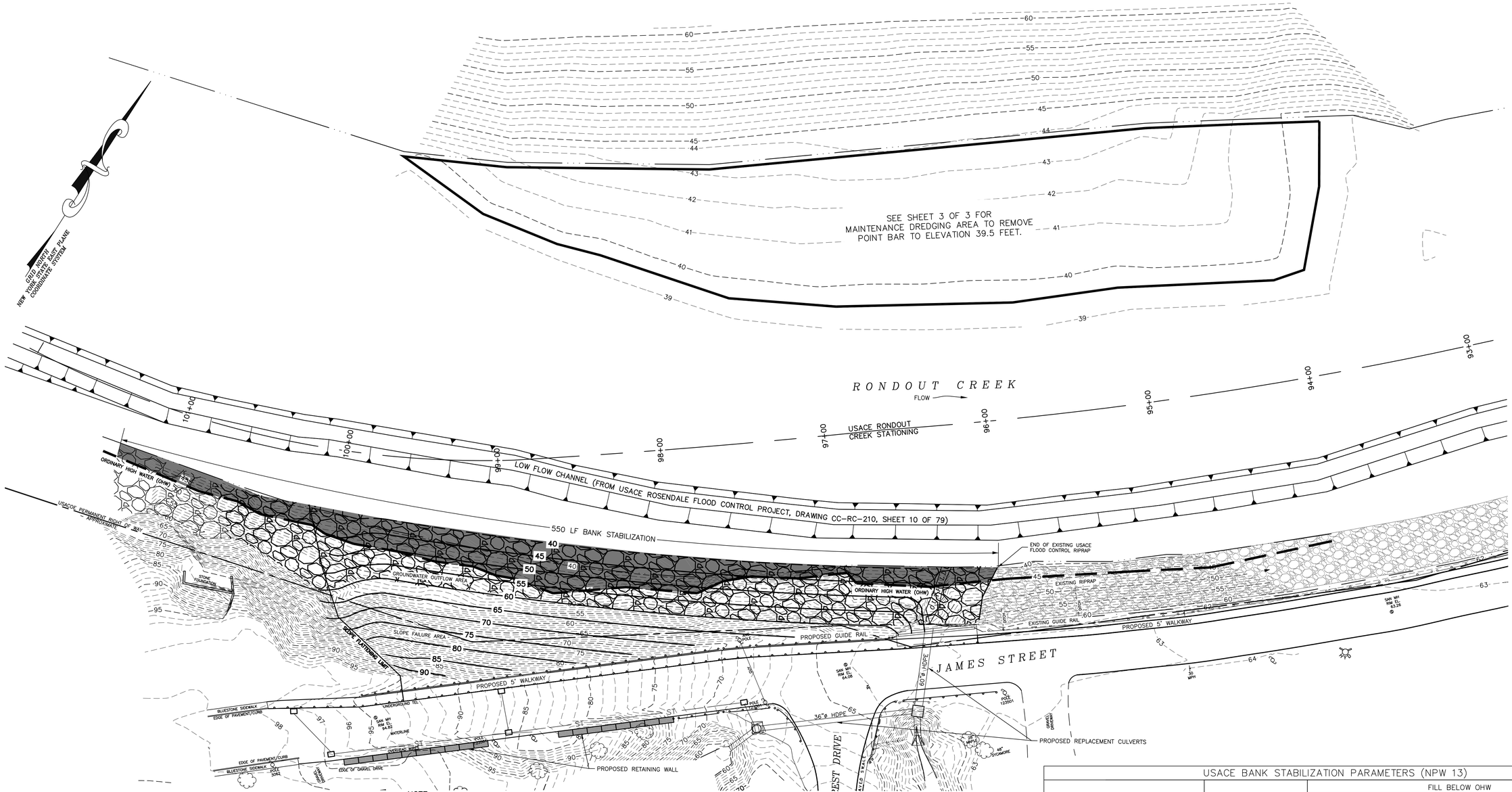
AERIAL VIEW – STREAMBANK STABILIZATION AND MAINTENANCE DREDGING USACE JURISDICTION REVIEW

JAMES STREET FLOOD CONTROL
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY
TOWN OF ROSENDALE ULSTER COUNTY NEW YORK

DATE	REVISION RECORD
11/29/16	FOR AGENCY REVIEW

BRINNIER & LARIOS, P.C.
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE KINGSTON, N.Y.

SCALE	DATE	SHEET NO.
1" = 60'	NOV. 2016	1 OF 3
	DWG: RJS CHK:	



NOTE:
1. SEE SHEET 13 FOR SECTION A–A

PLAN VIEW
SCALE: 1" = 30'

USACE BANK STABILIZATION PARAMETERS (NPW 13)				
		FILL BELOW OHW		
LOCATION	LENGTH ALONG BANK	AREA	FILL VOLUME[1]	CY FILL PER RUNNING FOOT
ROUNDOUT CREEK SOUTHERN STREAMBANK	550 LF	8,711 (FT^2)	1,145 CY	2.08 CY/RUNNING FOOT

NOTE:
1. THE GEOTECHNICAL REPORT FOR JAMES STREET SLOPE AND HEADWALL DATED NOVEMBER 2, 2015 CALLS FOR FLATTENING THE SLOPE AT A MAXIMUM OF 1.8 HORIZONTAL TO 1.0 VERTICAL TO PROVIDE A STABLE SLOPE/EMBANKEMENT TO SUPPORT JAMES STREET, A TOWN ROAD.

LEGEND

- PROPERTY LINE
- CONTOUR MAJOR
- CONTOUR MINOR
- STORMWATER
- SANITARY SEWER
- OVERHEAD ELECTRICAL
- GUIDE RAIL
- EDGE OF WATER
- WATER MAIN
- UTILITY POLE
- LIGHT POLE
- SANITARY/STORM MANHOLE
- TELEPHONE MANHOLE
- CATCH BASIN
- WATER VALVE
- HYDRANT
- BORING
- PROPOSED SLOPE FLATTENING GRADE
- FILL AREA BELOW OHW
- PROPOSED RIPRAP AREA

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GRAPHIC SCALE IN FEET
30 0 30

LICENSED LAND SURVEYOR — CHRISTOPHER J. ZELL — 49629 — STATE OF NEW YORK

LICENSED PROFESSIONAL ENGINEER — SEWING M. LARIOS — 058747 — STATE OF NEW YORK

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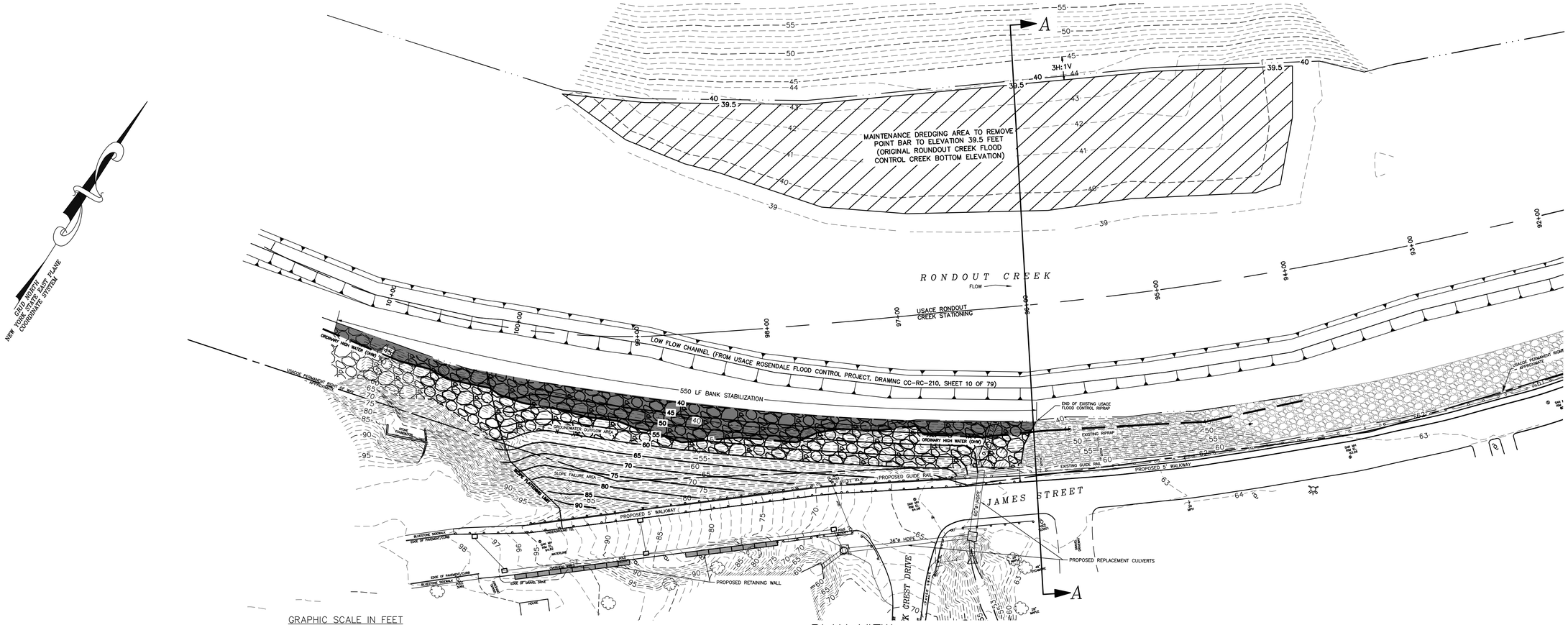
STREAMBANK STABILIZATION
USACE JURISDICTION REVIEW

JAMES STREET FLOOD CONTROL
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY
TOWN OF ROSENDALE — ULSTER COUNTY — NEW YORK

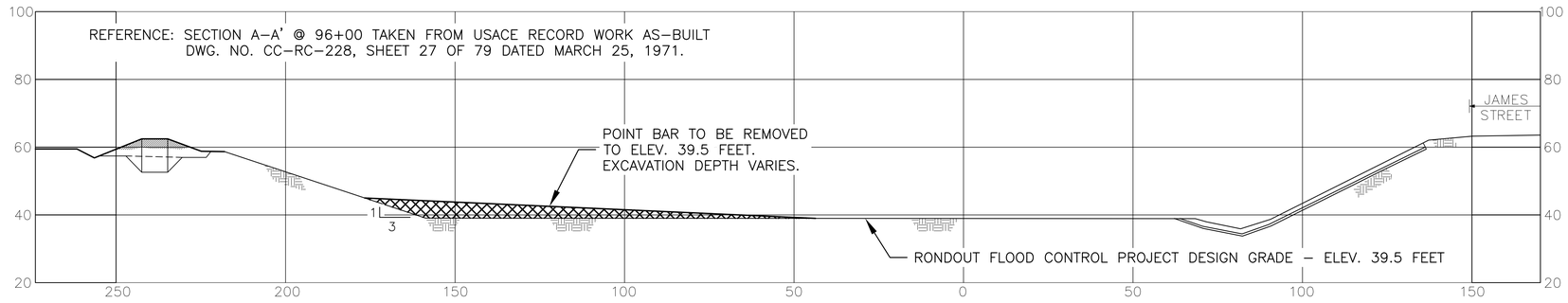
DATE	REVISION RECORD
11/29/16	FOR AGENCY REVIEW

BRINNIER & LARIOS, P.C.
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE — KINGSTON, N.Y.

SCALE	DATE	SHEET NO.
1" = 30'	NOV. 2016	2 OF 3
	DWG RJS / CHK	



PLAN VIEW
SCALE: 1" = 40'



SECTION A-A' @ 96+00
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- CONTOUR MAJOR
- CONTOUR MINOR
- STORMWATER
- SANITARY SEWER
- OVERHEAD ELECTRICAL
- GUIDE RAIL
- EDGE OF WATER
- WATER MAIN
- UTILITY POLE
- LIGHT POLE
- SANITARY/STORM MANHOLE
- TELEPHONE MANHOLE
- CATCH BASIN
- WATER VALVE
- HYDRANT
- BORING
- PROPOSED SLOPE FLATTENING GRADE
- FILL AREA BELOW OHW
- PROPOSED RIPRAP AREA
- MAINTENANCE DREDGING TO REMOVE POINT BAR

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LICENSED LAND SURVEYOR — CHRISTOPHER J. TILL — 49679 — STATE OF NEW YORK

LICENSED PROFESSIONAL ENGINEER — DENNIS M. LARIOS — 058741 — STATE OF NEW YORK

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POINT BAR REMOVAL PLAN AND SECTION USACE JURISDICTION REVIEW

JAMES STREET FLOOD CONTROL

NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY
TOWN OF ROSENDALE — ULSTER COUNTY — NEW YORK

DATE	REVISION RECORD
11/29/16	FOR AGENCY REVIEW

BRINNIER & LARIOS, P.C.
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE — KINGSTON, N.Y.

SCALE	DATE	SHEET NO.
AS SHOWN	NOV. 2016	3 OF 3
	DWG: RJS / CHK:	

HYDROLOGY AND HYDRAULIC ANALYSIS

JAMES STREET CULVERT

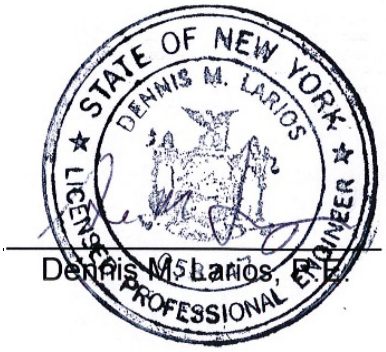
TOWN OF ROSENDALE
ULSTER COUNTY, NEW YORK

DECEMBER 2015

PREPARED FOR:

TOWN OF ROSENDALE
Jeanne Walsh, Supervisor
Town Board
John Hughes
Jennifer Metzger
Christopher Pryslopski
Robert Ryan

Highway Superintendent
Robert Gallagher



Dennis M. Larios, P.E.

PREPARED BY:

BRINNIER & LARIOS, P.C.
Professional Engineers & Land Surveyors
67 Maiden Lane
Kingston, New York 12401

TABLE OF CONTENTS

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A.	Methodology Used	5
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C.	Results	6
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LIST OF APPENDICES

Appendix A- Location Map
Appendix B- Tributary Drainage Area
Appendix C- USDA Soils Report of Drainage Area and Boring Logs
Appendix D- Existing Conditions HydroCAD Model Output
Appendix E- Proposed Replacement Culvert HydroCAD Model Output

I. PURPOSE AND SCOPE

The Town of Rosendale is replacing two culverts located in the Town of Rosendale, N.Y., approximately 1,200 feet from Route 32 near the intersection of James Street and Park Crest Drive. A location map of the culverts is given in Figure 1 in Appendix A. The existing 48-inch culvert is located at Latitude 41º 50' 34.86" N and Longitude 74º 04' 38.50" W below a section of James Street. A 36-inch diameter culvert originates on the west side of the Park Crest Drive-James Street intersection and connects to the 48-inch diameter culvert at a point below James Street. The combined stormwater flow from these culverts is discharged into the Rondout Creek. An analysis of the hydrology and hydraulics of the watershed was performed to determine the peak discharge rates that will occur in various storm events (10-year, 25-year, 50-year, and 100-year frequency). The calculated peak flow rates will be used to determine the required dimensions for the replacement culverts.

II. DESCRIPTION OF WATERSHED

A. Land Use and Topography

The total watershed area of this unnamed tributary draining to the Rondout Creek is approximately 154 acres. This watershed features gently sloping hills that drain into tributaries to the Rondout Creek from the south and southeast before reaching the James Street culverts. The maximum elevation in this watershed is approximately 240 ft. (USGS 1988 datum).

For the purpose of the hydrologic model, the total watershed was divided into the two catchment areas (Area A and Area B) that drain to each culvert. The watershed for each of the culverts is shown on Figure 2 in Appendix B. Area A is a 116 acre area that drains to the 48-inch corrugated metal pipe (CMP) below James Street (Design Point A on Figure 2). Area B is a 37.6 acre area that drains to the 36-inch steel culvert (Design Point B). The Still Pond Reservoir, a water supply source for the Rosendale Water District, is located within the Area B drainage area.

The land cover in this watershed area was approximated using available aerial imagery. The watershed area is mostly covered in forest and residential lots, with some grassed areas, roadways, and bare sand. The land cover is summarized in Table 1 below.

Table 1. Land Cover in Watershed Area

Land Cover	Area (acres)
Forest	98
Impervious	6
Grassed	5
Residential	41
Sand	4
Total	154

These land covers are used to assign runoff curve numbers to the catchment area in the hydrologic model, which allows the model to predict how quickly stormwater will runoff.

B. Soils

Information on the soil types in this watershed area was obtained from a USDA Soil Resource Report, which is included in Appendix C. The report indicates a total of 5 different soil types in this area, primarily Plainfield and Riverhead loamy sands. Table 2 displays the total acreage of each hydrologic soil group (HSG) that was used in the hydrologic model.

Table 2. Hydrologic Soil Groups

	Hydrologic Soil Group (HSG)			
	A	B	C	D
Area (acres)	148	0	0	6
Percent of Area (%)	96	0	0	4

Table 2 illustrates the prevalence of sandy, loamy soil types falling within hydrologic soil group A. In these soils, water infiltrates through the soil at high rates even when wetted and runoff potential is low. Table 2 also shows 6 acres of soil classified as HSG D. This soil is Farmington-Rock outcrop complex, and is found within drainage Area A.

A single soil boring was drilled on James Street approximately 250 feet west of the culvert replacement location. A copy of the boring log is given in Appendix C. The soil

boring found brown silt and fine sand to a depth of 24 feet which is consistent with the USDA Soil Report.

C. Stream Dimensions and Modeling

In order to determine the peak rates of runoff in this watershed, the “time of concentration” was calculated. This is the time for water from the most remote point in the watershed to reach the discharge point at the Rondout Creek. This calculation was performed for both catchment areas. For Area A, a flow path from the southeast edge of the watershed in the Mountain View Road area was used, as shown on Figure 2 of Appendix B. For Area B, the flow path originated in the forest area just above Elting Road.

After analyzing the field survey plot and visually inspecting the tributary streams, the stream dimensions were approximated. The tributary streams in both catchment areas were modeled as trapezoidal channels with a bottom width of 8 feet, depth of 2 feet, and side slopes of 1.5:1 (run/rise). All channel flow was modeled with a Manning’s “n-value” of 0.040, due to the sluggish, weedy nature of the tributary streams. The time of concentration was found to be 27.3 minutes in Area A, and 13.2 minutes in Area B.

D. Stream Classification

The James Street culvert receives flows from two unnamed tributaries. The flow to the 48-inch culvert is from a Class C stream as listed by the NYSDEC with a Water Index Number H-139-14-4. The flow to the 36-inch culvert is from a Class AA stream with a Water Index Number of H-139-14-4-1 but it is noted that the proposed culvert replacement work is located approximately 1,400 feet downstream of the Still Pond Reservoir water supply system.

E. Existing Hydraulic Conditions

The existing steel culvert, originating on the west side of Park Crest Drive-James Street intersection, has a 36-inch circular hydraulic opening. This culvert runs for approximately 140 linear feet at a slope of 7.7%. This culvert connects to the 48-inch diameter culvert below James Street approximately 40 feet from the downstream end. Using

Manning's Equation, with a roughness coefficient (n) of 0.014, the capacity of the existing 36-inch steel culvert was calculated to be 171 cubic feet per second (cfs).

The existing culvert below James Street is made of corrugated metal pipe (CMP). This culvert has a 48-inch circular hydraulic opening, running for approximately 64 linear feet at a slope of 1.8%. The hydraulic opening is slightly larger at the downstream end, as there is an old stone archway abutting the CMP. Using Manning's Equation, with a roughness coefficient (n) of 0.030 due to the pipe's deterioration, the capacity of the existing 48-inch CMP culvert was calculated to be 83 cfs.

III. HYDRAULIC CALCULATIONS OF TRIBUTARY AREA

A. Methodology Used

For the purpose of this analysis, HydroCAD (version 10) computer software was utilized for modeling of the hydrology and hydraulics of stormwater runoff for the tributary drainage area. HydroCAD adopts the U.S.D.A. Soil Conservation Service hydrologic method known as the Technical Release 55 (TR-55), Urban Hydrology for Small Watersheds. The watershed was modeled as two catchments, as shown on the Figure 2 in Appendix B. This catchment was modeled with input data based on the soil map, land cover areas, and hydraulic data discussed above. The complete HydroCAD output (existing and proposed conditions) including runoff hydrographs can be found in Appendix D.

B. Design Storms

The design storms (10-year, 25-year, 50-year, and 100-year frequency) utilized in this analysis are from Cornell University's Northeast Regional Climate Center (NRCC) precipitation database (http://precip.eas.cornell.edu/). This database provides site-specific design storms, allowing us to more accurately model the hydraulic conditions at the exact location of the bridge. The 24-hour rainfall depths for the four design storms analyzed are shown below in Table 3.

Table 3. Design Storms

Design Storm	Rainfall Depth (inches)
10-year	4.73
25-year	5.92
50-year	7.03
100-year	8.34

C. Results

The resulting peak rates of runoff at the location of the 48" culvert (Design Point A) for the four storm events considered are shown below in Table 4. Since the 36-inch steel culvert connects with the 48-inch culvert, the stormwater runoff at Design Point A is the combined flows from both catchment Area A plus Area B.

Table 4. Peak Discharges at Design Point A

Design Storm	Peak Runoff (cfs)
10-year	9
25-year	43
50-year	94
100-year	174

The existing 36-inch steel culvert (Design Point B) collects stormwater runoff that originates solely in catchment Area B. The peak rates of runoff for each storm event at this location are displayed below in Table 5.

Table 5. Peak Discharges at Design Point B

Design Storm	Peak Runoff (cfs)
10-year	1
25-year	10
50-year	28
100-year	56

IV. CULVERT SIZING

Existing Culvert Analysis

The hydraulic capacity of the existing 36-inch steel and 48-inch CMP culverts were calculated to be 171 cfs and 83 cfs, respectively. Based on the results given in Table 4, the existing 48-inch culvert has adequate capacity to convey peak discharges for the 10-year and 25-year design storms, but is not properly sized to convey the 50-year and 100-year design storms.

Based on the results shown in Table 5, the existing 36-inch steel culvert has adequate capacity to convey each storm event including the 100 year storm event. The connection of the 36-inch culvert to the 48-inch culvert is problematic because it is not accessible.

It is recommended that both culverts be replaced and designed with adequate capacity to convey peak discharges from the 100-year design storm.

Proposed Replacement Culvert Analysis

The proposed culvert replacement plan is to install a storm sewer manhole on the south side of James Street to provide a proper connection point for the former 36-inch and 48-inch culverts. A 10 foot-long section of 48-inch diameter high-density polyethylene (HDPE) smooth interior storm sewer piping with a flared end section inlet will convey the flow from Area A into the proposed storm sewer manhole. A new 36-inch diameter HDPE smooth interior storm sewer pipe with a flared end section inlet from the west side of Park Crest Drive will convey the flow from Area B to the proposed storm sewer manhole. A new 60-inch diameter HDPE pipe will be installed to replace the existing 48-inch CMP under James Street. A HydroCAD model for proposed culvert replacement conditions is given in Appendix E.

The hydraulic capacity of the proposed replacement culvert sections and the corresponding 100-year peak flows are given below in Table 6.

Table 6. Proposed Replacement Culvert Hydraulic Capacities

Culvert Size/Type/Slope	Hydraulic Capacity (cfs)	Peak 100 Year Flow Rate (cfs)
36" HDPE at 4.36%	139	56
48" HDPE at 2.5%	227	146
60" HDPE at 1%	260	174

Table 6 shows that the proposed replacement culverts will each adequately convey peak stormwater runoffs for the 100-year storm.

V. CONCLUSIONS

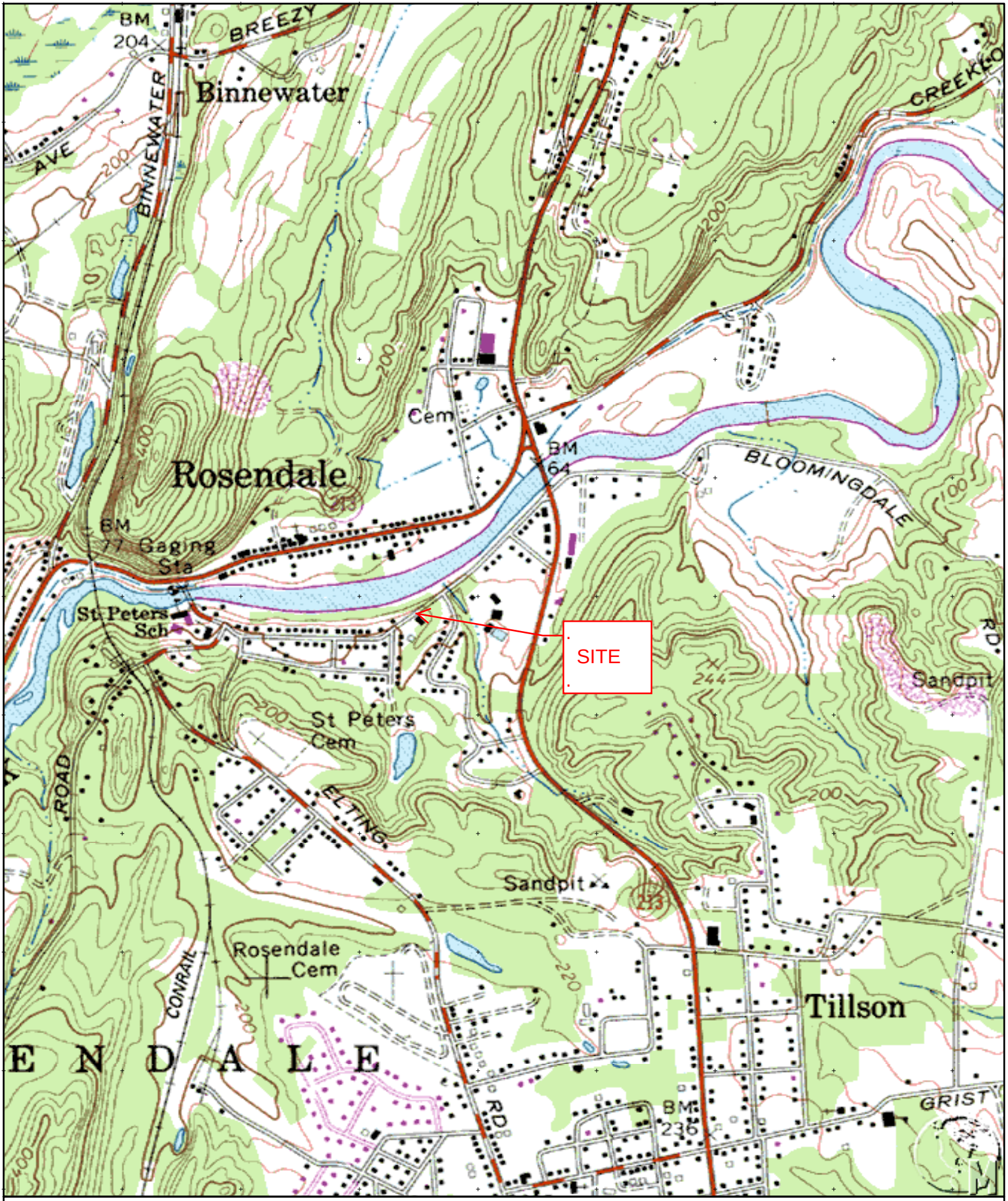
The Town of Rosendale is replacing the existing 36-inch diameter circular steel culvert and 48-inch diameter circular CMP culvert at James Street, both of which exhibit considerable deterioration. In order to properly design replacement culverts, a hydrologic model of the 154-acre watershed was prepared using the HydroCAD software. For the hydrologic model, the watershed was split into two catchment areas (Area A and Area B). The catchment areas were modeled using input data for land cover, soil type, and time of concentration. The HydroCAD model calculated a peak rate of runoff of 174 cfs for the 100-year storm.

The hydraulic capacity of the existing 36-inch and 48-inch culverts were calculated to be 171 cfs and 83 cfs, respectively. The hydraulic capacity of the existing 48-inch culvert is less than the peak discharge rate from the watershed for both the 50-year and 100-year storms. Therefore, the 48-inch culvert cannot currently pass the 50-year and 100-year storms without backing up a portion of the runoff.

In order to adequately convey the peak stormwater runoff for the 100-year storm, it is recommended that these culverts be replaced with HDPE as described above in Section IV (Culvert Sizing). This plan includes the installation of a new storm sewer manhole to provide a proper connection point for the culverts. The runoff from Area A is to be conveyed to the new manhole by a new 10-foot long section of 48-inch CMP. The existing 36-inch steel culvert is to be replaced with a 36-inch HDPE culvert which will convey runoff

from Area B to the new manhole. It is also proposed that the existing 48-inch CMP be replaced with a 60-inch HDPE culvert to convey the combined flows from both drainage areas. This proposed plan was modeled in HydroCAD (Appendix E). The results from this model (shown in Table 6 above) show that each proposed section of culvert provides adequate hydraulic capacity to convey peak stormwater runoff for the 100-year storm.

Appendix A
Figure 1-Location Map



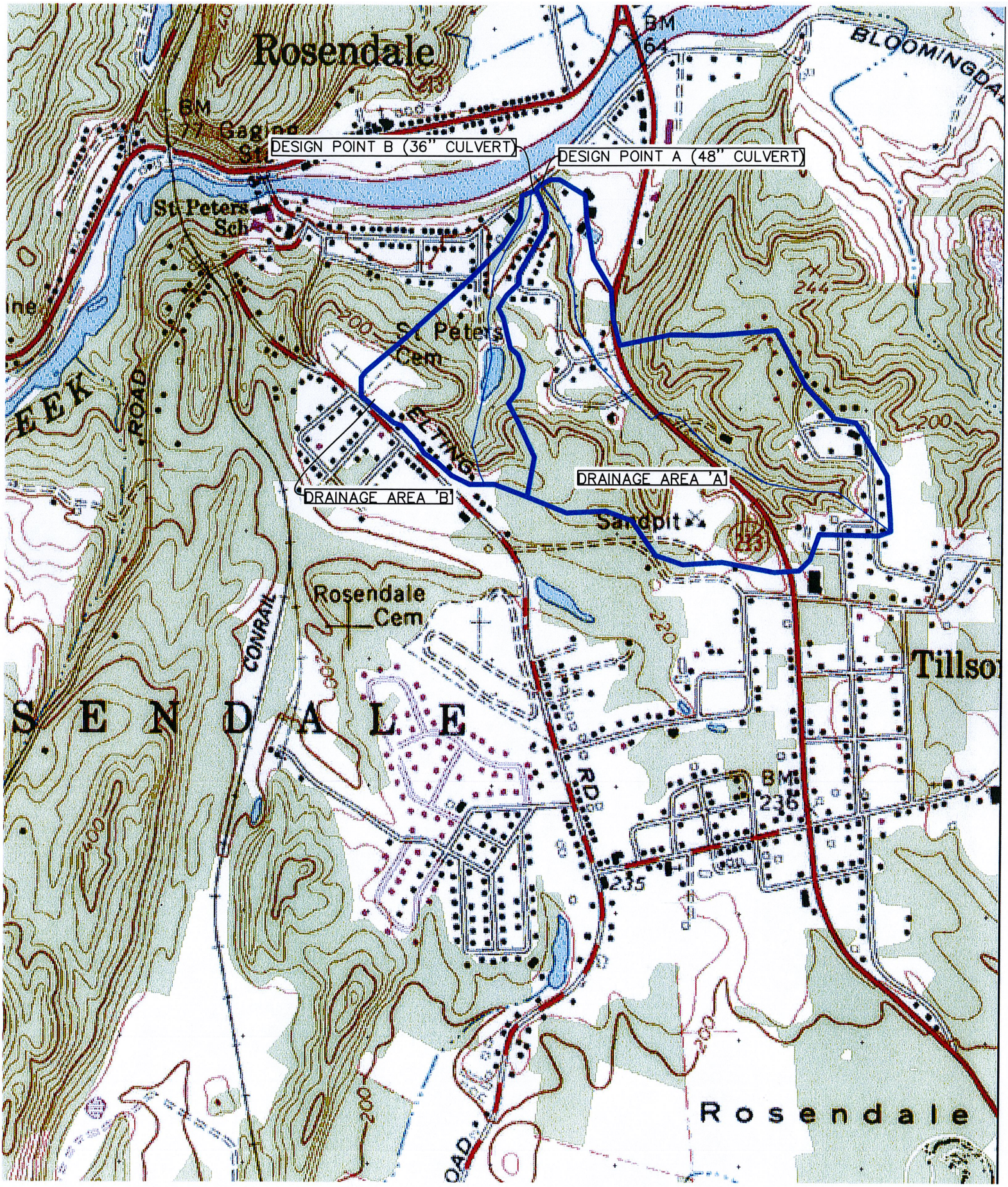
Name: ROSENDALE
Date: 7/15/115
Scale: 1 inch equals 1000 feet

Location: 041° 50' 33.9" N 074° 04' 33.4" W
Caption: JAMES STREET
1'=1000'

Appendix A
Figure 1

Copyright (C) 1997, Maptech, Inc.

Appendix B
Figure 2-Tributary Drainage Area Map



LEGEND

WATERSHED BOUNDARY

FLOW PATH

APPENDIX B
FIGURE 2
TRIBUTARY DRAINAGE AREA MAP
SCALE: 1"=1000'

Appendix C
USDA Soil Survey

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Ulster County, New York

James St Rosendale

August 24, 2015

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 12, Sep 16, 2014

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

Date(s) aerial images were photographed: Mar 20, 2011—Oct 10, 2011

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

Map Unit Legend

Ulster County, New York (NY111)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
FAE	Farmington-Rock outcrop complex, steep	6.1	4.1%
GP	Gravel pit	4.4	3.0%
PlB	Plainfield loamy sand, 0 to 8 percent slopes	21.1	14.4%
PlC	Plainfield loamy sand, 8 to 15 percent slopes	13.6	9.3%
PmD	Plainfield-Riverhead complex, moderately steep	18.4	12.5%
PmF	Plainfield-Riverhead complex, very steep	64.1	43.7%
RvB	Riverhead fine sandy loam, 3 to 8 percent slopes	9.7	6.6%
RvC	Riverhead fine sandy loam, 8 to 15 percent slopes	7.6	5.2%
W	Water	1.9	1.3%
Totals for Area of Interest		**146.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used.

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: CD3903D-01-09-15

Client: Brinnier & Larios, PC

Boring Location: See Boring Location Plan

Project: Subsurface Investigation
James Street Slope Failure
Rosendale, New York

Start Date: 8/11/2015 Finish Date: 8/12/2015

Boring No.: B-1 Sheet 1 of 3

Groundwater Observations

Date	Time	Depth	Casing
8/12/2015	PM	23.5'	59.0'
8/13/2015	7:30 AM	26.25'	TOW@61.0'
8/14/2015	7:30 AM	27.17'	TOW@61.0'
8/18/2015	7:30 AM	26.83'	TOW@61.0'
8/19/2015	7:30 AM	26.33'	TOW@61.0'

Coordinates
Latitude _____
Longitude _____

Sampler Hammer
Weight: 140 lbs.
Fall: 30 in.
Hammer Type: Automatic

Ground Elev.: _____

Boring Advance By:
HW (4") Casing

DEPTH	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine; m - medium; c - coarse; and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%)	Recovery (Inches)
1	CASING	1	0.5	2.0	SS	4 6 5	0.5	6" ASPHALT PAVEMENT	4
2							2.0	Dark Brown mf GRAVEL; some cmf SAND; trace SILT; trace CLAY (saturated, very slightly plastic)	
3									
4		2	4.0	6.0	SS	4 4 4 5		Brown SILT; little f SAND (wet, non-plastic)	12
5									
6		3	6.0	8.0	SS	6 5 7 8		Similar Soil (wet, non-plastic)	10
7									
8		4	8.0	10.0	SS	6 4 3 4		Brown SILT; trace f SAND (saturated, non-plastic)	12
9									
10		5	10.0	12.0	SS	6 2 4 5	10.0	Varved Brown SILT; trace f SAND; little Reddish-Brown CLAY (saturated, slightly plastic)	14
11									
12		6	12.0	14.0	SS	8 5 7 8	12.0	Brown SILT; some f SAND (wet, non-plastic)	12
13									
14		7	14.0	16.0	SS	6 7 9 10		Brown SILT; and f SAND (wet, non-plastic)	12
15									
16		8	16.0	18.0	SS	6 9 11 12		Brown SILT; some f SAND (wet, non-plastic)	10
17									
18		9	18.0	20.0	SS	6 6 8 9	18.0	Dark Brown SILT; some cmf SAND; trace ORGANIC MATERIAL (root hairs) (saturated, non-plastic)	3
19							20.0		
20		10	20.0	22.0	SS	7 8 7 9		Dark Brown SILT; and f SAND (saturated, non-plastic)	12
21									
22		11	22.0	24.0	SS	7 8 11 12		Similar Soil (saturated, non-plastic)	12
23									
24		12	24.0	26.0	SS	5 6 10 11	24.0	Greyish-Brown SILT; little f SAND (saturated, non-plastic)	12
25									

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: Tyler Weston; Josh Miller

Inspector: Joseph E. Mihm

ATL-LOG1 CD3903 BRINNIER & LARIOS, PC-ROSENDALE, NEW YORK.GPJ LOG-WELL.GDT 9/15/15

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Boring No.: B-1 Report No.: CD3903D-01-09-15 Sheet 2 of 3

DEPTH	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - course; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	RECOVERY (inches)
26									
27		13	26.0	28.0	SS	13 11 14 13		Greyish-Brown SILT; and f SAND (saturated, non-plastic)	20
28									
29		14	28.0	30.0	SS	12 11 15 12		Similar Soil (saturated, non-plastic)	16
30									
31		15	30.0	32.0	SS	13 14 13 16		Similar Soil (saturated, non-plastic)	18
32									
33									
34									
35		16	34.0	36.0	SS	8 11 18 16		Similar Soil (saturated, non-plastic)	14
36									
37							37.0		
38									
39									
40		17	39.0	41.0	SS	3 4 5 6		Dark Brown SILT; little f SAND; little CLAY (saturated, slightly plastic) LL = 23, PL = 18, PI = 5, w = 20.5%	24
41									
42									
43									
44									
45									
46		18	45.0	47.0	SS	3 2 5 4		Dark Brown SILT; little f SAND; little CLAY (saturated, slightly plastic) LL = 19, PL = 17, PI = 2, w = 16.6%	18
47									
48									
49									
50		19	49.0	51.0	SS	3 4 7 5		Similar Soil (saturated, slightly plastic)	24
51									
52									
53									
54									
55		20	54.0	56.0	SS	4 4 7 9		Similar Soil (saturated, slightly plastic)	24
56									
57									
58									
59									
60		21	59.0	61.0	SS	4 5 9 8		Similar Soil (saturated, slightly plastic)	24
61							61.0		
62								Boring terminated at 61.0 feet.	

ATL-LOG1 CD3903 BRINNIER & LARIOS, PC-ROSENDALE, NEW YORK.GPJ LOG-WELL.GDT 9/15/15

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Boring No.: B-1 Report No.: CD3903D-01-09-15 Sheet 3 of 3

DEPTH	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL	RECOVERY (inches)
63								Notes:	
64								1. A temporary observation well was installed within the	
65								borehole to a depth of 61.0 feet.	
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
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78									
79									
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89									
90									
91									
92									
93									
94									
95									
96									
97									
98									
99									
100									

f - fine
m - medium
c - course

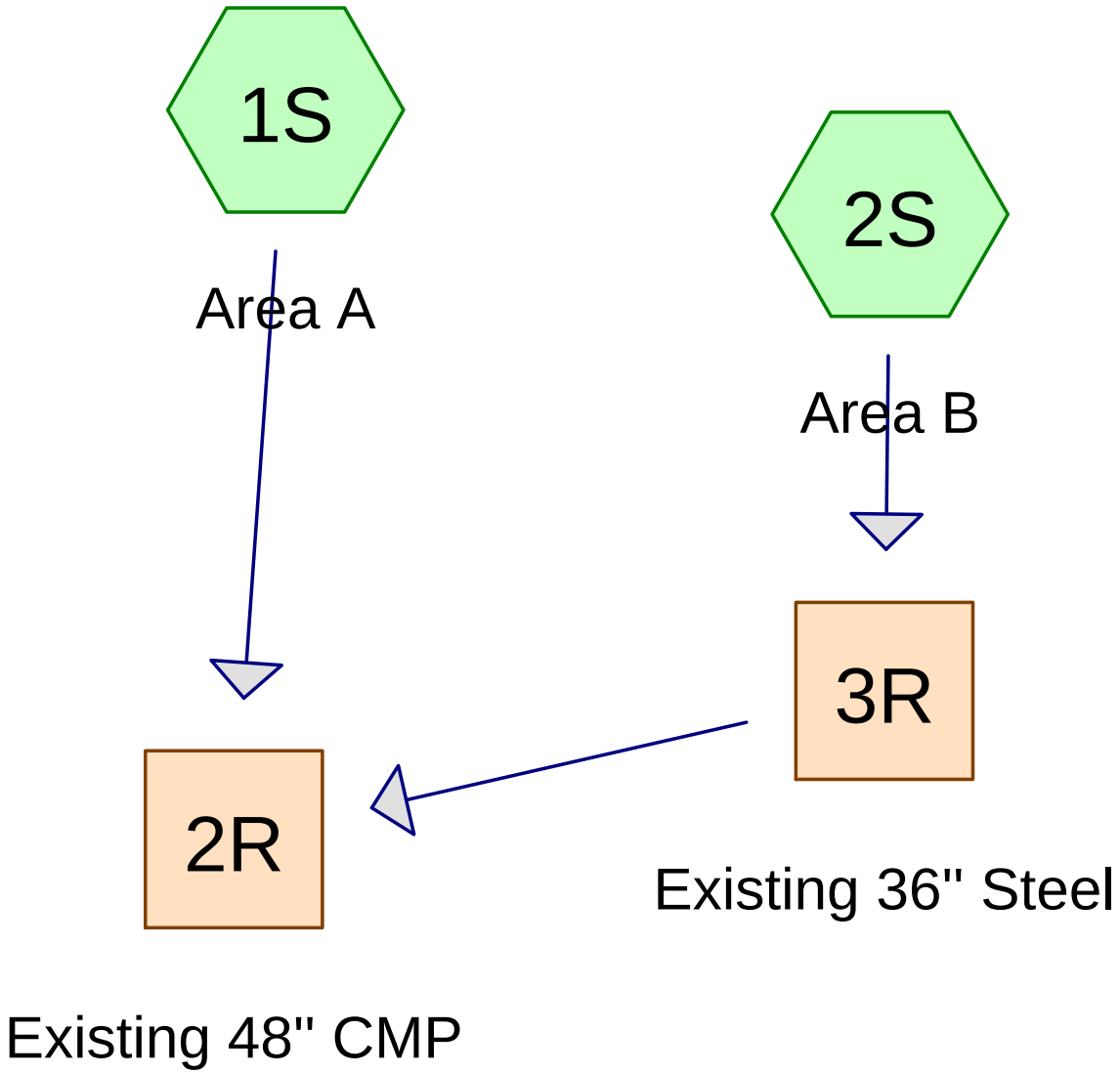
and - 35-50%
some - 20-35%
little - 10-20%
trace - 0-10%

ATL-LOG1 CD3903 BRINNIER & LARIOS, PC-ROSENDALE, NEW YORK.GPJ LOG-WELL.GDT 9/15/15

Appendix D
Existing Conditions Runoff Hydrographs
HydroCAD Model Output

HydroCAD Iterations included:

10-yr
25-yr
50-yr
100-yr



Subcat Reach Pond Link

Routing Diagram for JamesSt-Existing
Prepared by Microsoft, Printed 12/15/2015
HydroCAD® 10.00 s/n 00930 © 2012 HydroCAD Software Solutions LLC

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Area A Runoff Area=116.000 ac 10.06% Impervious Runoff Depth>0.22"
Flow Length=4,410' Tc=27.3 min CN=43 Runoff=8.07 cfs 2.138 af

Subcatchment 2S: Area B Runoff Area=37.600 ac 10.84% Impervious Runoff Depth>0.13"
Flow Length=2,500' Tc=13.2 min CN=40 Runoff=1.09 cfs 0.423 af

Reach 2R: Existing 48" CMP Avg. Flow Depth=0.90' Max Vel=4.33 fps Inflow=9.13 cfs 2.560 af
48.0" Round Pipe n=0.030 L=64.0' S=0.0177 '/' Capacity=82.71 cfs Outflow=9.13 cfs 2.558 af

Reach 3R: Existing 36" Steel Avg. Flow Depth=0.17' Max Vel=6.81 fps Inflow=1.09 cfs 0.423 af
36.0" Round Pipe n=0.014 L=138.0' S=0.0769 '/' Capacity=171.73 cfs Outflow=1.09 cfs 0.422 af

Total Runoff Area = 153.600 ac Runoff Volume = 2.560 af Average Runoff Depth = 0.20"
89.75% Pervious = 137.855 ac 10.25% Impervious = 15.745 ac

Summary for Subcatchment 1S: Area A

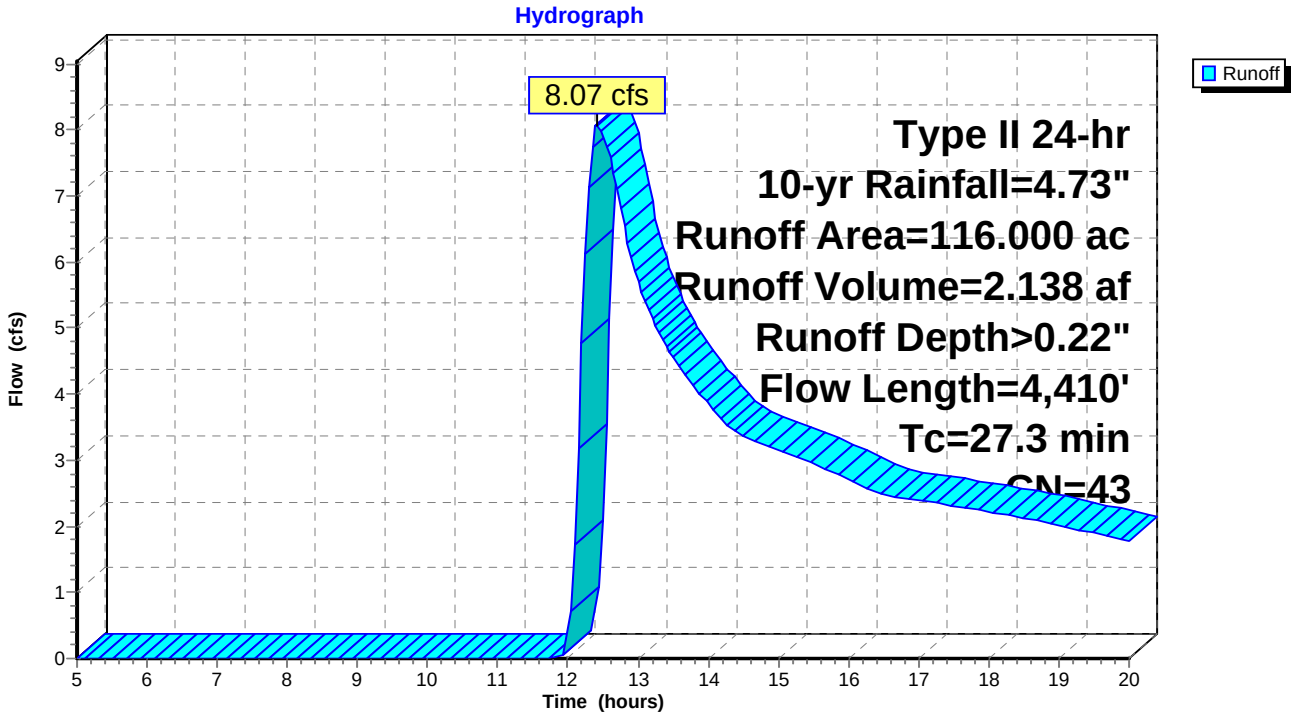
Runoff = 8.07 cfs @ 12.43 hrs, Volume= 2.138 af, Depth> 0.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.73"

Area (ac)	CN	Description
67.900	30	Woods, Good, HSG A
34.680	54	1/2 acre lots, 25% imp, HSG A
4.400	77	Fallow, bare soil, HSG A
0.100	98	Water Surface, HSG A
6.020	77	Woods, Good, HSG D
2.320	98	Paved roads w/curbs & sewers, HSG A
0.580	98	Paved roads w/curbs & sewers, HSG D
116.000	43	Weighted Average
104.330		89.94% Pervious Area
11.670		10.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
1.0	250	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.0	760	0.0790	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	3,300	0.0240	7.36	161.93	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
27.3	4,410	Total			

Subcatchment 1S: Area A



Summary for Subcatchment 2S: Area B

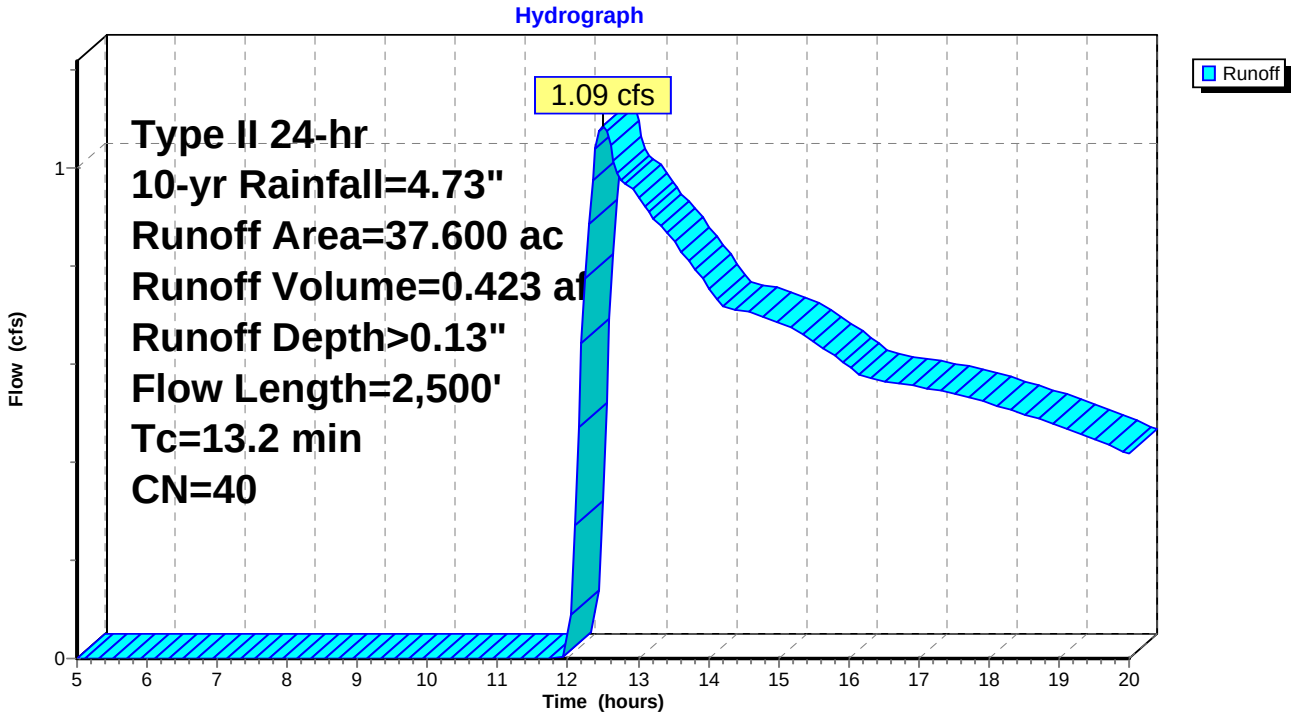
Runoff = 1.09 cfs @ 12.50 hrs, Volume= 0.423 af, Depth> 0.13"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.73"

Area (ac)	CN	Description
1.800	98	Water Surface, HSG A
4.900	39	>75% Grass cover, Good, HSG A
23.600	30	Woods, Good, HSG A
0.600	98	Paved roads w/curbs & sewers, HSG A
6.700	54	1/2 acre lots, 25% imp, HSG A
37.600	40	Weighted Average
33.525		89.16% Pervious Area
4.075		10.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2000	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
6.3	600	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	1,800	0.0440	9.97	219.25	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
13.2	2,500	Total			

Subcatchment 2S: Area B



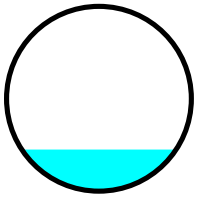
Summary for Reach 2R: Existing 48" CMP

Inflow Area = 153.600 ac, 10.25% Impervious, Inflow Depth > 0.20" for 10-yr event
Inflow = 9.13 cfs @ 12.44 hrs, Volume= 2.560 af
Outflow = 9.13 cfs @ 12.45 hrs, Volume= 2.558 af, Atten= 0%, Lag= 0.6 min

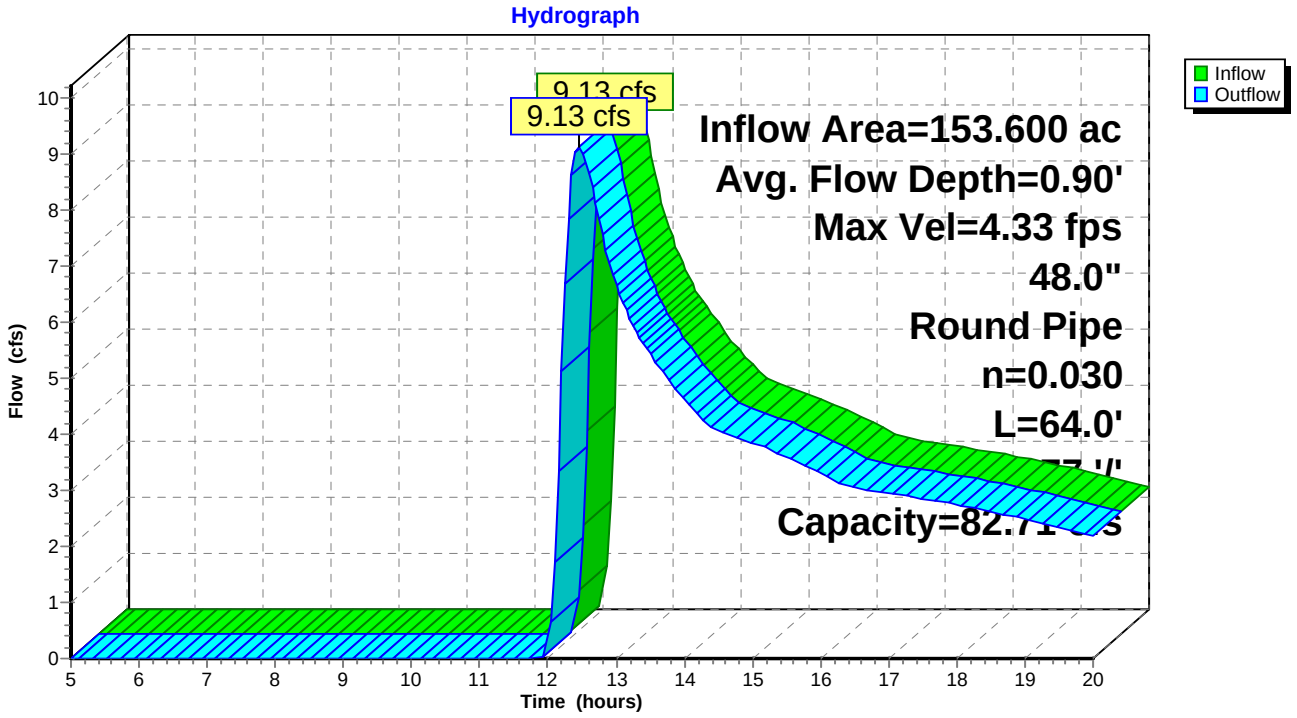
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.33 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.27 fps, Avg. Travel Time= 0.3 min

Peak Storage= 135 cf @ 12.44 hrs
Average Depth at Peak Storage= 0.90'
Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 82.71 cfs

48.0" Round Pipe
n= 0.030 Corrugated metal
Length= 64.0' Slope= 0.0177 '/'
Inlet Invert= 48.63', Outlet Invert= 47.50'



Reach 2R: Existing 48" CMP



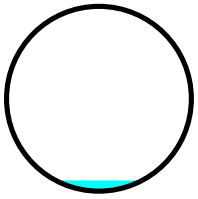
Summary for Reach 3R: Existing 36" Steel

Inflow Area = 37.600 ac, 10.84% Impervious, Inflow Depth > 0.13" for 10-yr event
Inflow = 1.09 cfs @ 12.50 hrs, Volume= 0.423 af
Outflow = 1.09 cfs @ 12.51 hrs, Volume= 0.422 af, Atten= 0%, Lag= 0.6 min

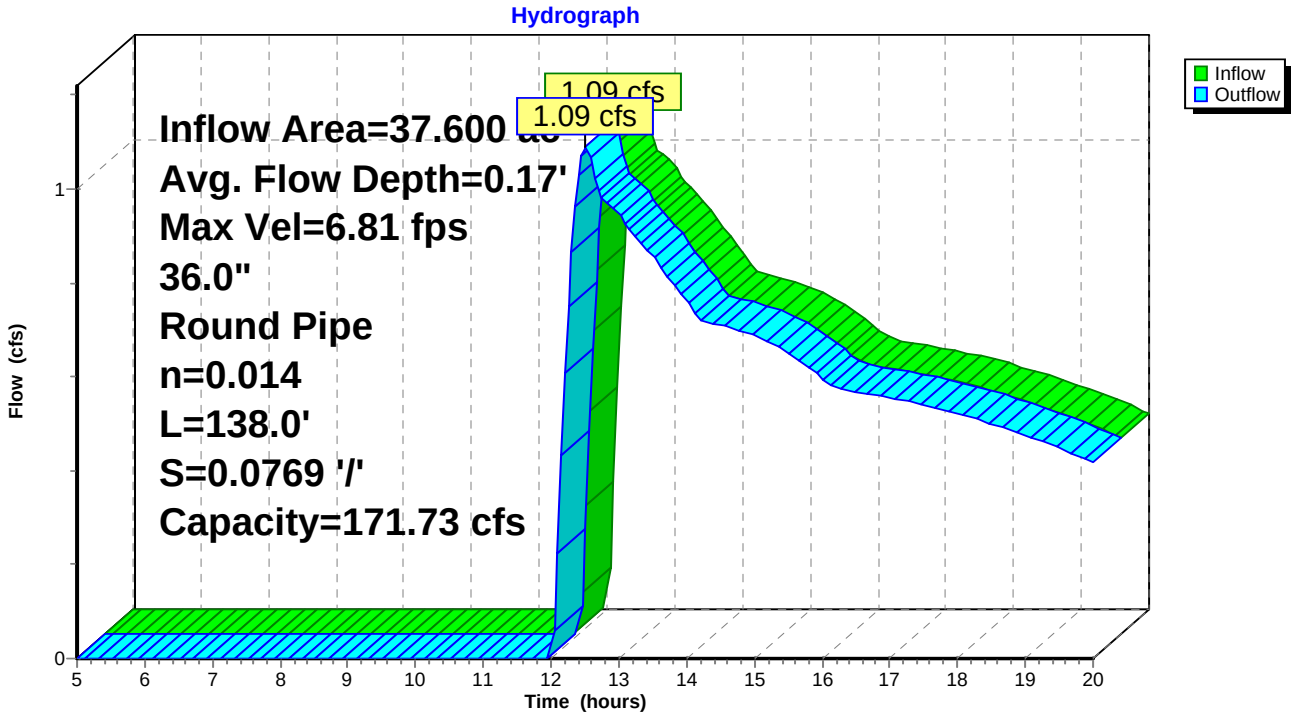
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.81 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 5.73 fps, Avg. Travel Time= 0.4 min

Peak Storage= 22 cf @ 12.50 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 171.73 cfs

36.0" Round Pipe
n= 0.014 Steel, smooth
Length= 138.0' Slope= 0.0769 '/'
Inlet Invert= 58.33', Outlet Invert= 47.72'



Reach 3R: Existing 36" Steel



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Area A Runoff Area=116.000 ac 10.06% Impervious Runoff Depth>0.54"
Flow Length=4,410' Tc=27.3 min CN=43 Runoff=36.63 cfs 5.200 af

Subcatchment 2S: Area B Runoff Area=37.600 ac 10.84% Impervious Runoff Depth>0.39"
Flow Length=2,500' Tc=13.2 min CN=40 Runoff=10.09 cfs 1.222 af

Reach 2R: Existing 48" CMP Avg. Flow Depth=2.03' Max Vel=6.63 fps Inflow=42.56 cfs 6.421 af
48.0" Round Pipe n=0.030 L=64.0' S=0.0177 '/' Capacity=82.71 cfs Outflow=42.51 cfs 6.419 af

Reach 3R: Existing 36" Steel Avg. Flow Depth=0.49' Max Vel=13.20 fps Inflow=10.09 cfs 1.222 af
36.0" Round Pipe n=0.014 L=138.0' S=0.0769 '/' Capacity=171.73 cfs Outflow=10.01 cfs 1.222 af

Total Runoff Area = 153.600 ac Runoff Volume = 6.422 af Average Runoff Depth = 0.50"
89.75% Pervious = 137.855 ac 10.25% Impervious = 15.745 ac

Summary for Subcatchment 1S: Area A

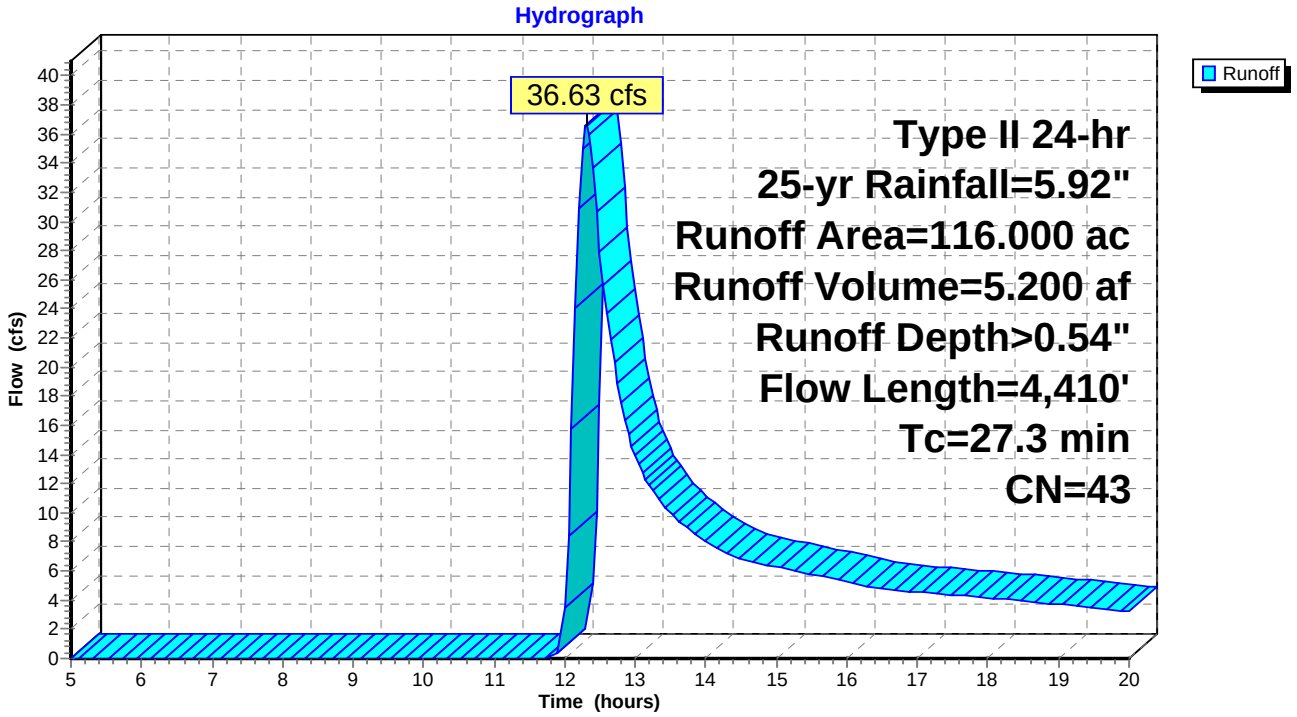
Runoff = 36.63 cfs @ 12.31 hrs, Volume= 5.200 af, Depth> 0.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.92"

Area (ac)	CN	Description
67.900	30	Woods, Good, HSG A
34.680	54	1/2 acre lots, 25% imp, HSG A
4.400	77	Fallow, bare soil, HSG A
0.100	98	Water Surface, HSG A
6.020	77	Woods, Good, HSG D
2.320	98	Paved roads w/curbs & sewers, HSG A
0.580	98	Paved roads w/curbs & sewers, HSG D
116.000	43	Weighted Average
104.330		89.94% Pervious Area
11.670		10.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
1.0	250	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.0	760	0.0790	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	3,300	0.0240	7.36	161.93	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
27.3	4,410	Total			

Subcatchment 1S: Area A



Summary for Subcatchment 2S: Area B

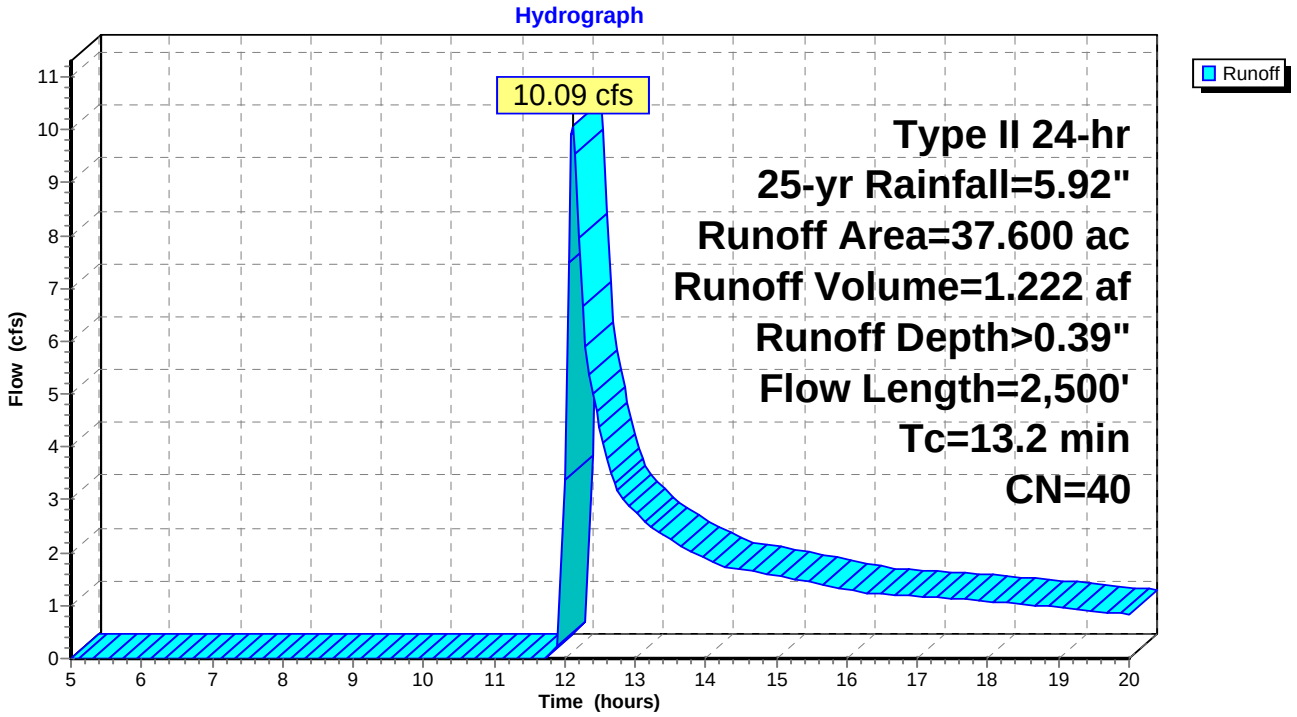
Runoff = 10.09 cfs @ 12.12 hrs, Volume= 1.222 af, Depth> 0.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.92"

Area (ac)	CN	Description
1.800	98	Water Surface, HSG A
4.900	39	>75% Grass cover, Good, HSG A
23.600	30	Woods, Good, HSG A
0.600	98	Paved roads w/curbs & sewers, HSG A
6.700	54	1/2 acre lots, 25% imp, HSG A
37.600	40	Weighted Average
33.525		89.16% Pervious Area
4.075		10.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2000	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
6.3	600	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	1,800	0.0440	9.97	219.25	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
13.2	2,500	Total			

Subcatchment 2S: Area B



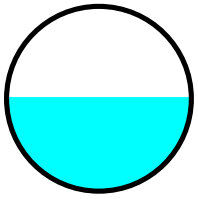
Summary for Reach 2R: Existing 48" CMP

Inflow Area = 153.600 ac, 10.25% Impervious, Inflow Depth > 0.50" for 25-yr event
Inflow = 42.56 cfs @ 12.29 hrs, Volume= 6.421 af
Outflow = 42.51 cfs @ 12.30 hrs, Volume= 6.419 af, Atten= 0%, Lag= 0.3 min

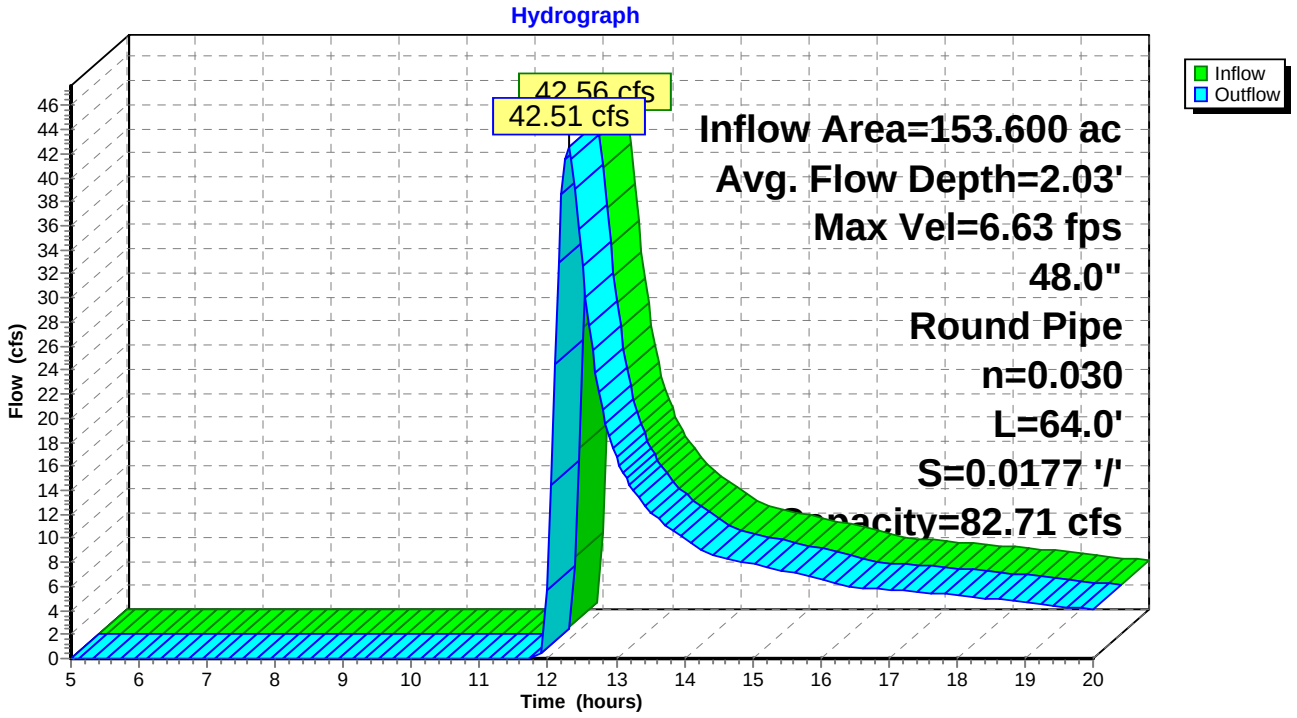
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.63 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 4.14 fps, Avg. Travel Time= 0.3 min

Peak Storage= 411 cf @ 12.30 hrs
Average Depth at Peak Storage= 2.03'
Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 82.71 cfs

48.0" Round Pipe
n= 0.030 Corrugated metal
Length= 64.0' Slope= 0.0177 '/'
Inlet Invert= 48.63', Outlet Invert= 47.50'



Reach 2R: Existing 48" CMP



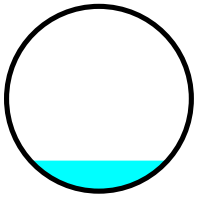
Summary for Reach 3R: Existing 36" Steel

Inflow Area = 37.600 ac, 10.84% Impervious, Inflow Depth > 0.39" for 25-yr event
Inflow = 10.09 cfs @ 12.12 hrs, Volume= 1.222 af
Outflow = 10.01 cfs @ 12.12 hrs, Volume= 1.222 af, Atten= 1%, Lag= 0.3 min

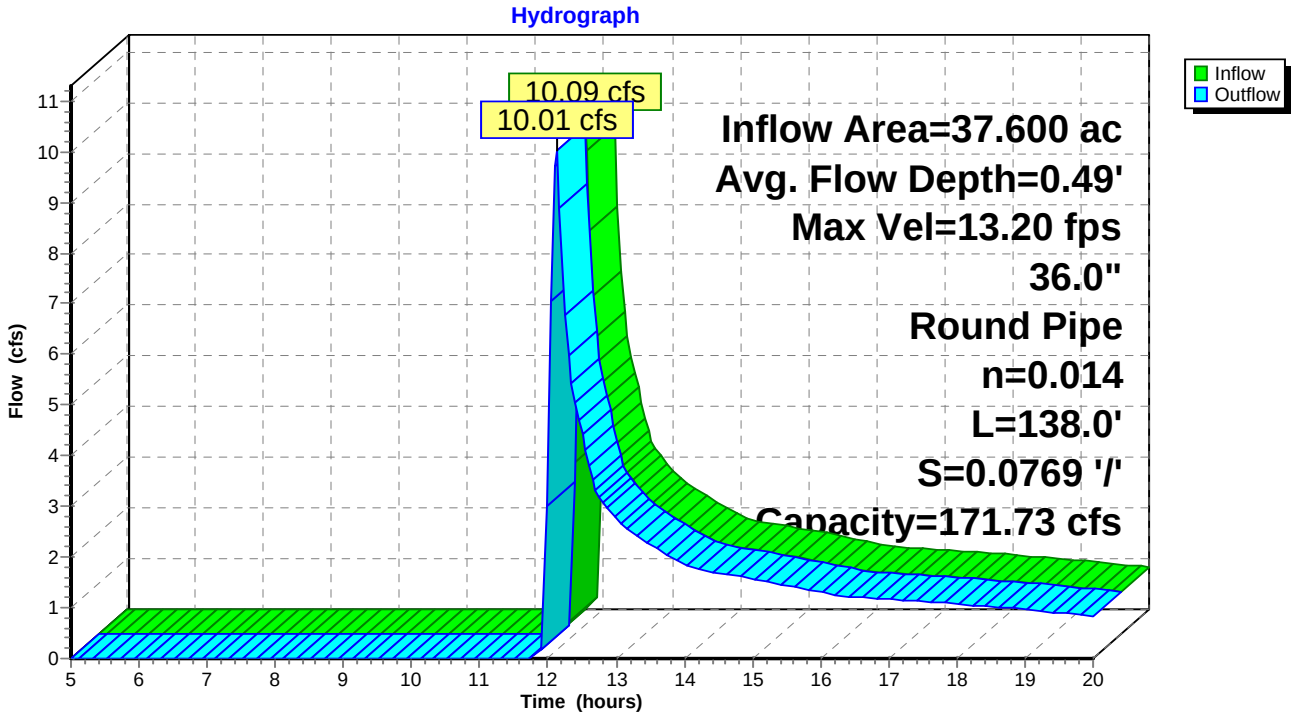
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.20 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 7.61 fps, Avg. Travel Time= 0.3 min

Peak Storage= 105 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 171.73 cfs

36.0" Round Pipe
n= 0.014 Steel, smooth
Length= 138.0' Slope= 0.0769 '/'
Inlet Invert= 58.33', Outlet Invert= 47.72'



Reach 3R: Existing 36" Steel



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Area A Runoff Area=116.000 ac 10.06% Impervious Runoff Depth>0.93"
Flow Length=4,410' Tc=27.3 min CN=43 Runoff=79.52 cfs 8.977 af

Subcatchment 2S: Area B Runoff Area=37.600 ac 10.84% Impervious Runoff Depth>0.72"
Flow Length=2,500' Tc=13.2 min CN=40 Runoff=27.84 cfs 2.267 af

Reach 2R: Existing 48" CMP Avg. Flow Depth=4.00' Max Vel=7.49 fps Inflow=93.87 cfs 11.243 af
48.0" Round Pipe n=0.030 L=64.0' S=0.0177 '/' Capacity=82.71 cfs Outflow=83.81 cfs 11.239 af

Reach 3R: Existing 36" Steel Avg. Flow Depth=0.82' Max Vel=17.88 fps Inflow=27.84 cfs 2.267 af
36.0" Round Pipe n=0.014 L=138.0' S=0.0769 '/' Capacity=171.73 cfs Outflow=27.74 cfs 2.266 af

Total Runoff Area = 153.600 ac Runoff Volume = 11.244 af Average Runoff Depth = 0.88"
89.75% Pervious = 137.855 ac 10.25% Impervious = 15.745 ac

Summary for Subcatchment 1S: Area A

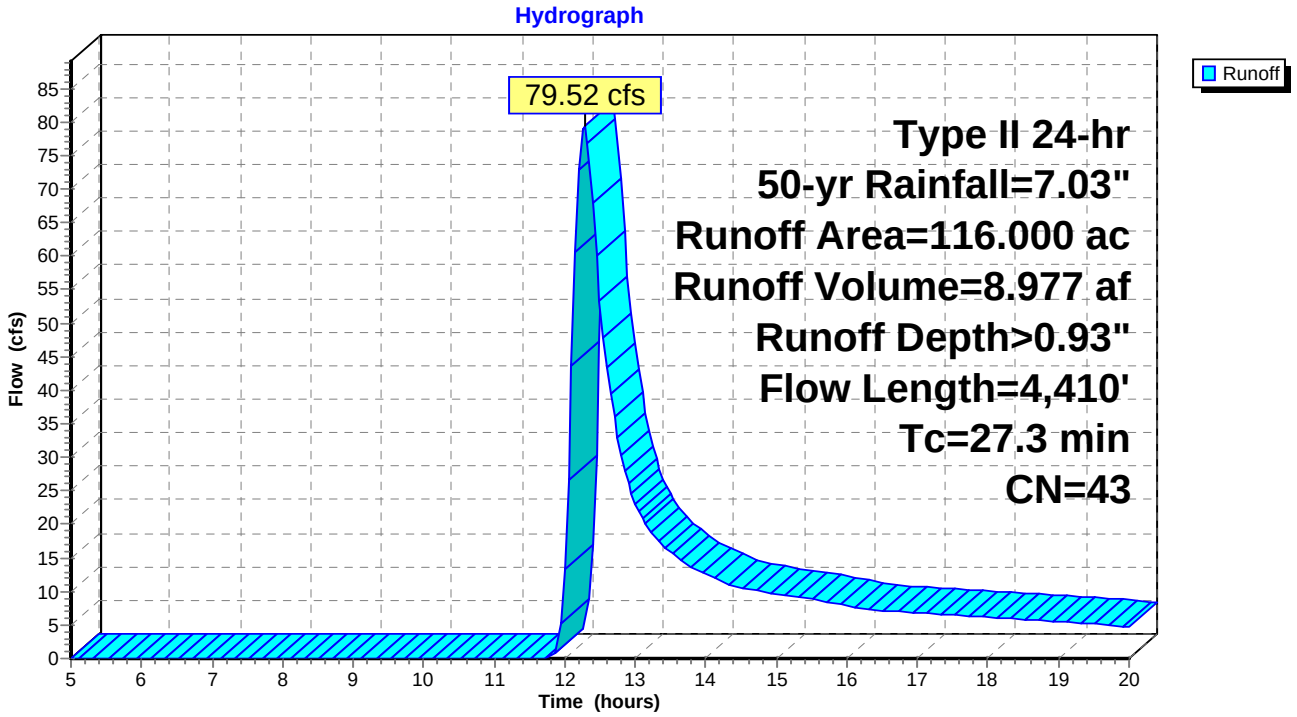
Runoff = 79.52 cfs @ 12.28 hrs, Volume= 8.977 af, Depth> 0.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=7.03"

Area (ac)	CN	Description
67.900	30	Woods, Good, HSG A
34.680	54	1/2 acre lots, 25% imp, HSG A
4.400	77	Fallow, bare soil, HSG A
0.100	98	Water Surface, HSG A
6.020	77	Woods, Good, HSG D
2.320	98	Paved roads w/curbs & sewers, HSG A
0.580	98	Paved roads w/curbs & sewers, HSG D
116.000	43	Weighted Average
104.330		89.94% Pervious Area
11.670		10.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
1.0	250	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.0	760	0.0790	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	3,300	0.0240	7.36	161.93	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
27.3	4,410	Total			

Subcatchment 1S: Area A



Summary for Subcatchment 2S: Area B

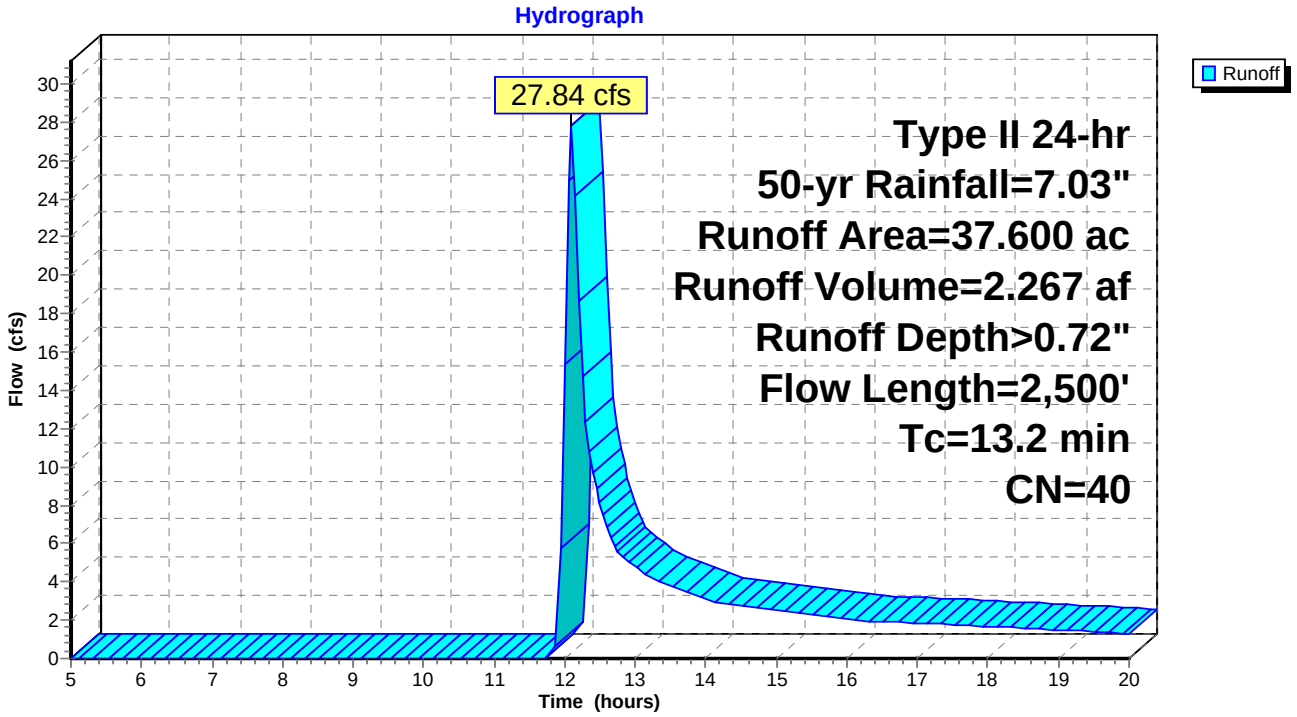
Runoff = 27.84 cfs @ 12.10 hrs, Volume= 2.267 af, Depth> 0.72"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=7.03"

Area (ac)	CN	Description
1.800	98	Water Surface, HSG A
4.900	39	>75% Grass cover, Good, HSG A
23.600	30	Woods, Good, HSG A
0.600	98	Paved roads w/curbs & sewers, HSG A
6.700	54	1/2 acre lots, 25% imp, HSG A
37.600	40	Weighted Average
33.525		89.16% Pervious Area
4.075		10.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2000	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
6.3	600	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	1,800	0.0440	9.97	219.25	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
13.2	2,500	Total			

Subcatchment 2S: Area B



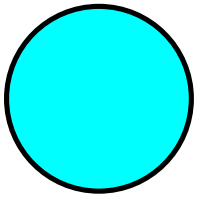
Summary for Reach 2R: Existing 48" CMP

Inflow Area = 153.600 ac, 10.25% Impervious, Inflow Depth > 0.88" for 50-yr event
Inflow = 93.87 cfs @ 12.25 hrs, Volume= 11.243 af
Outflow = 83.81 cfs @ 12.15 hrs, Volume= 11.239 af, Atten= 11%, Lag= 0.0 min

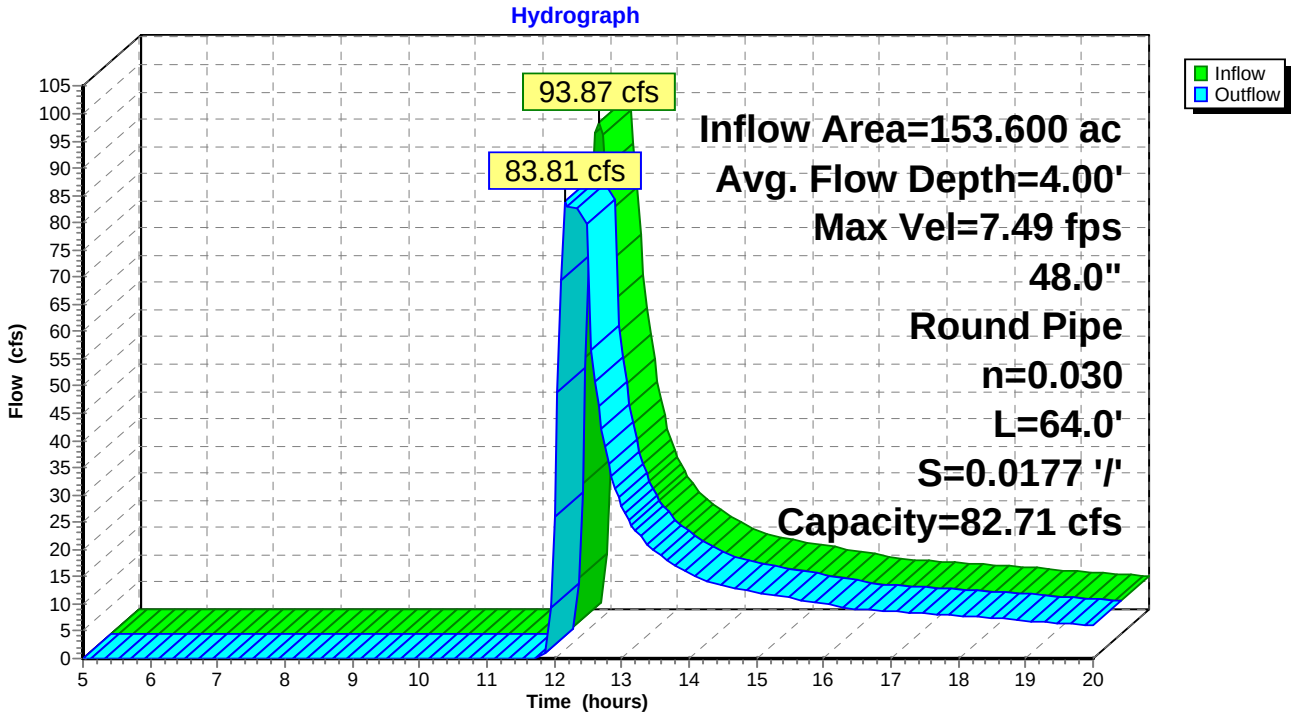
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.49 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.67 fps, Avg. Travel Time= 0.2 min

Peak Storage= 804 cf @ 12.20 hrs
Average Depth at Peak Storage= 4.00'
Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 82.71 cfs

48.0" Round Pipe
n= 0.030 Corrugated metal
Length= 64.0' Slope= 0.0177 '/'
Inlet Invert= 48.63', Outlet Invert= 47.50'



Reach 2R: Existing 48" CMP



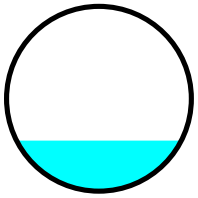
Summary for Reach 3R: Existing 36" Steel

Inflow Area = 37.600 ac, 10.84% Impervious, Inflow Depth > 0.72" for 50-yr event
Inflow = 27.84 cfs @ 12.10 hrs, Volume= 2.267 af
Outflow = 27.74 cfs @ 12.10 hrs, Volume= 2.266 af, Atten= 0%, Lag= 0.2 min

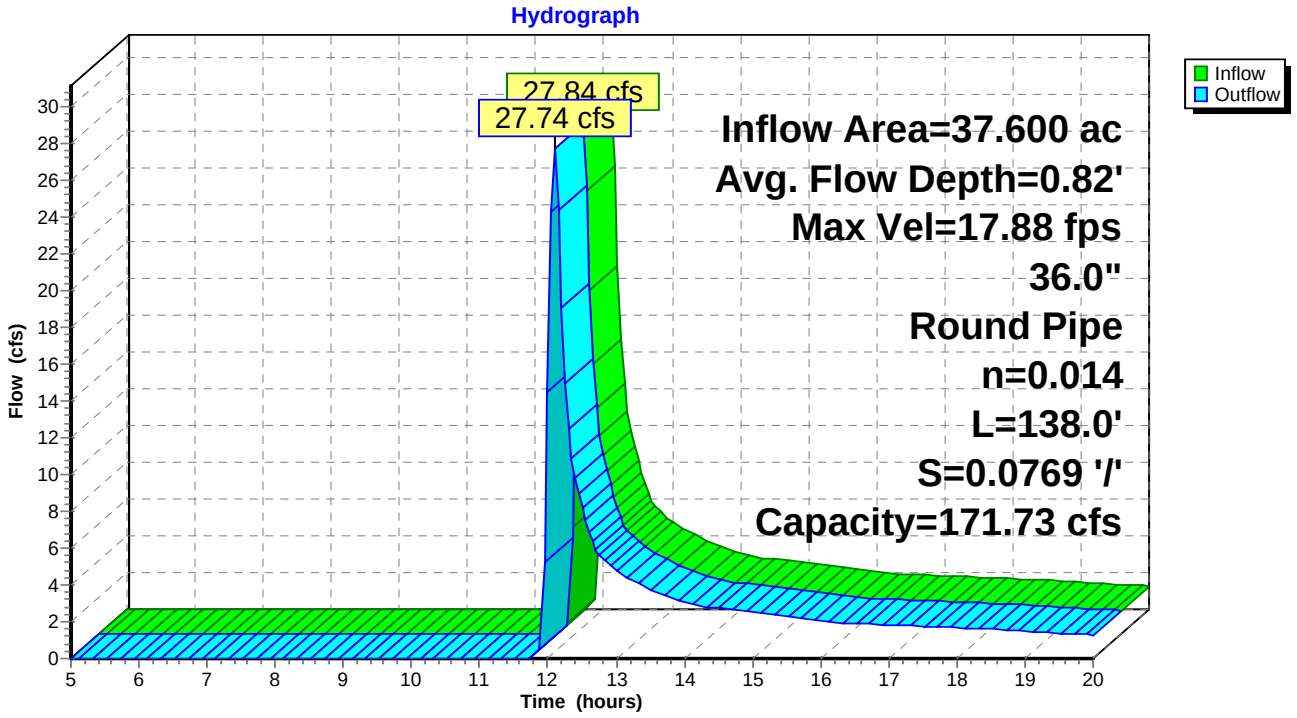
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 17.88 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 8.92 fps, Avg. Travel Time= 0.3 min

Peak Storage= 215 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.82'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 171.73 cfs

36.0" Round Pipe
n= 0.014 Steel, smooth
Length= 138.0' Slope= 0.0769 '/'
Inlet Invert= 58.33', Outlet Invert= 47.72'



Reach 3R: Existing 36" Steel



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Area A Runoff Area=116.000 ac 10.06% Impervious Runoff Depth>1.49"
Flow Length=4,410' Tc=27.3 min CN=43 Runoff=145.58 cfs 14.367 af

Subcatchment 2S: Area B Runoff Area=37.600 ac 10.84% Impervious Runoff Depth>1.22"
Flow Length=2,500' Tc=13.2 min CN=40 Runoff=56.25 cfs 3.807 af

Reach 2R: Existing 48" CMP Avg. Flow Depth=4.00' Max Vel=7.42 fps Inflow=174.41 cfs 18.173 af
48.0" Round Pipe n=0.030 L=64.0' S=0.0177 '/' Capacity=82.71 cfs Outflow=82.71 cfs 18.168 af

Reach 3R: Existing 36" Steel Avg. Flow Depth=1.18' Max Vel=21.69 fps Inflow=56.25 cfs 3.807 af
36.0" Round Pipe n=0.014 L=138.0' S=0.0769 '/' Capacity=171.73 cfs Outflow=56.08 cfs 3.806 af

Total Runoff Area = 153.600 ac Runoff Volume = 18.174 af Average Runoff Depth = 1.42"
89.75% Pervious = 137.855 ac 10.25% Impervious = 15.745 ac

Summary for Subcatchment 1S: Area A

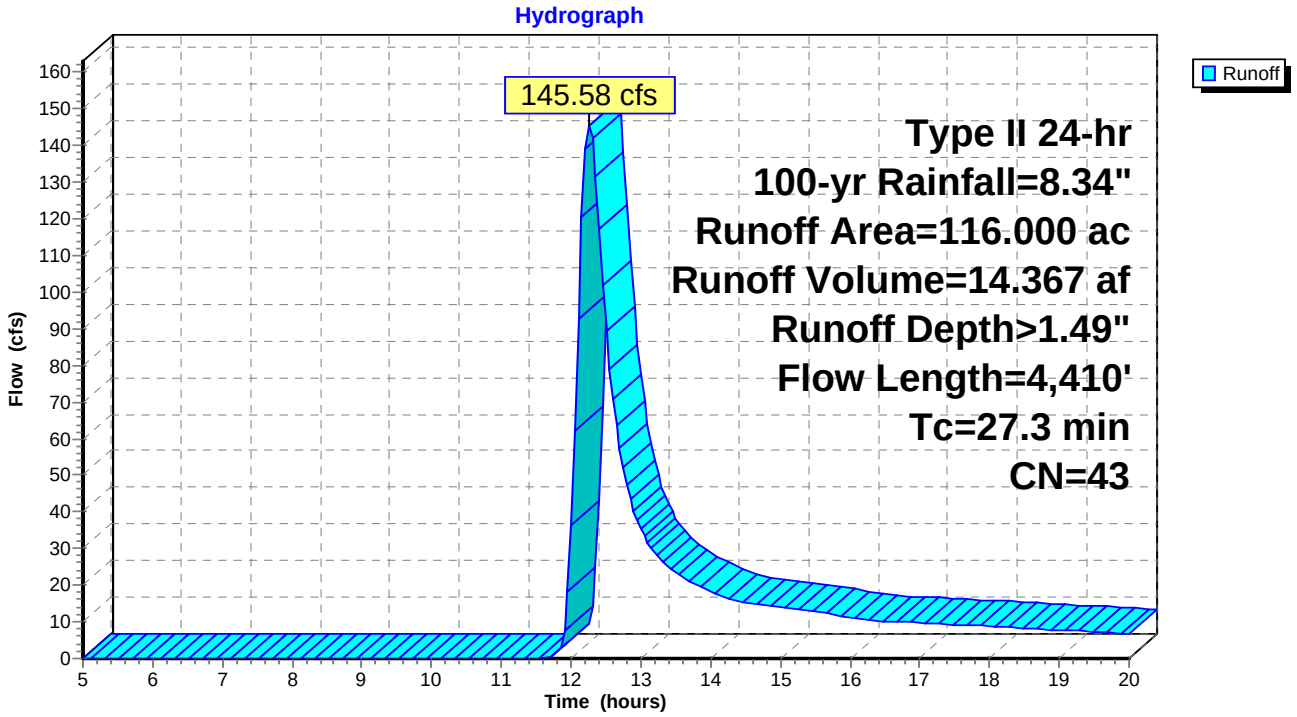
Runoff = 145.58 cfs @ 12.26 hrs, Volume= 14.367 af, Depth> 1.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=8.34"

Area (ac)	CN	Description
67.900	30	Woods, Good, HSG A
34.680	54	1/2 acre lots, 25% imp, HSG A
4.400	77	Fallow, bare soil, HSG A
0.100	98	Water Surface, HSG A
6.020	77	Woods, Good, HSG D
2.320	98	Paved roads w/curbs & sewers, HSG A
0.580	98	Paved roads w/curbs & sewers, HSG D
116.000	43	Weighted Average
104.330		89.94% Pervious Area
11.670		10.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
1.0	250	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.0	760	0.0790	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	3,300	0.0240	7.36	161.93	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
27.3	4,410	Total			

Subcatchment 1S: Area A



Summary for Subcatchment 2S: Area B

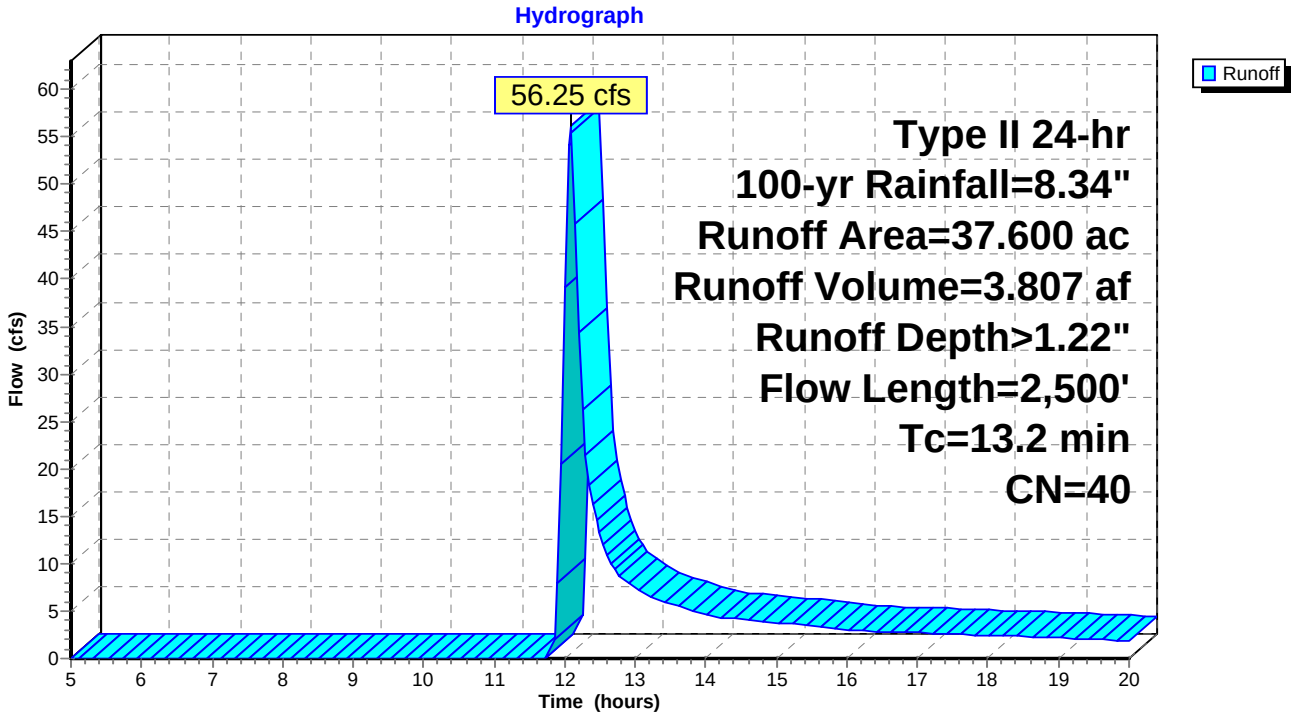
Runoff = 56.25 cfs @ 12.08 hrs, Volume= 3.807 af, Depth> 1.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=8.34"

Area (ac)	CN	Description
1.800	98	Water Surface, HSG A
4.900	39	>75% Grass cover, Good, HSG A
23.600	30	Woods, Good, HSG A
0.600	98	Paved roads w/curbs & sewers, HSG A
6.700	54	1/2 acre lots, 25% imp, HSG A
37.600	40	Weighted Average
33.525		89.16% Pervious Area
4.075		10.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2000	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
6.3	600	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	1,800	0.0440	9.97	219.25	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
13.2	2,500	Total			

Subcatchment 2S: Area B



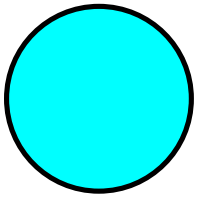
Summary for Reach 2R: Existing 48" CMP

Inflow Area = 153.600 ac, 10.25% Impervious, Inflow Depth > 1.42" for 100-yr event
Inflow = 174.41 cfs @ 12.21 hrs, Volume= 18.173 af
Outflow = 82.71 cfs @ 12.10 hrs, Volume= 18.168 af, Atten= 53%, Lag= 0.0 min

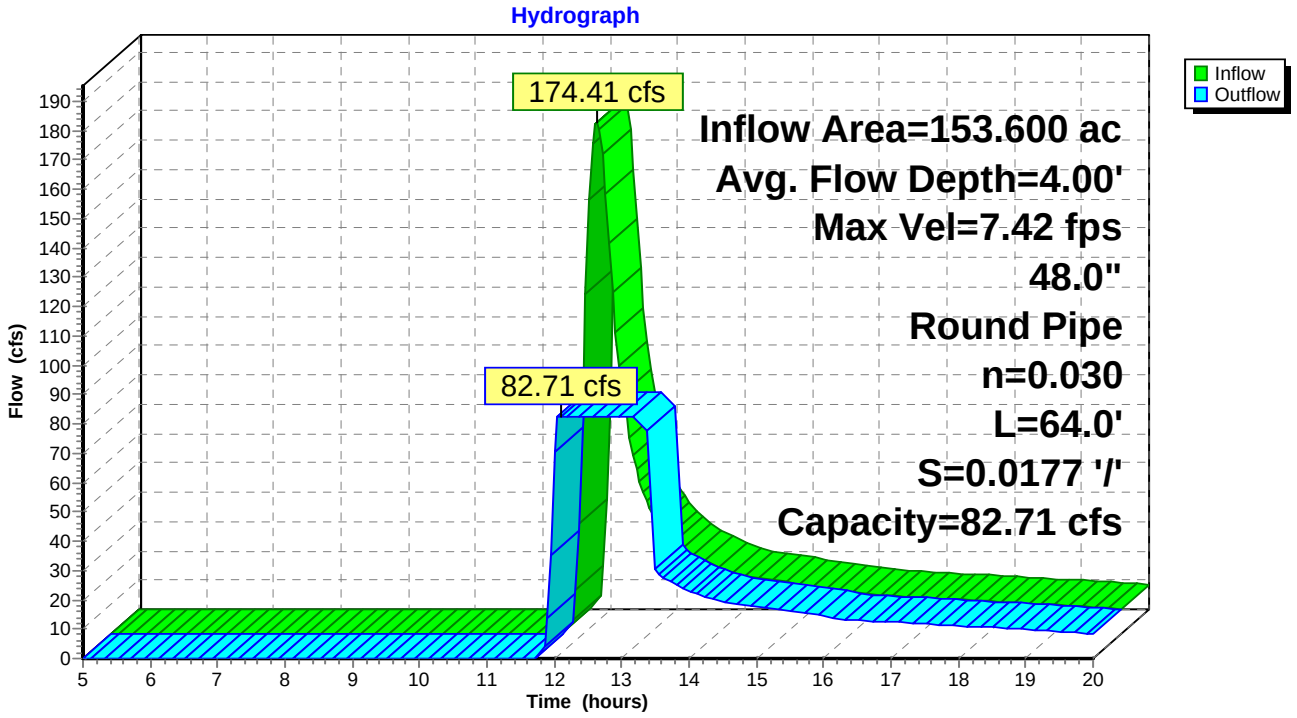
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.42 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 5.11 fps, Avg. Travel Time= 0.2 min

Peak Storage= 804 cf @ 12.05 hrs
Average Depth at Peak Storage= 4.00'
Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 82.71 cfs

48.0" Round Pipe
n= 0.030 Corrugated metal
Length= 64.0' Slope= 0.0177 '/'
Inlet Invert= 48.63', Outlet Invert= 47.50'



Reach 2R: Existing 48" CMP



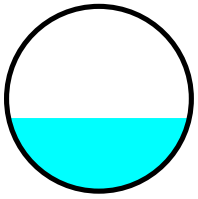
Summary for Reach 3R: Existing 36" Steel

Inflow Area = 37.600 ac, 10.84% Impervious, Inflow Depth > 1.22" for 100-yr event
Inflow = 56.25 cfs @ 12.08 hrs, Volume= 3.807 af
Outflow = 56.08 cfs @ 12.08 hrs, Volume= 3.806 af, Atten= 0%, Lag= 0.2 min

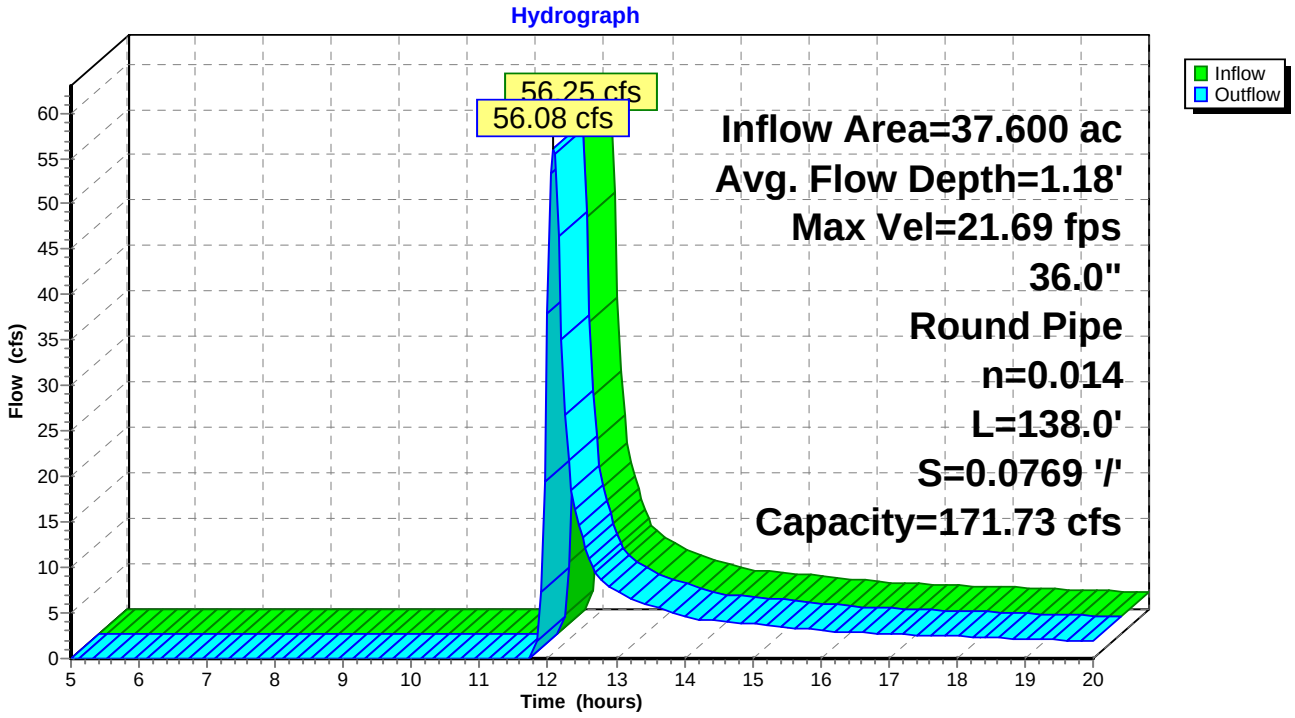
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 21.69 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 10.13 fps, Avg. Travel Time= 0.2 min

Peak Storage= 357 cf @ 12.08 hrs
Average Depth at Peak Storage= 1.18'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 171.73 cfs

36.0" Round Pipe
n= 0.014 Steel, smooth
Length= 138.0' Slope= 0.0769 '/'
Inlet Invert= 58.33', Outlet Invert= 47.72'



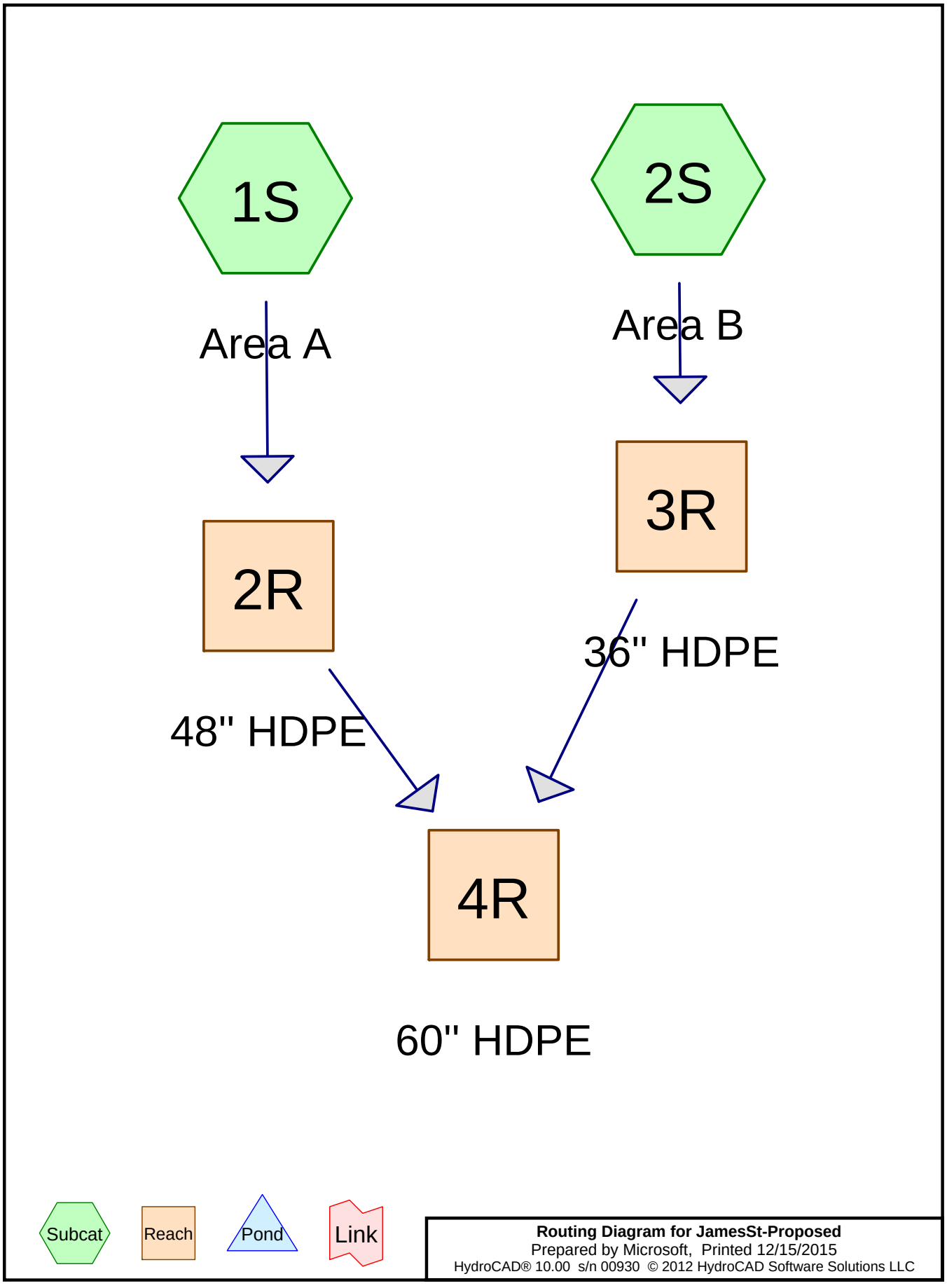
Reach 3R: Existing 36" Steel



Appendix E
Proposed Conditions Runoff Hydrographs
HydroCAD Model Output

HydroCAD Iterations included:

10-yr
25-yr
50-yr
100-yr



Routing Diagram for JamesSt-Proposed
Prepared by Microsoft, Printed 12/15/2015
HydroCAD® 10.00 s/n 00930 © 2012 HydroCAD Software Solutions LLC

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Area A Runoff Area=116.000 ac 10.06% Impervious Runoff Depth>0.22"
Flow Length=4,410' Tc=27.3 min CN=43 Runoff=8.07 cfs 2.138 af

Subcatchment 2S: Area B Runoff Area=37.600 ac 10.84% Impervious Runoff Depth>0.13"
Flow Length=2,500' Tc=13.2 min CN=40 Runoff=1.09 cfs 0.423 af

Reach 2R: 48'' HDPE Avg. Flow Depth=0.52' Max Vel=8.50 fps Inflow=8.07 cfs 2.138 af
48.0'' Round Pipe n=0.013 L=10.0' S=0.0250 '/' Capacity=227.12 cfs Outflow=8.07 cfs 2.138 af

Reach 3R: 36'' HDPE Avg. Flow Depth=0.19' Max Vel=5.89 fps Inflow=1.09 cfs 0.423 af
36.0'' Round Pipe n=0.013 L=94.0' S=0.0436 '/' Capacity=139.30 cfs Outflow=1.09 cfs 0.422 af

Reach 4R: 60'' HDPE Avg. Flow Depth=0.64' Max Vel=6.22 fps Inflow=9.13 cfs 2.560 af
60.0'' Round Pipe n=0.013 L=50.0' S=0.0100 '/' Capacity=260.44 cfs Outflow=9.13 cfs 2.559 af

Total Runoff Area = 153.600 ac Runoff Volume = 2.560 af Average Runoff Depth = 0.20"
89.75% Pervious = 137.855 ac 10.25% Impervious = 15.745 ac

Summary for Subcatchment 1S: Area A

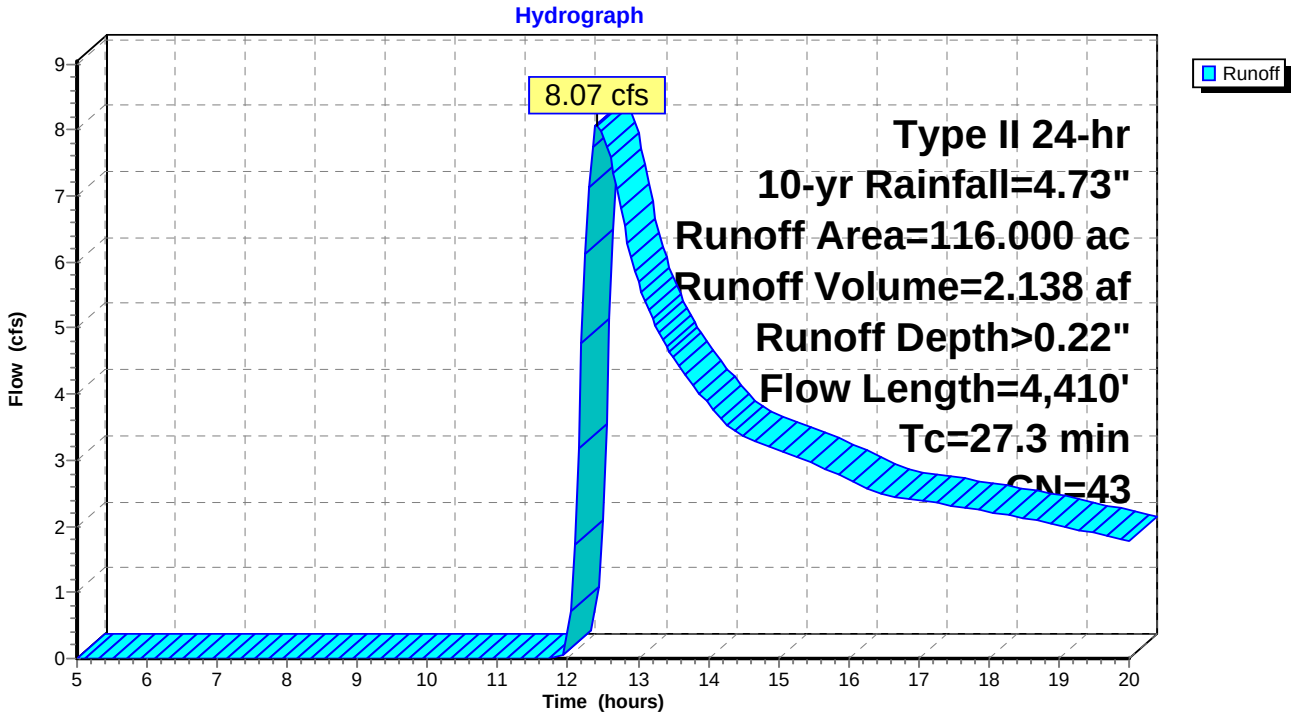
Runoff = 8.07 cfs @ 12.43 hrs, Volume= 2.138 af, Depth> 0.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.73"

Area (ac)	CN	Description
67.900	30	Woods, Good, HSG A
34.680	54	1/2 acre lots, 25% imp, HSG A
4.400	77	Fallow, bare soil, HSG A
0.100	98	Water Surface, HSG A
6.020	77	Woods, Good, HSG D
2.320	98	Paved roads w/curbs & sewers, HSG A
0.580	98	Paved roads w/curbs & sewers, HSG D
116.000	43	Weighted Average
104.330		89.94% Pervious Area
11.670		10.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
1.0	250	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.0	760	0.0790	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	3,300	0.0240	7.36	161.93	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
27.3	4,410	Total			

Subcatchment 1S: Area A



Summary for Subcatchment 2S: Area B

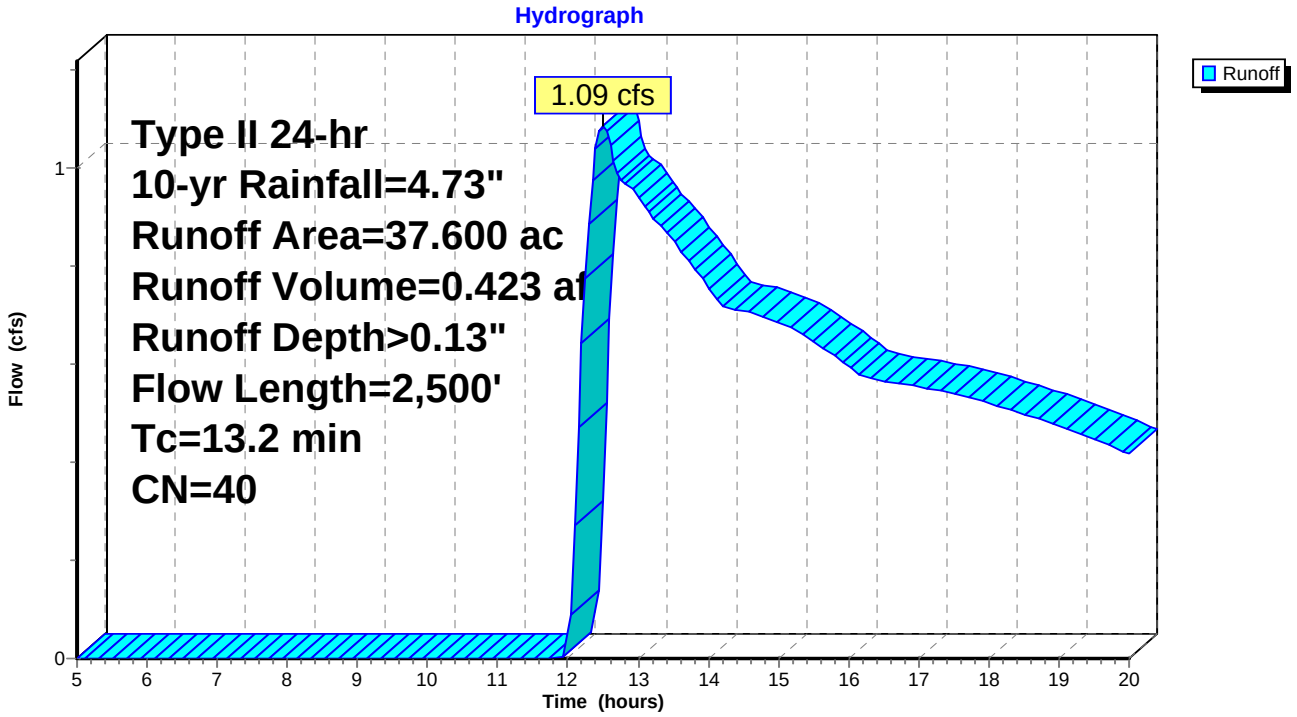
Runoff = 1.09 cfs @ 12.50 hrs, Volume= 0.423 af, Depth> 0.13"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.73"

Area (ac)	CN	Description
1.800	98	Water Surface, HSG A
4.900	39	>75% Grass cover, Good, HSG A
23.600	30	Woods, Good, HSG A
0.600	98	Paved roads w/curbs & sewers, HSG A
6.700	54	1/2 acre lots, 25% imp, HSG A
37.600	40	Weighted Average
33.525		89.16% Pervious Area
4.075		10.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2000	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
6.3	600	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	1,800	0.0440	9.97	219.25	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
13.2	2,500	Total			

Subcatchment 2S: Area B



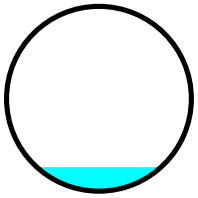
Summary for Reach 2R: 48" HDPE

Inflow Area = 116.000 ac, 10.06% Impervious, Inflow Depth > 0.22" for 10-yr event
Inflow = 8.07 cfs @ 12.43 hrs, Volume= 2.138 af
Outflow = 8.07 cfs @ 12.43 hrs, Volume= 2.138 af, Atten= 0%, Lag= 0.1 min

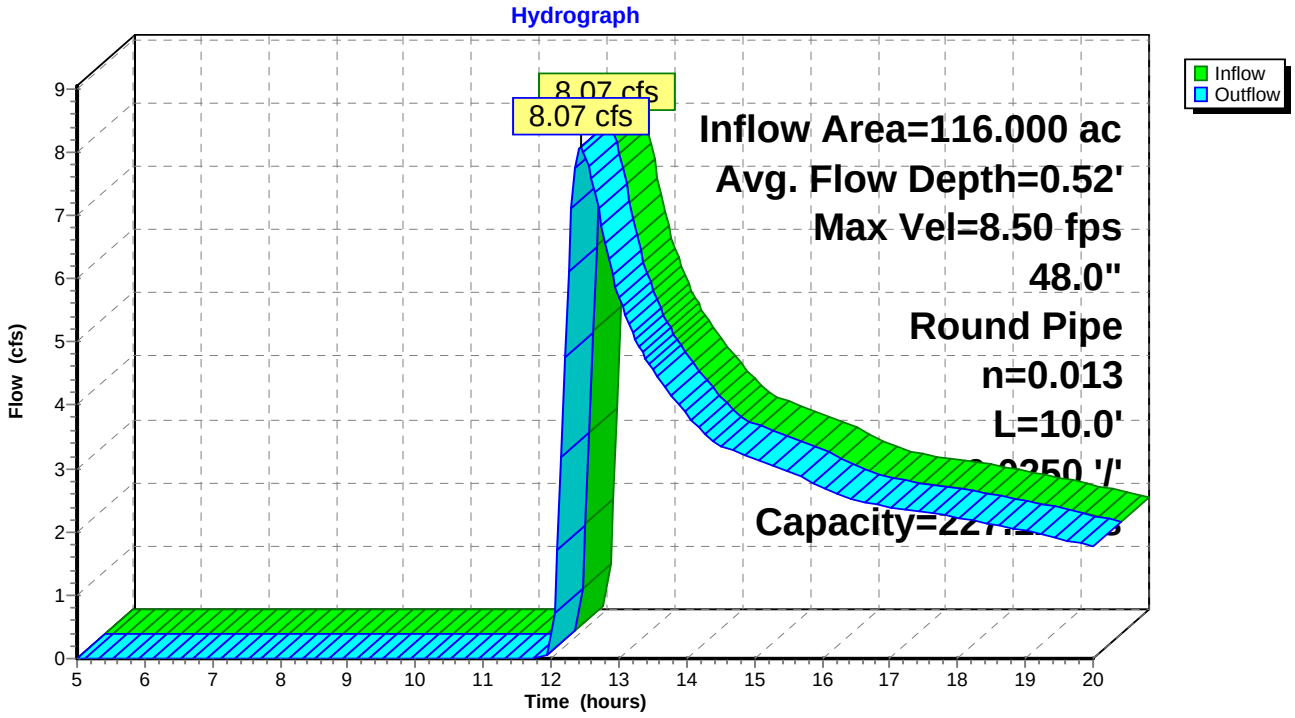
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.50 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 6.29 fps, Avg. Travel Time= 0.0 min

Peak Storage= 9 cf @ 12.43 hrs
Average Depth at Peak Storage= 0.52'
Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 227.12 cfs

48.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0250 '/'
Inlet Invert= 60.00', Outlet Invert= 59.75'



Reach 2R: 48" HDPE



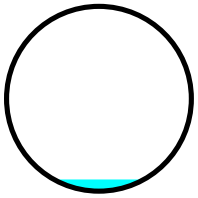
Summary for Reach 3R: 36" HDPE

Inflow Area = 37.600 ac, 10.84% Impervious, Inflow Depth > 0.13" for 10-yr event
Inflow = 1.09 cfs @ 12.50 hrs, Volume= 0.423 af
Outflow = 1.09 cfs @ 12.51 hrs, Volume= 0.422 af, Atten= 0%, Lag= 0.5 min

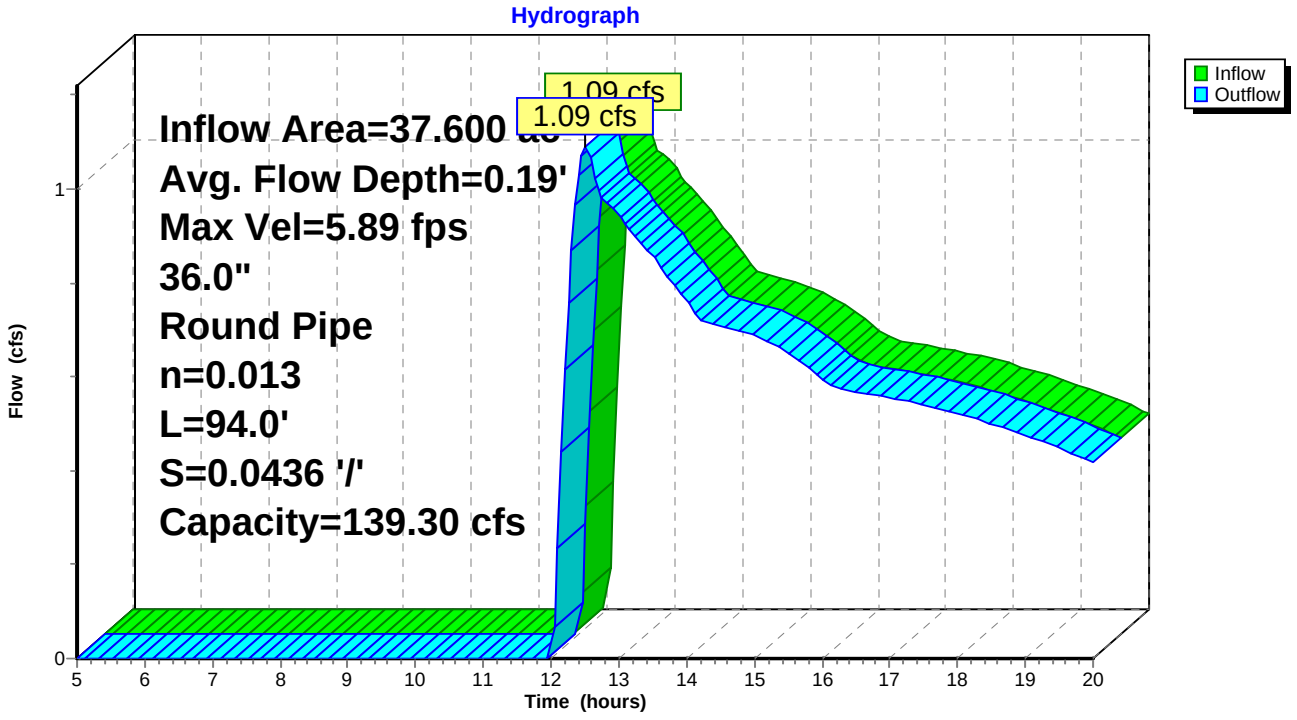
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.89 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 4.95 fps, Avg. Travel Time= 0.3 min

Peak Storage= 17 cf @ 12.50 hrs
Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 139.30 cfs

36.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 94.0' Slope= 0.0436 '/'
Inlet Invert= 60.00', Outlet Invert= 55.90'



Reach 3R: 36" HDPE



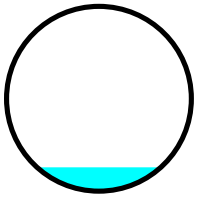
Summary for Reach 4R: 60" HDPE

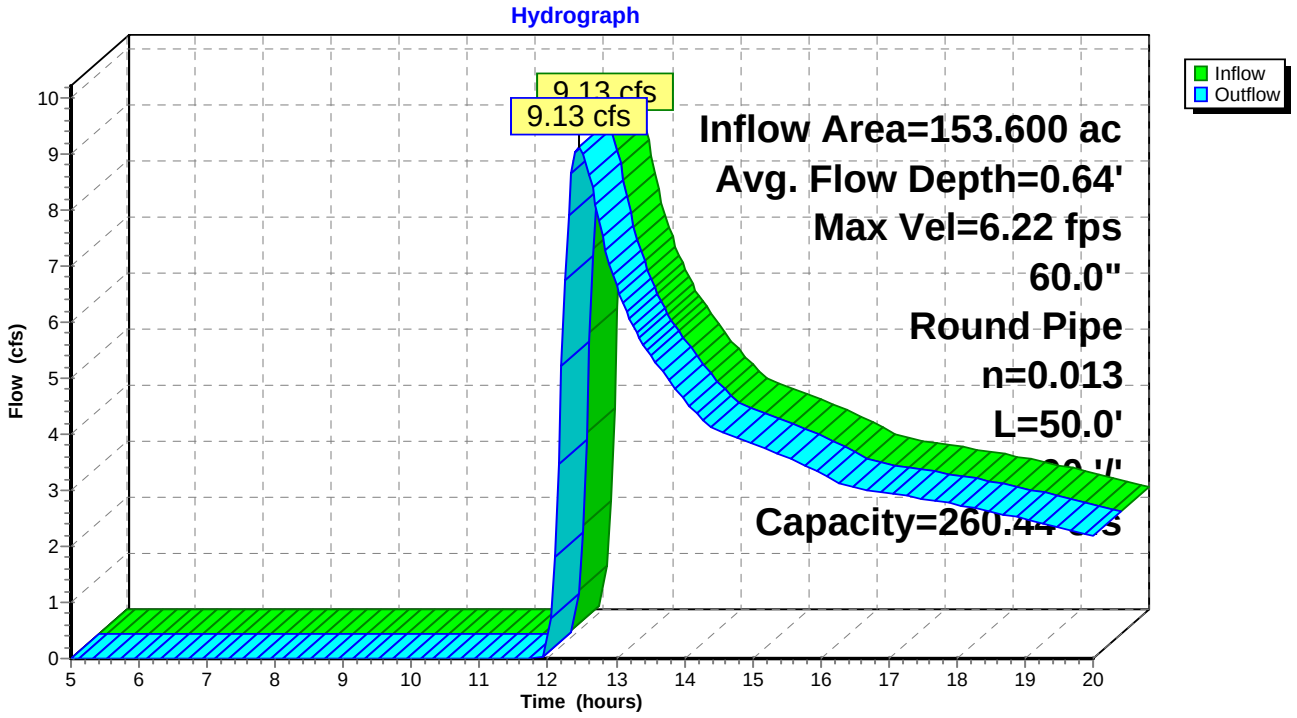
Inflow Area = 153.600 ac, 10.25% Impervious, Inflow Depth > 0.20" for 10-yr event
Inflow = 9.13 cfs @ 12.44 hrs, Volume= 2.560 af
Outflow = 9.13 cfs @ 12.44 hrs, Volume= 2.559 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.22 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.68 fps, Avg. Travel Time= 0.2 min

Peak Storage= 73 cf @ 12.44 hrs
Average Depth at Peak Storage= 0.64'
Bank-Full Depth= 5.00' Flow Area= 19.6 sf, Capacity= 260.44 cfs

60.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 50.0' Slope= 0.0100 '/'
Inlet Invert= 55.00', Outlet Invert= 54.50'





Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Area A Runoff Area=116.000 ac 10.06% Impervious Runoff Depth>0.54"
Flow Length=4,410' Tc=27.3 min CN=43 Runoff=36.63 cfs 5.200 af

Subcatchment 2S: Area B Runoff Area=37.600 ac 10.84% Impervious Runoff Depth>0.39"
Flow Length=2,500' Tc=13.2 min CN=40 Runoff=10.09 cfs 1.222 af

Reach 2R: 48'' HDPE Avg. Flow Depth=1.09' Max Vel=13.27 fps Inflow=36.63 cfs 5.200 af
48.0" Round Pipe n=0.013 L=10.0' S=0.0250 '/' Capacity=227.12 cfs Outflow=36.62 cfs 5.199 af

Reach 3R: 36'' HDPE Avg. Flow Depth=0.55' Max Vel=11.39 fps Inflow=10.09 cfs 1.222 af
36.0" Round Pipe n=0.013 L=94.0' S=0.0436 '/' Capacity=139.30 cfs Outflow=10.03 cfs 1.222 af

Reach 4R: 60'' HDPE Avg. Flow Depth=1.37' Max Vel=9.78 fps Inflow=42.53 cfs 6.421 af
60.0" Round Pipe n=0.013 L=50.0' S=0.0100 '/' Capacity=260.44 cfs Outflow=42.51 cfs 6.420 af

Total Runoff Area = 153.600 ac Runoff Volume = 6.422 af Average Runoff Depth = 0.50"
89.75% Pervious = 137.855 ac 10.25% Impervious = 15.745 ac

Summary for Subcatchment 1S: Area A

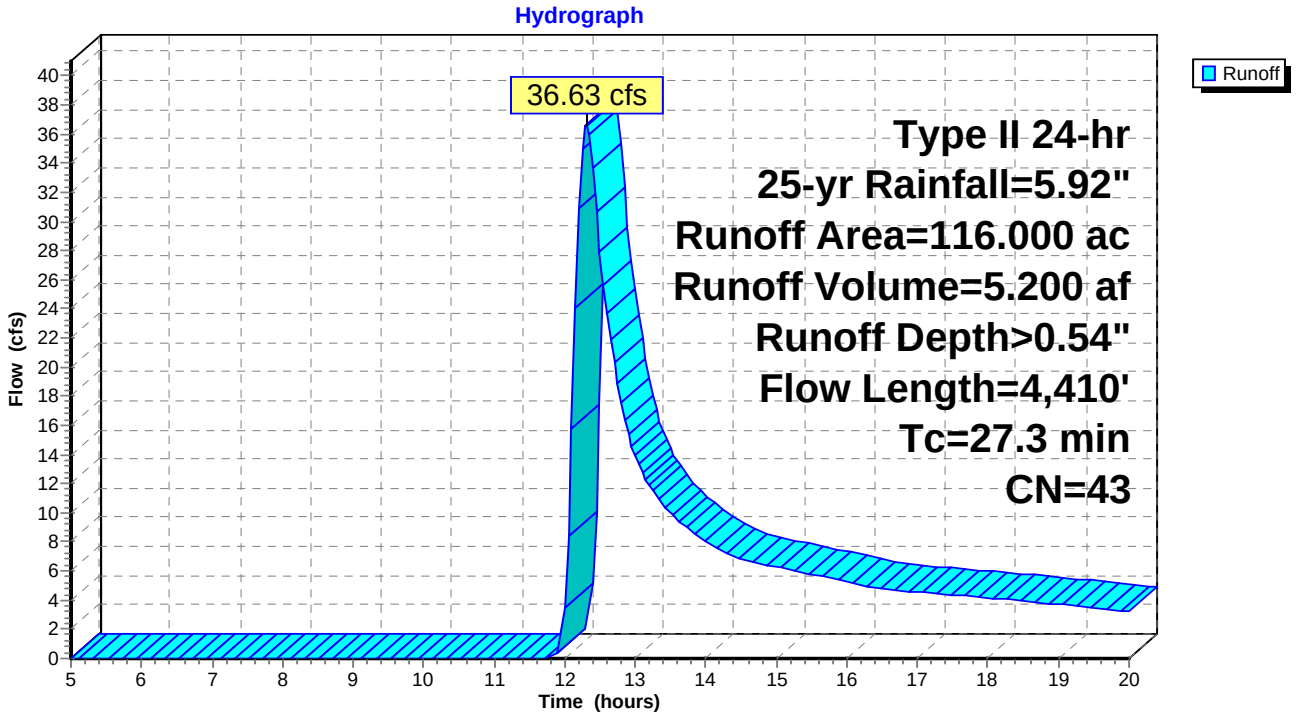
Runoff = 36.63 cfs @ 12.31 hrs, Volume= 5.200 af, Depth> 0.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.92"

Area (ac)	CN	Description
67.900	30	Woods, Good, HSG A
34.680	54	1/2 acre lots, 25% imp, HSG A
4.400	77	Fallow, bare soil, HSG A
0.100	98	Water Surface, HSG A
6.020	77	Woods, Good, HSG D
2.320	98	Paved roads w/curbs & sewers, HSG A
0.580	98	Paved roads w/curbs & sewers, HSG D
116.000	43	Weighted Average
104.330		89.94% Pervious Area
11.670		10.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
1.0	250	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.0	760	0.0790	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	3,300	0.0240	7.36	161.93	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
27.3	4,410	Total			

Subcatchment 1S: Area A



Summary for Subcatchment 2S: Area B

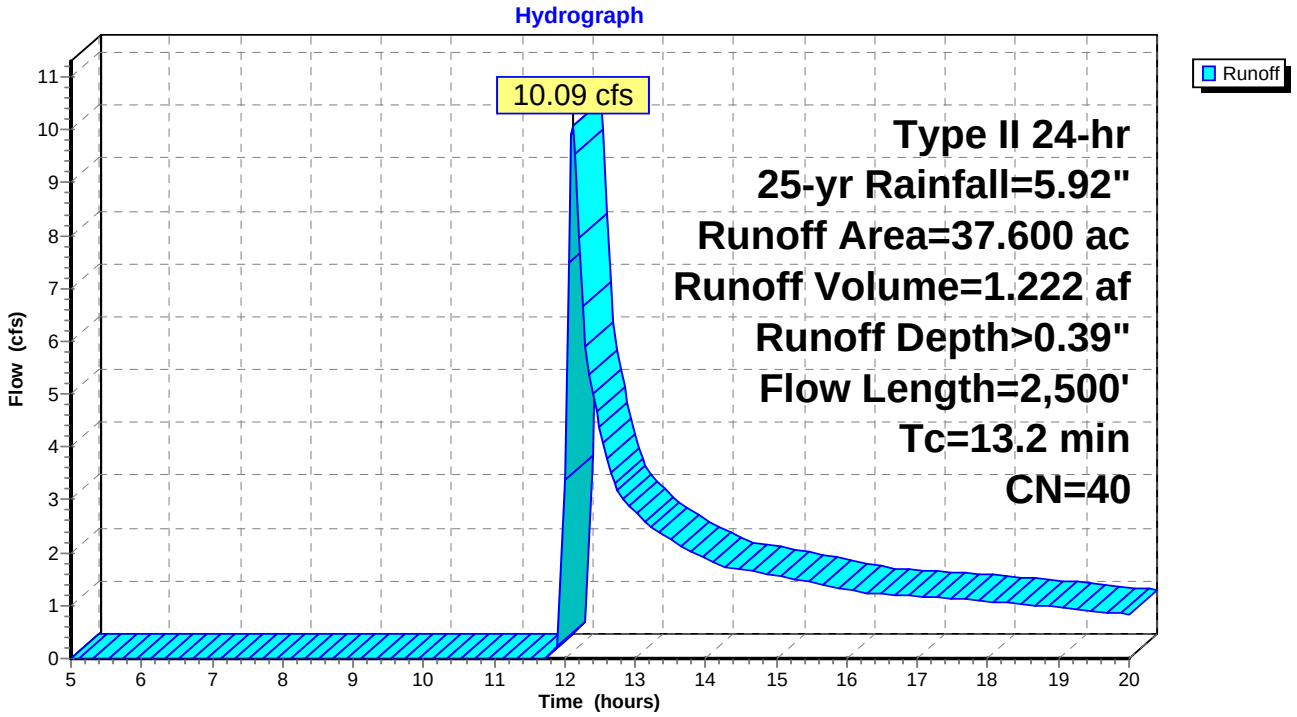
Runoff = 10.09 cfs @ 12.12 hrs, Volume= 1.222 af, Depth> 0.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.92"

Area (ac)	CN	Description
1.800	98	Water Surface, HSG A
4.900	39	>75% Grass cover, Good, HSG A
23.600	30	Woods, Good, HSG A
0.600	98	Paved roads w/curbs & sewers, HSG A
6.700	54	1/2 acre lots, 25% imp, HSG A
37.600	40	Weighted Average
33.525		89.16% Pervious Area
4.075		10.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2000	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
6.3	600	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	1,800	0.0440	9.97	219.25	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
13.2	2,500	Total			

Subcatchment 2S: Area B



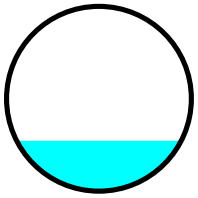
Summary for Reach 2R: 48" HDPE

Inflow Area = 116.000 ac, 10.06% Impervious, Inflow Depth > 0.54" for 25-yr event
Inflow = 36.63 cfs @ 12.31 hrs, Volume= 5.200 af
Outflow = 36.62 cfs @ 12.31 hrs, Volume= 5.199 af, Atten= 0%, Lag= 0.0 min

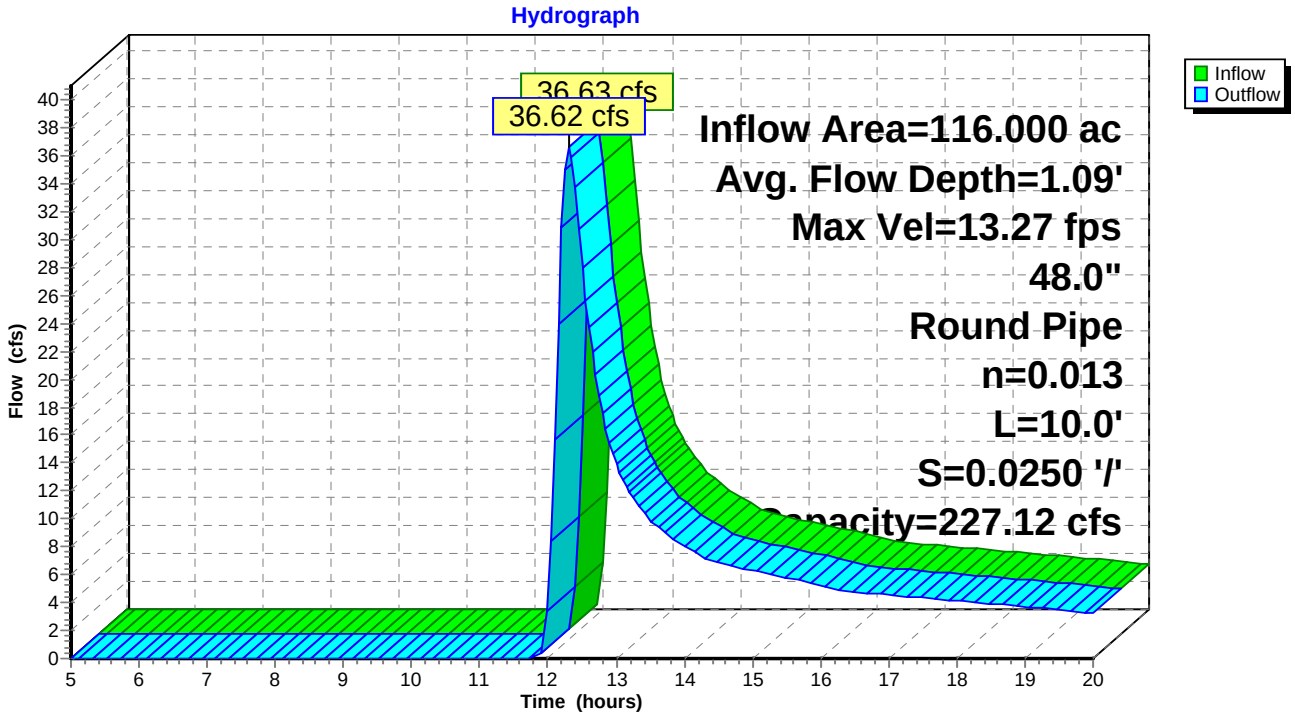
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.27 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 7.92 fps, Avg. Travel Time= 0.0 min

Peak Storage= 28 cf @ 12.31 hrs
Average Depth at Peak Storage= 1.09'
Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 227.12 cfs

48.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0250 '/'
Inlet Invert= 60.00', Outlet Invert= 59.75'



Reach 2R: 48" HDPE



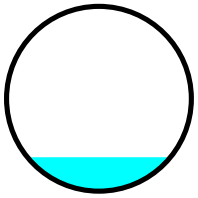
Summary for Reach 3R: 36" HDPE

Inflow Area = 37.600 ac, 10.84% Impervious, Inflow Depth > 0.39" for 25-yr event
Inflow = 10.09 cfs @ 12.12 hrs, Volume= 1.222 af
Outflow = 10.03 cfs @ 12.12 hrs, Volume= 1.222 af, Atten= 1%, Lag= 0.2 min

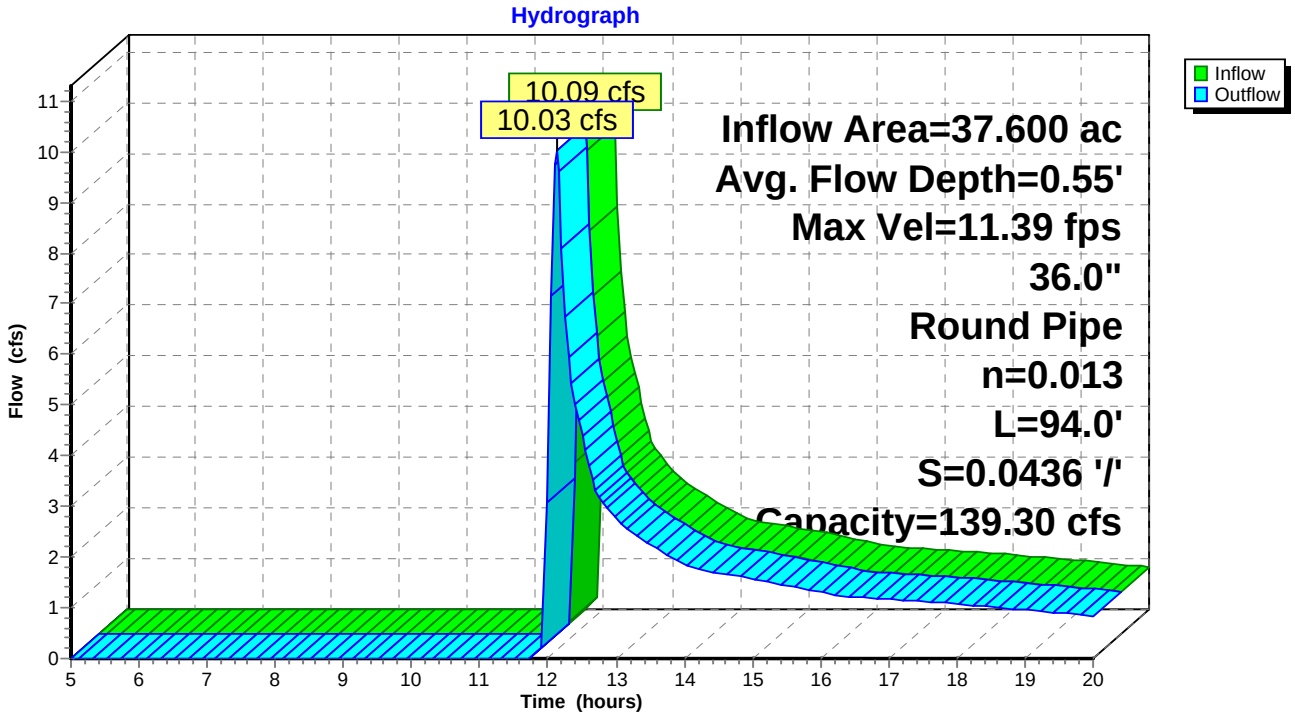
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.39 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 6.58 fps, Avg. Travel Time= 0.2 min

Peak Storage= 83 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 139.30 cfs

36.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 94.0' Slope= 0.0436 '/'
Inlet Invert= 60.00', Outlet Invert= 55.90'



Reach 3R: 36" HDPE



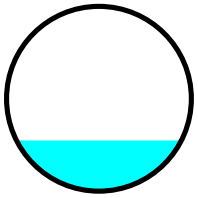
Summary for Reach 4R: 60" HDPE

Inflow Area = 153.600 ac, 10.25% Impervious, Inflow Depth > 0.50" for 25-yr event
Inflow = 42.53 cfs @ 12.29 hrs, Volume= 6.421 af
Outflow = 42.51 cfs @ 12.30 hrs, Volume= 6.420 af, Atten= 0%, Lag= 0.2 min

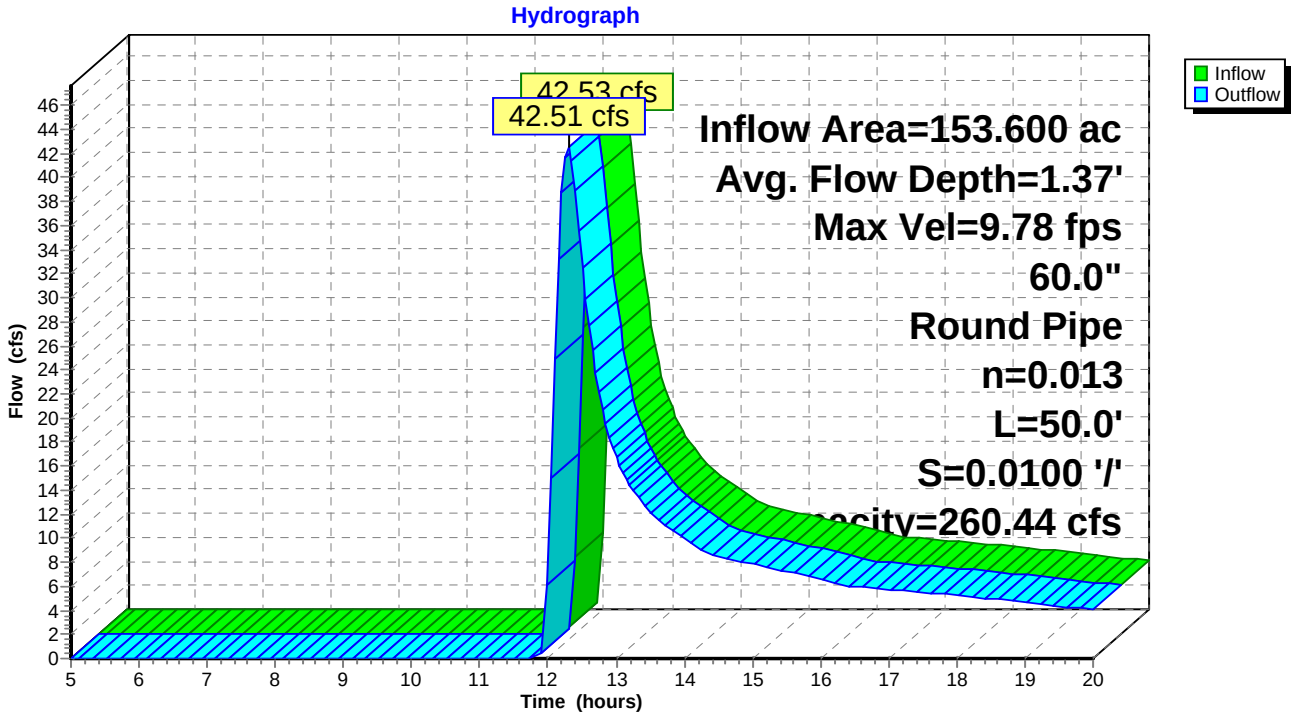
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.78 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 5.96 fps, Avg. Travel Time= 0.1 min

Peak Storage= 218 cf @ 12.30 hrs
Average Depth at Peak Storage= 1.37'
Bank-Full Depth= 5.00' Flow Area= 19.6 sf, Capacity= 260.44 cfs

60.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 50.0' Slope= 0.0100 '/'
Inlet Invert= 55.00', Outlet Invert= 54.50'



Reach 4R: 60" HDPE



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Area A Runoff Area=116.000 ac 10.06% Impervious Runoff Depth>0.93"
Flow Length=4,410' Tc=27.3 min CN=43 Runoff=79.52 cfs 8.977 af

Subcatchment 2S: Area B Runoff Area=37.600 ac 10.84% Impervious Runoff Depth>0.72"
Flow Length=2,500' Tc=13.2 min CN=40 Runoff=27.84 cfs 2.267 af

Reach 2R: 48" HDPE Avg. Flow Depth=1.63' Max Vel=16.45 fps Inflow=79.52 cfs 8.977 af
48.0" Round Pipe n=0.013 L=10.0' S=0.0250 '/' Capacity=227.12 cfs Outflow=79.51 cfs 8.976 af

Reach 3R: 36" HDPE Avg. Flow Depth=0.91' Max Vel=15.39 fps Inflow=27.84 cfs 2.267 af
36.0" Round Pipe n=0.013 L=94.0' S=0.0436 '/' Capacity=139.30 cfs Outflow=27.76 cfs 2.266 af

Reach 4R: 60" HDPE Avg. Flow Depth=2.07' Max Vel=12.18 fps Inflow=93.78 cfs 11.243 af
60.0" Round Pipe n=0.013 L=50.0' S=0.0100 '/' Capacity=260.44 cfs Outflow=93.73 cfs 11.241 af

Total Runoff Area = 153.600 ac Runoff Volume = 11.244 af Average Runoff Depth = 0.88"
89.75% Pervious = 137.855 ac 10.25% Impervious = 15.745 ac

Summary for Subcatchment 1S: Area A

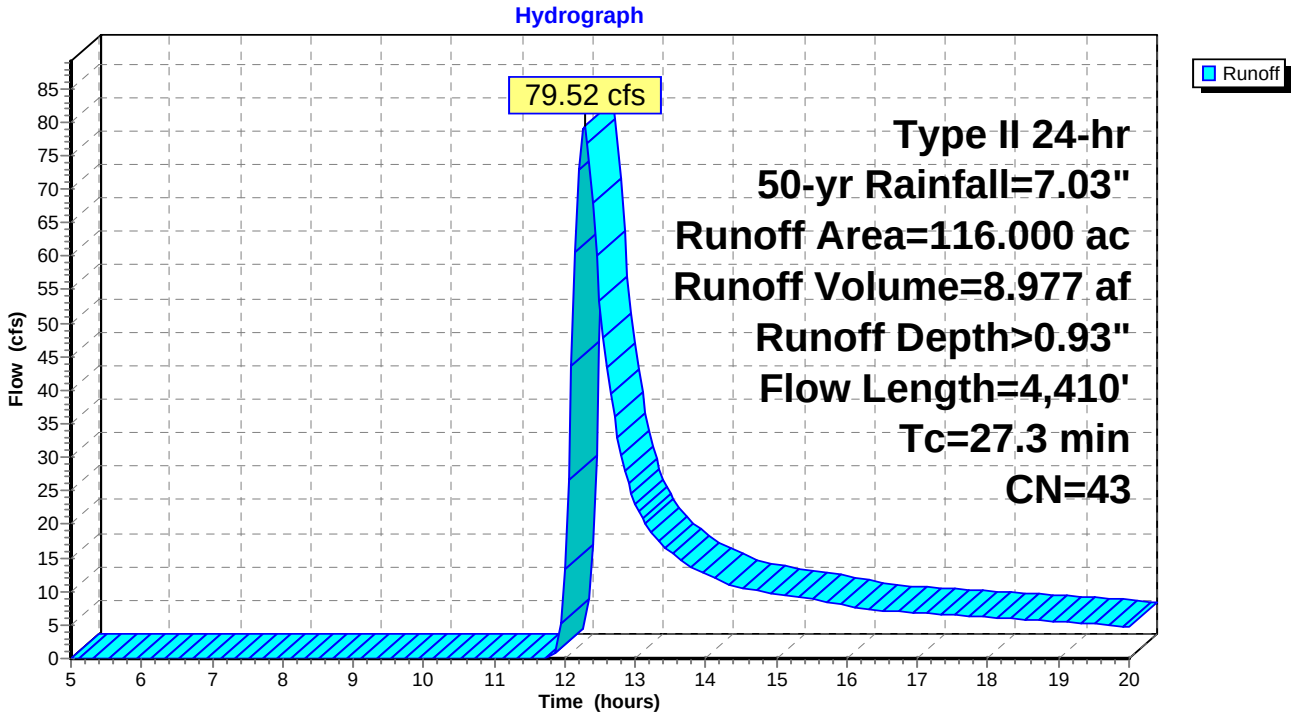
Runoff = 79.52 cfs @ 12.28 hrs, Volume= 8.977 af, Depth> 0.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=7.03"

Area (ac)	CN	Description
67.900	30	Woods, Good, HSG A
34.680	54	1/2 acre lots, 25% imp, HSG A
4.400	77	Fallow, bare soil, HSG A
0.100	98	Water Surface, HSG A
6.020	77	Woods, Good, HSG D
2.320	98	Paved roads w/curbs & sewers, HSG A
0.580	98	Paved roads w/curbs & sewers, HSG D
116.000	43	Weighted Average
104.330		89.94% Pervious Area
11.670		10.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
1.0	250	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.0	760	0.0790	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	3,300	0.0240	7.36	161.93	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
27.3	4,410	Total			

Subcatchment 1S: Area A



Summary for Subcatchment 2S: Area B

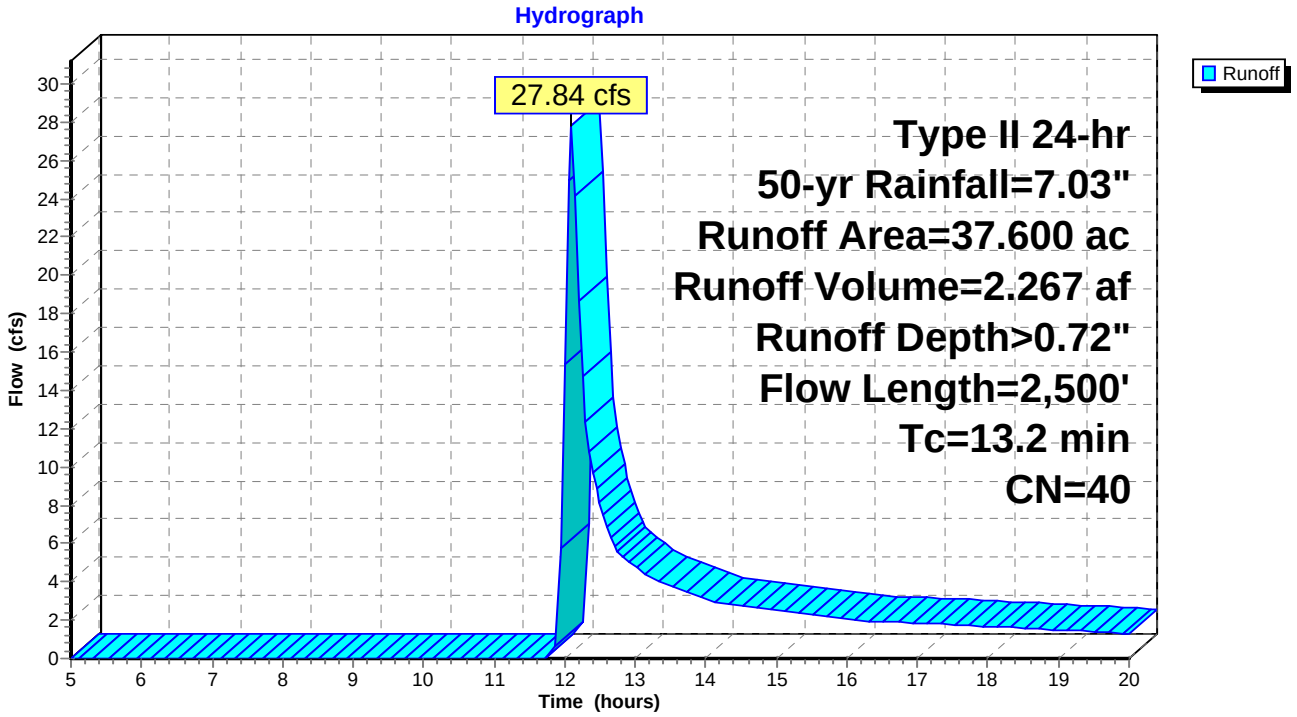
Runoff = 27.84 cfs @ 12.10 hrs, Volume= 2.267 af, Depth> 0.72"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=7.03"

Area (ac)	CN	Description
1.800	98	Water Surface, HSG A
4.900	39	>75% Grass cover, Good, HSG A
23.600	30	Woods, Good, HSG A
0.600	98	Paved roads w/curbs & sewers, HSG A
6.700	54	1/2 acre lots, 25% imp, HSG A
37.600	40	Weighted Average
33.525		89.16% Pervious Area
4.075		10.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2000	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
6.3	600	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	1,800	0.0440	9.97	219.25	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
13.2	2,500	Total			

Subcatchment 2S: Area B



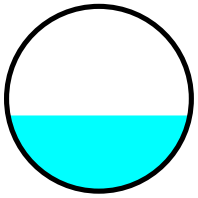
Summary for Reach 2R: 48" HDPE

Inflow Area = 116.000 ac, 10.06% Impervious, Inflow Depth > 0.93" for 50-yr event
Inflow = 79.52 cfs @ 12.28 hrs, Volume= 8.977 af
Outflow = 79.51 cfs @ 12.28 hrs, Volume= 8.976 af, Atten= 0%, Lag= 0.0 min

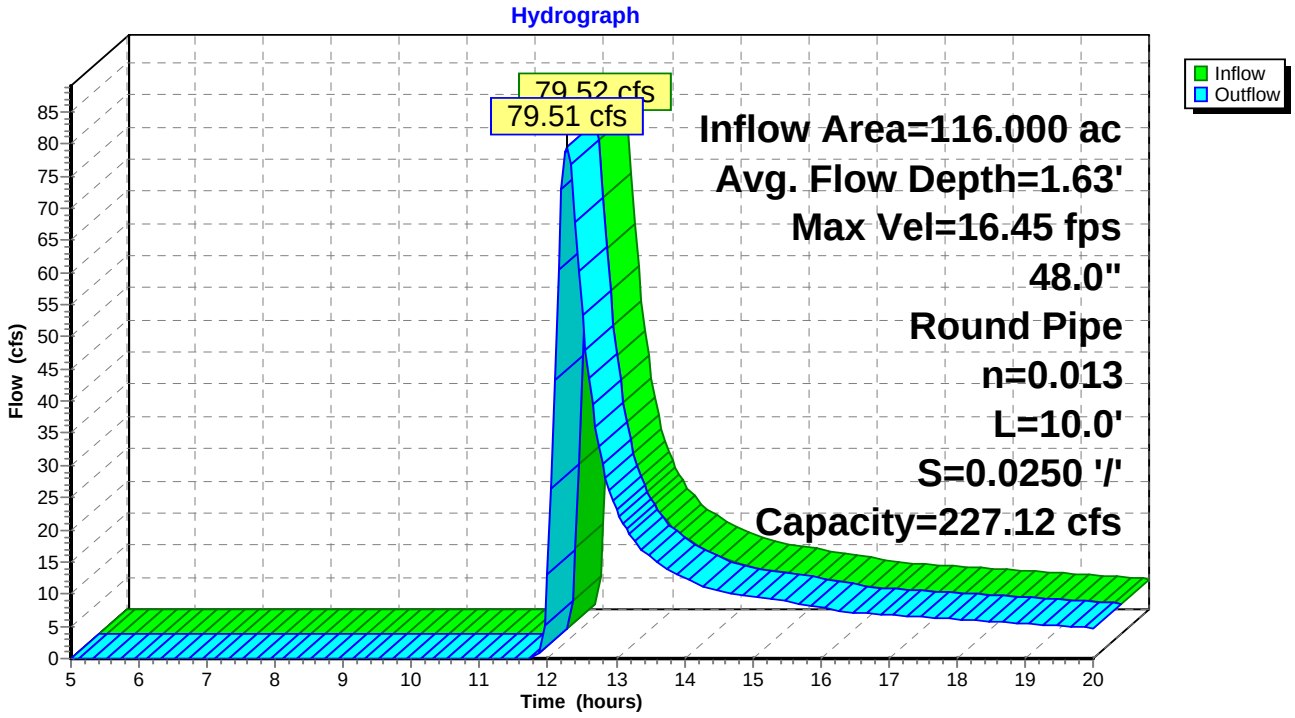
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 16.45 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 9.06 fps, Avg. Travel Time= 0.0 min

Peak Storage= 48 cf @ 12.28 hrs
Average Depth at Peak Storage= 1.63'
Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 227.12 cfs

48.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0250 '/'
Inlet Invert= 60.00', Outlet Invert= 59.75'



Reach 2R: 48" HDPE



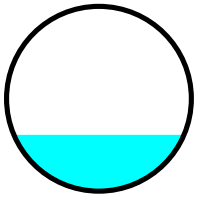
Summary for Reach 3R: 36" HDPE

Inflow Area = 37.600 ac, 10.84% Impervious, Inflow Depth > 0.72" for 50-yr event
Inflow = 27.84 cfs @ 12.10 hrs, Volume= 2.267 af
Outflow = 27.76 cfs @ 12.10 hrs, Volume= 2.266 af, Atten= 0%, Lag= 0.2 min

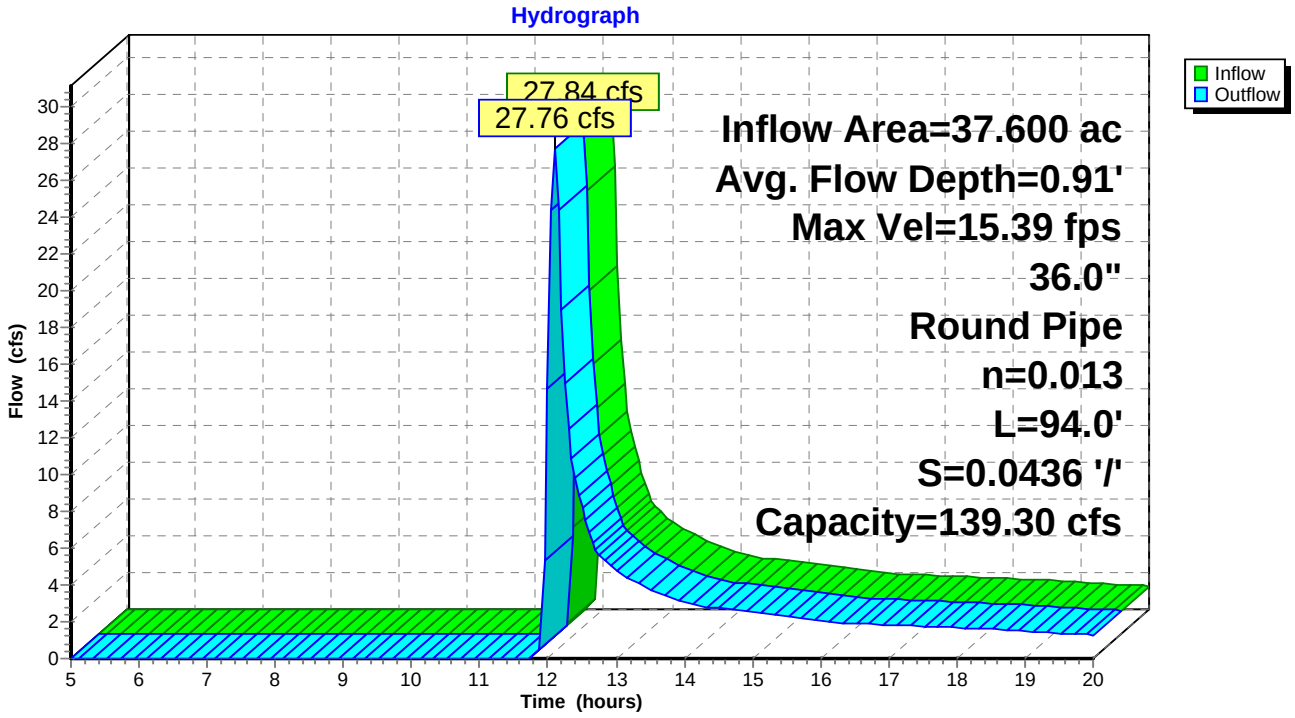
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 15.39 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 7.70 fps, Avg. Travel Time= 0.2 min

Peak Storage= 170 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.91'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 139.30 cfs

36.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 94.0' Slope= 0.0436 '/'
Inlet Invert= 60.00', Outlet Invert= 55.90'



Reach 3R: 36" HDPE



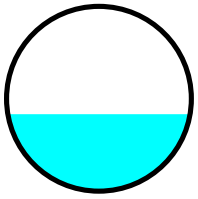
Summary for Reach 4R: 60" HDPE

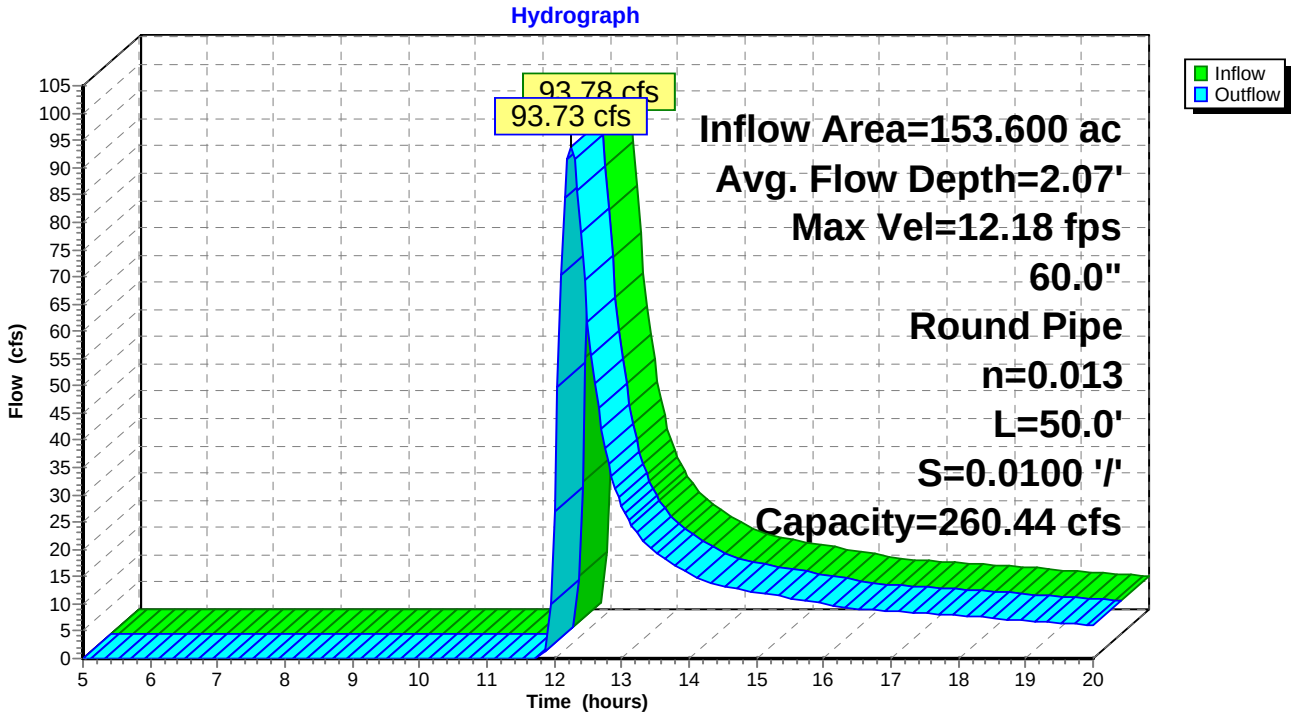
Inflow Area = 153.600 ac, 10.25% Impervious, Inflow Depth > 0.88" for 50-yr event
Inflow = 93.78 cfs @ 12.25 hrs, Volume= 11.243 af
Outflow = 93.73 cfs @ 12.25 hrs, Volume= 11.241 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.18 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 6.84 fps, Avg. Travel Time= 0.1 min

Peak Storage= 385 cf @ 12.25 hrs
Average Depth at Peak Storage= 2.07'
Bank-Full Depth= 5.00' Flow Area= 19.6 sf, Capacity= 260.44 cfs

60.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 50.0' Slope= 0.0100 '/'
Inlet Invert= 55.00', Outlet Invert= 54.50'





Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Area A Runoff Area=116.000 ac 10.06% Impervious Runoff Depth>1.49"
Flow Length=4,410' Tc=27.3 min CN=43 Runoff=145.58 cfs 14.367 af

Subcatchment 2S: Area B Runoff Area=37.600 ac 10.84% Impervious Runoff Depth>1.22"
Flow Length=2,500' Tc=13.2 min CN=40 Runoff=56.25 cfs 3.807 af

Reach 2R: 48'' HDPE Avg. Flow Depth=2.33' Max Vel=19.18 fps Inflow=145.58 cfs 14.367 af
48.0'' Round Pipe n=0.013 L=10.0' S=0.0250 '/' Capacity=227.12 cfs Outflow=145.57 cfs 14.366 af

Reach 3R: 36'' HDPE Avg. Flow Depth=1.33' Max Vel=18.60 fps Inflow=56.25 cfs 3.807 af
36.0'' Round Pipe n=0.013 L=94.0' S=0.0436 '/' Capacity=139.30 cfs Outflow=56.12 cfs 3.807 af

Reach 4R: 60'' HDPE Avg. Flow Depth=2.99' Max Vel=14.20 fps Inflow=174.21 cfs 18.173 af
60.0'' Round Pipe n=0.013 L=50.0' S=0.0100 '/' Capacity=260.44 cfs Outflow=174.15 cfs 18.171 af

Total Runoff Area = 153.600 ac Runoff Volume = 18.174 af Average Runoff Depth = 1.42"
89.75% Pervious = 137.855 ac 10.25% Impervious = 15.745 ac

Summary for Subcatchment 1S: Area A

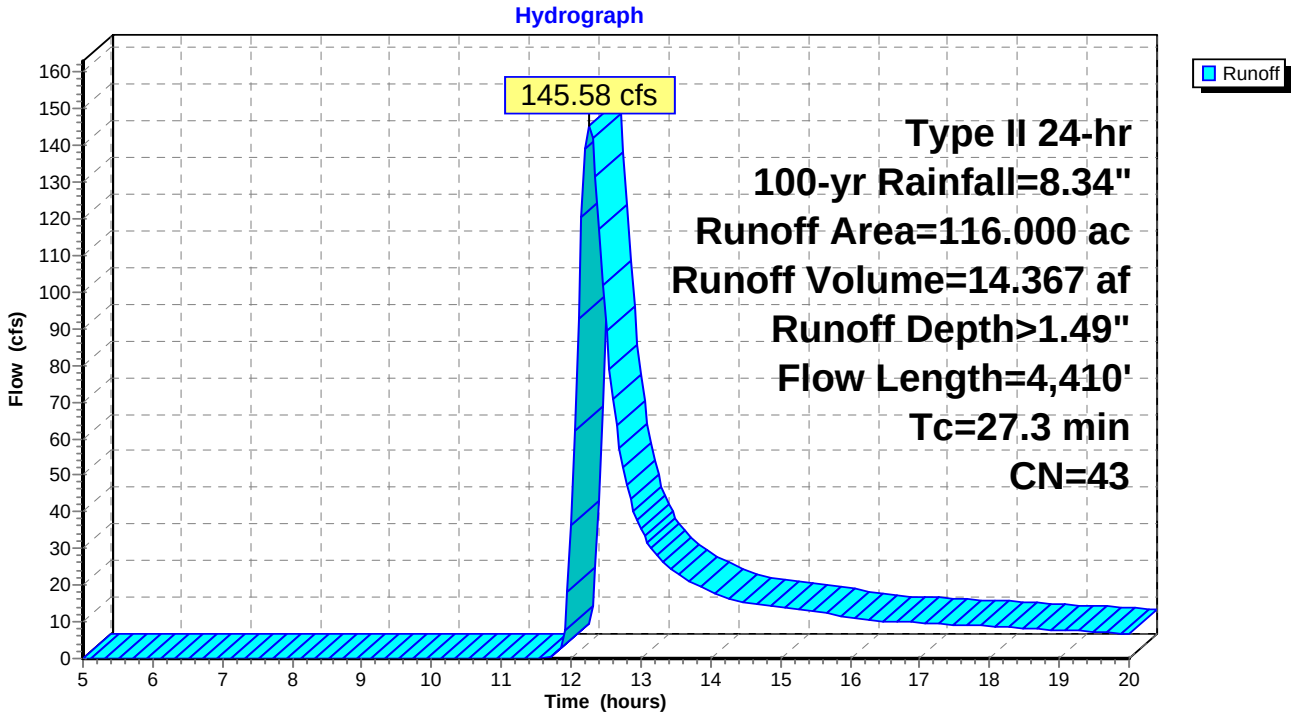
Runoff = 145.58 cfs @ 12.26 hrs, Volume= 14.367 af, Depth> 1.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=8.34"

Area (ac)	CN	Description
67.900	30	Woods, Good, HSG A
34.680	54	1/2 acre lots, 25% imp, HSG A
4.400	77	Fallow, bare soil, HSG A
0.100	98	Water Surface, HSG A
6.020	77	Woods, Good, HSG D
2.320	98	Paved roads w/curbs & sewers, HSG A
0.580	98	Paved roads w/curbs & sewers, HSG D
116.000	43	Weighted Average
104.330		89.94% Pervious Area
11.670		10.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
1.0	250	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.0	760	0.0790	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	3,300	0.0240	7.36	161.93	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
27.3	4,410	Total			

Subcatchment 1S: Area A



Summary for Subcatchment 2S: Area B

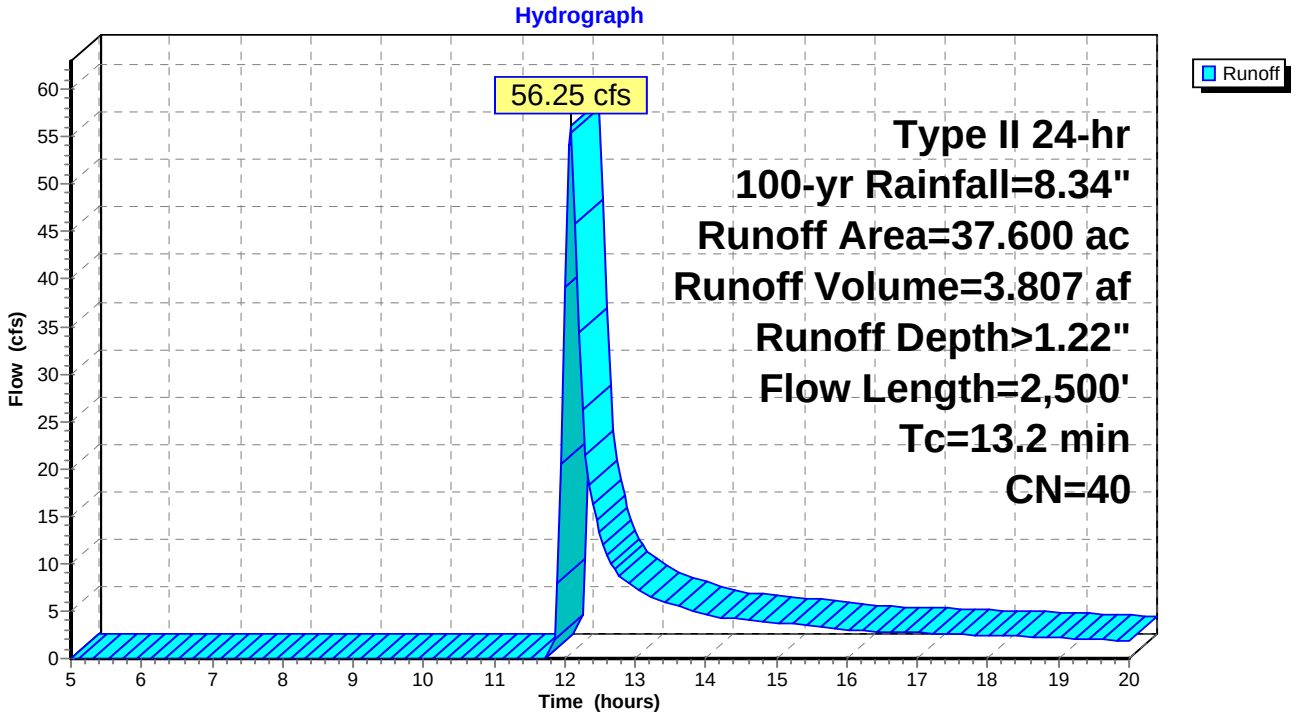
Runoff = 56.25 cfs @ 12.08 hrs, Volume= 3.807 af, Depth> 1.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=8.34"

Area (ac)	CN	Description
1.800	98	Water Surface, HSG A
4.900	39	>75% Grass cover, Good, HSG A
23.600	30	Woods, Good, HSG A
0.600	98	Paved roads w/curbs & sewers, HSG A
6.700	54	1/2 acre lots, 25% imp, HSG A
37.600	40	Weighted Average
33.525		89.16% Pervious Area
4.075		10.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	100	0.2000	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.19"
6.3	600	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	1,800	0.0440	9.97	219.25	**Trap/Vee/Rect Channel Flow,** Bot.W=8.00' D=2.00' Z= 1.5 '/' Top.W=14.00' n= 0.040 Winding stream, pools & shoals
13.2	2,500	Total			

Subcatchment 2S: Area B



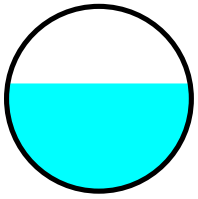
Summary for Reach 2R: 48" HDPE

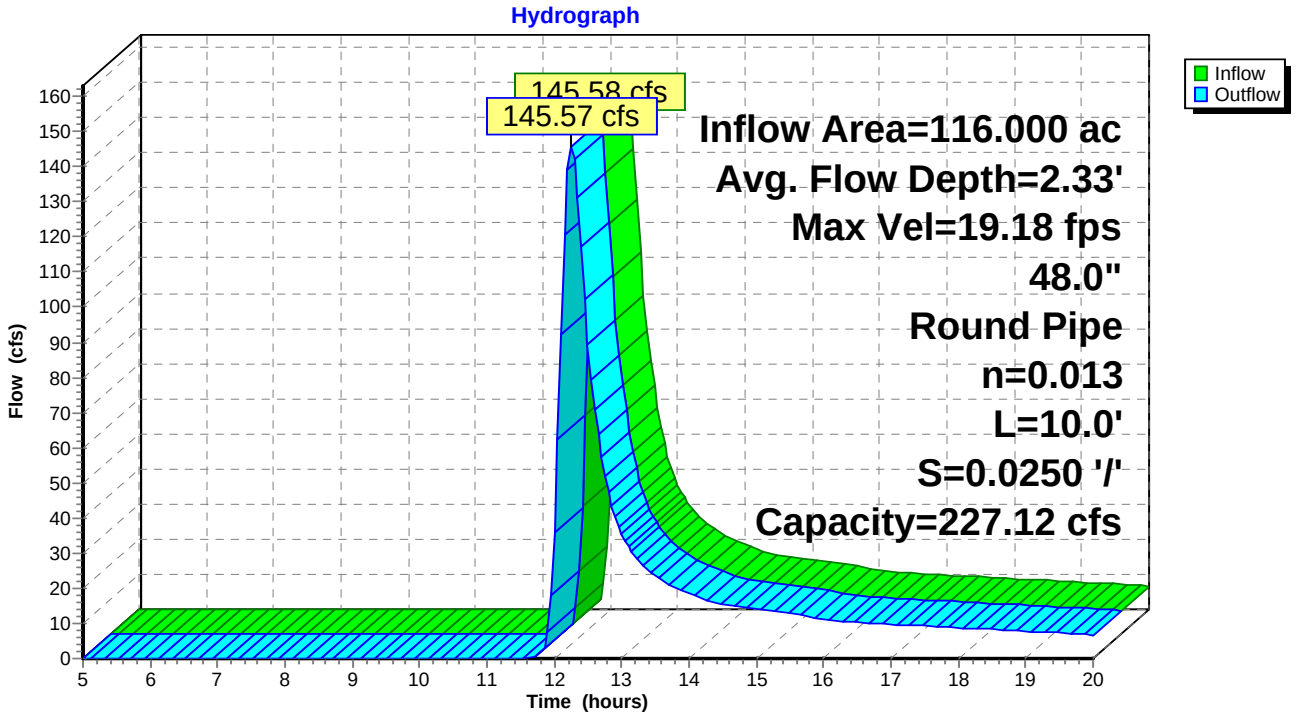
Inflow Area = 116.000 ac, 10.06% Impervious, Inflow Depth > 1.49" for 100-yr event
Inflow = 145.58 cfs @ 12.26 hrs, Volume= 14.367 af
Outflow = 145.57 cfs @ 12.26 hrs, Volume= 14.366 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 19.18 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 10.15 fps, Avg. Travel Time= 0.0 min

Peak Storage= 76 cf @ 12.26 hrs
Average Depth at Peak Storage= 2.33'
Bank-Full Depth= 4.00' Flow Area= 12.6 sf, Capacity= 227.12 cfs

48.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0250 '/'
Inlet Invert= 60.00', Outlet Invert= 59.75'





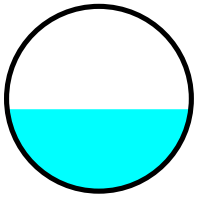
Summary for Reach 3R: 36" HDPE

Inflow Area = 37.600 ac, 10.84% Impervious, Inflow Depth > 1.22" for 100-yr event
Inflow = 56.25 cfs @ 12.08 hrs, Volume= 3.807 af
Outflow = 56.12 cfs @ 12.08 hrs, Volume= 3.807 af, Atten= 0%, Lag= 0.2 min

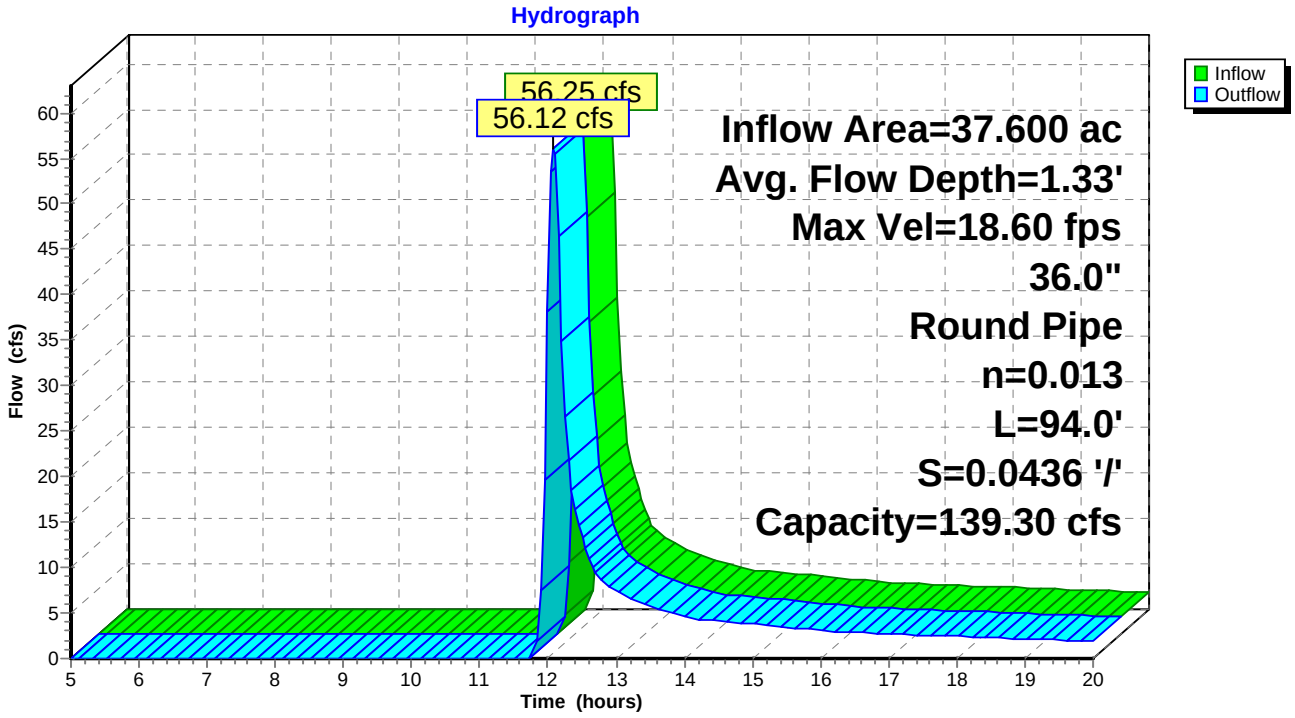
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 18.60 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 8.74 fps, Avg. Travel Time= 0.2 min

Peak Storage= 284 cf @ 12.08 hrs
Average Depth at Peak Storage= 1.33'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 139.30 cfs

36.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 94.0' Slope= 0.0436 '/'
Inlet Invert= 60.00', Outlet Invert= 55.90'



Reach 3R: 36" HDPE



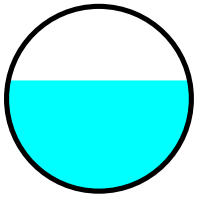
Summary for Reach 4R: 60" HDPE

Inflow Area = 153.600 ac, 10.25% Impervious, Inflow Depth > 1.42" for 100-yr event
Inflow = 174.21 cfs @ 12.22 hrs, Volume= 18.173 af
Outflow = 174.15 cfs @ 12.22 hrs, Volume= 18.171 af, Atten= 0%, Lag= 0.1 min

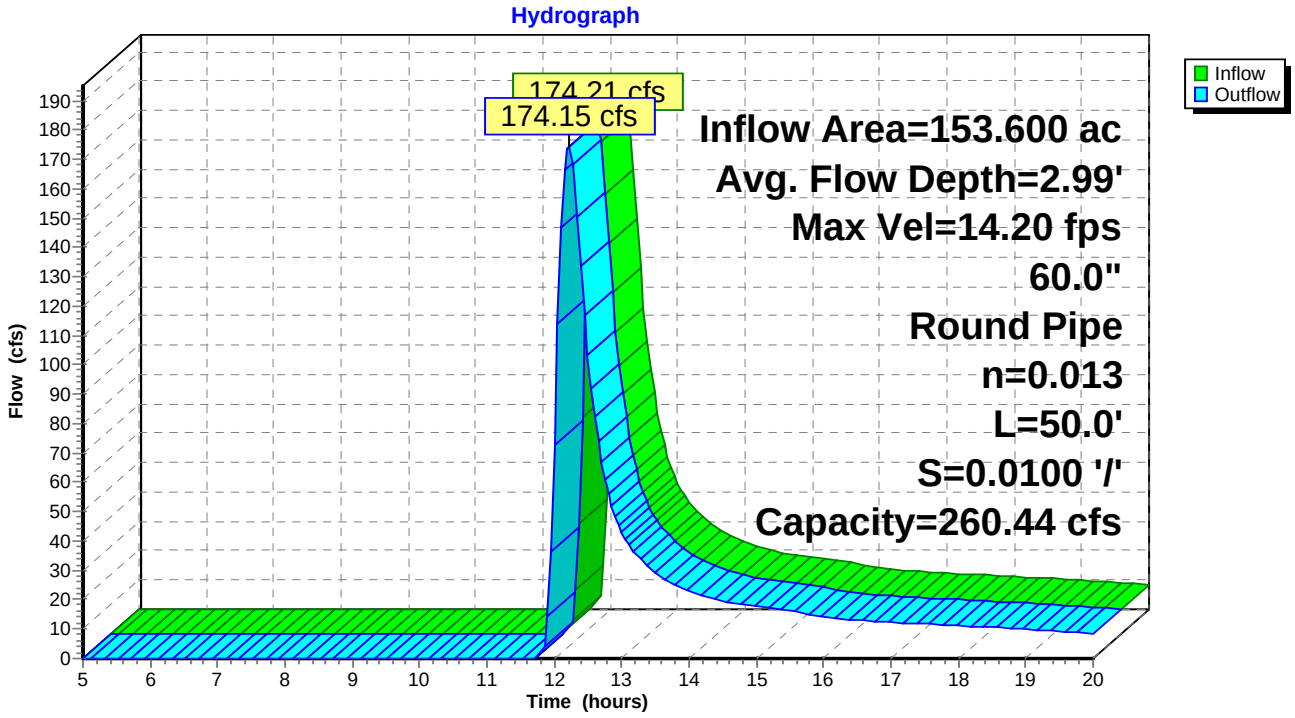
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.20 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 7.68 fps, Avg. Travel Time= 0.1 min

Peak Storage= 613 cf @ 12.22 hrs
Average Depth at Peak Storage= 2.99'
Bank-Full Depth= 5.00' Flow Area= 19.6 sf, Capacity= 260.44 cfs

60.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 50.0' Slope= 0.0100 '/'
Inlet Invert= 55.00', Outlet Invert= 54.50'



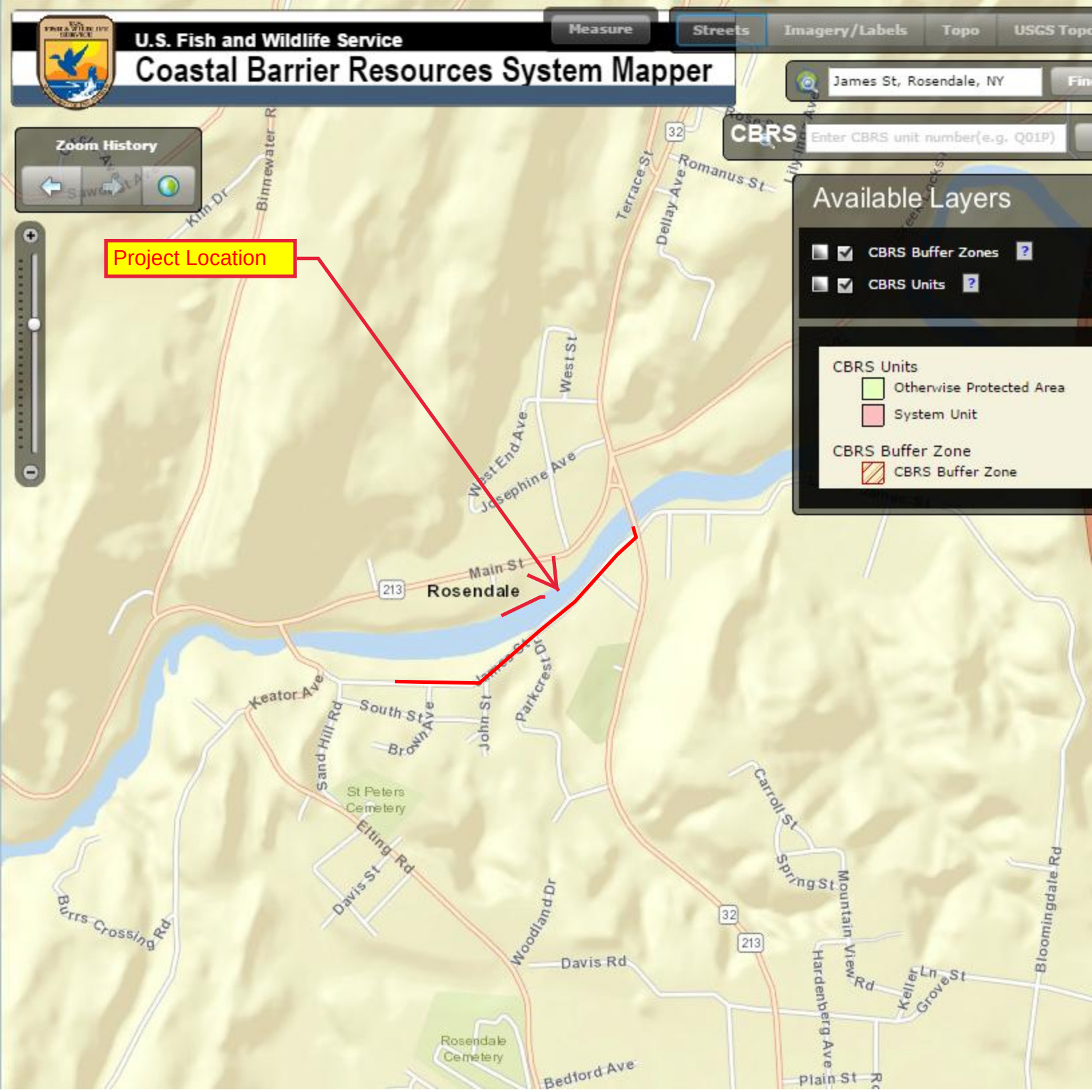
Reach 4R: 60" HDPE

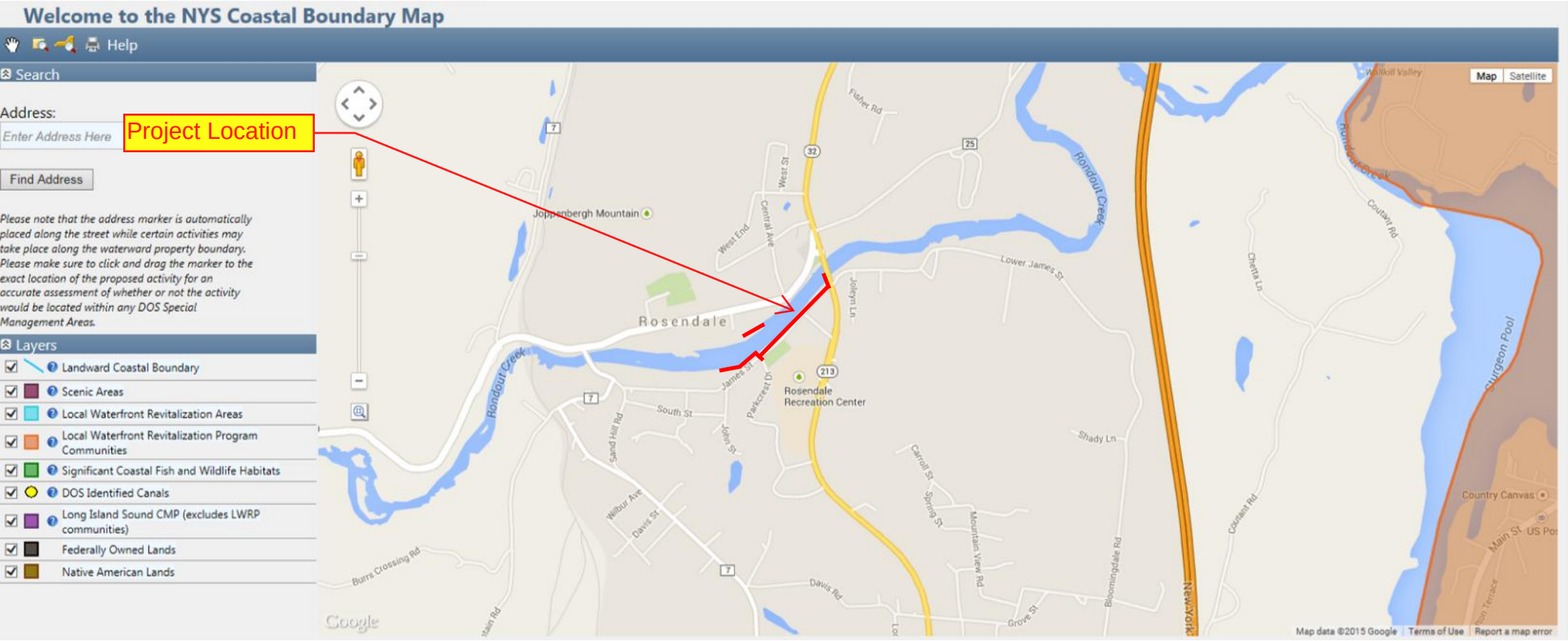


Attachment 3

Wetlands, Coastal and River Maps

- USFWS Coastal Barrier Resources System Mapper
- NYSDEC Coastal Boundary Map
- NYSDEC Environmental Resource Map
- USFWS NWI Map
- NYSDEC Tidal Wetlands Map
- NYSDEC Wild and Scenic Rivers Map


U.S. Fish and Wildlife Service
Coastal Barrier Resources System Mapper
Measure
Streets
Imagery/Labels
Topo
USGS Topo
James St, Rosendale, NY
CBRS
Enter CBRS unit number(e.g. Q01P)
Zoom History
Project Location
Available Layers
CBRS Buffer Zones
CBRS Units
CBRS Units
Otherwise Protected Area
System Unit
CBRS Buffer Zone
CBRS Buffer Zone
Rosendale
Main St
213
32
West St
West End Ave
Josephine Ave
Terrace St
Delay Ave
Romanus St
Binnewater R
Kim Dr
Keator Ave
South St
Brown Ave
John St
Parkcrest Dr
Sand Hill Rd
St Peters Cemetery
Elting Rd
Davis St
Burrs Crossing Rd
Woodland Dr
Davis Rd
Rosendale Cemetery
Bedford Ave
Carroll St
Spring St
Mountain View Rd
Hardenberg Ave
Keller Ln
Grove St
Bloomingdale Rd
Plain St


Welcome to the NYS Coastal Boundary Map
Help
Search
Address:
Enter Address Here
Project Location
Find Address
Please note that the address marker is automatically placed along the street while certain activities may take place along the waterward property boundary. Please make sure to click and drag the marker to the exact location of the proposed activity for an accurate assessment of whether or not the activity would be located within any DOS Special Management Areas.
Layers
Landward Coastal Boundary
Scenic Areas
Local Waterfront Revitalization Areas
Local Waterfront Revitalization Program Communities
Significant Coastal Fish and Wildlife Habitats
DOS Identified Canals
Long Island Sound CMP (excludes LWRP communities)
Federally Owned Lands
Native American Lands
Rosendale
Joppenbergh Mountain
Rondout Creek
Rosendale Recreation Center
Map
Satellite
Google
Map data ©2015 Google
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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Environmental Resource Mapper

Base Map: Topographical

Search

Tools

Layers and Legend

- Unique Geological Features
- Waterbody Classifications for Rivers/Streams
- Waterbody Classifications for Lakes
- State Regulated Freshwater Wetlands
- State Regulated Wetland Checkzone
- Significant Natural Communities
- Natural Communities Near This Location
- Rare Plants and Rare Animals

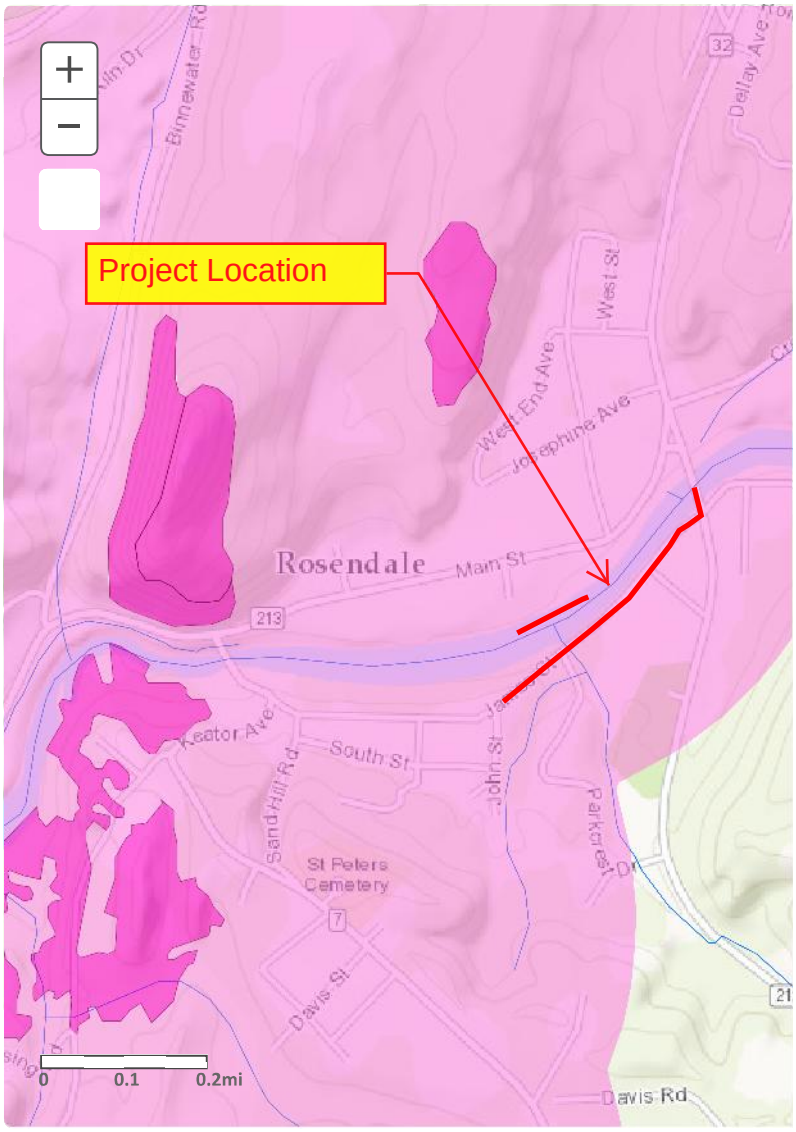
Other Wetland Layers

Reference Layers

Tell Me More...

Need A Permit?

Contacts

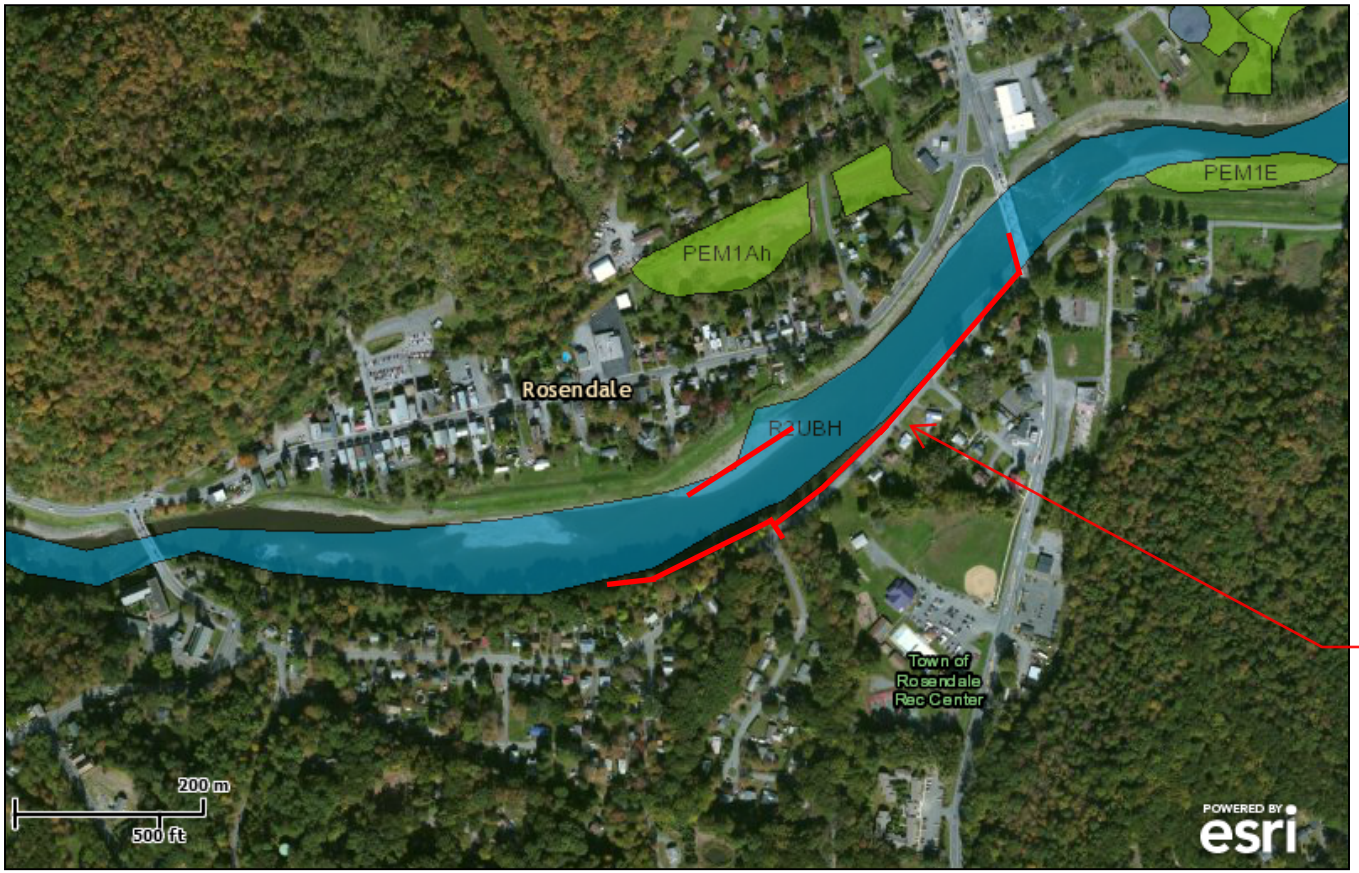


U.S. Fish and Wildlife Service

National Wetlands Inventory

James Street Flood Control

Mar 20, 2015



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

Riparian

- Herbaceous
- Forested/Shrub

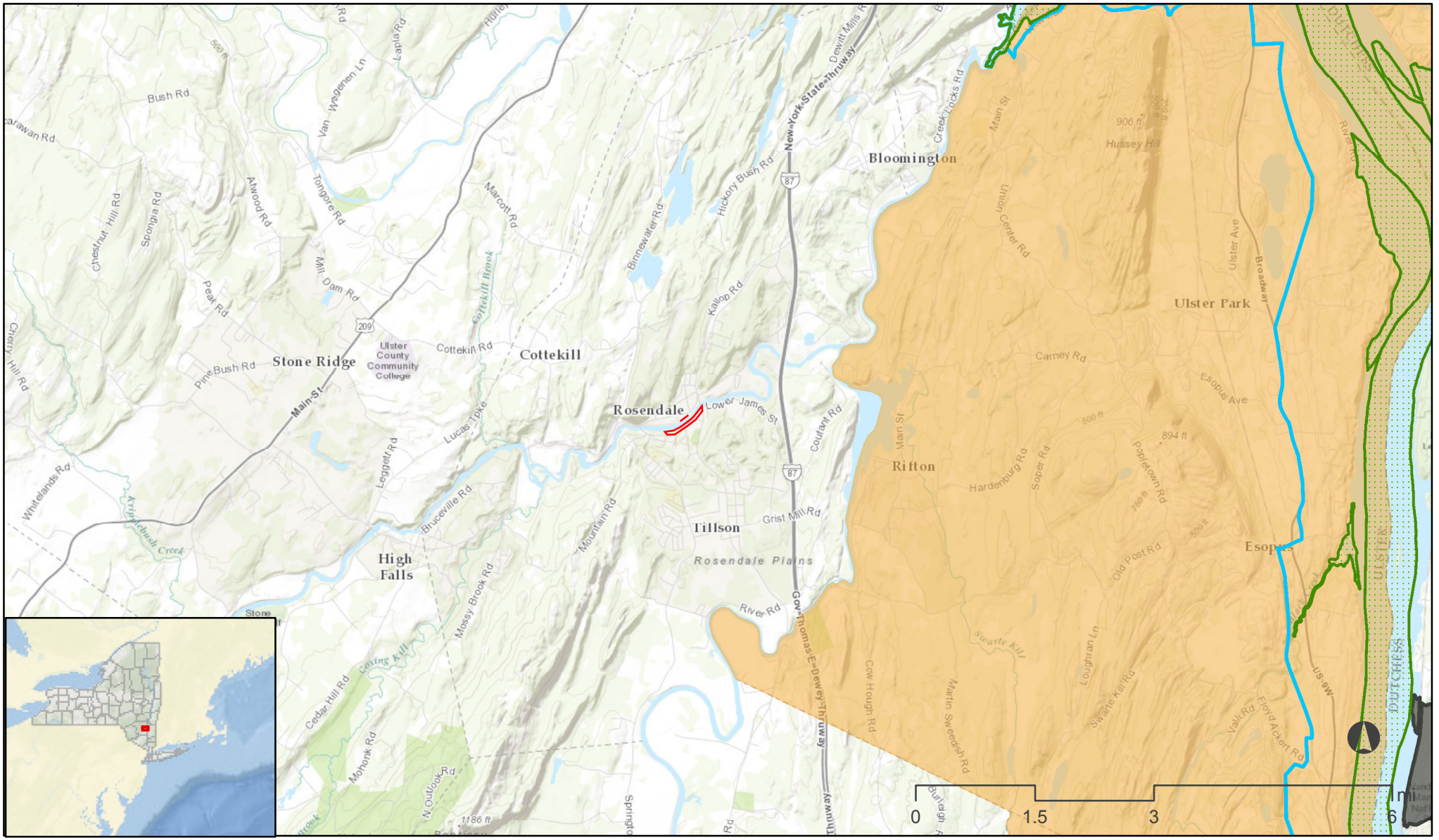
Riparian Status

- Digital Data

Project Location

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:



- Dredged Soil (DS)
- Formerly Connected (FC)
- Fresh Marsh (FM)
- High Marsh (HM)
- Intertidal Marsh (IM)
- Littoral Zone (LZ)
- Coastal Shoals, Bars and Mudflats (SM)
- Tidal Wetlands Imagery
- Significant coastal fish & wildlife habitats - NYS Dept of State
- Coastal_Boundary_Polyline_update
- Local Waterfront Revitalization Program [LWRP] Community Boundaries, Approved
- NativeAmericanLands
- FederalLands_NY

NEW YORK STATE OF OPPORTUNITY. Department of State

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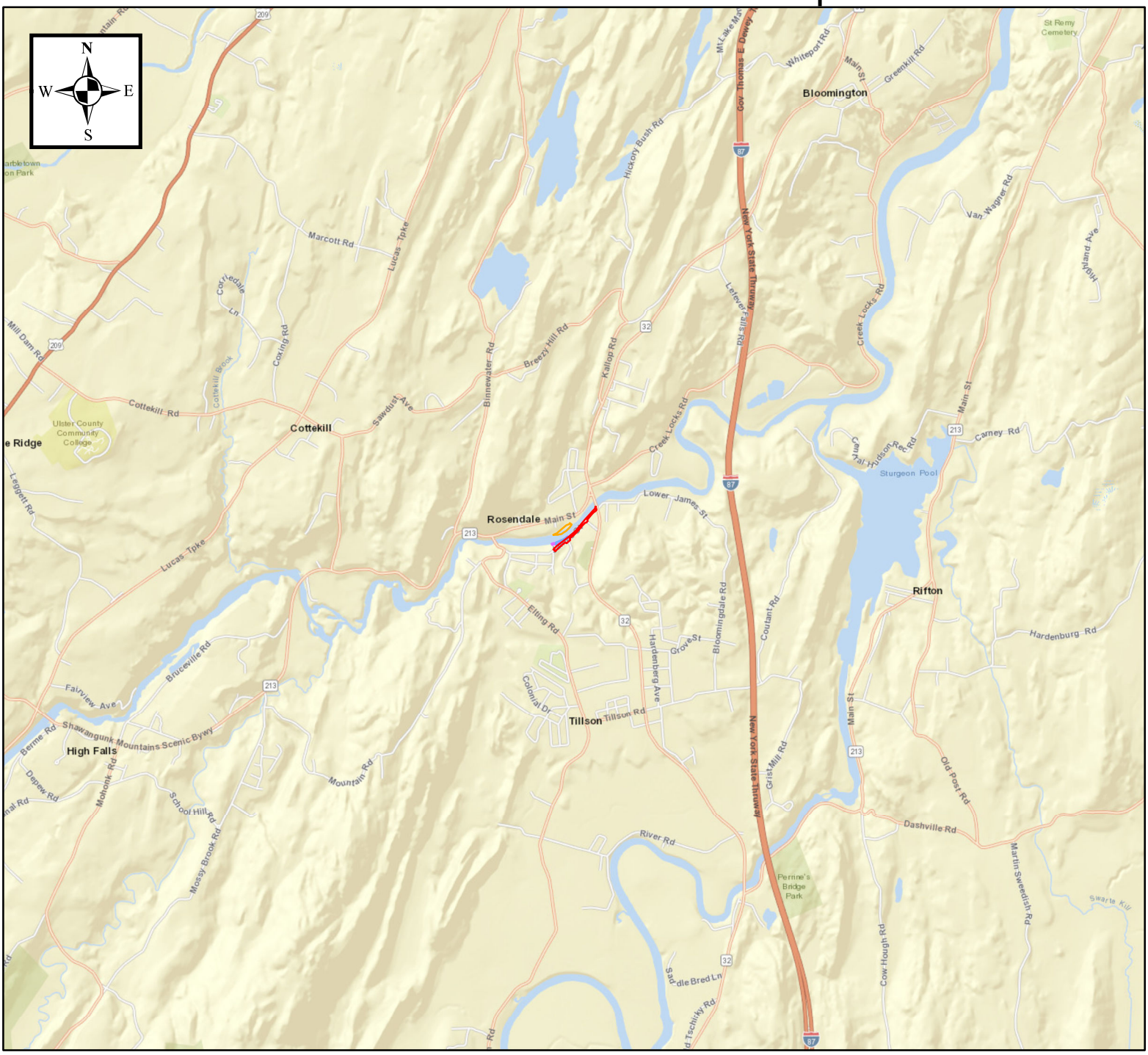
Wild and Scenic Rivers Map



TECTONIC
Practical Solutions, Exceptional Service

0 2,625 5,250 10,500 Feet

1:50,000

James Street Flood Control
James Street located between John Street and Route 32 adjacent to Roundout Creek
Town of Rosendale
Ulster County, New York

Created: 4/3/2017

Data Sources:
List of Wild, Scenic, and Recreational Rivers provided by the NYSDEC at http://www.dec.ny.gov/permits/32739.html

Legend

Approximate Boundaries of:

- **Maintenance Dredging - Point Bar Removal**
- **Slope Flattening**
- **Streambank Stabilization**
- **Road Work**
- **Wild and Scenic Rivers**

Attachment 4

Executive Orders Compliance Analysis – Floodplain Management (EO 11988) & Protection of Wetlands (EO 11990) Determination

Town of Rosendale - James Street Flood Control Project
EO 11988 Floodplain Management and EO 11990 Protection of Wetlands Determination
Community Reconstruction Program within NY State Community Development Block Grant Disaster Recovery Program
October 20, 2017

Introduction & Overview

The purpose of Executive Order 11988, Floodplain Management, is "to avoid to the extent possible the long- and short-term adverse impacts associated with occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative." This report contains the analysis prescribed by 24 CFR Part 55.

This project involves U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant Program – Disaster Recovery (CDBG-DR) funding for infrastructure repairs for a community impacted by Hurricane Irene and Tropical Storm Lee. The analysis that follows focuses on floodplain and wetland impacts associated with this project. Based on the "non-substantial" level of work, and other case characteristics, it is concluded that there is a reasonable basis to proceed with funding for this project/ activity within floodplain. Moreover, in the March 5, 2013 Federal Register Notice, HUD expressly recognized that "without the return of businesses and jobs to a disaster-impacted area, recovery may be impossible. Therefore, HUD strongly encourages grantees to envision economic revitalization as a cornerstone to a long-term recovery" (78 FR 14335). Thus, alternatives preventing or impeding recovery are not considered reasonable alternatives.

Description of Proposed Action & Land Use

The Town of Rosendale proposes a stormwater management improvement project located north of John Street on James Street, running past to the intersection of James Street and Parkcrest Drive and extending along James Street north to Route 32, and along and within Rondout Creek, in the Town of Rosendale, Ulster County, New York. Based on County Assessment data, the work area, also known as the Subject Property, will be on or in the right-of-way adjacent to Section-Block-Lot 70.26-2-23, 70.26-5-22, 70.26-5-1, 70.26-5-1, 70.8-5-11, 70.8-5-1, and 62.83-2-33. The total work area covers approximately 4.55 acres (but area to be disturbed is under one acre), which involves work primarily within the existing right-of-way on the roadway, and along and in Rondout Creek.

The Town of Rosendale proposes to replace the existing small-bore stone-built culvert that passes beneath James Street near the intersection of Parkcrest Drive. This existing 48-inch pipe is to be replaced with a 60-inch HDPE pipe culvert that will run under James Street, with a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A proposed catch basin and storm manhole are to be installed on the western side of the Parkcrest Drive and James Street intersection, with a new 36-inch HDPE pipe to replace the existing 36-inch pipe running under Parkcrest Drive. This 36-inch HDPE pipe connects to the 60-inch HDPE pipe and storm manhole located on the eastern side of the Parkcrest Drive and James Street intersection.

Four additional catch basins are proposed to be built along James Street, west of Parkcrest Drive. The catch basins will be located on the north and south side of James Street, with two catch basins located approximately 170 feet west of Parkcrest Drive on James Street and two catch basins located 520 feet west of Parkcrest Drive on James Street. The proposed construction includes flattening the south bank slope with a buttress toe for slope stability on the south bank of the Rondout Creek. Additionally, the proposed construction includes armoring Rondout Creek's south bank with riprap. This riprap will begin at the western edge of the existing riprap and extend 600 feet upstream. A point bar along the northern bank of Rondout Creek will be removed, which will restore the original Rondout Creek flood control creek bottom to 39.5 feet. The Town also proposes to construct guide rails along James Street, as well as a 5-foot asphalt

pedestrian walkway that will run parallel to the north side of James Street, extending approximately 330 feet west of Parkcrest Drive to the intersection of James Street and Route 32.

Applicable Regulatory Procedure Per EO 11988
The proposed action corresponds with a noncritical action not excluded under 24 CFR §55.12(b) or (c). Funding is permissible for the use in the floodplain if the proposed action is processed under §55.20 and the findings of the determination are affirmative to suggest that the project may proceed.

Based on online data, including data managed and updated by the U.S. Fish & Wildlife Service (USFWS) and NYSDEC (**Appendix I**), the Subject Property is located adjacent to, and partially within, a federally designated wetland. There are project activities proposed to be conducted in and along the edge of the wetlands at Subject Property.

According to 24 CFR §55, the activity planned to repair impacted infrastructure and proposed mitigation activities occurs in a community that is in the regular program of the National Flood Insurance Program (NFIP) and the community is currently in good standing. The stormwater infrastructure and waterway improvements are not included in substantial improvement or substantial damage calculations. As such, this project does not exceed the substantial improvement threshold of 50% in 24 CFR §55.2(b)(10). However, the proposed action involves new construction in wetlands, 100-year floodplain, and regulated floodway. As such, the full eight-step floodplain process in §55.20 is required. The following analysis examines each step in a floodplain management determination and wetland evaluation process.

Step 1. **Determine Whether the Proposed Action is Located in the 100-year Floodplain (500-year for Critical Actions) or results in New Construction in Wetlands.**
The location of the proposed action, per the applicable FEMA flood map Firmette (**Appendix II**), is within 100-year floodplain (SFHA - AE Zone) and floodway. There is an established Base Flood Elevation (BFE) of approximately 55-59 feet across the property. This action does require a Section 404 permit under the Clean Water Act (see 55.20(a)(1)).

Step 2. **Initiate Public Notice for Early Review of Proposal.**
Because the proposed action is located in floodway, floodplain and wetlands, the Governor's Office of Storm Recovery (GOSR) published an early notice that allowed for public and public agency input on the decision to provide funding for construction activities. The early public notice and 15-day comment period is complete. No public comments were received.

The early notice and corresponding 15-day public comment period started on **June 19, 2017** with the "Notice of Early Public Review of a Proposed Activity in Wetlands and 100-Year Floodplain" being published in the **Daily Freeman** newspaper, with the 15-day period expiring on **July 5, 2017**. The notice targeted local residents, including those in the floodplain. The notice was also sent to the following state and federal agencies on **June 19, 2017**: Federal Emergency Management Agency (FEMA); USFWS; U.S. Environmental Protection Agency (EPA); NYSDEC; NYS Department of Transportation; and New York State Office of Emergency Management. The notice was also sent to Ulster County and the Town of Rosendale. (See **Appendixes 1** and **2** of this Floodplain Management EO 11988 and Wetlands Protection EO 11990 Determination for the letter distributed to these agencies and the associated newspaper notice affidavit and affidavit of mailing.)

Step 3. **Identify and Evaluate Practicable Alternatives to Locating the Proposed Action in a 100-year Floodplain (or 500-year Floodplain if a Critical Action) or Wetland.**
The New York State Rising Community Reconstruction Program is structured to provide eligible communities resources and expertise to build resilience to future flooding events. This community was impacted by Hurricane Irene and Tropical Storm Lee resulting in record high water levels and severe flash

flooding inundating Rondout Creek. The lower portion of James Street washed out and collapsed causing a substantial safety risk for vehicles and residences located on James Street and in the surrounding area. One main purpose of the proposed action is to ensure that a critical connector road will be accessible during and after future storm events. James Street serves as a critical alternate vehicular and pedestrian route, providing an ingress/ egress thoroughfare that connects NY Route 32/213 and an emergency route for Rosendale's Downtown District (See NYRCR Program Flood Control Along James Street Project Pre-application Report, December 2014). According to the NYRCR Plan for Ulster Communities on this proposed action, "[t]he entire community will benefit from flood control measures and the protection of Town roads from inundation and collapse during acute storm events by providing continued access for EMS providers and to health and social service facilities." This flooding was caused by floodwaters overwhelming the existing culverts and roadways. Given the scope of the proposed action to redesign existing onsite drainage infrastructure, install new drainage systems, and to implement stream restoration, stabilization, and reinforcing, potential alternatives must be considered in order to try and mitigate the amount of damage from future flood events.

The primary alternative for the proposed project is the "no action" alternative. This alternative means that there would be no work undertaken to alleviate the flood problem or mitigate the future flooding. This would leave the surrounding community vulnerable to future flood damage. The "no action" alternative would provide no protection to the residential neighborhoods and greater community from future flood events, as mitigation would be compromised due to lack of financial support. Thus, the "no action" alternative is not feasible in relation to the desired objective of creating area resiliency to future flooding events.

According to the NYRCR Plan for Ulster Communities on this proposed action, "[i]mproving the flow capacity of a waterway minimizes rates of erosion, decreases surface water elevations, undercut/eroded banks, and an imbalance in their erosion/deposition budget." Due to the number of developed parcels and the necessity for greater resilience from future storm events within this community, prohibition of rehabilitation within floodplain is not practicable. The above identified alternatives will be re-evaluated in response to public comments received.

Step 4. **Identify & Evaluate Potential Direct & Indirect Impacts Associated with Occupancy or Modification of 100-year Floodplain and Potential Direct & Indirect Support of Floodplain and Wetland Development that Could Result from Proposed Action.**

The focus of floodplain evaluation should be on adverse impacts to lives and property, and on natural and beneficial floodplain values. Natural and beneficial values include consideration of potential for adverse impacts on water resources such as natural moderation of floods, water quality maintenance, and groundwater recharge.

According to the FEMA Report - A Unified National Program for Floodplain Management, two definitions commonly used in evaluating actions in floodplain are "structural" and "non-structural" activities. Per the report, structural activity is usually intended to mean adjustments that modify the behavior of floodwaters through the use of measures such as public works dams, levees and channel work. Non-structural is usually intended to include all other adjustments (e.g., regulations, insurance, etc.) in the way society acts when occupying or modifying a floodplain. These definitions are used in describing impacts that may arise in association with potential advancement of this case.

Natural moderation of floods

The Subject Property is located in one of many residential and commercially developed areas situated within the 100-year floodplain; as such, the proposed work may potentially result in future direct impacts to properties during certain severe floods and related natural disasters. However, the direct effects of the increased stormwater mitigation work is anticipated to be beneficial to the adjacent occupied properties

within this floodplain.

Living resources such as flora and fauna
The proposed action involves armoring approximately 600 feet of the southern bank of Roundout Creek to prevent future washouts from occurring at and on James Street. This work, combined with the slope flattening and removal of a point bar along the northern bank of Rondout Creek, will help prevent future erosion and sediment transportation downstream. Additionally, construction best management practices, including an erosion control plan and compliance with federal, state and local permits, will be implemented during the construction period and afterward landscape restoration will be implemented in order to return disturbed areas to vegetated states as allowed by the construction requirements. A qualitative evaluation suggests the potential for long-term impacts would be relatively small as the proposed work includes restoring some of the project area to pre-existing conditions after construction using native foliage and/or trees.

Impacts to Property & Lives
The action does present potential to impact occupancy of the floodplain, as it involves stormwater infrastructure and waterway improvements. However, this work includes the modification of existing drainage infrastructure and installation of an increased capacity stormwater sewer systems in order to contain future 100-year flood levels within the stream channel. Moreover, supporting the recovery of the Town of Rosendale is an essential component of recovery in storm-effected communities, as recognized by the March 2013 Federal Register Notice.

Occupancy of this floodplain in this developed area has taken place since World War II. According to the DMA 2009 Hazard Mitigation Plan Update– Ulster County, NY, approximately 9.8% of the properties (Page 3a-46), and approximately 12.7 % of the improved land value (Page 3a-47) in the Town of Rosendale is located in High Flood Risk. Considering the context of the area, this action represents an activity supporting nearby developed parcels that are located within contiguous floodplain. Thus, funding this project/ activity does constitute indirect continued support of floodplain occupancy and development for this area. In the event of severe flooding and associated natural hazards in the future, there is potential for further damage to these parcels and the surrounding neighborhoods.

The project involving stormwater infrastructure and waterway improvements sustains area property values and community character within a long settled district and neighborhood. It enables the continued functionality of the surrounding neighborhoods and roads, and without the proposed project the surrounding communities would not have support in rehabilitating and improving drainage and flood control infrastructure. If this project were not funded, there probably would be other undefined, undesirable indirect impacts to residents' quality of life, ease of accessibility to their homes, and access to emergency services during and after future storm events.

Cultural resources such as archaeological, historic & recreational aspects
There are no recorded historic properties listed, or deemed eligible for, the State and National Register of Historic Places on or adjacent to the Subject Property. The New York State Historic Preservation Office confirmed on April 15, 2016 that this project will have no effect on historic or tribal resources. Without support, area resources could degrade and there could be loss of development character and identity for the area.

Agricultural, aquacultural, & forestry resources
The Ulster County area has several agricultural sites located in the flood zone, as well as undeveloped woodlands. According to the Ulster County Agricultural and Farmland Protection Plan (1997), the agricultural industry generated $55 million in cash receipts in 1995. However, while it is conceivable that flooding of a community like this could be part of a cumulative influence on such resources, the impact

attributable to this use could not have been quantitatively derived, and the potential impact, with planning for and practice of non-structural management practices, is considered minor.

Wetland Evaluation

The purpose of wetland evaluation is to consider factors relevant to a proposal's effect on the survival and quality of the wetland. These factors should include public health (including water supply and water quality), maintenance of natural systems, cost increases attributed to construction in wetland, and other uses of wetland in the public interest.

Public health, safety, and welfare, including water supply, quality, recharge, and discharge; pollution; flood and storm hazards and hazard protection; and sediment and erosion.

The project location is in wetlands that are designated as riverine (USFWS); additionally, the NYSDEC classifies Rondout Creek as a Class B waterway, while the tributary running under James Street is classified as a Class C waterway. These wetlands are not directly used for water supply. However, these wetlands can serve to absorb the force of storm waters and erosion. These areas help protect upland soil and freshwater resources. The scope of work for this project involved work to restore the project area to the original flood control creek bottom elevation and armor the southern bank of the river to prevent future erosion that would transport sediment downstream. This work is not suspected to pose a threat to public health and safety, or to increase flood and storm hazards, as the proposed action does not include reshaping or filling of the wetland. Additionally, the creek bank stabilization will make this property and surrounding area safer from future damages as erosion will be decreased during storm events. The proposed action will not decrease the area of the wetland, merely restore it to previously existing conditions.

Maintenance of natural systems, including conservation and long-term productivity of existing flora and fauna; species and habitat diversity and stability; natural hydrologic function; wetland type; fish; wildlife; timber; and food and fiber resources.

The proposed action will not further affect the natural systems/ wetlands at this property, which is located in an area that is primarily residential and commercial properties. The Town shall comply with all best management practices and permit conditions that are set forth in the applicable federal, state, and local environmental permits, when and as they are acquired. As the work will not increase the area of creek, it is presumed that there will not be new adverse impacts on the existing flora/fauna, habitat, natural hydrologic function, or natural resources at the location.

Cost increases attributed to wetland-required new construction and mitigation measures to minimize harm to wetlands that may result from such use.

The proposed scope of work does not involve changing the total area of the existing wetland by dredging, diking, filling, or by some other means. Consequently, there are no cost increases attributed to necessary mitigation measures to minimize harm to wetlands that may result from such use.

Other uses of wetland in the public interest, including recreational, scientific, and cultural uses.

This area is a developed rural residential and commercial area that is adjacent to state parks, undeveloped forests, lakes, and streams. Additionally, easy access is afforded to local public recreational access to the neighboring State Parks and Preserves and various other agricultural facilities such as farmers' markets and farms. According to the Outdoor Industry Association's two-page fact sheet New York The Outdoor Recreation Economy, outdoor recreation generates $338 billion in consumer spending and 305,000 direct jobs within the State. Due to the developed nature of the area, demand could not simply shift to other areas located in out of wetlands and floodplains because of finite supply.

Step 5. **Where Practicable, Design or Modify the Proposed Action to Minimize the Potential Adverse Impacts To and From the 100-Year Floodplain and to Restore and Preserve its Natural and Beneficial Functions and Values.**
Given the scope to restore and armor Rondout Creek, replace the existing culvert, and install additional stormwater management/ sewer systems with the proposed funding support, it is a direct policy requirement to specify standards that mitigate flood risk. There are mitigation measures in the form of restoration landscaping proposed upon the completion of stream stabilization and restoration work. Additionally, stormwater catch basins will be used to catch sediment and debris prior to transportation elsewhere, which will decrease water velocity and prevent sedimentation of the waterways. These measures will help limit erosion and prevent habitat from being silted up via excess sedimentation.

It is still reasonable to promote awareness of future risks of natural hazards, including flooding, plus the physical, social and economic impacts that potential events could convey, including through potential for future physical damage to the surrounding properties.

Step 6. **Reevaluate the Alternatives and Proposed Action.**
The primary alternative for the proposed project is the 'no action' alternative. This alternative means that there would be no work undertaken to alleviate the flood problem or mitigate the future flooding. This would leave the surrounding community vulnerable to future flood damage. The "no action" alternative would provide no protection to the residential neighborhoods and greater community from future flood events, as mitigation would be compromised due to lack of financial support. Thus, the "no action" alternative is not feasible in relation to the desired objective of creating area resiliency to future flooding events.

The impacts of these alternatives will be re-evaluated in response to any public comments received.

Step 7. **Issue Findings and Public Explanation.**
A final notice, formally known as "Notice of Policy Determination" was published in accordance with 24 CFR 55. (See **Appendix 3** of this Floodplain Management EO 11988 and Wetlands Protection EO 11990 Determination for the letter distributed to the associated agencies.) The comment period started with the Final Notice publishing in **Daily Freeman** newspaper on **October 20, 2017**.This notice was combined with the Notice of Finding of No Significant Impact and Notice of Intent to Request Release of Funds. The comment periods for the combined notice is 15 days, which expires on **November 6, 2017**. The combined notice describes the reasons why the project must be located in the floodplain, alternatives considered, and all mitigation measures to be taken to minimize adverse impacts and preserve natural and beneficial floodplain values.

Step 8. **Continuing Responsibility of Responsible Entity & Recipient.**
The Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation, is the responsible entity. The responsible entity will make available educational materials regarding best practices for businesses located in floodplains. It is acknowledged there is a continuing responsibility by the responsible entity to ensure, to the extent feasible and necessary, compliance with the steps herein.

Appendix I

NYSDEC Environmental Resources Map
& USFWS NWI Map

Environmental Resource Mapper

Base Map: Topographical

Search

Tools

Layers and Legend

- [x] **All Layers**
- [x] Unique Geological Features
- [x] Waterbody Classifications for Rivers/Streams
- [x] Waterbody Classifications for Lakes
- [x] State Regulated Freshwater Wetlands
  - State Regulated Wetland Checkzone
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  - Natural Communities Near This Location
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Other Wetland Layers

Reference Layers

Tell Me More...

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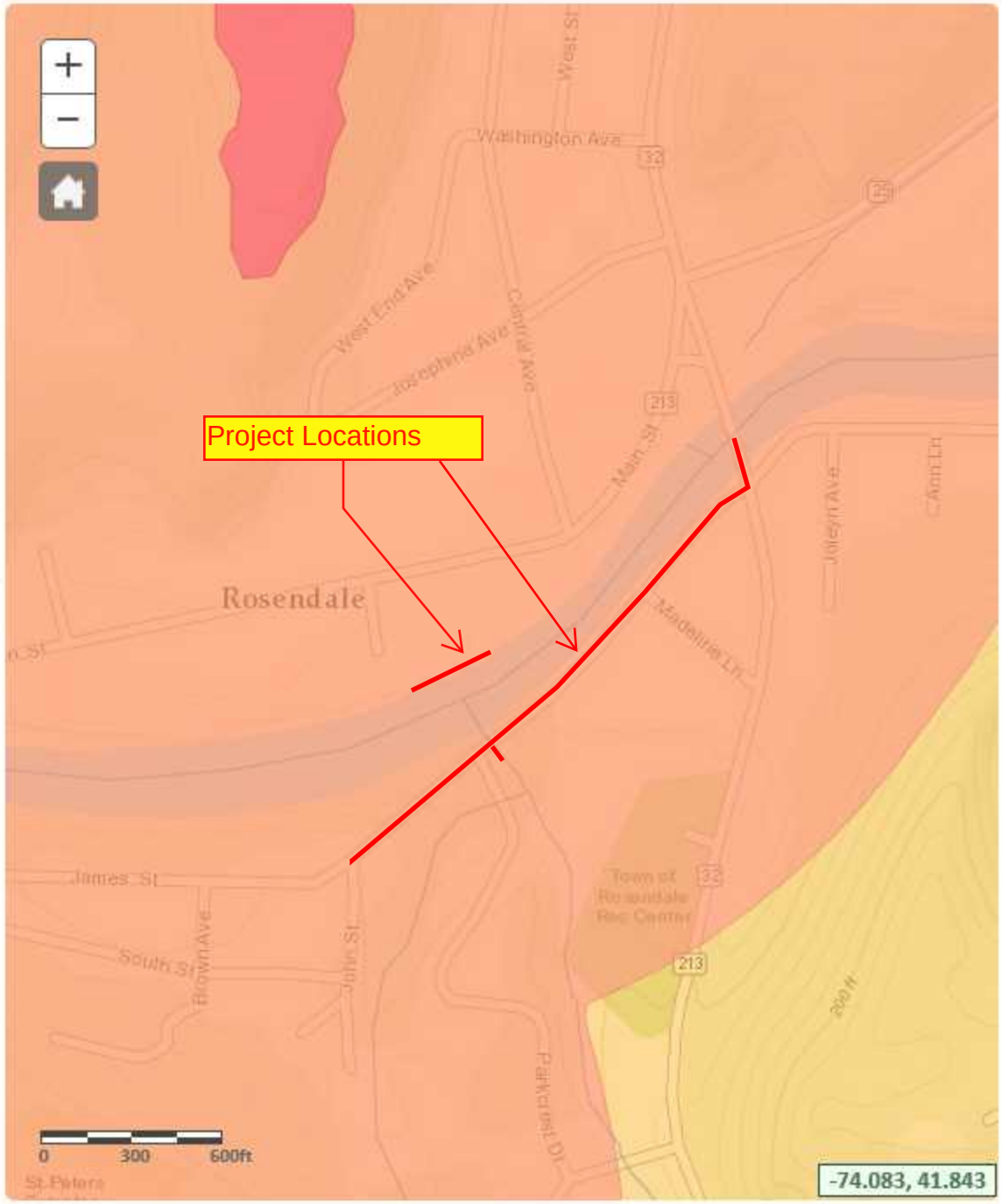
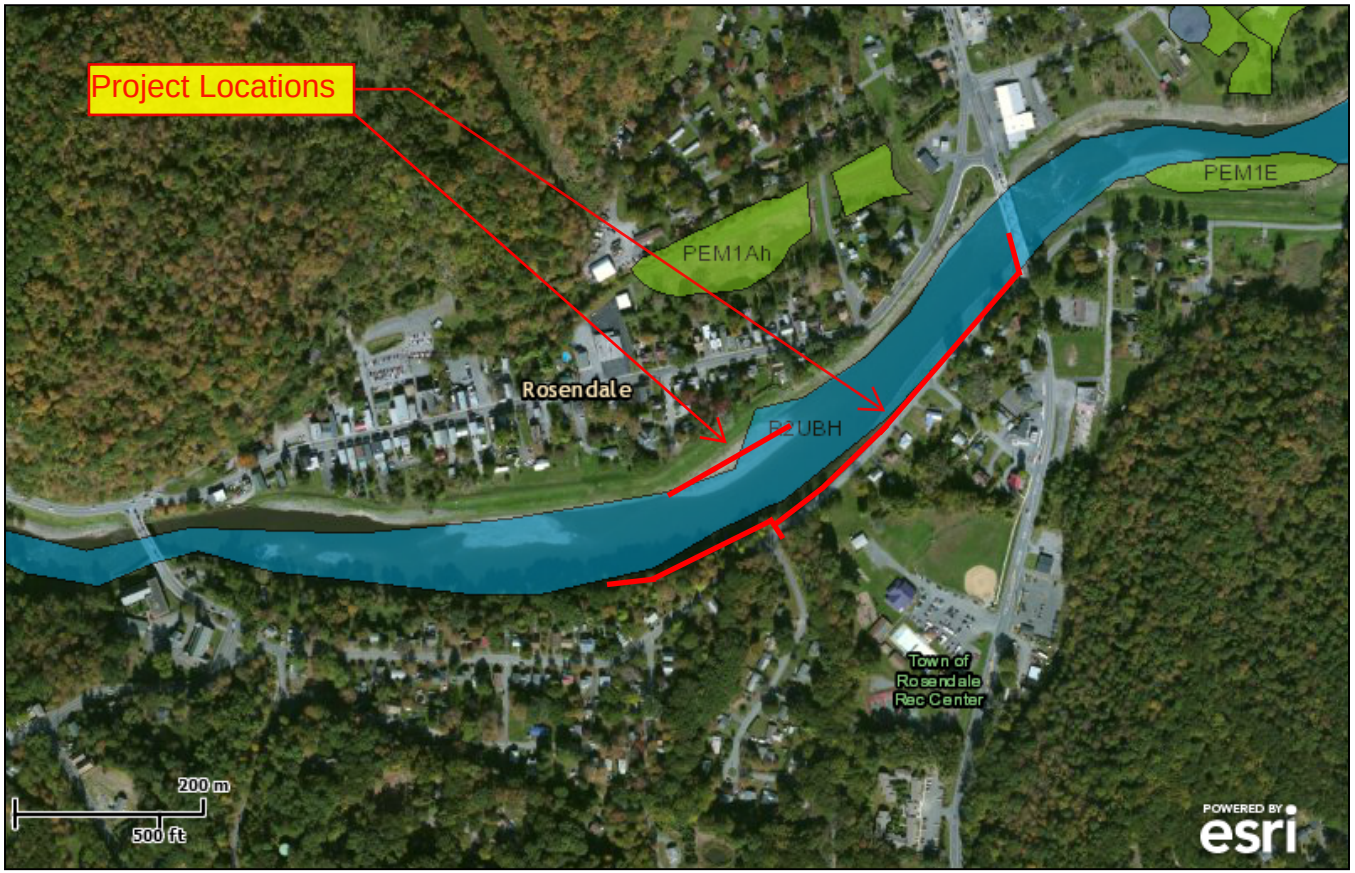


U.S. Fish and Wildlife Service

National Wetlands Inventory



Wetlands

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- Digital Data

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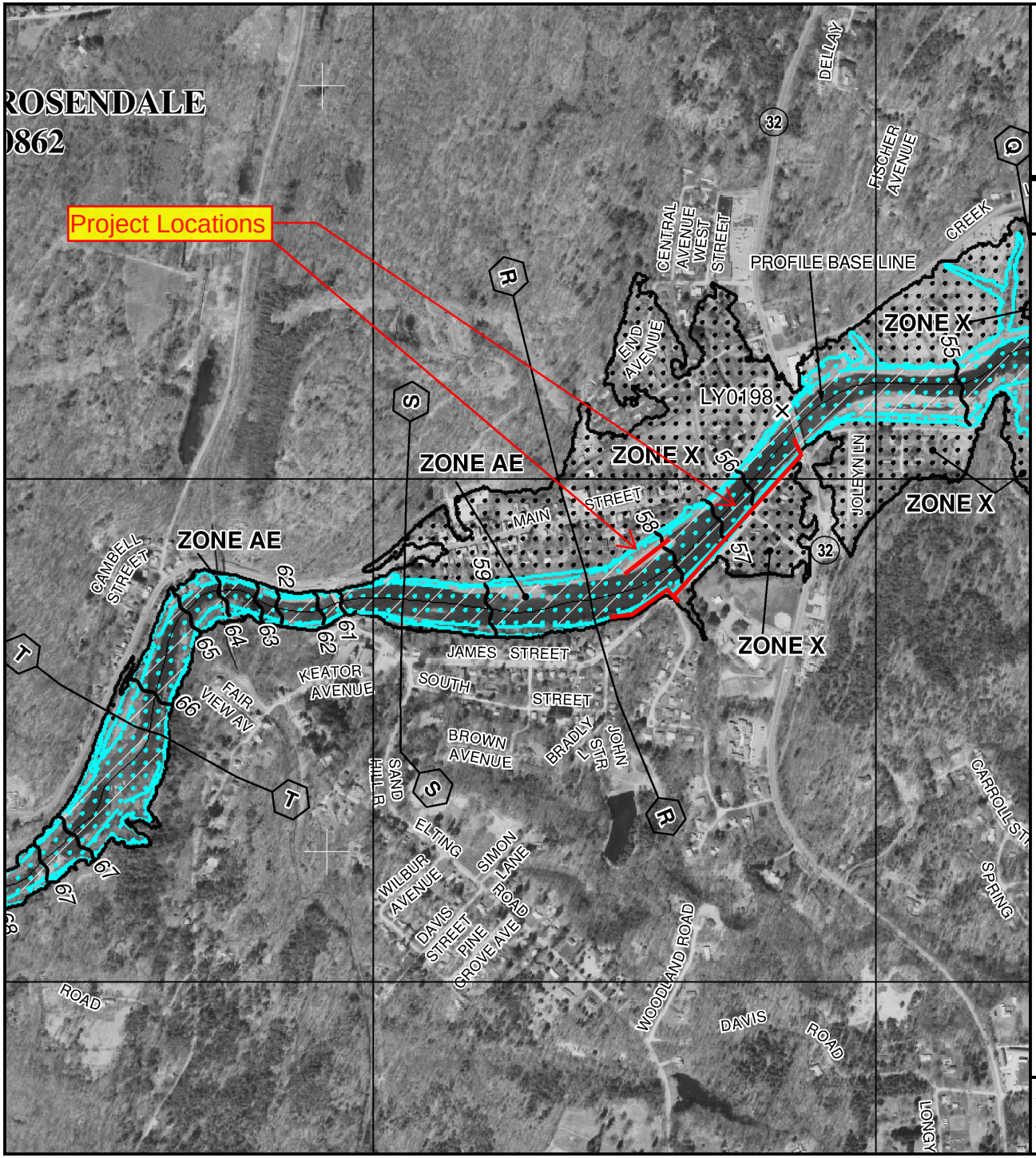
User Remarks:

Appendix II

FEMA Firmette Map



MAP SCALE 1" = 1000'

500 0 1000 2000 FEE

300 0 300 600

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0605E

FIRM

FLOOD INSURANCE RATE MAP

ULSTER COUNTY, NEW YORK

(ALL JURISDICTIONS)

PANEL 605 OF 910

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ESOPUS, TOWN OF	360855	0605	E
MARBLETOWN, TOWN OF	361219	0605	E
ROSENDALE, TOWN OF	360862	0605	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
36111C0605E

EFFECTIVE DATE
SEPTEMBER 25, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Appendix 1

Notice of Early Public Review
Floodplain Management
Executive Order 11988 & Protection of Wetlands
Executive Order 11990

EARLY NOTICE OF A PROPOSED ACTIVITY
IN A 100-YEAR FLOODPLAIN AND WETLAND

JAMES STREET FLOOD CONTROL
RONDOUT CREEK & JAMES STREET
TOWN OF ROSENDALE, ULSTER COUNTY, NEW YORK 12472
JUNE 19, 2017

To: All interested Agencies, Groups, and Individuals

This is to give notice that the Governor's Office of Storm Recovery (GOSR), an office of the New York State Housing Trust Fund Corporation (HTFC), has received a request to use Community Development Block Grant – Disaster Recovery (CDBG-DR) funding from the New York Rising Community Reconstruction (NYRCR) Program to implement the James Street Flood Control project, (hereinafter, the "Proposed Activity") and is conducting an evaluation as required by Executive Order 11988 and Executive Order 11990 in accordance with U.S. Department of Housing and Urban Renewal (HUD) regulations (24 CFR Part 55). There are three primary purposes for this notice. First, to provide the public an opportunity to express their concerns and share information about the Proposed Activity, including alternative locations outside of the floodplain and wetland. Second, adequate public notice is an important public education tool. The dissemination of information about floodplains and wetlands facilitates and enhances governmental efforts to reduce the risks associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the government determines it will participate in actions taking place in floodplain and wetland, it must inform those who may be put at greater or continued risk. Funding for the Proposed Activity will be provided by the HUD CDBG-DR program for storm recovery activities in New York State.

The Proposed Activity, the James Street Flood Control Project, is a stormwater management improvement project located adjacent to the intersection of James Street and Parkcrest Drive in the Town of Rosendale, Ulster County, NY. The Town of Rosendale proposes to replace an existing culvert beneath James Street with a 60-inch high-density polyethylene (HDPE) pipe culvert and a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A catch basin and storm manhole will be installed on the western side of the Parkcrest Drive and James Street intersection, and a new 36-inch HDPE pipe will replace the existing 36-inch pipe running under Parkcrest Drive. Four additional catch basins are proposed to be built along James Street, west of Parkcrest Drive. The proposed construction includes flattening the southern bank slope, creating a low flow channel, and constructing a new toe at the base of the slope on the southern bank of Rondout Creek. Additionally, Rondout Creek's southern bank will be armored with riprap at the western edge of the existing riprap and extend 600 feet upstream. Maintenance dredging will also occur, removing the point bar along the northern bank to elevation 39.5 feet which is the original Rondout Creek flood control creek bottom elevation. The Town also proposes to construct guide rails along James Street, as well as a 5-foot asphalt pedestrian walkway that will run parallel to the north side of James Street.

The Proposed Activity is needed to ensure that this critical connector road will be accessible during future storm events. The lower portion of James Street washed out and collapsed from high waters during Hurricane Irene and Tropical Storm Irene which caused a substantial risk for vehicles and residences on James Street and in the surrounding area.

The Proposed Activity will result in temporary and permanent impacts to approximately two acres of 100-year Floodplain and National Wetland Inventory and New York State Department of Environmental Conservation (NYSDEC) mapped wetlands. These impacts will consist of maintenance dredging of a point bar, streambank stabilization, and slope flattening. Maintenance dredging will occur to restore the Rondout Creek to the original flood control creek elevation, while the streambank stabilization and slope flattening will prevent future erosion materials from the area impacting the area down-stream.

Floodplain maps based on the FEMA Flood Insurance Rate Maps and wetlands maps based on the NWI and NYSDEC data have been prepared and are available for review with additional information at:

http://www.stormrecovery.ny.gov/environmental-docs.

Any individual, group, or agency may submit written comments on the Proposed Activity or request further information by contacting Lori A. Shirley, Certifying Officer, Governor's Office of Storm Recovery, 38-40 State Street, Hampton Plaza, Albany, NY 12207; email: NYSCDBG_DR_ER@nyshcr.org. Standard office hours are 9:00 AM to 5:00 PM Monday through Friday. For more information, call (518) 474-0755. All comments received by **July 5, 2015** will be considered.

Appendix 2

Notice of Early Public Review Affidavit
Floodplain Management
Executive Order 11988 & Protection of Wetlands
Executive Order 11990

AFFIDAVIT OF PUBLICATION

STATE OF NEW YORK,
Ulster County, ss:
City of Kingston.

Brea Beck residing in Green Island, New York, being duly sworn, deposes and says that she is the Regional Legal Clerk of **21st Century Media Newspaper, LLC** a Corporation duly organized under the laws of the State of New York; that said Corporation is the publisher of **The Daily Freeman**, a daily newspaper published in the City of Kingston, County of Ulster and State of New York, and that the notice of which the annexed is a printed copy, has been regularly published in **The Daily Freeman**

ONCE DAILY for ONE DAY

To wit: on the 19th day of June, 2017

Brea Beck

Sworn to before me this
22nd of June, 2017.

Notary Public

DEBRA A. BECK
Notary Public, State of New York
01BE6072229
Qualified in Rensselaer County
Commission Expires April 01, 20 18

EARLY NOTICE OF A PROPOSED ACTIVITY IN A 100-YEAR FLOODPLAIN AND WETLAND

JAMES STREET FLOOD CONTROL RONDOUT CREEK & JAMES STREET TOWN OF ROSENDALE, ULSTER COUNTY, NEW YORK 12472

JUNE 19, 2017

To: All interested Agencies, Groups, and Individuals

This is to give notice that the Governor's Office of Storm Recovery (GOSR), an office of the New York State Housing Trust Fund Corporation (HTFC), has received a request to use Community Development Block Grant – Disaster Recovery (CDBG-DR) funding from the New York Rising Community Reconstruction (NYRCR) Program to implement the James Street Flood Control project, (hereinafter, the "Proposed Activity") and is conducting an evaluation as required by Executive Order 11988 and Executive Order 11990 in accordance with U.S. Department of Housing and Urban Renewal (HUD) regulations (24 CFR Part 55). There are three primary purposes for this notice. First, to provide the public an opportunity to express their concerns and share information about the Proposed Activity, including alternative locations outside of the floodplain and wetland. Second, adequate public notice is an important public education tool. The dissemination of information about floodplains and wetlands facilitates and enhances governmental efforts to reduce the risks associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the government determines it will participate in actions taking place in floodplain and wetland, it must inform those who may be put at greater or continued risk. Funding for the Proposed Activity will be provided by the HUD CDBG-DR program for storm recovery activities in New York State.

The Proposed Activity, the James Street Flood Control Project, is a stormwater management improvement project located adjacent to the intersection of James Street and Parkcrest Drive in the Town of Rosendale, Ulster County, NY. The Town of Rosendale proposes to replace an existing culvert beneath James Street with a 60-inch high-density polyethylene (HDPE) pipe culvert and a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A catch basin and storm manhole will be installed on the western side of the Parkcrest Drive and James Street intersection, and a new 36-inch HDPE pipe will replace the existing 36-inch pipe running under Parkcrest Drive. Four additional catch basins are proposed to be built along James Street, west of Parkcrest Drive. The proposed construction includes flattening the southern bank slope, creating a low flow channel, and constructing a new toe at the base of the slope on the southern bank of Rondout Creek. Additionally, Rondout Creek's southern bank will be armored with riprap at the western edge of the existing riprap and extend 600 feet upstream. Maintenance dredging will also occur, removing the point bar along the northern bank to elevation 39.5 feet which is the original Rondout Creek flood control creek bottom elevation. The Town also proposes to construct [illegible] rails along James [illegible] as a [illegible]

that this critical connector road will be accessible during future storm events. The lower portion of James Street washed out and collapsed from high waters during Hurricane Irene and Tropical Storm Irene which caused a substantial risk for vehicles and residences on James Street and in the surrounding area.

The Proposed Activity will result in temporary and permanent impacts to approximately two acres of 100-year Floodplain and National Wetland Inventory and New York State Department of Environmental Conservation (NYSDEC) mapped wetlands. These impacts will consist of maintenance dredging of a point bar, streambank stabilization, and slope flattening. Maintenance dredging will occur to restore the Rondout Creek to the original flood control creek elevation, while the streambank stabilization and slope flattening will prevent future erosion materials from the area impacting the area down-stream.

Floodplain maps based on the FEMA Flood Insurance Rate Maps and wetlands maps based on the NWI and NYSDEC data have been prepared and are available for review with additional information at: http://www.stormrecovery.ny.gov/environmental-docs.

Any individual, group, or agency may submit written comments on the Proposed Activity or request further information by contacting Lori A. Shirley, Certifying Officer, Governor's Office of Storm Recovery, 38-40 State Street, Hampton Plaza, Albany, NY 12207; email:

Affidavit of Mailing

STATE OF NEW YORK)
: SS.:
COUNTY OF ORANGE)

KAITLIN A. LARSON, being duly sworn, deposes and says:

1. I am over the age of eighteen years.
2. On Monday, June 19, 2017, Tectonic mailed true and correct copies of the annexed Early Notice dated June 19, 2017, by placing the same in first class post-paid envelopes addressed: SEE ATTACHED LIST.
3. On said day, Tectonic deposited said envelopes in a mailbox at 7 Ketcham Avenue, Mountainville, NY 10953.

Kaitlin A. Larson, Tectonic

Sworn to before me this
20th day of June, 2017

Notary Public

BETTY J LAWRENCE
NOTARY PUBLIC-STATE OF NEW YORK
No. 01LA6139557
Qualified in Orange County
My Commission Expires January 09, 2018

Appendix 3

Notice of Final Pubic Review
Floodplain Management
Executive Order 11988 & Protection of Wetlands
Executive Order 11990

PUBLIC NOTICE

COMBINED NOTICE OF FINDING OF NO SIGNIFICANT IMPACT (FONSI), NOTICE OF INTENT TO REQUEST RELEASE OF FUNDS (NOI-RROF), AND FINAL NOTICE AND PUBLIC REVIEW OF A PROPOSED ACTION IN A 100-YEAR FLOODPLAIN AND WETLAND

TOWN OF ROSENDALE
JAMES STREET FLOOD CONTROL

OCTOBER 20, 2017

Name of Responsible Entity and Recipient: New York State Homes and Community Renewal (HCR), 38-40 State Street, Hampton Plaza, Albany, NY 12207, in cooperation with the New York State Housing Trust Fund Corporation (HTFC), of the same address. Contact: Lori A. Shirley (518) 474-0755.

Pursuant to 24 CFR Section 58.43, this combined Notice of Finding of No Significant Impact and Notice of Intent to Request Release of Funds (FONSI/NOIRROF) and Final Notice and public review of a proposed action in a 100-year floodplain and wetland satisfies three separate procedural requirements for project activities proposed to be undertaken by HCR.

Project Description: The Governor's Office of Storm Recovery (GOSR), an office of HCR's HTFC, is responsible for the direct administration of the United States Department of Housing and Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) program in New York State. GOSR proposes to provide CDBG-DR funding to the James Street Flood Control Project, which is a stormwater management improvement project located on James Street between John Street and Route 32 and along and within Rondout Creek, Town of Rosendale, Ulster County, New York 12472 (the "Proposed Project"). The Town of Rosendale proposes to replace an existing culvert beneath James Street with a 60-inch high-density polyethylene (HDPE) pipe culvert and a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A catch basin and storm manhole will be installed on the western side of the Parkcrest Drive and James Street intersection, and a new 36-inch HDPE pipe will replace the existing 36-inch pipe running under Parkcrest Drive. Four additional catch basins are proposed to be built along James Street, west of Parkcrest Drive. The proposed construction includes flattening the south bank slope with a buttress toe for slope stability on the south bank of the Rondout Creek. Additionally, Rondout Creek's southern bank will be armored with riprap at the western edge of the existing riprap and extend 600 feet upstream. A point bar along the northern bank of Rondout Creek will be removed, which will restore the original Rondout Creek flood control creek bottom to 39.5 feet, which is the original Rondout Creek flood control creek bottom elevation. The Town also proposes to construct guide rails along James Street, as well as a 5-foot asphalt pedestrian walkway that will run parallel to the north side of James Street extending approximately 330 feet west of Parkcrest Drive to the intersection of James Street and Route 32. This Proposed Project is estimated to have a total cost of $600,000.00 to be provided by CDBG-DR.

PUBLIC EXPLANATION OF A PROPOSED ACTIVITY IN A 100-YEAR FLOODPLAIN AND WETLAND

This work will be located in 100-year floodplain (SHFA Zone AE), floodway and within federal wetlands. Approximately two acres of 100-year floodplain and wetlands will be disturbed during construction. Since the action will include new construction in a floodplain and a wetland, Executive Orders 11990 and 11988 require that the project not be supported if there are practicable alternatives to development in floodplain and new construction in wetlands. Applicable permits from the New York State Department of Environmental Conservation, the United States Army Corps of Engineers, and local

jurisdiction will be acquired before work is commenced. The Applicant will be bound by any permit stipulations or mitigation measures listed in permits acquired for this project.

There are three primary purposes for this notice. First, people who may be affected by activities in floodplains/ wetlands and those who have an interest in the protection of the natural environment have an opportunity to express their concerns and provide information about these areas. Second, adequate public notice is an important public education tool. The dissemination of information and request for public comment about floodplains/ wetlands can facilitate and enhance federal efforts to reduce the risks associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the federal government determines it will participate in actions taking place in floodplains/ wetlands, it must inform those who may be put at greater or continued risk.

FINDING OF NO SIGNIFICANT IMPACT

An Environmental Assessment (EA) for the Proposed Project has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) and HUD environmental review regulations at 24 CFR Part 58. The EA is incorporated by reference into this FONSI. Subject to public comments, no further review of the Proposed Project is anticipated. HCR has determined that the EA for the project identified herein complies with the requirements of HUD environmental review regulations at 24 CFR Part 58. HCR has determined that the Proposed Project will have no significant impact on the human environment and therefore does not require the preparation of an environmental impact statement under NEPA.

Public Review: Public viewing of the EA and Floodplain Management & Protection of Wetlands Determination Documents are available online at http://stormrecovery.ny.gov/environmental-docs and is also available in person Monday – Friday, 9:00 AM – 5:00 PM at the following address: Governor's Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, New York 12260. Contact: Lori A. Shirley (518) 474-0755.

Further information may be requested by writing to the above address, emailing NYSCDBG_DR_ER@nyshcr.org or by calling (518) 474-0755. This combined notice is being sent to individuals and groups known to be interested in these activities, local news media, appropriate local, state and federal agencies, the regional office of the U.S. Environmental Protection Agency having jurisdiction, and to the HUD Field Office, and is being published in a newspaper of general circulation in the affected community.

Public Comments on the Proposed Activity within Floodplain and Wetland, FONSI and/or NOIRROF: Any individual, group or agency may submit written comments on the Proposed Project. The public is hereby advised to specify in their comments which "notice" their comments address. Comments should be submitted via email, in the proper format, on or before November 6, 2017 at NYSCDBG_DR_ER@nyshcr.org. Written comments may also be submitted at the following address, or by mail, in the proper format, to be received on or before November 6, 2017: Governor's Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, New York 12260. Comments may be received by telephone by contacting Lori A. Shirley at (518) 474-0755. All comments must be received on or before 5pm on November 6, 2017or they will not be considered. If modifications result from public comment, these will be made prior to proceeding with the expenditure of funds.

REQUEST FOR RELEASE OF FUNDS AND CERTIFICATION

On or about November 7, 2017, the HCR certifying officer will submit a request and certification to HUD for the release of CDBG-DR funds as authorized by related laws and policies for the purpose of implementing this part of the New York CDBG-DR program.

HCR certifies to HUD that Lori A. Shirley, in her capacity as Certifying Officer, consents to accept the jurisdiction of the U.S. federal courts if an action is brought to enforce responsibilities in relation to the environmental review process and that these responsibilities have been satisfied. HUD's approval of the certification satisfies its responsibilities under NEPA and related laws and authorities, and allows GOSR to use CDBG-DR program funds.

Objection to Release of Funds: HUD will accept objections to its release of funds and GOSR's certification for a period of fifteen days following the anticipated submission date or its actual receipt of the request (whichever is later). Potential objectors may contact HUD or the GOSR Certifying Officer to verify the actual last day of the objection period.

The only permissible grounds for objections claiming a responsible entity's non-compliance with 24 CFR Part 58 are: (a) Certification was not executed by HCR's Certifying Officer; (b) the responsible entity has omitted a step or failed to make a decision or finding required by HUD regulations at 24 CFR Part 58; (c) the responsible entity has committed funds or incurred costs not authorized by 24 CFR Part 58 before release of funds and approval of environmental certification; or (d) another Federal agency acting pursuant to 40 CFR Part 1504 has submitted a written finding that the project is unsatisfactory from the standpoint of environmental quality.

Objections must be prepared and submitted in accordance with the required procedures (24 CFR Part 58) and shall be addressed to Tennille Smith Parker, Director, Disaster Recovery and Special Issues Division, Office of Block Grant Assistance, U.S. Department of Housing & Urban Development, 451 7th Street SW, Washington, DC 20410, Phone: (202) 402-4649.

Lori A. Shirley
Certifying Officer
October 20, 2017

Attachment 5

HUD Environmental Standards Review

James Street Flood Control HUD Environmental Standards Review

Subject Property Address: Rondout Creek, James Street, Rosendale, New York 12472

Introduction

The purpose of this review is to ensure that the project complies with U.S. Department of Housing and Urban Development (HUD) environmental standards in relation to 24 CFR Part 58.5. Properties that are proposed for use in HUD programs "must be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property."

A desktop review was performed to identify whether the Subject Property referenced in the title of this document complies with the following criteria:

(i) is not Listed on an U.S. Environmental Protection Agency (EPA) Superfund National Priorities or Comprehensive Environmental Response Superfund National Priorities or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) List, or equivalent State list;
(ii) is not located within 3,000 feet of a toxic or solid waste landfill site;
(iii) does not have an underground storage tank; and
(iv) is not known or suspected to be contaminated by toxic chemicals or radioactive materials.

Summary of Findings

Records Review for the Subject Property

Subject Property Description:
This environmental review was completed for the James Street Flood Control Project in the Rosendale, New York. The proposed action consists of: culvert replacement under James Street; catch basin placement along James Street; flattening the south bank slope with a buttress toe for slope stability on the south bank of the Rondout Creek; armoring Rondout Creek's south bank with riprap; constructing guide rails along James Street; and constructing a 5-foot asphalt pedestrian walkway that will run parallel to the north side of James Street extending approximately 330 feet west of Parkcrest Drive to the intersection of James Street and Route 32. Any properties located along James Street within the proposed project area and the immediately surrounding area to be impacted by construction will collectively be referred to as the Subject Property throughout the environmental review.

EPA Records:
The Subject Property is not listed on an EPA Superfund National Priorities or CERCLA list or equivalent State list. A review of the EPA Facilities Database provides no indication of past uses of the Subject Property that could have contaminated the Subject Property, or potentially adversely affect the occupants of the Subject Property.

County and New York State Department of Environmental Conservation (NYSDEC) Records:
The Subject Property is not located within 3,000 feet of a toxic or solid waste landfill site. According to the NYSDEC Environmental Remediation Database, the Subject Property is listed in the Spill Incidents Database. Two spills were reported on the Subject Property:

1) Spill report #8911763 occurred on March 12, 1990 at 11 James Street. The spill involved an unknown amount of no. 2 fuel oil released onto site soils due to a tank failure. The spill was closed by the NYSDEC on March 23, 1990.

2) Spill report #9700047 occurred on April 1, 1997 at the corner of Parkcrest and James Street. The spill involved two gallons of PCB oil released onto site soils. The spill was closed by the NYSDEC on April 29, 1997.

A spill closure by the NYSDEC indicates that the records and data submitted for the spill demonstrated that the necessary cleanup and removal actions have been completed and no further remedial actions are necessary under these spill reports. As such, these two spills are not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Subject Property.

The Subject Property is not listed in the NYSDEC Environmental Site Remediation or Bulk Storage Databases.

Records Review for the Surrounding Properties

EPA Records:

There are 12 EPA-permitted hazardous waste, air emissions, and water discharger facilities located within 3,000 feet of the Subject Property. Of the 12 facilities, 11 are located across Rondout Creek, or have no violations reported at the facility. Facilities with no permit violations are not considered a hazard because the facilities are in compliance with permit conditions that are enforced and meet standards that protect public health and the environment by preventing releases to the environment. As such, these 11 facilities are not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Subject Property. One facility with violations and in non-compliance of permit conditions is identified below. The facility is determined NOT to pose a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Subject Property because hazardous substances have been NOT been released from the facility as documented below.

Rosendale WWT Facility holds a National Pollution Discharge Elimination System (NPDES) permit for the discharge of treated wastewater from the Town of Rosendale. The treatment plant is located approximately 780 feet east of the Subject Property. The plant is currently in non-compliance of the Clean Water Act (CWA) and has been for the eight inconsecutive quarters. One of the quarters was identified in significant violation of the CWA due to pollutant violations with settleable solid and coliform exceedances. The remaining seven quarters were in non-compliance due to pollutant exceedances of Biological Oxygen Demand (BOD), chlorine, coliform, settleable solids, suspended solids, and pH. No hazardous substances are known to have been released to the environment from the treatment plant.

NYSDEC Records:

A review of the NYSDEC Spill Incidents, Bulk Storage, and Environmental Site Remediation Databases resulted in the identification of: 34 spills located on properties within 1,000 feet of the Subject Property, seven (7) bulk storage sites within 3,000 feet of the Subject Property, and two (2) Environmental Remediation Sites within 3,000 feet of the Subject Property.

Of the 34 spills identified within 1,000 feet of the Subject Property, 31 have been closed by the NYSDEC. A spill closure by the NYSDEC indicates that the records and data submitted for the spill demonstrated that the necessary cleanup and removal actions have been completed and no further remedial actions are necessary under these spill reports. As such, these 31 spills are not considered a hazard that could affect the health and safety of occupants or conflict with the intended utilization of the Subject Property. The three (3) remaining spills are associated with a single site located at **1083 Route 32**, currently known as **Azam & Sons (3-168874)**. These spills have not been closed by the NYSDEC and are discussed below.

1) **Spill report #9008718** occurred on November 8, 1990 at the corner of Madeline Lane and Route 32, approximately 350 feet south of the Subject Property. The spill involved an unknown amount of methyl-tert-butyl ether (MTBE) and gasoline released into the groundwater. Gasland purchased

the gas station, with known soil and groundwater petroleum contamination associated with an open spill, from Northland Industries in the 1980s. Neither party claimed responsibility for the cleanup of the contamination. In 2004, Aero Star purchased the gas station. In 2005, the gas station was razed and additional contaminated soil was removed (**Spill Report #0510696**), though no reports were submitted for this work. In May 2016, the NYSDEC met with Aerostar to discuss the next step to include a Phase II Site Assessment to determine the current extent of the contamination. The spill is associated with a gasoline station which is registered as a petroleum bulk storage (PBS) site under **PBS #3-168874**.

2) **Spill Report #0235021** was reported on October 22, 2002 at the corner of Madeline Lane and Route 32, approximately 350 feet south of the Subject Property. The spill involved unknown amounts of MTBE and gasoline being released into the groundwater due to equipment failure. The spill is associated with a gasoline station which is registered as a petroleum bulk storage (PBS) site under **PBS #3-168874**.
3) **Spill Report #0510696** was reported on December 13, 2005 at 1083 Route 23, approximately 350 feet south of the Subject Property. The spill involved an unknown amount of waste oil/used oil released into the soil and groundwater due to an equipment failure. The reporter noted that approximately 15 tons of soil were stockpiled and waiting for NYSDEC response. The NYSDEC spill report notes that **Spill Reports #9008718** and **#0235021** were still open due to nonresponse to cleanup from previous owners. The spill is associated with **PBS #3-168874**.

Per consultation with the NYSDEC and the Remedial Investigation Report drafted by TRC Engineers, Inc (2014), this site is known to be contaminated above the Class GA Values for Groundwater and both Protection of Groundwater or Unrestricted Use Soil Cleanup Objectives with petroleum-related volatile organic compounds (VOCs) in the groundwater samples collected and in one (1) soil sample. There were no semi-volatile organic compounds (SVOCs) detected in soil or groundwater samples taken. This site is located upgradient from the Subject Property. However, while soil vapor intrusion is a potential in down-gradient buildings and enclosed structures, the proposed work to be performed does not involve the construction of buildings or enclosed structures. As such, while these open spills do constitute a hazardous condition, this site is not considered a hazard that could conflict with the intended utilization of the Subject Property.

The following seven (7) Bulk Storage Sites were identified within the NYSDEC Bulk Storage Database.

1) **Rosendale Recreation Center (3-000287)** is an unregulated/closed CBS site located approximately 610 feet southeast of the Subject Property. One tank record was identified for the site; an 800-gallon aboveground tank which was closed in place. No spills were reported at this site.
2) **Rosendale Sunoco (3-333867)**, also known as **Sun Conure Petroleum, Inc.**, is an active PBS site located approximately 1,100 feet north of the Subject Property. Nine tank records were identified for this site; four of the tanks have been closed and removed from the Subject Property. The remaining five tanks are listed as in service: 1) one 280-gallon aboveground no. 2 fuel oil tank (installed 03/1998); 2) one 6,000-gallon underground diesel tank (installed 12/2015); 3) one 10,000-gallon underground gasoline/ethanol tank (installed 11/2015); 4) one 6,000-gallon underground gasoline/ethanol tank (installed 11/2015); and 5) one 4,000-gallon underground gasoline/ethanol tank (installed 11/2015). No spills were reported at this site.
3) **Stewart's Shop #177 (3-171506)** is an active PBS site that is located approximately 510 feet northwest of the Subject Property. Nine tank records were identified for the site; seven of the tanks have been closed and removed from the site. The remaining two tanks are listed as in service: 1) one 12,000-gallon underground gasoline/ethanol tank (installed 06/2007); and 2) one 6,000-gallon underground gasoline tank (installed 06/2007). Four spill records were reported on this site; however, they were all closed by the NYSDEC.

4) **Park Heights Project (3-601354)** is an active PBS site located approximately 1,000 feet southeast of the Subject Property. One tank record was identified for the site: one 2,500-gallon underground no. 2 fuel oil tank (installed 04/1999). The tank is currently still in service on the site. No spills were reported on the site.
5) **St. Peters Church (3-058165)** is an unregulated/closed PBS site located approximately 1,920 feet west of the Subject Property. The bulk storage permit for this site expired in 2011. Fourteen tank records were identified for the site; six of the tanks were closed and removed from the site while one tank was closed in place. The remaining seven tanks are listed as in service: 1) two 275-gallon aboveground no. 2 fuel oil tanks (installed 02/2010); 2) two 330-gallon aboveground no. 2 fuel oil tanks (installed 12/2011); 3) 275-gallon aboveground no. 2 fuel oil tank (installed 04/2012); and 4) two 275-gallon aboveground no. 2 fuel oil tanks (installed 05/2006). Two spills were reported on the site; however, both spills were closed by the NYSDEC.
6) **Azam & Sons (3-168874)** is an active PBS site located approximately 350 feet southeast of the Subject Property. Fourteen tanks were identified for this site; six of the tanks have been closed and removed from the site. The remaining eight tanks are listed as in service: 1) one 8,000-gallon underground gasoline/ethanol tank (installed 07/1994); 2) one 6,000-gallon underground gasoline/ethanol tank (installed 07/1994): 3) one 4,000-gallon underground biodiesel tank (installed 01/1994); 4) one 2,000-gallon underground kerosene tank (installed 01/1994); 5) one 1,000-gallon aboveground kerosene tank (installed 07/1994); 6) one 275-gallon aboveground no. 2 fuel oil tank (installed 06/2007); 7) one 1,000-gallon aboveground kerosene tank (installed 01/2004); and 8) one 1,000-gallon underground no. 2 fuel oil tank (installed 01/2004). Three spills were reported on this site; one of the spills was closed by the NYSDEC and two remain open and were previously discussed as open identified spills.
7) **Aero Star Petroleum, Inc. (3-037478)** is an active PBS site located approximately 850 feet north of the Subject Property. Six tank records were identified for the site; three of the tanks have been closed and removed from the site. The three remaining tanks are listed as in service: 1) two 12,000-gallon underground gasoline/ethanol tanks (installed 07/2007); and 2) one 8,000-gallon underground gasoline/ethanol tank (installed 07/2007). Eleven spills have been reported on the site; ten of the reported spills were closed by the NYSDEC. The spill that remains open occurred in in October 2001. The spill involved and unknown amount of gasoline released onto site soils. This site is hydraulically separated from the Subject Property and is not considered a hazard to the Subject Property.

Spills reported at Bulk Storage Sites were investigated to determine if they were still currently open by the NYSDEC. If a spill was closed by the NYSDEC, then the records and the data submitted indicate that necessary cleanup and removal actions have been completed and no further remedial actions are necessary or the case was closed for administrative reasons (e.g. multiple reports of a single spill consolidated into a single spill number). If the case has been administratively closed and did not meet NYSDEC closure criteria, then another spill report number would have been identified covering the case.

The registered tanks are permitted and regulated by NYSDEC which requires leak detection, containment and monitoring. Any site that has registered tanks and no reported or closed spills is not a hazard to the Subject Property.

Two (2) Environmental Remediation Sites were identified within 3,000 feet of the Subject Property and are briefly discussed below:

1083 Route 32 (356031) is a State Superfund site located approximately 350 feet southeast of the Subject Property. This site operated as a chemical company which dyed clothing from 1960 to 1970. It then operated as a garage from 1970 to 1979 and has since been used as a gas station (**Azam & Sons (3-168874)**). Primary contaminants of concern at the site include VOCs, specifically tetrachloroethene (PCE), cis-1,2

dichloroethene (DCE) and vinyl chloride. This contamination has been attributed to the nearby **Rosendale Cleaners site (356050)**. The Rosendale Cleaners site is a State Superfund site located adjacent to the 1083 Route 32 site. The site has been used for a variety of commercial purposes since at least the mid-1900s. A dry cleaner reportedly operated on the site until the business burned down in 1981. A mound of soil/debris pile exists on the southern part of the site. The mound is approximately 3' above grade, approximately 30' in diameter, and buried approximately 7' deep. Per sampling, the debris consisted of scraps of metal, cinder block, glass, wooden beams, and textiles. These are likely related to demolition actions taken after a fire at the former dry cleaner building. Primary contaminants of concern are the same as at the 1083 Route 32 site. Contamination is present in on-site and off-site monitoring wells. Overburden groundwater exceeds standards for PCE, TCE, 1,2- DCE and vinyl chloride at maximum concentrations of 320, 360, 8,000 and 1,100 ug/L, respectively.

A Remedial Investigation was completed at the sites, which included investigation on the spill at the gas station located at **1083 Route 32**. Sub-slab vapor samples were taken at five different structures located down-gradient from the debris mound. Methylene chloride, Perchloroethylene (PCE), and Trichloroethylene (TCE) were not detected at any concentrations above the Air Guideline Values (AGVs) in any of the sub-slab vapor, indoor air, or ambient air samples.

Groundwater samples were collected from monitoring wells during two sampling events performed in January 2013 and April 2013. Results indicate that several petroleum related VOCs (i.e., 1,2,4-trimethylbenzene, benzene, n-butylbenzene, chlorobenzene, ethylbenzene, isopropylbenzene, methyl tert-butyl ether, n-propylbenzene, toluene, m & p-xylenes, and o-xylene) were detected at concentrations above Class GA Values in groundwater samples collected from sampling points on the 1083 Route 32 property. Chlorinated VOCs were detected above Class GA Values in groundwater collected from sampling points on the gas station property and former dry cleaner property as well as downgradient portions of the Site Investigation Area. However, while there is potential for soil vapor intrusion in down-gradient buildings and enclosed structures, the proposed work to be performed does not involve the construction of buildings or enclosed structures. As such, while the contamination at this site does constitute a hazardous condition, this site is not considered a hazard that could conflict with the intended utilization of the Subject Property.

In Summary:

Based on a review of available environmental records for the Subject Property and surrounding area, two (2) Superfund sites and three (3) open spills with known petroleum contamination located directly up-gradient of the Subject Property were identified as potential sources of contamination. As such, the Subject Property is likely to contain hazardous materials and contamination and it is recommended any soil be tested for petroleum and chlorinated VOCs prior to disposal or reuse on site. The proposed project does not involve the construction of buildings or enclosed structures that would contain occupants. Rather, the proposed project involves the construction of stormwater management improvements. Therefore, the Subject Property is unlikely to contain toxic chemicals and gases, or radioactive substances which would constitute a hazard that could conflict with the intended utilization of the Subject Property. A Phase I Environmental Site Assessment (ESA) or Phase II Investigation is not warranted. Maps, NYSDEC reports, and U.S. Environmental Protection Agency (EPA) reports are included at the end of this report.

Data Sources:

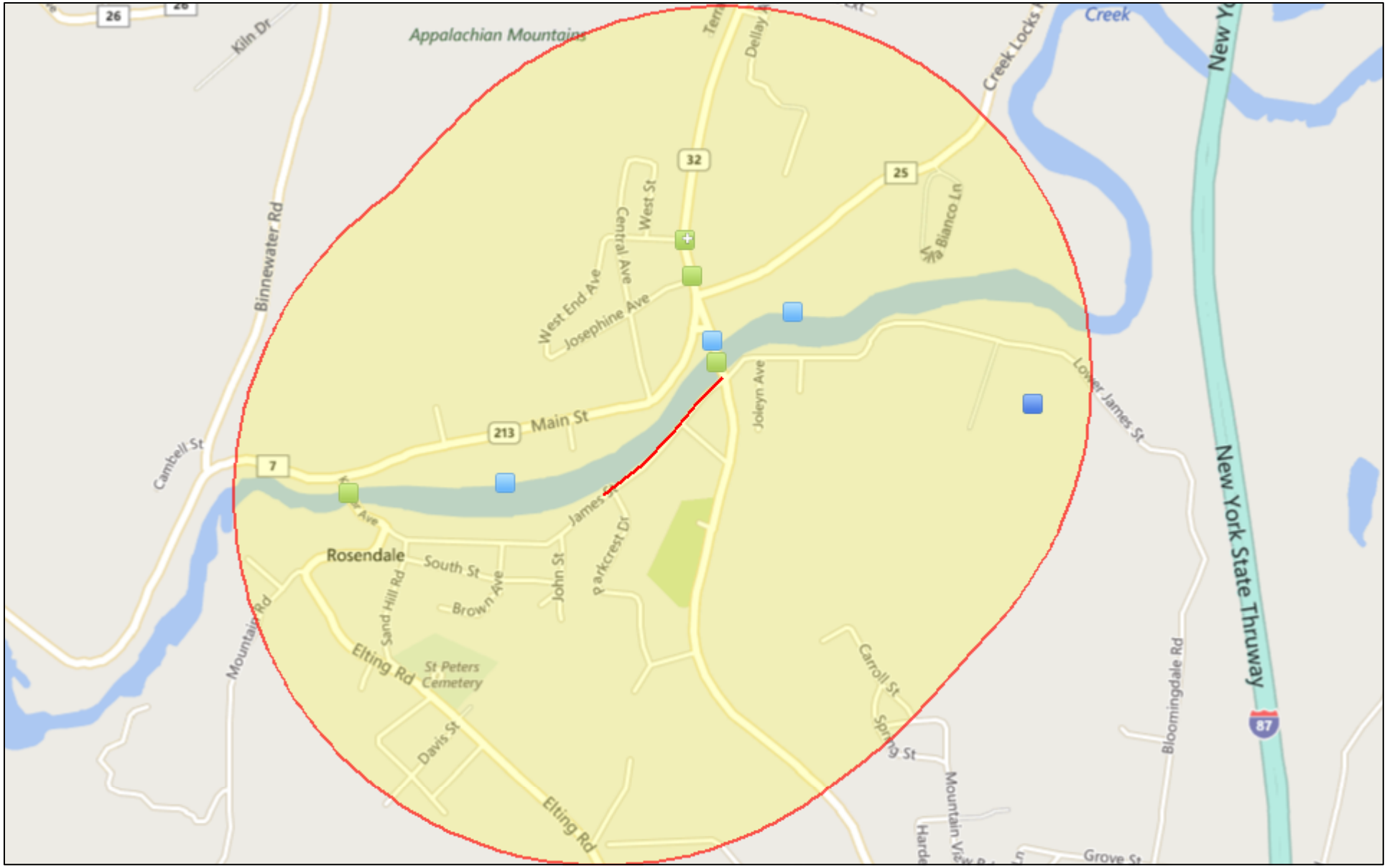
Tectonic Engineering and Surveying Consultants, P.C. (Tectonic) has reviewed the following sources to make the above determinations: Hazardous Waste records contained in the RCRA, the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) for sites listed under the CERCLA (otherwise known as Superfund), EPA's Toxic Release Inventory Database (TRI), and the EPA Radiation Information Database (RADInfo).

Tectonic reviewed the NYSDEC Remedial Site Database to assess whether the site is registered as a NYS Superfund or Environmental Restoration site. The NYSDEC Environmental Site Remediation Database includes records of sites that are part of the NYS Superfund, Brownfield Cleanup, Environmental Restoration, and Voluntary Cleanup Programs. The Database also includes a Registry of Inactive Hazardous Waste Disposal Sites.

The NYSDEC Bulk Storage Database was reviewed for records of facilities that are or have been regulated according to one of the Bulk Storage Programs - Chemical Bulk Storage or Major Oil Facility. The NYSDEC Spill Incidents Database was used to determine the potential effects of spills on or near the Subject Property. A desktop review of Google Earth was used in conjunction with a map of active municipal landfills (provided by the NYSDEC) in determining whether there was a landfill within 3,000 feet of the Subject Property.

Maps

Town of Rosendale – James Street Flood Control



January 5, 2017

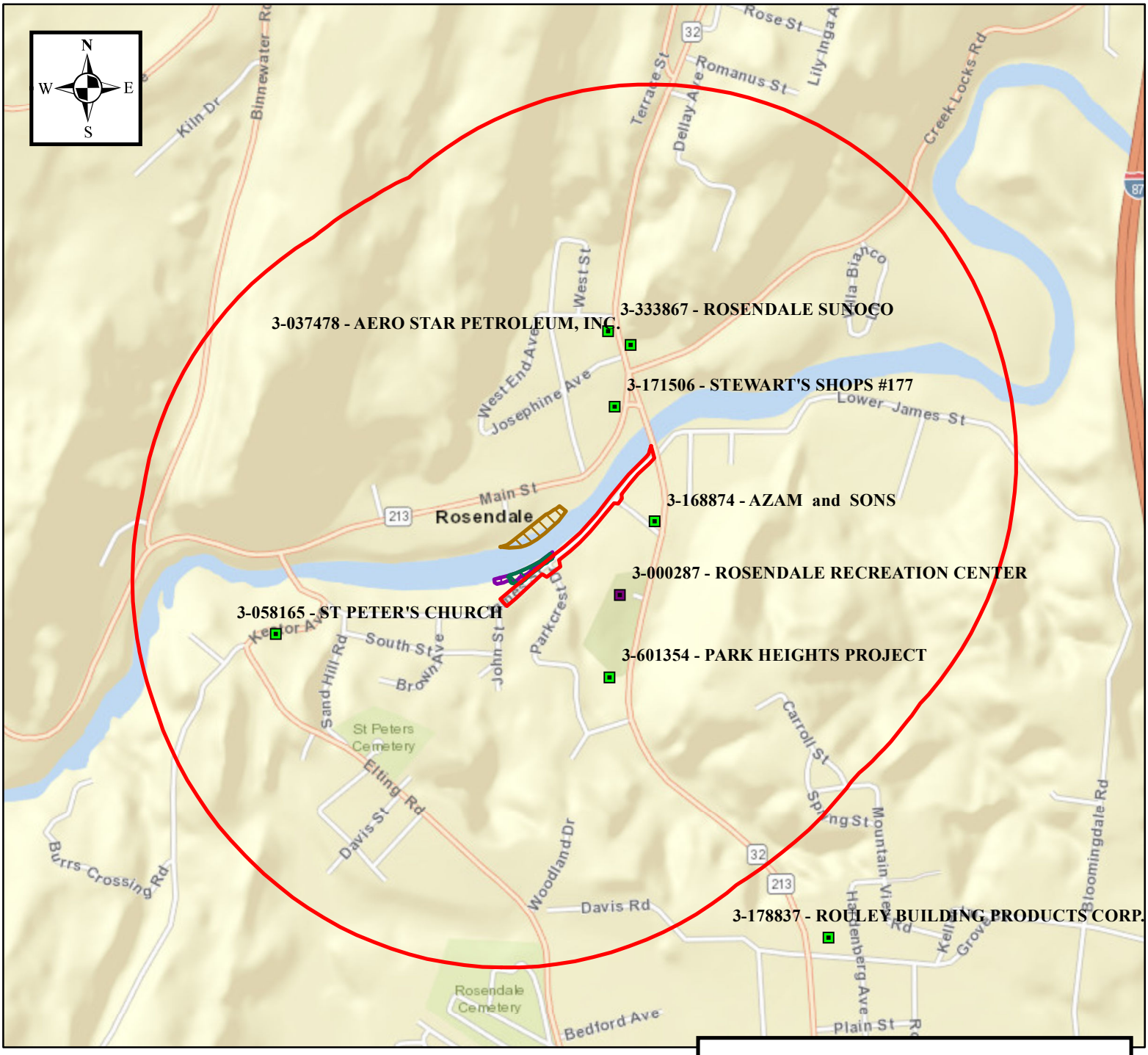
1:18,056

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

- PCS (single)
- AIRS (single)
- RCRAINFO (clustered)
- RCRAINFO (single)
- Approximate Project Area
- Buffer Area

© 2010 NAVTEQ © AND © 2017 Microsoft Corporation



TECTONIC
Practical Solutions, Exceptional Service

0 750 1,500 3,000 Feet

1:14,000

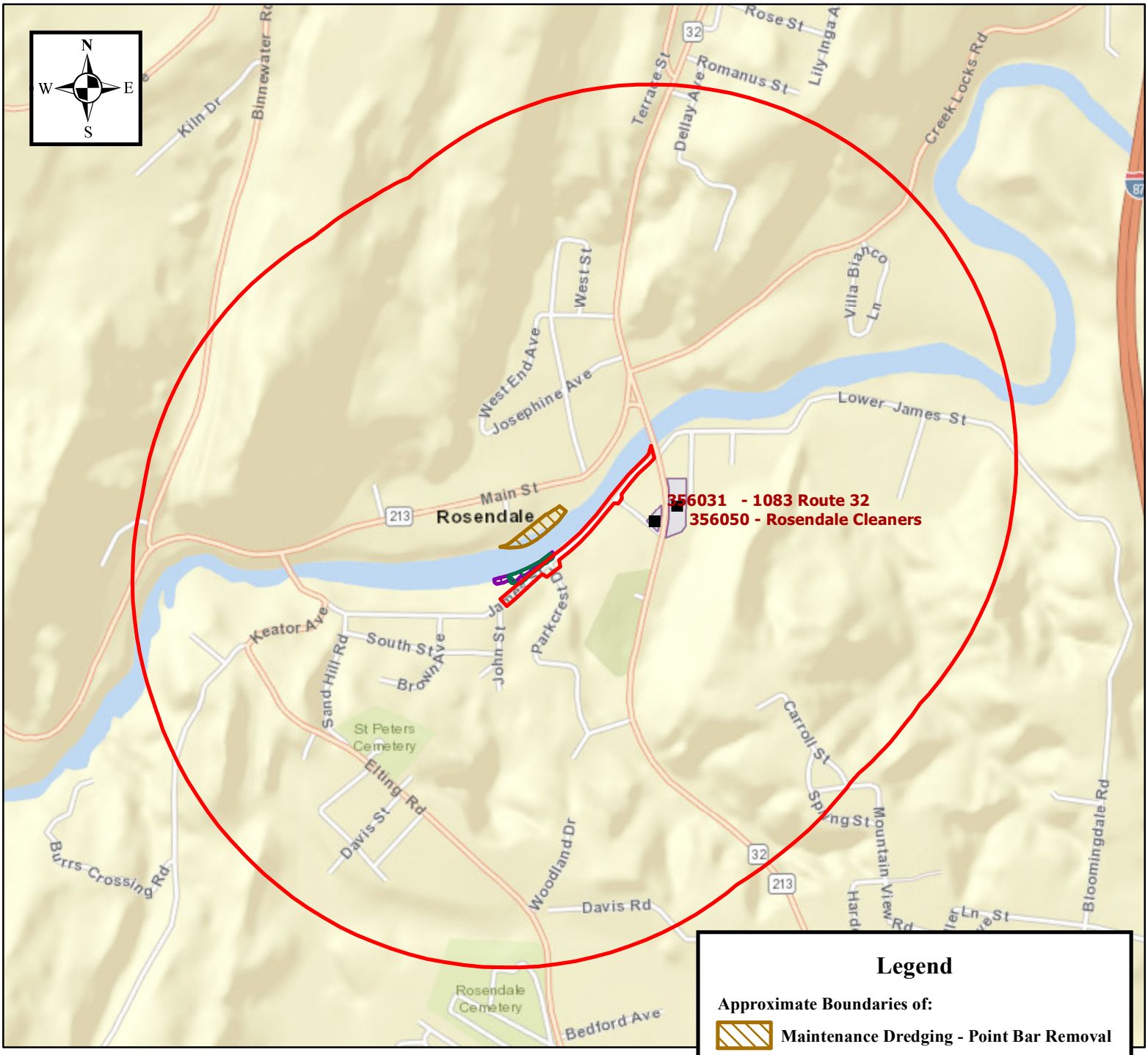
James Street Flood Control
James Street located between John Street and Route 32 adjacent to Roundout Creek
Town of Rosendale
Ulster County, New York

Created: 5/16/2017
Source data: Environmental remediation sites listed in the NYSDEC Environmental Remediation Database. Properties listed on the NYSDEC Bulk Storage Database. Solid waste landfill information provide by NYSDEC.

Legend

Approximate Boundaries of:

- Maintenance Dredging - Point Bar Removal
- Slope Flattening
- Streambank Stabilization
- Road Work
- Work Area (3,000ft Buffer)
- Chemical Bulk Storage
- Petroleum Bulk Storage
- Major Oil Storage
- Active Municipal Solid Waste Landfills



Legend

Approximate Boundaries of:

- Maintenance Dredging - Point Bar Removal
- Slope Flattening
- Streambank Stabilization
- Road Work
- Work Area (3,000ft Buffer)
- NYS Superfund
- Brownfield Cleanup
- Environmental Restoration
- Voluntary Cleanup
- EPA RCRA
- NYSDEC Environmental Site Borders
- Active Municipal Solid Waste Landfills

TECTONIC
Practical Solutions, Exceptional Service

0 750 1,500 3,000 Feet

1:14,000

James Street Flood Control
James Street located between John Street and Route 32 adjacent to Roundout Creek
Town of Rosendale
Ulster County, New York

Created: 5/16/2017
Source data: Environmental remediation sites listed in the NYSDEC Environmental Remediation Database. Properties listed on the NYSDEC Bulk Storage Database. Solid waste landfill information provide by NYSDEC.

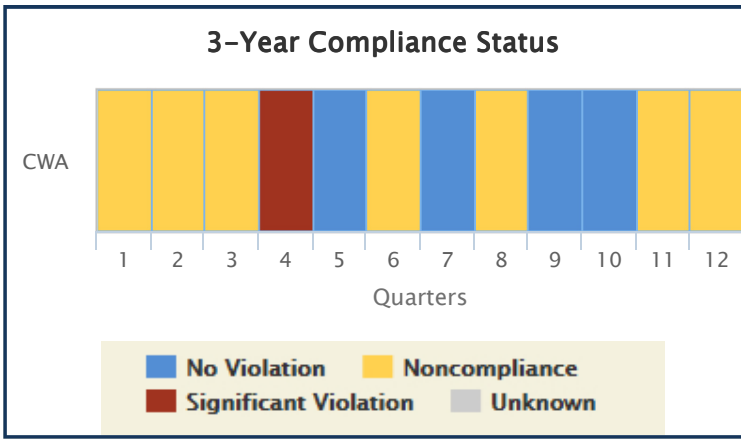
U.S. EPA Reports for Properties Contiguous to the Subject Property

Detailed Facility Report

Facility Summary

ROSENDALE WWT FACILITY
136 CREEK LOCKS RD, ROSENDALE, NY 12472

FRS (Facility Registry Service) ID: 110019474040
EPA Region: 02
Latitude: 41.847083
Longitude: -74.072139
Locational Data Source: NPDES
Industry: Sewerage Systems
Indian Country: N



Enforcement and Compliance Summary

Statute	Insp (5 Years)	Date of Last Inspection	Compliance Status	Qtrs in NC (Non-Compliance) (of 12)	Qtrs in Significant Violation	Informal Enforcement Actions (5 years)	Formal Enforcement Actions (5 years)	Penalties from Formal Enforcement Actions (5 years)	EPA Cases (5 years)	Penalties from EPA Cases (5 years)
CWA	5	09/23/2016	**Noncompliance**	8	1	--	--	--	--	--

Related Reports

CWA Pollutant Loading Report
CWA Effluent Charts

Regulatory Information

Clean Air Act (CAA): No Information
Clean Water Act (CWA): Minor, Permit Effective (NY0109061)
Resource Conservation and Recovery Act (RCRA): No Information
Safe Drinking Water Act (SDWA): No Information

Other Regulatory Reports

Air Emissions Inventory (EIS): No Information
Greenhouse Gas Emissions (eGGRT): No Information
Toxic Releases (TRI): No Information

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110019474040					N	41.847083	-74.072139
ICP	CWA	NY0109061	Minor: NPDES Individual Permit	Effective	POTW	04/30/2021	N	41.847528	-74.072306

Facility Address

System	Statute	Identifier	Facility Name	Facility Address
FRS		110019474040	ROSENDALE WWT FACILITY	136 CREEK LOCKS RD, ROSENDALE, NY 12472
ICP	CWA	NY0109061	ROSENDALE (T) STP	136 CREEK LOCKS RD, ROSENDALE, NY 12472

Facility SIC (Standard Industrial Classification) Codes

System	Identifier	SIC Code	SIC Desc
ICP	NY0109061	4952	Sewerage Systems

Facility NAICS (North American Industry Classification System) Codes

System	Identifier	NAICS Code	NAICS Description
No data records returned			

Facility Tribe Information

Reservation Name	Tribe Name	EPA Tribal ID	Distance to Tribe (miles)
No data records returned			

Enforcement and Compliance

Compliance Monitoring History (5 years)

Statute	Source ID	System	Inspection Type	Lead Agency	Date	Finding
CWA	NY0109061	ICP	Evaluation	EPA	09/23/2016	
CWA	NY0109061	ICP	Evaluation	State	10/20/2015	
CWA	NY0109061	ICP	Evaluation	State	08/06/2014	
CWA	NY0109061	ICP	Evaluation	State	03/24/2014	
CWA	NY0109061	ICP	Evaluation	State	03/07/2012	

Entries in italics are not considered inspections in official counts.

Compliance Summary Data

Statute	Source ID	Current SNC (Significant Non-compliance)/HPV (High Priority Violation)	Description	Current As Of	Qtrs in NC (Non-Compliance) (of 12)
CWA	NY0109061	No		09/30/2016	8

Three Year Compliance Status by Quarter

Statute	Program/Pollutant/Violation Type			QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12
CWA (Source ID: NY0109061)				10/01-12/31/13	01/01-03/31/14	04/01-06/30/14	07/01-09/30/14	10/01-12/31/14	01/01-03/31/15	04/01-06/30/15	07/01-09/30/15	10/01-12/31/15	01/01-03/31/16	04/01-06/30/16	07/01-09/30/16
	Facility-Level Status			**In Viol**	**In Viol**	**In Viol**	**SNC/Cat 1**	**No Viol**	**In Viol**	**No Viol**	**In Viol**	**No Viol**	**No Viol**	**In Viol**	**In Viol**
	SNC (Significant Non-compliance)/RNC (Reportable Non-Compliance) History			N (RptViol)	N (RptViol)	N (RptViol)	X(EffNMth)	R (Resolvd)	V (NonRNCV)		V (NonRNCV)			V (NonRNCV)	V (NonRNCV)
	Pollutant	**Disch Point**	**Freq**												
CWA	BOD, 5-day, 20 deg. C	001	Mthly						13%						

Statute	Program/Pollutant/Violation Type			QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12
CWA	BOD, 5-day, percent removal	001	Neither						33%						
CWA	Chlorine, total residual	001	NMth												10%
CWA	Coliform, fecal general	001	Mthly			415%	4903%							140%	
CWA	Coliform, fecal general	001	NMth			250%	4900%							128%	
CWA	Solids, settleable	001	NMth		33%		**133%**				67%				67%
CWA	Solids, suspended percent removal	001	Neither						20%						
CWA	pH	001	Neither												LIMIT VIOL

*Quarter 13 is draft/unofficial and has not been fully quality assured. Read more

Informal Enforcement Actions (5 Years)

Statute	Source ID	Type of Action	Lead Agency	Date
No data records returned				

Formal Enforcement Actions (5 Years)

Statute	Source ID	Type of Action	Lead Agency	Date	Penalty	Penalty Description
No data records returned						

ICIS (Integrated Compliance Information System) Case History (5 years)

Primary Law/Section	Case No.	Case Type	Lead Agency	Case Name	Issued/Filed Date	Settlement Date	Federal Penalty	State/Local Penalty	SEP (Supplemental Environmental Project) Cost	Comp Action Cost
No data records returned										

Environmental Conditions

Water Quality

Permit ID	Combined Sewer System?	Number of CSO (Combined Sewer Overflow) Outfalls	12-Digit WBD (Watershed Boundary Dataset) HUC (RAD (Reach Address Database))	WBD (Watershed Boundary Dataset) Subwatershed Name (RAD (Reach Address Database))	State Waterbody Name (ICIS (Integrated Compliance Information System))	Impaired Waters	Impaired Class	Causes of Impairment(s) by Group(s)	Watershed with ESA (Endangered Species Act)-listed Aquatic Species?
NY0109061			020200070605	Twaalfskill Brook-Roundout Creek	RONDOUT CK	No			Yes

Waterbody Designated Uses

Reach Code	Waterbody Name	Exceptional Use	Recreational Use	Aquatic Life Use	Shellfish Use	Beach Closure Within Last Year	Beach Closure Within Last Two Years
02020007000004	Rondout Creek	No	No	No	No	No	No

Air Quality

Non-Attainment Area?	Pollutant(s)
No	Ozone
No	Lead
No	Particulate Matter
No	Sulfur Dioxide

Pollutants

Toxics Release Inventory History of Reported Chemicals Released in Pounds per Year at Site

TRI Facility ID	Year	Total Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Releases to Land	Total On-site Releases	Total Off-site Releases
No data records returned								

Toxics Release Inventory Total Releases and Transfers in Pounds by Chemical and Year

Chemical Name
No data records returned

Demographic Profile

Demographic Profile of Surrounding Area (3 Miles)

This section provides demographic information regarding the community surrounding the facility. ECHO compliance data alone are not sufficient to determine whether violations at a particular facility had negative impacts on public health or the environment. Statistics are based upon the 2010 US Census and American Community Survey data, and are accurate to the extent that the facility latitude and longitude listed below are correct. The latitude and longitude are obtained from the EPA Locational Reference Table (LRT) when available.

Radius of Area:	3	Land Area:	96%	Households in Area:	3,075
Center latitude:	41.847083	Water Area:	4%	Housing Units in Area:	3,469
Center Longitude:	-74.072139	Population Density:	277/sq.mi.	Households on Public Assistance:	34
Total Persons:	7,501	Percent Minority:	10%	Persons Below Poverty Level:	1,552

Race Breakdown	Persons (%)	Age Breakdown	Persons (%)
White:	6,981 (93.07%)	Child 5 years and younger:	376 (5.01%)
African-American:	174 (2.32%)	Minors 17 years and younger:	1,515 (20.2%)
Hispanic-Origin:	407 (5.43%)	Adults 18 years and older:	5,986 (79.8%)
Asian/Pacific Islander:	78 (1.04%)	Seniors 65 years and older:	1,066 (14.21%)
American Indian:	15 (.2%)		
Other/Multiracial:	252 (3.36%)		

Education Level (Persons 25 & older)	Persons (%)	Income Breakdown	Households (%)
Less than 9th Grade:	67 (1.23%)	Less than $15,000:	156 (4.81%)

Education Level (Persons 25 & older)	Persons (%)	Income Breakdown	Households (%)
9th through 12th Grade:	452 (8.33%)	$15,000 - $25,000:	401 (12.37%)
High School Diploma:	1,308 (24.09%)	$25,000 - $50,000:	730 (22.52%)
Some College/2-yr:	1,613 (29.71%)	$50,000 - $75,000:	649 (20.02%)
B.S./B.A. or More:	1,989 (36.64%)	Greater than $75,000:	1,305 (40.27%)

NYSDEC Reports for Spills, Environmental Remediation Sites, Bulk Storage Sites and Located On or Within Close Proximity to the Site

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 22 Rows: 1 to 22

Export XLS | Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	8710669	03/22/1988	CHILCOTTES	Ulster	ROSENDALE	RT 32 NORTH
2.	8800227	04/07/1988	BIG SAVER	Ulster	ROSENDALE	RT 32 NORTH
3.	9211530	01/07/1993	PUDDLED OIL IN ROAD	Ulster	TILLSON (ROSENDALE)	RT 32 & TILSON SW CORNER
4.	9514264	02/08/1996	STEWARTS ROSENDALE	Ulster	ROSENDALE	RT 213 & RT 32
5.	9708842	10/29/1997	YONETTI AUTO BODY	Ulster	ROSENDALE	RT 32
6.	9712501	02/09/1998	CUMBERLAND FARMS STORE	Ulster	ROSENDALE	RT 32
7.	0009984	12/04/2000	SUNOCO	Ulster	ROSENDALE	RT 32 & WASHINGTON ST
8.	0207582	10/22/2002	CITGO GAS STATION	Ulster	ROSENDALE	RT 32
9.	0303772	07/10/2003	FORMER GAS STATION	Ulster	ROSENDALE	RT 32N / MAPLE HILL
10.	0311255	01/05/2004	ROWLEY BUILDING PRODUCTS	Ulster	ROSENDALE	RT 32
11.	0510696	12/13/2005	AREO STAR PETRO	Ulster	ROSENDALE	1083 RT 32
12.	0600564	04/14/2006	AEROSTAR PETROLEUM	Ulster	ROSENDALE	1083 RT 32
13.	0604108	07/13/2006	ROWLEY BUIDLING/LUMBER YARD	Ulster	ROSENDALE	918 RT 32
14.	0700690	04/18/2007	POLE#105330	Ulster	ROSENDALE	RT 32 & RT 213
15.	0704477	07/20/2007	CUMBERLAND FARMS	Ulster	ROSENDALE	1146 RT 32
16.	0712207	02/20/2008	CUMBERLAND FARM	Ulster	ROSENDALE	1146 RT 32`
17.	0713489	03/21/2008	C.F.	Ulster	ROSENDALE	1146 RT 32`
18.	0800270	04/07/2008	CUMBERLAND #3177	Ulster	ROSENDALE	1146 RT 32`
19.	0800565	04/14/2008	CUMBERLAND #3177	Ulster	ROSENDALE	1146 RT 32`
20.	0902687	06/05/2009	CUMBERLAND FARMS	Ulster	ROSENDALE	1146 RT 32
21.	0902689	06/05/2009	CUMBERLAND FARMS STORE 3177	Ulster	ROSENDALE	1146 RT 32
22.	1203134	06/29/2012	ROADWAY	Ulster	ROSENDALE	ST RT 32 / BEYERSTORFER LANE

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Details

Spill Record

Administrative Information

DEC Region: 3
Spill Number: 0510696

Spill Date/Time

Spill Date: 12/13/2005 **Spill Time:** 09:00:00 AM
Call Received Date: 12/13/2005 **Call Received Time:** 12:08:00 PM

Location

Spill Name: AREO STAR PETRO
Address: 1083 RT 32
City: ROSENDALE **County:** Ulster

Spill Description

Material Spilled	Amount Spilled	Resource Affected
waste oil/used oil	UNKNOWN	Soil , Groundwater

Cause: Equipment Failure
Source: Gasoline Station or other PBS Facility
Waterbody:
PBS #: 3-168874

Record Close

Date Spill Closed: Not closed

If you have questions about this reported incident, please contact the Regional Office where the incident occurred.

Return To Results

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Details

Spill Record

MTBE detected at this location, Click here for more information on MTBE.

Administrative Information

DEC Region: 3
Spill Number: 0235021

Spill Date/Time

Spill Date: 10/22/2002 **Spill Time:** 09:30:00 AM
Call Received Date: 10/22/2002 **Call Received Time:** 02:29:00 PM

Location

Spill Name: CITGO MART
Address: 1083 RT. 32
City: ROSENDALE **County:** Ulster

Spill Description

Material Spilled	Amount Spilled	Resource Affected
MTBE (methyl-tert-butyl ether)	UNKNOWN	Groundwater
methyl-tert-butyl ether (MTBE)	UNKNOWN	Groundwater
gasoline	UNKNOWN	Groundwater

Cause: Equipment Failure
Source: Gasoline Station or other PBS Facility
Waterbody:
PBS #: 3-168874

Record Close

Date Spill Closed: Not closed

If you have questions about this reported incident, please contact the Regional Office where the incident occurred.

Return To Results

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Details

Spill Record

MTBE detected at this location, Click here for more information on MTBE.

Administrative Information

DEC Region: 3
Spill Number: 9008718

Spill Date/Time

Spill Date: 11/08/1990 **Spill Time:** 12:00:00 PM
Call Received Date: 11/08/1990 **Call Received Time:** 12:00:00 PM

Location

Spill Name: BIG SAVER
Address: RT.32 & MADELINE LANE
City: ROSENDALE **County:** Ulster

Spill Description

Material Spilled	Amount Spilled	Resource Affected
MTBE (methyl-tert-butyl ether)	UNKNOWN	Groundwater
gasoline	UNKNOWN	Groundwater

Cause: Unknown
Source: Gasoline Station or other PBS Facility
Waterbody:
PBS #: 3-168874

Record Close

Date Spill Closed: Not closed

If you have questions about this reported incident, please contact the Regional Office where the incident occurred.

Return To Results

Refine This Search

NYSDEC SPILL REPORT FORM

DEC REGION: 3 **SPILL NUMBER:** 0510696

SPILL NAME: AREO STAR PETRO **DEC LEAD:** kabrowne

SPILL DATE: 12/13/2005 **SPILL TIME:** 9:00 am

CALL RECEIVED DATE: 12/13/2005 **RECEIVED TIME:** 12:08 pm

SPILL LOCATION

PLACE: AREO STAR PETRO **COUNTY:** Ulster

STREET: 1083 RT 32 **TOWN/CITY:** Rosendale

COMMUNITY: ROSENDALE

CONTACT: STEVE KALKA **CONTACT PHONE:** (845) 434-3509

CONT. FACTOR: Equipment Failure **SPILL REPORTED BY:** Responsible Party

FACILITY TYPE: Gasoline Station or other PBS Facility **WATERBODY:**

CALLER REMARKS:
ABOUT 15 TON STOCKPILED AND WAITING FOR DEC TO RESPOND;

MATERIAL	CLASS	SPILLED	RECOVERED	RESOURCES AFFECTED
waste oil/used oil	Petroleum		0 G	Soil,
waste oil/used oil	Petroleum		0 G	GW,

POTENTIAL SPILLERS

COMPANY	ADDRESS	CONTACT
AREO STAR PETRO	1083 RT 32 ROSENDALE NY	STEVE KALKA (845) 434-3509

Tank No.	Tank Size	Material	Cause	Source	Test Method	Leak Rate	Gross Failure

DEC REMARKS:

SPOKE WITH STEVE. DEC (BROWNE) WILL RESPOND.

SPILL NOS. 90-08718 & 02-35021 STILL OPEN FOR NONRESPONSE TO CLEAN UP FROM PREVIOUS OWNERS.

PIN **T & A** **COST CENTER**

CLASS: C3 **CLOSE DATE:** **MEETS STANDARDS:** False

Created On: 12/13/2005

Date Printed: 4/14/2017 Last Updated: 05/25/2010

NYSDEC SPILL REPORT FORM

DEC REGION: 3 **SPILL NUMBER:** 9008718

SPILL NAME: BIG SAVER **DEC LEAD:** KABROWNE

SPILL DATE: 11/08/1990 **SPILL TIME:** 12:00 pm

CALL RECEIVED DATE: 11/08/1990 **RECEIVED TIME:** 12:00 pm

SPILL LOCATION

PLACE: BIG SAVER **COUNTY:** Ulster

STREET: RT.32 & MADELINE LANE **TOWN/CITY:** Rosendale

COMMUNITY: ROSENDALE

CONTACT: **CONTACT PHONE:**

CONT. FACTOR: Unknown **SPILL REPORTED BY:** Other

FACILITY TYPE: Gasoline Station or other PBS Facility **WATERBODY:**

CALLER REMARKS:

UNSOLICITED HYDROGEOLOGIC INVESTIGATION PERFORMED TO EVALUATE SITE

MATERIAL	CLASS	SPILLED	RECOVERED	RESOURCES AFFECTED
gasoline	Petroleum	0 L	0 L	GW,
MTBE (methyl-tert-butyl ether)	Hazardous Material			GW,

POTENTIAL SPILLERS

COMPANY	ADDRESS	CONTACT
NORTHVILLE INDUSTRIES	25 MELVILLE PARK ROAD MELVILLE NY 11747	

Tank No.	Tank Size	Material	Cause	Source	Test Method	Leak Rate	Gross Failure
001	550	gasoline			03	0.00	

DEC REMARKS:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "BROWNE"

11/10/09 – Northville purchased station from Big Saver in the 1980s. Gasland purchased the station from Northville with an open spill. There is soil and groundwater petroleum contamination. Northville position was they were not responsible since they are no longer owners or operators of the station. Gasland position was they were not responsible since they did not own or operated station when the spill occurred. Northville submitted annual groundwater reports until 2005. Gasland submitted no reports and only addressed the minor spills that occurred during operation. In 2004 Aero Star purchased the station. In 2005 the station was razed and additional contaminated soil was removed. No reports were submitted on this work. The site is stalled; there is not enough information to evaluate the spill. KAB

12/21/2015 -- Regional spills staff have reviewed the limited available information for this spill and placed it into an INACTIVE category as noted by the place holder project manager Jen Cutter. ELM/DB

5-25-16 Met with Deb Thomson on behalf of Aerostar. Site part of PBS 2010 consent order. DEC has no TSR on file. Discussed next step to include a phase 2 assessment for site.GHP

NYSDEC SPILL REPORT FORM

DEC REGION: 3 **SPILL NUMBER:** 9008718

SPILL NAME: BIG SAVER **DEC LEAD:** KABROWNE

PIN **T & A** **COST CENTER**

CLASS: C3 **CLOSE DATE:** **MEETS STANDARDS:** False

7.0 FINDINGS AND RECOMMENDATIONS

The Remedial Investigation was completed in general accordance with Work Assignment No. D007620-3 Notice to Proceed dated May 23, 2012, approved and amended Scopes of Work dated August 17, 2012 and September 24, 2013, and NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation. The findings and recommendations, based on the results of the RI, are presented below.

7.1 Findings

Based on soil borings advanced during the RI, unconsolidated units at the Site Investigation Area consist of silty sand to sand and gravel at least 25 feet thick (ROS-SB/GW-106) that grades to a gray silty clay at approximately 48 feet below ground surface and extends to depths greater than 70 feet bgs (MW-12). Depths to groundwater surface throughout the Site Investigation Area, based on gauging of existing and newly installed monitoring wells, were found to vary between approximately 4 feet bgs (in monitoring well MW-06R) and 15 feet bgs (in monitoring well MW-17). Based on groundwater surface elevation measurements, the predominant direction of groundwater flow is inferred to be to the north/northwest towards the Rondout Creek.

Specific conclusions regarding soil, groundwater, sediment and soil vapor intrusion conditions are presented below.

7.1.1 Soil and Buried Debris

Initially, ten (10) direct push soil borings (ROS-SB/GW-101 through ROS-SB/GW-108 and ROS-SB/GW-110 and ROS-SB/GW-112) were advanced within the Site Investigation Area approximately 20 feet bgs and one soil boring, ROS-SB/GW-111, was advanced to a depth of 40 feet bgs. Soil samples were collected continuously from the ground surface to the termination depth of each boring. Indications of contamination (i.e., elevated PID readings and odors) were observed only in the soil samples collected from ROS-SB/GW-106 4 to 12 feet bgs. The contamination is attributed to a prior release associated with open Spill Case No. 90-08718 assigned to the Citgo Gas Station property. There were no visual or olfactory indications of contamination, or elevated PID readings recorded in any of the other initial eleven (11) borings. A total of twelve (12) soil samples, one from each boring and one additional sample from ROS-SB/GW-108, were submitted for laboratory analysis for VOCs and SVOCs.

Based on the results of the first round of groundwater samples collected in September 2012 which indicated the potential for a source near the southern boundary of the former dry cleaner property, a focused CVOCs source area investigation was performed in October and November 2012 and February 2013. The focused investigation consisted of a geophysical survey, three test pit excavations, and the installation of three (3) additional soil borings (ROS-SB-113 through ROS-SB-1115). Results of the geophysical survey, the test pits excavations, and completion of supplemental soil borings indicate there

is buried debris located near the southern boundary of the former Rosendale Cleaners property. The buried debris mound rises to approximately three (3) feet above surrounding grade, is approximately thirty (30) feet in diameter, and is limited to approximately the upper ten (10) feet of the overburden (refer to the *Figure 3*). Buried debris observed during test pit excavation and in the soil borings advanced through the mound consisted of unidentifiable fragments of metal, lumber, and textiles, and are likely debris associated with demolition following the fire which destroyed the former dry cleaner building. Additionally, two underground septic tanks were identified during the CVOCs source area investigation: one septic tank is located north of the vacant office building on the former bank property and one septic tank is located on the former dry cleaner property southeast of the former building foundation. There were no sheens or odors observed during screening of the water in the septic tanks.

The results of the analyses of soil samples reveal the following:

- Acetone was detected at concentrations exceeding the Unrestricted Use SCOs and Protection of Groundwater SCOs in five soil samples.

- Petroleum related compounds (benzene, ethylbenzene, toluene, 1,2,4-trimethylbenzene and mixed xylenes) were detected at concentrations exceeding the Unrestricted Use SCOs or Protection of Groundwater SCOs in one soil sample collected during the RI (from ROS-SB/GW-106 at 10-12 feet bgs). Evidence of petroleum contamination (i.e., elevated PID readings and odors) was observed during screening of this soil sample. The petroleum related compounds detected in the sample collected from ROS-SB/GW-106 can be attributed to the prior release associated with the open spill case assigned to the Citgo Gas Station property.

- CVOCs were detected at concentrations above comparison criteria in only one soil sample. Cis-1,2-dichloroethene and vinyl chloride were detected in the sample collected 15 to 18 feet bgs from ROS-SB-113 at concentrations above the Unrestricted Use SCOs and Protection of Groundwater SCOs. This boring was advanced through the buried debris mound and the compounds detected above the Unrestricted Use and Protection of Groundwater SCOs are likely associated with the former dry cleaner operations.

- There were no SVOCs detected at concentrations exceeding the Unrestricted Use SCOs or Protection of Groundwater SCOs in the subsurface soil samples submitted for analysis.

- There were no TCLP results detected above the regulatory limits.

7.1.2 Groundwater

Direct push grab groundwater samples were collected at eleven (11) locations, corresponding to the initial eleven (11) direct push soil sample locations (ROS-SB/GW-101 through ROS-SB/GW-108 and ROS-SB/GW110 through ROS-SB/GW-112). Additionally, eight (8) two-inch diameter monitoring

wells (MW-06R and MW-11 through MW-17) were installed within the Site Investigation Area via hollow-stem auger drilling methods. Soil samples were collected continuously from the ground surface to the termination depth of each boring during monitoring well installation. Visual and olfactory indications of contamination were observed in the soil collected 20 to 25 feet bgs from TRC-MW-15, which was advanced through the buried debris mound. At this depth, a maximum PID reading of 53.8 ppm was recorded. The apparent contamination may be attributed to impacts from the buried debris mound. There were no visual or olfactory indications of contamination or elevated PID readings (above 13.5 ppm) recorded during screening of soil collected from the remaining monitoring well boreholes.

Groundwater samples were collected from newly installed and existing monitoring wells during two sampling events performed in January 2013 and April 2013. The results of the analysis of the direct push groundwater samples and groundwater samples collected from monitoring wells during the RI reveal the following:

- Several petroleum related VOCs (i.e., 1,2,4-trimethylbenzene, benzene, n-butylbenzene, chlorobenzene, ethylbenzene, isopropylbenzene, methyl tert-butyl ether, n-propylbenzene, toluene, m & p-xylenes, and o-xylene) were detected at concentrations above Class GA Values in groundwater samples collected from sampling points on the 1083 Route 32 property. The petroleum related VOCs detected in groundwater above the Class GA Values are attributed to a prior release associated with the open spill case assigned to the 1083 Route 32 property.

- Chlorinated VOCs were detected above Class GA Values in groundwater collected from sampling points on the Citgo Gas Station property and former dry cleaner property as well as downgradient portions of the Site Investigation Area. The highest concentrations of chlorinated VOCs were detected in groundwater samples collected near the southern boundary of the former dry cleaner parcel (near the buried debris mound). Chlorinated VOCs were not detected at concentrations above Class GA Values in the groundwater samples collected upgradient of the buried debris mound and in MW-17, the monitoring well installed closest to Rondout Creek.

- There were no SVOCs detected at concentrations above Class GA Values in the groundwater samples collected.

- The dissolved metals iron and manganese were detected at concentrations above Class GA Values in groundwater. The concentrations of iron and manganese detected in groundwater are attributable to the characteristics of the investigation area soil.

- Sulfate was not detected above the Class GA Value in groundwater.

Based on the distribution of CVOCs in groundwater across the Site Investigation Area, the inferred

groundwater flow direction (north/northwest), the location of the highest concentrations of CVOCs in groundwater detected (in ROS-SB/GW-107 and MW-15 near and in the buried debris mound), and the absence of elevated concentrations of CVOCs in groundwater up-gradient of the buried debris mound, it appears that the buried debris mound is the primary source of elevated CVOCs in Site Investigation Area groundwater.

7.1.3 Sediment

Five sediment samples were collected from the stormwater drainage trench and the unnamed creek along the southern boundary of the former dry cleaner parcel and eastern boundary of the Site Investigation Area. The sediment samples were analyzed for VOCs. Acetone and methylene chloride were the only VOCs detected in the sediment samples analyzed. Neither acetone nor methylene chloride were detected at concentrations above the Class GA Values in any of the groundwater samples analyzed.

7.1.4 Vapor Intrusion Samples

Sub-slab vapor samples and co-located indoor air samples were collected from seven structures (designated Structure A through Structure G) and analyzed for VOCs. In addition, as part of the vapor intrusion sampling program three ambient air samples were collected and analyzed for VOCs. Methylene chloride, PCE, and TCE were not detected at concentrations above the AGVs in any of the sub-slab vapor, indoor air, or ambient air samples.

The results of the sub-slab vapor and indoor air sampling in Structures A through F were compared to the matrices in the NYSDOH Vapor Intrusion Guidance Document. Comparing the results of the sub-slab vapor and indoor air sampling in Structures A through F to the matrices in the NYSDOH Soil Vapor Intrusion Guidance, "the concentrations detected in the indoor air samples are likely due to indoor and/or outdoor sources rather than soil vapor intrusion". In Structure G, carbon tetrachloride was detected in the sub-slab vapor sample at a concentration of 34 ug/m^3 and in the indoor air sample at 29 ug/m^3. Carbon tetrachloride was not detected in the ambient air sample associated with Structure G. Based on Matrix 1 in the NYSDOH Guidance Document, the carbon tetrachloride sub-slab vapor and indoor air concentrations detected indicate that "mitigation" is the recommended action.

There were no potential sources of VOCs identified in Structure G at the time of the vapor intrusion sampling. Structure G is currently vacant and the basement level where the indoor air sample was collected contains two open sump pits (refer to photographs in *Appendix E*). There was no standing water observed in the sump pits at the time of the sampling. Carbon tetrachloride was not detected in the groundwater samples collected in January and March 2013 from the nearest upgradient well, MW-14. In addition similar elevated concentrations of carbon tetrachloride were not detected in any of the vapor intrusion samples collected in the other structures.

All sub-slab soil vapor, indoor, and ambient air analytical results were submitted to the NYSDOH. The NYSDOH indicated that no additional action was required related to the Site Investigation Area and that they would disseminate the results to the property owners of the sampled structures.

7.2 Recommendations

Based on the findings of the RI, the source of the CVOCs detected in groundwater is likely attributable to the buried debris mound located near the southern boundary of the former dry cleaner parcel. Accordingly, remedial measures to address the apparent source area and elevated CVOCs in downgradient groundwater should be considered. Petroleum impacts to groundwater related to the 1083 Route 32 property are subject to the requirements of the NYSDEC Spills Program.

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 3 Rows: 1 to 3

Export XLS | Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	9008718	11/08/1990	BIG SAVER	Ulster	ROSENDALE	RT.32 & MADELINE LANE
2.	9212513	02/04/1993	NORTHVILLE S/S	Ulster	ROSENDALE	RT.32 NEAR MADELINE LANE
3.	0912228	02/23/2010	PVT DWELLING/ARROW STAR	Ulster	ROSENDALE	8 MADELINE DR

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 4 Rows: 1 to 4

Export XLS | Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	8906376	09/28/1989	ST PETERS CHURCH	Ulster	ROSENDALE	JAMES ST
2.	8911763	03/13/1990	PRIVATE DWELLING	Ulster	ROSENDALE	11 JAMES STREET
3.	9410752	11/12/1994	RONDOUT CREEK	Ulster	ROSENDALE	JAMES STREET / 213
4.	9700047	04/01/1997	Spill Number 9700047	Ulster	ROSENDALE	PARKCREST DR/JAMES ST

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 3 Rows: 1 to 3

Export XLS Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	8903102	06/24/1989	RITTOR RESIDENCE	Ulster	ROSENDALE	JOHN ST.
2.	8904899	08/14/1989	ROSENDALE WATER SUPPLY	Ulster	ROSENDALE	JOHN ST.
3.	1406710	09/24/2014	TAYLOR AST	Ulster	ROSENDALE	11 JOHN TAYLOR DRIVE

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Spill Incidents Database Search Results

Record Count: 13 Rows: 1 to 13

Export XLS | Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	8600357	04/15/1986	Spill Number 8600357	Ulster	ROSENDALE	OFF MAIN ST.
2.	9213229	02/27/1993	STEWARTS SHOP	Ulster	ROSENDALE	MAIN STREET
3.	9505614	08/07/1995	ROADWAY	Ulster	ROSENDALE	110 MAIN STREET
4.	9505942	08/14/1995	440 MAIN STREET	Ulster	ROSENDALE	440 MAIN ST
5.	0135029	01/14/2002	NYS ROUTE 213	Ulster	ROSENDALE	MAIN AND CENTER ST.
6.	0410726	12/30/2004	ZACHARYS RESTAURANT	Ulster	ROSENDALE	388 MAIN STREET
7.	0607135	09/21/2006	STEWARTS # 177	Ulster	ROSENDALE	212 MAIN STREET
8.	0703188	06/18/2007	STEWARTS SHOP#177	Ulster	ROSENDALE	212 MAIN STREET
9.	1100951	04/26/2011	RENTAL PROPERTY	Ulster	ROSENDALE	393 MAIN ST
10.	1205557	09/04/2012	ROSENDALE TOWN HALL	Ulster	ROSENDALE	424 MAIN ST
11.	1212783	11/29/2012	STEWARTS 177	Ulster	ROSENDALE	212 MAIN ST
12.	1306550	09/22/2013	SHOP# 177 PAVEMENT	Ulster	ROSENDALE	212 MAIN ST
13.	1505321	08/17/2015	ROSENDALE LIBRARY	Ulster	ROSENDALE	264 MAIN ST

Refine This Search

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Bulk Storage Database Search Details

Facility Information

Site No.: 3-333867
Status: Active
Expiration Date: 12/03/2019
Site Type: PBS
Site Name: SUN CONURE PETROLEUM, INC.
Address: 1149 RT 32
Locality: ROSENDALE
State: NY
Zipcode: 12472
County: Ulster

Owner(s) Information

Facility Owner: AERO STAR PETROLEUM, INC.
1149 ROUTE 32 . ROSENDALE, NY. 12472
Mail Contact: AERO STAR PETROLEUM, INC.
1149 RT 32 . ROSENDALE, NY. 12472

Tank Information

9 Tanks Found

Tank No	Tank Location	Status	Capacity (Gal.)
1	Underground including vaulted with no access for inspection	Closed - Removed	12000
2	Underground including vaulted with no access for inspection	Closed - Removed	12000
3	Underground including vaulted with no access for inspection	Closed - Removed	12000
4	Underground including vaulted with no access for inspection	Closed - Removed	550
5	Aboveground on saddles, legs, stilts, rack or cradle	In Service	280
6	Underground including vaulted with no access for inspection	In Service	6000
7	Underground including vaulted with no access for inspection	In Service	10000

8A	Underground including vaulted with no access for inspection	In Service	6000
8B	Underground including vaulted with no access for inspection	In Service	4000

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Bulk Storage Database Search Details

Facility Information

Site No.: 3-171506
Status: Active
Expiration Date: 08/24/2017
Site Type: PBS
Site Name: STEWART'S SHOPS #177
Address: 212 MAIN STREET PO BOX 508
Locality: ROSENDALE
State: NY
Zipcode: 12472
County: Ulster

Owner(s) Information

Facility Owner: STEWARTS SHOPS CORP
PO BOX 435 . SARATOGA SPRINGS, NY. 12866
Mail Contact: STEWARTS SHOPS CORP
PO BOX 435 . SARATOGA SPRINGS, NY. 12866

Tank Information

9 Tanks Found

Tank No	Tank Location	Status	Capacity (Gal.)
1	Underground including vaulted with no access for inspection	Closed - Removed	4000
2	Underground including vaulted with no access for inspection	Closed - Removed	4000
3	Underground including vaulted with no access for inspection	Closed - Removed	4000
4	Underground including vaulted with no access for inspection	Closed - Removed	4000
5	Underground including vaulted with no access for inspection	Closed - Removed	8000
6 A	Underground including vaulted with no access for inspection	Closed - Removed	4000
6B	Underground including vaulted with no access for inspection	Closed - Removed	4000

7	Underground including vaulted with no access for inspection	In Service	12000
8	Underground including vaulted with no access for inspection	In Service	6000

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Bulk Storage Database Search Details

Facility Information

Site No.: 3-601354
Status: Active
Expiration Date: 07/26/2019
Site Type: PBS
Site Name: PARK HEIGHTS PROJECT
Address: 1033 ROUTE 32
Locality: ROSENDALE
State: NY
Zipcode: 12472
County: Ulster

Owner(s) Information

Facility Owner: RUPCO
289 FAIR STREET . KINGSTON, NY. 12401
Mail Contact: RUPCO
289 FAIR STREET . KINGSTON, NY. 12401

Tank Information

1 Tanks Found

Tank No	Tank Location	Status	Capacity (Gal.)
492691	Underground including vaulted with no access for inspection	In Service	2500

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Bulk Storage Database Search Details

Facility Information

Site No.: 3-058165
Status: Unregulated/Closed
Expiration Date: 12/18/2011
Site Type: PBS
Site Name: ST PETER'S CHURCH
Address: 1017 KEATOR AVE
Locality: ROSENDALE
State: NY
Zipcode: 12472
County: Ulster

Owner(s) Information

Facility Owner: ST PETERS CHURCH
1017 KEATOR AVENUE . ROSENDALE, NY. 12472
Mail Contact: ST PETERS CHURCH
1017 KEATOR AVENUE . ROSENDALE, NY. 12472

Tank Information

14 Tanks Found

Tank No	Tank Location	Status	Capacity (Gal.)
1	Underground including vaulted with no access for inspection	Closed - In Place	3000
10	Aboveground on saddles, legs, stilts, rack or cradle	In Service	275
11	Aboveground on saddles, legs, stilts, rack or cradle	In Service	275
12	Aboveground - in contact with impervious barrier	In Service	330
13	Aboveground - in contact with impervious barrier	In Service	330
14	Aboveground on saddles, legs, stilts, rack or cradle	In Service	275
2	Underground including vaulted with no access for inspection	Closed - Removed	3000

3	Underground including vaulted with no access for inspection	Closed - Removed	1000
4	Aboveground on saddles, legs, stilts, rack or cradle	Closed - Removed	275
5	Aboveground on saddles, legs, stilts, rack or cradle	Closed - Removed	275
6	Underground including vaulted with no access for inspection	Closed - Removed	1000
7	Underground including vaulted with no access for inspection	Closed - Removed	2500
8	Aboveground on saddles, legs, stilts, rack or cradle	In Service	275
9	Aboveground on saddles, legs, stilts, rack or cradle	In Service	275

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Bulk Storage Database Search Details

Facility Information

Site No.: 3-168874
Status: Active
Expiration Date: 11/24/2019
Site Type: PBS
Site Name: AZAM & SONS
Address: 1083 ROUTE 32
Locality: ROSENDALE
State: NY
Zipcode: 12472
County: Ulster

Owner(s) Information

Facility Owner: AERO STAR PETROLEUM, INC.
1149 ROUTE 32 . ROSENDALE, NY. 12472
Mail Contact: AERO STAR PETROLEUM, INC.
1149 RT 32 . ROSENDALE, NY. 12472

Tank Information

14 Tanks Found

Tank No	Tank Location	Status	Capacity (Gal.)
01A	Underground including vaulted with no access for inspection	In Service	8000
01B	Underground including vaulted with no access for inspection	In Service	6000
01C	Underground including vaulted with no access for inspection	In Service	4000
01D	Underground including vaulted with no access for inspection	In Service	2000
02	Aboveground on saddles, legs, stilts, rack or cradle	In Service	1000
1	Underground including vaulted with no access for inspection	Closed - Removed	10000
2	Underground including vaulted with no access for inspection	Closed - Removed	1000

3	Aboveground on saddles, legs, stilts, rack or cradle	In Service	275
4	Underground including vaulted with no access for inspection	Closed - Removed	4000
4	Aboveground on saddles, legs, stilts, rack or cradle	In Service	1000
5	Underground including vaulted with no access for inspection	Closed - Removed	2000
6	Underground including vaulted with no access for inspection	Closed - Removed	4000
7	Aboveground on saddles, legs, stilts, rack or cradle	Closed - Removed	275
9	Underground including vaulted with no access for inspection	In Service	1000

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Bulk Storage Database Search Details

Facility Information

Site No.: 3-037478
Status: Active
Expiration Date: 01/29/2018
Site Type: PBS
Site Name: AERO STAR PETROLEUM, INC.
Address: 1146 ROUTE 32
Locality: ROSENDALE
State: NY
Zipcode: 12472
County: Ulster

Owner(s) Information

Facility Owner: AERO STAR PETROLEUM, INC.
1149 ROUTE 32 . ROSENDALE, NY. 12472
Mail Contact: AERO STAR PETROLEUM, INC.
1149 ROUTE 32 . ROSENDALE, NY. 12472

Tank Information

6 Tanks Found

Tank No	Tank Location	Status	Capacity (Gal.)
1	Underground including vaulted with no access for inspection	Closed - Removed	8000
2	Underground including vaulted with no access for inspection	Closed - Removed	8000
3	Underground including vaulted with no access for inspection	Closed - Removed	8000
4	Underground including vaulted with no access for inspection	In Service	12000
5	Underground including vaulted with no access for inspection	In Service	12000
6	Underground including vaulted with no access for inspection	In Service	8000

Refine This Search

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Administrative Information

Site Name: 1083 Route 32
Site Code: 356031
Program: State Superfund Program
Classification: N *
EPA ID Number:

Location

DEC Region: 3
Address: 1083 Route 32
City: Rosendale Zip: 12472-
County: Ulster
Latitude: 41.844031231
Longitude: -74.074226957
Site Type:
Estimated Size: 0.31 Acres

Site Owner(s) and Operator(s)

Current Owner Name: Aerostar Petroleum
Current Owner(s) Address: 1149 Route 32
Rosendale,NY, 12472

Site Document Repository

Name: Rosendale Library
Address: 264 Main Street
Rosendale,NY 12472
Name: NYSDEC Region 3 Office
Address: 21 South Putt Corners Road
New Paltz,NY 12561

Site Description

Location: The site is located near the intersection of Route 32 and Madeline Lane in Rosendale, Ulster County. Site Features: A one story slab on grade building exists on the site.

The rest of the site is paved. Current Zoning and Land Use: The site is zoned and used for commercial purposes. The site is surrounded by a mix of commercial and residential properties. Past Use of the Site: Reports indicate that from approximately 1960 to 1970 the site operated as a chemical company which dyed clothing. The site operated as a garage from 1970 to 1979. Since that time, the site has predominantly been utilized as a gas station. The current owner has been operating a Citgo gas station at the site since 2004. Site Geology and Hydrogeology: Site soil includes sands, silt and clay. Groundwater flow is generally towards the river and flows in a northernly direction. The depth to groundwater varies at the site and is present from 3 to 12 feet below grade.

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type

vinyl chloride

cis-1,2-dichloroethene

tetrachloroethene (PCE)

Site Environmental Assessment

Nature and Extent of Contamination: The contaminants of concern include volatile organic compounds, specifically tetrachloroethene (PCE), cis-1,2 dichloroethene (DCE) and vinyl chloride. This contamination has been attributed to the nearby Rosendale Cleaners site (ID No. 356050) Groundwater: Contamination is present in on-site and off-site monitoring wells. On-site overburden groundwater exceeds standards for PCE, cis-1,2 DCE and vinyl chloride at maximum concentrations of 12, 960 and 240 ug/L, respectively. Soil: Significant soil contamination was not observed in samples collected either on-site or off-site. Soil Vapor & Indoor Air: Soil vapor samples were collected in the on-site structure and at adjacent residences. Based upon the results, there were no impacts to sub-slab soil vapor or indoor air at any of the sampling locations. Special Resources Impacted: The Rondout Creek is located approximately 600 feet downgradient (north) of the site. Downgradient wells that were installed during the Remedial Investigation showed no impacts in the vicinity of the creek.

Site Health Assessment

Drinking contaminated groundwater is not expected because the area is served by public water. Contact with soil contamination is unlikely since the site is covered by buildings and pavement.

* **Class N Sites:** "DEC offers this information with the caution that the amount of information provided for Class N sites is highly variable, not necessarily based on any DEC investigation, sometimes of unknown origin, and sometimes is many years old. Due to the preliminary nature of this information, significant conclusions or decisions should not be based solely upon this summary."

For more Information: E-mail Us

Return To Results

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NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Environmental Site Remediation Database Search Details

Site Record

Administrative Information

Site Name: Rosendale Cleaners
Site Code: 356050
Program: State Superfund Program
Classification: P *
EPA ID Number:

Location

DEC Region: 3
Address: 1090-1094 Route 32
City: Rosendale Zip: 12472
County: Ulster
Latitude: 41.844382837
Longitude: -74.073539971
Site Type:
Estimated Size: 1.94 Acres

Site Owner(s) and Operator(s)

Current Owner Name: Aero Star Realty, LLC
Current Owner(s) Address: 1149 Route 32
Rosendale,NY, 12472
Current On-Site Operator: Aero Star Realty, LLC
Stated Operator(s) Address: 1149 Route 32
Rosendale,NY 12472

Site Description

Location: The site is located at 1090-1094 Route 32 near the intersection of Route 32 and Madeline Lane in Rosendale, Ulster County. Site Features: The site is predominantly paved. A one story building exists on the site that is currently unoccupied. The site is tiered and has a retaining wall securing the upper terrace. The building foundation is exposed as part of the original structure was demolished. The footprint of the entire building is approximately 15,000

square feet. A mound of soil/debris pile exists on the southern part of the site. Current Zoning and Land Use: The site is zoned for commercial purposes. The on site building is used for storage. The site is surrounded by a mix of commercial and residential properties. Past Use of the Site: The site has been used for a variety of commercial purposes since at least the mid 1900s. A dry cleaner reportedly operated on the site until the business burned down in 1981. A hardware store and a diner also operated on-site until around 2009. Site Geology and Hydrogeology: Site soil includes sands, silt and clay. Groundwater flow is generally towards the river and flows in a northerly direction. The depth to groundwater varies at the site and is present from 8 to 19 feet below grade.

Contaminants of Concern (Including Materials Disposed)

Contaminant Name/Type
trichloroethene (TCE)
cis-1,2-dichloroethene
tetrachloroethene (PCE)
vinyl chloride

Site Environmental Assessment

Nature and Extent of Contamination: The contaminants of concern include volatile organic compounds, specifically tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2 dichloroethene (DCE) and vinyl chloride. Groundwater: Contamination is present in on-site and off-site monitoring wells. Overburden groundwater exceeds standards for PCE, TCE, 1,2- DCE and vinyl chloride at maximum concentrations of 320, 360, 8,000 and 1,100 ug/L, respectively. The highest detection of each contaminant was detected in the vicinity of a debris pile on the southern edge of the site. Soil: Significant soil contamination was not observed in samples collected either on-site or off-site. However the debris pile is believed to be the source area for the contamination based upon visual observation and analysis of groundwater patterns. Special Resources Impacted: The Rondout Creek is located downgradient (north) of the site. Downgradient wells that were installed during the Remedial Investigation showed no impacts in the vicinity of the creek.

Site Health Assessment

Drinking contaminated groundwater is not expected because the area is served by public water. Contact with soil contamination is unlikely since a majority of the site is covered by buildings and pavement. Volatile organic compounds in the groundwater or soil may move into

the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. In addition, sampling indicates soil vapor intrusion may be a concern for one off-site building.

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* **Class P Sites:** "DEC offers this information with the caution that it should not be used to form conclusions about site contamination beyond what is implied by the classification of this site, namely, that there is a potential for concern about site contamination. Information regarding a Class P site (potential Registry site) is by definition preliminary in nature and unverified because the DEC's investigation of the site is not yet complete. Due to the preliminary nature of this information, significant conclusions or decisions should not be based solely upon this summary."

For more Information: E-mail Us

Refine This Search

Attachment 6

Section 7 Documents

- NHP Documentation
- USFWS Acknowledgment and Determination Letter
- Phase I Summer Habitat Assessment (April 2017)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

May 24, 2017

Kaitlin Larson
Tectonic Engineering & Surveying Consultants P.C.
70 Pleasant Hill Rd.
Mountainville, NY 10953

Re: Flood Control Along James Street – Town of Rosendale
County: Ulster Town/City: Rosendale

Dear Ms. Larson:

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

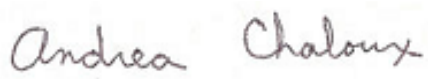
Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 3 Office, Division of Environmental Permits, at dep.r3@dec.ny.gov, (845) 256-3054.

Sincerely,



Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

474

The following state-listed animals have been documented in the vicinity of the project site.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for your project, please contact the Permits staff at the NYSDEC Region 3 Office at dep.r3@dec.ny.gov, (845) 256-3054. For information about potential impacts of your project on these species and how to avoid, minimize, or mitigate any impacts, contact the Region 3 Wildlife staff at Wildlife.R3@dec.ny.gov, (845) 256-3098.

The following species have been documented within one mile of the project site. Individual animals may travel 2.5 miles from documented locations. The main impact of concern for bats is the removal of potential roost trees.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Mammals				
Indiana Bat	*Myotis sodalis*	Endangered	Endangered	5441
Seven (7) hibernacula have been documented within 2.5 miles of the project site.				

The following species have been documented within one mile of the project site. Individual animals may travel five miles from documented locations. The main impact of concern for bats is the removal of potential roost trees.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Mammals				
Northern Long-eared Bat	*Myotis septentrionalis*	Threatened	Threatened	14229
Eight (8) hibernacula have been documented within five miles of the project site.				

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

New York Natural Heritage Program

Report on Rare Animals, Rare Plants, and Significant Natural Communities

The following rare plants, rare animals, and significant natural communities have been documented in the vicinity of your project site.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following significant natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. They are either occurrences of a community type that is rare in the state, or a high-quality example of a more common community type. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*

Upland/Terrestrial Communities

Limestone Woodland — High-quality Occurrence of Rare Community Type

Rosendale, .3 mile west of the project site: The woodland is medium-sized, in good condition, dispersed in many patches among a relatively intact forest, but bisected by many roads. 9429

Calcareous Talus Slope Woodland — High-quality Occurrence of Uncommon Community Type

Rosendale, .3 mile west of the project site: The occurrence is moderate-sized and in good condition within a moderate-sized landscape with a strong history of anthropogenic land use. 4825

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

The following rare plants have historical records in the vicinity of your project site.

The following rare plants were documented in the vicinity of the project site at one time, but have not been documented there since 1979 or earlier, and/or there is uncertainty regarding their continued presence. There is no recent information on these plants in the vicinity of the project site and their current status there is unknown. In most cases the precise location of the plant in this vicinity at the time it was last documented is also unknown.

If suitable habitat for these plants is present in the vicinity of the project site, it is possible that they may still occur there. We recommend that any field surveys to the site include a search for these species, particularly at sites that are currently undeveloped and may still contain suitable habitat.

COMMON NAME	*SCIENTIFIC NAME*	*NYS LISTING*	*HERITAGE CONSERVATION STATUS*
Plants			
Cut-leaved Evening-primrose	*Oenothera laciniata*	Endangered	Critically Imperiled in NYS
1961-08-17: Tillson.			4247

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

June 20, 2017

Ms. Alicia Shultz
Senior Environmental Scientist
Governor's Office of Storm Recovery
NYS Homes & Community Renewal
38-40 State Street, 408N, Hampton Plaza
Albany, NY 12207

Dear Ms. Shultz:

This responds to your June 15, 2017, letter regarding the proposed James Street Flood Control Project located in the Town of Rosendale, Ulster County, New York. We understand that U.S. Department of Housing and Urban Development's (HUD) funding may be involved with the proposed project.

As you are aware, Federal agencies have responsibilities under section 7 of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to consult with the U.S. Fish and Wildlife Service (Service) regarding projects that may affect federally listed species or designated critical habitat, and confer with the Service regarding projects that are likely to jeopardize federally proposed species and/or adversely modify proposed critical habitat. We understand that NYS Homes & Community Renewal (NYSHCR) has been designated HUD's non-federal representative for the purposes of completing informal consultation pursuant to section 7(a)(2) of the ESA.

On behalf of HUD, the NYSHCR determined the proposed project may affect, but is not likely to adversely affect, the federally listed endangered Indiana bat (*Myotis sodalis*) or federally listed threatened northern long-eared bat (*Myotis septentrionalis*).

Given the project location, small amount of tree removal (0.86 acres), and conservation measure to conduct all tree removal between November 1 and March 31, we concur with your determination. The NYSHCR also determined the project will result in no impacts to the federally listed threatened bog turtle (*Clemmys [=Glyptemys] muhlenbergii*) as there is no suitable habitat in the area. We have no further comments on this species.

No further coordination or consultation under the ESA is required with the Service at this time. Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. The most recent compilation of federally listed and proposed endangered and threatened species in New York is available for your information. Until the proposed project is complete, we recommend that you check our website every 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project is current.*

In addition to the above-referenced determinations regarding federally listed or proposed species, you have also determined that the project will result in no effects to the bald eagle (*Haliaeetus leucocephalus*). As you are aware, bald eagles have been delisted pursuant to the ESA, but remain protected under the Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 703-712), the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended; 16 U.S.C. 668 *et seq.*), and by the State of New York. If eagles are found within the project area, we recommend that the project sponsor follow the Bald Eagle Management Guidelines found on our website.

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

Thank you for coordinating with us. We appreciate the opportunity to review this project. Please contact Robyn Niver at 607-753-9334 if there are any questions. Future correspondence with us on this project should reference project file 17I0659.

Sincerely,

David A. Stilwell

David A. Stilwell
Field Supervisor

*Additional information referred to above may be found on our website at: http://www.fws.gov/northeast/nyfo/es/section7.htm.

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

Governor's Office of Storm Recovery

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

June 15, 2017

Robyn A. Niver
Endangered Species Biologist,
U.S. Fish & Wildlife Service
New York Field Office
3817 Luker Rd.
Cortland, NY 13045

VIA EMAIL: robyn_niver@fws.gov

Re: ESA/MBTA/BGEPA consultation for the James Street Flood Control Project, Ulster County, Rosendale, New York

Dear Ms. Niver:

The Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation, was established to aid the statewide recovery of disaster-affected communities in New York State. GOSR is administering a U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant for Disaster Recovery (CDBG-DR), including the New York Rising Community Reconstruction (NYRCR) Program. The environmental review for projects funded under the NYRCR Program are processed on a case by case basis in accordance with the United States Fish and Wildlife Service (USFWS), New York Field Office's online project review process. The project described herein was analyzed pursuant to Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d); and the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat 755).

The purpose of this letter is to provide the U.S. Fish and Wildlife Service – New York Field Office (USFWS) notice of the proposed project and to document compliance with Section 7 of the Endangered Species Act. We are requesting concurrence from the U.S. Fish and Wildlife Service that the proposed James Street Flood Control Project will have no effect on the Bog Turtle; may affect, but is not likely to adversely affect the Indiana Bat; and may affect, but is not likely to adversely affect the Northern Long-eared Bat.

Project Overview

The James Street Flood Control Project (Project) is a stormwater management improvement project located adjacent to the intersection of James Street and Parkcrest Drive, in the Town of Rosendale, Ulster County, New York (see Project location maps in **Attachment 1**). The Town of Rosendale proposes to replace an existing small-bore stone-built culvert that passes beneath James Street near the intersection of Parkcrest Drive. This existing 48-inch pipe is to be replaced with a 60-inch high-density polyethylene (HDPE) pipe

culvert that will run under James Street, with a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A proposed catch basin and storm manhole are to be installed on the western side of the Parkcrest Drive and James Street intersection, and a new 36-inch HDPE pipe will replace the existing 36-inch pipe running under Parkcrest Drive. This 36-inch HDPE pipe connects to the 60-inch HDPE pipe and storm manhole located on the eastern side of the Parkcrest Drive and James Street intersection.

Four additional catch basins are proposed to be built along James Street, west of Parkcrest Drive. The catch basins will be located on the north and south side of James Street, with two catch basins located approximately 170 feet west of Parkcrest Drive on James Street and two catch basins located 520 feet west of Parkcrest Drive on James Street. The proposed construction includes flattening the south bank slope, creating a low flow channel, and constructing a new toe at the base of the slope on the south bank of Rondout Creek. Additionally, the proposed construction includes armoring Rondout Creek's south bank with riprap. This riprap will begin at the western edge of the existing riprap and extend 600 feet upstream. Maintenance dredging will also occur, removing the point bar along the northern bank to elevation 39.5 feet, which is the original Rondout Creek flood control creek bottom elevation. The Town also proposes to construct guide rails along James Street, as well as a 5-foot asphalt pedestrian walkway that will run parallel to the north side of James Street, beginning approximately 330 feet west of Parkcrest Drive on James Street and extending to the intersection of James Street and New York State Route 32. Approximately 0.22 acres of trees will be removed in order to install new culverts and approximately **0.64 acres of trees will be removed** in order to flatten the slope and armor the bank with riprap. **Trees proposed to be removed range in size from small saplings to large trees with a diameter at breast height (DBH) of 32 inches**.

The purpose of the Project is to ensure that this critical connector road will be accessible during future storm events. On August 28, 2011, Hurricane Irene dropped approximately 6 inches of rain during a 24-hour period. A few weeks later in early September 2011, Tropical Storm Lee dropped several more inches of rain on already saturated soils and overloaded Rondout Creek leading to record high water levels and severe flash flooding. As a result of the high waters, the lower portion of James Street washed out and collapsed which caused a substantial risk for vehicles and residences located on James Street and in the surrounding area. During these storm events, residents were unable to access necessary health and social service facilities.

Effect Determinations

We carefully reviewed (on June 14, 2017) your Agency's Section 7 Consultation website for a list of species that "may be present" within the Project area. There are two threatened species and one endangered species that may be present: the Bog Turtle (*Clemmys muhlenbergii*), the Indiana Bat (*Myotis sodalis*), and the Northern Long-eared Bat (*Myotis septentrionalis*) (see **Attachment 2**). The USFWS official species list for the proposed Project indicated that there is no critical habitat for threatened or endangered species found in the Project area (see **Attachment 2**).

The Bog Turtle, listed as federally threatened, is a semi-aquatic species preferring habitat in slow moving, shallow, and cool waters. Bog Turtles live in deep, soft muck soils of calcareous bogs, fens, and wet meadows that contain sphagnum moss and tussock sedges, which give them an area to bask and hide. They prefer to be exposed to calcium-rich waters and tend to lay their eggs inside of tussocks exposed to sunlight. The Project area encompasses an existing active roadway and the southern bank of Rondout Creek, which is comprised of a narrow strip of trees and riprap (see aerial map in **Attachment 1**). The Project area does not provide suitable habitat for the Bog Turtles. Therefore, project activities will have no effect on the Bog Turtle.

The Indiana Bat (IB), listed as federally endangered, is a temperate, insectivorous bat. IB hibernate in caves or mines during winter and emerge during the spring, with males dispersing and remaining solitary or

forming small bachelor groups until the end of the summer, and pregnant females forming maternity colonies. Summer habitat of the IB generally includes wooded areas, where they roost under loose tree bark on dead or dying trees. The IB consumes a variety of flying insects found along rivers and other inland water bodies, and the IB is sensitive to forested habitat fragmentation and urbanization of habitat that was previously used for roosting. There are currently seven (7) hibernacula known to be occupied by the IB within 2.5 miles of the Project area, based on a record request response from the New York Natural Heritage Program (NYNHP) (**Attachment 3**).

The Northern Long-eared Bat (NLEB), listed as federally threatened, is a temperate, insectivorous bat whose life cycle can be coarsely divided into two primary phases - reproduction and hibernation. NLEB hibernate in caves or mines during winter and emerge in early spring, with males dispersing and remaining solitary until mating season at the end of the summer, and pregnant females forming maternity colonies. Summer habitat of the NLEB generally includes upland and riparian forest within heavily forested landscapes. The NLEB is sensitive to fragmentation and urbanization, and requires interior forest for both foraging and breeding. Roost trees are usually in intact forest, close to the core and away from large clearings, roads, or other sharp edges. There are currently eight (8) hibernacula known to be occupied by the NLEB within five (5) miles of the Project area, based on a records request response from the NYNHP (**Attachment 3**).

No caves or mines occur in the Project area. The Project involves removal of approximately 0.86 acres of trees that range in size from small saplings to large trees with a DBH of 32 inches. A preliminary review to identify potential IB and NLEB summer habitat in the proposed tree removal areas was performed utilizing images from Google Earth street view (see map and photographs of trees proposed to be removed in **Attachment 4**). A field Habitat Assessment was also performed to identify suitable IB and NLEB summer habitat on April 3, 2017 (see Habitat Assessment Data Sheets and photographs in **Attachment 5**). Trees that are proposed for removal include red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), ash (*Fraxinus sp.*), black locust (*Robinia pseudoacacia*), black birch (*Betula lenta*), and oak (*Quercus sp.*). Many of the trees proposed to be removed are less than 3 inches in diameter with smooth bark, which do not provide suitable roosting habitat for the NLEB or IB. However, several trees are greater than or equal to 3 inches in diameter with exfoliating bark, which do provide suitable roosting habitat. There is not an abundance of suitable roost trees (large trees with a predominance of exfoliating bark) in the Project area.

To minimize potential impacts to the IB and NLEB, tree clearing will take place from November 1 to March 31, which is outside of the active season of the IB and NLEB. Trees that are proposed to be removed are part of a small strip of forested habitat located immediately adjacent to residential development and residential yard habitat. Any bats living in the vicinity of the Project area would still be able to breed, feed, and find shelter. Similar habitat (forested creek corridor surrounded by residential development) is located immediately west of the Project area (see aerial map in **Attachment 1**). Bats would not have to fly long distances or traverse open areas to get to alternative foraging habitat, as tracts of forested habitat are located immediately west, 0.25 miles northwest, and 0.5 miles south of the proposed Project. These forested tracts of land are accessible via strips of forested habitat south of the Project area and west of the Project area along Rondout Creek.

Since 1) tree clearing will be conducted when bats are hibernating, 2) the Project will not impact a large area of suitable habitat relative to the surrounding landscape, and 3) the Project will not impact high-quality habitat, a **'may affect, not likely to adversely affect'** determination is warranted for the IB and NLEB.

GOSR understands that the USFWS presumes that all activities are implemented as described herein. GOSR will promptly report any departures from the described activities that would change the effect determination above to the New York Field Office. GOSR will provide the New York Field Office with the results of any surveys conducted for the IB and NLEB. Involved parties will promptly notify the New York Field Office

upon finding a dead, injured, or sick IB or NLEB.

Migratory Bird Treaty Act

According to the USFWS Information for Planning and Conservation (IPaC) Resource List, accessed June 14, 2017 (**Attachment 2**), there are several migratory birds that could potentially be affected by the proposed Project. The primary nesting season for migratory birds is early April to mid-July. To minimize impacts to migratory birds, tree clearing will be performed from November 1 to March 31, which is outside of the primary nesting season. Precautions will be used to protect any migratory birds that may be found in or near the Project area. Such precautions include minimizing construction noise to the extent practicable, using care to avoid birds when operating machinery or vehicles near birds, and general contractor awareness of potential bird presence. We anticipate these measures should avoid any take of migratory birds.

Bald and Golden Eagle Protection Act

The bald eagle (*Haliaeetus leucocephalus*) is a long-lived bird, with a life span of more than 30 years in the wild. Bald eagles prefer undisturbed areas near large lakes and reservoirs, marshes and swamps, or stretches along rivers where they can find open water and their primary food, fish. Bald eagles generally produce one or two, and rarely three, offspring per year. In New York, the young fledge by mid to late summer at about 12 weeks of age. A bald eagle nest is a large structure, usually located high in a tall, live white pine tree near water. The nest is re-used and added to each year, often becoming eight or more feet deep, six feet across, and weighing hundreds of pounds. Once a pair selects a nesting territory, they use it for the rest of their lives. Bald eagles mate for life, returning to nest in the general area (within 250 miles) from which they fledged.

While bald eagle overwintering and nesting sites are found along the Rondout Creek corridor, NYNHP has no records of bald eagle nesting sites in the Project area. The Project area is comprised of a forested creek corridor surrounded by residences and residential yard habitats. The habitat in the Project area is not consistent with preferred habitat of the bald eagle. A habitat survey of the Project area found no nest locations. Thus, no effects are anticipated to occur to bald eagles.

Conclusion

For the reasons listed above, we conclude that the James Street Flood Control Project will have no effect on the Bog Turtle; may affect, but is not likely to adversely affect the Indiana Bat; and may affect, but is not likely to adversely affect the Northern Long-eared Bat. We request your concurrence with our determinations.

If you have questions or require additional information regarding this request, please contact me at (518) 474-0755 or lori.shirley@nyshcr.org. Thank you for your time and consideration.

Sincerely,

Lori A. Shirley
Certifying Officer
Governor's Office of Storm Recovery
NYS Homes and Community Renewal

Attachments:

Attachment 1 – Project Location Maps
Attachment 2 – USFWS Official Species List and IPaC Resource List
Attachment 3 – NYNHP Record Request Response (May 24, 2017)
Attachment 4 – Map and Photographs of Trees Proposed to be Removed
Attachment 5 – Indiana Bat Habitat Assessment Datasheet and Site Photographs

Literature Cited

United States Fish and Wildlife Service. Bog Turtle Fact Sheet: Bog Turtle (*Clemmys muhlenbergii*). http://www.dec.ny.gov/animals/7164.html

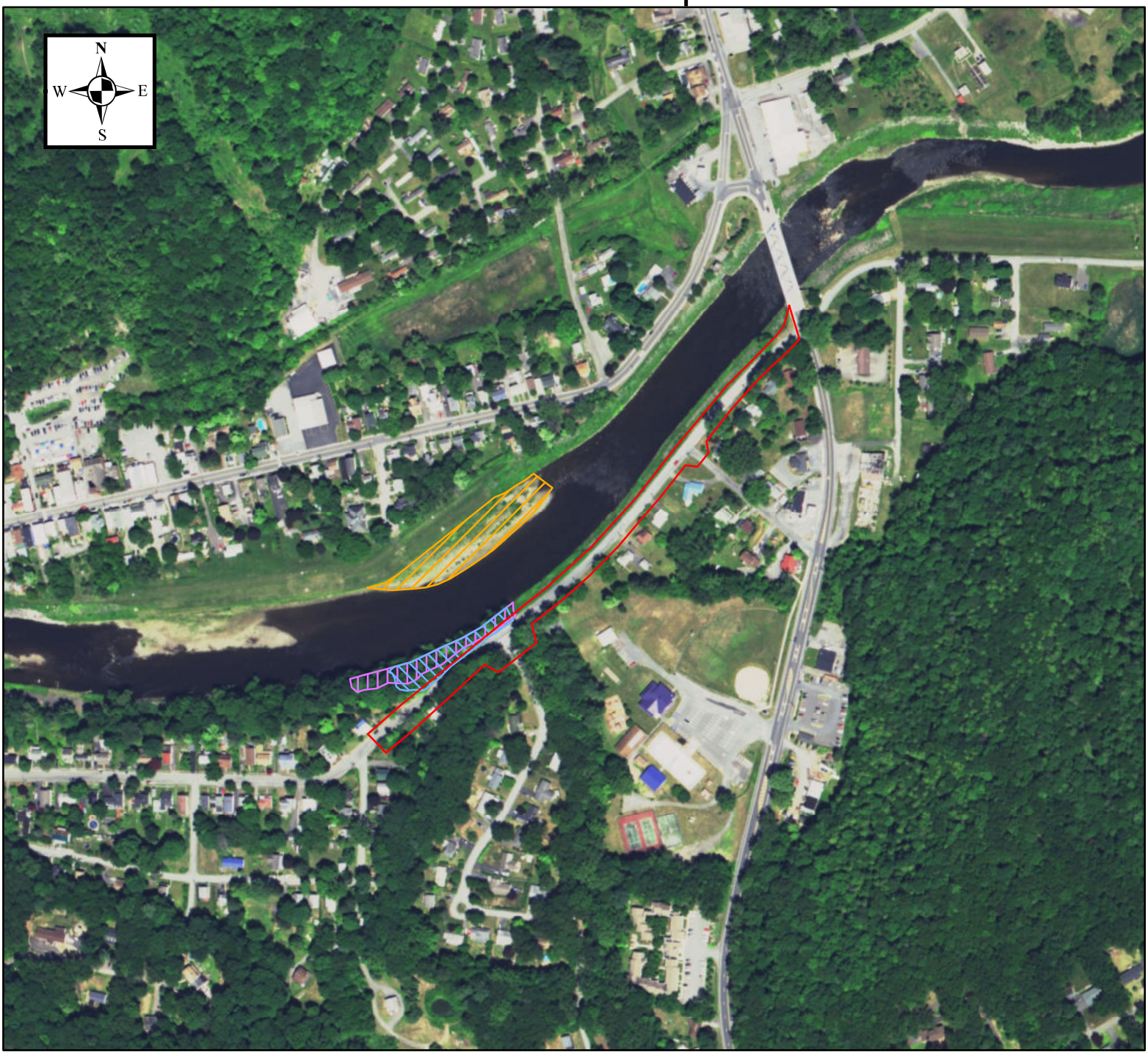
United States Fish and Wildlife Service. 2015. Threatened and Endangered Species: Northern Long-eared Bat (*Myotis septentrionalis*). http://www.fws.gov/Midwest/endangered/mammals/nleb/nlebFactSheet.html

United States Fish and Wildlife Service. 2006. Threatened and Endangered Species: Indiana Bat (*Myotis sodalist*). http://www.fws.gov/midwest/endangered/mammals/inba/inbafctsht.html

Attachment 1

Aerial Photograph,
Street Map, and
Topographic Map

Location Map



TECTONIC
Practical Solutions, Exceptional Service

0 250 500 1,000 Feet

1:5,000

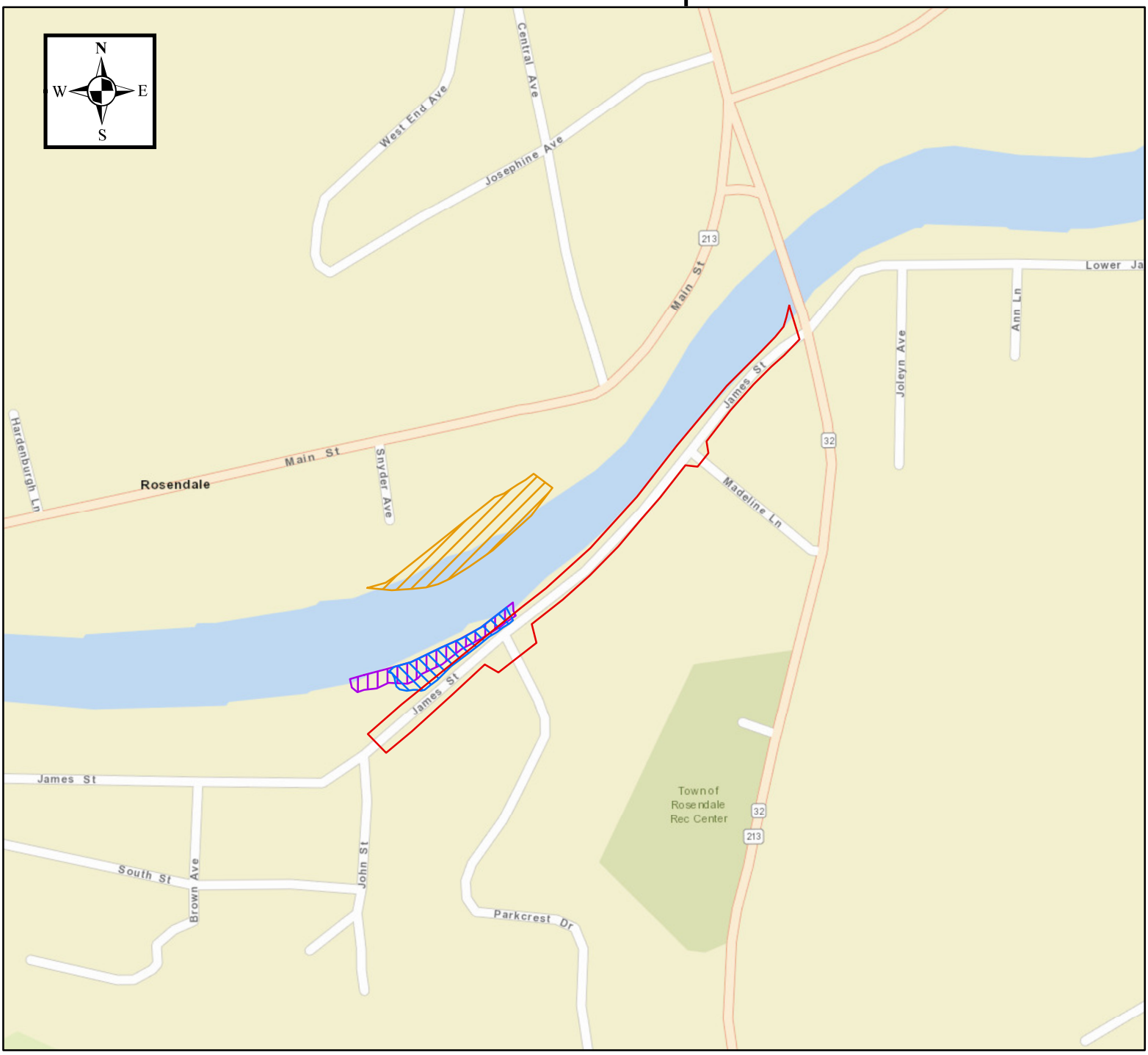
James Street Flood Control
James Street located between John Street and
Route 32 adjacent to Roundout Creek
Town of Rosendale
Ulster County, New York

Legend

Approximate Boundaries of:

- Maintenance Dredging - Point Bar Removal
- Slope Flattening
- Streambank Stabilization
- Road Work

Location Map



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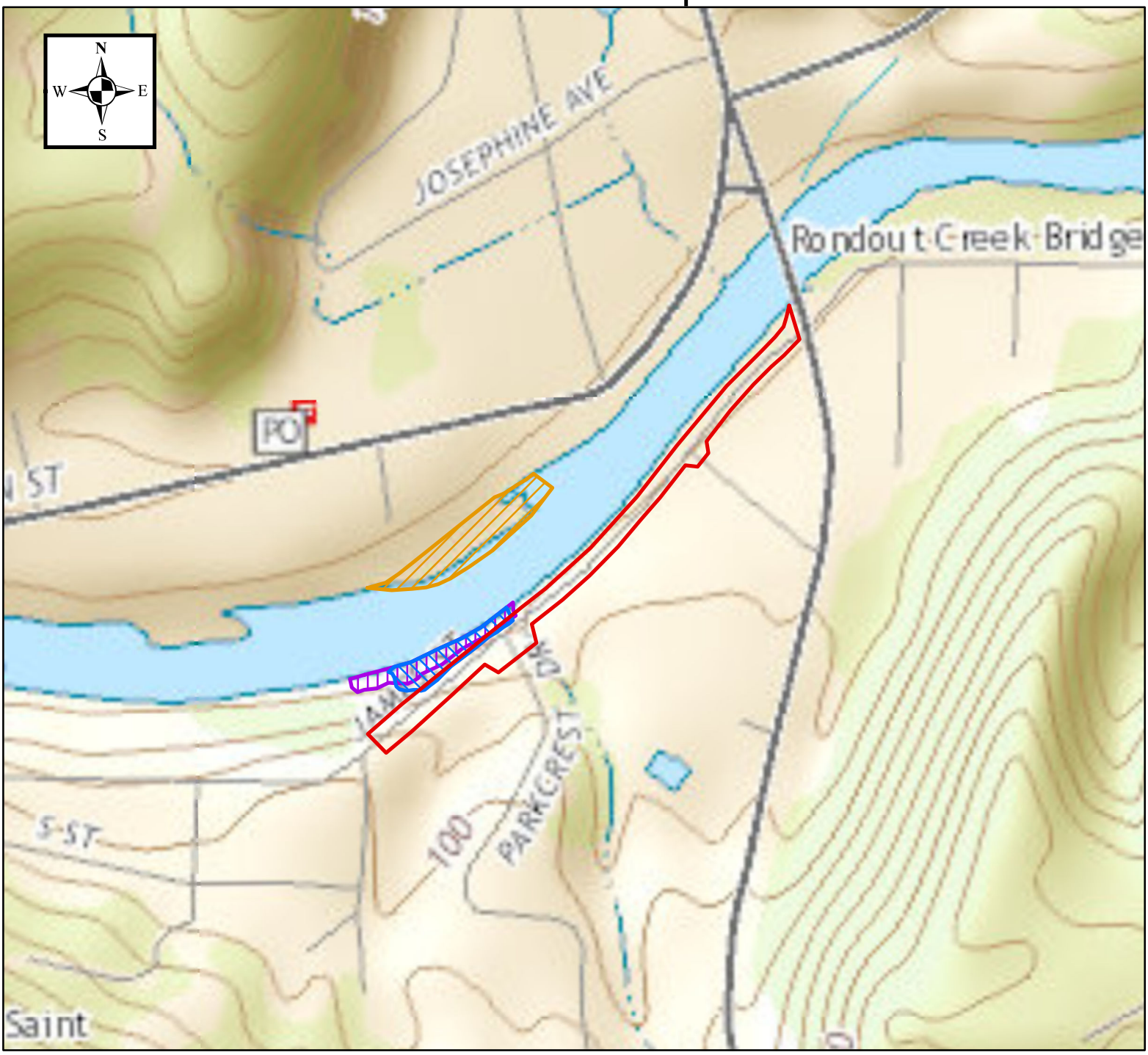


TECTONIC
Practical Solutions, Exceptional Service

0 250 500 1,000 Feet

1:5,000

James Street Flood Control
James Street located between John Street and
Route 32 adjacent to Roundout Creek
Town of Rosendale
Ulster County, New York

Legend

Approximate Boundaries of:

- Maintenance Dredging - Point Bar Removal
- Slope Flattening
- Streambank Stabilization
- Road Work

Attachment 2

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: June 14, 2017
Consultation Code: 05E1NY00-2017-SLI-0659
Event Code: 05E1NY00-2017-E-07280
Project Name: James Street Flood Control Project

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

To Whom It May Concern:

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2017-SLI-0659

Event Code: 05E1NY00-2017-E-07280

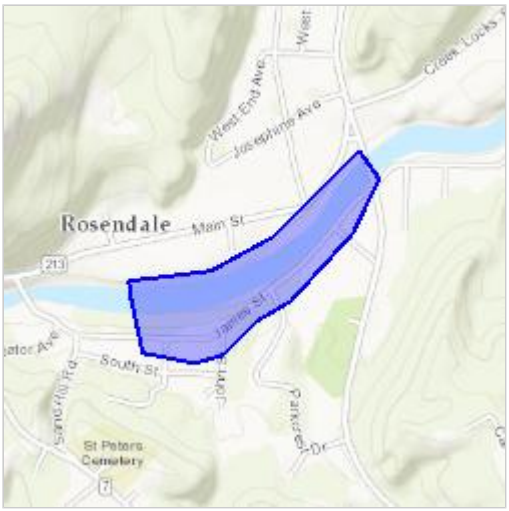
Project Name: James Street Flood Control Project

Project Type: Federal Grant / Loan Related

Project Description: Flood Control Project

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.84387768152358N74.07703226576453W



Counties: Ulster, NY

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Indiana Bat *(Myotis sodalis)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *(Myotis septentrionalis)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Reptiles

NAME	STATUS
Bog Turtle *(Clemmys muhlenbergii)* Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

There are no critical habitats within your project area.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

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

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

Project information

NAME

James Street Flood Control Project

LOCATION

Ulster County, New York

Not for consultation

DESCRIPTION

Flood
Control Project

Local office

New York Ecological Services Field Office

(607) 753-9334
(607) 753-9699

3817 Luker Road
Cortland, NY 13045-9349

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

Endangered species

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

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

Not for consultation

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

For project evaluations that require USFWS concurrence/review, please return to the

IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species

[1] are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

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

Mammals

NAME	STATUS
Indiana Bat Myotis sodalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat Myotis septentrionalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Reptiles

NAME	STATUS
Bog Turtle Clemmys muhlenbergii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6962	Threatened

Not for consultation

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data http://www.birdscanada.org/birdmon/default/datasummaries.jsp

Not for consultation

The migratory birds species listed below are species of particular conservation concern (e.g. Birds of Conservation Concern) that may be potentially affected by activities in this location. It is not a list of every bird species you may find in this location, nor a guarantee that all of the bird species on this list will be found on or near this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your

project area, please visit the AKN Histogram Tools and Other Bird Data Resources. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

NAME	SEASON(S)
American Bittern Botaurus lentiginosus https://ecos.fws.gov/ecp/species/6582	Breeding
Bald Eagle Haliaeetus leucocephalus https://ecos.fws.gov/ecp/species/1626	Year-round
Black-billed Cuckoo Coccyzus erythropthalmus https://ecos.fws.gov/ecp/species/9399	Breeding
Black-crowned Night-heron Nycticorax nycticorax https://ecos.fws.gov/ecp/species/6487	Breeding
Blue-winged Warbler Vermivora pinus	Breeding
Canada Warbler Wilsonia canadensis	Breeding
Cerulean Warbler Dendroica cerulea https://ecos.fws.gov/ecp/species/2974	Breeding
Golden-winged Warbler Vermivora chrysoptera https://ecos.fws.gov/ecp/species/8745	Breeding
Least Bittern Ixobrychus exilis https://ecos.fws.gov/ecp/species/6175	Breeding
Olive-sided Flycatcher Contopus cooperi https://ecos.fws.gov/ecp/species/3914	Breeding
Peregrine Falcon Falco peregrinus https://ecos.fws.gov/ecp/species/8831	Breeding
Pied-billed Grebe Podilymbus podiceps	Breeding

Not for consultation

Prairie Warbler Dendroica discolor	Breeding
Red-headed Woodpecker Melanerpes erythrocephalus	Breeding
Rusty Blackbird Euphagus carolinus	Wintering
Short-eared Owl Asio flammeus https://ecos.fws.gov/ecp/species/9295	Wintering
Willow Flycatcher Empidonax traillii https://ecos.fws.gov/ecp/species/3482	Breeding
Wood Thrush Hylocichla mustelina	Breeding
Worm Eating Warbler Helmitheros vermivorum	Breeding

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAANCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance

Not for consultation

and richness of bird species within your project area off the Atlantic Coast, see the Northeast Ocean Data Portal. The Portal also offers data and information about other types of taxa that may be helpful in your project review.

About the NOAANCCOS models: the models were developed as part of the NOAANCCOS project: Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf. The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the Northeast Ocean Data Portal, which can be used to explore details about the relative occurrence and abundance of bird species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The Avian Knowledge Network (AKN) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest,survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the Migratory Bird Programs AKN Histogram Tools webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North, Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

Not for consultation

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

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

Facilities

Wildlife refuges

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

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

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

Not for consultation

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME
This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible

hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

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

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

Data exclusions

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

Data precautions

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

Not for consultation

Attachment 3

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

May 24, 2017

Kaitlin Larson
Tectonic Engineering & Surveying Consultants P.C.
70 Pleasant Hill Rd.
Mountainville, NY 10953

Re: Flood Control Along James Street – Town of Rosendale
County: Ulster Town/City: Rosendale

Dear Ms. Larson:

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

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 3 Office, Division of Environmental Permits, at dep.r3@dec.ny.gov, (845) 256-3054.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

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New York Natural Heritage Program Report on State-listed Animals

The following state-listed animals have been documented in the vicinity of the project site.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for your project, please contact the Permits staff at the NYSDEC Region 3 Office at dep.r3@dec.ny.gov, (845) 256-3054. For information about potential impacts of your project on these species and how to avoid, minimize, or mitigate any impacts, contact the Region 3 Wildlife staff at Wildlife.R3@dec.ny.gov, (845) 256-3098.

The following species have been documented within one mile of the project site. Individual animals may travel 2.5 miles from documented locations. The main impact of concern for bats is the removal of potential roost trees.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Mammals				
Indiana Bat	*Myotis sodalis*	Endangered	Endangered	5441
Seven (7) hibernacula have been documented within 2.5 miles of the project site.				

The following species have been documented within one mile of the project site. Individual animals may travel five miles from documented locations. The main impact of concern for bats is the removal of potential roost trees.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Mammals				
Northern Long-eared Bat	*Myotis septentrionalis*	Threatened	Threatened	14229
Eight (8) hibernacula have been documented within five miles of the project site.				

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

New York Natural Heritage Program

Report on Rare Animals, Rare Plants, and Significant Natural Communities

The following rare plants, rare animals, and significant natural communities have been documented in the vicinity of your project site.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following significant natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. They are either occurrences of a community type that is rare in the state, or a high-quality example of a more common community type. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*

Upland/Terrestrial Communities

Limestone Woodland — High-quality Occurrence of Rare Community Type

Rosendale, .3 mile west of the project site: The woodland is medium-sized, in good condition, dispersed in many patches among a relatively intact forest, but bisected by many roads. 9429

Calcareous Talus Slope Woodland — High-quality Occurrence of Uncommon Community Type

Rosendale, .3 mile west of the project site: The occurrence is moderate-sized and in good condition within a moderate-sized landscape with a strong history of anthropogenic land use. 4825

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

New York Natural Heritage Program

Report on Historical Records of Rare Animals, Rare Plants, and Natural Communities

The following rare plants have historical records in the vicinity of your project site.

The following rare plants were documented in the vicinity of the project site at one time, but have not been documented there since 1979 or earlier, and/or there is uncertainty regarding their continued presence. There is no recent information on these plants in the vicinity of the project site and their current status there is unknown. In most cases the precise location of the plant in this vicinity at the time it was last documented is also unknown.

If suitable habitat for these plants is present in the vicinity of the project site, it is possible that they may still occur there. We recommend that any field surveys to the site include a search for these species, particularly at sites that are currently undeveloped and may still contain suitable habitat.

COMMON NAME	*SCIENTIFIC NAME*	*NYS LISTING*	*HERITAGE CONSERVATION STATUS*
Plants			
Cut-leaved Evening-primrose	*Oenothera laciniata*	Endangered	Critically Imperiled in NYS
1961-08-17: Tillson.			4247

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Attachment 4

James Street Flood Control Project
Approximate Proposed Tree Removal Areas
Legend
Photo Location and Orientation
Proposed Tree Removal Area
Photo 1
Photo 2
Photo 3
Photo 4
James St
Parkcrest Dr
John St
Snyder Ave
N
500 ft
Google earth
© 2016 Google

Site Photographs

Photo 1

James St
Exit Street View
© 2016 Google
© 2016 Google
7 ft
Report a problem
Tour Guide
Google earth
Imagery Date: 4/2012 lat 41.842998° lon -74.079129° elev 308 ft eye alt 143 ft

Photo 2

James St
Exit Street View
4 ft
Report a problem
© 2016 Google
© 2016 Google
Google earth
Tour Guide
Imagery Date: 4/2012 lat 41.843502° lon -74.078628° elev 245 ft eye alt 131 ft

Photo 3

James St
Exit Street View
N
© 2016 Google
© 2016 Google
6 ft
Report a problem
Tour Guide
Google earth
Imagery Date: 4/2012 lat 41.843546° lon -74.078300° elev 222 ft eye alt 143 ft

Photo 4

James St
Exit Street View
N
© 2016 Google
© 2016 Google
12 ft
Google earth
Tour Guide
Imagery Date: 4/2012 lat 41.842394° lon -74.077026° elev 206 ft eye alt 80 ft

Attachment 5

APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS

INDIANA BAT HABITAT ASSESSMENT DATASHEET

Project Name: Rosendale - James St. Flood Control Date: 4/3/2017

Township/Range/Section: Rosendale, NY

Lat Long/UTM/ Zone: 18 E: 576544.49, N: 4632749.63 Surveyor: A. Bailey, NYS DEC

Brief Project Description

Narrow section of trees between road and stream will be cleared so that the bank can be stabilized for flood control. Installation of walkway and culvert replacement will also occur.

Project Area

	Total Acres	Forest Acres	Open Acres
Project			

	Completely cleared	Partially cleared (will leave trees)	Preserve acres- no clearing
Proposed Tree Removal (ac)	~0.59 acres		

Vegetation Cover Types

Pre-Project	Post-Project
~~Strip of vegetation~~ most is mowed grass, with a strip of vegetation (early successional) between creek and road.	Within the project area, veg. will be removed to stabilize the bank and build the walkway.

Landscape within 5 mile radius

Flight corridors to other forested areas?

Not immediately adjacent - closest significant forested habitat is ~935 ft. from project.

Describe Adjacent Properties (e.g. forested, grassland, commercial or residencial development, water sources)

immediately adjacent is the town of Rosendale (development). The project lies on the Creek and there is significant forest habitat w/in 5 miles.

Proximity to Public Land

What is the distance (mi.) from the project area to forested public lands (e.g., national or state forests, national or state parks, conservation areas, wildlife management areas)?

2.6 miles from Williams Preserve WMA.

APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS

Use additional sheets to assess discrete habitat types at multiple sites in a project area
Include a map depicting locations of sample sites if assessing discrete habitats at multiple sites in a project area
A single sheet can be used for multiple sample sites if habitat is the same

Sample Site Description
Sample Site No.(s): R2

Water Resources at Sample Site

Stream Type (# and length)	Ephemeral: N/A	Intermittent: N/A	Perennial: 130 meters	Describe existing condition of water sources: located on Rondout Creek
Pools/Ponds (# and size)	N/A	Open and accessible to bats?		
Wetlands (approx. ac.)	Permanent: N/A	Seasonal: N/A		

Forest Resources at Sample Site

Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81=100%
		5	3	
Dominant Species of Mature Trees	Oak			
% Trees w/ Exfoliating Bark		<10%		
Size Composition of Live Trees (%)	Small (3-8 in): 70%	Med (9-15 in): 30%	Large (>15 in)	
No. of Suitable Snags		0		

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

IS THE HABITAT SUITABLE FOR INDIANA BATS? _____

Additional Comments: Early successional habitat. Most of the project area is completely open (mowed grass), but ~0.60 acres of trees would be removed. The trees are part of a narrow (<20m) strip between the open Rondout Creek and James St. and the surrounding residential area.

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources

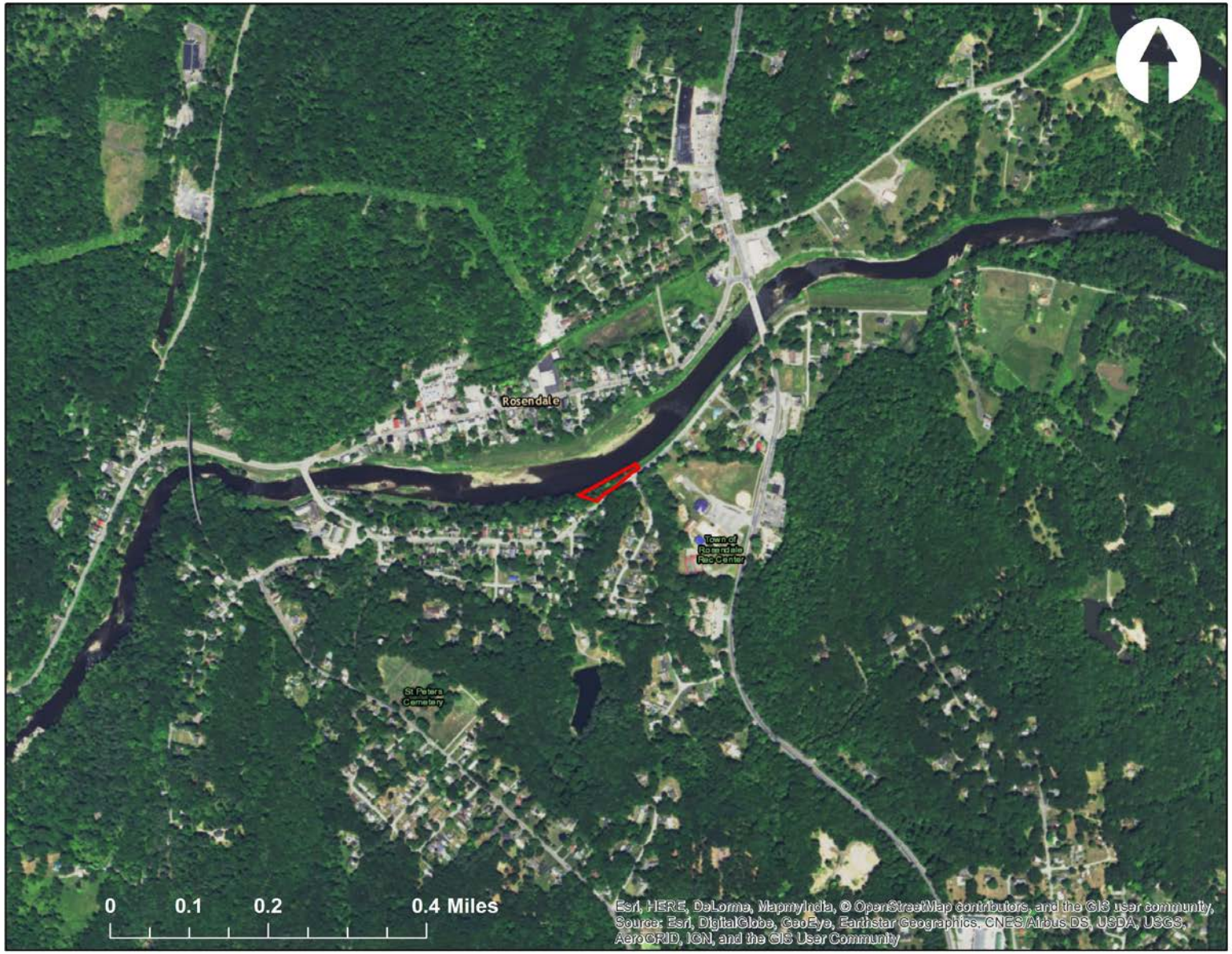

Figure 1. Aerial view of the project location.

Figure 2. Trees that will be removed (right side of road) as the stream bank is stabilized and the walkway is constructed.

Figure 3. Trees to be cleared as the stream bank is stabilized and walkway is constructed.

Figure 4. Trees to be cleared as the stream bank is stabilized and walkway is constructed.

APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS

INDIANA BAT HABITAT ASSESSMENT DATASHEET

Project Name: Rosendale - James St. Flood Control Date: 4/3/2017

Township/Range/Section: Rosendale, NY

Lat Long/UTM/ Zone: 18 E: 576544.49, N: 4632749.63 Surveyor: A. Bailey, NYS DEC

Brief Project Description

Narrow section of trees between road and stream will be cleared so that the bank can be stabilized for flood control. Installation of walkway and culvert replacement will also occur.

Project Area

	Total Acres	Forest Acres	Open Acres
Project			

	Completely cleared	Partially cleared (will leave trees)	Preserve acres- no clearing
Proposed Tree Removal (ac)	~0.59 acres		

Vegetation Cover Types

Pre-Project	Post-Project
~~Strip of vegetation~~ most is mowed grass, with a strip of vegetation (early successional) between creek and road.	Within the project area, veg. will be removed to stabilize the bank and build the walkway.

Landscape within 5 mile radius

Flight corridors to other forested areas?

Not immediately adjacent - closest significant forested habitat is ~935 ft. from project.

Describe Adjacent Properties (e.g. forested, grassland, commercial or residencial development, water sources)

immediately adjacent is the town of Rosendale (development). The project lies on the Creek and there is significant forest habitat w/in 5 miles.

Proximity to Public Land

What is the distance (mi.) from the project area to forested public lands (e.g., national or state forests, national or state parks, conservation areas, wildlife management areas)?

2.6 miles from Williams Preserve WMA.

APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS

Use additional sheets to assess discrete habitat types at multiple sites in a project area
Include a map depicting locations of sample sites if assessing discrete habitats at multiple sites in a project area
A single sheet can be used for multiple sample sites if habitat is the same

Sample Site Description
Sample Site No.(s): R2

Water Resources at Sample Site

Stream Type (# and length)	Ephemeral: N/A	Intermittent: N/A	Perennial: 130 meters	Describe existing condition of water sources: located on Rondout Creek
Pools/Ponds (# and size)	N/A	Open and accessible to bats?		
Wetlands (approx. ac.)	Permanent: N/A	Seasonal: N/A		

Forest Resources at Sample Site

Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81=100%
		5	3	
Dominant Species of Mature Trees	Oak			
% Trees w/ Exfoliating Bark		<10%		
Size Composition of Live Trees (%)	Small (3-8 in): 70%	Med (9-15 in): 30%	Large (>15 in)	
No. of Suitable Snags		0		

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

IS THE HABITAT SUITABLE FOR INDIANA BATS? _____

Additional Comments: Early successional habitat. Most of the project area is completely open (mowed grass), but ~0.60 acres of trees would be removed. The trees are part of a narrow (<20m) strip between the open Rondout Creek and James St. and the surrounding residential area.

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Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources

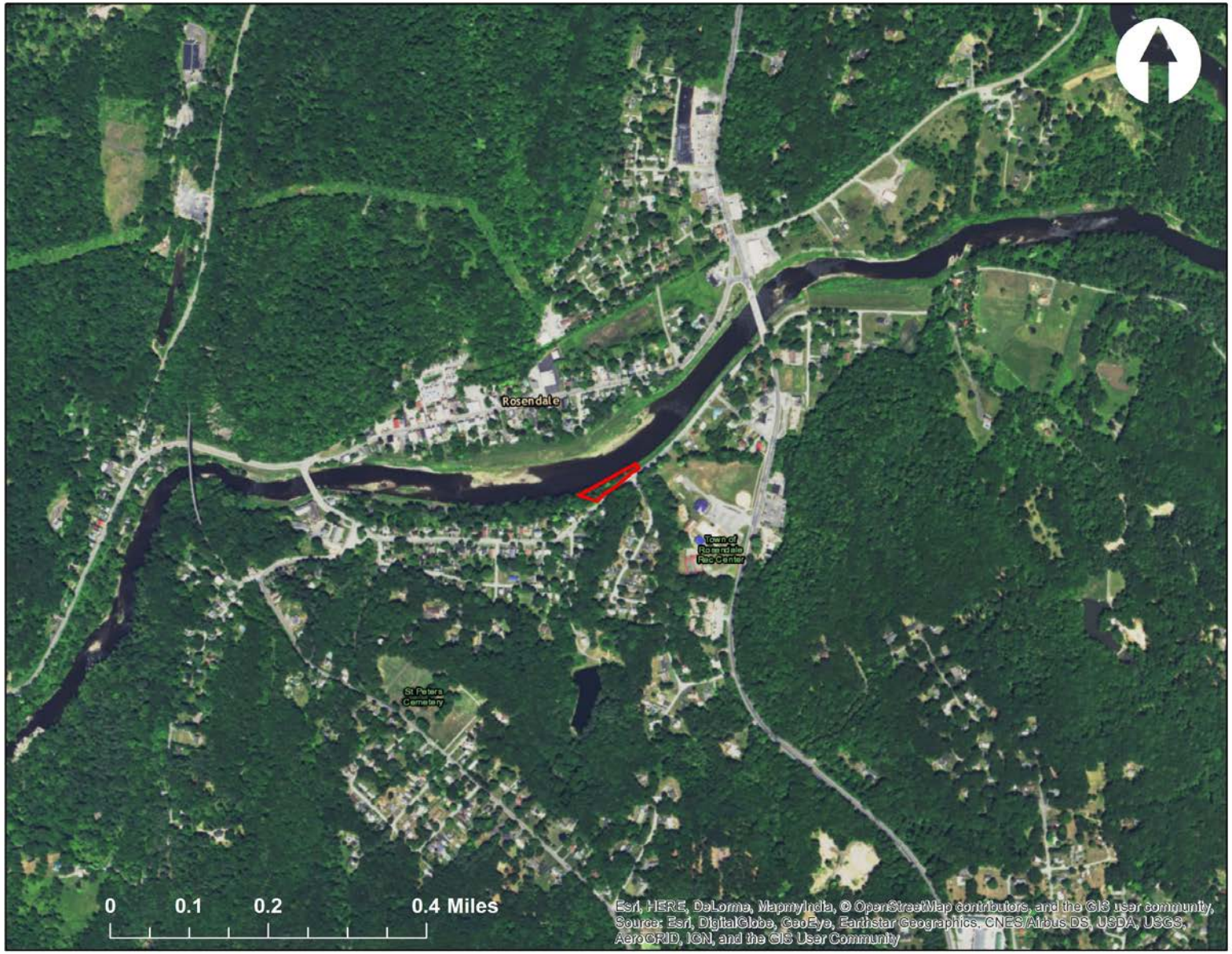

Figure 1. Aerial view of the project location.

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Figure 3. Trees to be cleared as the stream bank is stabilized and walkway is constructed.

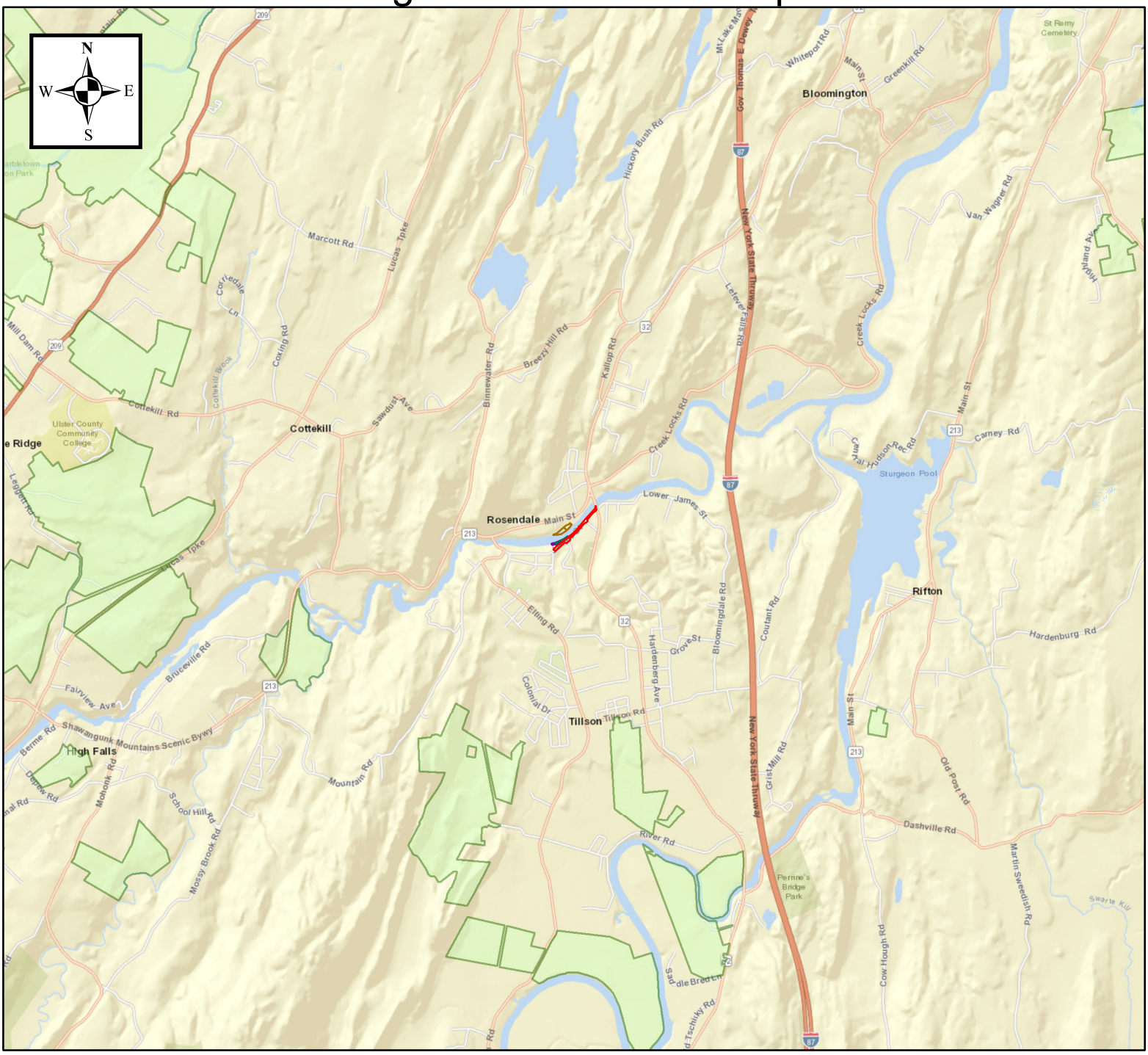
Figure 4. Trees to be cleared as the stream bank is stabilized and walkway is constructed.

Attachment 7

Agricultural, NRCS and Zoning Maps

- New York State Agricultural Districts Map
- USDA NRCS Soil Resource Map
- USDA NRCS Building Site Development
- USDA NRCS Land Classification Map
- Zoning Maps
  - Town of Rosendale, NY
  - Ulster County, NY

Agricultural District Map



TECTONIC
Practical Solutions, Exceptional Service

0 2,500 5,000 10,000 Feet

1:50,000

James Street Flood Control
James Street located between John Street and
Route 32 adjacent to Roundout Creek
Town of Rosendale
Ulster County, New York

Created: 7/7/2017

NYS Agricultural District Map data provided by
Cornell University Geospatial Information Repository and
available at http://cugir.mannlib.cornell.edu/datatheme.jsp?id=2

Legend

Approximate Boundaries of:

- **Maintenance Dredging - Point Bar Removal**
- **Slope Flattening**
- **Streambank Stabilization**
- **Road Work**
- **Agricultural Districts (2016)**

Map Scale: 1:3,360 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 14, Sep 24, 2016

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

Date(s) aerial images were photographed: Mar 20, 2011—Oct 10, 2011

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

Map Unit Legend

Ulster County, New York (NY111)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Ha	Hamlin silt loam	0.7	32.7%
RvB	Riverhead fine sandy loam, 3 to 8 percent slopes	0.1	3.1%
RvC	Riverhead fine sandy loam, 8 to 15 percent slopes	0.1	3.7%
W	Water	1.3	60.5%
Totals for Area of Interest		**2.2**	**100.0%**

Map Unit Description

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A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

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A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Ulster County, New York

Ha—Hamlin silt loam

Map Unit Setting

National map unit symbol: 9xgj
Mean annual precipitation: 41 to 62 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 110 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hamlin and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hamlin

Setting

Landform: Flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Silty alluvium mainly from areas of siltstone, shale, and limestone

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 38 inches: silt loam
H3 - 38 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Available water storage in profile: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Scio

Percent of map unit: 5 percent
Hydric soil rating: No

Haven

Percent of map unit: 5 percent
Hydric soil rating: No

Teel

Percent of map unit: 5 percent
Hydric soil rating: No

Tioga

Percent of map unit: 5 percent
Hydric soil rating: No

Udifluvents

Percent of map unit: 5 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 14, Sep 24, 2016

Map Unit Description

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Ulster County, New York

RvB—Riverhead fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9xj8
Mean annual precipitation: 41 to 62 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 110 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Riverhead and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverhead

Setting

Landform: Deltas, terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits overlying stratified sand and gravel

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 26 inches: sandy loam
H3 - 26 to 49 inches: loamy sand
H4 - 49 to 62 inches: sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Hoosic

Percent of map unit: 5 percent
Hydric soil rating: No

Plainfield

Percent of map unit: 5 percent
Hydric soil rating: No

Pompton

Percent of map unit: 5 percent
Hydric soil rating: No

Walpole
Percent of map unit: 5 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 14, Sep 24, 2016

Map Unit Description

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Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Ulster County, New York

RvC—Riverhead fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9xj9
Mean annual precipitation: 41 to 62 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 110 to 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Riverhead and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverhead

Setting

Landform: Deltas, terraces
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits overlying stratified sand and gravel

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 26 inches: sandy loam
H3 - 26 to 49 inches: loamy sand
H4 - 49 to 62 inches: sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Hoosic

Percent of map unit: 5 percent
Hydric soil rating: No

Plainfield

Percent of map unit: 5 percent
Hydric soil rating: No

Pompton

Percent of map unit: 5 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 14, Sep 24, 2016

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Ulster County, New York

W—Water

Map Unit Setting

National map unit symbol: 9xk9
Mean annual precipitation: 41 to 62 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 110 to 200 days
Farmland classification: Not prime farmland

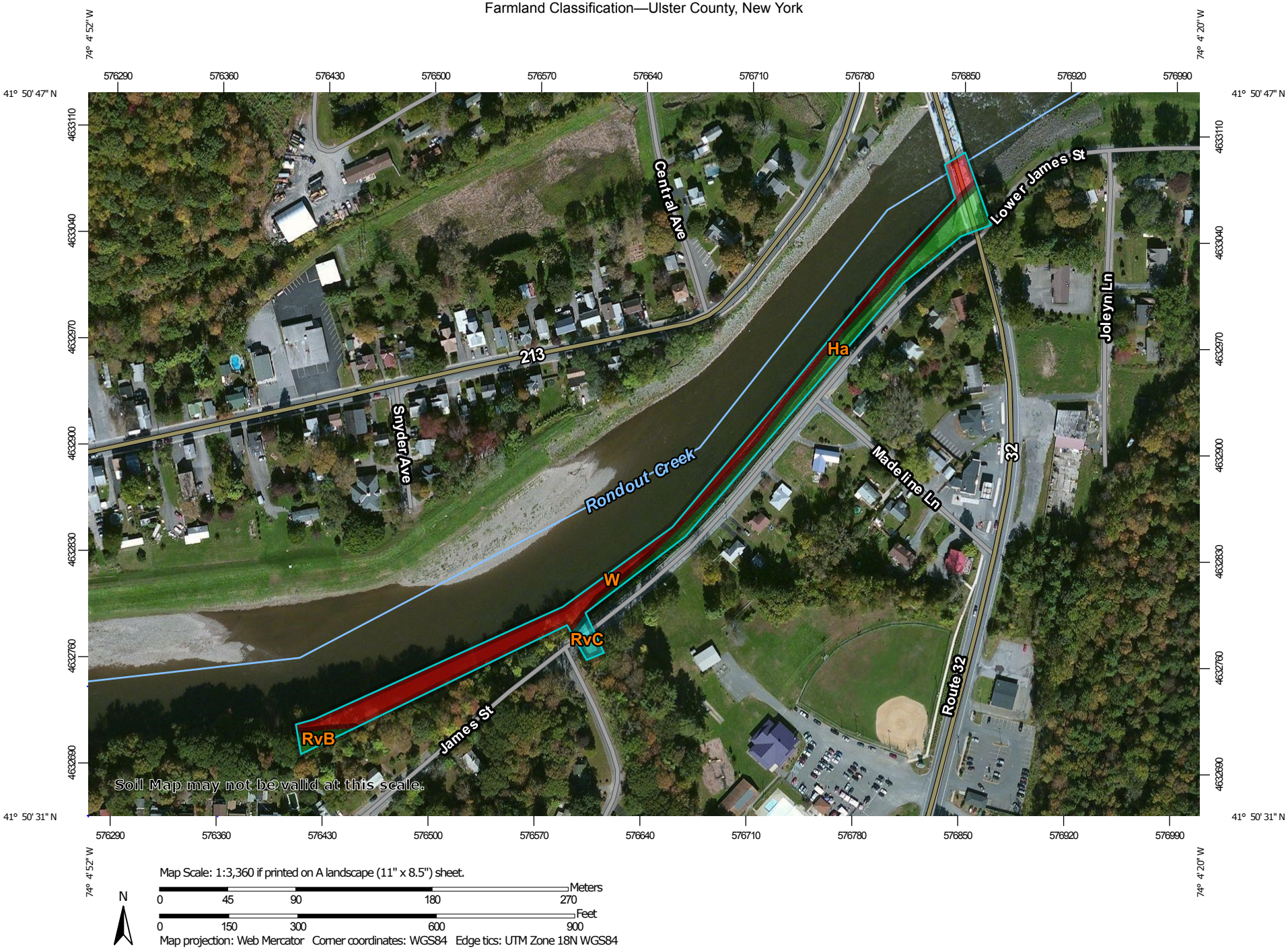
Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Data Source Information

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 14, Sep 24, 2016


74° 4' 52" W
74° 4' 20" W
41° 50' 47" N
41° 50' 31" N
576290
576360
576430
576500
576570
576640
576710
576780
576850
576920
576990
4633110
4633040
4632970
4632900
4632830
4632760
4632690
Central Ave
Lower James St
Joleyn Ln
213
Ha
Snyder Ave
Rondout Creek
Madeline Ln
32
W
RvC
RvB
James St
Route 32
Soil Map may not be valid at this scale.
Map Scale: 1:3,360 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 45 90 180 270
Feet
0 150 300 600 900
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 14, Sep 24, 2016

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

Date(s) aerial images were photographed: Mar 20, 2011—Oct 10, 2011

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

Farmland Classification

Farmland Classification— Summary by Map Unit — Ulster County, New York (NY111)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
Ha	Hamlin silt loam	All areas are prime farmland	0.7	32.7%
RvB	Riverhead fine sandy loam, 3 to 8 percent slopes	All areas are prime farmland	0.1	3.1%
RvC	Riverhead fine sandy loam, 8 to 15 percent slopes	Farmland of statewide importance	0.1	3.7%
W	Water	Not prime farmland	1.3	60.5%
Totals for Area of Interest			**2.2**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

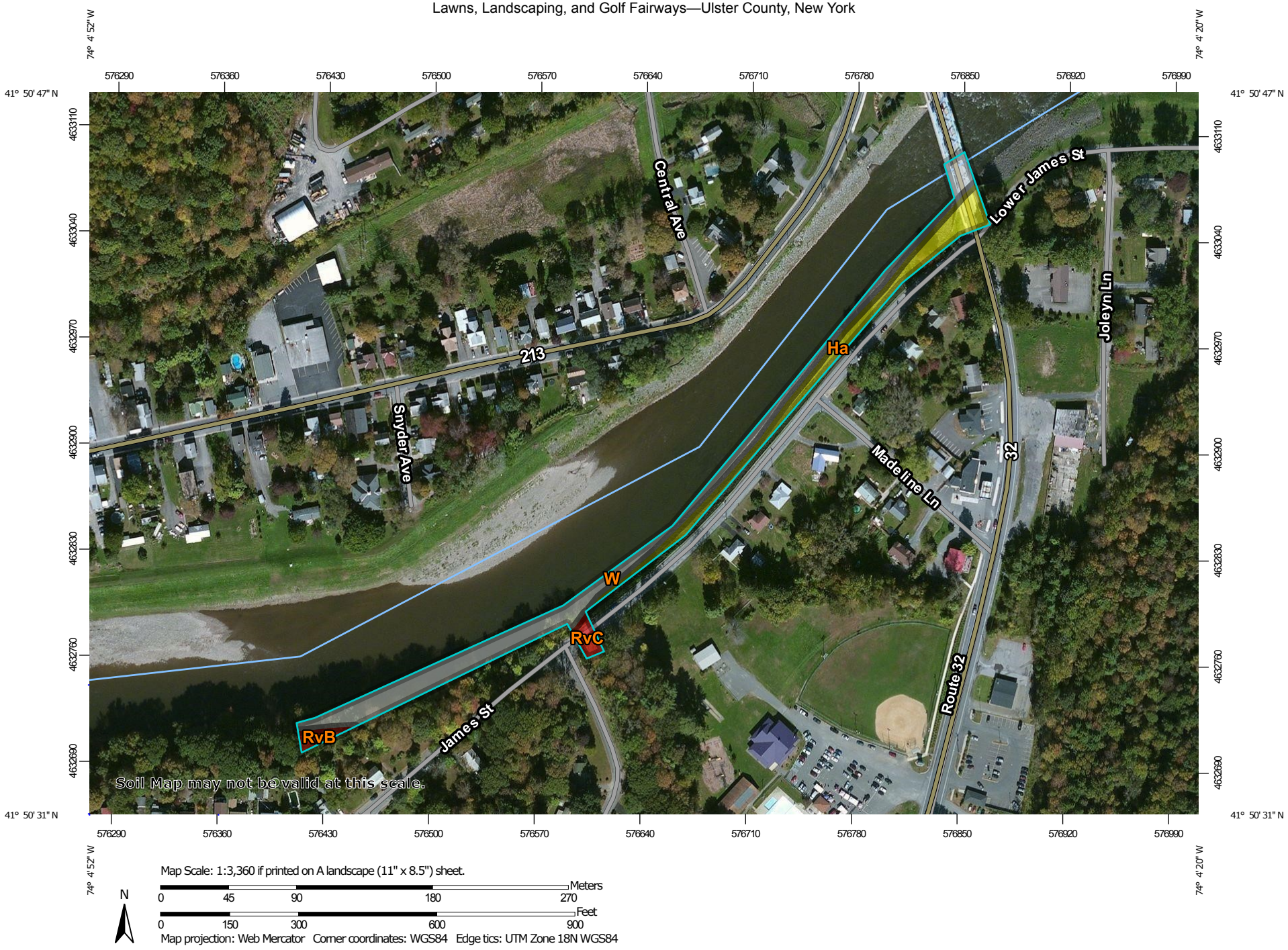
A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The majority of soil attributes are associated with a component of a map unit, and such an attribute has to be aggregated to the map unit level before a thematic map can be rendered. Map units, however, also have their own attributes. An attribute of a map unit does not have to be aggregated in order to render a corresponding thematic map. Therefore, the "aggregation method" for any attribute of a map unit is referred to as "No Aggregation Necessary".

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.



Map Scale: 1:3,360 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 45 90 180 270

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Lines

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Points

Very limited

Somewhat limited

Not limited

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 14, Sep 24, 2016

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

Date(s) aerial images were photographed: Mar 20, 2011—Oct 10, 2011

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

Lawns, Landscaping, and Golf Fairways

Lawns, Landscaping, and Golf Fairways— Summary by Map Unit — Ulster County, New York (NY111)						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
Ha	Hamlin silt loam	Somewhat limited	Hamlin (75%)	Low exchange capacity (0.75)	0.7	32.7%
				Flooding (0.60)		
				Dusty (0.01)		
RvB	Riverhead fine sandy loam, 3 to 8 percent slopes	Very limited	Riverhead (80%)	Low exchange capacity (1.00)	0.1	3.1%
RvC	Riverhead fine sandy loam, 8 to 15 percent slopes	Very limited	Riverhead (85%)	Low exchange capacity (1.00)	0.1	3.7%
				Slope (0.63)		
W	Water	Not rated	Water (100%)		1.3	60.5%
Totals for Area of Interest					**2.2**	**100.0%**

Lawns, Landscaping, and Golf Fairways— Summary by Rating Value		
Rating	**Acres in AOI**	**Percent of AOI**
Somewhat limited	0.7	32.7%
Very limited	0.1	6.9%
Null or Not Rated	1.3	60.5%
Totals for Area of Interest	**2.2**	**100.0%**

Description

This interpretation rates soils for their use in establishing and maintaining turf for lawns and golf fairways and ornamental trees and shrubs for residential or commercial landscaping. Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required.

The ratings are based on the use of soil material at the site, which may have been altered by some land smoothing. Irrigation may or may not be needed and is not a criterion in rating. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. Soils that are subject to flooding are limited by the duration and intensity of flooding and the season when flooding occurs. In planning for lawns, landscaping, or golf fairways, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit

are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

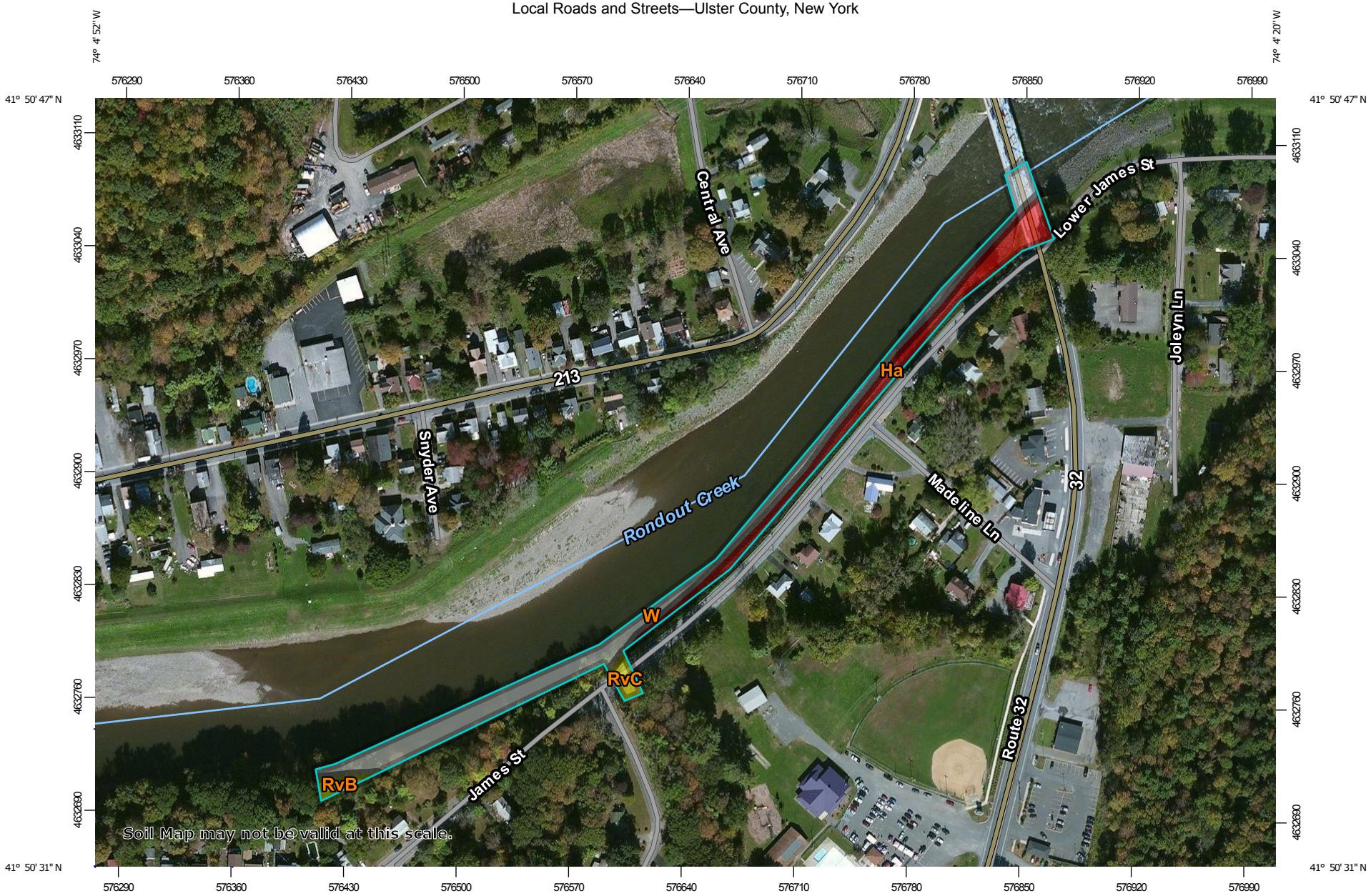
Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Local Roads and Streets—Ulster County, New York



Map Scale: 1:3,360 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 45 90 180 270

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Lines

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Points

Very limited

Somewhat limited

Not limited

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 14, Sep 24, 2016

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

Date(s) aerial images were photographed: Mar 20, 2011—Oct 10, 2011

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

Local Roads and Streets

Local Roads and Streets— Summary by Map Unit — Ulster County, New York (NY111)						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
Ha	Hamlin silt loam	Very limited	Hamlin (75%)	Frost action (1.00) Flooding (1.00)	0.7	32.7%
RvB	Riverhead fine sandy loam, 3 to 8 percent slopes	Somewhat limited	Riverhead (80%)	Frost action (0.50)	0.1	3.1%
RvC	Riverhead fine sandy loam, 8 to 15 percent slopes	Somewhat limited	Riverhead (85%)	Slope (0.63) Frost action (0.50)	0.1	3.7%
W	Water	Not rated	Water (100%)		1.3	60.5%
Totals for Area of Interest					**2.2**	**100.0%**

Local Roads and Streets— Summary by Rating Value		
Rating	**Acres in AOI**	**Percent of AOI**
Very limited	0.7	32.7%
Somewhat limited	0.1	6.9%
Null or Not Rated	1.3	60.5%
Totals for Area of Interest	**2.2**	**100.0%**

Description

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

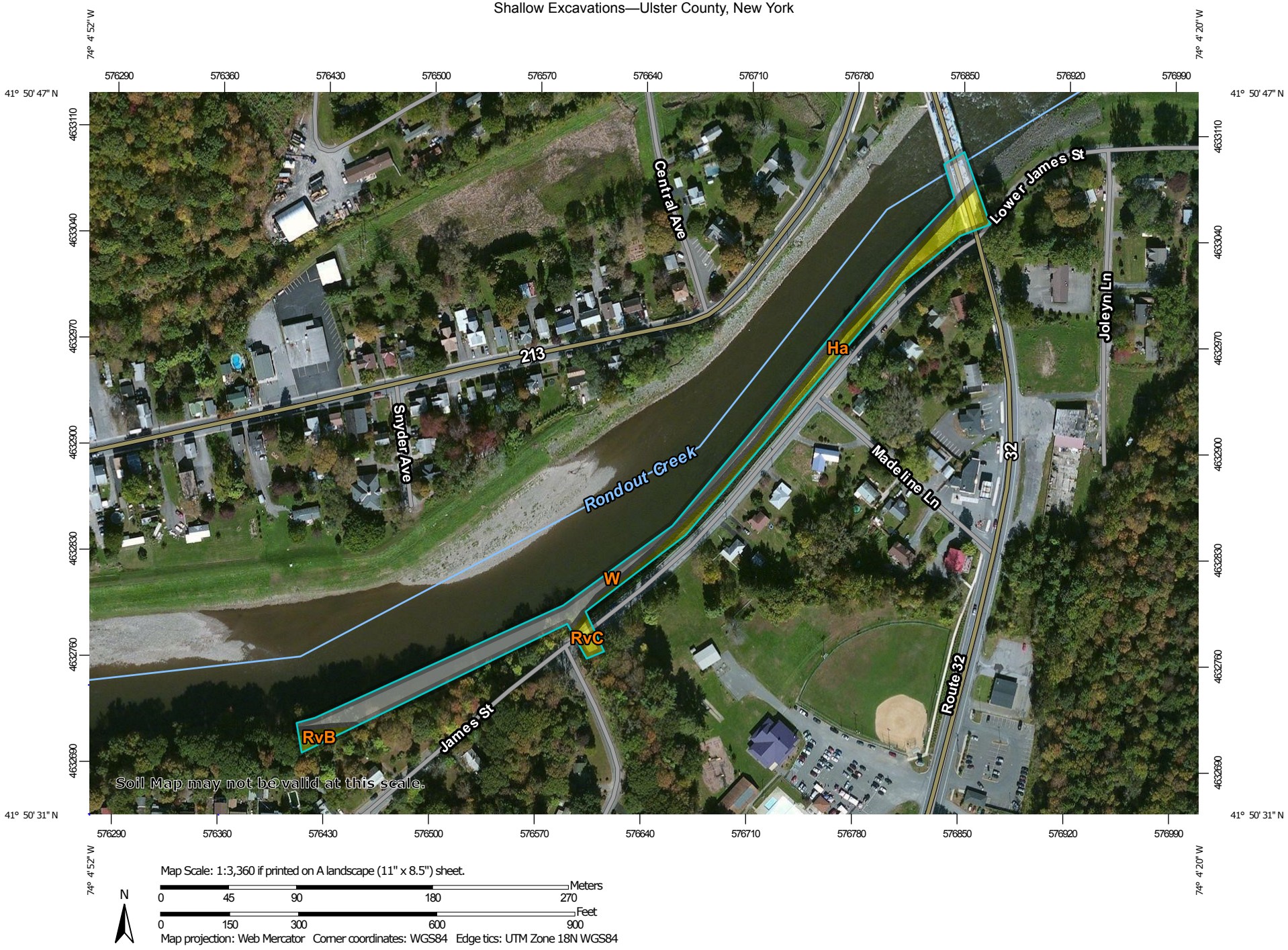
The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.


74° 4' 52" W
74° 4' 20" W
41° 50' 47" N
41° 50' 31" N
576290
576360
576430
576500
576570
576640
576710
576780
576850
576920
576990
4633110
4633040
4632970
4632900
4632830
4632760
4632690
Central Ave
Lower James St
Joleyn Ln
213
Ha
Snyder Ave
Rondout Creek
Madeline Ln
32
W
RvC
Route 32
James St
RvB
Soil Map may not be valid at this scale.
Map Scale: 1:3,360 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 45 90 180 270
Feet
0 150 300 600 900
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Lines

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Points

Very limited

Somewhat limited

Not limited

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 14, Sep 24, 2016

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

Date(s) aerial images were photographed: Mar 20, 2011—Oct 10, 2011

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

Shallow Excavations

Shallow Excavations— Summary by Map Unit — Ulster County, New York (NY111)						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
Ha	Hamlin silt loam	Somewhat limited	Hamlin (75%)	Flooding (0.60)	0.7	32.7%
				Depth to saturated zone (0.35)		
				Unstable excavation walls (0.01)		
				Dusty (0.01)		
RvB	Riverhead fine sandy loam, 3 to 8 percent slopes	Somewhat limited	Riverhead (80%)	Unstable excavation walls (0.17)	0.1	3.1%
RvC	Riverhead fine sandy loam, 8 to 15 percent slopes	Somewhat limited	Riverhead (85%)	Slope (0.63)	0.1	3.7%
				Unstable excavation walls (0.17)		
W	Water	Not rated	Water (100%)		1.3	60.5%
Totals for Area of Interest					**2.2**	**100.0%**

Shallow Excavations— Summary by Rating Value		
Rating	**Acres in AOI**	**Percent of AOI**
Somewhat limited	0.9	39.5%
Null or Not Rated	1.3	60.5%
Totals for Area of Interest	**2.2**	**100.0%**

Description

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

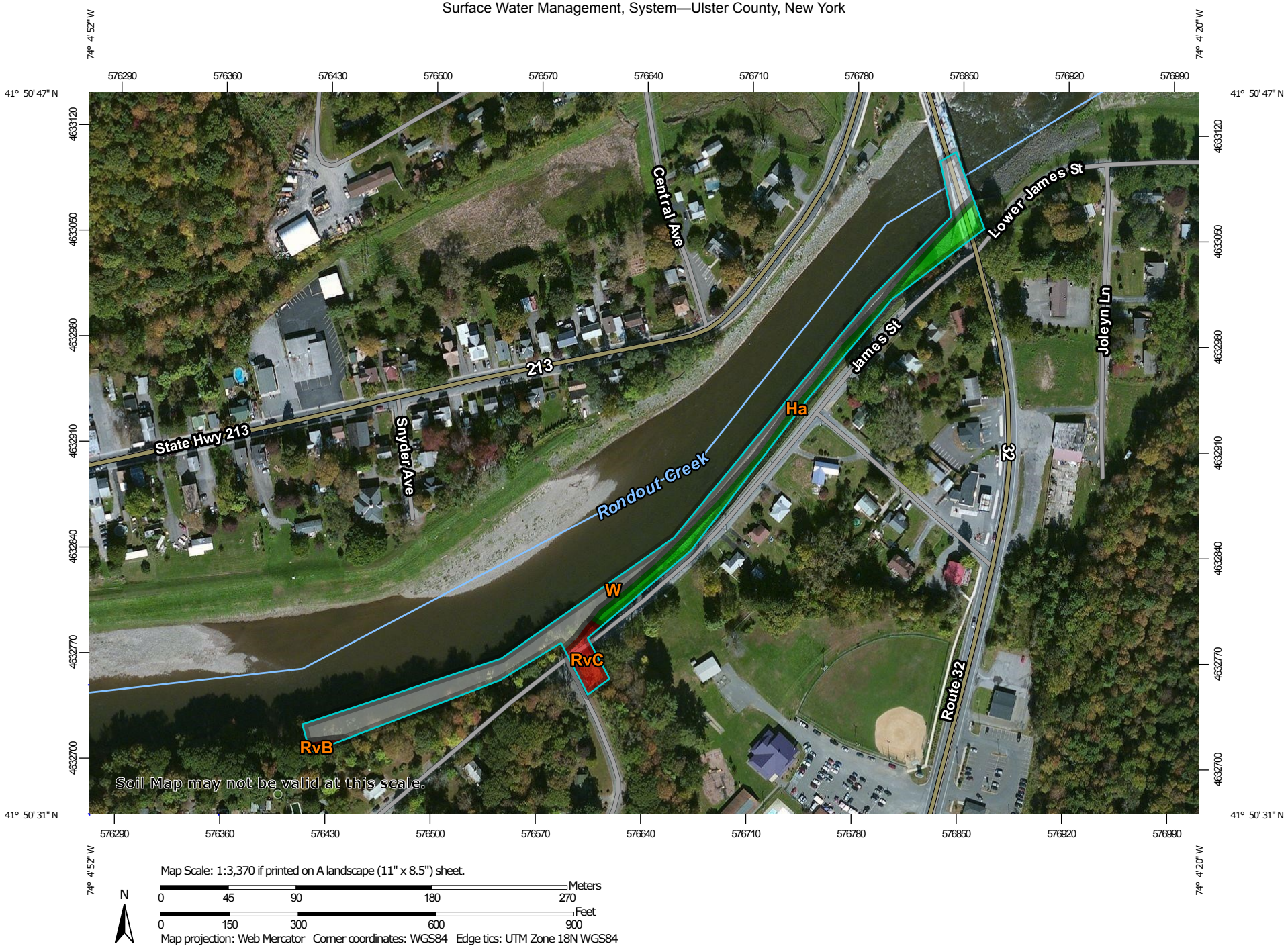
Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Surface Water Management, System—Ulster County, New York



Map Scale: 1:3,370 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Lines

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Points

Very limited

Somewhat limited

Not limited

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ulster County, New York
Survey Area Data: Version 14, Sep 24, 2016

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

Date(s) aerial images were photographed: Mar 20, 2011—Oct 10, 2011

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

Surface Water Management, System

Surface Water Management, System— Summary by Map Unit — Ulster County, New York (NY111)						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
Ha	Hamlin silt loam	Not limited	Hamlin (75%)		0.7	29.5%
RvB	Riverhead fine sandy loam, 3 to 8 percent slopes	Very limited	Riverhead (80%)	Slope (1.00) Water Erosion (0.02)	0.0	0.9%
RvC	Riverhead fine sandy loam, 8 to 15 percent slopes	Very limited	Riverhead (85%)	Slope (1.00) Water Erosion (0.82)	0.2	7.1%
W	Water	Not rated	Water (100%)		1.5	62.4%
Totals for Area of Interest					**2.4**	**100.0%**

Surface Water Management, System— Summary by Rating Value		
Rating	**Acres in AOI**	**Percent of AOI**
Not limited	0.7	29.5%
Very limited	0.2	8.0%
Null or Not Rated	1.5	62.4%
Totals for Area of Interest	**2.4**	**100.0%**

Description

The ratings for Surface Water Management, System are based on the soil properties that affect the capacity of the soil to convey surface water across the landscape. Factors affecting the system installation and performance are considered. Water conveyances include graded ditches, grassed waterways, terraces, and diversions. The ratings are for soils in their natural condition and do not consider present land use. The properties that affect the surface system performance include depth to bedrock, saturated hydraulic conductivity, depth to cemented pan, slope, flooding, ponding, large stone content, sodicity, surface water erosion, and gypsum content.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as that listed for the map unit. The percent composition of each component in a particular map unit is given so that the user will realize the percentage of each map unit that has the specified rating.

A map unit may have other components with different ratings. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

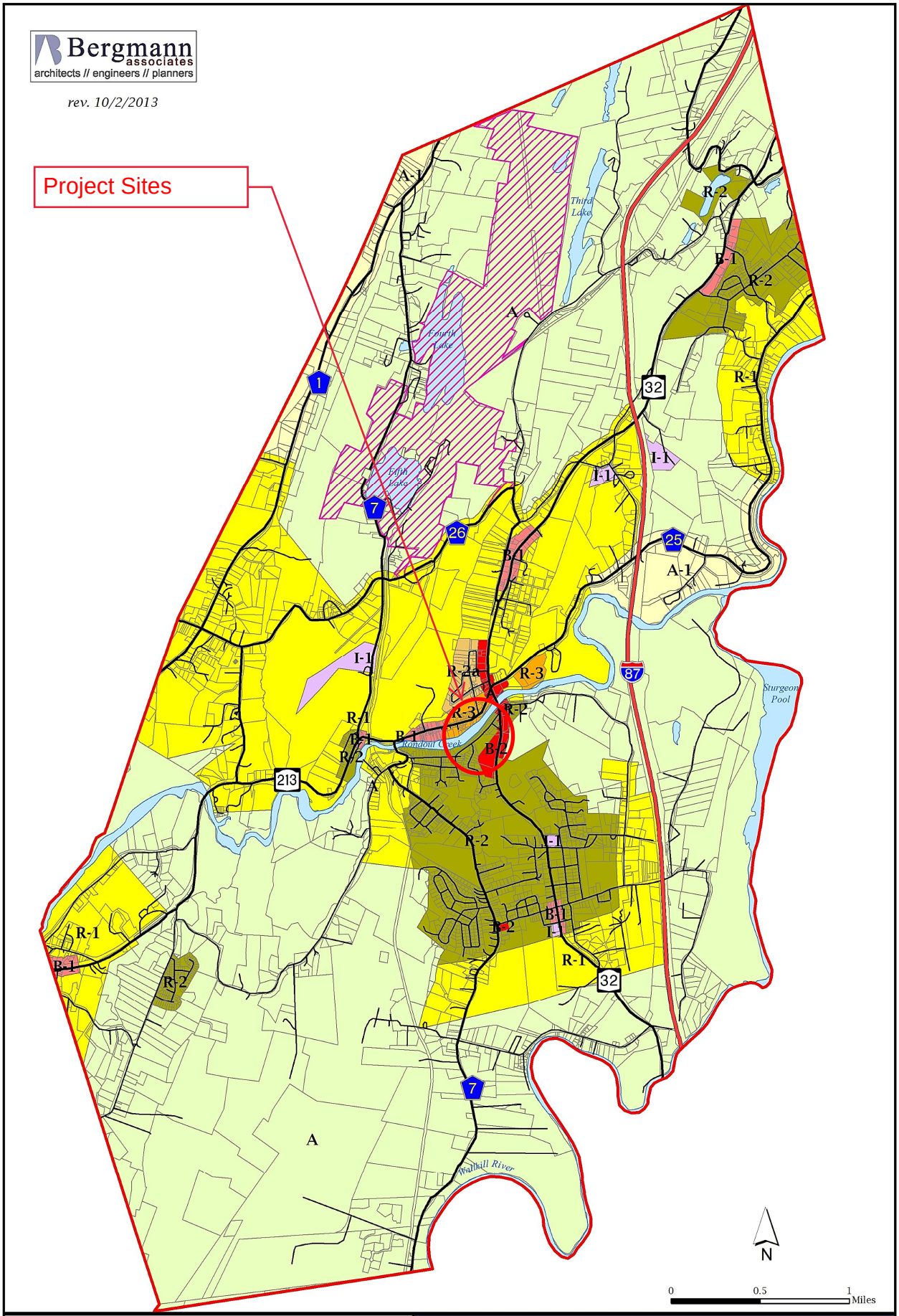
Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Bergmann associates
architects // engineers // planners

rev. 10/2/2013



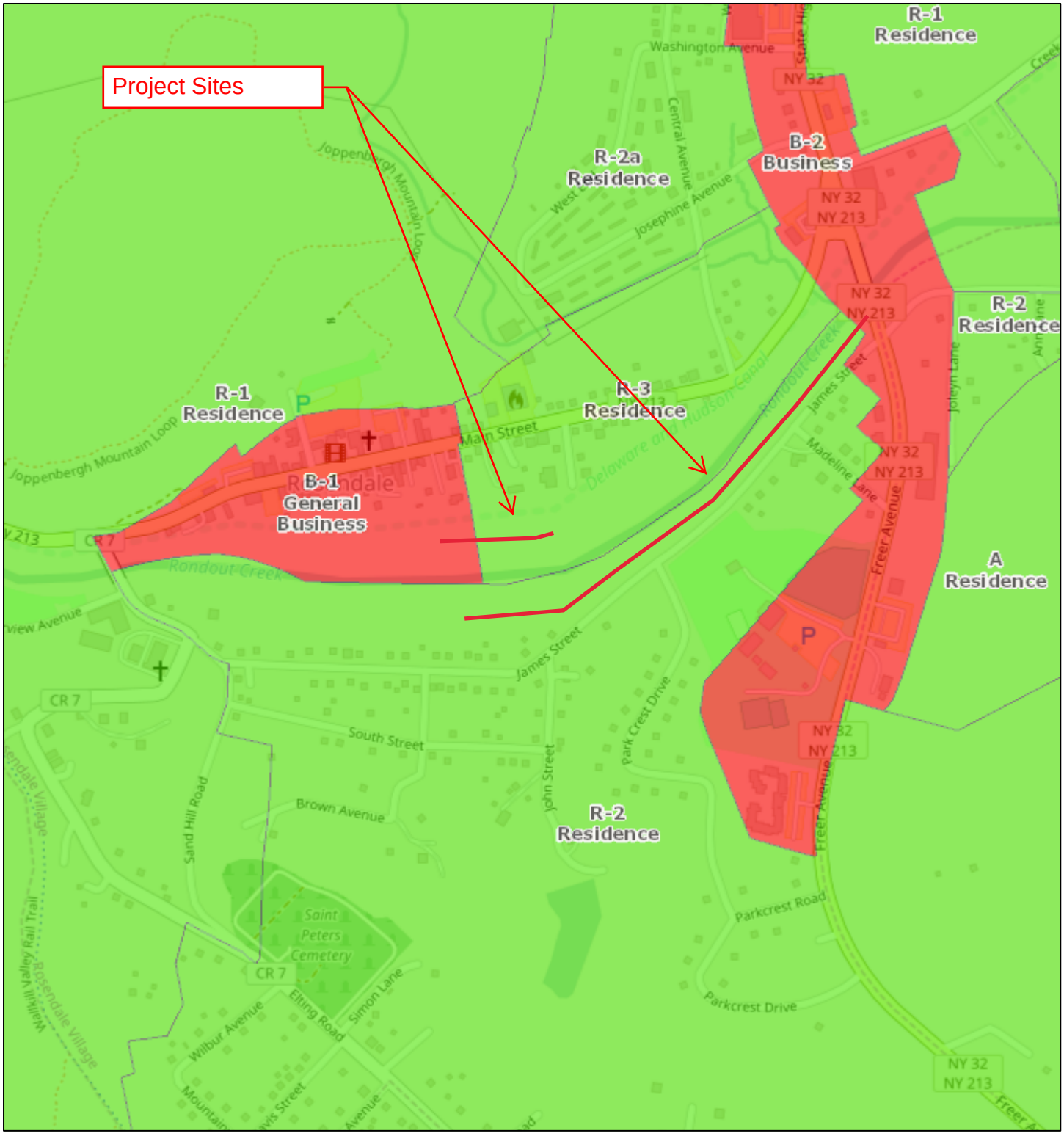
Legend

- Binnewater Lakes Planned Conservation Development Area
- B-1 - General Business
- B-2 - Business
- I-1 - Light Industrial
- A - Residence
- A-1 - Trailer
- R-1 - Residential
- R-2 - Residential
- R-2a - Residential
- R-3 - Residential

Zoning

Town of Rosendale, Ulster County, NY

Ulster County Parcel Viewer



May 5, 2017

1:9,028

Ulster County Municipal Zoning Map

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

Attachment 8

NY State Historic Preservation Office (SHPO) and Tribal Historic Preservation Office (THPO) Documentation

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

April 15, 2016

Thomas King
Governor's Office of Storm Recovery
99 Washington Ave, Suite 1224
Albany, NY 12231

Re: HTF/ GOSR/ NY Rising
Flood Control Project
James Street at Parkcrest Drive/ Rondout Creek, Rosendale/ Ulster County

16PR2137

Dear Mr. King:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Title 54, Section 306108 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/ Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based on this review, the opinion of the SHPO is that there will be No Historic Properties Affected by the proposed undertaking.

If I can be of further assistance, please contact me at (518) 268-2187 or Larry.moss@parks.ny.gov

Sincerely,

L Moss

Larry K Moss, Historic Preservation Technical Specialist
CC: Mary Barthelme

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

March 3, 2017

Mary Barthelme
Governor's Office of Storm Recovery (GOSR)
99 Washington Ave, Suite 1224
Albany, NY 12231

Re: HTF/ GOSR/ NY Rising/ Flood Control Project:
James Street Flood Control Project
James Street at Parkcrest Drive, Rondout Creek, Rosendale/ Ulster County
16PR02137

Dear Ms. Barthelme:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the materials submitted Feb. 27, 2017 in accordance with Title 54, Section 306108 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/ Cultural resources.

Based on this review, it is the opinion of SHPO that there will continue to be No Historic Properties Affected by the proposed undertaking.

If I can be of further assistance, contact me at (518) 268-2187 or Larry.moss@parks.ny.gov

Sincerely,

L Moss

Larry K Moss, Historic Preservation Technical Specialist

istoric Preservation Representatives
P.O. Box 64
:ono Lake, PA 18347
)le@delawaretribe.org

April 13, 2016
Governor's Office of Storm Recovery
Bureau of Environmental Review and Assessment
Att: Thomas King
99 Washington Ave., Suite 1224
Albany, NY 12260

Re: Section 106 Compliance – Town of Rosedale james Street Flood Control Project

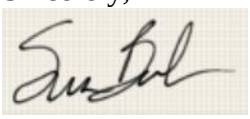
Mr. King,

Thank you for sending the Delaware Tribe information regarding the above referenced project. Our review indicates that there are no known religious or culturally significant sites within this area. We have no objection to the project.

We ask that in the event that a concentration of artifacts and/or in the unlikely event any human remains are accidentally unearthed during the course of the project that all work is halted until the Delaware Tribe of Indians is informed of the inadvertent discovery and a qualified archaeologist can evaluate the find.

We appreciate your cooperation and look forward to working together on our shared interests in preserving Delaware cultural heritage. If you have any questions, feel free to contact this office by phone at (610) 761-7452 or by e-mail at temple@delawaretribe.org.

Sincerely,



Susan Bachor
Delaware Tribe Historic Preservation Representative

Saint Regis Mohawk Tribe

June 22, 2016

Mr. Thomas King
Govenor's Office on Storm Recovery
25 Beaver Street
New York NY 10004

Re: Town of Rosendale James Street Flood Control Project

She:kon Mr.King,

This letter is in response to a request for a Section 106 consultation between your agency and the Saint Regis Mohawk Tribe. The following project(s) that you requested my office to consult on is considered to have "No Effect" in regards to cultural properties of concern to the Saint Regis Mohawk Tribe.

Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County NY

The St. Regis Mohawk Tribe requests to be immediately contacted in the event any inadvertent discoveries of human remains, funerary objects, sacred objects and objects of cultural patrimony are made during the scope of this project.

Should you or your office have any further questions in regards to these comments please feel free to contact my office at your earliest convenience.

Nia:wen,

Arnold L Printup
Saint Regis Mohawk Tribe
Tribal Historic Preservation Office
1(518)358-2272 Ext. 2163

412 State Route 37
Akwesasne, New York 13655
www.srmt-nsn.gov
Phone: 518-358-2272

Barthelme, Mary (STORMRECOVERY)

From: Bonney Hartley <Bonney.Hartley@mohican-nsn.gov>
Sent: Friday, April 22, 2016 2:29 PM
To: Barthelme, Mary (STORMRECOVERY)
Subject: RE: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hello Mary,

Thank you for the notice of the Town of Rosendale James Street Flood Control Project in Rosendale, Ulster County NY. I have completed review and on behalf of Stockbridge-Munsee Mohican Tribe confirm we do not have significant cultural resource concerns due to the lack of known sites at this location and the somewhat limited amount of new ground disturbance proposed.

As always please let us know immediately should any cultural materials be uncovered during construction.
Thanks,
Bonney

Bonney Hartley
Tribal Historic Preservation Officer
Stockbridge-Munsee Mohican Tribal Historic Preservation
New York Office
65 1st Street
Troy, NY 12180

(518) 244-3164
Bonney.Hartley@mohican-nsn.gov
www.mohican-nsn.gov
Physical Address: 37 1st Street

From: Barthelme, Mary (STORMRECOVERY) [mailto:Mary.Barthelme@stormrecovery.ny.gov]
Sent: Friday, April 01, 2016 5:01 PM
To: Bonney Hartley
Cc: King, Thomas J (STORMRECOVERY); Gievers, Andrea
Subject: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York

Dear Bonney,

Please see the attached consultation for the above-mentioned project.

A hard copy is being sent today by mail. Please let me know if you have any questions.

Thank you,

Mary Barthelme
Environmental and Historic Preservation Specialist
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260
Office: (518) 473-0154
Mary.Barthelme@stormrecovery.ny.gov

Delaware Tribe Historic Preservation Representatives
P.O. Box 64
Pocono Lake, PA 18347
sbachor@delawaretribe.org

April 24, 2017

Governor's Office of Storm Recovery
New York State Homes & Community Renewal
38-40 State Street, Hampton Plaza
Albany, NY 12207

Re: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project (Town of Rosendale, Ulster County, New York)

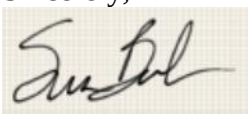
Ms. Shirley,

Thank you for sending the Delaware Tribe additional information regarding the above referenced project. Our review indicates that there are no culturally significant areas within the proposed project area. We have no objection to the proposed project.

In the event a concentration of artifacts and/or in the unlikely event any human remains are accidentally unearthed during the project that all work is halted until the Delaware Tribe of Indians is informed of the inadvertent discovery and a qualified archaeologist can evaluate the find.

We appreciate your cooperation and look forward to working together on our shared interests in preserving Delaware cultural heritage. If you have any questions, feel free to contact this office by phone at (610) 761-7452 or by e-mail at sbachor@delawaretribe.org..

Sincerely,



Susan Bachor
Delaware Tribe Historic Preservation Representative

Governor's Office of Storm Recovery

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

March 28, 2017

Ms. Susan Bachor
Delaware Tribe of Indians Historic Preservation Representative
P.O. Box 64
Pocono Lake, PA 18347

Re: Section 106 Compliance for the Town of Rosendale - James Street Flood Control Project (Ulster County, NY)

Dear Ms. Bachor:

Thank you for responding to our project update regarding the Town of Rosendale - James Street Flood Control project in Ulster County, NY. In your response dated March 9, 2017, you requested a Phase I survey be performed with subsurface testing ***or evidence showing the area of prior disturbance***. We understand your concerns and are enclosing the US Army Corps of Engineers (USACE) original as-built drawings from 1971 showing such evidence of prior disturbance.

Your area of concern involves the additional scope of work that our office notified you about on February 24, 2017, which proposes maintenance dredging and removing the point bar along the northern bank to the original Rondout Creek bottom elevation. As shown on the enclosed USACE as-built drawings, the Rondout Creek channel, including the area of the existing point bar, was dredged from water surface to bedrock on the channel floor in 1971 for the USACE Flood Control Project. The existing point bar was created by the natural disposition of soil and sediment collecting since the implementation of that project. The removal of the point bar will improve stream flow and mitigate flooding caused during future storm events.

We hope that our explanation and the enclosed drawings (*highlighted to show the current point bar location*) provide you with sufficient evidence of prior disturbance, thus negating the need for a Phase I archaeological survey. We appreciate your cooperation and look forward to your response.

GOSR kindly respects your concerns, and in the event a concentration of artifacts and/or in the unlikely event any human remains are accidentally unearthed during the project, then all work

will be halted until the Delaware Tribe of Indians is informed of the discovery and a qualified archaeologist can evaluate the find.

If you have any questions or require additional information regarding this request, please feel free to contact me at (518) 474-0755 or via email at Lori.Shirley@nyshcr.org. Thank you for your time and consideration.

Sincerely,

Lori A. Shirley
Director, Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
New York State Homes & Community Renewal
38-40 State Street, Hampton Plaza
Albany, NY 12207

Enclosures:
Attachment 1: Project Location Map
Attachment 2: USACE 1971 As-built Drawings

Attachment 1

Project Location Map

TECTONIC

Practical Solutions, Exceptional Service

0 0.125 0.25 0.5 Miles

Aerial Map
James Street Flood Control
Rosendale, NY

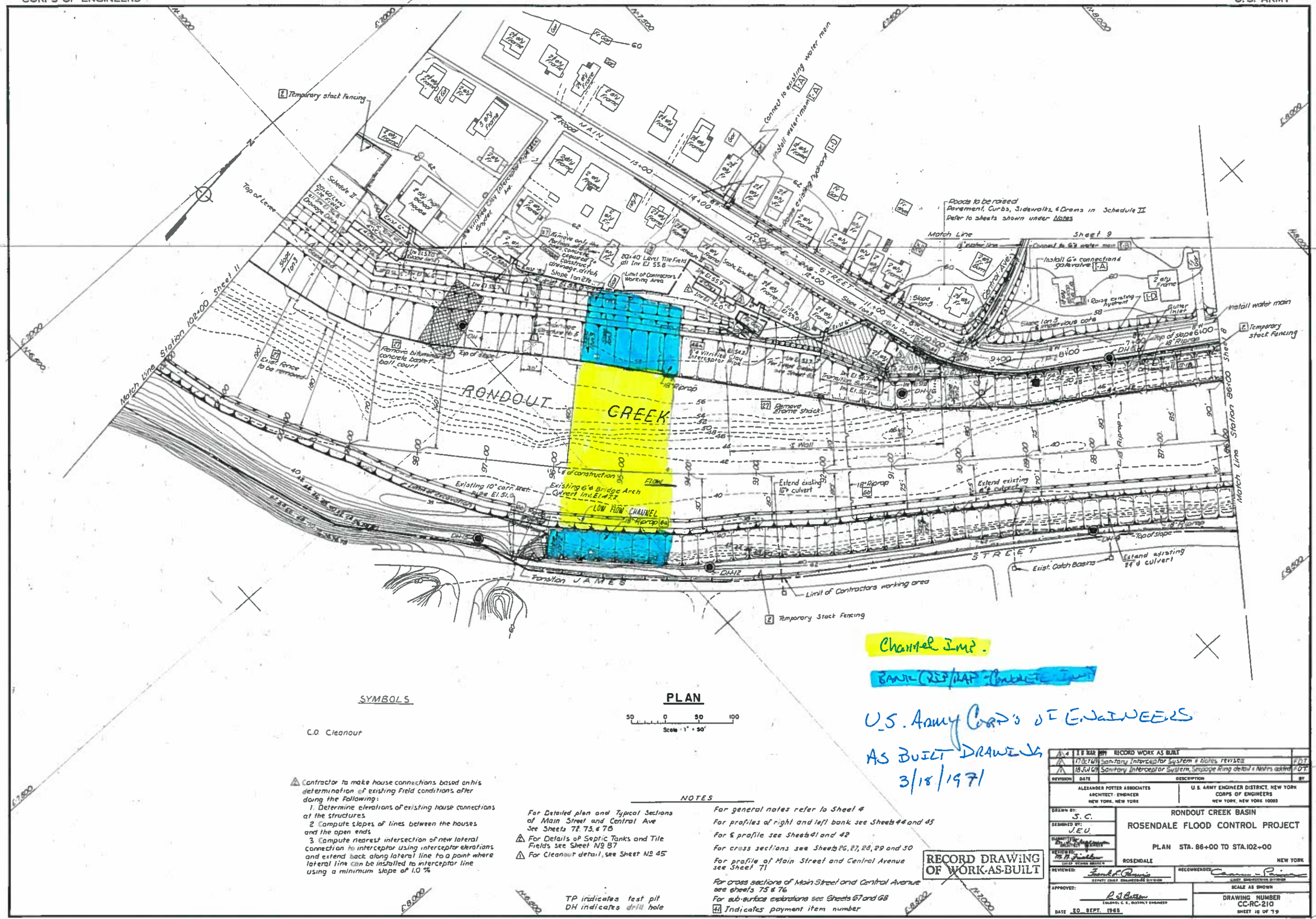
N
W E
S

Attachment 2

USACE 1971 As-built Drawings

CORPS OF ENGINEERS

U.S. ARMY



Channel Imp.

BASIC REF MAP - CHANNEL IMP.

U.S. ARMY CORPS OF ENGINEERS

AS BUILT DRAWING

3/18/1971

PLAN

50 0 50 100

Scale 1" = 50'

SYMBOLS

C.O. Cleanout

⚠ Contractor to make house connections based on his determination of existing field conditions after doing the following:
1. Determine elevations of existing house connections at the structures.
2. Compute slopes of lines between the houses and the open ends.
3. Compute nearest intersection of new lateral connection to interceptor using interceptor elevations and extend back along lateral line to a point where lateral line can be installed to interceptor line using a minimum slope of 1.0 %

NOTES

For Detailed plan and Typical Sections of Main Street and Central Ave See Sheets 72, 73, & 76

⚠ For Details of Septic Tanks and Tile Fields see Sheet No 87

⚠ For Cleanout detail, see Sheet No 45

TP indicates test pit
DH indicates drill hole

For general notes refer to Sheet 4

For profiles of right and left bank see Sheets 44 and 45

For ℄ profile see Sheets 41 and 42

For cross sections see Sheets 26, 27, 28, 29 and 30

For profile of Main Street and Central Avenue see Sheet 71

For cross sections of Main Street and Central Avenue see sheets 75 & 76.

For sub-surface explorations see Sheets 67 and 68

41 Indicates payment item number

RECORD DRAWING OF WORK-AS-BUILT

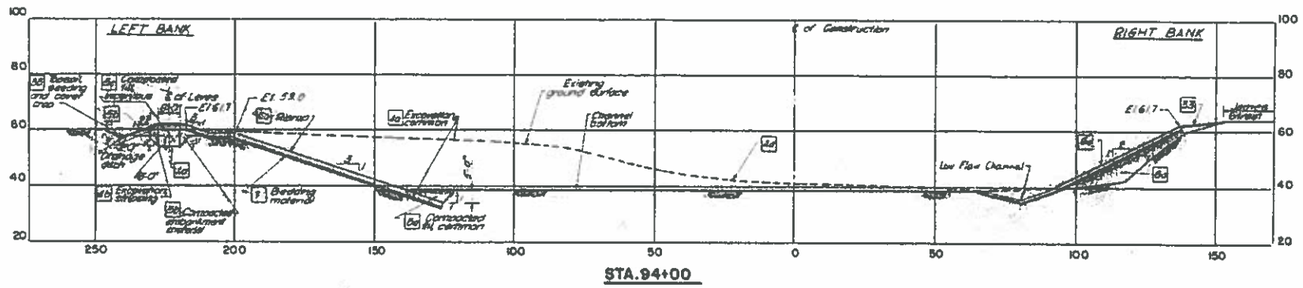
REVISION	DATE	DESCRIPTION	BY
⚠4	16 MAR 1971	RECORD WORK AS BUILT	
⚠3	17 OCT 69	Sanitary Interceptor System & Notes revised	FDT
⚠2	18 JUL 69	Sanitary Interceptor System, Seepage Ring detail & Notes added	FDT

ALEXANDER POTTER ASSOCIATES
ARCHITECT-ENGINEER
NEW YORK, NEW YORK

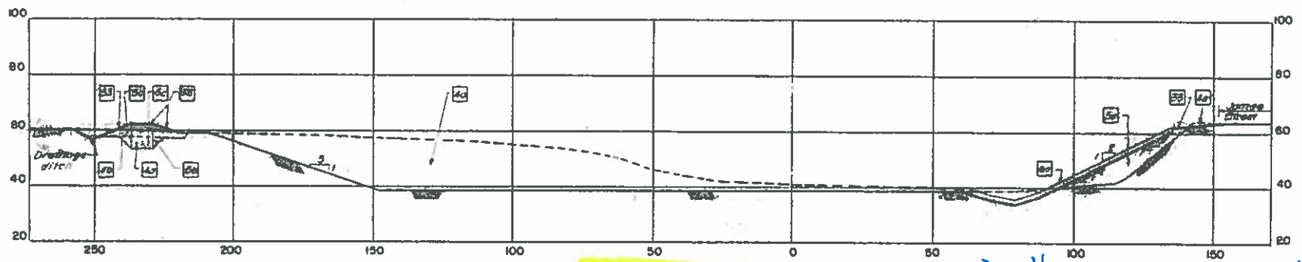
U.S. ARMY ENGINEER DISTRICT, NEW YORK
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10003

DRAWN BY: S.C.
DESIGNED BY: J.E.U.
TRACED BY:
CHIEF DESIGN BRANCH
DESIGN DIVISION
REVIEWED: Frank P. Brown
CHIEF DESIGNING DIVISION
APPROVED: R. J. Barton
COLONEL, C. E., DISTRICT ENGINEER
DATE 30 SEPT. 1965

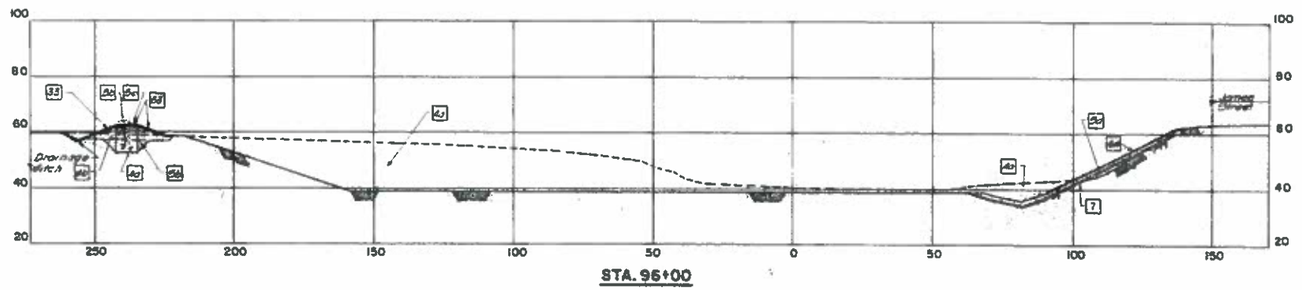
RONDOUT CREEK BASIN
ROSENDALE FLOOD CONTROL PROJECT
PLAN STA. 86+00 TO STA. 102+00
ROSENDALE NEW YORK
RECOMMENDED: Chief, Engineering Division
SCALE AS SHOWN
DRAWING NUMBER CC-RC-210
SHEET 10 OF 79



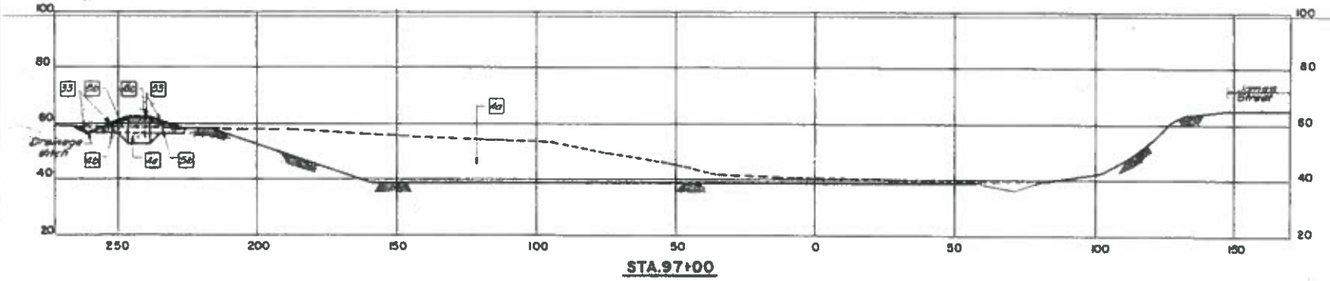
STA. 94+00



STA. 95+00



STA. 96+00



STA. 97+00

As Built
1971

– U.S. Army Depth in 1971 = 20' (Water Surface to Channel Floor)

NOTES

For general notes refer to Sheet 4

For location of cross sections see Sheet 10

[4d] indicates payment item number

For profiles see Sheets 41, 42, 44 and 45

For typical detail of Low Flow Channel see sheet 15

RECORD DRAWING OF WORK AS BUILT

REVISION	DATE	DESCRIPTION	BY
28 SEP 65		RECORD WORK AS BUILT (NO CHANGES)	

ALEXANDER POTTER ASSOCIATES
ARCHITECT-ENGINEER
NEW YORK, NEW YORK

U.S. ARMY ENGINEER DISTRICT, NEW YORK
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10013

DRAWN BY: J.V.
DESIGNED BY: M.A.P.
TRACED BY:
CHECKED BY:
REVIEWED:
APPROVED:
DATE: 30 SEPT. 1965

RONDOUT CREEK BASIN
ROSENDALE FLOOD CONTROL PROJECT
CROSS SECTIONS
STA. 94+00 TO STA. 97+00
ROSENDALE NEW YORK

RECOMMENDED:
SCALE AS SHOWN

DRAWING NUMBER
CC-RC-228
SHEET 28 OF 45

Delaware Tribe Historic Preservation Representatives
P.O. Box 64
Pocono Lake, PA 18347
sbachor@delawaretribe.org

March 9, 2017

Governor's Office of Storm Recovery
Bureau of Environmental Review and Assessment
Att: Thomas King
25 Beaver St.
New York, NY 10004

Re: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project (Town of Rosendale, Ulster County, New York)

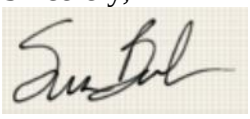
Mr. King,

Thank you for sending the Delaware Tribe additional information regarding the above referenced project. Our review indicates that there could be culturally significant areas within the proposed project area. We request a Phase I survey be performed with subsurface testing or evidence showing the area of prior disturbance.

In the event a concentration of artifacts and/or in the unlikely event any human remains are accidentally unearthed during the project that all work is halted until the Delaware Tribe of Indians is informed of the inadvertent discovery and a qualified archaeologist can evaluate the find.

We appreciate your cooperation and look forward to working together on our shared interests in preserving Delaware cultural heritage. If you have any questions, feel free to contact this office by phone at (610) 761-7452 or by e-mail at sbachor@delawaretribe.org..

Sincerely,



Susan Bachor
Delaware Tribe Historic Preservation Representative

From:	Bonney Hartley
To:	Barthelme, Mary (STORMRECOVERY)
Subject:	RE: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York
Date:	Wednesday, March 01, 2017 7:02:02 PM

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hi Mary,

No concerns from our side.

Thanks,

Bonney

From: Barthelme, Mary (STORMRECOVERY) [mailto:Mary.Barthelme@stormrecovery.ny.gov]
Sent: Friday, February 24, 2017 3:16 PM
To: Bonney Hartley
Cc: Shirley, Lori (NYSHCR)
Subject: RE: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York

Hello Bonney,

As a follow-up to the original consult attached the project has added new scope. Maintenance dredging will also occur, removing the point bar along the northern bank to elevation 39.5 feet, which is the original Rondout Creek flood control creek bottom elevation.

Please let me know if you have any questions.

Thank you,

Mary

From: Barthelme, Mary (STORMRECOVERY)
Sent: Friday, April 01, 2016 5:01 PM
To: 'Bonney.hartley@mohican-nsn.gov' <Bonney.hartley@mohican-nsn.gov>
Cc: King, Thomas J (STORMRECOVERY) <Thomas.King@stormrecovery.ny.gov>; Gievers, Andrea <AGievers@tectonicengineering.com>
Subject: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York

Dear Bonney,

Please see the attached consultation for the above-mentioned project.

A hard copy is being sent today by mail. Please let me know if you have any questions.

Thank you,

Mary Barthelme

Mary Barthelme
Environmental and Historic Preservation Specialist
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260
Office: (518) 473-0154
Mary.Barthelme@stormrecovery.ny.gov

Governor's Office of Storm Recovery

Andrew M. Cuomo
Governor

Lisa Bova-Hiatt
Executive Director

April 1, 2016

Kerry Holton, President
Delaware Nation
P.O. Box 825
Anadarko, OK 73005

Re: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project (Town of Rosendale, Ulster County, New York)

Dear Kerry Holton:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Nation to respond with any concerns or comments.

GOSR processes environmental reviews for projects funded with HUD CDBG-DR on a case-by-case basis. GOSR proposes to provide funding for culvert replacement and stormwater and drainage infrastructure improvements in the Town of Rosendale, Ulster County. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 302706(b)), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, this letter serves as notification of the proposed action. This consultation is being sent to the Mohawk Nation, the Delaware Nation, the Delaware Tribe of Indians, the Saint Regis Mohawk Tribe, and the Stockbridge-Munsee Community Band of Mohicans.

Area of Potential Effect: The James Street Flood Control project is located along the south side of the Rondout Creek near the intersection of James Street and Parkcrest Drive, in the Town of Rosendale, New York. Improvements will include the replacement of two existing culverts located at the intersection of James Street and Parkcrest Drive, the construction of four proposed catch basins on James Street, flattening the bank slope and extending the existing riprap approximately 600' upstream, and constructing a paved walkway on the south bank of Rondout Creek on James Street. This work is proposed to help alleviate the threat of street collapse during storm water events such as those experience during Hurricane Irene and Tropical Storm Lee.

Proposed Project Description: The Town of Rosendale proposes to replace the existing small-bore stone-built culvert that passes beneath James Street near the intersection of Parkcrest Drive. This existing 48-inch pipe is to be replaced with a 60-inch HDPE pipe culvert that will run under James Street, with a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A proposed

catch basins and storm manhole are to be installed on the western side of the Parkcrest Drive and James Street intersection, with a new 36-inch HDPE pipe to replace the existing 36-inch pipe running under Parkcrest Drive. This 36-inch HDPE pipe connects to the 60-inch HDPE pipe and storm manhole located on the eastern side of the Parkcrest Drive and James Street intersection. Six additional catch basins and storm sewer piping are proposed to be built along James Street, west of Parkcrest Drive. The catch basins will be located on the north and south side of James Street, with two catch basins located approximately 170 feet west of Parkcrest Drive on James Street and two catch basins located 520 feet west of Parkcrest Drive on James Street. The final two catch basins and new storm sewer piping will be located at the Madeline Lane-James Street intersection. The proposed construction includes flattening the south bank slope, creating a low flow channel, and constructing a new toe at the base of the slope on the south bank of Rondout Creek. Additionally, the proposed construction includes armoring Rondout Creek's south bank with riprap. This riprap will begin at the western edge of the existing riprap and extend 600 feet upstream. The Town also proposes to construct guide rails along James Street, as well as a 5-foot asphalt pedestrian walkway with seating that will run parallel to the north side of James Street, beginning approximately 330 feet west of Parkcrest Drive on James Street and extending to the intersection of James Street and New York State Route 32.

Pursuant to NHPA Section 106, GOSR has initiated consultation with the State Historic Preservation Office (SHPO) concerning this Project and its potential to affect historic resources that are listed on or eligible for listing on the NRHP. No comments have been received from the SHPO to date. GOSR is completing an environmental review for this project pursuant to HUD NEPA regulations. If the Area of Potential Effect encompasses historic properties of religious or cultural significance to your Nation, please respond within 30 days or sooner. Additionally, please indicate if there are other sources of information or other parties, Nations, Tribes, or members of the public you believe should be included in the consultation process. Please respond by email or in writing to the address listed below.

Thomas J. King, Esq.
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery
99 Washington Avenue
Suite 1224
Albany, New York 12260

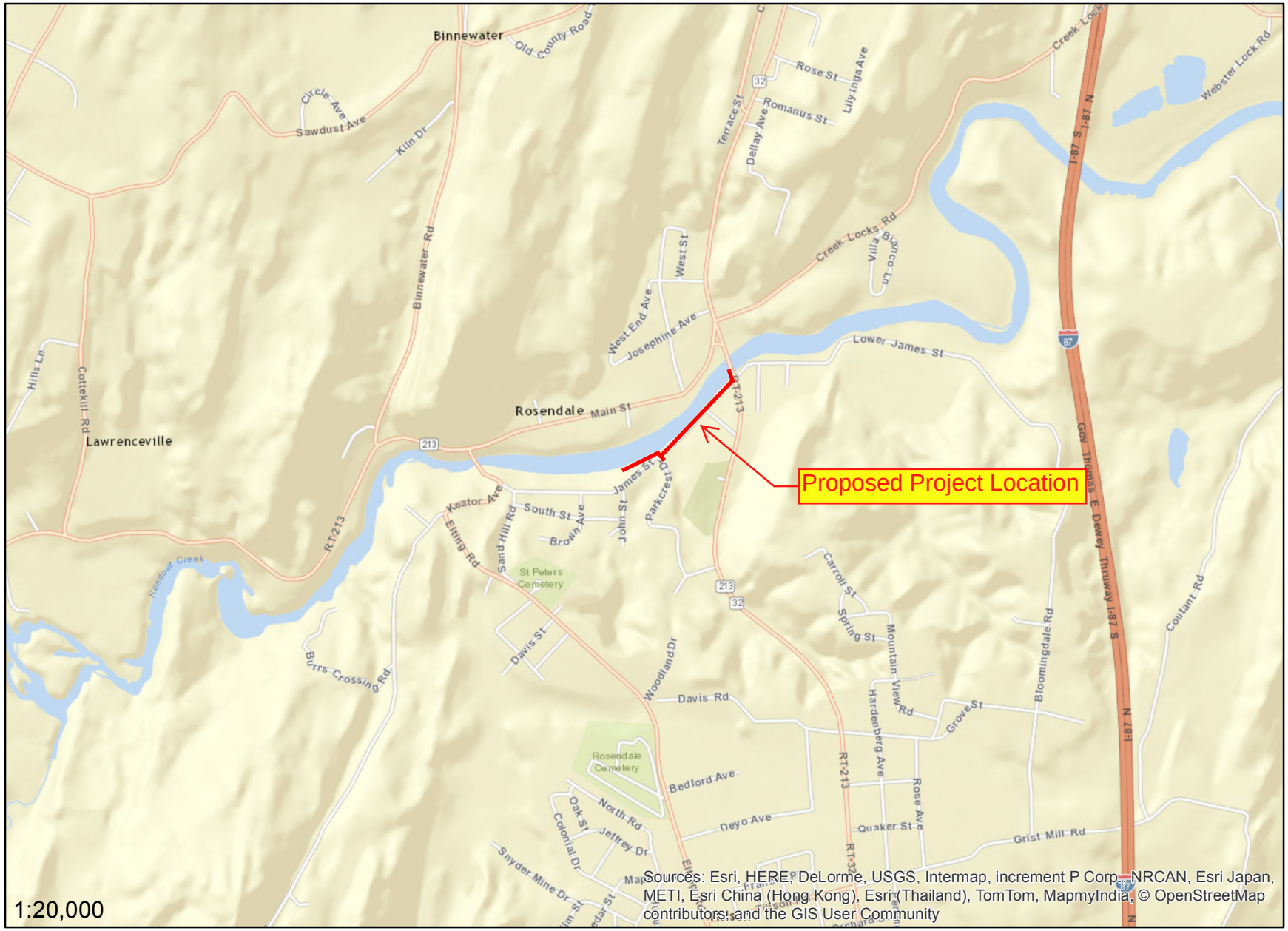
If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery

Enclosures:
Attachment 1: Project Location Map
Attachment 2: Project Street Map

Electronic letter sent to:
Nekole Alligood, Cultural Preservation Director
Delaware Nation
P.O. Box 825
Anadarko, OK 73005



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Street Map
James Street Flood Control
Rosendale, NY

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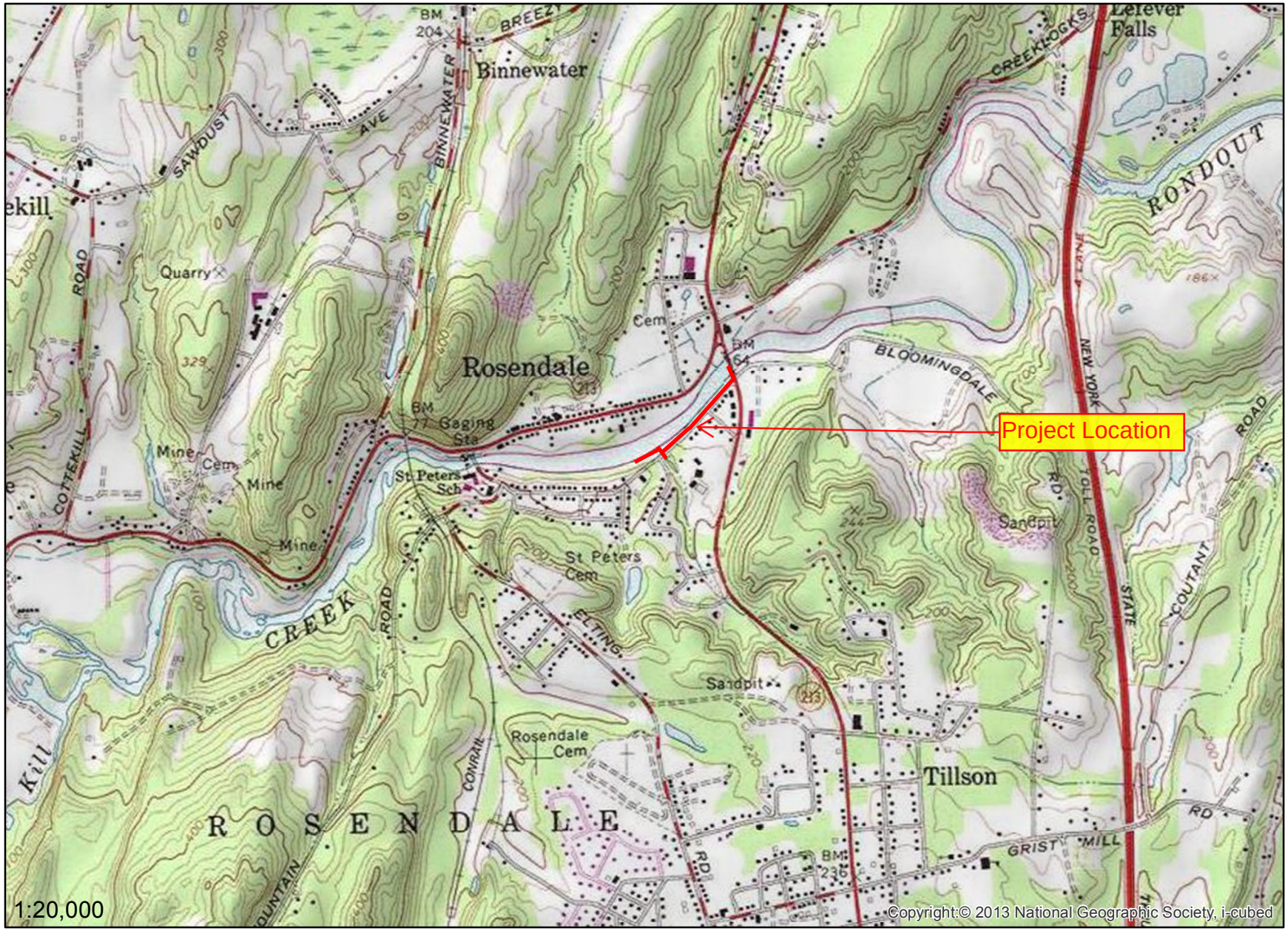

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Topographic Map
James Street Flood Control
Rosendale, NY

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Governor's Office of Storm Recovery

Andrew M. Cuomo
Governor

Lisa Bova-Hiatt
Executive Director

April 1, 2016

Chet Brooks, Chief
Delaware Tribe of Indians, Delaware Tribal Headquarters
5100 Tuxedo Blvd
Bartlesville, OK 74006

Re: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project (Town of Rosendale, Ulster County, New York)

Dear Chief Chet Brooks:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Tribe to respond with any concerns or comments.

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Pursuant to NHPA Section 106, GOSR has initiated consultation with the State Historic Preservation Office (SHPO) concerning this Project and its potential to affect historic resources that are listed on or eligible for listing on the NRHP. No comments have been received from the SHPO to date. GOSR is completing an environmental review for this project pursuant to HUD NEPA regulations. If the Area of Potential Effect encompasses historic properties of religious or cultural significance to your Tribe, please respond within 30 days or sooner. Additionally, please indicate if there are other sources of information or other parties, Nations, Tribes, or members of the public you believe should be included in the consultation process. Please respond by email or in writing to the address listed below.

Thomas J. King, Esq.
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery
99 Washington Avenue
Suite 1224
Albany, New York 12260

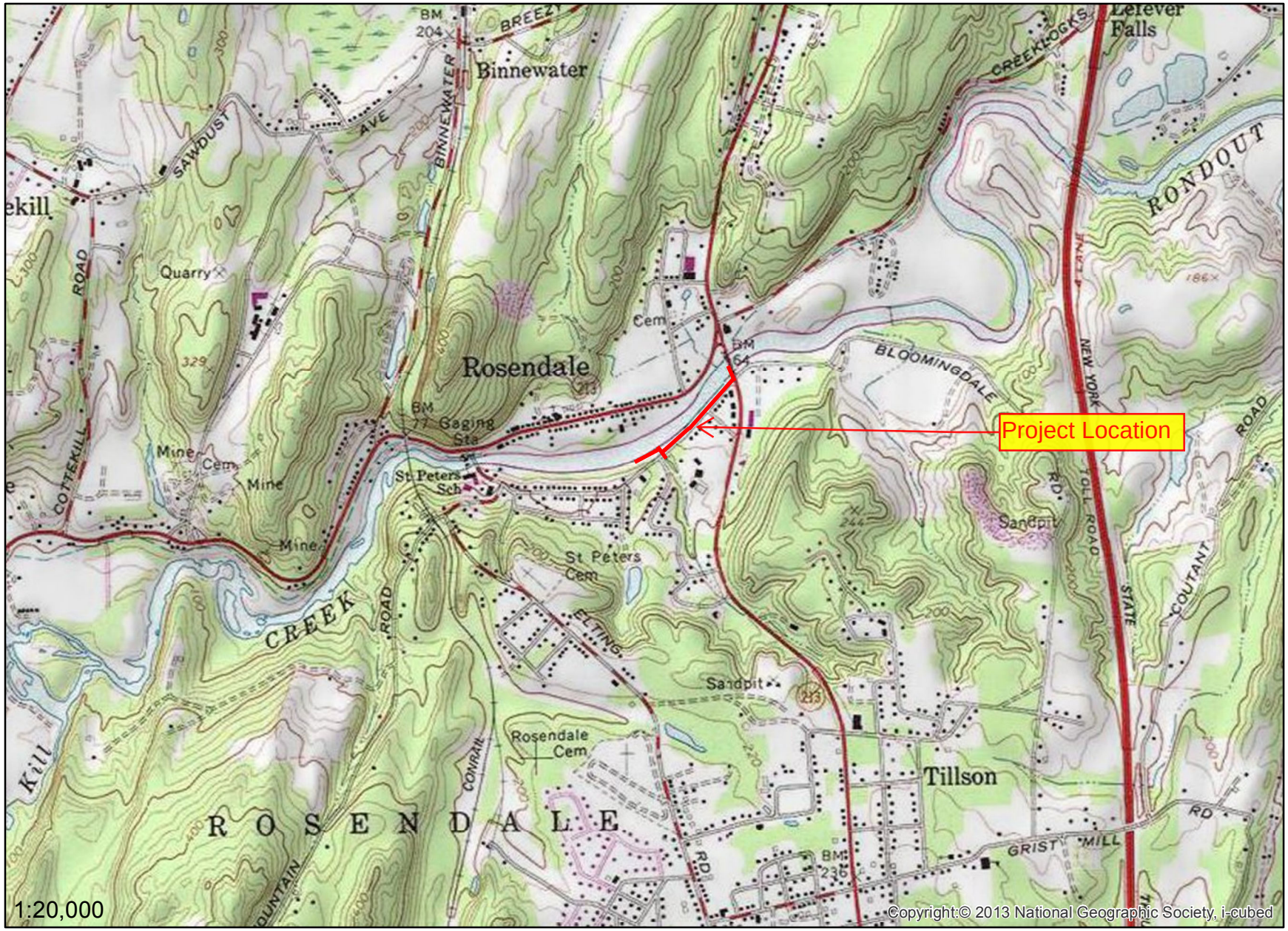
If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery

Enclosures:
Attachment 1: Project Location Map
Attachment 2: Project Street Map

Electronic letter sent to:
Susan Bachor
Delaware Tribe of Indians Historic Preservation Representative
P.O. Box 64
Pocono Lake, PA 73005



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Topographic Map
James Street Flood Control
Rosendale, NY

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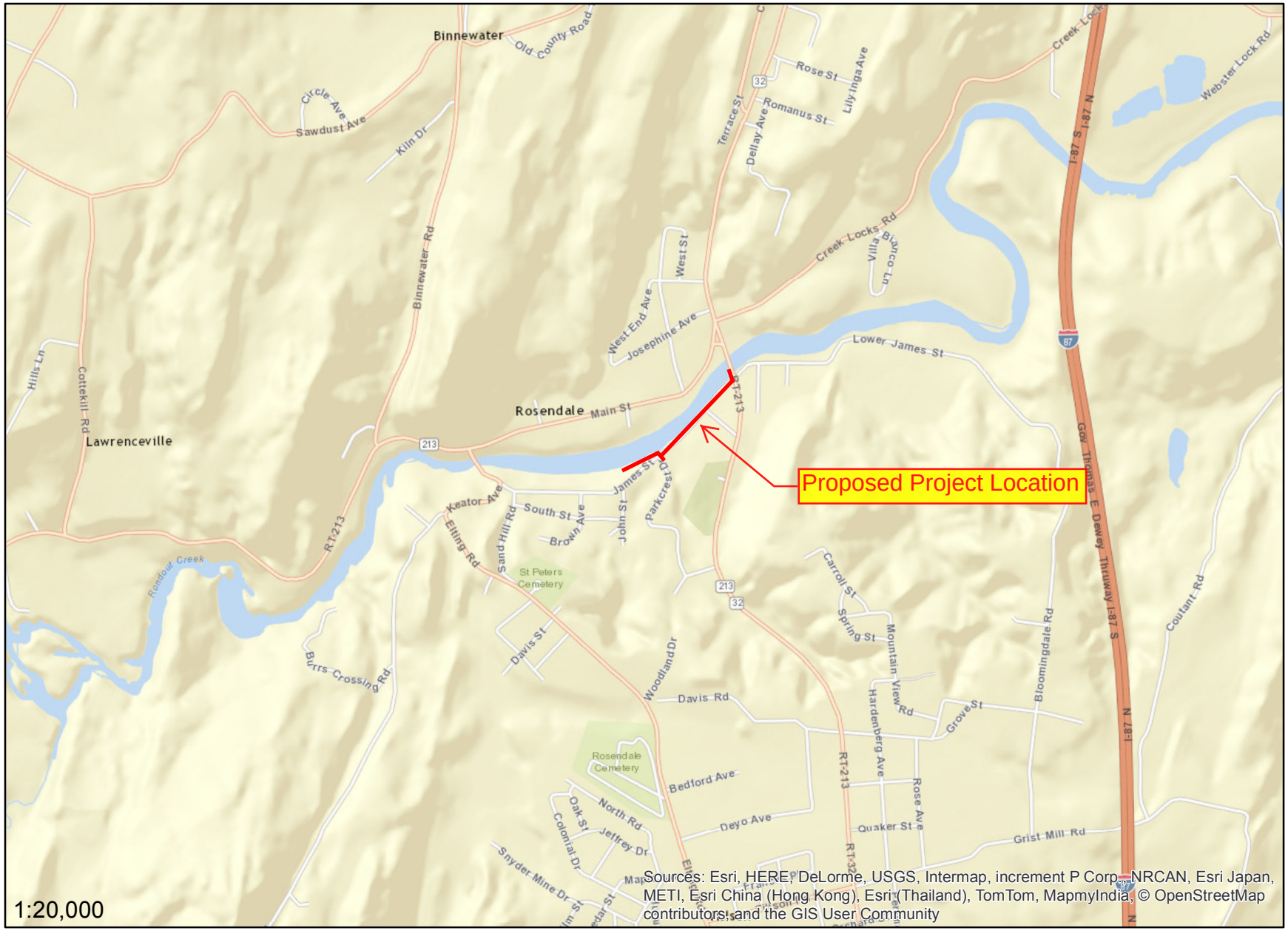

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Street Map
James Street Flood Control
Rosendale, NY

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Governor's Office of Storm Recovery

Andrew M. Cuomo
Governor

Lisa Bova-Hiatt
Executive Director

April 1, 2016

Mohawk Nation Council of Chiefs
of Haudenosaunee Six Nations Confederacy
Akwesasane Territory Box 336
Via Rooseveltown, NY 13683-0366

Re: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project (Town of Rosendale, Ulster County, New York)

Dear Chiefs of the Mohawk Nation:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Nation to respond with any concerns or comments.

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Pursuant to NHPA Section 106, GOSR has initiated consultation with the State Historic Preservation Office (SHPO) concerning this Project and its potential to affect historic resources that are listed on or eligible for listing on the NRHP. No comments have been received from the SHPO to date. GOSR is completing an environmental review for this project pursuant to HUD NEPA regulations. If the Area of Potential Effect encompasses historic properties of religious or cultural significance to your Nation, please respond within 30 days or sooner. Additionally, please indicate if there are other sources of information or other parties, Nations, Tribes, or members of the public you believe should be included in the consultation process. Please respond by email or in writing to the address listed below.

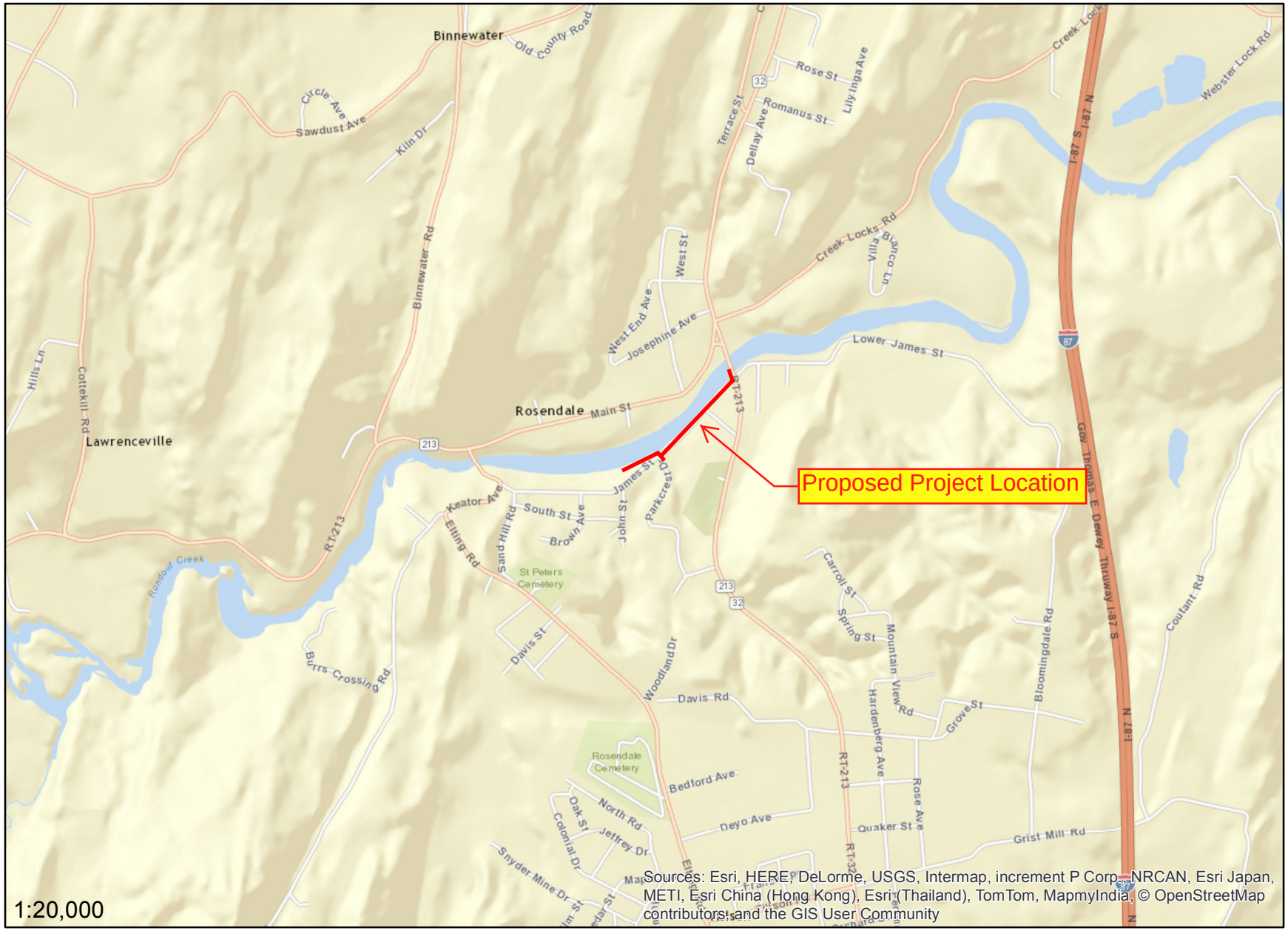
Thomas J. King, Esq.
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery
99 Washington Avenue
Suite 1224
Albany, New York 12260

If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery

Enclosures:
Attachment 1: Project Location Map
Attachment 2: Project Street Map



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Street Map
James Street Flood Control
Rosendale, NY

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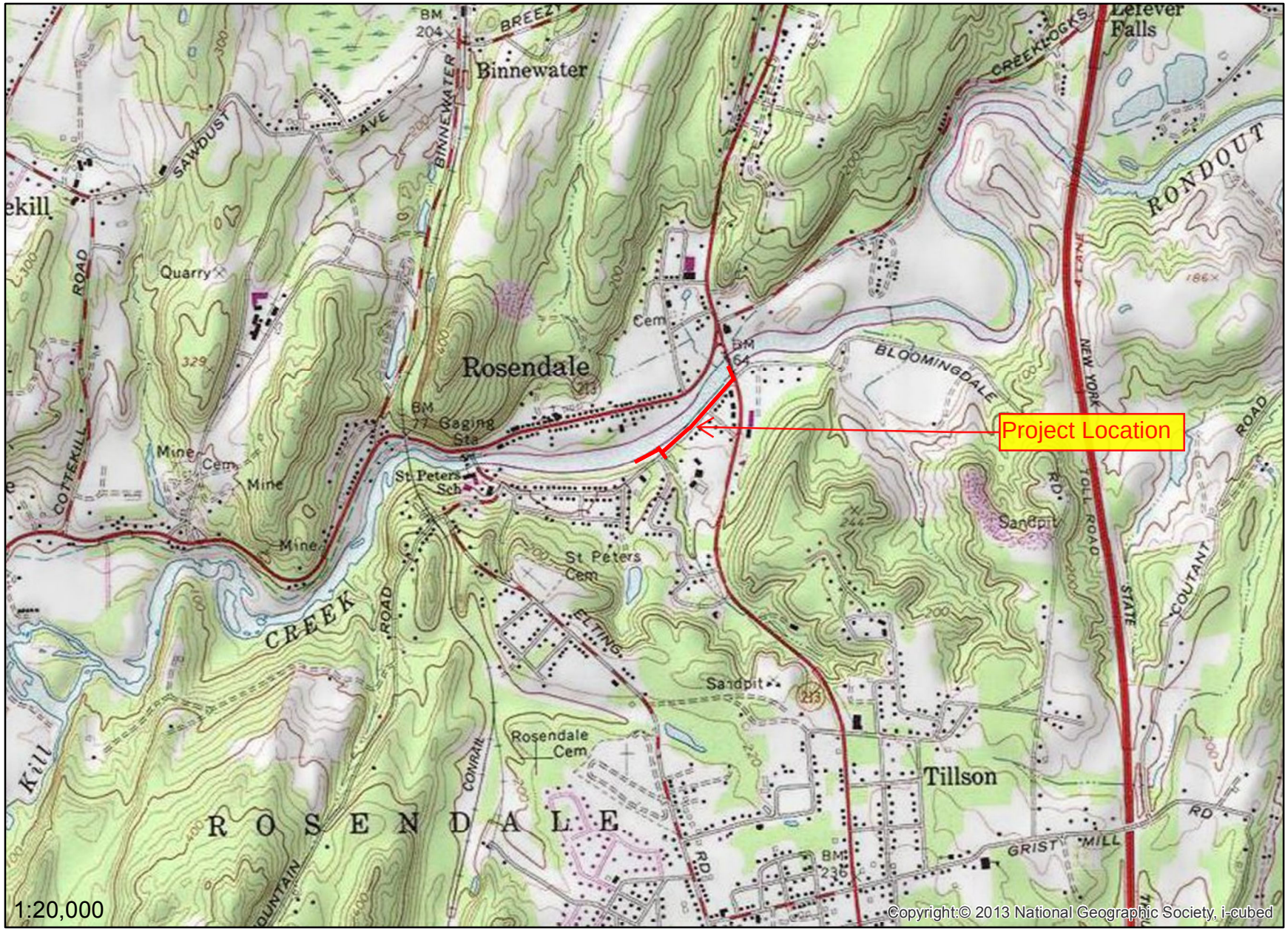

TECTONIC
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Topographic Map
James Street Flood Control
Rosendale, NY

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Governor's Office of Storm Recovery

Andrew M. Cuomo
Governor

Lisa Bova-Hiatt
Executive Director

April 1, 2016

Ron LaFrance, Jr; Paul Thompson; and Beverly Cook, Chiefs
St. Regis Mohawk Tribe
412 State Route 37
Akwesasne, NY 13655

Re: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project (Town of Rosendale, Ulster County, New York)

Dear Chiefs of the St. Regis Mohawk Tribe:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Tribe to respond with any concerns or comments.

GOSR processes environmental reviews for projects funded with HUD CDBG-DR on a case-by-case basis. GOSR proposes to provide funding for culvert replacement and stormwater and drainage infrastructure improvements in the Town of Rosendale, Ulster County. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 302706(b)), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, this letter serves as notification of the proposed action. This consultation is being sent to the Mohawk Nation, the Delaware Nation, the Delaware Tribe of Indians, the Saint Regis Mohawk Tribe, and the Stockbridge-Munsee Community Band of Mohicans.

Area of Potential Effect: The James Street Flood Control project is located along the south side of the Rondout Creek near the intersection of James Street and Parkcrest Drive, in the Town of Rosendale, New York. Improvements will include the replacement of two existing culverts located at the intersection of James Street and Parkcrest Drive, the construction of four proposed catch basins on James Street, flattening the bank slope and extending the existing riprap approximately 600' upstream, and constructing a paved walkway on the south bank of Rondout Creek on James Street. This work is proposed to help alleviate the threat of street collapse during storm water events such as those experience during Hurricane Irene and Tropical Storm Lee.

Proposed Project Description: The Town of Rosendale proposes to replace the existing small-bore stone-built culvert that passes beneath James Street near the intersection of Parkcrest Drive. This existing 48-inch pipe is to be replaced with a 60-inch HDPE pipe culvert that will run under James Street, with a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A proposed

catch basins and storm manhole are to be installed on the western side of the Parkcrest Drive and James Street intersection, with a new 36-inch HDPE pipe to replace the existing 36-inch pipe running under Parkcrest Drive. This 36-inch HDPE pipe connects to the 60-inch HDPE pipe and storm manhole located on the eastern side of the Parkcrest Drive and James Street intersection. Six additional catch basins and storm sewer piping are proposed to be built along James Street, west of Parkcrest Drive. The catch basins will be located on the north and south side of James Street, with two catch basins located approximately 170 feet west of Parkcrest Drive on James Street and two catch basins located 520 feet west of Parkcrest Drive on James Street. The final two catch basins and new storm sewer piping will be located at the Madeline Lane-James Street intersection. The proposed construction includes flattening the south bank slope, creating a low flow channel, and constructing a new toe at the base of the slope on the south bank of Rondout Creek. Additionally, the proposed construction includes armoring Rondout Creek's south bank with riprap. This riprap will begin at the western edge of the existing riprap and extend 600 feet upstream. The Town also proposes to construct guide rails along James Street, as well as a 5-foot asphalt pedestrian walkway with seating that will run parallel to the north side of James Street, beginning approximately 330 feet west of Parkcrest Drive on James Street and extending to the intersection of James Street and New York State Route 32.

Pursuant to NHPA Section 106, GOSR has initiated consultation with the State Historic Preservation Office (SHPO) concerning this Project and its potential to affect historic resources that are listed on or eligible for listing on the NRHP. No comments have been received from the SHPO to date. GOSR is completing an environmental review for this project pursuant to HUD NEPA regulations. If the Area of Potential Effect encompasses historic properties of religious or cultural significance to your Tribe, please respond within 30 days or sooner. Additionally, please indicate if there are other sources of information or other parties, Nations, Tribes, or members of the public you believe should be included in the consultation process. Please respond by email or in writing to the address listed below.

Thomas J. King, Esq.
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery
99 Washington Avenue
Suite 1224
Albany, New York 12260

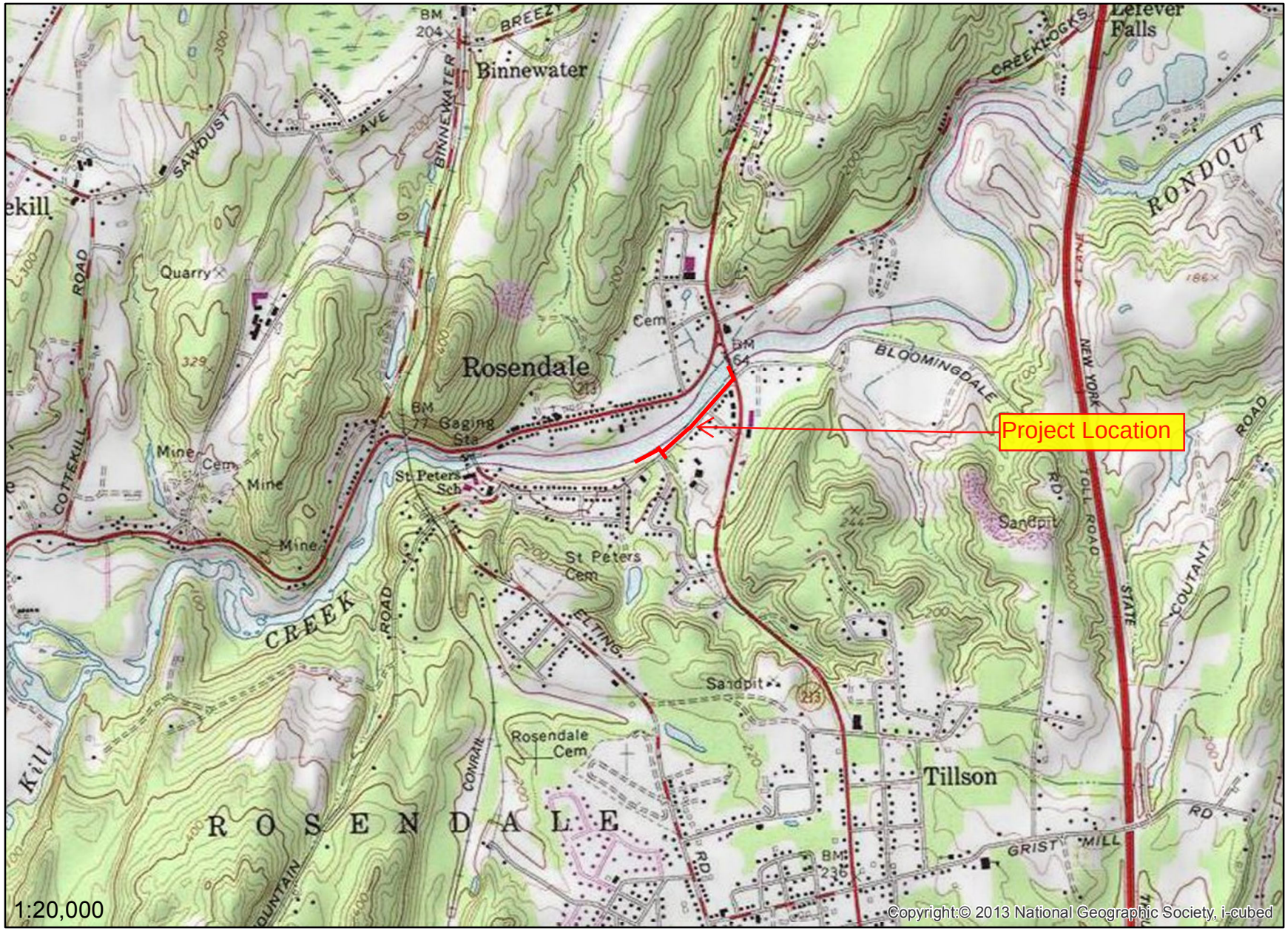
If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery

Enclosures:
Attachment 1: Project Location Map
Attachment 2: Project Street Map

Electronic letter sent to:
Arnold Printup
Saint Regis Mohawk Tribe, THPO
412 State Route 37
Akwesasne, NY 13655



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Topographic Map
James Street Flood Control
Rosendale, NY

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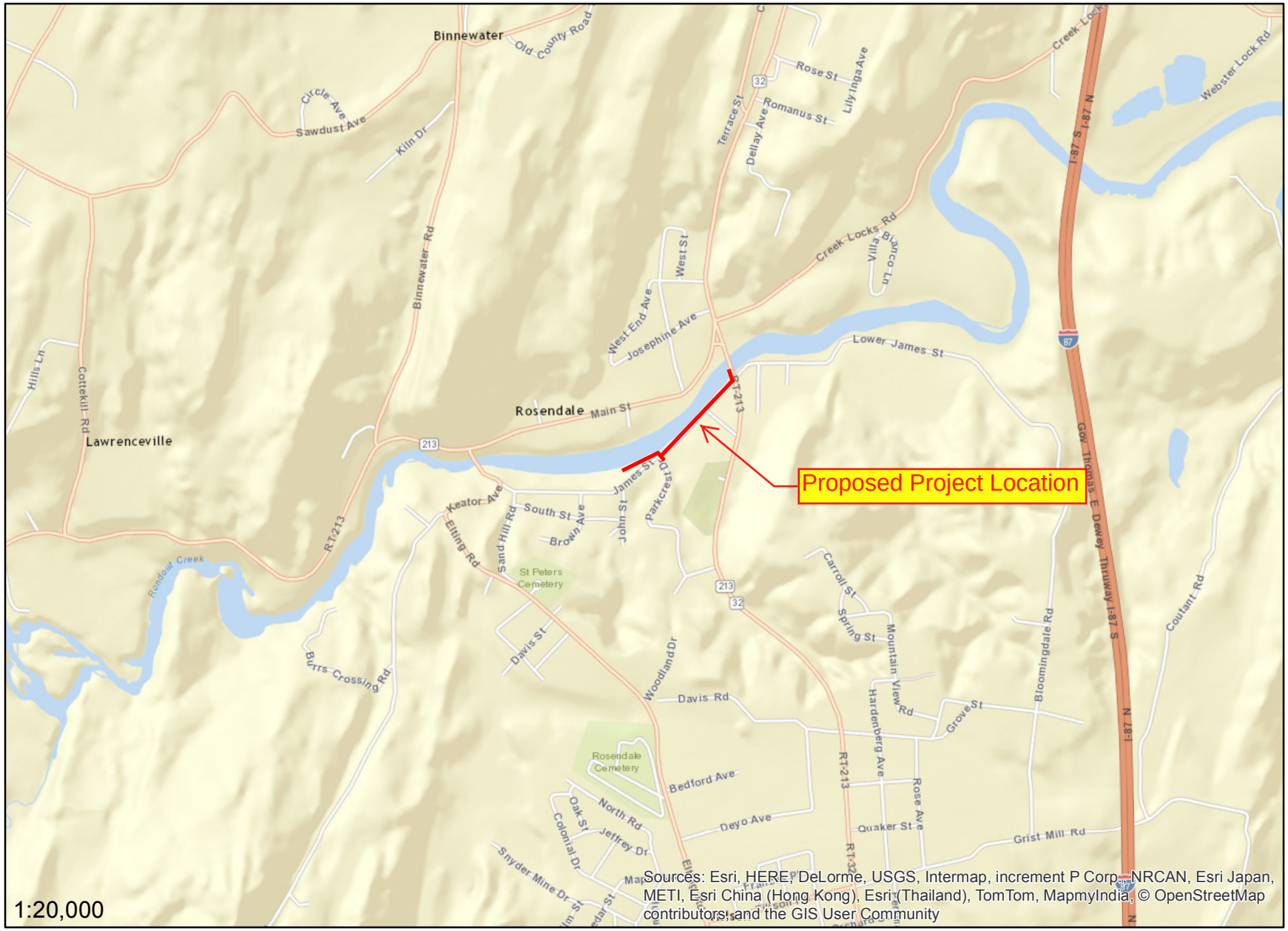

TECTONIC

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Street Map
James Street Flood Control
Rosendale, NY

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Governor's Office of Storm Recovery

Andrew M. Cuomo
Governor

Lisa Bova-Hiatt
Executive Director

April 1, 2016

Shannon Holsey, President
Stockbridge-Munsee Community, Band of the Mohicans
N8476 Moh He Con Nuck Road
Bowler, WI 54416

Re: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project (Town of Rosendale, Ulster County, New York)

Dear Shannon Holsey:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Community to respond with any concerns or comments.

GOSR processes environmental reviews for projects funded with HUD CDBG-DR on a case-by-case basis. GOSR proposes to provide funding for culvert replacement and stormwater and drainage infrastructure improvements in the Town of Rosendale, Ulster County. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 302706(b)), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, this letter serves as notification of the proposed action. This consultation is being sent to the Mohawk Nation, the Delaware Nation, the Delaware Tribe of Indians, the Saint Regis Mohawk Tribe, and the Stockbridge-Munsee Community Band of Mohicans.

Area of Potential Effect: The James Street Flood Control project is located along the south side of the Rondout Creek near the intersection of James Street and Parkcrest Drive, in the Town of Rosendale, New York. Improvements will include the replacement of two existing culverts located at the intersection of James Street and Parkcrest Drive, the construction of four proposed catch basins on James Street, flattening the bank slope and extending the existing riprap approximately 600' upstream, and constructing a paved walkway on the south bank of Rondout Creek on James Street. This work is proposed to help alleviate the threat of street collapse during storm water events such as those experience during Hurricane Irene and Tropical Storm Lee.

Proposed Project Description: The Town of Rosendale proposes to replace the existing small-bore stone-built culvert that passes beneath James Street near the intersection of Parkcrest Drive. This existing 48-inch pipe is to be replaced with a 60-inch HDPE pipe culvert that will run under James Street, with a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A proposed

catch basins and storm manhole are to be installed on the western side of the Parkcrest Drive and James Street intersection, with a new 36-inch HDPE pipe to replace the existing 36-inch pipe running under Parkcrest Drive. This 36-inch HDPE pipe connects to the 60-inch HDPE pipe and storm manhole located on the eastern side of the Parkcrest Drive and James Street intersection. Six additional catch basins and storm sewer piping are proposed to be built along James Street, west of Parkcrest Drive. The catch basins will be located on the north and south side of James Street, with two catch basins located approximately 170 feet west of Parkcrest Drive on James Street and two catch basins located 520 feet west of Parkcrest Drive on James Street. The final two catch basins and new storm sewer piping will be located at the Madeline Lane-James Street intersection. The proposed construction includes flattening the south bank slope, creating a low flow channel, and constructing a new toe at the base of the slope on the south bank of Rondout Creek. Additionally, the proposed construction includes armoring Rondout Creek's south bank with riprap. This riprap will begin at the western edge of the existing riprap and extend 600 feet upstream. The Town also proposes to construct guide rails along James Street, as well as a 5-foot asphalt pedestrian walkway with seating that will run parallel to the north side of James Street, beginning approximately 330 feet west of Parkcrest Drive on James Street and extending to the intersection of James Street and New York State Route 32.

Pursuant to NHPA Section 106, GOSR has initiated consultation with the State Historic Preservation Office (SHPO) concerning this Project and its potential to affect historic resources that are listed on or eligible for listing on the NRHP. No comments have been received from the SHPO to date. GOSR is completing an environmental review for this project pursuant to HUD NEPA regulations. If the Area of Potential Effect encompasses historic properties of religious or cultural significance to your Community, please respond within 30 days or sooner. Additionally, please indicate if there are other sources of information or other parties, Nations, Tribes, or members of the public you believe should be included in the consultation process. Please respond by email or in writing to the address listed below.

Thomas J. King, Esq.
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery
99 Washington Avenue
Suite 1224
Albany, New York 12260

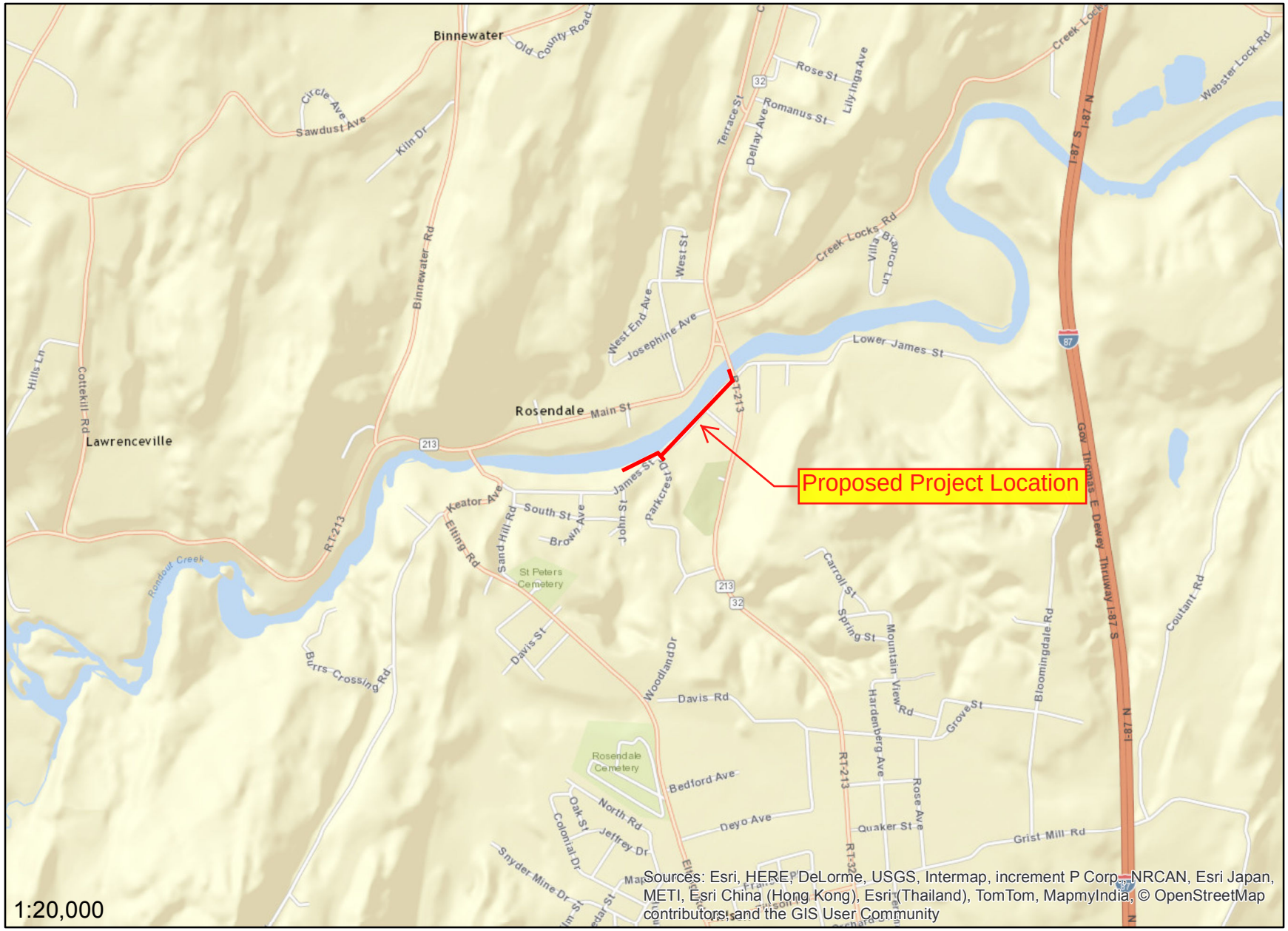
If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery

Enclosures:
Attachment 1: Project Location Map
Attachment 2: Project Street Map

Electronic letter sent to:
Bonney Hartley
THPO, New York Office
Stockbridge-Munsee Community, Band of the Mohicans
65 1st Street
Troy, NY 12180



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Street Map
James Street Flood Control
Rosendale, NY

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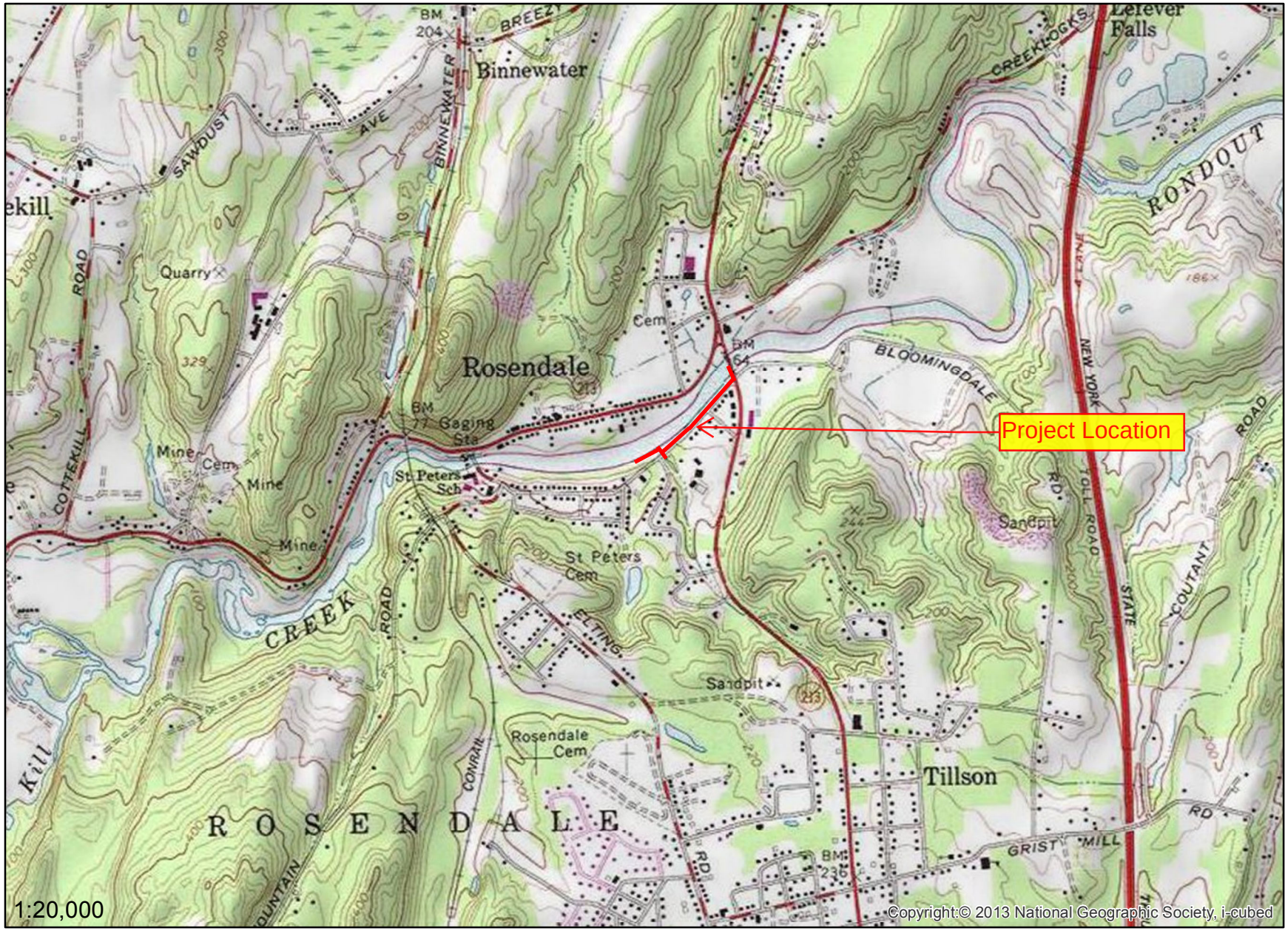

TECTONIC
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Topographic Map
James Street Flood Control
Rosendale, NY

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From:	Barthelme, Mary (STORMRECOVERY)
To:	"temple@delawaretribe.org"
Cc:	Shirley, Lori (NYSHCR)
Subject:	RE: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York
Date:	Friday, February 24, 2017 3:21:00 PM
Attachments:	THPO_Consult. Package Rosendale James Street_Delaware Tribe.pdf

Hello Susan,

As a follow-up to the original consult for this project, new scope has been added. Maintenance dredging will also occur, removing the point bar along the northern bank to elevation 39.5 feet, which is the original Rondout Creek flood control creek bottom elevation.

Please let me know if you have any questions.

Thank you,

Mary

From: Barthelme, Mary (STORMRECOVERY)
Sent: Friday, April 01, 2016 5:04 PM
To: 'temple@delawaretribe.org' <temple@delawaretribe.org>
Cc: King, Thomas J (STORMRECOVERY) <Thomas.King@stormrecovery.ny.gov>; Gievers, Andrea <AGievers@tectonicengineering.com>
Subject: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York

Dear Susan,

Please see the attached consultation for the above-mentioned project.

A hard copy is being sent today by mail. Please let me know if you have any questions.

Thank you,

Mary Barthelme

Mary Barthelme
Environmental and Historic Preservation Specialist
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260
Office: (518) 473-0154
Mary.Barthelme@stormrecovery.ny.gov

From:	Barthelme, Mary (STORMRECOVERY)
To:	"arnold.printup@srmt-nsn.gov"
Cc:	Shirley, Lori (NYSHCR)
Subject:	RE: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York
Date:	Friday, February 24, 2017 3:20:00 PM
Attachments:	THPO_Consult. Package Rosendale James Street_St. Regis Mohawk.pdf

Hello Arnold,

As a follow-up the original consult for this project, new scope has been added. Maintenance dredging will also occur, removing the point bar along the northern bank to elevation 39.5 feet, which is the original Rondout Creek flood control creek bottom elevation.

Please let me know if you have any questions.

Thank you,

Mary

From: Barthelme, Mary (STORMRECOVERY)
Sent: Friday, April 01, 2016 5:02 PM
To: arnold.printup@srmt-nsn.gov
Cc: King, Thomas J (STORMRECOVERY) <Thomas.King@stormrecovery.ny.gov>; Gievers, Andrea <AGievers@tectonicengineering.com>
Subject: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York

Dear Mr. Printup,

Please see the attached consultation for the above-mentioned project.

A hard copy is being sent today by mail. Please let me know if you have any questions.

Thank you,

Mary Barthelme

Mary Barthelme
Environmental and Historic Preservation Specialist
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260
Office: (518) 473-0154
Mary.Barthelme@stormrecovery.ny.gov

From:	Barthelme, Mary (STORMRECOVERY)
To:	"Bonney.hartley@mohican-nsn.gov"
Cc:	Shirley, Lori (NYSHCR)
Subject:	RE: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York
Date:	Friday, February 24, 2017 3:19:00 PM
Attachments:	THPO_Consult. Package Rosendale James Street_Stockbridge Munsee Mohican.pdf

Hello Bonney,

As a follow-up to the original consult attached the project has added new scope. Maintenance dredging will also occur, removing the point bar along the northern bank to elevation 39.5 feet, which is the original Rondout Creek flood control creek bottom elevation.

Please let me know if you have any questions.

Thank you,

Mary

From: Barthelme, Mary (STORMRECOVERY)
Sent: Friday, April 01, 2016 5:01 PM
To: 'Bonney.hartley@mohican-nsn.gov' <Bonney.hartley@mohican-nsn.gov>
Cc: King, Thomas J (STORMRECOVERY) <Thomas.King@stormrecovery.ny.gov>; Gievers, Andrea <AGievers@tectonicengineering.com>
Subject: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York

Dear Bonney,

Please see the attached consultation for the above-mentioned project.

A hard copy is being sent today by mail. Please let me know if you have any questions.

Thank you,

Mary Barthelme

Mary Barthelme
Environmental and Historic Preservation Specialist
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260
Office: (518) 473-0154
Mary.Barthelme@stormrecovery.ny.gov

From:	Barthelme, Mary (STORMRECOVERY)
To:	"nalligood@delawarenation.com"
Cc:	"csmith@delawarenation.com"; "jross@delawarenation.com"; Shirley, Lori (NYSHCR)
Subject:	RE: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York
Date:	Friday, February 24, 2017 3:17:00 PM
Attachments:	THPO_Consult. Package Rosendale James Street_Delaware Nation Email Only.pdf

Hello Nekole,

As a follow-up to the original consultation for this project, new scope has been added. Maintenance dredging will also occur, removing the point bar along the northern bank to elevation 39.5 feet, which is the original Rondout Creek flood control creek bottom elevation.

All other elements of the project will stay the same. Please let me know if you have any questions.

Thank you,

Mary

From: Barthelme, Mary (STORMRECOVERY)
Sent: Friday, April 01, 2016 4:59 PM
To: nalligood@delawarenation.com
Cc: King, Thomas J (STORMRECOVERY) <Thomas.King@stormrecovery.ny.gov>; csmith@delawarenation.com; jross@delawarenation.com; Gievers, Andrea <AGievers@tectonicengineering.com>
Subject: Section 106 Compliance for the Town of Rosendale James Street Flood Control Project, Town of Rosendale, Ulster County, New York

Dear Nekole,

Please see the attached consultation for the above-mentioned project.

Please let me know if you have any questions.

Thank you,

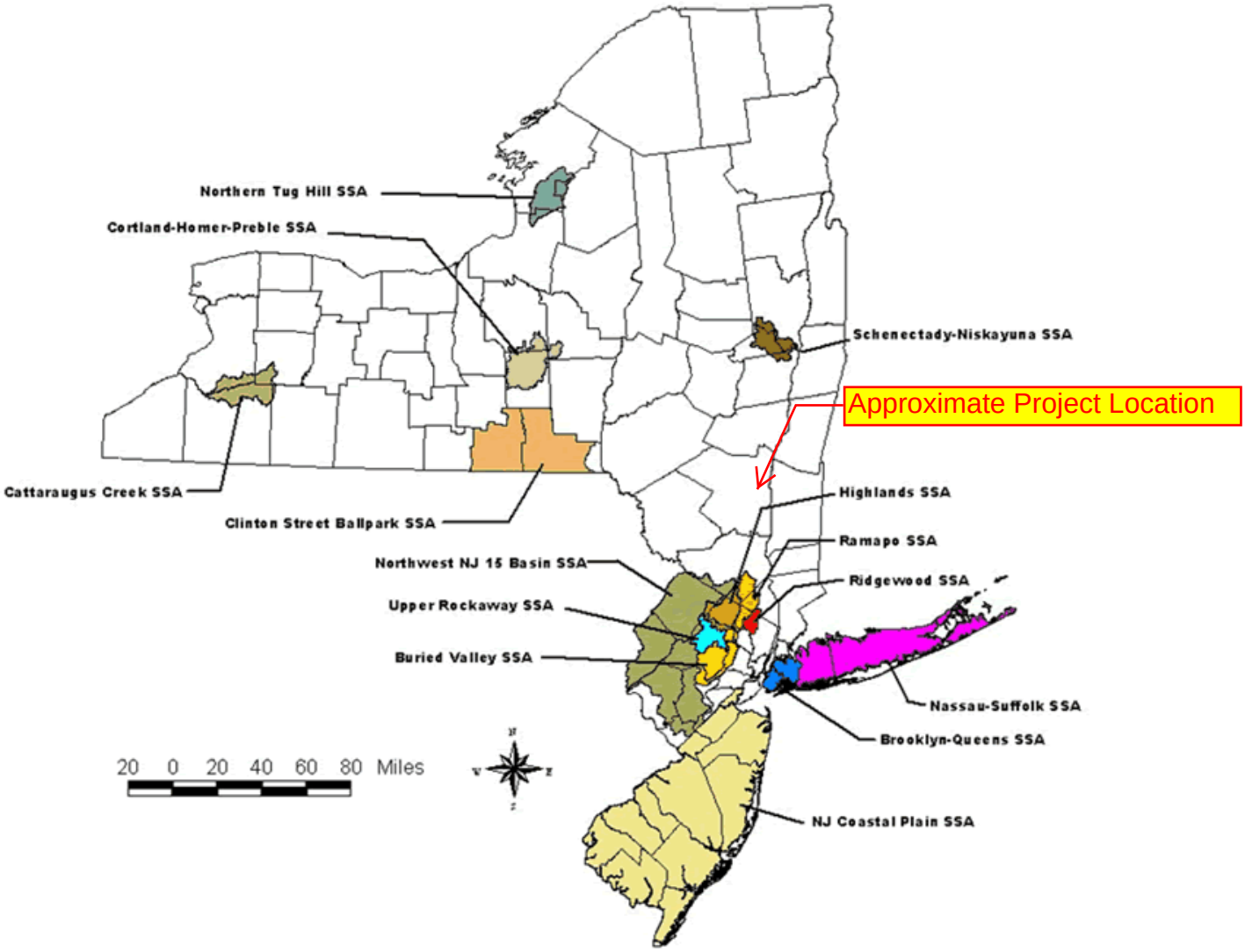
Mary Barthelme

Mary Barthelme
Environmental and Historic Preservation Specialist
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery

99 Washington Avenue Suite 1224
Albany, New York 12260
Office: (518) 473-0154
Mary.Barthelme@stormrecovery.ny.gov

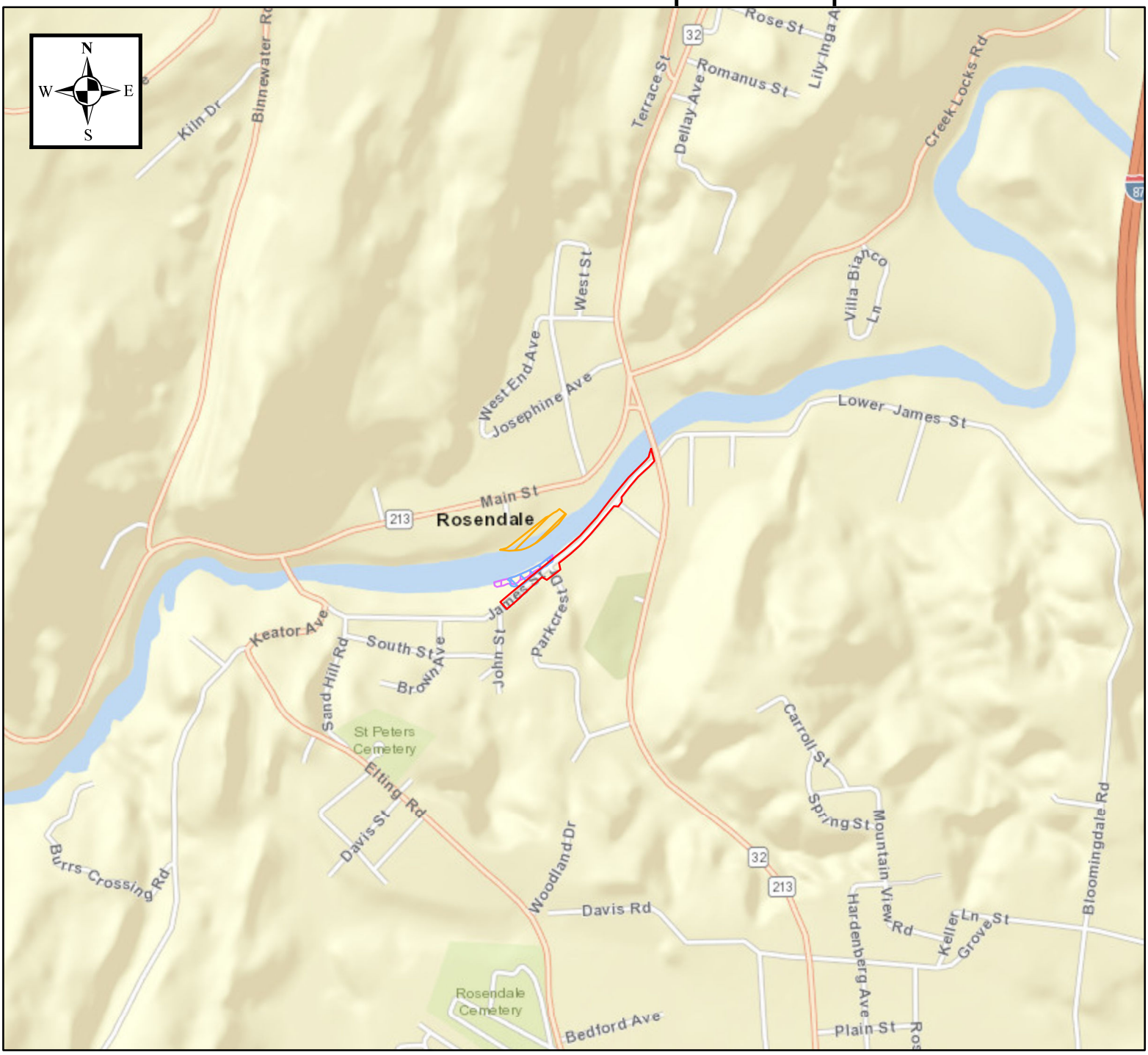
Attachment 9

EPA Sole Source Aquifer Maps



http://www.epa.gov/region02/water/aquifer/

EPA Sole Source Aquifer Map



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James Street Flood Control
James Street located between John Street and
Route 32 adjacent to Roundout Creek
Town of Rosendale
Ulster County, New York

Created: 4/3/2017
Source data: Sole Source Aquifer map data provided by EPA.

https://www.epa.gov/dwssa

Legend

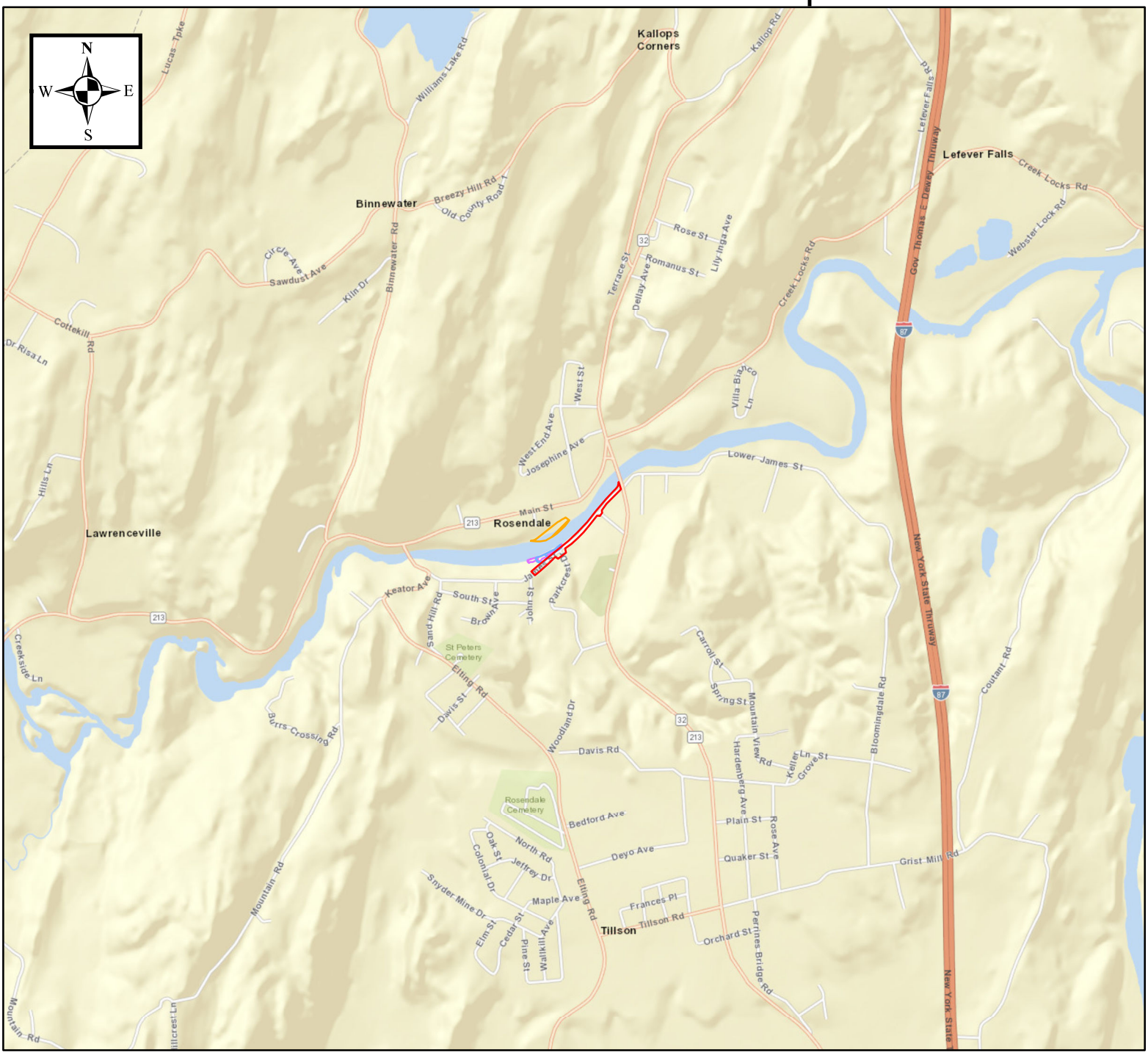
Approximate Boundaries of:

- **Maintenance Dredging - Point Bar Removal**
- **Slope Flattening**
- **Streambank Stabilization**
- **Road Work**
- **EPA Sole Source Aquifer**

Attachment 10

Potential Environmental Justice Areas Map

Environmental Justice Map



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James Street Flood Control
James Street located between John Street and
Route 32 adjacent to Roundout Creek
Town of Rosendale
Ulster County, New York

Created: 4/3/2017

Potential Environmental Justice Areas provided by
The Office of Environmental Justice and available at
http://www.dec.ny.gov/public/899.html

Legend

Approximate Boundaries of:

- **Maintenance Dredging - Point Bar Removal**
- **Slope Flattening**
- **Streambank Stabilization**
- **Road Work**
- **Potential Environmental Justice Areas**

Attachment 11

Permit Documentation
(To be added upon receipt)

Attachment 12

SEQR Documentation

Governor's Office of Storm Recovery

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

STATE ENVIRONMENTAL QUALITY REVIEW ACT
DETERMINATION OF NON-SIGNIFICANCE (NEGATIVE DECLARATION)

TOWN OF ROSENDALE – JAMES STREET FLOOD CONTROL

DATE: October 20, 2017

NAME OF ACTION: Town of Rosendale – James Street Flood Control (Proposed Project)

LOCATION: James Street between John Street and Route 32 and along and within Rondout Creek, Town of Rosendale, Ulster County, New York 12472

SEQRA CLASSIFICATION: [ ] Type I *(ENB Required)*; [X] Unlisted

REVIEW TYPE: [X] Coordinated; [ ] Uncoordinated

DETERMINATION OF SIGNIFICANCE: [X] Negative Declaration; [ ] Positive Declaration

---

The Governor's Office of Storm Recovery ("GOSR"), an office of New York State Homes and Community Renewal's ("NYSHCR") Housing Trust Fund Corporation ("HTFC"), has established Lead Agency status pursuant to the State Environmental Quality Review Act ("SEQRA") (ECL Sections 3- 0301(1)(b), 3-0301(2)(m) and 8-0113 and 6 NYCRR Part 617) for the environmental review of the proposed Town of Rosendale – James Street Flood Control Project ("Proposed Project") located on James Street between John Street and Route 32 and along and within Rondout Creek, Town of Rosendale, Ulster County, New York 12472. In accordance with SEQRA and its implementing regulations found at 6 NYCRR Part 617, GOSR has established itself as SEQRA lead agency and has classified the proposed action an Unlisted Action. A short Environmental Assessment Form (EAF) Part 1 regarding the proposed action has been circulated for review and comment to interested and involved agencies. GOSR has evaluated the criteria found under 6 NYCRR 617.7(c), completed Parts 2 and 3 of the EAF, and determined that the proposed action would not result in significant environmental impacts. This memo is incorporated by reference into Part 3 of the EAF and serves as the rationale for GOSR's determination of significance.

The Proposed Project:

The Proposed Project involves U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) program funding proposed for stormwater management improvements located on James Street between John Street and Route 32 and along and within Rondout Creek in the Town of Rosendale, Ulster County, New York. The total project cost is $600,000.00

(public facilities and improvements Phase I $48,330.00 and Phase II $551,670.00) to be paid for with CDBG-DR funds toward implementing the Proposed Project.

The Town of Rosendale proposes to replace the existing small-bore stone-built culvert that passes beneath James Street near the intersection of Parkcrest Drive. This existing 48-inch pipe is to be replaced with a 60-inch HDPE pipe culvert that will run under James Street, with a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A proposed catch basin and storm manhole are to be installed on the western side of the Parkcrest Drive and James Street intersection, with a new 36-inch HDPE pipe to replace the existing 36-inch pipe running under Parkcrest Drive. This 36-inch HDPE pipe connects to the 60-inch HDPE pipe and storm manhole located on the eastern side of the Parkcrest Drive and James Street intersection.

Four additional catch basins are proposed to be built along James Street, west of Parkcrest Drive. The catch basins will be located on the north and south side of James Street, with two catch basins located approximately 170 feet west of Parkcrest Drive on James Street and two catch basins located 520 feet west of Parkcrest Drive on James Street. The proposed construction includes flattening the south bank slope with a buttress toe for slope stability on the sound bank of the Rondout Creek. Additionally, the proposed construction includes armoring Rondout Creek's south bank with riprap. This riprap will begin at the western edge of the existing riprap and extend 600 feet upstream. A point bar along the northern bank of Rondout Creek will be removed, which will restore the original Rondout Creek flood control creek bottom to 39.5 feet, which is the original Rondout Creek flood control creek bottom elevation. The Town also proposes to construct guide rails along James Street, as well as a 5-foot asphalt pedestrian walkway that will run parallel to the north side of James Street, extending approximately 330 feet west of Parkcrest Drive to the intersection of James Street and Route 32.

Purpose and Need:

This funding assistance will provide for culvert and HDPE replacements; retaining wall, manhole and catch basins installations; constructing guide rails along James Street and a 5-foot asphalt pedestrian walkway; flattening the southern bank slope, and constructing a buttress toe at the slope on the south bank of Rondout Creek; armoring Rondout Creek's southern bank with riprap; and removing a point bar along the northern bank of Roundout Creek in in the Town of Rosendale to address flooding during heavy rainfall events.

The purpose of the Proposed Project is to ensure that James Street, a critical connector road, will be accessible during and after future storm events. On August 28, 2011, Hurricane Irene dropped approximately 6 inches of rain during a 24-hour period. A few weeks later in early September 2011, Tropical Storm Lee dropped several more inches of rain on already saturated soils and overloaded Rondout Creek leading to record high water levels and severe flash flooding. As a result of the high water during these storm events, the lower portion of James Street washed out and collapsed causing a substantial safety risk for vehicles and residences located on James Street and in the surrounding area. During these storm events, residents were unable to access necessary health and social service facilities. James Street serves as a critical alternate vehicular and pedestrian route, providing an ingress/ egress thoroughfare that connects NY Route 32/213 and an emergency route for Rosendale's Downtown District.

Existing Conditions:

Project activities will occur along James Street between John Street and Route 32 and along and within Rondout Creek, which has been washed out during historic high water events and collapsed during Hurricane Irene and Tropical Storm Lee. As a result of the high waters, the washout created substantial risk for vehicles and residences located on James Street and in the surrounding area. During these storm events, residents were unable to access necessary health and social service facilities.

According to the *Multi-Jurisdictional Natural Hazard Mitigation Plan for Ulster County*, New York, approximately 9.8% of the properties (Page 3a-46), and approximately 12.7 % of the improved land value (Page 3a-47) in the Town of Rosendale are located in a High Flood Risk area. This Plan highlights past actions that have been taken in the Town to mitigate damages from natural disasters. Still, flooding is identified as a hazard vulnerability for the Town. The Proposed Project, described herein, is specifically identified in the Hazard Mitigation Plan as a mitigation initiative that has a high estimated benefit to the community.

According to the New York Rising Community Reconstruction (NYRCR) Plan for Ulster Communities, this Proposed Project will allow the installed infrastructure to withstand future storm events without damage, likely improve the Town's emergency response and recovery efforts, and provide continued access for Emergency Medical Services (EMS) providers and to health and social service facilities.

Funding:

The total Proposed Project cost is estimated at $600,000.00. GOSR proposes to allocate funding pursuant to the HUD CDBG-DR program as authorized by the Disaster Relief Appropriations Act of 2013 (Public Law 113-2, approved January 29, 2013). The NYS Housing Trust Fund Corporation (HTFC), which administers the CDBG-DR program funds on behalf of GOSR, intends to approve funding for the Proposed Project as described in this notice.

Environmental Considerations:

The SEQRA EAF Parts I and II assessed multiple resource topics, and no potential impacts were identified. The SEQRA analysis finds that the Proposed Project will not result in a significant adverse environmental impact. Additional explanation is provided for those sections of the SEQRA EAF Parts I and II where additional explanation may be helpful in understanding the environmental considerations. The SEQRA EAF section number is followed by the explanation.

Section 2.
The Proposed Project might require a U.S. Army Corps of Engineers (USACE) Section 404 Permit and the New York State Department of Environmental Conservation (NYSDEC) permits: Article 15 - Protection of Waters, Article 15 - Stream Disturbance, Article 15 Excavation and Fill in Navigable Waters, Article 16 - 6 NYCRR Part 501 - Permit for Flood Control Land Use, and CWA Section 401 Water Quality Certification. The Proposed Project requires NYSHCR CDBG-DR funding.

Section 3.
The Proposed Project anticipates less than one acre of ground disturbance. Proposed site plans are included in the Environmental Assessment.

Section 12.
According to the EAF mapper, the Proposed Project site contains a structure that is located within an archeological sensitive area. However, on April 15, 2016 and March 3, 2017, the New York State Historic Preservation Office (SHPO) reviewed the Proposed Project and determined that there will be *No Effect* on historic properties listed or eligible for listing on the National Register of Historic Places, which is included in the Environmental Assessment. Also, on April 1, 2016 and February 24, 2017, GOSR sent consultations letters to the applicable Tribal Historic Preservation Offices (THPOs). The THPO of the Delaware Tribe of Indians, Delaware Nation, St. Regis Mohawk Tribe, and Stockbridge-Munsee Community Band of Mohicans responded that they have no objection to the Proposed Project activities. No response was received from the Mohawk Nation to the 2016 Consultation Letter. The Delaware Tribe of Indians and Stockbridge-Munsee

Community Band of Mohicans responded that they have no objection to the Proposed Project activities in the updated 2017 Consultation Letter. No response was received from the Delaware Nation and St. Regis Mohawk Tribe to the updated 2017 Consultation Letter. In the event any unanticipated discoveries of human remains and/ or cultural resources including, but not limited to, funerary objects, sacred objects, and objects of cultural patrimony are made during execution of the Proposed Project, work shall be halted immediately and the SHPO and the THPOs of the Delaware Tribe of Indians, Delaware Nation, Mohawk Nation, St. Regis Mohawk Tribe, and Stockbridge-Munsee Community Band of Mohicans shall be consulted before work resumes.

Section 13.
Based on the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) map and NYSDEC Environmental Resource Mapper, there is a federally designated riverine (R5UBH) and the NYSDEC classifies Rondout Creek as a Class B waterway, while the tributary running under James Street is classified as a Class C waterway. Therefore, a formal wetland management review process is required for compliance with Executive Order 11990 Protection of Wetlands, which is included in the Environmental Assessment. The Proposed Project will not interfere with the restoration of a vital ecosystem and preservation of its natural heritage. The Proposed Project will be implemented in accordance with all applicable federal, state and local laws, regulations, and permit requirements and conditions in order to ensure the preservation of water quality. Thus, no potential impacts from the Proposed Project are anticipated.

Section 15.
On May 24, 2017, a response was received from the NYSDEC Natural Heritage Program (NHP) indicating their database contained records of rare or state-listed animals or plants, or significant natural communities within the vicinity of the Proposed Project site. These records indicated the endangered Indiana Bat and threatened Northern Long-eared Bat have been documented within one mile from the Proposed Project site. Also, the NHP response indicated that a high-quality occurrence of the rare community type of Limestone Woodland and uncommon community type of Calcareous Talus Slope Woodland are present in the greater Rosendale woods, located west of the Proposed Project site. However, Limestone Woodland and Calcareous Talus Slope Woodland are not present at the Proposed Project site. In addition, NHP indicated that the endangered Cut-leaved Evening-primrose may be present in the vicinity of the proposed project site, however, that is based upon documentation from 1979 or earlier and there is uncertainty regarding its continued presence in the area. According to the *NHP Website*, the Cut-leaved Evening-primrose is found primarily in New York City and Long Island, but may have found its way north to Ulster County within the Hudson River Valley. However, the habitat of this species includes dry, sandy, successional old fields, sandy embankments, and disturbed areas of maritime grasslands. The project locations do not include these types of habitats. Also, the project locations are primarily located within previously disturbed areas. The point bar removal is not seen as an area of concern considering it is often inundated with water, therefore, would be habitat for aquatic plants and the Cut-leaved Evening-primrose is not defined as aquatic. Furthermore, conservation measures include the need of disturbance to reduce competition from woody plants. However, it is recommended that this disturbance be conducted when the Cut-leaved Evening-primrose is dormant (not flowering or fruiting), which is from late-September/early-October to mid-May. Therefore, it is not anticipated that the proposed project activities will have an effect on the Cut-leaved Evening-primrose and no further review is necessary.

Note: The Rondout Creek is classified under Article 15 as "B." In perennial warm-water fisheries (Class "A, B or C"), in-water work is prohibited beginning March 1st and ending July 15th.

The USFWS lists the threatened Northern Long-eared Bat (NLEB) (Myotis septentrionalis), the endangered Indiana Bat (Myotis sodalis), the threatened Bog Turtle (Clemmys muhlenbergii), and migratory birds of concern as species with the potential to occur within the vicinity of the Proposed Project site. The IPaC Resource List indicates that there are 19 species of migratory birds protected by the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA) that could potentially be affected by the

Proposed Project, including the Bald Eagle (Haliaeetus leucocephalus). However, there are no known breeding Bald Eagles within the vicinity of the Proposed Project site; therefore, no adverse impacts to breeding Bald Eagles are expected to occur as a result of the Proposed Project. There is no habitat for the Bog Turtle in the Proposed Project area and migratory birds are expected to temporarily leave the area during construction due to noise and disturbance. Therefore, the Proposed Project is likely to have no effect on the Bog Turtle and migratory birds of concern.

GOSR performed a Phase I Summer Habitat Assessment in April 2017 to evaluate the trees that need to be removed for project construction. During the Summer Habitat field inspection, it was confirmed that the trees proposed to be removed are part of a small strip of forested habitat located immediately adjacent to residential development and residential yard habitat. Any bats living in the vicinity of the Proposed Project area would still be able to breed, feed, and find shelter. Similar habitat (forested creek corridor surrounded by residential development) is located immediately west of the Proposed Project area. Since 1) tree clearing will be conducted between November 1 and March 31 when bats are hibernating, 2) the Proposed Project will not impact a large area of suitable habitat relative to the surrounding landscape, and 3) the Proposed Project will not impact high-quality habitat, a "may affect, not likely to adversely affect" determination was made for the Indiana Bat and Northern Long-eared Bat and submitted to USFWS.

The USFWS concurred with this determination on June 20, 2017. The USFWS stated that "[g]iven the project location, small amount of tree removal (0.86 acres), and conservation measure to **conduct all tree removal between November 1 and March 31**, we concur with your determination." The USFWS had no further comment on GOSR's no effect determination for the Bog Turtle. The response stated that "No further coordination or consultation under Endangered Species Act (ESA) is required with the Service at this time. Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered…Until the Proposed Project is complete, we recommend that you check our website every 90 days from the date of this letter to ensure that listed species presence/absence information for the Proposed Project is current." The USFWS also recommended that if Bald Eagles are found within the Proposed Project area, then GOSR and the Town of Rosendale should follow the Bald Eagle Management Guidelines on the USFWS website.

GOSR will promptly report any departures from the described Proposed Project activities that would change the effect determination to the New York Field Office. GOSR will provide the New York Field Office with the results of any surveys conducted for the IB and NLEB. Involved parties will promptly notify the New York Field Office upon finding a dead, injured, or sick IB or NLEB.

Documentation is provided in the Environmental Assessment.

Section 16.
Based on the Federal Emergency Management Agency (FEMA) Firmette 36111C0605E, the Proposed Project is located within a FEMA designated flood zone (100-year floodplain, Special Flood Hazard Area - AE Zone) and floodway. The Floodplain Management Determination (Executive Order 11988) for the Proposed Project is included in the Environmental Assessment.

Section 17.
The pedestrian walkway construction will potentially involve the removal of a Town-owned guard rail and grading of a walkway running parallel with James Street with James Street. The pedestrian walkway may be constructed using impervious surfaces. If surfaces are impervious, runoff will flow off the impervious surface to adjacent undeveloped land and/or stream banks. The Proposed Project will not introduce new demand for groundwater or surface water, nor would the Proposed Project introduce septic flows that may affect groundwater.

Section 20.
Based on a review of available environmental records for the Proposed Project site and surrounding area, two (2) Superfund sites and three (3) open spills with known petroleum contamination located directly up-gradient of the Proposed Project site were identified as potential sources of contamination. As such, the Proposed Project site is likely to contain hazardous materials and contamination and it is recommended any soil be tested for petroleum and chlorinated VOCs prior to disposal or reuse on site. The Proposed Project does not involve the construction of buildings or enclosed structures that would contain occupants. Rather, the Proposed Project involves the construction of stormwater management improvements. Therefore, the Proposed Project site is unlikely to contain toxic chemicals and gases, or radioactive substances which would constitute a hazard that could conflict with the intended utilization of the Subject Property. A Phase I Environmental Site Assessment (ESA) or Phase II Investigation is not warranted. The full environmental standards review is included in the Environmental Assessment.

Sources:

- *Multi-Jurisdictional Natural Hazard Mitigation Plan for Ulster County:* http://ulstercountyny.gov/emergency-services/hazard-mitigation
- *NHP Website:* http://www.acris.nynhp.org/guide.php?id=9207&part=3

Standard Requirements:

Any change to the Proposed Project as described will require re-evaluation by GOSR's Certifying Officer for compliance with SEQRA and other law, regulations and policies.

This review will not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize federal funding.

If there is any unanticipated discovery of endangered or threatened species, cultural resources, soils contamination, or any other conditions affecting the factors, executive orders, stipulations, and/ or regulations discussed within this assessment, work shall be halted immediately and the appropriate agency will be consulted before work can be resumed.

Additional Mitigation Measures:

To the extent required and/or practicable, any approval of the Proposed Project is subject to following mitigation measures being adhered to by the grant recipient to minimize environmental impacts and create a more sustainable project:

- Construction and demolition – to the maximum extent possible, utilize local and recycled materials in construction process and recycle materials generated onsite.

- Clean diesel – implement diesel controls, cleaner fuel, and cleaner construction practices for on-road and off-road equipment used for transportation, soil movement, or other construction activities, including:
    - Strategies and technologies that reduce unnecessary idling, including auxiliary power units, the use of electric equipment, and strict enforcement of idling limits; and
    - Use of clean diesel through add-on control technologies like diesel particulate filters and diesel oxidation catalysts, repowers, or newer, cleaner equipment.

- Stormwater – utilize low impact development (LID) principles such as minimizing effective imperviousness to create site drainage, and the planting of native and non-invasive vegetation on the Proposed Project site for stormwater management purposes. Other LID practices can include bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements;

- Cost-efficient, environmentally friendly landscaping – EPA's GreenScapes program provides cost-efficient and environmentally friendly solutions for landscaping;

- Energy efficiency – energy-efficient technologies should be incorporated, when possible; and

- Water conservation and efficiency – promote water conservation and efficiency through the use of water efficient products (toilets, faucets, showerheads) and practices. Consider use of products with the WaterSense label, where appropriate.

In addition to the factors considered above, GOSR considered the following guidance from the State Environmental Quality Review Act and its implementing regulations and determined that the Proposed Project would:

(i) Not result in "a substantial adverse change in existing air quality, ground or surface water quality or quantity, traffic or noise levels; a substantial increase in solid waste production; a substantial increase in potential for erosion, flooding, leaching or drainage problems;" (§617.7(c)(1)(i))

(ii) Not result in "the removal or destruction of large quantities of vegetation or fauna; substantial interference with the movement of any resident or migratory fish or wildlife species; impacts on a significant habitat area; substantial adverse impacts on a threatened or endangered species of animal or plant, or the habitat of such a species; or other significant adverse impacts to natural resources;" (§617.7(c)(1)(iii))

(iii) Not result in "the impairment of the environmental characteristics of a Critical Environmental Area as designated pursuant to subdivision 617.14(g) of this Part;" (§617.7(c)(1)(iii))

(iv) Not result in "the creation of a material conflict with a community's current plans or goals as officially approved or adopted;" (§617.7(c)(1)(iv))

(v) Not result in "the impairment of the character or quality of important historical, archaeological, architectural, or aesthetic resources or of existing community or neighborhood character;" (§617.7(c)(1)(v))

(vi) Not result in "a major change in the use of either the quantity or type of energy;" (§617.7(c)(1)(vi))

(vii) Not result in "the creation of a hazard to human health;" (§617.7(c)(1)(vii))

(viii) Not result in "a substantial change in the use, or intensity of use, of land including agricultural, open space or recreational resources, or in its capacity to support existing uses;" (§617.7(c)(1)(viii))

(ix) Not result in "the encouraging or attracting of a large number of people to a place or places for more than a few days, compared to the number of people who would come to such place absent the action;" (§617.7(c)(1)(ix))

(x) Not result in "the creation of a material demand for other actions that would result in one of the above consequences;" (§617.7(c)(1)(x))

(xi) Not result in "changes in two or more elements of the environment, no one of which has a significant impact on the environment, but when considered together result in a substantial adverse impact on the environment; or (§617.7(c)(1)(xi))

Therefore, GOSR, acting as Lead Agency, and having prepared a short EAF, has determined that the Proposed Project will not have a significant effect on the environment and a Draft Environmental Impact Statement will not need to be prepared.

Lori A. Shirley
Director
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
New York State Homes & Community Renewal
38-40 State Street, Hampton Plaza, Albany, NY 12207
(518) 474-0755

Date: October 20, 2017

Attachments:
Environmental Assessment Form (Parts 1, 2 and 3)
Lead Agency Letter Sent
Negative Declaration Distribution List

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

New York Rising Community Reconstruction (NYRCR) Program

Name of Action or Project:

Town of Rosendale - Flood Control Along James Street

Project Location (describe, and attach a location map):

South side of Rondout Creek, Town of Rosendale, Ulster County, New York (see attached maps)

Brief Description of Proposed Action:

The proposed project involves NYRCR Program funding for the Town of Rosendale to replace the existing small-bore stone-built culvert beneath James Street near the intersection of Parkcrest Drive. The existing 48-inch pipe will be replaced with a 60-inch HDPE pipe culvert that will run under James Street, with a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A catch basin and storm manhole will be installed on the western side of the Parkcrest Drive and James Street intersection, with a new 36-inch HDPE pipe to replace the existing 36-inch pipe running under Parkcrest Drive. Six catch basins, storm sewer piping, and one manhole are to be built along James Street. The project includes flattening the south bank slope, and creating a low flow channel and new toe at the base of the slope along the southern bank which will be armored with riprap. Maintainence dredging will occur, removing the point bar along the northern bank. Guide rails along James Street and a pedestrian walkway with seating parallel to the north side of James Street will also be constructed.

Name of Applicant or Sponsor:	Telephone: 845-658-3159 ext. 3
Town of Rosendale (Jeanne L. Walsh - Town Supervisor)	E-Mail: supervisor@townofrosendale.com

Address:

1915 Lucus Avenue

City/PO:	State:	Zip Code:
Cottekill	New York	12419

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: NYS Department of Environmental Conservation; US Army Corps of Engineers; Town of Rosendale NYSHCR CDBG-DR funding	☐	☑

3.a. Total acreage of the site of the proposed action? 1.40 acres
b. Total acreage to be physically disturbed? 0.63 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 1.40 acres

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

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

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

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

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

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: n/a- the project involves culverts, catch basins, storm sewer piping, dredging, slope flattening, a pedestrian walkway, guide rails, and rip rap.	☐	☑

	NO	YES
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: The project will not require connections to a water supply.	☑	☐

	NO	YES
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: The project will not produce wastewater and will not require connection to a wastewater utility.	☑	☐

	NO	YES
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	☑	☐
b. Is the proposed action located in an archeological sensitive area?	☐	☑

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _6.780 cy ft__ Project activities will occur within NYSDEC classified streams and federal jurisdictional wetlands within the established Rondout Creek (6,870 sq. ft. of fill below OHWM). Construction will include flattening the south bank slope, a new toe at the base of the slope, and armoring the south bank with riprap. Maintenence dredging will occur to remove pointbar on north bank	☐	☑

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:
☑ Shoreline ☐ Forest ☐ Agricultural/grasslands ☑ Early mid-successional
☑ Wetland ☐ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☐	☑

	NO	YES
16. Is the project site located in the 100 year flood plain?	☐	☑

	NO	YES
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? ☑ NO ☐ YES	☐	☑
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☑ NO ☐ YES The pedestrian walkway may be constructed using impervious surfaces. If surfaces are impervious, runoff will flow off the impervious surface to adjacent undeveloped land and/ or stream banks.		

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size:	☑	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	☑	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: Two State superfund sites are near the project location (356031 - 1083 Route 32 and 356050 - Rosendale Cleaners). Down-gradient wells that were installed during the Remedial Investigation showed no impacts in the vicinity of the proposed work.	☐	☑

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

Applicant/sponsor name: Jeanne L. Walsh, Town Supervisor Date: 2/8/17

Signature: Jeanne L Walsh

PRINT FORM

Agency Use Only [If applicable]

Project:	Rosendale - James St
Date:	10/20/2017

Short Environmental Assessment Form
Part 2 - Impact Assessment

Part 2 is to be completed by the Lead Agency.
Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

	No, or small impact may occur	Moderate to large impact may occur
1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?	☑	☐
2. Will the proposed action result in a change in the use or intensity of use of land?	☑	☐
3. Will the proposed action impair the character or quality of the existing community?	☑	☐
4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?	☑	☐
5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway?	☑	☐
6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities?	☑	☐
7. Will the proposed action impact existing: a. public / private water supplies?	☑	☐
b. public / private wastewater treatment utilities?	☑	☐
8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?	☑	☐
9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)?	☑	☐
10. Will the proposed action result in an increase in the potential for erosion, flooding or drainage problems?	☑	☐
11. Will the proposed action create a hazard to environmental resources or human health?	☑	☐

Agency Use Only [If applicable]

Project: Rosendale - James St

Date: 10/20/2017

Short Environmental Assessment Form
Part 3 Determination of Significance

For every question in Part 2 that was answered "moderate to large impact may occur", or if there is a need to explain why a particular element of the proposed action may or will not result in a significant adverse environmental impact, please complete Part 3. Part 3 should, in sufficient detail, identify the impact, including any measures or design elements that have been included by the project sponsor to avoid or reduce impacts. Part 3 should also explain how the lead agency determined that the impact may or will not be significant. Each potential impact should be assessed considering its setting, probability of occurring, duration, irreversibility, geographic scope and magnitude. Also consider the potential for short-term, long-term and cumulative impacts.

Please see expanded Part 3 Determination of Significance found on the following pages.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action may result in one or more potentially large or significant adverse impacts and an environmental impact statement is required.

☑ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action will not result in any significant adverse environmental impacts.

Governor's Office of Storm Recovery (acting for NYS HTFC)	10/20/2017
Name of Lead Agency	Date
Lori A. Shirley	Director, Bureau of Env. Review and Assessment
Print or Type Name of Responsible Officer in Lead Agency	Title of Responsible Officer
Lori A Shirley	
Signature of Responsible Officer in Lead Agency	Signature of Preparer (if different from Responsible Officer)

Governor's Office of Storm Recovery

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

February 10, 2017

Re: Lead Agency Designation for Environmental Review of Town of Rosendale Flood Control Along James Street Project (Ulster County, New York)

Dear Involved/Interested Agency:

The Governor's Office of Storm Recovery ("GOSR") proposes to serve as lead agency under the National Environmental Policy Act ("NEPA") and State Environmental Quality Review Act ("SEQRA") and related laws for the environmental review of the proposed work regarding the Town of Rosendale Flood Control Along James Street Project (the "Proposed Action"). GOSR is conducting an environmental review of the Proposed Action on behalf of the State of New York as the recipient of Community Development Block Grant - Disaster Recovery ("CDBG-DR") funds from the U.S. Department of Housing and Urban Development under 42 U.S.C. § 5304(g).[1]

The Proposed Action involves New York Rising Community Reconstruction (NYRCR) Program funding for the Town of Rosendale Flood Control Along James Street Project. On August 28, 2011, Hurricane Irene dropped approximately 6 inches of rain during a 24-hour period. A few weeks later in early September 2011, Tropical Storm Lee dropped several more inches of rain on already saturated soils and overloaded Rondout Creek leading to record high water levels and severe flash flooding. This project will protect James Street and the community during future storm events, making it more resilient against future flooding events.

The Proposed Action would be located along James Street, Town of Rosendale, Ulster County, New York. The proposed project involves NYRCR Program funding for the Town of Rosendale proposes to replace an existing small-bore stone-built culvert that passes beneath James Street near the intersection of Parkcrest Drive. This existing 48-inch pipe is to be replaced with a 60-inch high-density polyethylene (HDPE) pipe culvert that will run under James Street, with a retaining wall built on the north side of James Street at the outfall location into Rondout Creek. A proposed catch basin and storm manhole are to be installed on the western side of the Parkcrest Drive and James Street intersection, and a new 36-inch HDPE pipe will replace the existing 36-inch pipe running under Parkcrest Drive. This 36-inch HDPE pipe connects to the 60-inch HDPE pipe and storm manhole located on the eastern side of the Parkcrest Drive and James Street intersection.

Four additional catch basins are proposed to be built along James Street, west of Parkcrest Drive. The catch basins will be located on the north and south side of James Street, with two catch basins located approximately 170 feet west of Parkcrest Drive on James Street and two catch basins located 520 feet west of Parkcrest Drive on James Street. The proposed construction includes flattening the south bank

[1] The Governor's Office of Storm Recovery, operating under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation, is the responsible entity for the administration of the CDBG-DR grants to the State of New York.

slope, creating a low flow channel, and constructing a new toe at the base of the slope on the south bank of Rondout Creek. Additionally, the proposed construction includes armoring Rondout Creek's south bank with riprap. This riprap will begin at the western edge of the existing riprap and extend 600 feet upstream. Maintenance dredging will also occur, removing the point bar along the northern bank to elevation 39.5 feet, which is the original Rondout Creek flood control creek bottom elevation. The Town also proposes to construct guide rails along James Street, as well as a 5-foot asphalt pedestrian walkway that will run parallel to the north side of James Street, beginning approximately 330 feet west of Parkcrest Drive on James Street and extending to the intersection of James Street and New York State Route 32. Approximately 0.22 acres of trees will be removed in order to install new culverts and approximately 0.64 acres of trees will be removed in order to flatten the slope and armor the bank with riprap.

This action has been preliminarily classified as an UNLISTED action pursuant to SEQRA. Additional information regarding the Proposed Action and its location are provided in the enclosed short Environmental Assessment Form. The review of the Proposed Action under NEPA and SEQRA would satisfy the requirements of 24 CFR Part 58 and 6 NYCRR Part 617.

Your agency or organization has been identified as a potential cooperating, involved, or interested agency for the review and approval of the Proposed Action. If your agency consents to GOSR's serving as the lead agency for review under NEPA and SEQRA, please so indicate by signing this letter and returning it at your earliest convenience to Lori A. Shirley at 38-40 State Street, Hampton Plaza, Albany, NY 12207, or simply email a signed copy to Lori.Shirley@nyshcr.org. If we have not heard from you by March 13, 2017, your consent will be assumed.

If you have any questions, please feel free to contact me at (518) 474-0755. Thank you for your consideration and cooperation.

Sincerely,
Lori A. Shirley
Director, Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery

The undersigned hereby consents to the Governor's Office of Storm Recovery serving as lead agency for the Proposed Action described above.

Agency/Organization: _____
By: _____
Name: _____
Title: _____
Date: _____
Permits/Approvals/Comments: _____
_____
_____

Enclosure: Short Environmental Assessment Form Part 1
Site Map
Site Plans
List of Involved and Interested Agencies

Involved/Interested Agencies - Flood Control along James Street Project

Involved

Martin Brand, Regional Director
NYSDEC Region 3
21 South Putt Corners Road
New Paltz, NY 12561-1696

Todd Westhuis, PE, Regional Director
NYSDOT Region 8
Eleanor Roosevelt State Office Building
4 Burnett Boulevard
Poughkeepsie, NY 12603

Jeanne Walsh
Supervisor
Town of Rosendale
1915 Lucas Avenue
Cottekill, NY 12419

Bob Gallagher
Highway Superintendent
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