

Draft Environmental Assessment  
**Ludlowville Streambank  
Stabilization Project**

LPDM-PJ-02-NY-2008-025

Tompkins County, New York

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**FEMA**

**Federal Emergency Management Agency**

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## LIST OF ACRONYMS

APE	Area of Potential Effect
BMP	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
dB	Decibel
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO <sub>2</sub>	nitrogen dioxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NYSDEC	New York State Department of Environmental Conservation
O <sub>3</sub>	Ozone
OSHA	Occupational Safety and Health Administration
PM <sub>2.5</sub>	particulate matter less than 2.5 microns
PM <sub>10</sub>	particulate matter less than 10 microns
SHPO	State Historic Preservation Office
SPDES	State Pollutant Discharge Elimination System
SR	State Route
USACE	United State Army Corps of Engineers
USDA	United State Department of Agriculture
USEPA	United State Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
WOUS	Waters of the United States

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## SECTION ONE INTRODUCTION

Tompkins County, NY, has requested funding from the Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance under its Legislative Pre-Disaster Mitigation Program to improve the stormwater drainage system in the Hamlet of Ludlowville to reduce flood damage to properties and infrastructure (Figure 1, Appendix A). The proposed project site is on the south side of Ludlowville Road, approximately 200 feet east of its intersection with New York State Route (SR) 34B. Under the proposed project, Tompkins County would implement streambank stabilization measures along a portion of Tributary 1A to Salmon Creek (Figure 2, Appendix A).

This funding request is for the third phase of a three-phased approach, as follows: 1) conduct a comprehensive hydrological analysis and evaluation of the factors contributing to damaging flood events in Ludlowville; 2) identify and evaluate alternative retention strategies that could mitigate damage from future flood events; and 3) implement the most cost-effective and feasible alternative(s) in cooperation with local, State, and Federal partners.

In accordance with 44 Code of Federal Regulations (CFR) Part 10, FEMA has prepared this Environmental Assessment (EA) to meet the requirements of Section 102 of the National Environmental Policy Act of 1969 (NEPA), the President's Council on Environmental Quality (CEQ) regulations to implement NEPA (40 CFR Parts 1500–1508), and FEMA's regulations implementing NEPA (44 CFR Part 10). FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this EA is to analyze the potential environmental impacts of the proposed streambank stabilization project in Ludlowville, NY. FEMA will use the findings in this EA to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

Preparation of the EA for this project was initiated in 2012, but the project was subsequently placed on hold for reasons unrelated to environmental compliance, and was reactivated in September of 2015. Therefore, the site visit and some agency consultations referenced in the EA are from 2012; FEMA has updated consultation with USFWS when the project was reactivated in September 2015.

## SECTION TWO PURPOSE AND NEED

The purpose of the Legislative Pre-Disaster Mitigation Program is to reduce the overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding in future disasters. The need for this project is to control flooding and erosion and to prevent future flood damages and losses. The proposed project design would:

- Attenuate the rate of stormwater flows in Tributary 1A and reduce erosion of the tributary's streambanks
- Reduce damages to roads and culverts by allowing water to pass more efficiently through downstream culverts
- Reduce erosion and resulting property loss and stream encroachment on private property by stabilizing streambanks

- Reduce sedimentation that is contributing to deterioration of water quality downstream

## **SECTION THREE BACKGROUND INFORMATION**

Founded in 1792, Ludlowville is a small, historic hamlet in the Town of Lansing, NY, and is home to approximately 400 residents. Salmon Creek runs through the hamlet; however, many of the floodwater mitigation concerns in rural Ludlowville exist within the context of the growth in the surrounding Town of Lansing. Lansing is the second largest town in Tompkins County, encompassing 70 square miles.

While development in the Town of Lansing has brought economic growth, it has created special challenges in stormwater management and flood mitigation. According to the Tompkins County Hazard Mitigation Plan Draft Update Tompkins County Multi-Jurisdictional All-Hazards Mitigation Plan Update (Tompkins County Planning Department, 2013), flooding is one of the greatest significant hazards in Tompkins County. Ludlowville in particular is at considerable risk for flooding. Several factors elevate Ludlowville's flood risk, including the hamlet's proximity to Salmon Creek, recent flood events affecting the community, encroaching suburban development, and higher-than-expected stormwater runoff flowing into Tributary 1A. Successful floodwater management efforts in Ludlowville will serve as a model for the entire Town of Lansing, designated as an owner of a municipal separate storm sewer system (and therefore affected by the Phase II stormwater regulations), as the Town confronts the challenges posed by commercial and residential growth.

The proposed project is consistent with this Plan Update, which includes a lengthy list of mitigation strategies to address flooding in all areas of Tompkins County, including Ludlowville and surrounding areas.

## **SECTION FOUR DESCRIPTION OF ALTERNATIVES CONSIDERED**

NEPA requires the analysis of practicable alternatives as part of the environmental review process for the proposed project. Inclusion of a No Action Alternative in the environmental analysis and documentation is required under NEPA. The No Action Alternative is used to evaluate the effects of not providing Federal financial assistance for the project, thus providing a "without project" benchmark against which "action alternatives" may be evaluated. FEMA reviewed all applicable Federal, State, and local laws and Executive Orders for each alternative considered.

### **4.1 SITE ALTERNATIVES CONSIDERED AND DISMISSED**

Several alternatives were initially considered to address flooding in the Hamlet of Ludlowville (B&L, 2010). Four drainage improvement alternatives, including a stormwater modeling analysis, were evaluated to determine which would be the most effective at reducing the flood flows in Tributary 1A and repairing the degraded condition of the stream channel. These initial alternatives, and the reasons they were dismissed, are presented below.

- *Create a Stable Channel Using Natural Stream Channel Design Principles* – This method would involve regrading the area around the stream to lower the elevation and allow the stream to return to a more natural meander. This method would require a large lateral area on each side of the stream to be effective, and would involve extensive acquisition of private property and the highest construction costs of all alternatives considered. Therefore, this alternative is not considered to be feasible and was dismissed from further consideration.
- *Closed Conveyance* – This method would involve placing the stream in an enclosed pipe; however, because flow velocities would increase, the pipe conveyance would need to be extended all the way to Salmon Creek to avoid damage to receiving areas at the outlet. This approach would require major long-term maintenance and extensive permitting. It would also result in the loss of the natural drainageway; therefore, regulatory approval might be difficult to obtain. For these reasons, this alternative is not considered feasible and was dismissed from further consideration.
- *Hard Armoring of Drainage Bed and Banks* – This alternative consists of placing rock rip-rap along the bottom and sides of the existing channel. The banks would not be revegetated; they would remain rock. This method might have to be extended downstream (almost to Salmon Creek) to prevent erosion of the stream channel and banks where the rock ends and the natural channel resumes. Because this alternative may not adequately meet the purpose and need reduce flooding it was dismissed from further consideration.

## 4.2 SITE ALTERNATIVES CONSIDERED IN THIS EA

**Proposed Site:** The proposed project site is on the south side of Ludlowville Road, approximately 200 feet east of its intersection with New York State Route (SR) 34B. Under the proposed project, Tompkins County would implement streambank stabilization measures along a portion of Tributary 1A to Salmon Creek (Figure 2, Appendix A).

The No Action Alternative and the Proposed Action Alternative are considered further in this EA and are summarized below.

### 4.2.1 No Action Alternative

Under the No Action Alternative, erosion of Tributary 1A and flooding of surrounding areas in Ludlowville would continue. The flow through the specified portion of Tributary 1A would remain at current levels during storm events, which would result in overtopping of roads and culverts downstream. The existing channel would continue to widen and deepen during storm events, causing encroachment of the stream on nearby residential properties and the potential for loss of those properties, and causing sedimentation and subsequent decreases in water quality downstream in Salmon Creek and Cayuga Lake.

## 4.2.2 Proposed Action

Under the Proposed Action Alternative, Tompkins County would implement streambank stabilization measures along 330 feet of a portion of Tributary 1A to Salmon Creek on the south side of Ludlowville Road, approximately 200 feet east of its intersection with SR 34B (see Figure 2, Appendix A). This streambank stabilization project would minimize the flood risk to properties and infrastructure adjacent to Ludlowville Road, as well as areas downstream of the project site, by attenuating the rate of stormwater flows in Tributary 1A and into Ludlowville, while also reducing erosion of the tributary's streambanks. It would require little maintenance and would restore the natural channel and riparian habitats along Tributary 1A.

The project would be implemented over the course of one year. The streambank stabilization would incorporate a "step-pool" design along 330 feet of Tributary 1A, and includes the following elements (Figure 3, Appendix A):

- Installing 8 cross vane V-shaped rock structures across the bottom of the stream to create pools of water behind them
- Regrading the existing streambanks from near vertical in some places to a 2:1 slope
- Armoring the newly regraded streambanks by placing rock along the toe of each bank within the stream up to the 50-year storm elevation
- Revegetating the streambanks

The project would require heavy equipment, such as a backhoe and a bulldozer. Tompkins County would use a 6,000-square-foot area on private property at 244 Ludlowville Road (on the north side of the road opposite the project site) as a temporary staging area and access road. This area is currently vegetated with maintained lawn and shrubs and would be reseeded upon project completion. Excess excavated soils from the project would be placed on Town of Lansing property.

Approximately 18,000 square feet of existing vegetation would be cleared to grade the streambanks. Healthy, stable trees would be integrated into the project where feasible, although some trees would need to be removed. Permanent vegetation would be planted along the streambanks once grading is completed, and Tompkins County would monitor the plantings and replant any areas that do not meet the design requirements to stabilize the new banks. Tompkins County would implement temporary and permanent erosion and sediment control best management practices (BMPs) in accordance with County and New York State Department of Environmental Conservation (NYSDEC) requirements. To further protect waterways, the project would be completed during low stream flow conditions.

## SECTION FIVE      AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Table 1 summarizes potential impacts of the No Action and the Proposed Action Alternatives. The following sections provide a more detailed description of the affected environment and potential environmental impacts of the No Action and Proposed Action Alternatives.

### 5.1      SOILS AND GEOLOGY

#### 5.1.1   Existing Conditions

The project area is in the Allegheny Plateau geologic province, and the surficial geology consists of layers of silts and clay deposited in lakes that formed when glaciers melted approximately 12,000 to 25,000 years ago (Tompkins County Planning Department, 2001). Elevation of the proposed project area varies from approximately 640 to 680 feet above mean sea level (USGS, 2010).

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), the proposed project site contains soils classified as Hudson-Cayuga silt loam; this soil is moderately well-drained, classified as “eroded,” and formed in clayey and silty glaciolacustrine (glacial and lake) deposits. Slopes in the project area are typically between 6 and 12 percent (USDA/NRCS, 2014).

The Farmland Protection Policy Act (FPPA) states that Federal agencies must “minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses...” The resources protected by the FPPA include prime and unique farmland. According to the NRCS, “Farmland subject to FPPA requirements ... can be forest land, pastureland, cropland, or other land, but not water or built-up urban land.” Because the proposed project is located in a residential area, the soils are not considered prime farmland. Therefore, the FPPA does not apply to this project.

Before beginning construction, the owner or operator of a construction project that will involve soil disturbance of one or more acres must obtain coverage under the New York State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity.

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**Table 1: Summary of Potential Environmental Impacts and Mitigation**

Resource	Potential Impacts		Agency/ Permits	Mitigation
	No Action	Proposed Action		
Soils and Geology	No impact on geology. Soil on streambanks would continue to erode and wash sediments downstream.	No impact to geology. Minor-short term impact on soils from ground disturbance during construction.	NA <sup>1</sup> (Because soil disturbance is less than 1 acre, an SPDES permit not required for the proposed project)	Implementation of erosion and sediment control best management practices (BMPs) upon project completion. Excess excavated soils would be placed on Town of Lansing property or disposed of in accordance with applicable local, State, and Federal regulations.
Land Use and Zoning	No impact.	No impact.	NA	NA
Water Resources and Water Quality	Erosion of the stream channel and banks of Tributary 1A would continue and likely worsen, resulting in sedimentation of Salmon Creek and Cayuga Lake.	Minor short-term impacts to Tributary 1A and downstream surface waters from stormwater runoff transporting sediments from soils disturbed during construction. Long-term beneficial impacts to surface waters from reduced erosion and sedimentation of Tributary 1A, Salmon Creek, and Cayuga Lake.	USACE/NWP-13, USACE/pre-construction notification, and NYSDEC/Section 401 WQC	Implementation of water quality and erosion and sediment control BMPs to minimize soil erosion and reduce sediment transport to downstream waters. In-channel work would be completed during low-flow conditions to further minimize impacts on water quality.
Groundwater	No impact.	No impact to the till/bedrock aquifer. Minor-short term impact on surficial groundwater.	NA	Implementation of water quality BMPs and mitigation as required by local, State, and Federal regulations to minimize impacts on groundwater quality.
Floodplains and Wetlands	Stormwater flows within Tributary 1A would continue to erode the stream channel and banks, resulting in continued damages to downstream properties from flooding.	No impact, but the project would slow and retain stormwater more effectively within this portion of Tributary 1A, which would reduce flood damage to adjacent and downstream properties.	NA	NA
Vegetation	No impact.	Minor short-term impacts from clearing approximately 18,000 square feet of existing vegetation.	NA	Revegetation of any disturbed areas upon completion of construction. Monitoring of the plantings to ensure they meet the design requirements for streambank stabilization and replanting when needed.
Wildlife and Fish Habitat	No impacts to wildlife and fish, however, erosion of the stream channel and banks of Tributary 1A would continue and likely worsen, resulting in continued sedimentation and water quality degradation and therefore degradation of the aquatic habitat.	Minor short-term impacts to wildlife from clearing approximately 18,000 square feet of existing vegetation. Minor short-term impacts during construction to fish and other aquatic species from stream bottom disturbance and potential runoff of disturbed soil. Long-term beneficial impacts following construction to fish and other aquatic species due to improved water quality from reduced erosion and sedimentation.	NA	Restoration of the stream channel and banks following construction. Revegetation of any disturbed areas upon completion of construction, restoring habitat for wildlife. Implementation of erosion and sediment control BMPs. Conducting in-channel work during low-flow conditions to reduce impacts to fish and aquatic life.
Threatened and Endangered Species and Critical Habitat	No impact.	No impact to migratory birds or critical habitats. Temporary and minor impacts from construction noise to the Indiana bat and northern long-eared bat (threatened and endangered species). Tree clearing would occur when the bats are not roosting in trees; therefore, FEMA has made a "May Affect, Not Likely to Adversely Affect" determination for the bats.	FEMA sent a letter to USFWS requesting concurrence with "May Effect, Not Likely to Adversely Affect" Indiana bat and northern long-eared bat; no response has been received to date.	Tree clearing done from October 1 to March 31, when bats are not roosting in trees. Minimizing run times of heavy construction equipment by turning off equipment instead of idling and using dampeners of mufflers on equipment to mitigate noise impacts. Construction only during normal business day-light hours.
Cultural Resources	No impact.	No permanent impacts on archeological or above-ground historic properties are anticipated; therefore, FEMA has made a determination of "No Adverse Effects to Historic Properties."	SHPO concurrence with FEMA's "No Adverse Effect" determination.	NA

Resource	Potential Impacts		Agency/ Permits	Mitigation
	No Action	Proposed Action		
Aesthetics and Visual Resources	No impact to current visual resources, however, the existing channel would continue to widen and deepen during storm events, causing encroachment of the stream on nearby residential properties and loss of the yards, resulting in long-term adverse effects on the visual character of the property.	Minor short-term impacts on visual resources in the neighborhood and at the project site from construction vehicles and equipment that will be staged at and driving in the area during construction. Minor long-term beneficial changes in the view of Tributary 1A and the surrounding residential properties from the repair of the eroded and channelized banks.	NA	Operating and staging construction equipment on existing roadways and staging areas to the extent practicable. Revegetation of any disturbed areas upon completion of construction.
Socioeconomic Resources	Minor recurring economic impacts to local residences, businesses, and the County would continue due to flooding damages to roads, culverts, and structures.	Long-term beneficial impacts from reduced flooding as a result of the project. Long-term beneficial economic impacts to the County because County-owned infrastructure would require less maintenance and/or repairs. Short-term beneficial impacts from the creation of temporary jobs during the construction phase.	NA	NA
Environmental Justice	No impact.	Minor beneficial impacts to residents and businesses within the Hamlet of Ludlowville. No disproportionate impact to minority or low-income populations because there are no minority or low-income populations in the vicinity of the project site.	NA	NA
Air Quality	No impact.	Minor short-term impacts during construction from fugitive dust and criteria pollutant emissions from fuel-burning equipment. Temporary negligible contributions to climate change during construction from construction activities.	NA. NYSDEC and USEPA consider Tompkins County to have attained the standards for all criteria pollutants.	Watering down construction areas to control dust when necessary. Keeping fuel-burning equipment running times to a minimum and properly maintaining engines to reduce the emission of criteria pollutants.
Contaminated Materials	No impact.	No impact.	NA	NA
Noise	No impact.	Minor short-term impacts on noise levels during construction from equipment and machinery.	NA	Construction activities conducted during normal business hours. Equipment and machinery installed at the proposed project site would meet all local, State, and Federal noise regulations.
Traffic	No impact.	Minor temporary impacts during construction on Ludlowville Road and SR 34B from construction traffic. No road closures anticipated.	NA	Placing appropriate signage along Ludlowville Road to alert traffic of slow-moving vehicles and equipment entering and exiting the project site. Storing construction vehicles and equipment on site to the extent practicable.
Public Health and Safety	Flooding and subsequent impacts to public health and safety from flood damages to roads and structures would continue.	Construction activities could present safety risks to those performing the construction; however, no impact to public health or safety is anticipated.	NA	Construction activities conducted by qualified personnel trained in the proper use of equipment and safety precautions. Conducting construction activities safely in accordance with OSHA regulations. Placing appropriate signage and barriers prior to construction to alert pedestrians, residents, and motorists of project activities.
Climate Change	No impact.	Temporary negligible contributions to climate change during construction from construction activities.	NA	NA
Cumulative Impacts	No Impact	Temporary, minor adverse cumulative impacts on air quality, soils, water quality, noise, and transportation.	NA	Implementation of erosion and sediment control BMPs, appropriate signage, and proper equipment maintenance.

<sup>1</sup>NA = not applicable

## 5.1.2 Potential Impacts and Proposed Mitigation

### **No Action Alternative**

Under the No Action Alternative, no construction would occur and there would be no impact to geology. However, the streambanks along Tributary 1A would continue to erode and wash sediments downstream.

### **Proposed Action**

Under the Proposed Action Alternative, construction activities would not be deep enough to impact underlying geologic resources; therefore, there would be no impact to geology.

Construction activities to implement the stream stabilization would disturb approximately 0.4 acre (18,000 square feet) of soil; therefore, an SPDES permit would not be required. Tompkins County would implement erosion and sediment control BMPs, including revegetating bare soils upon project completion; therefore, the proposed project would have a minor short-term impact on soils. Excess excavated soils from the project would be placed on Town of Lansing property and managed and disposed of in accordance with applicable local, State, and Federal regulations. If contaminated materials were discovered during construction activities, work would cease until the appropriate procedures and permits could be implemented.

## 5.2 LAND USE AND ZONING

### 5.2.1 Existing Conditions

The project site is located within the Town of Lansing's Zoning District R-2 Moderate Density Residential and is adjacent to Zoning District R-1 Low Density Residential (Tompkins County Planning Department, 2003). The project area is characterized as residential; however, there is some farmland to the north of the project site, across Ludlowville Road.

### 5.2.2 Potential Impacts and Proposed Mitigation

#### **No Action Alternative**

The No Action Alternative would not change existing land use and would have no impact on zoning.

#### **Proposed Action**

The Proposed Action would not change existing land use and would comply with the current Town of Lansing's zoning designation.

## 5.3 WATER RESOURCES AND WATER QUALITY

Congress enacted the Federal Water Pollution Control Act in 1948, which was reorganized and expanded in 1972 and became known as the CWA in 1977, as amended. The CWA regulates discharge of pollutants into water with sections falling under the jurisdiction of the USACE and the U.S. Environmental Protection Agency (EPA). Sections 404 and 401 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into Waters of the

United States (WOUS) and traditional navigable waterways. Under NPDES, the EPA regulates both point and non-point pollutant sources, including stormwater.

### 5.3.1 Existing Conditions

The proposed project is located in the Oswego River/Finger Lakes watershed (USACE, 2012) and would be constructed along Tributary 1A of Salmon Creek, which drains into Cayuga Lake.

### 5.3.2 Potential Impacts and Proposed Mitigation

#### **No Action Alternative**

Under the No Action Alternative, no construction would occur and there would be no impact to surface waters. However, erosion of the stream channel and banks of Tributary 1A would continue and likely worsen, resulting in continued sedimentation of Salmon Creek and Cayuga Lake.

#### **Proposed Action**

Under the Proposed Action Alternative, minor short-term impacts to Tributary 1A and downstream surface waters may occur due to stormwater runoff transporting sediments from soils disturbed during construction. Under the Proposed Action Alternative, work within the stream channel would cause temporary impacts to WOUS; therefore, the project would require a USACE permit. In a letter dated November 5, 2012, Tompkins County requested the USACE and NYSDEC review the project; USACE responded in a letter dated November 29, 2012 and NYSDEC responded in a letter dated November 29, 2012 (see Appendix B).

Because less than 500 linear feet of stream would be affected, the project would be authorized under the USACE Nationwide Permit #13–Bank Stabilization (USACE, 2012). The applicant will need to submit a pre-construction notification to the USACE prior to beginning construction. NYSDEC issued a Section 401 water quality certification (WQC) and permit (Permit ID 7-5032-00241/00001) for the project which expired on December 31, 2014 (see Appendix B); therefore, the applicant will need to apply for a new WQC.

To reduce impacts to downstream surface waters, Tompkins County would implement appropriate erosion and sediment control BMPs. Long-term beneficial impacts to surface waters would occur once the stream channel and banks are repaired, reducing erosion and minimizing future sedimentation of Tributary 1A, Salmon Creek, and Cayuga Lake. Appropriate water quality BMPs, including erosion and sediment controls, would be implemented to minimize soil erosion and reduce sediment transport to downstream waters. In-channel work would be completed during low-flow conditions to further minimize impacts on water quality.

## 5.4 GROUNDWATER

### 5.4.1 Existing Conditions

As a result of glaciation, groundwater in Tompkins County is mostly confined within several small discontinuous local aquifers. The project site is underlain by a localized till and/or bedrock

aquifer (Tompkins County Planning Department, 2001). Surficial groundwater at the project site generally can be found within 15 feet of the ground surface because of the proximity of the Tributary 1A stream channel.

#### **5.4.2 Potential Impacts and Proposed Mitigation**

##### **No Action Alternative**

Under the No Action Alternative, no construction would occur and there would be no impact to groundwater.

##### **Proposed Action**

Under the Proposed Action Alternative, no impact to the till/bedrock aquifer is anticipated because the construction activities are not expected to reach a sufficient depth to affect the aquifer. Surficial groundwater is likely to be encountered when working adjacent to the stream channel of Tributary 1A; Tompkins County would use water quality BMPs and mitigation as required by local, State, and Federal regulations to minimize impacts on groundwater quality.

#### **5.5 FLOODPLAINS AND WETLANDS**

EO 11988 (Floodplain Management) requires that Federal agencies avoid direct or indirect support of development in the 100-year floodplain whenever there is a practicable alternative. FEMA has developed Flood Insurance Rate Maps (FIRMs) to identify special flood hazard areas and risk zones for communities. Consistent with EO 11988, FIRMs were examined during the preparation of this EA.

EO 11990 “Protection of Wetlands” requires that Federal agencies take actions to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the beneficial effects of wetlands. Compliance with this EO begins with the process of identifying whether the action would be located within or would potentially affect federally regulated wetlands (USFWS, 1994). Under the CWA, the USACE regulates wetlands; in New York, NYSDEC also regulates and protects freshwater wetlands as defined by the Freshwater Wetlands Act (NYSDEC, 2015b).

##### **5.5.1 Existing Conditions**

According to FIRM Community Panel Number 3608520020C, the proposed project site is located outside the 100- and 500-year floodplain, within Flood Zone C, defined as an area of minimal flooding (FEMA, 1985).

The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory map of the area shows no wetlands within the proposed project site (USFWS, 2015a). No wetlands were identified on the project site during a site visit conducted by a FEMA Environmental Specialist on October 19, 2012.

##### **5.5.2 Potential Impacts and Proposed Mitigation**

##### **No Action Alternative**

Under the No Action Alternative, there would be no impact to floodplains or wetlands because no construction would occur. However, the stormwater flows within Tributary 1A would continue to erode the stream channel and banks, resulting in continued damages to downstream properties from flooding.

### **Proposed Action**

Under the Proposed Action Alternative, no impact to floodplains or wetlands would occur because the project site is not within a 100- or 500-year floodplain and does not have any wetlands. However, the project would slow and retain stormwater more effectively within this portion of Tributary 1A, which would reduce flood damage to adjacent and downstream properties.

## **5.6 VEGETATION**

### **5.6.1 Existing Conditions**

The streambank stabilization is proposed along a 330-foot-long section of an eroded stream channel. The streambank is vegetated with shrubs and herbaceous cover, although the channel has eroded to expose bedrock in some places. The streambank is surrounded by hardwood trees. There is no State or Federal regulated freshwater wetlands in the project site.

Vegetation and hardwood species noted during a site visit by a FEMA Environmental Specialist on October 19, 2012 include: hardwoods such as green ash (*Fraxinus pennsylvanica*), black willow (*Salix nigra*), and aspen (*Populus* sp.); shrubs including honeysuckle (*Lonicera* sp.) and dogwood (*Cornus* sp.); and herbaceous cover including goldenrods (*Solidago* spp.) and asters (*Aster* spp.).

The areas directly adjacent to the project site consist of residential homes, paved roads, and maintained lawns.

### **5.6.2 Potential Impacts and Proposed Mitigation**

#### **No Action Alternative**

Under the No Action Alternative, there would be no impact to vegetation because no construction would occur.

#### **Proposed Action**

Under the Proposed Action, approximately 18,000 square feet of existing vegetation would be cleared prior to the streambank grading. Some trees would need to be removed, although healthy and stable trees would be integrated into the project where feasible. Once grading is complete, Tompkins County would revegetate the streambank with native plantings and would continue to monitor the plantings to ensure they meet the design requirements for streambank stabilization, replanting when needed.

Temporary impacts to vegetation would also occur on the private property at 244 Ludlowville Road that would be used as a temporary staging area and access road during construction. The

area is currently vegetated with maintained lawn and shrubs that would be reseeded upon project completion.

Because Tompkins County would revegetate any disturbed areas upon completion of construction, no long-term impacts to vegetation are anticipated.

## 5.7 WILDLIFE AND FISH HABITAT

### 5.7.1 Existing Conditions

Because the project site is surrounded by residential homes and maintained lawns, the project site would provide some habitat for mammals and birds that can be found in suburban environments, such as raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), white-tailed deer (*Odocoileus virginianus*), eastern gray squirrel (*Sciurus carolinensis*), eastern cottontail (*Sylvilagus floridanus*), blue jay (*Cyanocitta cristata*), and red-tailed hawk (*Buteo jamaicensis*). Amphibian and reptile species likely to be found in the water and forested areas of the proposed project site include, but are not limited to, garter snake (*Thamnophis sirtalis sirtalis*), eastern box turtle (*Terrapene carolina carolina*), green frog (*Rana clamitans*), and American toad (*Anaxyrus americanus*). Invertebrate species likely to be found at the project site would include insects and maroinvertebrates that prefer living near or in freshwater, such as common crayfish (*Cambarus bartonii bartonii*), mosquitos (*Culicidae*), and freshwater snails (*Gastropoda*). Small, freshwater fish that prefer shallow and slow moving water, such as pumpkinseed (*Lepomis gibbosus*), bluegill (*Lepomis macrochirus*), and fathead minnow (*Pimephales promelas*), may be found in the stream channel at the proposed project site.

### 5.7.2 Potential Impacts and Proposed Mitigation

#### **No Action Alternative**

Under the No Action Alternative, no construction would occur and there would be no impacts to wildlife and fish. However, erosion of the stream channel and banks of Tributary 1A would continue and likely worsen, resulting in continued sedimentation and water quality degradation and therefore degradation of the aquatic habitat.

#### **Proposed Action**

Under the Proposed Action, 18,000 square feet of vegetation would be removed prior to streambank grading, temporarily displacing small mammals, birds, reptiles, amphibians, and invertebrates, which may be present. During construction, wildlife would not likely use the project site due to the noise and human activity. Following construction, the cleared areas would be revegetated with native plantings, restoring habitat for wildlife; therefore, no long-term impacts are anticipated.

During construction, temporary impacts to water quality may occur due to stream bottom disturbance and potential runoff of disturbed soil during construction. To reduce impacts to fish and aquatic life, Tompkins County would implement erosion and sediment control BMPs and would conduct in-channel work during low-flow conditions. Following construction, the stream

channel and banks would be restored. Because the Proposed Action would reduce erosion and sedimentation, fish and other aquatic species would benefit from improved water quality in the long-term.

## 5.8 THREATENED AND ENDANGERED SPECIES AND CRITICAL HABITAT

The Endangered Species Act (ESA) of 1973 provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead Federal agencies for implementing ESA are USFWS and U.S. National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). The law requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a “taking” of any listed species of endangered fish or wildlife.

Under provisions of the ESA, all states were granted authority to create their own endangered species protection policies. The State of New York has implemented its own legislation for the protection of species considered to be of state-importance (i.e., State listed endangered and threatened species) that is similar to the ESA (6NYCRR 182.2).

The Migratory Bird Treaty Act (MBTA) protects more than 1,000 birds. It is illegal for any person to “take” migratory birds, their eggs, feathers, or nests under the MBTA. Federal agencies are directed to implement the MBTA under EO 13186. Similarly, the Bald and Golden Eagle Protection Act (BGEPA) prohibits the take and trade of bald and golden eagles (*Haliaeetus leucocephalus* and *Aquila chrysaetos*, respectively). Federal agencies must evaluate potential impacts to migratory and bald and golden eagles and their habitats from proposed activities.

### 5.8.1 Existing Conditions

The USFWS lists two species as potentially occurring in Tompkins County, the federally endangered Indiana Bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*) (USFWS, 2015b). The northern long-eared bat and the bald eagle (*Haliaeetus leucocephalus*) are State-listed as threatened species for a larger area of Tompkins County that surrounds the project site (NYSDEC, 2014). The NYSDEC Environmental Resource Mapper has no records for any State-listed species in the immediate project area (NYSDEC, 2015c).

According to the USFWS Migratory Bird Program (USFWS, 2015c), the State of New York is located within the Atlantic Flyway – where lands may provide resting, feeding, and breeding grounds for migratory birds. Portions of the undeveloped land along Salmon Creek and near Cayuga Lake (approximately 0.5 mile west of the project site) consist of wetland and other areas that provide suitable habitats for migratory birds. While the proposed project site contains open upland areas that could be used for resting places by migratory birds, the proposed project site is located in a residential area, which would deter many birds from using it, and more suitable habitats exist in nearby undeveloped areas close to Salmon Creek and Cayuga Lake.

**Consultation with USFWS:** On September 11, 2015, FEMA sent a letter to USFWS requesting concurrence with a “May Effect, Not Likely to Adversely Affect” determination for Indiana bat and northern long-eared bat (Appendix B). FEMA’s determination is based upon conditions that restrict the timing of tree removal to periods when the Indiana bat and northern long-eared bat are not roosting in trees; these conditions are discussed below in Section 5.8.2. No response has been received from USFWS to date; any comments received from USFWS will be addressed and included in the Final EA. On November 5, 2012, FEMA sent a letter to NYSDEC requesting project review and concurrence that the project would have no impact on State-listed species (Appendix B). NYSDEC responded on November 29, 2012 concurring with FEMA’s no impact determination (Appendix B).

## 5.8.2 Potential Impacts and Proposed Mitigation

### **No Action Alternative**

Under the No Action Alternative, no construction would occur and there would be no impact to federally or State-listed species.

### **Proposed Action**

Based on the results from the NYSDEC Environmental Resource Mapper, it is unlikely that any State-listed species occur at the proposed project site. Although the project site is within the Atlantic Flyway, migratory birds are not likely to use the project site due to its proximity to residential areas; therefore, impacts to migratory birds are not anticipated.

Because the project site contains trees which may provide summer roosting habitat for the Indiana bat and northern long-eared bat, Tompkins County would only clear trees from October 1 to March 31, when bats are not roosting. The IPaC query showed no critical habitats in the project area.

Noise from construction that could disturb roosting bats if they are present would be temporary and minor; only occurring during construction. FEMA would mitigate noise impacts by minimizing the run times of heavy construction equipment by turning off equipment instead of idling and using dampeners or mufflers on equipment. Construction would only be performed during normal business day-light hours.

## 5.9 CULTURAL RESOURCES

The National Historic Preservation Act (NHPA) of 1966, (PL 89-665; 16 USC 470 et seq.) as amended, outlines federal policy to protect historic properties and promote historic preservation in cooperation with states, Tribal Governments, local governments, and other consulting parties. The NHPA established the National Register of Historic Places (NRHP) and designated the State Historic Preservation Office (SHPO) as the entity responsible for administering state-level programs. The NHPA also created the Advisory Council on Historic Preservation, the federal agency responsible for overseeing the Section 106 process and providing commentary on federal activities, programs, and policies that affect historic properties.

Section 106 of the NHPA and its implementing regulations (36 CFR 800) outline the procedures for federal agencies to follow to take into account the effect of their actions on historic properties. The Section 106 process applies to any federal undertaking (proposed project) that has the potential to affect historic properties, defined in the NHPA as those properties (archaeological sites, standing structures, or other historic resources) that are listed in or eligible for listing in the NRHP. Although buildings and archaeological sites are most readily recognizable as historic properties, a diverse range of resources are listed in the NRHP, including roads, landscapes, and vehicles. Under Section 106, federal agencies are responsible for identifying historic properties within the Area of Potential Effects (APE) for an undertaking, assessing the effects of the undertaking on those historic properties, if present, and considering ways to avoid, minimize, and mitigate any adverse effects on historic properties. Section 106 is the primary regulatory framework used in the NEPA process to determine impacts on cultural resources.

### **5.9.1 Existing Conditions**

A URS Architectural Historian and a URS Archaeologist, both qualified under the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) in the disciplines of history/architectural history and archaeology, respectively, performed a desktop assessment of the project's potential to affect historic properties within the APE. The URS Architectural Historian conducted a site visit to delineate the APE for above-ground resources.

For above-ground resources, FEMA has defined the APE as the construction footprint of the proposed project and the adjacent properties at 222, 229, 233, and 244 Ludlowville Road. Delineation of this APE takes into account the potential impact of the undertaking within the viewshed and any other indirect effects (Figure 4). While the construction footprint is situated within a wooded area and is not currently visible from neighboring properties, the temporary staging area would be visible from the house at 244 Ludlowville Road. There is a slight potential that the construction activity may be visible from other neighboring properties during the late fall and winter months; therefore, they are included in the above-ground APE. FEMA has determined that the building located at 229 Ludlowville Road is eligible for the NRHP under Criterion C (buildings that embody the distinctive characteristics of a type, period, or method of construction), but the undertaking would have no permanent impact on the property or its viewshed.

For archaeological resources, FEMA has determined that the APE consists of the footprint of the proposed project, accounting for all areas where ground disturbance associated with the undertaking could potentially occur (Figure 4). The APE accounts for planned activities that could affect archaeological resources including regrading the existing channel, equipment and material staging, placement of rock along streambanks, and revegetating streambanks.

Based on the desktop review of the project area conducted for this study, there appears to be a low potential for archaeological historic properties to be present within the archaeological APE.

## 5.9.2 Potential Impacts and Proposed Mitigation

### **No Action Alternative**

Under the No Action Alternative, no construction would occur and no historic properties would be affected.

### **Proposed Action**

Under the Proposed Action Alternative, no permanent impacts on archeological or above-ground historic properties are anticipated; therefore, FEMA has made a determination of “No Adverse Effects to Historic Properties.” On November 15, 2012, FEMA initiated Section 106 consultation with the New York State Office of Parks, Recreation, and Historic Preservation (SHPO) with a letter transmitting its determination (Appendix B). The SHPO responded on December 7, 2012 concurring with FEMA’s “No Adverse Effect” determination (Appendix B).

## 5.10 AESTHETICS AND VISUAL RESOURCES

### 5.10.1 Existing Conditions

Views in the project area are characteristic of a residential neighborhood and primarily include single-family residences along Ludlowville Road. Tributary 1A is surrounded by a small area of trees and herbaceous vegetation. Farmland is located to the north of the project site, across Ludlowville Road; mowed lawns and residences are located to the immediate south and southwest. Ridge Road can be seen from the project site to the southwest. Salmon Creek is to the southeast of the site and cannot be seen from the project area.

### 5.10.2 Potential Impacts and Proposed Mitigation

#### **No Action Alternative**

Under the No Action Alternative, no construction would occur and there would be no changes to the current visual resources. However, the existing channel would continue to widen and deepen during storm events, causing encroachment of the stream on nearby residential properties and loss of the yards, resulting in long-term adverse effects on the visual character of the property.

#### **Proposed Action**

Under the Proposed Action, there would be minor, short-term impacts on visual resources in the neighborhood and at the project site during construction from construction vehicles and equipment that will be staged at and driving in the area while working at the project site. Construction equipment would be operated and staged on existing roadways and staging areas to the extent practicable. Areas cleared of vegetation and trees during construction would be revegetated in native vegetation upon completion of construction.

The proposed project would result in minor long-term changes in the view of Tributary 1A and the surrounding residential properties. With the implementation of the streambank stabilization and the growth of the revegetated areas, the eroded and channelized banks would be repaired, improving the aesthetics of the surrounding area.

## 5.11 SOCIOECONOMIC RESOURCES

### 5.11.1 Existing Conditions

According to the 2010 Census data (USCB, 2015), Tompkins County has a population of 101,564. The median household income is \$51,393. The project site is within the Hamlet of Ludlowville, but no census data is available specifically for the Hamlet. Ludlowville includes several residences, historic bed-and-breakfast establishments, businesses, and recreational areas, including Ludlowville Park. As Lansing and the surrounding area grow and develop, historically agricultural communities are rapidly becoming mixed-use communities. Tompkins County has experienced significant residential and population growth in the past 30 years.

### 5.11.2 Potential Impacts and Proposed Mitigation

#### **No Action Alternative**

Under the No Action Alternative, minor recurring economic impacts to local residences, businesses, and the County would continue due to flooding damages to roads, culverts, and structures.

#### **Proposed Action**

Under the Proposed Action Alternative, residents in Ludlowville would benefit in the long term from reduced flooding as a result of the project. County-owned infrastructure such as roads and culverts would require less maintenance and/or repairs, resulting in long-term economic benefits to the County. The project would create temporary jobs during the construction phase. No adverse socioeconomic impact is anticipated.

## 5.12 ENVIRONMENTAL JUSTICE

EO 12898, entitled “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” guides Federal agencies to make environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations (USEPA, 2015a).

### 5.12.1 Existing Conditions

Socioeconomic and demographic data for the project area were reviewed to determine whether the proposed project would have a disproportionate effect on minority or low-income populations. The Hamlet of Ludlowville and the project site are in Census Tract 23 of Tompkins County. Table 2 presents population, demographic, and economic data for Census Tract 23, Tompkins County, and the State of New York.

**Table 2: Population, Demographic and Economic Data**

	<b>Census Tract 23</b>	<b>Tompkins County</b>	<b>State of New York</b>
Total population (2010)	5,518	101,595	19,378,112
Annual median household income (2009-2013)	\$66, 944	\$51,393	\$58,003
Population in Poverty (2009-2013)	4.81%	20.5%	15.3%
Minorities (2013) <sup>1</sup>	6.05%	17.8%	29.1%
Over 65 (2013)	12.24%	11.9%	14.4%

<sup>1</sup>Racial Minority = Black or African American alone, American Indian and Alaskan Native alone, Asian alone, Native Hawaiian and Other Pacific Islander alone, Some Other Race alone, Two or More Races, and Hispanic or Latino.

Source: (USA.com, 2013), (USCB, 2015)

The demographics of the residential communities adjacent to the proposed project site were observed to be consistent with those described by Census data for the general area; there are no minority or low-income populations in the vicinity of the project site.

### 5.12.2 Potential Impacts and Proposed Mitigation

#### **No Action Alternative**

Under the No Action Alternative, because there are no minority or low-income populations in the vicinity of the project site, there would be no disproportionate impact on minority or low-income populations.

#### **Proposed Action**

Under the Proposed Action Alternative, the streambank stabilization would benefit several residents and businesses within the Hamlet of Ludlowville. The proposed project would not result in the acquisition of additional land or displacement of any population or businesses. There are no minority or low-income populations in the vicinity of the project site so there would be no disproportionate impact on minority or low-income populations.

### 5.13 AIR QUALITY

The Clean Air Act and its amendments require the EPA to establish national ambient air quality standards (NAAQS). The standards have been established to protect the public from potentially harmful amounts of pollutants. Under the Clean Air Act, the EPA establishes primary and secondary NAAQS. Primary air quality standards protect the public health, including the health of “sensitive populations, such as people with asthma, children, and older adults.” Secondary air quality standards protect the public welfare by promoting ecosystem health and preventing decreased visibility and damage to crops and buildings. The EPA has set NAAQS for the following six criteria pollutants: ozone (O<sub>3</sub>), particulate matter less than 2.5 microns and less

than 10 microns (PM<sub>2.5</sub>, PM<sub>10</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), sulfur dioxide, and lead.

The NYSDEC has adopted USEPA's NAAQS as criteria pollutants for New York. Areas that fail to meet the NAAQS are considered "non-attainment areas", while those areas that meet the NAAQS are considered "attainment areas." The General Conformity Final Rule (40 CFR Part 51) specifies criteria or requirements for conformity determinations for Federal projects. The General Conformity Rule ensures that the actions taken by Federal agencies in nonattainment and maintenance areas do not interfere with a state's plans to meet national standards for air quality.

There is scientific consensus that some human activities, such as fuel combustion, are changing the weather, climate, and chemical composition of the Earth's atmosphere through the accumulation of trace greenhouse gases (GHGs). GHGs include water vapor, carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons.

### 5.13.1 Existing Conditions

NYSDEC and USEPA consider Tompkins County to have attained the standards for all criteria pollutants (USEPA, 2015b).

### 5.13.2 Potential Impacts and Proposed Mitigation

#### **No Action Alternative**

Under the No Action Alternative, there would be no impact on air quality because no construction would occur.

#### **Proposed Action**

Under the Proposed Action Alternative, minor, short-term impacts to air quality would occur during construction. Construction contractors would be required to water down construction areas to control dust when necessary. Emissions from fuel-burning internal combustion engines (e.g., heavy equipment and earthmoving machinery) could temporarily increase the levels of some of the criteria pollutants, including CO, NO<sub>2</sub>, O<sub>3</sub>, PM<sub>10</sub>, and non-criteria pollutants such as volatile organic compounds. To reduce the emission of criteria pollutants, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained. FEMA has determined that this project is consistent with the goals and policies of the USEPA and NYSDEC and has determined that this project will have no effect on air quality.

Because there would be no stationary emission sources at the proposed project location post-construction, climate change contributions from the Proposed Action would be temporary. When compared to the entire GHG contributions of human activities in the Ludlowville, GHG emissions from the proposed project would be negligible.

## 5.14 CONTAMINATED MATERIALS

Hazardous substances are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes, that pose a substantial present or potential hazard to human health or

the environment. Hazardous substances are primarily generated by industry, hospitals, research facilities, and the government. Improper management and disposal of hazardous substances can lead to pollution of groundwater or other drinking water supplies, and the contamination of surface water and soil. The primary Federal regulations for the management and disposal of hazardous substances are the Comprehensive Environmental Response, Compensation and Liability Act and the Resource Conservation and Recovery Act.

#### **5.14.1 Existing Conditions**

The USEPA EnviroMapper (USEPA, 2015c) and the NYSDEC Environmental Navigator (NYSDEC, 2015c) online databases identify one facility, Duthie Painting Company, located within 1,000 feet southwest of the proposed project site. The facility release history was reviewed, and no land releases have been identified; therefore, the facility is not anticipated to affect the proposed project. In addition, a review of the Tompkins County Abandoned Landfills map and database shows no known abandoned landfills in or near the project area (Tompkins County Planning Department, 2001). A site visit was conducted by a FEMA Environmental Specialist on October 19, 2012; no hazardous or toxic materials were observed onsite.

#### **5.14.2 Potential Impacts and Proposed Mitigation**

##### **No Action Alternative**

Under the No Action Alternative, no construction would occur and there would be no impact from hazardous materials or waste.

##### **Proposed Action**

Under the Proposed Action Alternative, no hazardous materials or waste impacts are anticipated. Any hazardous materials discovered, generated, or used during construction would be handled and disposed of in accordance with applicable local, State, and Federal regulations.

### **5.15 NOISE**

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by Federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. EPA guidelines, and those of many other Federal agencies, state that outdoor sound levels in excess of 55 dB DNL are “normally unacceptable” for noise-sensitive land uses such as residences, schools, or hospitals.

#### **5.15.1 Existing Conditions**

The six residences within the immediate project area are considered noise-sensitive receptors; however, no schools, hospitals, or other noise-sensitive receptors are within the area where construction noise could be heard.

## 5.15.2 Potential Impacts and Proposed Mitigation

### **No Action Alternative**

Under the No Action Alternative, no construction would occur and there would be no impact to noise levels.

### **Proposed Action**

Under the Proposed Action Alternative, minor short-term increases in noise levels are anticipated during the construction period. To mitigate noise impacts to nearby residences, construction activities would take place during normal business hours. Equipment and machinery installed at the proposed project site would meet all local, State, and Federal noise regulations.

## 5.16 TRAFFIC

### 5.16.1 Existing Conditions

The proposed project site is along Ludlowville Road; no other roads are adjacent to the project site (Figure 2, Appendix A). SR 34B is the primary access to Ludlowville Road and is within 500 feet of the northern end of the project, where SR 34B intersects with Ludlowville Road.

### 5.16.2 Potential Impacts and Proposed Mitigation

#### **No Action Alternative**

Under the No Action Alternative, there would be no construction and therefore no impacts to traffic would occur.

#### **Proposed Action**

Under the Proposed Action Alternative, there would be no long-term increase in traffic levels. There would be a minor temporary increase in construction traffic on Ludlowville Road and SR 34B, which could potentially result in slower traffic flow during construction. Road closures are not anticipated. Appropriate signage would be posted along Ludlowville Road to alert traffic of slow-moving vehicles and equipment entering and exiting the project site. Construction vehicles and equipment would be stored on site to the extent practicable during project construction to minimize potential delays.

## 5.17 PUBLIC HEALTH AND SAFETY

Safety and security issues considered in this EA include the health and safety of area residents and the public at large as well as the protection of personnel involved in activities related to the construction of the proposed project. EO 13045 (Protection of Children) requires Federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children.

### 5.17.1 Existing Conditions

Tributary 1A currently floods, which results in damages to structures, roadways, and utilities, posing a risk to the health and safety of the local residents.

### 5.17.2 Potential Impacts and Proposed Mitigation

#### **No Action Alternative**

Under the No Action Alternative, the project would not occur; therefore, flooding and subsequent impacts to public health and safety from flood damages to roads and structures would continue.

#### **Proposed Action**

Under the Proposed Action Alternative, construction activities could present safety risks to those performing the construction; however, no impact to public health or safety is anticipated. To minimize risks, all construction activities would be performed by qualified personnel trained in the proper use of equipment, including all appropriate safety precautions. Additionally, all activities would be conducted safely in accordance with the standards specified in the Occupational Safety and Health Administration (OSHA) regulations. The appropriate signage and barriers would be in place prior to construction activities to alert pedestrians, residents, and motorists along Ludlowville Road of project activities.

## 5.18 CLIMATE CHANGE

According to the EPA, “climate change refers to any significant change in the measures of climate lasting for an extended period of time.” These changes may involve temperature, precipitation, or wind patterns, or more. EPA also states that humans are largely responsible for these climate changes, primarily through the emission of greenhouse gases from the production of energy and other processes. EPA is working to reduce climate change impacts by regulating greenhouse gas emissions and helping communities to adapt to the changing environment (USEPA, 2014).

### 5.18.1 Existing Conditions

Climate change could potentially increase temperatures across the country, cause more severe weather events to occur, and cause sea levels to rise. Increases in severe weather events and rises in sea levels could cause more frequent flooding in the areas surrounding Tributary 1A.

### 5.18.2 Potential Impacts and Proposed Mitigation

Neither the **No Action Alternative** nor the **Proposed Action** would impact or be significantly or uniquely impacted by climate change. As noted in Section 5.13, the project area is located in an attainment area for air quality and emissions associated with the project would be from construction activities and therefore temporary.

## 5.19 CUMULATIVE IMPACTS

According to CEQ regulations, cumulative impacts represent the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7). In accordance with NEPA and to the extent reasonable and practical, this EA considers the combined effect of the Proposed Action and other actions occurring or anticipated to occur in the vicinity of the proposed project site.

Tompkins County is constructing a stormwater detention basin approximately 1,500 feet northwest of the proposed project site that will complement the stormwater attenuation and flooding mitigation within the Hamlet of Ludlowville when combined with the Proposed Action. However, they each provide individual benefits and are designed to function independently.

Together, this project and the proposed action would have temporary, minor adverse cumulative impacts on air quality, soils, water quality, noise, and transportation. These impacts are consistent with those described for the Proposed Action analysis in Section 4, and would be mitigated using erosion and sediment control BMPs, appropriate signage, and proper equipment maintenance.

## SECTION SIX PERMITS AND PROJECT CONDITIONS

The Sub-recipient is responsible for obtaining all applicable Federal, State, and local permits for project implementation prior to construction, and for adhering to all permit conditions. Any substantive change to the Proposed Action would require re-evaluation by FEMA for compliance with NEPA and other laws and executive orders. The Sub-recipient must adhere to the following conditions during project implementation. Failure to comply with these conditions may jeopardize Federal funds:

1. Any required permits, licenses, or approvals shall be obtained prior to construction, including, if applicable, the following list of permits and approvals:
  - Nationwide NWP-13, USACE
  - Pre-construction notification, USACE
  - CWA Section 401 Water Quality Certification, NYSDEC
2. Excavated soil and waste materials will be managed and disposed of in accordance with applicable Federal, State, and local regulations.
3. The Sub-recipient (and its contractors) shall stage equipment on impervious surfaces to the extent practicable including local roadways and planned staging areas to limit ground disturbance.
4. The Sub-recipient (and its contractors) must avoid unnecessary clearing of vegetation.
5. In the event that unmarked graves, burials, human remains, or archaeological deposits are uncovered, the Sub-recipient and its contractors will immediately halt construction activities in the vicinity of the discovery, secure the site, and take reasonable measures to avoid or minimize harm to the finds. Personnel should take all reasonable measures to avoid or minimize harm to the archaeological find(s) and/or avoid or minimize further unanticipated effects. The person or persons encountering such properties or effects will immediately notify the Sub-recipient at 607-274-5560 and the Sub-recipient will immediately notify the SHPO at (518) 237-8643, the FEMA Environmental/Historic Preservation section at 212-680-8677, and the Recipient at 518-292-2304. The Sub-recipient will immediately contact the County Medical Examiner who will determine if the nature of the human remains is a recent forensic case or pre-contact/historic human remains. The Recipient must determine appropriate legal measures under New York Cemetery law (N-PCL 15:1501- 1515). For the protection of the potential burials, information regarding the discovery shall not be disclosed to others except for individuals who have a need to know (e.g., site managers). The Sub-recipient will produce digital photographs, which can be transmitted electronically, and which will be sent to FEMA and SHPO. These photos are for use by the agencies only for identification purposes and will not be duplicated or shared. FEMA and SHPO will then determine if the discovery warrants additional examination. If so, the signatories and invited signatories will consult to determine the appropriate course of action from that point forward in accordance with

Federal, tribal, State, and local laws. According to the Native American Consultation Database, none of the eight federally recognized tribes in New York identify Tompkins County as an area of "particular interest." However, FEMA will notify federally recognized tribes in the state in the event of any unanticipated prehistoric archaeological discovery. Construction in the area of such sites or effects shall not resume until the requirements of 36 CFR §800.13(b)(3) have been met. At all times human remains shall be treated with the utmost dignity and respect. Reversible actions such as careful obscuring and/or securing the burial(s) through backfilling of soils or other means shall be undertaken. The location shall be immediately secured and protected from damage and disturbance. In the case of pre-contact or historic human remains, it may be necessary to have a guard or police officer on site 24/7 until permission has been granted to remove the human remains to ensure they are adequately protected. Under no circumstances should the human remains or any associated artifacts be disturbed or removed until appropriate consultation has taken place and a plan of action has been developed.

6. The Sub-recipient shall restore disturbed construction areas of the site with native seed and/or plant species to minimize soil erosion and sedimentation, as well as enhance environmental habitat quality of project area. It is recommended that disturbed soil areas be planted with native plant material, as soon as practicable after exposure, to avoid or minimize growth of undesired and potentially invasive plant species that can potentially take hold without competition of native plant materials.
7. Occupational Safety and Health Administration standards shall be followed during construction to avoid adverse impacts to worker health and safety.
8. Sub-recipient shall not initiate construction activities until fifteen (15) days after the date that the FONSI has been signed as "APPROVED."

## SECTION SEVEN PUBLIC INVOLVEMENT

In accordance with NEPA, this EA will be released for a 30-day public review and comment period. Availability of the document for comment will be advertised in the *Ithaca Journal* newspaper. A hard copy of the EA will be available for review at:

Tompkins County Public Library  
101 Green Street, Ithaca, NY 14850  
Phone: (607) 272-4557  
Hours of Operation: Monday - Thursday 9:30 am - 8:30 pm  
Friday 9:30 am - 6:00 pm  
Saturday 9:30 am - 5:00 pm  
Sunday Closed

An electronic copy of the EA is available for download from the FEMA website at [www.fema.gov/resource-document-library](http://www.fema.gov/resource-document-library).

This EA reflects the evaluation and assessment of the Federal government, the decision-maker for the Federal action; however, FEMA will take into consideration any substantive comments received during the public review period to inform the final decision regarding grant approval and project implementation. Written comments on the proposed project can be mailed or emailed to DHS-FEMA Region II, Mitigation Division, Attn: Ludlowville Streambank Stabilization Project, 26 Federal Plaza, 13<sup>th</sup> Floor, New York, NY 10278 or via email at FEMA-R2-HMA@fema.dhs.gov.

The EA evaluation resulted in the identification of no unmitigated significant impacts to the human environment. Obtaining and implementing permit requirements along with appropriate best management practices would avoid or minimize potential impacts associated with the alternatives considered in this EA to below the level of a significant impact. Substantive comments received will be evaluated and addressed as part of Final Environmental Assessment documentation prior to the anticipated issuance of a Finding of No Significant Impact (FONSI) by FEMA. If no substantive comments are received during the public review and comment period, this EA will be adopted as Final with issuance of the FONSI.

The following will receive a copy of the EA:

Tompkins County Planning Department  
121 East Court Street  
Ithaca, NY 14850

The following will receive notice of the EA's availability:

U.S. Army Corps of Engineers  
Buffalo District  
1766 Niagara Street  
Buffalo, NY 14027

U.S. Fish and Wildlife Service  
New York Field Office  
3817 Luker Road  
Cortland, NY 13045

## **SECTION EIGHT CONCLUSION**

Under the Proposed Action Alternative, no impact is anticipated to geology, groundwater, floodplains, threatened or endangered species, cultural resources, socioeconomic resources, environmental justice, hazardous materials, or public health and safety. During the construction period, minor, short-term impacts to soils, air quality, surface waters in and downstream of the project site, WOUS, biological resources, noise, and transportation are anticipated. These impacts would be mitigated using erosion and sediment control BMPs, appropriate signage, and proper equipment maintenance.

The preliminary findings of the EA indicate that the proposed project would result in no significant environmental impact to the human or natural environment. Therefore, it is anticipated that the proposed action will meet the requirements of a FONSI under NEPA, and preparation of an EIS will not be required.

## SECTION NINE LIST OF PREPARERS

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## SECTION TEN REFERENCES

- B&L. (2010, November). *Ludlowville Stormwater Control Project, Technical Report 2: Alternative Analysis*. Prepared for Ludlowville Stormwater Control Project Team Tompkins County Planning Department.
- FEMA. (1985, October 15). *FIRM, Flood Insurance Rate Map, Town of Lansing, New York, Tompkins County*. Retrieved September 2, 2015, from Flood Map Service Center: <https://msc.fema.gov/portal/>
- NYSDEC. (2005, August). *New York State Standards and Specifications for Erosion and Sediment Control*. Retrieved September 3, 2015, from [http://www.dec.ny.gov/docs/water\\_pdf/bluebook.pdf](http://www.dec.ny.gov/docs/water_pdf/bluebook.pdf)
- NYSDEC. (2014). *Nature Explorer*. Retrieved September 2, 2015, from <http://www.dec.ny.gov/natureexplorer/app/>
- NYSDEC. (2015b). *Freshwater Wetlands Program*. Retrieved September 2, 2015, from <http://www.dec.ny.gov/lands/4937.html>
- NYSDEC. (2015c). *Environmental Navigator*. Retrieved September 2, 2015, from <http://www.dec.ny.gov/imsmaps/facilities/viewer.htm>
- NYSDEC. (2015c). *Environmental Resource Mapper*. Retrieved September 2, 2015, from <http://www.dec.ny.gov/animals/38801.html>
- Tompkins County Planning Department. (2001, September). *Tompkins County Natural Resources Inventory Ithaca, New York*. Retrieved April 29, 2014, from <http://tompkscountyny.gov/files/planning/nri/inventory.pdf>
- Tompkins County Planning Department. (2003). *Zonig from Town of Lansing 2003 Zoning Ordinance*. Retrieved September 2, 2015, from <http://www.lansingtown.com/departments/codes-inspections/codes-planning-docs>
- Tompkins County Planning Department. (2013). *Tompkins County Mitigation Plan Update*. Retrieved April 29, 2014, from <http://www.tompkins-co.org/planning/documents/TompkinsCountyHMPUpdateDraft030813.pdf>
- USA.com. (2013). *Census Tract 002300 in Tompkins County, New York*. Retrieved September 2, 2015, from <http://www.usa.com/NY109002300.html>
- USACE. (2012). *Nationwide Permits*. Retrieved September 2, 2015, from [http://www.sac.usace.army.mil/Portals/43/docs/regulatory/2012\\_Nationwide\\_Permits.pdf](http://www.sac.usace.army.mil/Portals/43/docs/regulatory/2012_Nationwide_Permits.pdf)
- USCB. (2015, August 5). *State and County QuickFacts, Tompkins County, New York*. Retrieved September 2, 2015, from <http://quickfacts.census.gov/qfd/states/36/36109.html>
- USDA/NRCS. (2014, September 16). *Web Soil Survey*. Retrieved September 2, 2015, from <http://websoilsurvey.nrcs.usda.gov/app/>
- USEPA. (2014, March 18). *Climate Change: Basic Information*. Retrieved September 2, 2015, from <http://www.epa.gov/climatechange/basics/>
- USEPA. (2015a, February 3). *Summary of Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. Retrieved

- March 19, 2015, from United State Environmental Protection Agency:  
<http://www2.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice>
- USEPA. (2015b). *Criteria Pollutant Area Summary Report*. Retrieved September 2, 2015, from <http://www.epa.gov/oar/oaqps/greenbk/anc12.html>
- USEPA. (2015c). *EnviroMapper for EnviroFacts*. Retrieved September 2, 2015, from <http://www.epa.gov/emefdata/em4ef.home>
- USFWS. (1994, May 25). *Natural and Cultural Resources Management, Part 613: Natural Resources Protection. 613 FW 2, Wetland Protection (EO 11990)*. Retrieved March 23, 2015, from <http://www.fws.gov/policy/613fw2.html>
- USFWS. (2015a). *National Wetlands Inventory*. Retrieved September 2, 2015, from <http://www.fws.gov/wetlands/>
- USFWS. (2015b). *U.S. Fish and Wildlife Service, Information, Planning, and Conservation System*. Retrieved September 2, 2015, from <http://ecos.fws.gov/ipac>
- USFWS. (2015c). *U.S. Fish and Wildlife Service, Migratory Bird Program*. Retrieved September 2, 2015, from <http://www.fws.gov/migratorybirds/Flyways.html>
- USGS. (2010). *Ludlowville, NY, Quadrangle, 7.5-Minute Series Topographic Map, 1:24,000*. Retrieved October 16, 2012