

Environmental Assessment

**Bridge 80 Replacement Project (Bridge Street
over the Bush Kill), Village of Fleischmanns
Delaware County, New York**

FEMA 4020-DR-NY

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LIST OF ACRONYMS

amsl	Above Mean Sea Level
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey
AD	Area of Disturbance
ADA	Americans with Disabilities Act
APE	Area of Potential Effect
ASTM	American Society for Testing and Materials
BMP	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
CY	Cubic Yards
DCSWCD	Delaware County Soil and Water Conservation District
DBH	Diameter at Breast Height
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
EO	Executive Order
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
LF	Linear Foot
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHP	Natural Heritage Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
NYCDEP	New York City Department of Environmental Protection
NYNHP	New York Natural Heritage Program
NYS	New York State
NYSBC	New York State Building Code
NYSDEC	New York State Department of Environmental Conservation
NYSDHSES	New York State Division of Homeland Security and Emergency Services
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
NYSECL	New York State Environmental Conservation Law
OHWM	Ordinary High Water Mark

OSHA Occupational Safety and Health Administration

LIST OF ACRONYMS, Cont.

ROW	Right-of-Way
SEQRA	State Environmental Quality Review Act
SF	Square Foot
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office
SPDES	State Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Office
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

The Delaware County Department of Public Works, herein referred to as the “Subgrantee,” has requested financial assistance from the U.S. Department of Homeland Security-Federal Emergency Management Agency (FEMA) to replace Bridge 80 (Bridge Street over the Bush Kill) located in the Village of Fleischmanns, Town of Middletown, Delaware County, New York. The new bridge would replace the previous vehicular bridge that was washed out in the heavy rains and flooding experienced during Hurricane Irene. The storm incident that occurred August 26 to September 5, 2011, was declared a major disaster by President Barack H. Obama on August 31, 2011 (FEMA 4020-DR-NY) and subsequently amended. Federal public assistance was made available to affected communities and non-profit organizations in accordance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974 (42 U.S.C. 5172 et seq.), as amended. The New York State Division of Homeland Security and Emergency Services (NYS DHSES) is the Grantee partner for the proposed action. The Public Assistance Subgrant Application reference number is PW-07990 in DR-4020-NY.

The Bridge Street Bridge was a vehicular bridge connecting Wagner Avenue and Main Street/Old Route 28 by crossing the Bush Kill (*Appendices A and B*). With the event of Hurricane Irene, heavy rain and flooding washed out roadways and collapsed banks, causing significant damage to the bridge superstructure and substructure. Rendered unsafe for use, the bridge has since been removed (*Appendix A*).

The Public Works Committee of the Delaware County Board of Supervisors reviewed all the damage done to County infrastructure by the declared event. In particular, they reviewed the existing bridges in the Village of Fleischmanns and the impact that these structures have on flooding. After careful consideration of the convenience of the number of structures and the increased risk to flooding of both private and public property in the Village caused by the bridges, the Public Works Committee came to the conclusion that replacement of Bridge 80 was not in the best interest of the people of Delaware County. They directed the DPW to meet with the Village and inform them of the decision and to work with them for alternate projects for the remainder of the bridges in the Village to develop a more resilient Village infrastructure.

The Village of Fleischmanns did not accept this conclusion. Citing a master plan for the Village that revolves around a walkable community, the Village needed a foot bridge at this location <http://planitmainstreet.net/fleischmanns.html>. The County continued to stress the importance of removing the bridge as an obstacle for flood debris increasing the potential for more severe flooding during major events. Several meetings took place between the Village of Fleischmanns leaders and the Public Works Committee to discuss the structures. The Village, working with the Delaware County Soil and Water Conservation District (DCSWCD), also completed hydraulic studies in the area of the bridge to determine impacts. In the end, the Village passed a resolution that agreed to the vehicular bridge being replaced with a pedestrian bridge to minimize impacts on the floodplain, and accepted ownership of the bridge following reconstruction. Based on the resolution, the Public Works Committee agreed to proceed with the construction of a pedestrian bridge and the Village accepted ownership of the pedestrian bridge following construction (*Appendix D*).

The original vehicular bridge was much wider than the proposed bridge which will allow the County to minimize the right-of-way. The proposed bridge will be higher and will focus on keeping the limits of the new structure within the prescriptive right-of-way limits. The demolition of the residential structure would be a separate project not related to the Bridge St. bridge project. The house foundation damaged during the event has since fallen into the stream and now the abutment is isolated. That existing abutment will be removed when the new one is built behind it. To alleviate future flood events, construction of the bridge would also include re-grading of the floodplain to remove artificial (man-made) encroachments on the stream banks. The removal of encroachment will add to the protection of downstream properties in the area. The re-graded floodplain would satisfy Delaware County DPW current design standards for sizing the waterway opening as delineated in the hydrologic and hydraulic report presented in *Appendix B*.

FEMA is required as a Federal agency to evaluate the potential environmental and cultural impacts of its proposed actions, and alternatives to proposed actions, in order to make an informed decision in defining a proposed project for implementation. FEMA must consider and incorporate, to the extent practicable, measures to avoid, minimize, or mitigate adverse impacts to the human environment. The environmental analysis is conducted in compliance with the National Environmental Policy Act (NEPA), and its implementing regulations at 40 Code of Federal Regulation (CFR) Parts 1500-1508 and FEMA's regulations at 44 CFR Part 10. FEMA evaluates financial assistance projects prior to grant approval. This Environmental Assessment (EA) serves as documentation of FEMA's analysis of the potential environmental and cultural impacts of the proposed bridge crossing of the Bush Kill at Bridge Street, including analysis of project alternatives, and identification of impact minimization measures. Public involvement is a component of NEPA to inform an agency's determination and 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).

2.0 Purpose and Need

The objective of the Public Assistance Grant Program is to provide assistance to State, Tribal, and local governments and certain types of private non-profit organizations so that communities can quickly respond to and recover from major disasters or emergencies. The purpose of this project is to construct a bridge over the Bush Kill at Bridge Street in the Village of Fleischmanns. The need for this project is to restore the crossing over the Bush Kill, to remove hydraulic restrictions within the floodplain to mitigate threats to public health and safety from future flooding events on the Village, and to meet the County's current design standards for sizing waterway openings.

3.0 Background Information

The Village of Fleischmanns is located in the Town of Middletown, on the eastern border of Delaware County. The project site has contained a series of bridges. The first wooden bridge was in place by at least the end of the nineteenth century, and was destroyed in a flood. The second bridge, made of iron, was constructed in 1902 and endured into the 1950s. The third bridge was constructed in 1957 and was destroyed in 2011 by flooding associated with Hurricane Irene (Horn 2015).

Historically, significant changes have been made to the project site. The two waterways that are located within and adjacent to the project site, the Bush Kill and the Little Red Kill, have both been modified. The Little Red Kill once flowed directly south from Main Street to the Bush Kill, but in the early twentieth century it was rerouted to its current alignment and the channel was lowered by several feet. The Bush Kill, which runs through the project site, has been lowered by several feet from its natural elevation by removing rocks and soil; the stream has been extended horizontally at least ten feet from its original channel width. Excavated soil and rocks were piled on the adjacent stream banks, which raised the landform at least five feet above the original elevation (Horn 2015).

The project site has also been largely affected by past construction: retaining walls, sheet piling, rock ballast and rip rap are present along the stream banks, and the excavation of a sewer line within the project site running under the Bush Kill, have altered the natural state of the waterway. There have been at least three bridges at this crossing since the 1890s, the installation and destruction of which has affected the landform. Finally, the project site has been flooded repeatedly over many years, causing significant scouring of the natural landform and constant erosion of native soils (Horn 2015). There is a continuous effort by the Village, NYCDEP and the Delaware County Soil and Water District to improve adverse effects from flooding. There is a Natural Resources Conservation Service - Emergency Watershed Protection project immediately upstream where they have done work in floodplain to mitigate flooding. No known additional work is proposed in the floodway at this time that would impact the bridge design (*Appendix D*).

4.0 Alternatives

NEPA requires the analysis of reasonable 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 eligible assistance for the project, thus providing a benchmark against which “action alternatives” may be evaluated. In developing alternatives to the proposed project, the Subgrantee identified the following as project objectives in addition to basic purpose and need: cost effective construction, minimize maintenance, optimize the use of public funds, and mitigate future threats to public health and safety.

4.1 Alternatives Considered in this EA

There were four alternatives reviewed for this project and the two discussed in this EA are as follows:

- No Action Alternative (4.1.1)
- Proposed Action Alternative - Replacement: Construct Pedestrian Bridge over Bush Kill (4.1.2)

4.1.1 No Action Alternative

Under the No Action Alternative, it is anticipated that absent Federal financial assistance, the Subgrantee would leave the waterway as-is and not pursue replacement of the bridge or re-

grading of the floodplain. This would leave the existing bridge substructure (consisting of sheet pile and/or plate/rail walls) in place, which restrict the waterway opening. Under this alternative, there is a strong likelihood that future flooding and erosion would damage the surrounding properties during subsequent major storm events. Furthermore, not replacing the bridge would leave Village residents without convenient access to important services and facilities within their community. This alternative would not address the project's purpose and need.

4.1.2 Proposed Action Alternative: Bridge Replacement

The Subgrantee's proposed action alternative, would be to construct a pedestrian-only bridge with a span length of 86 ft. and a clear deck width (between truss chords) of 10 ft. The proposed superstructure would consist of a pre-fabricated steel half-through (pony) truss constructed of A500 galvanized structural steel tubing with a treated timber deck. The proposed substructure would consist of concrete cantilever abutments supported on steel H-piles. The approach ramps would be constructed to match the deck elevation of the proposed bridge, and would consist of embankment fill with a 10 ft. wide asphalt paved trail having a maximum slope of 5% to comply with ADA standards. The approach ramps would be approximately 30 ft. long on the north side and 60 ft. long on the south side. Miscellaneous approach work would be performed to restrict access along Bridge Street to pedestrian use only.

In order to satisfy Delaware County DPW hydraulic requirements, the floodplain would be re-graded to remove the manmade encroachments to the stream and floodplains that have resulted in a pinch point at the bridge structure. Re-grading would extend approximately 200 ft. upstream and 80 ft. downstream of the existing centerline roadway. In order to adequately re-grade the floodplain it would be necessary to acquire property from five land parcels along the north and south stream banks, with a total acquisition of approximately 0.30 acres of stream bank (See *Appendix A - Figure 4* and *Appendix C - p. 143*). The five parcels include: Parcel #1, Owner: Harriet I. Grossman; Parcel #2, Owner: Roxanne Lowit; Parcel #3, Owner: River Run B&B II, L.L.C.; Parcel #4, Owner: Robert & Marylou Pratt; and Parcel #5, Owner: Beth-Jehuda-Otzar Holocho. Parcel #5 is eligible to be acquired by Delaware County under the FEMA Hazard Mitigation Grant Program. The demolition of the residential structure would be a separate project not related to the Bridge St. bridge project. The County may acquire the property based on voluntary participation by the owner, demolish all structures, and the land would be deed restricted as per 44 CFR, Part 80. Use of this parcel would require approval by FEMA's Regional Administrator. Excavation would require removal of approximately 1,300 cubic yards (CY) of material on the north side of the Bush Kill, and 400 CY on the south side. Existing sheetpile, plate/rail abutments and wingwalls from the previous bridge would also need to be removed. It would be necessary to relocate an existing sanitary sewer manhole on the south side of the Bush Kill, to a location outside of the proposed widened channel. A retaining wall, constructed of heavy stone, would need to be constructed between the existing retaining wall and the proposed abutment wingwall (*Appendix B*).

The new, longer bridge and floodplain grading would alleviate the existing hydraulic bottleneck at the Bridge Street crossing. Re-grading of the project site would alleviate flooding of the adjacent properties during extreme events, and help to diminish the damage to the new bridge under an event similar to Hurricane Irene. Post the September 2011 flooding events, the Village of Fleischmann's sponsored a number of National Resource Conservation Service (NRCS)

Emergency Watershed Protection (EWP) projects. The Village continues to work with the New York City Department of Environmental Protection (DEP) and the Delaware County Soil and Water Conservation district and the East Branch Flood Commission to identify cost effective projects to mitigate flooding (*Appendix D*).

Replacing the bridge would restore a much needed link for the local community. Restoring pedestrian access is especially important to the local Jewish community given the proximity of the Congregation B'nai Israel Synagogue (on Wagner Ave., adjacent to the intersection with Bridge St.). This facility is also an important local and national historic landmark (it is listed on the National Register and on the New York State Register of Historic Places).

According to the Village of Fleischmanns' Comprehensive Plan, pedestrian walkability is one of the most desirable characteristics that the community possesses and enhancing the convenience of pedestrian walkability is one of the key elements of the Village's Vision Statement. The construction of a pedestrian bridge will facilitate pedestrian access between Village businesses on Main Street, and the Village Park on Wagner Avenue. The Village Park hosts many community activities, and is a significant destination in the Village.

This alternative is cost effective and meets the project purpose and need.

4.2 Identification of Preferred Alternative – Proposed Action Alternative - Bridge Replacement

The Proposed Action Alternative - Pedestrian Bridge Replacement was determined to best meet the project needs and is the Subgrantee's preferred option. The cost for bridge replacement, including associated floodplain re-grading, is estimated to be \$506,000. The No Action Alternative was also considered, however, it exhibits long-term risks to public health and safety as well as incremental costs for future construction and maintenance. The forgoing Environmental Assessment demonstrates the process and considerations inherent in the evaluation of addressing this most critical community asset.

4.3 Alternatives Considered and Dismissed

Other alternatives that were initially considered include: 1) a vehicular bridge; and 2) a pedestrian bridge with a shorter (70 ft.) span.

The vehicular bridge was removed from further consideration primarily due to its significantly higher cost. Constructing a vehicular bridge at this site would require a span length of approximately 167 ft. in order to satisfy hydraulic requirements (due to the need to maintain the existing roadway profile). This would result in the need to acquire an additional two adjacent properties (with buildings) along with a commensurate increase in the scope of the floodplain re-grading. The cost of such an undertaking was not considered to be justified, given the relatively low traffic, the physical limitations of the width of the existing street, and residential nature of Bridge Street.

A pedestrian bridge with a span of 70 ft. was also considered in an effort to minimize property takings from adjacent homeowners. However, this alternative did not improve the hydraulics of

the channel sufficiently to mitigate damage from future flood events and was therefore removed from further consideration.

5.0 Affected Environment and Environmental Consequences

Table 1 on Page 7 summarizes potential impacts of the No Action Alternative and Proposed Action Alternative. The following sections provide a more detailed description of the affected environment and potential environmental and cultural impacts of the two alternatives.

5.1 Topography, Soils, and Geology

5.1.1 Existing Conditions

Topography

The proposed project is located near the eastern border of Delaware County, in the western Catskill Mountains. The Village of Fleischmanns flanks either side of NY Route 28 where it follows the Bush Kill, with the main part of the village located north of NY Route 28. The Bush Kill flows east to west between mountainous ridges, and is joined by several creeks before it merges with Dry Brook and the East Branch of the Delaware River en route to the Pepacton Reservoir. The site of the former Bridge Street Bridge over the Bush Kill was located approximately 200 ft. upstream of where the Little Red Kill merges with the Bush Kill, and approximately 500 ft. downstream of where Vly Creek and Emory Brook join to form the Bush Kill.

Soils

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) operates the Web Soil Survey, which includes the soils of Delaware County (NRCS USDA, 2013). While the Village of Fleischmanns is shown to be composed of a wide array of soil types and slope characteristics, the Web Soil Survey maps show soils at the project location to be composed of Barbour-Trestle complex (Bg).

Barbour-Trestle complex is composed of approximately 40% Barbour and similar soils, a loamy over sandy and gravelly alluvium derived mainly from areas of acid, reddish sandstone, siltstone, and shale, and approximately 35% Trestle and similar soils, which can be described as loamy stratified alluvium overlying gravelly loamy glaciofluvial or valley fill deposits. Both soil types form floodplains.

The Farmland Protection Policy Act (FPPA) requires Federal agencies to minimize the extent to which Federal programs contribute to the unnecessary conversion of farmland to nonagricultural use and to assess potential conversion of farmland to developed property. The Bg soil is categorized as a Prime Farmland soil. The Delaware County Agricultural District 3 is in the vicinity of the project site, but not within or adjacent to the project.

Table 1 Summary of Potential Environmental and Cultural Impacts and Mitigation

Resource	Potential Impacts		Agency/ Permits	Mitigation
	No Action Alternative	Proposed Action Alternative		
Topography, Geology and Soils	Subsequent floods at the project site will damage existing topography and disturb soil.	No significant impact. Short term impacts to <0.5 acres of soil disturbed during construction; minor long-term impacts to re-graded floodplain.	NYSDEC	Best management practices for erosion and sediment control. Disturbed areas will be backfilled with native material, graded and seeded
Land Use and Zoning	No impact	Approx. 0.3 acres of land on site is privately owned. Land will need to be purchased by County prior to construction.	County, Village, Town	N/A
Water Resources and Water Quality	No impact	No significant impact. Short term impacts during construction; no long-term impacts.	USACE NYSDEC	Compliance with permit conditions to avoid long-term impacts
Wetlands	Not Applicable	Not Applicable		N/A
Floodplains	Negative impact due to subsequent flooding at the project site	Positive impacts through re-grading of floodplain.	Village Code Floodplain Permit	N/A
Vegetation	No impact	No significant impact. Trees to be removed for floodplain re-grading, areas in floodplain to be covered in rip-rap		Reseeding and mulching of disturbed areas will return disturbed areas to natural state.
Wildlife and Fisheries Habitat	No impact	No impact		N/A
Threatened and Endangered Species and Critical Habitat	No impact	No impact with conditions for time frame of work completed.	NYSDEC, USFWS	Removal of trees can only occur in allotted time as directed by the NYS DEC and USFWS.
Cultural Resources	No impact	No impact	NYSHPO/THPOs	N/A
Aesthetic and Visual Resources	No impact	Short-term construction impacts; no long-term impacts.		Reseeding and mulching of disturbed areas will return disturbed areas to natural state.
Socioeconomic Resources	No impact.	Short term positive impact		N/A
Environmental Justice	No impact	No impact		N/A
Air Quality	No impact	Short-term impacts from dust and emissions due to construction; no long-term impact.		Dust control, best management practices.
Contaminated Materials	No impact	No impact		N/A
Noise	No impact	Short-term impacts from construction noise; no long-term impact.		Use of manufacturer specified noise reduction equipment during construction.
Traffic	Negative impact due to loss of water crossing (results in a 1 mile detour)	Positive impact to pedestrian traffic; Negative impact to vehicular traffic due to change in use (results in a 1 mile detour)		
Infrastructure	Negative impact due to loss of water crossing	Positive impact due to restoration of safe water crossing.		Compliance with Federal and State Standards for design
Public Health and Safety	Potential negative impact from future flood damage.	Positive impact due to floodplain re-grading, safe pedestrian waterway crossing		Compliance with Federal, State, and local safety standards and codes.
Climate Change	No impact	No impact		N/A
Cumulative Impacts	No cumulative impacts	No cumulative impacts		N/A

Geology

According to the Geologic Map of New York, the portion of Delaware County that includes the project site is covered by shale and sandstone materials and dates to the Late Devonian Period of the Paleozoic Era (O'Connor 2015). The bedrock underlying all of Delaware County is of sedimentary origin. The sediments resulted from erosion of a large mountain range which once existed to the east. Most scientists believe this was 370 million years ago (the Upper Devonian Period). Westward flowing rivers deposited layers of sand, silt, and clay which eventually became the beds of sandstone, siltstone, and shale rocks of today. The regional dip of these otherwise flat lying rock layers is toward the south-southwest at angles of less than 10 degrees, although steeply inclined, coarse crossbedding within individual rock layers does occur. Rock colors are often shades of red or bluish grey, due to deposition in environments of high oxygen (terrestrial) or low oxygen (tidal or alluvial plain), respectively. Dark grey or black shale beds also occur.

A number of glaciations have occurred, the most recent of which was the Wisconsin glaciation some 10 unusually thicker layers over other areas. These glacial deposits are the parent material in which the soils described above have developed.

5.1.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would negatively impact the existing topography and soil. If no improvements are made to open the channel to the desired width, flooding caused by future rain events will wash away soil and alter the topography of the project site, damaging the surrounding properties (as evidenced by previous flood events).

Proposed Action Alternative

The Proposed Action Alternative would have minor impacts to the physical features of the project site, including ground disturbance during construction. Some impacts to soils and topography (ground disturbance) during construction would occur from tree removal and grading of the floodplain. Best management practices (BMPs) will be utilized to minimize erosion and control sediment, including use of filter fabric adjacent to all areas of soil disturbances to reduce transport of dislodged soils into nearby streams and seeding/mulching of disturbed soils to help establish a vegetative cover and stabilize disturbed areas. The area of disturbance would be approximately 0.5 acres, including the area along the stream crossing.

The soil disturbance of the project would cover less than one acre, thus it is not necessary to prepare a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the “New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity” General Permit Number GP-0-15-002, effective January 29, 2015.

As the proposed pedestrian bridge would be built on the footprint of pre-existing infrastructure, the project is exempt from the US Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) Farmland Protection Policy Act (FPPA) provision. Although the project does include soils designated as prime farmland, the project only impacts an already developed area that would be restored to its previous use after construction.

5.2 Land Use and Zoning

5.2.1 Existing Conditions

The most recent bridge across the Bush Kill at the project site was constructed in 1957, and was owned by Delaware County. This bridge washed out during Hurricane Irene in 2011. Remnants of the bridge substructure are still present at the project site: sheet pile, plate/rail abutments, and wingwalls can be found on the north and south banks of the Bush Kill. The land use at the project site is primarily residential. Local residents adjacent to the right-of-way own land at the northwest, southwest, and southeast corner of the project site. A residential building located on the south-west parcel was substantially damaged as a result of Hurricane Irene, and was subsequently abandoned. A commercial parcel is located at the north-east corner. No documentation concerning pending easements or building permits were available for this review.

5.2.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would not impact land use or local zoning.

Proposed Action Alternative

The Proposed Action Alternative would not change or impact land use and zoning. The proposed project would be consistent with existing site usage. In order to provide the required waterway opening, the floodplain must be re-graded to remove the man-made encroachments to the stream and floodplains. The re-grading would extend approximately 200 ft. upstream and 80 ft. downstream of the existing centerline roadway. To do so, it would be necessary to acquire property from five parcels along the north and south stream banks. The total acquisition would be 0.30 acres.

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 Clean Water Act (CWA) in 1977, as amended. The CWA regulates discharge of pollutants into water with sections falling under the jurisdiction of the U.S Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA). Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into Waters of the United States and traditional navigable waterways. The USACE regulates activities within navigable waters, as authorized under the 1899 Rivers and Harbors Act. Under National Pollutant Discharge Elimination System (NPDES), the EPA regulates both point and non-point pollutant sources, including stormwater. Activities that disturb one (1) acre of ground or more are required to apply for an SPDES permit administered in NYS through the NYSDEC.

5.3.1 Existing Conditions

The project site straddles the Bush Kill, a body of water that is 4.08 miles from its confluence with Dry Brook to its confluence with Vly Creek and Emory Brook. It drains approximately 47 square miles and is part of the Each Branch Delaware River watershed, which includes Pepacton Reservoir. The Bush Kill runs from east to west in a notch between ridges in the Catskill

Mountains; in the Village of Fleischmanns, it has an elevation of approximately 1,500 ft. above mean sea level (amsl). Brown trout from the Pepacton Reservoir use this stream for spawning; Brook Trout are also present in the stream. From the NYSDEC, the Bush Kill is classified as a class “B (TS)” stream (best usage for swimming and other recreation, and fishing), where the “TS” indicates the water is suitable for trout spawning. The stream is managed under special fishing regulations: a 9 inch minimum size, and an April 1 through September 30 open season. In accordance with NYS Environmental Conservation Law, any disturbance to the bed or banks of a stream with trout standards would be prohibited without a permit from the NYSDEC (NYSDEC-Mapper, 2013). The Pepacton Reservoir and its tributaries are within New York City’s Water Supply System, and are therefore regulated, monitored and protected by the NYCDEP as part of their New York City Watershed Program.

5.3.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would potentially result in continued periodic impairments to the Bush Kill and its surrounding property. The removal of the bridge was limited to the superstructure components only; the abutments and sheet-pile wall on either side of the Bush Kill are still in place. As a result, there is a “choke point” or hydraulic restriction in the channel at the subject site. In its existing condition, the channel does not meet the goals of the local floodplain analysis. Future heavy rainfall events would result in flooding and erosion of the stream banks and damage to surrounding properties. As such, this alternative would not meet the goals of the Local Floodplain Analysis (LFA) conducted by DCSWCD on behalf of the Village of Fleischmanns (*Appendix D*).

Proposed Action Alternative

This alternative involves the construction of a new bridge with a longer span, which would therefore have a larger waterway opening. The project also includes floodplain grading at the built-up properties surrounding the project site. No impact to surface water quality of Bush Kill would occur as minimization and mitigation measures, through permitting, would be required to avoid any adverse impacts to the natural environment, including any necessary conditions to avoid impacts to fish passage during the channeling of the brook. Prior to construction, the Subgrantee would obtain permits from NYSDEC and USACE as the project would require a NYS DEC Article 15 – Protection of Waters Permit. Approximately 1,700 CY of stream bed material or surrounding stream bank material would be removed during construction of the bridge and subsequent floodplain grading. Clean rip rap and stone fill would be placed to match necessary stream bed grades. The action would be controlled to prevent pollutants from entering water resources during the construction phase. Silt fences would be placed downstream and alongside the stream bed. Given the limited area of disturbance (< 1 acre), a SWPPP would not be required.

No long-term impacts to Bush Kill bed and banks would be expected, although construction would require the utilization of erosion prevention measures and site restoration. No impacts to groundwater quality would be anticipated as excavation would not reach high groundwater table depths and there would be no discharge of sanitary wastes into groundwater.

5.4 Wetlands

EO 11990 “Wetlands Protection” 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 is ensured through the process of identifying whether the action would be located within or would potentially affect wetlands. Federal actions within wetlands require the Federal agency to conduct an Eight-Step Review Process. This process, like NEPA, requires the evaluation of alternatives to avoid, minimize or mitigate impacts to wetlands prior to funding the action. FEMA’s regulations for conducting the Eight-Step Review process are contained in 44 CFR Part 9. The wetland definition at 44 CFR 9.4 is broader than the three-parameter USACE approach to wetland delineation. Only one of the three parameters (wetland soils, wetland plants, or wetland hydrology) is required for an area to be defined as a wetland per FEMA’s regulation consistent with the United States Fish and Wildlife Service (USFWS) Cowardin Classification System. Federal regulation of wetlands under Section 404 of the Clean Water Act is in the permit jurisdiction USACE. EPA also has a policy and guidance role for wetland protection under Section 404. NYSDEC regulates and protects freshwater wetlands at the state-level as defined by NYS’ Environmental Conservation Law (NYSECL) Article 24. The Eight-Step Review Process Summary for this project can be found in *Appendix F*.

5.4.1 Existing Conditions

Based on a wetlands review of the proposed project site for the presence of NYS regulated freshwater wetlands conducted at the NYSDEC’s “Environmental Resource Mapper” website, no state regulated wetlands are within the AD. The U.S. Fish and Wildlife Services’ (USFWS) National Wetland Inventory (NWI) website does not identify any wetlands within the AD (*Appendix D*). Based on correspondence with Larry Day, Soil and Groundwater Specialist, with the Delaware County Soil and Water Conservation District (SWCD), it was determined that there are no federally protected wetlands adjacent to Bush Kill or above the ordinary high water mark (OHWM) within the Bridge 80 project site in Fleischmanns, NY (correspondence included in *Appendix D*). EO 11990 has broader definition of wetlands than USACE/NYSDEC approaches to wetland delineation. Open water and mudflat, essentially all streams, are to be considered “wetland” in accordance with EO 11990.

5.4.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would not have an impact on wetlands as no work would be completed.

Proposed Action Alternative

Construction of the pedestrian bridge and floodplain grading would be temporary impacts to wetlands/floodplain habitat. The Eight-Step Review Process for this project can be found in *Appendix F*.

5.5 Floodplains

EO 11988 “Floodplain Management” requires that Federal agencies avoid funding activities that directly or indirectly support occupancy, modification, or development of the 100-year

floodplain whenever there are practicable alternatives (FEMA 2010). FEMA uses Flood Insurance Rate Maps (FIRMs) to identify floodplains for the NFIP. Federal actions within the 100-year floodplain, or 500-year floodplain for critical actions, require the Federal agency to conduct an Eight-Step Review Process. This process, like NEPA, requires the evaluation of alternatives prior to funding the action. FEMA's regulations for conducting Eight-Step processes are contained in 44 CFR Part 9.5. The Eight-Step Review Process conducted for this project can be found in *Appendix F*.

5.5.1 Existing Conditions

The project site is mapped within a special flood hazard area (SFHA), and is subject to flooding by the 1% annual chance flood (100-year flood). According to the Flood Insurance Rate Map (FIRM, Community Panel Number 36025C0643D, effective June 19, 2012), the project site is within the floodplain of the Bush Kill (See *Appendix A*). The floodplain extends mostly south of the Bush Kill, and continues into the surrounding Village of Fleischmanns.

Existing and Proposed Conditions models were developed using the U.S. Army Corps of Engineers HEC-RAS River Analysis System, Version 4.1.0, January 2010. To meet recommended NYSDOT survey manual criteria, topographic and stream survey was performed to supplement a county-provided site survey performed by T.Y. Lin International in April, 2012. Nominated peak discharges calculated in the "East Branch Delaware River Hydrology Methodology Report" prepared by Gomez and Sullivan Engineers, P.C., August 2012 were verified and adopted for Bushkill Creek.

5.5.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The no action alternative would leave the grading around the Bush Kill in its existing condition. As previously mentioned, the channel of the Bush Kill at the project site is forced into a hydrologic choke point, as sheet piling and abutments were left in-place following removal of the previous bridge. It also appears that human intervention and activities in the past at the four corners of the project site have used fill to maintain the property area, pushing the Bush Kill inwards and causing it to have steep stream banks at the project location. As can be seen on the FIRM, this causes water to pool upstream of the bridge during flood events.

Proposed Action Alternative

The proposed alternative involves removal of the existing sheet piling and abutments prior to the construction of the new pedestrian bridge; the new bridge would be designed with a longer span to reduce the choke point created by the existing bridge abutments. In addition, the bridge replacement project includes re-grading the floodplain in the project site. The effectiveness of the final design of the bridge and the floodplain was determined through hydraulic and hydrologic studies conducted by Modjeski and Masters. The hydraulic analyses show that the upstream water surface elevation (WSE) is lowered by approximately 2.5 feet for the 100-year flood. This alternative would mitigate flooding issues in the surrounding properties, particularly upstream of the bridge.

The proposed bridge type alternative that has been evaluated is the preferred single span configuration. The longer clear span would shift the abutment locations back, and relieve the flow restriction caused by the previous structure's approach embankments. The forecasted hydraulic performance results also assume that the prescribed upstream floodplain stream bank grading is adopted and performed in conjunction with, or prior to, bridge construction. Floodplain grading as proposed will require the relocation of a sanitary sewer manhole in the southeast bridge quadrant. Scour protection is assumed to consist of rock riprap similar to the adjacent emergency stream bank restoration performed by the Delaware County Soil and Water Conservation District using NRCS EWP program funds.

The applicant is required to coordinate with the local floodplain administrator regarding floodplain permit(s) prior to the start of any activities. All coordination pertaining to these activities and applicant compliance with any conditions should be documented and copies forwarded to the state and FEMA for inclusion in the permanent project files. As per 44 CFR 9.11(d)(9), mitigation or minimization standards must be applied, where possible. In particular to this bridge project, 44 CFR 9.11(d)(4), there shall be no encroachments, including fill, new construction, substantial improvements of structures or facilities, or other development within a designated regulatory floodway that would result in any increase in flood levels within the community during the occurrence of the base flood discharge. Until a regulatory floodway is designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within the base floodplain unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

5.6 Vegetation

5.6.1 Existing Conditions

The project location encompasses approximately 0.5 acres of land, the majority of which includes the Bush Kill or its banks. As such, very little of the land contains natural vegetation. Most of the project site has been previously altered to prevent erosion: rock walls, rip rap, and steel sheet piling can be found in the areas immediate to the surviving bridge approaches. The remaining area is either grass lawn, maintained by the property owner, or brush and trees. As stated, the owners of the property on either side of the Bush Kill have been encroaching into the floodplain; any vegetation within the project site is susceptible to damage or destruction during flood events.

5.6.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would not impact vegetation as no work would be completed. As any vegetation present is in the floodplain, it is likely that it would be damaged or destroyed in subsequent floods.

Proposed Action Alternative

Re-grading of the floodplain would include excavating sections of the stream bank which have been artificially built up by man-made improvements over time. In addition, to mitigate erosion, the graded surface would be covered with rip rap. While this would destroy the vegetation in the area to be re-graded, the area of natural vegetation in the entirety of the project site is small, and therefore the impact is considered to be minor. It would be necessary to remove 8 trees from the construction site. The types and sizes of the trees to be removed are: Willow - 2, Avg. Diameter 73 in.; Maple - 3, Avg. Diameter 20 in.; Black Cherry - 1, Avg. Diameter 15 in.; Butternut – 1, Avg. Diameter 16 in.; and Cedar -1, Avg. Diameter 19 in.

5.7 Wildlife and Fisheries Habitat

5.7.1 Existing Conditions

The project site includes less than 0.5-acre parcel of land owned by five property owners within the Village of Fleischmanns. Prior to the start of the project, the land would be acquired by the Subgrantee. The acreage is dominated by the Bush Kill; small sections of private property along the stream bank (totaling approximately 0.3 acres) would need to be obtained to properly grade the project site. The residential property areas consist of forest habitat, suitable for wildlife such as mammals, birds, amphibians, and reptiles typical of the region. The Bush Kill is classified as a class “B (TS)” stream, indicating the water is suitable for trout spawning. In addition, Federal agencies must evaluate potential impacts to migratory bird habitat per the Migratory Bird Treaty Act. There is no sensitive migratory bird habitat along any of the potential project routes.

5.7.2 Potential Impacts and Proposed Mitigation

Neither of the alternatives would permanently impact wildlife in the area. Some populations may be displaced temporarily during construction, but ample habitat exists to accommodate any displaced wildlife resources. Although fish passage may be temporarily hindered during the stream channeling, the fish habitat of the stream will be improved in the long term by improvements to the stream bed and floodplain. In accordance with Migratory Bird Treaty Act, FEMA has determined that there would be no significant adverse impact to migratory bird habitat.

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 National Oceanic and Atmospheric Administration-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.

5.8.1 Existing Conditions

The USFWS's Endangered Species Program webpage and IPaC system were reviewed to determine whether any Federally-threatened or endangered species were known to be located at or near the site (USFWS 2005; USFWS 2014). The USFWS website provides a list of federally-listed species by county; as of October 2015, the Dwarf Wedgemussel (*Alasmodonta heterodon*) is listed as an endangered species in Delaware County. The Northern Long-eared Bat (*Myotis septentrionalis*) is listed as threatened. Neither the Wedgemussel nor the Northern Long-eared Bat are recorded as being identified in the confines of this project area. The bald eagle (*Haliaeetus leucocephalus*) is a delisted species identified in Delaware County, yet it continues to receive protection under the Bald and Golden Eagle Protection Act amendment of 1972 (16 USC Part 668), the Migratory Bird Treaty Act of 1918, and the Migratory Bird Treaty Reform Act of 1998, which were enacted to prohibit the taking or attempt to take migratory game birds for the protection of the species.

5.8.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would not affect endangered, threatened, or rare species or any critical habitat.

Proposed Action Alternative

The Northern long-eared bat requires mature specific tree species for habitat during migration, and may also roost in rock crevices and talus areas. The tree removal that is proposed to re-grade the floodplain may also disrupt these habitats. Eight trees are proposed for removal, as discussed in section 5.6.2. According to information provided by the New York Heritage Program, there are no known maternity roost trees or hibernacula within ¼ mile of the proposed site but the site does serve as potential summer habitat for the Northern Long-Eared Bat species. Based upon the review of Federal and state sources, USFWS has concurred with FEMA's determination in correspondence dated October 28, 2015 (*Appendix D*), that the proposed action may affect, but is not likely to adversely affect, the Northern Long-Eared Bat (NLEB), with the following conditions:

- In order to lessen the effect of tree removal on the Northern long-eared bat, trees may only be removed between November 1 and March 31. This is necessary to avoid the roosting period of the Northern long-eared bat.
- In addition, the removal of standing trees (live or dead) greater than or equal to 4 inches diameter at breast height (DBH) with loose bark should be avoided as much as possible and bright colored flagging or fencing should designate the trees to be removed prior to construction activities to differentiate them from protected trees. These conservation measures will be reflected in the final grant condition documentation.

Dwarf wedgemussel are found in the Delaware and Neversink Rivers, not Bush Kill or Espus Creek as these areas do not provide suitable habitat. Therefore, the determination is no effect.

There are no anticipated negative impacts to the Dwarf wedgemussel or Northern long-eared bat as neither of these endangered or threatened species (respectively) is recorded as being identified within the confines of the project area. Additionally, there are no anticipated adverse impacts to the bald or golden eagle, since there is no known nesting habitat in the area and the area does not provide suitable foraging or perch/shelter habitats for the eagle.

5.9 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA), as amended, and implemented by 36 CFR Part 800 requires Federal agencies to consider the effects of their actions on historic properties and provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on Federal projects that would have an effect on historic properties. These actions must take place prior to the expenditure of Federal funds. Historic properties include districts, buildings, structures, objects, landscapes, archaeological sites, and traditional cultural properties that are listed in or eligible for listing in the National Register of Historic Places (NRHP).

5.9.1 Existing Conditions

The Area of Potential Affects (APE) for the proposed project includes a 0.3 acre area for the proposed construction of the new pedestrian bridge and floodplain grading.

In 2012, FEMA consulted with the New York State Historic Preservation Office (SHPO) regarding the proposed replacement of Bridge 80 and SHPO concurred with FEMA's finding that the proposed replacement will result in "no effect to historic properties" with the condition that a Phase I archaeological investigation be conducted prior to construction (12PR03392, letters dated August 7, 2012 and August 13, 2012). While the previous bridge and two adjacent properties were more than 50 years in age, none were found eligible for listing in the National Register.

The project scope of work was subsequently changed from what was consulted on in 2012, and a Phase IA Archaeological Assessment was completed for the revised APE to determine the potential for the presence of intact cultural material. It was noted in the assessment that much of the project site had been previously disturbed, due to the series of bridges constructed at this location and its propensity for flooding. The archeological assessment recommended that the project site was not sensitive for either pre-contact or historic period archaeological resources; no further archaeological investigations were recommended. This report and related correspondence is included in *Appendix E*.

5.9.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would not impact cultural resources.

Proposed Action Alternative

There are no historic properties within the APE of the Proposed Action Alternative. Furthermore, as discussed above, a Phase IA Archaeological Assessment concluded that the project area was not sensitive for either pre-contact or historic period archaeological resources. FEMA finds that this alternative will result in no effects to historic properties and does not recommend any further

studies. SHPO concurred with FEMA’s finding in a letter dated March 31, 2015 (15PR03392). FEMA also provided the Phase IA report for review and comment to the Delaware Nation, Delaware Tribe of Indians, Saint Regis Mohawk Tribe and the Stockbridge-Munsee Community Band of Mohicans in a letter dated March 6, 2015. The Delaware Nation responded that they had no concerns with the project but should any prehistoric or historic resources be encountered during construction, work should cease and the tribes and state should be notified. The Delaware Tribe of Indians responded that there are no religious or culturally significant sites within the APE and they had no objection to the proposed project, but requested that they be contacted in the case of any discovery of human remains. The Stockbridge-Munsee Community Band of Mohican’s Tribal Historic Preservation Office responded to FEMA that they do not have significant cultural resource concerns with the project and requested that work be stopped and they be notified in the case of inadvertent discoveries. No response was received from the Saint Regis Mohawk Tribe. SHPO and THPO correspondence can be found in *Appendix E*.

5.10 Aesthetics and Visual Resources

5.10.1 Existing Conditions

The project site consists of small portions of privately-owned property adjacent to the Bush Kill. The project would commence following the purchase of the property by from the five property owners. Thus, the project site would be bordered by privately-owned property. The Village Master Plan indicates that along Bush Kill there are narrow riparian vegetation buffers and eroding banks present in this reach. The Depot Street and Bridge Street corridor is “built-up,” with 60% considered urban area.

5.10.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would have no impact on aesthetic or visual resources.

Proposed Action Alternative

Temporary impacts are expected to aesthetics and visual resources during construction. No long-term impacts to aesthetics and visual resources would be expected. This alternative consists of the construction of a pedestrian bridge and approach ramps, which would be visible once construction is completed and the areas returned to their natural state. However, the new pedestrian bridge and ramps would have less of a visual impact than the previous roadway bridge, as the pedestrian bridge would be smaller and lighter. Re-grading of the floodplain is also expected to temporarily impact the aesthetics and visual resources; however this would take place on the interior of the lots and would not impact any important viewsheds. In addition, there would be some impact to the visual resources on Bridge Street as the road would no longer be a through-road. As such, it would be necessary to create an automotive turn-around area, and appropriate signage would need to be placed. The overall visual impact of these precautions is expected to be minimal.

5.11 Socioeconomic Resources

5.11.1 Existing Conditions

According to the American Community Survey (ACS), sponsored by the U.S. Census Bureau, the 2010 Population for the Village of Fleischmanns was 315 persons and Delaware County had a population of 47,980 persons (US Census Bureau 2010). The Median Household Income for the Village is \$32,000 and the Median Household Income for the County is \$44,470. During the summer season, a large number of Orthodox and Hasidic Jewish families from communities in the metropolitan New York area will rent hotel rooms or houses in the Village, often for weeks or months at a time.

5.11.2 Potential Impacts and Proposed Mitigation

No Action Alternative

This alternative would have no impact on the socioeconomic resources of the Village of Fleischmanns.

Proposed Action Alternative

Short-term positive impact to socioeconomic resources would be anticipated as a result of construction jobs and activity in the area that may support shopping/restaurants/gasoline/hardware & supplies/other retail. Long-term, the project would allow a safe and easily accessible crossing of the Bush Kill for pedestrians crossing to or from a residential part of the Village and Village Park to a commercial area.

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 its programs, policies, and activities on minority populations and low-income populations” (EPA 1994).

5.12.1 Existing Conditions

According to 2010 census data and the American Community Survey, the population of the Village of Fleischmanns is predominantly white (estimated 91%). About 25% of Village of Fleischmanns residents and 14.2% of Delaware County residents live below the poverty level. An Orthodox/Hasidic Jewish population resides in Fleischmanns during the summer. As non-permanent residents, the census does not enumerate this temporary population. However, since walking is part of their religious culture, this group is adversely impacted by the loss of pedestrian access resulting from the removal of the bridge. The project location is not delineated as an Environmental Justice community.

5.12.2 Potential Impacts and Proposed Mitigation

No Action Alternative

This alternative would have a negative impact on those residents of Fleischmanns who must rely on walking as their main form of transportation. Residents who are unable to drive, or who cannot afford a car, would be excessively affected by the one mile detour. The Hasidic and Orthodox Jewish people who reside in the Village of Fleischmanns over the summer would also be disproportionately affected, as the Congregation B'nai Israel Synagogue is located adjacent to Bridge Street, and Jewish law (halakha) prohibits driving on their holy day (Shabbat).

Proposed Action Alternative

All residents would benefit as a result of the proposed action because a safe crossing of the Bush Kill, from residential to commercial areas of the Village, would be made available. This alternative would restore pedestrian access for the Hasidic and Orthodox Jewish community to reach the Congregation B'nai Israel Synagogue on Wagner Avenue.

5.13 Air Quality

The Clean Air Act (CAA) of 1963 (amended 1970, 1977 and 1990) requires each state to attain and maintain specified air quality standards. National Ambient Air Quality Standards (NAAQS) have been promulgated by the Federal government and by NYS for carbon monoxide (CO), nitrogen dioxide (NO₂), total suspended particulate (TSP), sulfur dioxide (SO₂) and lead (Pb). NYS standards are generally the same as the Federal standards for these pollutants. Primary air quality standards are set to protect human health and secondary standards are set to protect human welfare. The EPA implements 2008 Ground-level Ozone Standards as required by the CAA to provide public and environmental health benefits.

5.13.1 Existing Conditions

As identified on the EPA EJ Mapper, the proposed project is not located in a non-attainment area for Ozone 8-Hour, Lead 2008 Standard, Particulate Matter (PM) 2.5 Annual, or PM 2.5 24-Hour Standard.

5.13.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would not impact air quality.

Proposed Action Alternative

For the Proposed Action Alternative, temporary impacts (approximately 6 months) to air quality would be anticipated during construction activities; no long-term impacts are expected. Construction activities on the project site may have a potential impact on the local air quality through the generation of fugitive dust or airborne dust. Fugitive dust is generated during ground breaking and excavation activities. Emissions from diesel construction vehicles are also a potential source of air pollution. The use of best management practices (BMPs) would help minimize dust and vehicle emissions. BMPs may include but would not be limited to application of water or stabilizers to control dust or reducing equipment idling time to prevent excessive

emissions. It is FEMA's finding that the construction emissions would be below *de minimis* levels for ozone and other criteria pollutants.

5.14 Contaminated Materials

5.14.1 Existing Conditions

The project area is not believed to contain any hazardous materials. An American Society for Testing and Materials (ASTM) - Phase I Environmental Assessment was conducted on the project site and surrounding properties. Due to faint petroleum odors noted during the September 2014 geotechnical investigation, and possible contamination due to past incorrect disposal practices conducted by a previous owner of the commercial property at the north-east corner of the project site, an ASTM - Phase II Environmental Site Assessment was recommended (*Phase I and II - Appendix C*).

In May 2015, a Phase II Environment Site Assessment was carried out by Keystone Associates. The area of concern included an adjacent property formerly used by New York State Electric and Gas (NYSEG), where fluids containing PCB may have been stored. Ten soil borings were collected via macrocore sampler, and three were collected via subsurface grab. Soil samples were analyzed for NYSDEC Target Compound List (TCL) Volatile Organic Compounds (VOCs), TCL Semi-VOCs (SVOCs) and PCBs. One groundwater sample was taken as well, to be tested for the same compounds listed above.

Visual evidence of contamination was not observed in any of the ten soil borings, and VOCs, SVOCs and/or PCBs were not detected above the "Unrestricted Use" Soil Cleanup Objectives (SCOs) in any of the three analyzed soil samples. One shallow groundwater sample was collected on-site. This sample was taken where faint petroleum odors were noted during the September 2014 geotechnical boring investigation. Similar odors were not identified during the site assessment investigation, and VOC, SVOC and PCB concentrations were not detected above laboratory report limits and remained below their applicable groundwater quality standards (GWQS). Based on this information, further investigation does not appear warranted at this time.

5.14.2 Potential Impacts and Proposed Mitigation

None of the alternatives would impact or be impacted by contaminated materials as no part of the project area is believed to contain contaminated materials. No evidence of significant contamination to site structures, soils, surface/groundwater from hazardous materials has been identified. BMPs shall be implemented in the event that petroleum or other hazardous material leaks occur during construction. These practices include requiring all contractors to keep materials on hand to control and contain a petroleum spill. Any spills are required to be reported to NYSDEC. Contractors are responsible for ensuring responsible action on the part of construction personnel. Occupational Safety and Health Administration (OSHA) standards would be adhered to during construction to avoid impacts to worker health and safety.

5.15 Noise

Sound pressure level (SPL) is used to measure the magnitude of sound and is expressed in decibels (dB or dBA), with the threshold of human hearing defined as 0 dBA. The SPL increases logarithmically, so that when the intensity of a sound is increased by a factor of 10, its SPL rises by 10 dB, while a 100-fold increase in the intensity of a sound increases the SPL by 20 dB.

Equivalent noise level (Leq) is the average of sound energy over time, so that one sound occurring for 2 minutes would have the same Leq of a sound twice as loud occurring for 1 minute. The day night noise level (Ldn) is based on the Leq, and is used to measure the average sound impacts for the purpose of guidance for compatible land use. It weights the impact of sound as it is perceived at night against the impact of the same sound heard during the day. This is done by adding 10 dBA to all noise levels measured between 10:00 pm and 7:00 am. For instance, the sound of a car on a rural highway may have an SPL of 50 dBA when measured from the front porch of a house. If the measurement were taken at night, a value of 60 dBA would be recorded and incorporated into the 24-hour Ldn.

Leq and Ldn are useful measures when they are used to determine levels of constant or regular sounds (such as road traffic or noise from a ventilation system). However, neither represents the sound level as it is perceived during a discrete event, such as a fire siren or other impulse noise. They are averages that express the equivalent SPL over a given period of time. Because the decibel scale is logarithmic, louder sounds (higher SPL) are weighted more heavily; however, loud infrequent noises (such as fire sirens) with short durations do not significantly increase Leq or Ldn over the course of a day.

The Noise Control Act of 1972 required the EPA to create a set of noise criteria. In response, the EPA published *Information On Levels Of Environmental Noise Requisite To Protect Public Health and Welfare With An Adequate Margin Of Safety* in 1974 which explains the impact of noise on humans. The EPA report found that keeping the maximum 24-hour Ldn value below 70 dBA will protect the majority of people from hearing loss. The EPA recommends an outdoor Ldn of 55 dBA. According to published lists of noise sources, sound levels and their effects, sound causes pain starting at approximately 120 to 125 dBA (depending on the individual) and can cause immediate irreparable damage at 140 dBA. OSHA has adopted a standard of 140 dBA for maximum impulse noise exposure.

5.15.1 Existing Conditions

The project site is located in a residential area in the Village of Fleischmanns, Delaware County, New York, and contains homes and businesses. The ambient noise level in the vicinity of the project site is typical for a suburban area. Vehicle noise is also generated from nearby Main Street and Wagner Avenue, though the impact is mitigated by the trees and other plant life. Currently, there is no noise associated with the existing condition. The Ldn is typically about 45 dBA for rural agricultural areas, and 55 dBA for small-town and suburban residential areas. (References: NYSDEC program policy memorandum “Assessing and Mitigating Noise Impacts,” http://www.dec.ny.gov/docs/permits_ej_operations_pdf/noise2000.pdf and “Environmental Noise: The Invisible Pollutant,” <http://www.nonoise.org/library/envarticle/>).

5.15.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would not impact ambient noise levels.

Proposed Action Alternative

Temporary impact (approximately 6 months) to ambient noise levels would be anticipated during construction; no long-term impacts would be expected. Methods such as utilization of manufacturer specified noise reduction equipment should be used during construction to minimize impacts.

5.16 Traffic

5.16.1 Existing Conditions

Destruction of the previous bridge in 2011 eliminated vehicular through traffic on Bridge Street. As Bridge Street is currently a dead end, the traffic volume is small and consists mainly of those residents that live on Bridge Street.

5.16.2 Potential Environmental Impacts

No Action Alternative

The No Action Alternative would not impact traffic volume.

Proposed Action Alternative

Short-term impact (approximately 6 months) to traffic would be anticipated during construction; no long-term impacts are anticipated. The presence of construction and delivery vehicles is necessary during construction, but this impact would be temporary. The new bridge is to be a pedestrian-only bridge, and is not expected to increase the volume of traffic on Bridge Street. It will also be necessary to construct a turn-around area for cars, or to place signage indicating that Bridge Street is a dead end street. There is a negative impact to vehicular traffic in the sense that vehicular use would not be accommodated on the replacement structure. The availability of existing nearby bridges however results in a detour that is only 1 mile in length. This negative impact is deemed minor given the short detour route, previously low traffic counts and the residential nature of Bridge Street. The overall environmental impact of these actions is expected to be minimal.

5.17 Infrastructure

5.17.1 Existing Conditions

As mentioned previously, the remnants of the previous vehicular bridge and the existing property grading create a choke point, or hydraulic restriction, of the channel of the Bush Kill at Bridge Street. This results in water pooling upstream and flooding during severe weather events. Currently, residents that wish to access Main Street from Wagner Avenue at Bridge Street (and vice versa) need to walk an additional mile for what was, prior to 2011, a 400 ft. journey.

5.17.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would have no impact on the existing Village infrastructure. However, in its existing condition the properties adjacent to the Bush Kill at the project site are vulnerable to flooding.

Proposed Action Alternative

This alternative would have a positive impact on infrastructure as it would provide pedestrian access between Main Street and Wagner Avenue. In addition, floodplain re-grading would mitigate the effects of severe weather events, and reduce the chances of property damage during flood events.

5.18 Public Health and Safety

5.18.1 Existing Conditions

The Village of Fleischmanns' public health and safety was negatively impacted by Hurricane Irene. The previous vehicular bridge suffered extensive flood damage, as did a number of privately owned properties and residences. The superstructure of the previous bridge was deemed irreparable and was removed, however, no changes were made to the floodplain grading aside from those reparations made by private property owners.

5.18.2 Potential Impacts and Proposed Mitigation

No Action Alternative

The No Action Alternative would negatively impact public health and safety. Without floodplain re-grading, the choke point caused by the previous vehicular bridge would stay in place and the properties surrounding the project site would be susceptible to flooding and damage during significant rain and storm events.

Proposed Action Alternative

The impact on the overall public health and safety would be positive through the re-grading of the floodplain and construction of a pedestrian bridge over the Bush Kill. A new pedestrian bridge would provide safe access from Wagner Street to Main Street over the Bush Kill for Fleischmanns residents, and re-grading of the floodplain at Bridge Street would diminish the damage caused during future flood events.

5.19 Climate Change

EO 13514 "Federal Leadership in Environmental, Energy and Economic Performance" sets sustainability goals for Federal agencies and focuses on making improvements in their environmental, energy and economic performance. EO 13653 "Preparing the United States for the Impacts of Climate Change" sets standards to prepare the United States for the impacts on climate change by undertaking actions to enhance climate preparedness and resilience. FEMA is required, under these EOs, to implement climate change adaptability and green infrastructure in FEMA funded projects when feasible.

According to EPA, climate change “...refers to any significant change in the measures of climate lasting for an extended period of time” (EPA 2014). This includes major variations in precipitation, sea surface temperatures and levels, atmospheric temperature, wind patterns, and other variables resulting over several decades or longer. This is dubbed “abrupt climate change” which occurs over decades and distinguishes it from natural variability that occurs gradually over centuries or millennia. The EPA identifies and regulates human actions that may affect climate change. Embodied energy measures sustainability by accounting for the energy used by structures or to create materials. Another measure of sustainability is life-cycle or cradle-to-grave analysis, which accounts for the extraction, manufacture, distribution, use, and disposal of materials. While resources exist to quantify embodied energy and life cycle analysis, no such calculations were required to be prepared by the Subgrantee for the options presented in this EA.

5.19.1 Existing Conditions

Climate change could potentially increase temperatures in the northeast United States, could potentially cause more severe weather incidents to occur, and could potentially cause sea levels to rise.

5.19.2 Potential Impacts and Proposed Mitigation

None of the alternatives would impact or be significantly or uniquely impacted by climate change. The Subgrantee’s proposed action incorporates hazard risk reduction through re-grading of the floodplain. The Subgrantee would consider opportunities to recycle and use locally available materials as sustainable practices for construction implementation.

5.20 Cumulative Impacts

In accordance with NEPA, this EA considers the overall cumulative impact of the Proposed Action and other actions that are related in terms of time or proximity. According to the Council of Environmental Quality (CEQ) regulations, cumulative impacts represent the “impact on the environment which results from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what federal 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).

To address cumulative impacts, this section examines FEMA actions as well as non-FEMA actions occurring or proposed in the vicinity of the proposed project. The combined effects of these actions are evaluated to determine if they could result in any cumulative impacts.

There is a continuous effort by the Village, NYCDEP and the Delaware County Soil and Water District to improve adverse effects from flooding. There is a Natural Resources Conservation Service - Emergency Watershed Protection project immediately upstream where they have done work in floodplain to mitigate flooding. No known additional work is proposed in the floodway at this time that would impact the bridge design (*Appendix D*).

No other projects in the past, in the present, or in the reasonably foreseeable future are anticipated in the project area that would cumulatively exacerbate impacts on the human environment in combination with the proposed action.

6.0 Permits and Project Conditions

The Subgrantee is responsible to obtain all applicable Federal, state, and local permits for project implementation prior to construction, and to adhere to all permit conditions.

The Subgrantee is responsible to comply with the State Environmental Quality Review Act (SEQRA) and that it appears no Environmental Assessment Form (EAF) would be required for the project as a “Type II” action as defined in accordance with Environmental Conservation Law Article 8 and regulation at 6 NYCRR Part 617.5(c)(2).

Any substantive change to the approved scope of work will require re-evaluation by FEMA for compliance with NEPA and other laws and executive orders. The Subgrantee must also adhere to the following conditions during project implementation and consider identified conservation recommendations:

1. Excavated soil and waste materials will be managed and disposed of in accordance with applicable Federal, state, and local regulations.
2. The Subgrantee shall be responsible to comply with the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) permit for stormwater discharge from construction activity or other applicable SPDES permit, in accordance with NYS Environmental Conservation Law. If the NYSDEC General Permit for Stormwater Discharges is determined to cover the proposed action, the Subgrantee shall provide NYSDHSES/FEMA a copy of the Stormwater Pollution Prevention Plan (SWPPP) and a copy of the Notice of Intent Form at grant project close-out or other time identified by NYSDHSES/FEMA per grant administrative documentation guidance requirements. If an individual SPDES permit is determined to be required, the Subgrantee shall provide a copy of the obtained permit, as well as supporting SWPPP to NYSDHSES/FEMA at grant project closeout or other times identified by NYSDHSES/FEMA per grant administrative documentation guidance requirements. For more information regarding SPDES, visit the following website: <http://www.dec.ny.gov/chemical/43133.html>. It is expected that the Subgrantee and its construction contractor(s) will conduct construction utilizing best management practices to limit sedimentation and erosion during construction. Turbidity barriers will be used for sedimentation control for construction work.
3. The United States Army Corps of Engineers (USACE) will require a permit for the proposed project. The work may be authorized by a general permit (i.e., nationwide permit). The Subgrantee shall be responsible for obtaining all necessary permits and complying with all conditions of the permit including but not limited to notification and signature requirements to insure validation of permits. The project will require an Article 15 permit from NYSDEC for stream disturbance, excavation and fill in navigable waters and freshwater wetlands. The Subgrantee shall submit copies of all obtained permits and/or notifications to the Grantee/FEMA at or prior to final closeout of the public assistance grant. A Joint Permit Application will be submitted to both agencies. The

- Subgrantee shall include a brief narrative with close-out submission to explain the permits obtained and/or complied with for the proposed project.
4. In the event that unmarked graves, burials, human remains, or archaeological deposits are uncovered, the Subgrantee 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. The Subgrantee will inform the NYSDHSES, SHPO and FEMA immediately. The Subgrantee must secure all archaeological findings and shall restrict access to the area. Work in sensitive areas may not resume until consultations are completed or until an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards determines the extent and historical significance of the discovery. Work may not resume at or around the delineated archaeological deposit until the Subgrantee is notified by NYSDHSES.
 5. Occupational Safety and Health Administration (OSHA) standards must be followed during construction to avoid adverse impacts to worker health and safety. It is also expected that the Subgrantee and its construction contractor(s) will conduct construction utilizing best management practices to limit noise, dust, and other worker hazards.
 6. The project area serves as potential summer roosting habitat for the threatened Northern long-eared bat (*Myotis septentrionalis*). Pursuant to section 7(a)(4) of the Endangered Species Act (ESA) and implementing regulations at 50 CFR § 402.02 and 50 CFR § 402.10, FEMA has determined that the proposed action the proposed action may affect, but is not likely to adversely affect the Northern Long-Eared Bat (NLEB), with the following conditions: 1) In order to lessen the effect of tree removal on the Northern long-eared bat, trees may only be removed between November 1 and March 31. This is necessary to avoid the roosting period of the Northern long-eared bat; and 2) In addition, the removal of standing trees (live or dead) greater than or equal to 4-inches diameter at breast height (DBH) with loose bark should be avoided as much as possible and bright colored flagging or fencing should designate the trees to be removed prior to construction activities to differentiate them from protected trees. These conservation measures will be reflected in the final grant condition documents.
 7. It is recommended that the Subgrantee 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. Local landscape plant nurseries and soil conservation offices can assist with identification of suitable native plants for site location type. The following websites may also be useful to identification of native plant material for the proposed project site:
 - <http://plants.usda.gov/java/>
 - www.nrcs.usda.gov/wps/portal/nrcs/main/national/plantsanimals/plants/
 - www.fs.fed.us/wildflowers/nativeplantmaterials/rightmaterials.shtml
 8. The Subgrantee (and its contractors) must not conduct construction actions within 660 feet of a known Bald Eagle nest from late October through late August.
 9. If the Grantee and Subgrantee obtain site fill for construction, the fill must be from a permitted commercial supplier or locally municipally owned soil/gravel borrow area permitted for mining/excavation as fill material. If the Grantee and/or Subgrantee plan to

obtain soil or gravel from a non-commercial source or site that is not permitted, the details of the proposed source location must be submitted to FEMA for approval as a scope of work change prior to construction implementation. FEMA would need to conduct a federal agency environmental and historic preservation compliance review of non-permitted/non-commercial sources prior to construction implementation. The environmental concerns would be potential impacts to cultural resources or habitat areas at an excavation site not previously reviewed, permitted and otherwise cleared for use as a borrow area.

10. Equipment and materials staging must be sited on impervious cover (i.e., parking lot) or previously disturbed areas. If the Subgrantee proposes to stage equipment and materials off-property, the staging location should be coordinated with NYSDHSES/FEMA to ensure that the staging would not adversely impact natural and cultural resources. The Subgrantee should also develop a contingency plan for construction implementation to move equipment and materials, as practicable, in the event of a flood during phases of construction.
11. Subgrantee shall not initiate construction activities until fifteen (15) days after the date that the Finding of No Significant Impact (FONSI) has been signed as “APPROVED.”
12. The applicant is required to coordinate with the local floodplain administrator regarding floodplain permit(s) prior to the start of any activities. All coordination pertaining to these activities and applicant compliance with any conditions should be documented and copies forwarded to the state and FEMA for inclusion in the permanent project files. As per 44 CFR 9.11(d)(9), mitigation or minimization standards must be applied, where possible. In particular to this bridge project, 44 CFR 9.11(d)(4), There shall be no encroachments, including fill, new construction, substantial improvements of structures or facilities, or other development within a designated regulatory floodway that would result in any increase in flood levels within the community during the occurrence of the base flood discharge. Until a regulatory floodway is designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within the base floodplain unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

7.0 Public Involvement

In accordance with NEPA, the EA report will be released for a 30-day public review and comment period. Availability of the document for comment will be advertised via public notices in the Catskill Mountain News, Deposit Courier, and Walton Reporter local newspapers. A hard copy of the EA will be made available for review at the Fleischmanns Village Hall – Skene Memorial Library public building located at 1017 Main Street, Fleischmanns, NY and at the Delaware County Office Building – Office of the Clerk of the Board public building located at 111 Main Street, Delhi, NY. An electronic copy of the EA will be made available for download from the FEMA website at <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 takes into consideration any substantive comments received during the public review period to inform the final decision regarding grant approval

and project implementation. The public is invited to submit written comments by mail to FEMA, Office of Environmental Planning & Historic Preservation, Leo O'Brien Federal Building, 11A Clinton Avenue, Suite 742, Albany, New York 12207, or E-mail to: FEMA4020-4031Comment@fema.dhs.gov.

Copies of the EA will be sent to:

NYSDHSES

1220 Washington Avenue, Building 7A, Floor 4
Albany, NY 12242

NYSDEC Region 4

Office of Environmental Permits
1130 North Wescott Road
Schenectady, NY 12306-2014

The following will receive notice of the Environmental Assessment's availability:

U.S. Army Corps of Engineers – Regulatory Program - Watervliet, NY, Mr. Andy Dangler

U.S. Environmental Protection Agency Region II, Clean Air and Sustainability Division, Director, John Filippelli

U.S. Environmental Protection Agency Region II - Strategic Planning and Multi-Media Programs, Chief of NEPA Section, 309/NEPA Compliance Coordinator, Ms. Grace Musumeci.

New York State Office of Parks, Recreation, and Historic Preservation, Mr. John Bonafide

New York State Department of Environmental Conservation - Division of Waters, Floodplain Management, Mr. William Nechamen

Delaware Nation, Kerry Holton, President

Delaware Nation, Cultural Preservation Director, Nekole Alligood

Delaware Nation, Corey Smith, Cultural Preservation Assistant Director

Delaware Nation, Jason Ross, 106 Manager

Delaware Tribe of Indians, Chief Chet Brooks

Delaware Tribe of Indians, Susan Bachor, Historic Preservation Representative

Stockbridge-Munsee Community Band of Mohicans, Bonney Hartley, THPO – New York Office

The EA evaluation resulted in the identification of no significant impacts to the human environment. Obtaining and implementing permit requirements along with appropriate best management practices would avoid or minimize potential adverse effects associated with the two alternatives considered in this EA to below the level of a significant impact. If no substantive comments are received as a result of the public review and comment period, FEMA will adopt the EA as Final and issue the Finding of No Significant Impact (FONSI). If substantive comments are received, FEMA will evaluate and address comments as part of the FONSI or prepare a Final Environmental Assessment to document comments and responses and any changes to the proposed action in response to input from the public.

8.0 Conclusion

FEMA through NEPA, and the Subgrantee have found that the Proposed Action to construct a pedestrian bridge across the Bush Kill and re-grade the floodplain at the project site, which is the Subgrantee's preferred Alternative I, is a practicable solution that would not significantly adversely impact the human environment. During the construction period, short-term impacts to soils, vegetation, traffic, air quality, and noise are anticipated. These short-term impacts would be mitigated through permitting by the regulatory agencies and utilizing best management practices such as silt fences, site restoration, proper equipment maintenance, and appropriate signage. No long-term adverse impacts are anticipated from the proposed project. Therefore, FEMA presently finds the proposed action meets the requirements for a FONSI under NEPA and the preparation of an EIS will not be required. If new information is received that indicates there may be significant adverse effects, then FEMA would revise the findings and issue a second public notice, for additional comments. However, if there are no changes, this Draft EA will become the Final EA.

9.0 List of Preparers

Delaware County Department of Public Works, Page Avenue, P.O Box 311, Delhi, New York 13753

Modjeski and Masters, Inc., 301 Manchester Road, Suite 102, Poughkeepsie, New York 12603

FEMA Region II, 26 Federal Plaza, New York, New York 10278

10.0 References

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