

**Environmental Assessment
Cobleskill Water Supply Protection
Village of Cobleskill, Schoharie County, New York**

4085-DR-NY

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LIST OF ACRONYMS

AMSL	Above Mean Sea Level
BMP	Best Management Practice
BUD	Beneficial Use Determination
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	Cubic Feet per Second
CWA	Clean Water Act
CO	Carbon Monoxide
dba	Decibels
DHSES	Division of Homeland Security and Emergency Services
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FONSI	Finding of No significant Impact
FPPA	Farmland Protection Policy Act
HMGP	Hazard Mitigation Grant Program
IPaC	Information for Planning and Conservation
Ldn	Average Day-Night Sound Level
Leq	Equivalent Noise Level
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NCES	North Country Ecological Services
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NYCRR	New York Codes, Rules, and Regulations
NYHP	New York Heritage Program

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NYS	New York State
NYSBC	New York State Building Code
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	New York State Department of Transportation
OSHA	Occupational Safety and Health Administration
PM	Particulate Matter
PMF	Probable Maximum Flood
SEQRA	State Environmental Quality Review Act
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SPDES	State Pollution Discharge Elimination System
SPL	Sound Pressure Level
SUNY	State University of New York
SWPPP	Stormwater Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Services
USGS	United States Geological Survey
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

On October 29, 2012, Hurricane Sandy caused storm damage to several areas across the state of New York. President Barack Obama declared Hurricane Sandy a major disaster on October 30, 2012. The declaration authorized the Federal Emergency Management Agency (FEMA) to provide assistance to the state per federal disaster declaration DR-4085-NY and in accordance with Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974 (42 United States Code [USC] 5170c), as amended; the Sandy Recovery Improvement Act of 2013; and the accompanying Disaster Relief Appropriations Act of 2013. The Village of Cobleskill, the subrecipient, has applied to FEMA's Hazard Mitigation Grant Program (HMGP) for financial assistance to construct repairs and improvements to the Village water supply reservoirs that serve the Village of Cobleskill and portions of the Towns of Richmondville and Cobleskill, and which are located in the Town of Cobleskill, Schoharie County, New York. The New York State (NYS) Division of Homeland Security and Emergency Services (DHSES) is the recipient partner for the proposed action.

This Environmental Assessment (EA) has been prepared in accordance with Section 102 of the National Environmental Policy Act (NEPA) of 1969, as amended; and the Council on Environmental Quality (CEQ) Regulations for Implementation of NEPA (40 Code of Federal Regulations [CFR] Parts 1500 to 1508). The purpose of the EA is to analyze the potential environmental impacts of the proposed project and alternatives, including a no action alternative, and to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). In accordance with above referenced regulations and FEMA's regulations for NEPA compliance found at 44 CFR Part 10, FEMA is required, during decision making, to fully evaluate and consider the environmental consequences of major federal actions it funds or undertakes.

2.0 PURPOSE AND NEED

Section 404 of the Robert T. Stafford Relief and Emergency Assistance Act of 1974 (42 USC 5170c), as amended authorizes FEMA to provide funding to eligible grant applicants for activities that have the purpose of reducing or eliminating risks to life and property from hazards and their effects. The primary purpose of the project is to reduce risk of flooding during storm events. The secondary purpose is to reduce silt deposit contamination. The project is needed because the dams' deteriorated and inadequate design has caused flooding during past storm events, including Irene, that have also caused silt deposits to build up in reservoirs. The spillways and surrounding embankments are also in violation of New York State Department of Environmental Conservation (NYSDEC) regulation (6 NYCRR X A 1 Part 673).

3.0 PROJECT LOCATION AND BACKGROUND

The Cobleskill Water Supply Protection Project for the Village of Cobleskill, Schoharie County, New York is located at the water supply reservoirs in the Town of Cobleskill southeast of the Village, in an area bounded by Mineral Springs Road to the north, Greenbush Hill Road to the west, and Dow Street to the east (Appendix B.1). The Cobleskill drinking water supply system consists of three surface water reservoirs that provide all of the drinking water for the Village of Cobleskill, a water district in the Town of Cobleskill, and a water district in the Town of Richmondville. The Dow Reservoir (the lower reservoir) consists of an earthen dam with stone and concrete spillway and a normal water surface elevation of 1169.1 feet above sea level. The Smith Reservoir (upper reservoir) also consists of an earthen dam with concrete spillway. The normal water surface elevation of the Smith Reservoir is approximately 10 feet higher than that of the Dow Reservoir at 1,179.5 feet above sea level. The Holding Pond is a water storage structure constructed of an earthen berm that has no natural contributory drainage area to the dam. The drainage area and runoff contributing to the Holding Pond dam impoundment is limited to the footprint of the perimeter embankment berm. The Holding Pond receives its water from the Smith Reservoir through a 12 inch ductile iron pipe that can be opened or closed as desired, and from precipitation within the footprint of the embankment berm. The Holding Pond normal water surface elevation is 1,174.0 above sea level.

Both the Dow and Smith Reservoirs were constructed with concrete primary spillway structures and the Dow was later equipped with an emergency spillway channel when the Holding Pond was constructed. A hydrology and hydraulic evaluation of the reservoirs' watersheds and spillway structures (Appendix C.13) have shown that the spillway systems of both the Smith and Dow Reservoirs are inadequately sized based on current NYS Dam Safety Regulations (6 NYCRR X A 1 Part 673). Additionally, the concrete spillway structures of both reservoirs are experiencing deterioration and failure from prolonged use, the most significant is at the Smith Reservoir spillway where the concrete side walls are tipping and cracking due to geotechnical and hydraulic pressures. Dow Reservoir, Smith Reservoir, and the Holding pond all hold a hazard code C or "high hazard" rating in NYDEC's Dam Safety Program (NYSDEC 2015a).

Since 1996, the reservoirs have experienced several instances of flooding from high rain, snowmelt, and federally declared disasters including Hurricane Irene (FEMA 4020-DR-NY) and Hurricane Lee (FEMA 4031-DR-NY). These floods have resulted in flooding and damage to properties downstream such as the flooding that occurred during Hurricane Irene in 2011. The floods have also caused silt deposits to build up within the reservoirs. Deposits have reduced reservoir storage capacity and promote weed growth, which cause additional treatment problems for the water treatment facility.

4.0 ALTERNATIVES

NEPA requires the analysis of practicable alternatives as part of the environmental review process for the proposed project, and for alternatives that were eliminated from detailed study, briefly discuss the reasons for their elimination (40 CFR 1502.14). Inclusion of a No-Action Alternative, which would be the future condition without the proposed project, in the environmental analysis 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.

4.1 Alternative 1: No Action Alternative

The No Action Alternative would not provide federal funding to repair the reservoir spillways, earthen dams, or for sediment removal. The existing deteriorated spillways would not be repaired, auxiliary spillways would not be constructed or expanded to provide proper overflow protection, and accumulated sediments in the reservoirs would not be removed. The No-Action Alternative would leave the residents of the community vulnerable to flooding, property damage, and possible loss of life that could result from the potential failure of the spillway structures and/or the earthen dams. In the event of dam failure, the communities would lose a substantial portion of their water supply resulting in shortages and potential contamination of remaining supplies.

4.2 Alternative 2: Proposed Alternative

The proposed action would include work on both the Smith and Dow Reservoirs, which are classified as Class C – High Hazard dam (NYSDEC, 2016a). The Dow Reservoir is located to the east, nearest to Dow Street, and the Smith Reservoir is located to the west nearest to Greenbush Hill Road (Appendix A.1). The Proposed Alternative consists of the rehabilitation of both the Dow and Smith Reservoirs and is wholly contained within lands owned by the subrecipient. The rehabilitation work would entail improvements to bring the two dams into compliance with current NYSDEC regulations and would be designed to provide spillway capacity capable of passing the design flood, which is 50 percent of the Probable Maximum Flood (PMF), without over-topping the dam embankments. PMF is the largest flood that could conceivably occur at a particular location. Generally, it is not physically or economically possible to provide complete protection against such an event; therefore, dams are typically designed to handle 50 percent of the PMF. Accumulated sediments would be removed to restore reservoir capacity. See Appendix A.2 for Proposed Alternative site designs.

Smith Reservoir

The service spillway improvements would include the replacement of the failing existing service spillway training walls (walls that are built to contain or guide the flow of water) and concrete spillway floor slab downstream of the spillway crest, and include the construction of a seepage control underdrain system for the service spillway. The service spillway geometry would remain the same as existing; a broad crested weir with a spillway crest elevation of 1179.5 feet and a spillway width of 42.5 feet. The voids below the existing 140 feet long by 42 feet wide grouted spillway outlet channel would be injected with grout to address subsurface erosion. A 12 foot wide steel beam with wood deck vehicular bridge would be constructed across the spillway to provide maintenance vehicle access to the west side of the spillway. The bridge would use the training walls as bridge abutments.

The rehabilitation work would include the construction of an auxiliary spillway located east of the service spillway on a shallow portion of the earthen embankment approximately 120 feet from the service spillway. The auxiliary spillway would be constructed with a crest elevation of 1181.8 feet and a width of 220 feet and would be constructed with either reinforced concrete slabs or articulated concrete block mats. The construction of the auxiliary spillway would also include an outlet channel that would convey flow passing through the spillway to the existing stream below the dam. The auxiliary spillway outlet channel would tie into the stream approximately 100 feet downstream of the grouted rip rap channel from the service spillway. The auxiliary spillway channel would be armored as necessary to prevent erosion.

The rehabilitated service spillway would have the same capacity as the existing spillway and would be capable of passing 100-year flood events without triggering the auxiliary spillway. The 100-year flood peak water surface elevation is projected to be 1181.7 feet, the same as under existing conditions, and the auxiliary crest elevation would be 0.1 foot above the 100-year flood elevation. The peak water surface elevation during a 100 year floor event would not result in any increase in inundation of lands or structures either upstream or downstream of the upper reservoir. Flow downstream of the reservoir during the 100-year flood would remain unchanged at 443 cubic feet per second (cfs).

Approximately 6 inches of fill would be placed on the earthen dam embankment to reestablish a uniform grade and raise the elevation of the dam as necessary to prevent over-topping of the dam during the 50 percent PMF design flood. In order to maintain a 10 foot embankment crest width along the embankment between the upper reservoir and the lower reservoir, approximately 820 lineal feet of segmental concrete block wall would be constructed along the east edge of the dam embankment crest. The existing stone erosion protection blanket on the dam embankment upstream slope would be repaired and expanded.

Peak water surface elevation in the reservoir during the 50 percent PMF event would be 1183.7. Because the Proposed Alternative would raise the embankment surrounding Smith Reservoir to match the 50 percent PMF, the amount of water that would be held within the reservoir would increase during a 50 percent PMF event approximately 1 foot. However, this increase in peak water surface elevation would not increase inundation of lands or structures upstream of the upper reservoir. Flow downstream of the reservoir during the 50 percent PMF event would also slightly decrease from 2,847 cfs to 2,685 cfs.

Dow Reservoir

The service spillway improvements would include the replacement of the training walls and the spillway floor downstream of the spillway crest, and include the construction of a seepage control underdrain system. The service spillway geometry would generally remain the same; a broad crested weir with a spillway crest elevation of 1169.1 feet and a spillway width of 36.5 feet. The existing erosion protection channel lining of the downstream discharge channel would be evaluated during final design and where needed, the channel lining would be improved. The existing, steel beam with wood deck, vehicular bridge across the spillway that provides maintenance vehicle access to the west side of the spillway and to the upper reservoir would be replaced. The bridge would use the training walls as bridge abutments.

The rehabilitation work would include the enlargement of the existing auxiliary spillway located west of the service spillway. The expansion would extend the auxiliary spillway into undisturbed ground approximately 100 feet from the service spillway. The auxiliary spillway would be modified to provide a crest elevation of 1170.4 feet and a total spillway width of 365 feet. The expanded auxiliary spillway would discharge across an area of undisturbed ground to an existing outlet channel that would convey flows to the existing stream below the dam. The auxiliary spillway outlet channel would tie into the stream approximately 100 feet downstream of the grouted rip rap channel from the service spillway. The auxiliary spillway channel will be armored as necessary to prevent erosion.

The rehabilitated service spillway would have the same capacity as the existing spillway and could pass 1-year through 5-year flood events without triggering the auxiliary spillway. The 5-year flood peak water surface elevation is projected to be 1170.3, which is the same as under existing conditions, and the auxiliary crest elevation would be just above the 5-year flood elevation. The peak water surface elevation during a 5 year flood event would not result in any increase in inundation of lands or structures either upstream or downstream of the lower reservoir. Flow downstream of the reservoir during the 5-year flood event would remain unchanged at 121 cfs.

Peak water surface elevation in the reservoir during the 100-year flood event would be 1171.2, an increase of 1 foot over existing conditions. The increase in peak water surface elevation during a 100-year flood event would not significantly increase inundation of lands or structures around the

lower reservoir. Conditions where the water surface elevation would exceed the existing peak 100-year flood water elevation would only last 0.9 hours. Flow downstream of the reservoir during a 100-year flood event would decrease minimally from 1,051 cfs to 1,025 cfs (-2.5%).

Additional rehabilitation work would include the placement of approximately 2.5 feet of fill on the earthen dam embankment to reestablish a uniform grade and raise the elevation of the dam as necessary to prevent over-topping of the dam during the 50 percent PMF design flood. The existing stone erosion protection blanket on the dam embankment upstream slope would be repaired and expanded.

Peak water surface elevation in the reservoir during the 50 percent PMF event would be 1172.8 feet. Because the Proposed Alternative would raise the embankment surrounding Smith Reservoir to match the 50 percent PMF, the amount of water that would be held within the reservoir would increase during a 50 percent PMF event approximately 0.7 foot over existing conditions. The increase in peak water surface elevation would slightly increase inundation of two residential yards, including three garden sheds and a garage, and some farm land. The conditions under which the water surface elevation would exceed the existing 50 percent PMF peak water elevation would last 1.8 hours. Flow downstream of the reservoir during a 50 percent PMF event would slightly decrease from 4,365 cfs to 4,297 cfs (-1.6%).

Dredging

Accumulated sediments would be removed from the bottom of the Smith and Dow Reservoirs. Approximately 1,000 cubic yards of silt and clays would be removed. Most of the dredged material would be disposed of on a field to the north of and adjacent to the Smith Reservoir that is owned by the Village. Sediment samples have been tested for contaminants and soils with copper levels higher than NYSDEC recommended levels have been found. Sediments contaminated with copper would be hauled to an approved landfill for disposal.

Dewatering

The spillway rehabilitation work and the excavation and dredging work would be performed in the dry, requiring dewatering the reservoirs through the low level outlet pipes, siphons, and pumping. To minimize the effect of dewatering the reservoir on the village's water supply, the work would be completed sequentially, with the work on each reservoir completed in successive phases. The initial drawdown of each reservoir would be accomplished by simultaneously opening the low level outlet pipe and using the siphons to reduce the draw down time. Temporary scour protection at the dewatering siphons and pumps would be constructed to prevent erosion at the siphons and dewatering pumps discharge points.

When the reservoir is dewatered, the reservoir low level outlet pipe would remain open for the entire duration of the work to drain normal watershed runoff coming into the reservoir. In addition, the siphons would remain in place to increase dewatering capacity during storm events to prevent flooding of the work areas. High-capacity standby dewatering pumps would also be available on site to provide additional dewatering capacity during larger storm events.

4.3 Alternatives Considered and Dismissed

The subrecipient considered four additional alternatives that were dismissed because they were not feasible or they did not meet the purpose and need of the project. The first dismissed alternative would have braced the failing training walls of the Smith Reservoir spillway and performed surficial concrete repairs of deteriorated areas on the spillways of both reservoirs. Performing those repairs would not address the need to provide additional flow capacity, which is required to provide adequate protection of the downstream communities, and the repairs would not address the seepage erosion under the spillways and outlet channels. Furthermore, it would not meet the NYSDEC design standards and permitting requirements, thus this alternative was not evaluated further.

The second dismissed alternative considered the complete demolition and replacement of the existing upper and lower reservoirs service spillways. Although this alternative would provide sufficient spillway capacity to pass the 50 percent PMF design storm without overtopping the earthen embankment, it would also substantially increase peak flows and the resulting water depths and flow velocities downstream of the dams. Because of this increased risk to life and safety downstream of the dam, this alternate was not investigated further.

The third dismissed alternative considered only dredging the sediments in the reservoirs to increase their storage capacity. However, sampling of the reservoir floor indicated that almost no sediments were present in the upper reservoir and less than one foot of sediment was present in the lower reservoir. Because the amount of siltation is minimal and would not significantly change the reservoirs carrying capacity, this alternate was not pursued further.

The fourth dismissed alternative considered increasing the height of the dam embankments and the service spillway crests to increase the storage capacity of the reservoirs. Because this alternative would permanently inundate farm land and residential yards upstream of the dams, increase the inundation elevations of floodwater downstream of the dams in the event of a dam breach, and increase the dams Hazard Classification from Class C – Small High Hazard Dams to Class C – Large High Hazard Dams, which would substantially increase the cost of spillway rehabilitation, this alternative was not considered further.

4.4 Summary of Alternatives

Six alternatives were considered, with four of the alternatives being dismissed. The four dismissed alternatives were bracing the training wall, demolition and replacement of upper and lower reservoir spillways, dredging sediment, and increasing dam height. The remaining alternatives are:

- 1) No Action Alternative
- 2) Proposed Alternative: Water Supply Protection Project

The following impact analyses evaluate the potential environmental impacts of the remaining two alternatives. A table summarizing potential impacts of both alternatives is provided in Section 10.0, Summary of Impacts.

5.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

This section discusses the potential impacts of the No Action Alternative and the Proposed Alternative on environmental and cultural resources. Potential cumulative environmental impacts are discussed (see Section 5.15). See Section 10 for a summary of environmental impacts.

When possible, quantitative information is provided to establish potential impacts, and the potential impacts are evaluated based on the criteria listed in Table 5.0.1.

Table 5.0.1: Impact Significance and Context Evaluation Criteria for Potential Impacts

Impact Scale	Criteria
No Effect	The resource area would not be affected and there would be no impact.
Negligible	Changes would either be non-detectable or, if detected, would have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, but the changes would be small and localized. Impacts would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Changes to the resource would be measurable and have either localized or regional scale impacts. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse effects.
Major	Changes to the resource would be readily measurable and would have substantial consequences on regional levels. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects

Impact Scale	Criteria
	would be required to reduce impacts, though long-term changes to the resource would be expected.

Five environmental resource topics were omitted because they do not apply to the project as covered by this EA.

Table 5.0.2: Eliminated Resource Topics

Topic	Reason
Coastal Zone Management Act	No work would be conducted within a Coastal Zone Management Act zone. Therefore, a dedicated Coastal Zone Management Act section in the EA will not be required.
Coastal Barrier Resource Act	No work would be within a Coastal Barrier Resource Zone or Otherwise Protected Area covered under the Coastal Barrier Resource Act. Therefore, a dedicated Coastal Barrier Resource Act section in the EA will not be required.
Essential Fish Habitat	No work would be conducted in or near waters where essential fish habitats regulated by the Magnuson-Stevens Fishery Conservation and Management Act are located. Therefore, a section on essential fish habitat is not required.
Aesthetic Resources	Although a large portion of the Cobleskill valley can be seen from the project site, there are no landmarks or scenic areas on or within view of the project site. The site is not located within a thoroughfare view shed as well. Therefore, an Aesthetic Resource section in the EA is not required.
Land Use and Planning	The proposed project would make no change in the existing land uses or zoning of the project area. There would be no change in the water district boundaries and there would be no growth inducing effects.

5.1 Topography, Soils, and Geology

5.1.1 Existing Conditions

Topography

The topography in the project area is rolling terrain, generally sloping downward in a northerly direction towards the Cobleskill Creek, a tributary to the Schoharie Creek. Based on United States Geological Survey (USGS) topography and survey mapping (Appendix B.2), surface elevations on the site range from approximately 1,140 feet above mean sea level (AMSL) at the northern end (discharge side) of the reservoirs to 1,200 feet AMSL at the southern end (inlets) of the reservoirs. The site existing grades in the area surrounding the reservoirs range from 0 to 8 percent with

steeper slopes, 1 foot vertical and 3 feet horizontal (1V:3H) on the reservoir embankments. Surrounding topography also slopes northerly toward the reservoirs with grades similar to those immediately adjacent to the reservoirs.

Soils

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey for Schoharie County (NRCS, 2015) show soils within the project area as being composed of four major soil types. The project area consists mainly of alluvial land or water, within the extent of the reservoir basins. Other soils present around the site include Darien Silt Loams, 2 to 8% slopes (DeB); Wayland soils complex, 0 to 3% slopes (Wa) with smaller amounts of Darien Silty Clay Loam, 8 to 15% slopes (DuC3) and Mohawk and Lima Silt Loams, 2 to 10% slopes (MIB3) present in areas. See Appendix B.2. Sediments within the reservoirs have been washed into the basins through erosion of upstream soils. Testing of these sediments have identified high concentrations of copper that exceed NYSDEC recommended levels (see also Section 5.14, Hazardous Materials).

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 uses and to assess potential conversions of farmland to developed property. The MIB3 soils are the only soil categorized as Farmland of Statewide Importance and they have a minimal presence within the project site. The remaining areas are either classified as Not Prime Farmland or Prime Farmland if drained soils. The site is all currently controlled by the subrecipient for watershed and water supply purposes and would therefore not have the opportunity to become farmland.

Geology

Executive Order (EO) 12699 requires federal agencies assisting in the financing of structures through federal grants or loans to initiate measures to assure appropriate consideration of seismic safety. The United States Geological Survey Percent Peak Ground Acceleration Seismic Hazard Maps (USGS, 2009) adopted by the New York State Building Code (NYSBC) indicate that the project area is located within a moderate seismic hazard area, as is most of New York State. Based on the soil types in the project area, bedrock is expected to be greater than 80 inches below grade.

5.1.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

The No Action Alternative would have no effect on topography, soils, or geology from construction activity because no work beyond usual maintenance would be conducted at the site. The site would continue to be susceptible to dam failure which could result from water overtopping the dam during a flood or as a result of a seiche (an earthquake-generated wave in a closed basin).

The potential high flood wave and velocity of water released during a dam breach could alter the topography and scour soils downstream of the reservoirs. Therefore, the No Action Alternative could have a moderate negative effect on soils and topography in the event of a dam failure. There would be no effect on geology.

Alternative 2: Proposed Alternative

The Proposed Alternative would impact existing topography at the auxiliary spillways and from the increase in the embankment elevations (see Appendix A.2 for site plans). Because these areas are already highly modified, this would be a negligible effect on topography.

The project would predominately affect the Water and Alluvial Land areas identified in the soil survey with some activities occurring within the areas of Darien Silt Loams. The proposed 9.4 acres of construction-related ground disturbance, armoring and injection grouting of spillways, and dredging and disposal of sediments would result in minor effects on soils. Construction activities would adhere to federal, state, and local regulations to control erosion and sedimentation and would apply current best management practices (BMPs) to minimize effects. The project would require the preparation of a Stormwater Pollution Prevention Plan (SWPPP) developed in accordance with the 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 through January 28, 2020 (see Section 5.3 Water Quality for more details on SPDES). The SWPPP and accompanying plans identify and detail erosion and sediment control measures necessary during and following completion of construction. With the implementation of BMPs and compliance with regulations, impacts on soils would be minor.

The field adjacent to Smith Reservoir proposed for the disposal of non-contaminated sediments is mapped with soils that are “prime farmland if drained.” The disposal of sediments in this location would be an indirect conversion of farmland soils. However, because the site is owned by the Village of Cobleskill for the dedicated purpose of water supply facilities, there would not be an impact on agricultural uses. The project would be in compliance with the FPPA, and this would represent a minor impact on soils.

The proposed work would not affect bedrock or geology because the work and dredging would not reach those depths. The proposed work would be built to current seismic standards for the area and would make the dams more resilient against the effects of a sieche. Therefore, the Proposed Alternative would have minor permanent impacts on topography and soils and no impact on geological resources.

5.2 Air Quality

As required by the Clean Air Act (CAA), National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone, particulate matter (PM) (both particles with an aerodynamic diameter of less than or equal to 2.5 micrometers [PM_{2.5}], and those less than or equal to 10 micrometers [PM₁₀]), sulfur dioxide (SO₂), and lead. New York State has adopted NAAQS for these six criteria pollutants.

The CAA, as amended in 1990, defines non-attainment areas as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as non-attainment by the United States Environmental Protection Agency (EPA), the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under the deadlines established by the CAA, followed by a plan for maintaining attainment status once the area is in attainment.

EPA has also promulgated a set of regulations, known as the general conformity rule that includes procedures and criteria for determining whether a proposed federal action would conform to the applicable SIPs. The purpose of the general conformity rule is to ensure federal activities do not cause or contribute to new violations of the NAAQS, actions do not cause additional or worsen existing violations of or contribute to new violations of the NAAQS, and attainment of the NAAQS is not delayed. The emissions from construction activities are subject to air conformity review.

Under the general conformity regulations, a determination for federal actions is required for each criteria pollutant or precursor in non-attainment or maintenance areas where the action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates equal to or exceeding the prescribed *de minimis* rates for that pollutant. In the case of this project, the prescribed annual rates are 50 tons of volatile organic compounds (VOCs) and 100 tons of nitrogen oxides (NO_x) (ozone precursors), 100 tons of CO (in a CO maintenance area), and 100 tons of PM_{2.5}, SO₂, or NO_x (PM_{2.5} and precursors in PM_{2.5} attainment area).

5.2.1 Existing Conditions

The State of New York is included in the Ozone Transport Region (New York, New Jersey, Pennsylvania, Delaware, the six New England states, Washington D.C., and portions of Virginia), so it is treated as a moderate nonattainment area for ozone. Schoharie County itself is in attainment for all criteria pollutants (EPA, 2015a).

5.2.2 Potential Impacts and proposed Mitigation

Alternative 1: No Action

The No Action Alternative would not produce any construction-related emissions because there would be no work. Regularly scheduled maintenance would continue and the trucks and equipment needed for that would produce negligible amounts of emissions. In the event of a future flood equipment would be used to repair the dam embankments and spillways to pre flood conditions. Restoration of failed embankments would likely require more extensive use of heavy equipment than proposed under the Proposed Alternative. In the event of a dam failure, additional air emissions would be produced by equipment needed to repair damage to properties downstream. Use of heavy equipment and trucks would be temporary, BMPs would be used to reduce level of NAAQS pollutants, and equipment and the work would follow all EPA NAAQS regulations. Therefore, there would be a negligible impact on air quality from the No Action Alternative.

Alternative 2: Proposed Alternative

Construction activities related to the Proposed Alternative would produce emissions of criteria pollutants from equipment and generate fugitive dust or airborne dust. Construction vehicles and non-road construction equipment would comply with applicable standards and would use ultra-low sulfur diesel fuel, as required by EPA regulations. Air quality impacts from construction would be localized and short-term in nature. While there would be more emissions from equipment as compared to the No Action Alternative, the construction-related emissions would still be much less than the potential emissions from repeated rebuild of the dams in the event of a failure. Since the risk of dam failure would be much less under the Proposed Alternative, the total potential emissions from construction equipment over the life of the project would be less than the No Action Alternative. Emissions related to operations would be approximately the same for each alternative. The potential construction and operational emissions would be below the *de minimis* thresholds for criteria pollutants, and no general conformity analysis would be required. BMPs, including dust control, would be used during construction to help minimize air quality impacts. The Proposed Alternative would have a temporary, minor impact on air quality during construction and a negligible operational impact.

5.3 Water Quality

The Clean Water Act (CWA), enacted in 1977, regulates discharge of pollutants into water. Sections of the Act fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE) and others under 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. Under the National Pollution Discharge Elimination System (NPDES), EPA regulates both point and non-point pollutant sources, including stormwater and stormwater runoff. EPA has

authorized NYSDEC to administer the NPDES under New York's SPDES program. Activities that disturb one acre or more of ground require an SPDES permit. The SPDES permit requires that a SWPPP be prepared, as stated in Section 5.1. NYSDEC also monitors the water quality of surface waters per the CWA, ensures compliance with existing water quality standards, and produces an inventory of impaired waters, which is a list of surface waters that do not meet the assigned surface water quality standards.

Section 1424(e) of the Safe Drinking Water Act of 1974 [P.L. 93-523] authorizes EPA to designate an aquifer for special protection if it is the sole or principal drinking water resource for an area (i.e., it supplies 50 percent or more of the drinking water in a particular area) and if its contamination would create a significant hazard to public health. No commitment for federal financial assistance may be entered into for any project that EPA determines may contaminate such a designated aquifer so as to create a significant hazard to public health.

5.3.1 Existing Conditions

The project area is located within the Village of Cobleskill reservoirs and the Mohawk River watershed. The closest mapped water bodies to the proposed project are the unnamed streams that flow through the reservoirs and into Cobleskill Creek (NYSDEC Stream 879-26). The unnamed streams are Class A streams under the NYSDEC stream classification system (NYSDEC, 2016b) and are tributaries to Cobleskill Creek (Appendix E). Cobleskill Creek is a Class C stream (NYSDEC, 2016b).

The water quality of both the Smith and Dow Reservoirs exceeds the EPA Safe Drinking Water Act and the NYSDOH Part 5, Sub-part 5-1 water quality requirements (Appendix C.10). The Holding Pond is fed by both reservoirs through connection piping and reflects a mix of the water quality of the Smith and Dow Reservoirs. According to a water tests for inorganic compounds and synthetic organics conducted by the Cobleskill Water Department in April of 2002 at all three reservoirs, levels fall below federal and state maximum contaminant levels (Appendix C.10). The reservoirs have been periodically sampled as part of the Lake Classification and Inventory Survey for NYS.

The project area is not located above any principal aquifer as defined by NYSDEC (NYSDEC, 2016c). The Karst Aquifer, located in a narrow band of carbonate rocks that extend from Ulster County northward and then turns southeast into Albany and Schoharie Counties, (Town of Cobleskill, 2011) lies north of the site (Appendix B.4). The Karst Aquifer is not a designated sole source aquifer in NYS (EPA, 2015b).

5.3.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

The No Action Alternative would not involve any construction; therefore, there would be no effect on water quality from ground disturbance or the resuspension of contaminated sediments. The No Action Alternative would likely result in spillway or dam failure because no repair work would be done. If any of the spillways or the dams failed, soil and sediments would be introduced into the streams downstream of the reservoirs, adversely affecting water quality. If the sediments in the reservoir were disturbed in the event of a dam failure, the high levels of copper in the sediment could be resuspended into the water column or carried downstream with the flush of water from the reservoir, also adversely affecting water quality. Because of these issues the No Action Alternative could have a moderate adverse effect on surface water quality.

The project site is greater than one mile of a principal or sole source aquifer. During potential spillway failure, water and contaminants may percolate into the Karst Aquifer but would be in limited amounts due to the distance. Therefore, the No Action Alternative would have a negligible negative effect on principal aquifers and no effect on sole source aquifers.

The dams currently trap sediments that reduce the capacity of the reservoirs to hold water for drinking water supplies. Under the No Action Alternative, accumulated sediments would not be removed and would likely continue to build up.

Alternative 2: Proposed Alternative

Construction of the proposed project would include work within stream banks and within the reservoir basins resulting in the potential for water quality impacts from erosion and sedimentation from areas of ground disturbance and from the resuspension of sediments on the reservoir bottoms. Therefore, an Article 15 Protection of Waters Permit from NYSDEC may be required for the proposed construction activities if not covered under a general or nationwide CWA permit. A Joint Permit Application would be submitted to USACE and NYSDEC to confirm permit requirements.

BMPs would be incorporated into the construction methods during the project to protect the water quality in the reservoirs and the waters downstream. Measures would include dewatering, which would protect the reservoirs during dredging and construction on the embankments and spillways. The work would be completed sequentially to minimize the effect of dewatering on water supplies. There would also be temporary scour protection constructed to prevent erosion at the siphons and dewatering discharge points.

Stormwater would be controlled to prevent pollutants from entering water sources during construction. A SWPPP will be required and must be approved prior to construction, in accordance with the NYS SPDES General Permit for “Stormwater Discharges from Construction Activities”

(GP-0-15-002). Potential stormwater quality impacts and soil erosion and sedimentation would be mitigated both during and after construction.

The Proposed Alternative would reduce the risk of failure of the spillways and the dams through the proposed repairs and enhancements to the spillways and dam embankments. This reduced risk of failure would minimize the potential for large scale impacts on water quality downstream and reductions in supply for the water districts that depend on the reservoirs. This would be a moderate beneficial effect of the proposed project.

Dredging to remove accumulated sediments from the reservoirs could resuspend fine material in the water column or release copper, which would impact water quality. Dewatering of the reservoirs prior to dredging would minimize this potential impact. Disposal of dredged material on land adjacent to the Smith Reservoir would have the potential to impact downstream waters. The proposed location slopes down towards a wetland and the unnamed tributaries that lead away from the reservoirs. If the sediments contain water when they are placed in the disposal location, water that could be contaminated with fine sediments or copper would drain out of the disposal site and impact downstream water quality. To avoid these potential impacts, sediments that are contaminated with high levels of copper would be disposed of in an approved landfill (see section 5.13 Hazardous Materials) and other BMPs would be employed to prevent fine sediments from filtering out of the disposal stockpile. BMPs might include measures such as filter fabric barriers, construction of infiltration swales, or the use of dewatering tanks to remove excess water from the dredge spoils before disposal on the adjacent land.

The Proposed Alternative could have moderate beneficial effects on water quality by mitigating against the risk of structure failure during storms and flood events. With BMPs, construction of the Proposed Alternative would have minor adverse impacts on water quality and quantity.

There would be no effect on aquifers from construction activities because of the distance to the Karst aquifer. The project would reduce the risk of spillway failure that could potentially cause minor water quality impacts on the Karst Aquifer as described for the No Action Alternative. The Proposed Alternative would have a negligible effect on a principal aquifer and no effect on a sole source aquifer.

5.4 Floodplains and Wetlands

5.4.1 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 uses Flood Insurance Rate Maps (FIRMs) to identify floodplains and flood risks for the National Flood Insurance Program (NFIP). Federal actions within the 100-year floodplain, or the 500-year floodplain for critical actions, require the

federal agency to conduct an eight-step decision-making process. This process, like NEPA, requires the evaluation of alternatives prior to funding the action. FEMA's regulations for conducting the Eight-Step Review process are contained in 44 CFR Part 9.5.

5.4.2 Wetlands

Wetlands are areas that are inundated or saturated by surface or groundwater with a frequency and duration sufficient to support, or under normal hydrological conditions would support, a prevalence of vegetation or aquatic life typically adapted for those soil conditions. Actions that would impact wetlands would require review under several regulatory programs. Federal Executive Order (EO) 11990 and Section 404 of the CWA (33 USC 1344) are designed to protect wetlands. Executive Order 11990 requires that all federally funded, permitted, or sponsored projects affecting wetlands demonstrate that there are no practicable alternatives, and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use. FEMA implements EO 11990 (44 CFR Part 9) concurrently with EO 11988, and uses the eight-step decision making process to evaluate potential effects on, and mitigate impacts to, wetlands and floodplains. NYSDEC administers and regulates wetlands in NYS under the Freshwater Wetlands Act (Article 24 of Environmental Conservation Law) and the Tidal Wetlands Act (Article 25 of Environmental Conservation Law – 6 NYCRR Part 661).

5.4.3 Existing Conditions

The proposed site is in an X zone according to FIRM Panel Number 36095C0162E effective 4/2/2004 (Appendix B.7). The area has experienced flooding events and caused downstream flooding issues to the local community (see Section 3.0 Project Location and Background for details).

The U.S. Fish and Wildlife Services' (USFWS) National Wetland Inventory (NWI) website identifies the Dow and Smith Reservoirs as lakes and the Holding Pond as a freshwater pond, but does not identify any other wetlands within the project area (Appendix C.7). Based on a review for the presence of NYS regulated freshwater wetlands conducted at the NYSDEC's "Environmental Resource Mapper" website, no state regulated wetlands are within the project area. According to a field delineation of waters of the United States and freshwater wetlands, conducted on December 29, 2014, there are five (5) separate wetlands including the reservoirs on the site (Appendix A.5). The identified wetlands have a total acreage of 2.1± acres with Palustrine scrub-shrub and emergent vegetative cover. The Smith Reservoir is 22.70 acres and the Dow Reservoir is 34.29 acres. Total wetland area on the site is 59 acres. USACE has issued a preliminary jurisdictional determination and is working on an approved jurisdictional determination, which will confirm the boundaries of the wetlands within the project area that may be relied upon during design.

5.4.4 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

The reservoirs would continue to pose a risk of flooding from dam failure from overtopping and spillway failure during a storm event. The resulting flooding could impact the community downstream, which is in the floodplain (Appendix B.7). The No Action Alternative could have a moderate temporary impact on downstream flood zones in the event of dam failure.

Wetlands adjacent to the reservoirs and along the creeks downstream of the reservoirs could be impacted by scour resulting from flooding due to a dam or spillway failure; however, it is likely that this would be a temporary impact as wetlands would likely reform in similar locations in the landscape. The USFW identified wetlands, the reservoirs and holding pond, would also be impacted through a reduction in water level in the event of dam or spillway failure. The No Action alternative would have a minor negative impact on wetlands.

Alternative 2: Proposed Alternative

The Proposed Alternative would have no adverse impact on floodplains as the project site is not located within a floodplain. In addition, the project would reduce the risk of flooding of downstream properties that could ensue from a dam breach caused by overtopping of dams.

The proposed project is expected to impact less than 0.5 acres of wetlands in the Dow Reservoir outlet channel, which may require a pre-construction notification to USACE and NYSDEC to obtain permit authorizations prior to starting construction. It is likely that USACE will require compensatory mitigation for impacts to wetlands. The completed project would protect the reservoir wetlands from structure failure and would mitigate against water reduction impacts. The project would also reduce the risk of impacts on downstream wetlands from flood scour from the reservoirs. Therefore, after compliance with USACE and NYSDEC, there would be a minor beneficial effect on wetlands under the Proposed Alternative.

5.5 Vegetation

5.5.1 Existing Conditions

Ecological communities and dominant species of vegetation were identified in a study conducted by North Country Ecological Services (NCES) (see Appendix C.8). The ecological communities identified at the site include: mowed lawn with trees, successional old field, successional northern hardwood forest, palustrine scrub-shrub wetland, and palustrine emergent wetland. The dominant species of vegetation observed within the “mowed lawn with trees” ecological community include red clover, white clover, birdsfoot trefoil, common pliantain, dandelion, Canada thistle, and various grasses. The successional old field ecological community includes gray dogwood, honeysuckle,

multiflora rose, common buckthorn, hawthorn, and wild apple. Dominant species within the successional northern hardwoods ecological community include northern red oak, black cherry, and red maple. Some of the dominant species observed within the palustrine scrub-shrub wetlands community include silky dogwood, gray dogwood, nannyberry, arrowwood, witch hazel and jewelweed. Some dominant species observed within the Palustrine emergent wetlands were cattail, joe-pye weed, reed canary grass, and purple loosestrife. No endangered or threatened species of vegetation were identified by NCES on the proposed site. No Species of Special Concern or rare species, according to the *New York Rare Animal and Rare Plant Lists* as established by the NYSDEC, were identified by NCES at the project site.

EO 13112, *Invasive Species*, requires federal agencies to prevent the introduction of invasive plant and animal species and provide for their control to minimize the economic, ecological, and human health impacts that invasive species cause. While not all non-native species are detrimental, invasive species are those that can cause harm to the environment or to human health. Invasive species prefer disturbed habitats and generally possess high dispersal abilities, enabling them to out-compete native species. According to the New York Heritage Program's (NYHP) iMapInvasives (NYHP, 2016), six invasive vegetative species occur in Schoharie County. The species include garlic mustard, Japanese barberry, purple loosestrife, common reed grass, Japanese knotweed, and common buckthorn.

5.5.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

There would be no construction-related impacts on vegetation under the No Action Alternative. Flooding would continue to pose a risk to vegetation from inundation and flow damage in the event of a dam or spillway failure. The No Action Alternative would have a minor negative effect during and after flood events. No invasive species would be introduced under the No Action Alternative. Floodwaters could disperse invasive species that may occur downstream more widely, but this would be a negligible effect.

Alternative 2: Proposed Alternative

The site contains a mixture of trees, shrubs, and some herbaceous vegetation, which includes maintained grass, most of which would be removed or impacted during construction activities. Approximately 8 acres of vegetation would be disturbed during construction. The disturbed areas include approximately 2.1 acres of regularly mowed grass on the dam crests and embankment slopes, 3.9 acres of mixed grassy meadows and scrub brush in the excess excavation spoil area, and 2.0 acres of moderately wooded area where the new Smith Reservoir auxiliary spillway channel is proposed (the remaining 1.4 acres of disturbed area is stone covered shoreline embankments). The subrecipient proposes to use native species to revegetate the site in order to be consistent with the

goals of the U.S. Green Building Council, EO13112 Invasive Species, and sustainable site development goals. All USDA (7 CFR Parts 301.53-1 through 301.53-9) and NYS Department of Agriculture and Markets (1 NYCRR Part 141) invasive species regulations will be followed to reduce the spread of invasives, including the purple loosestrife identified in the NCES study. The Proposed Alternative would have a temporary minor negative impact on vegetation in the area but would have a long term minor beneficial effect from the planting of native species.

5.6 Fish and Wildlife Resources

5.6.1 Wildlife Habitat

A field reconnaissance survey conducted by NCES in the fall of 2014 (see Appendix C.8) identified a variety of wildlife species on the proposed site. The species observed included eastern coyote, woodchuck, mink, white-tailed deer, red-winged blackbird, green-wing teal, mallard, black duck, great blue heron, ruffed grouse, Canada goose, red-tailed hawk, and others (see Appendix C.8 for full list). Fish species are the same in both reservoirs and include bluegill, pumpkinseed, largemouth bass, brown bullhead, walleye, tiger trout, brown trout, yellow perch, black crappie, white sucker, and some smallmouth bass.

The iMapInvasive tool (NYHP, 2016) reports eight invasive wildlife species occur in Schoharie County. The species on the list include goldfish, Oriental weatherfish, rusty crayfish, virile crayfish, red-eared slider turtle, emerald ash borer, hemlock wooly adelgid, and brown marmorated stink bug. None of these species were identified as being present during the NCES survey. Schoharie County is currently identified as a quarantine zone for the invasive insect, emerald ash borer.

5.6.2 Threatened and Endangered Species

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. 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.

The potential for threatened and endangered species and critical habitats within the project site was reviewed through analysis of existing data sources, on-site field observations, correspondence received from the NYHP, and a USFW Information for Planning and Conservation (IPaC) report dated February 24th 2016 (Appendix C.7). According to correspondence from the NYSDEC NYHP dated January 2, 2015 (Appendix C.2), the northern long-eared bat, a threatened species, has been documented within 5 miles of the project site. Individual animals may travel 5 miles from documented locations. The USFWS IPaC report indicates that there are no designated critical

habitats within the project area for northern long-eared bat, but the species may occur within the project area. (Appendix C.7).

The field reconnaissance survey identified trees within the forested areas of the property that appeared suitable for use by northern long-eared bats for roosting. These trees include several (10±) shagbark hickories, several (5-10) dead white ash and elms, and two (2) damaged red oak trees. No caves, mines, or other man-made structures that could be construed as potential over-wintering habitat for the bats were identified within the property boundaries. There is an existing bat hibernaculum within 5 miles of the project site.

Potential foraging habitat was found on the property for northern long-eared bats, including forested uplands, open early successional fields, and edge habitats that immediately border the property. The potential foraging area consists of a variety of different habitats that are relatively common in the region.

5.6.3 Migratory Birds

The Migratory Bird Treaty Act (MBTA) of 1918 and the Migratory Bird Treaty Reform Act of 1998 were enacted to prohibit the taking or attempt to take migratory birds. Federal agencies must evaluate potential impacts on migratory bird habitat under the MBTA. The project area is within the Atlantic Flyway and the IPaC report shows there are 15 species of migratory birds that occur in the area, which indicates that the project area provides significant habitat for migratory birds (Appendix C.7). Because almost all passerine birds are protected by the MBTA and the shrub and forested vegetation types present would provide good cover, there would be many more species that actually could occur in the habitats in and adjacent to the project area. Species of birds protected under the MBTA that were observed on the site are listed in Section 5.6.1 and in Appendix C.8.

The bald eagle (*Haliaeetus leucocephalus*) is identified in Schoharie County, and receives protection under both the MBTA and the Bald and Golden Eagle Protection Act of 1972 as amended (16 USC Part 668). NCES conducted a general assessment for bald eagle habitat and visually searched for eagles to document whether or not suitable habitat exists at the site that could be utilized by bald eagles. During the assessment, no bald eagles were observed and there was no evidence of past utilization of the project area or of the area immediately adjacent to the project area. No eagle nests were identified and based on consultation with NYSDEC staff (Appendix C.2), no known eagle nests are within 660 feet of the property.

NCES also assessed the site for potential perching foraging habitat. NCES determined that there are potential perch trees in the project area and that the area does provide viable foraging habitat for bald eagles. There are several large trees along Smith Reservoir that could be used for perching by eagle or other birds of prey. The reservoirs contain fish and the fields and shrub habitats would support small mammals, providing foraging habitat for eagles.

5.6.4 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

There would be no construction-related impacts on wildlife, threatened and endangered species, or migratory birds including bald eagles. No construction would occur at the site and there would be no loss of habitat or disturbance to these biological resources. The risk of dam or spillway failure would remain high, which could result in flooding downstream that could damage or remove trees that could provide suitable habitat for the northern long-eared bat, bald eagles, and other migratory birds. However, the species identified as potentially occurring in the area are mobile and potential impacts would be minor. The No Action Alternative would have no impact on biological resources unless flooding from a dam or spillway failure occurs, which would result in a minor adverse effect.

Alternative 2: Proposed Alternative

Construction activities would create noise from the use of heavy equipment that would temporarily disturb wildlife that may be present in the project area. Approximately 8 acres of vegetated areas would be disturbed with the existing habitats being removed or buried under dredge spoils. Migratory birds that would nest in the grasslands, shrubs, and trees in the project area could be adversely affected by the removal of vegetation. Removal of vegetation through clearing and grubbing would be conducted outside of the bird breeding season from April 1 to August 15 in order to avoid adverse impacts on migratory birds. Following construction, most of the disturbed area would be revegetated with native plant species that may create habitats that are better suited for the local wildlife. With mitigation, there would be a moderate negative impact on terrestrial wildlife and migratory birds during construction and a potential positive effect following construction as new habitats become established over the following decade or two.

There is the potential for a negative impact on fish from dewatering of the reservoirs. This potential impact would be reduced by complying with all NYSDEC permitting requirements, which may include fish relocation. If relocation is required, the Village would contract with the State University of New York (SUNY) Cobleskill's Fish and Wildlife program to relocate the fish populations during the dewatering. SUNY Cobleskill staff would likely use a shock boat to collect fish and relocate them from one reservoir to the other. Only one reservoir would be dewatered at a time. Following completion of all construction activities, SUNY Cobleskill staff would attempt to split the populations between the two reservoirs. The Proposed Alternative would have a temporary moderate negative impact on fish, but has the potential for a minor positive effect post-construction, particularly if contaminated sediments are removed from the reservoirs. In addition, the project would reduce the risk of dam failure and a sudden loss of water that could impact fish within the reservoirs and wildlife downstream.

Since Schoharie County is an emerald ash borer quarantine county, any woody tree and shrub material to be removed for the proposed action is required to be chipped on site to chips of less than one inch in two dimensions or must not be transported whole outside the community in order to adhere with EO 13112 Invasive Species, federal regulations at 7 CFR Parts 301.53-1 through 301.53-9, and state regulations at 1 NYCRR Part 141.

NCES identified no trees suitable for roosting by northern long-eared bats would be disturbed under the Proposed Alternative. Construction may temporarily reduce foraging area as the reservoirs are drawn down and vegetated areas are cleared. However, the work areas are not designated critical habitat for the bats and do not represent unique or rare resources for the bats. The area affected represents a negligible portion of the foraging area of a bat and it will be restored following construction. Because there is no suitable nesting or roosting habitat for the listed bats present in the project area, the Proposed Alternative would have no effect on threatened and endangered species.

Trees immediately adjacent to the reservoirs that could be used by perching bald eagles would not be impacted by the Proposed Alternative. Although the work would affect potential foraging habitat for bald eagles, only one reservoir would be affected at a time and the terrestrial habitats are not unique or uncommon in the region. Following construction, both aquatic and terrestrial foraging habitats would be restored. Therefore, potential negative impacts on foraging eagles would be negligible. There would be no impacts on eagle nesting/breeding because there are no eagle nests located within 660 feet of the reservoirs. If eagles are discovered at any phase of the project, construction would stop and consultation with USFWS would occur. The Proposed Alternative would have a temporary negligible impact on bald eagles.

5.7 Cultural Resources

As a federal agency, FEMA must consider the potential effects of any of its funded actions (i.e., undertakings) on historic properties prior to engaging in an undertaking and must provide the Advisory Council of Historic Preservation (ACHP) a reasonable opportunity to comment if there is a determination of an adverse effect. This obligation is defined by Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended and implemented by 36 CFR Part 800. Cultural resources are defined as prehistoric or historic archaeology sites, historic standing structures, historic districts, objects, artifacts, cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties (TCPs) that may have religious or cultural significance to Federally-Recognized Indian Tribes (Tribes), or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons.

Cultural resources listed, eligible for listing, or potentially eligible for listing, on the National Register of Historic Places (NRHP) are subject to protection from adverse impacts resulting from

an undertaking. To be considered significant, a cultural resource must meet one or more of the criteria established by the National Park Service that would make that resource eligible for inclusion in the NRHP. Eligibility criteria for listing a property in the NRHP are detailed in 36 CFR Part 60. Sites not yet evaluated may be considered potentially eligible for inclusion in the NRHP and are afforded the same regulatory consideration as nominated properties. The New York State Historic Preservation Office (SHPO) within the Office of Parks, Recreation and Historic Preservation (OPRHP) maintains a list of New York's historic properties.

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the undertaking may directly or indirectly affect cultural resources. Within the APE, impacts on cultural resources are evaluated for both historic structures (above-ground cultural resources) and archaeology (below-ground cultural resources).

5.7.1 Existing Conditions

Archaeology

Research conducted using NYSHPO Cultural Resource Information System (CRIS) revealed the project area is partially located within an archaeologically sensitive area, and two previously recorded archaeological sites, listed as *Undetermined* historic sites, are located within the Area of Potential Effect (APE). Five previously recorded archaeological sites are located within 5,280 feet (one mile) of the APE. Two of the archaeological sites are listed as *Undetermined* historic sites, one site is listed as *Undetermined* and unknown, and the other two sites are *Undetermined* and *Not Eligible* prehistoric sites described as being a surface find and an isolate or stray find. There are several additional archaeology sites if the buffer for the APE is extended to 10,560 feet (two miles), most of which are listed as *Undetermined* and/or *Not Eligible* archaeology sites. All of these sites are located north of the project area, within the immediate vicinity of the town of Cobleskill. Given the presence of prehistoric and historic sites recorded in the APE and vicinity of the project area, the potential to encounter other such sites located within the APE was considered to be high.

Although the project area is partially located within an archaeologically sensitive area with the potential to yield historic and prehistoric archaeological resources; the majority of the APE consists of late-20th century and early-21st century residential development, cleared land for agricultural and grazing purposes, and water reservoirs. The agricultural, industrial (water reservoirs), and residential development has transformed the landscape and disturbed the soil making it less likely to preserve and/or contain significant in-situ historic and/or prehistoric archaeological deposits. Greenbush Hill Road, the western boundary for the project area, is composed of late-20th to early-21st century housing, large, cleared pastures, and agricultural fields. This mix of modern housing, cleared fields, and agricultural fields continues into the project area's northern boundary. The eastern boundary of the project area, Dow Street, also reveals a mix of late-20th century residences and agricultural fields. The southern boundary of the project area

contains a spillway, forested areas and agricultural fields. Because of this, the potential to encounter in-situ archaeological resources within the APE is considered low.

Portions of the project area where map-documented structures (MDS) have been identified are considered to have moderate to high sensitivity for encountering archaeological resources. These include areas along Main Street, MacArthur Avenue and the Railroad. An 1866 aerial map by F.W. Beers shows some development in Cobleskill, primarily along Main Street, 10,560 feet north of the project site. A review of the 1866 *Cobleskill Business Directory* reveals the majority of Cobleskill businesses were located along Main Street, the main thoroughfare. Occupations ranged from four attorneys, three boots and shoes manufacturers, three farmers, two hardware dealers, two hotel proprietors, two clothing and merchant tailors, a blacksmith, a dry goods distributor, a jeweler and watch repairer, a window and door manufacturer, an insurance agent, grocer, and pharmacist.

Phase I archaeological studies were completed by Jay William Bouchard and Hartgen Associates for the project area in 1989, when the town of Cobleskill was expanding their water resources for a third time with the addition of the holding pond. The Phase I archaeology study determined that although the Cobleskill Water Supply Protection Project is partially located within an archaeologically sensitive area with the potential to yield historic and prehistoric archaeological resources; the majority of the project area, which consists of modern, rural development and cleared land associated with the reservoirs, has significantly modified the area and disturbed the soil making it less likely to preserve and/or contain significant historic and/or prehistoric archaeological deposits, therefore, it is no longer considered archaeologically sensitive. FEMA concurs with this assessment.

Two historic archaeology sites, associated with the H. France and M. France residences were identified as part of the Section 106 process Phase I investigation (USN# 09504.000029 and # 09504.000028). A determination of *Undetermined* was reached, regarding the archaeological investigations. The H. France site is located within Smith Reservoir, on the southwest corner, and the M. France site is located southwest of the Smith Reservoir along the west side of Greenbush Hill Road. Despite this conclusion from the Phase I archaeological investigation, the NYSHPO maintained the Cobleskill Water Supply Protection Project will have *No Effect* upon cultural resources in or eligible for inclusion in the National Registers of Historic Places.

Much of the development in the area consists of modern housing and is made up of mostly cleared land used for reservoir, spillway and holding pond use and maintenance, and agricultural purposes. The project area is considered to have low sensitivity for prehistoric and historic archaeological resources due to the general lack of historic standing structures, coupled with large swaths of cleared tracts of land, which disturbed the landscape over the last hundred years. When the lower

reservoir (the Dow Reservoir) was added to the landscape in the early-20th century, forested, undisturbed land was cleared and graded in order to create the first reservoir, Dow Reservoir. More land was cleared and graded in the mid-1960s when the second reservoir, the Smith Reservoir, was constructed and land was further disturbed when the holding pond was constructed twenty years later.

Although the project area is partially located within an archaeologically sensitive area with the potential to yield historic and prehistoric archaeological resources; the majority of the APE consists of modern residential, agricultural and industrial development that has modified the area and disturbed the soil making it less likely to preserve and/or contain significant historic and/or prehistoric archaeological deposits, therefore, it is no longer considered archaeologically sensitive.

Historic Properties

Research conducted using New York State Historic Preservation Office's (NYSHPO) Cultural Resource Information System (CRIS) revealed the project area is located 1.7 miles from the National Register Listed Cobleskill Historic District (90NR02684). However, the project area itself is not situated within a designated National Register-Listed or National Register-Eligible historic district, nor is it located within a state or locally recognized historic district. Additionally, neither of the two (2) Reservoirs that have been identified in the proposed scope of work, are listed as individually eligible for the NRHP.

The APE terrain that is situated between the Reservoir and the Historic District is predominately rural with acres of forested land, low profile hills and scattered residential development. This landscape effectively isolates the Reservoir from the Historic District and will not have an impact to the Cobleskill Historic District view shed. Given the lack of National Register-Listed and Eligible above ground resources recorded within the APE and in the vicinity of the APE, and since the majority of the project area is isolated in nature with few standing structures within the APE, the project has no potential to affect National Register-eligible and/or listed architectural resources.

The NYSHPO concurred with this determination on March 30, 2012 under project #12PR01170. A second consultation was submitted to NYSHPO for the proposed project expansion under Project Review Number 15PR01345, with concurrence received on March 31, 2015. NYSHPO's correspondence stated that they [SHPO] continued to *"recommend that your project will have No Effect upon cultural resources in or eligible for inclusion in the NRHP."* (Appendix C.3) A consultation was sent to the St. Regis Mohawk Tribe due to the location of the project and associated Tribal lands. The St. Regis Mohawk Tribe made a "No Effect" determination in regards to cultural properties of concern to the St. Regis Tribe, and requested that the Tribe be notified immediately during construction *"in the event any inadvertent discoveries of human remains, funerary objects, sacred objects and objects of cultural patrimony are made during the*

scope of this project.” The project information has been submitted to the Mohawk Nation Council of Chiefs for comment with no response to date (Appendix C.4).

5.7.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

The No Action alternative would have no impact on cultural resources because there would be no soil disturbance conducted that could potentially affect archaeological resources and no alterations would be made to potential historic landscaping features or other historic materials of National Register-Eligible or potentially eligible above ground resources. The No Action alternative could result in adverse effects to historic properties that are flooded due to dam failure during storm events. These events can be damaging as both single events and multiple events that can cause cumulative damage causing a minor negative impact.

Alternative 2: Proposed Alternative

Under Alternative 2, the proposed action would include work on both the Smith and Dow Reservoirs. The rehabilitation work would entail improvements to both dams and expand the spillway capacity without over topping the dam embankments. This proposed work will have no impact to any above ground or below ground resources that are either eligible or listed in the NRHP.

The project area is partially located within an archaeologically sensitive area, there is limited potential to encounter in-situ prehistoric or historic archaeological resources due to the amount of soil disturbance within the APE as the developed portions are not likely to contain intact historic or prehistoric archaeological deposits and are not considered archaeologically sensitive.

5.8 Environmental Justice

5.8.1 Existing Conditions

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). The population was determined by selecting all census block groups with at least half of their physical area within a half mile of the project site and areas that are susceptible to flooding from potential dam failure.

Per EPA Region 2’s Guidelines for Conducting Environmental Justice Analyses, for New York, a community would be considered an Environmental Justice (EJ) community if the minority

population was 51.51 percent or higher or if 23.59 percent or more of the population was below the poverty line. According to the 2010 Decennial Census (Census 2010), the Community of Concern (COC) population includes 1,200 persons in one census tracts (Appendix C.12). 1.4 percent of which were of non-Hispanic minority. Of the entire COC population, 2.0 percent identified as Hispanic, 0.1 percent identified as Non-Hispanic Black, 0.3 percent identified as Non-Hispanic Asian, and 1.1 percent identified as Non-Hispanic and another race besides White.

The 2010-2014 American Community Survey reported a poverty rate of 4 percent and a per capita income of \$59,850 (Census 2014). Based on the above calculations, the minority and poverty rate of the COC is above the EPA threshold for an EJ community (Appendix C.12).

5.8.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

The existing spillway would continue to deteriorate over time and the risk of flooding following spillway or dam failure would continue to pose a threat to the downstream community and would jeopardize provision of a safe and adequate water supply. The No Action Alternative could have a minor negative impact on EJ communities in the COC, but would not have a disproportionate impact since COC does not meet threshold for an EJ community.

Alternative 2: Proposed Alternative

Potential effects on the COC could be a temporary increase of traffic and noise levels during construction (see sections 5.10 and 5.9 respectively). The construction activities associated with the Proposed Alternative would be subject to all local construction and noise regulations. For this reason and because the COC does not qualify as an EJ Community, there would be no disproportionate or adverse effect on minority or low income populations. The actions under Proposed Alternative would also benefit the community by reducing the risk of future flood damage from spillway and dam failure. Therefore there would be no disproportionate impact to EJ communities.

5.9 Noise

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 decibels (dBA) would protect the majority of people from hearing loss. The EPA recommends an outdoor average day-night sound level (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. The

Occupational Safety and Health Administration (OSHA) has adopted a standard of 140 dBA for maximum impulse noise exposure (USDHHS, 2002) and EPA recommends a Ldn of 70 dBA or lower (EPA, 1974).

Sound pressure level (SPL) is used to measure the magnitude of sound and is expressed in 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 dBA. 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 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 discrete events, such as fire sirens and other impulse noises. 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 would not significantly increase Leq or Ldn over the course of a day.

5.9.1 Existing Conditions

The project site is located in the Village of Cobleskill in Schoharie County, in an area of mostly farmland or forested areas with pockets of residential development. The ambient noise level in the vicinity of the proposed project site is typical for a rural area. The Ldn is typically about 44 dBA for rural agricultural areas, and 59 dBA for small-town and suburban residential areas (ETB, 2016).

5.9.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

There would be no change in the current conditions under the No Action Alternative. No construction work would occur and existing maintenance activities would be expected to be similar to current conditions. If the dams were to fail, there could be construction-related noise if they

were rebuilt. The No Action Alternative would have no impact on noise levels during normal operation and minor impact during possible reconstruction of dams.

Alternative 2: Proposed Alternative

The Proposed Alternative would result in a temporary increase in noise due to construction activities. BMPs would be used to minimize noise levels by ensuring that construction equipment uses the manufacturer's standard noise control devices. Construction noise measured at 50 feet from equipment is expected to range from 74 decibels to 101 decibels. Sound typically is reduced in half with a doubling of the distance from the noise source. There is one residence approximately 150 feet from the nearest point where work might be conducted, but most residences are 400 feet or more from potential work areas. Noise impacts on nearby residences and other sensitive receptors would also be minimized by ensuring that construction activities are conducted during the hours of 6:30 am to 5:00 pm Monday thru Friday. The project's noise impacts are expected to be short term and minor. Once construction is completed, vehicular traffic on access roads is expected to be infrequent for maintenance activities that would be similar to the existing condition; therefore, long-term impacts would be negligible.

5.10 Transportation

5.10.1 Existing Conditions

The project site is surrounded by Mineral Springs Road, Greenbush Hill Road, and Dow Street. Mineral Springs Road is a County-owned road with 1,803 annual average daily traffic trips (New York State Department of Transportation [NYSDOT], 2010). The other roads are Town owned and maintained and primarily carry lesser volumes of residential traffic (traffic counts are not available). Public transportation in the area consists of local county buses operated by the Schoharie County Public Transportation System (Schoharie County, 2016).

5.10.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

The No Action Alternative would not impact traffic volume or public transportation routes as no construction activity would take place at the site and existing traffic conditions would remain the same. In the event of a dam break, the largest impacts would occur immediately up- and downstream of Mineral Springs Road. Mineral Springs Road would be overtopped and four or five occupied structures adjacent to Mineral Springs Road near the intersection with Greenbush Hill Road would be inundated by the flooding. The flood wave would continue downstream and pass underneath Interstate 88 and would overtop Borst Noble Road, a low volume local roadway. The flood wave would then flow across Smith Creek's undeveloped floodplain until it reaches the confluence with Cobleskill Creek. In the event of a dam breach in any of the reservoirs, it is likely

that a portion of Mineral Springs Road, from Greenbush Hill Road to Borst Noble Road, and a portion of Borst Noble Road from Mineral Springs Road to south of the Interstate I-88 overpass would be temporarily closed. It is possible that scour from the flood wave could undermine one or more of these roads and result in damage that would require repairs. The No Action Alternative would have a moderate, temporary, negative impact on transportation in the area from flood events.

Alternative 2: Proposed Alternative

The Proposed Alternative would have a minor short-term impact on traffic during construction due to daily construction activity. Construction workers' personal vehicles and construction trucks and equipment could result in 10-20 vehicle trips to and from the site daily. In addition, mobilization and demobilization of construction equipment and the delivery of construction materials would generate off-site truck traffic.

During the construction of the spillways concrete works, approximately 5 concrete truck trips per hour could be anticipated in and out of the site daily. While most of the dredged sediments are expected to be disposed of on site, some additional truck trips would be generated by the need to haul contaminated sediments to an approved landfill disposal site. The presence of construction and delivery vehicles is unavoidable; however, this impact would be temporary, and all site construction activities would comply with Town ordinances that relate to operations at a construction site. While the increase in traffic would be noticeable on the rural roads surrounding the project area, it is unlikely that construction-related traffic would result in travel delays. Post-construction, the traffic volume would be similar to current traffic conditions, and no long term impacts are anticipated. There are no bus routes near the project site (Schoharie County, 2016).

The proposed project would reduce the chance of dam failure and flooding and would reduce the impact on transportation by reducing the risk of downstream flooding that could cause roads to become impassable. Therefore, the Proposed Alternative would have a minor temporary negative impact on transportation systems during construction and no impact post construction.

5.11 Infrastructure

5.11.1 Existing Conditions

The three reservoirs provide all of the drinking water for three water districts including the Village of Cobleskill, a water district in the Town of Cobleskill, and one in the Town of Richmondville. The reservoirs capture surface water sources and the water districts do not rely on groundwater sources for their supply. The water treatment facility is served by a 3-phase electric service provided by National Grid. There are no natural gas pipelines within or near the project area.

5.11.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the No Action Alternative the reservoir dams or spillways could fail reducing the available water supply for the district's customers. In the event of a sudden release of water, silts contaminated with copper could become suspended and contaminate the water supply. Floodwaters could damage utility systems at both the reservoir and at facilities downstream.

Over the long term, the capacity of the reservoirs and thus the quantity of water available for public water suppliers would continue to be slowly reduced. In the event of dam failure, the affected reservoir would drain and the quantity of water available to the water districts that depend on this source would be severely and rapidly impacted. The loss or reduction in water supplies could lead to water shortages and possibly rationing within the water districts' service areas. Water districts might need to haul in water supplies until dam repairs can be completed. The No Action Alternative could have a moderate negative impact on infrastructure during and after flood events.

Alternative 2: Proposed Alternative

The Proposed Alternative would reduce the risk of infrastructure failure and contamination of the water supply. There are no electric or natural gas utilities within the proposed construction work zones and there would be no effect on these utilities. The water supply would not be interrupted during construction because only one reservoir would be drawn down at a time, making the other two available to supply water to the community. The project would reduce the risk of future floods from dam failure, which would also reduce potential impacts on downstream infrastructure. The Proposed Alternative would have a negligible impact on infrastructure during construction and a moderate positive effect in the long term.

5.12 Public Health and Safety

5.12.1 Existing Conditions

Emergency services in the area include the Village of Cobleskill Police Department, Cobleskill Fire Department and EMS, the New York State Police, Bassett Healthcare Clinic, and Bassett Hospital. The NYS Police barracks is located on Mineral Springs Road, northeast of the reservoirs, and the Cobleskill Police Department is located on Mineral Springs Road, northwest of the reservoirs. The Cobleskill Fire Department is located on Main Street in the Village, and the Bassett Clinic and Hospital are located off Grandview Drive in the Village.

5.12.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the No Action Alternative, potential dam breaches would negatively impact downstream properties and transportation corridors (see Section 5.10 Transportation). In the case of a dam emergency, the Village of Cobleskill would implement the Emergency Action Plan for the Cobleskill Reservoir Dams of December 2011 (see Appendix C.13). This plan provides for 3 levels of dam emergency conditions of varying severity and outlines the corresponding notification of and response by emergency responders and notification of affected property owners.

In the event of a dam breach in any of the reservoirs, flooding is likely to result in road closures as described in Section 5.10. Emergency service providers would need to access the Mineral Springs area via South Grand Street to Mineral Springs Road from the west, or NYS Route 7 to NYS Route 145 to Mineral Springs Road from the east. Properties to the south of the reservoirs would be cut off from the north for as long as Mineral Springs Road and Borst Noble Road were closed, and emergency vehicles would need to access those properties via a long detour (6 to 7 miles) on West Fulton Road to Greenbush Road. The No Action Alternative would have a temporary moderate negative impact on public health and safety during and after a flood event from the reservoirs.

Alternative 2: Proposed Alternative

Under the Proposed Alternative, the spillways and dams would be repaired and upgraded to properly withstand a storm events and safely discharge excess reservoir flows to avoid an emergency situation that could inundate nearby structures and roads. During heavy rain or flood events, there would be a reduced risk of roads flooding, allowing emergency personal to maintain normal access routes and emergency response times. The Proposed Alternative would have a negligible temporary construction-related impact and a moderate positive effect in the long term by reducing the potential interruption of emergency vehicle access.

5.13 Hazardous Materials

NYSDEC defines hazardous substances 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 and the environment (NYSDEC, 2016d). Hazardous materials and wastes are regulated under a variety of federal and state laws, including 40 CFR Part 260, the Resource Conservation and Recovery Act of 1976 (42 USC § 6901 et seq.), Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 USC § 9601 et seq.), Solid Waste Act, the Toxic Substances Control Act, and the CAA of 1970 (42 USC § 7401 et seq.). OSHA standards under the Occupational Safety and Health Act seek to minimize adverse impacts on worker health and safety (USDHHS, 2014). Evaluations of hazardous substances and wastes must consider whether any hazardous material would be generated by the proposed activity and/or already exists at or in the

general vicinity of the site (40 CFR 312.10). If hazardous materials are discovered, they must be handled by properly permitted entities. The New York Department of Labor permits entities for asbestos waste abatement and NYSDEC issues permits for transportation and disposal of hazardous waste.

5.13.1 Existing Conditions

Samples of the sediments within the reservoirs were found to contain copper, in varying concentrations at different locations throughout both reservoirs. This was from the use of copper sulfate to control weed growth within the reservoirs. The only significant contaminate present in the test samples was Results of the tests can be found in the Soil Boring Testing Report (Appendix D). There are no known superfund sites or any known hazardous waste sites located within the vicinity of the project area (NLM, 2016).

5.13.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

If the copper contaminated sediment is disturbed in the event of a dam failure, water quality could be reduced due to resuspension of the sediments. Copper sulfate would still be used to control weed growth, but it is expected to continue to contaminate in the sediments that could become unsettled from storm activity. The No Action Alternative would have a minor negative impact on hazardous materials contamination at the site during storm events.

Alternative 2: Proposed Alternative

The Proposed Alternative would remove accumulated sediments from the bottom of the reservoirs by dredging the material out and disposing of material on an adjacent field. Excavated soil and waste materials, including any previously unidentified hazardous waste, shall be managed and disposed of in accordance with applicable federal, state, and local regulations. The subrecipient will submit an application for a Beneficial Use Determination (BUD) for the disposal of the material. Additional testing and monitoring of the material will likely be required in order to ensure contamination levels meet the requirements for the selected disposal site. Highly contaminated soils will have to be disposed of at an approved hazardous waste site. Solid waste haulers are required to have an NYSDEC waste hauler permit and all waste shall be disposed of or processed at an NYSDEC permitted facility. Work at the reservoirs is expected to generate minimal amounts of solid waste (with the possible exception of dredge spoils) and implementation of BMPs and spill control measures during construction would reduce any potential adverse impacts. The subrecipient would use approved local landfills that accept construction waste and have sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Over the long term, silt would again accumulate in the bottom of the reservoirs and areas could again become contaminated with copper due to the continued use of copper sulfate for weed control. However, the removal of the accumulated silts would reduce the conditions favorable to weed growth, which would also reduce the need for weed control measures for a period of time. Because the proposed project would reduce the risk of dam failure, the risk of resuspension of accumulated contaminated sediments becoming resuspended and impacting water quality would also be reduced. Overall, the Proposed Alternative would have a negligible negative impact on hazardous waste generation and contamination.

5.14 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 for federal agencies to undertake actions to enhance climate preparedness and resilience. FEMA is required under these executive orders to implement climate change adaptability and green infrastructure in FEMA-funded projects as practicable.

Climate change is defined as "...any significant change in the measures of climate lasting for an extended period of time" (EPA, 2015c). This includes major variations in precipitation, sea surface temperatures and levels, atmospheric temperature, wind patterns, and other variables lasting over several decades or longer. EPA identifies and regulates human actions that may affect climate change. The use of fossil fuels to extract, manufacture, distribute, use, and dispose of materials affects climate change by producing greenhouse gases. A life cycle analysis was not conducted for this EA.

5.14.1 Existing Conditions

Climate change affects all places and the following documents are incorporated here by reference, as recommended by CEQ:

- Intergovernmental Panel on Climate Change Fifth Assessment Report (IPCC, 2013)
- Third National Climate Assessment (US Global Change Research Program, 2014)

The only climate change effect directly relevant to the proposed project for which reasonably foreseeable consequences can be projected is increased storm activity and the potential to overflow the reservoirs. The only climate change issues that would be contributed to by the proposed project is the creations of greenhouse gases.

5.14.2 Potential Impacts and Proposed Mitigation

Alternative 1: No Action

Under the No Action Alternative, the reservoirs would continue to be susceptible to flooding and the risk of dam failure may increase due to increased storm activity from climate change-related weather changes. Although there would be no construction under the No Action Alternative, emissions from construction equipment could occur if the dams were to fail and required rebuilding. Existing operations-related emissions would not change. The No Action Alternative would have no impact on climate change and the project area could be moderately negatively impacted by climate change-related storm events.

Alternative 2: Proposed Alternative

During construction, the Proposed Alternative would have a temporary negligible negative effect on climate change due to greenhouse gas emissions from the use of equipment and vehicles that burn fossil fuels. BMPs described in Section 5.2, Air Quality, would help reduce emissions that could contribute to climate change. Although climate change will likely result in an increase in wet weather events and flood conditions that could affect the project area, the proposed project is intended to make the reservoirs more resilient to climate change by improving their ability to handle water levels with improved design and capacity. The Proposed Alternative would have a minor positive effect as it improves the facility's ability to respond to the fluctuation in water levels that extreme weather conditions could create and reduce the potential of dam failure.

5.15 Cumulative Impacts

In accordance with NEPA, this EA considers the overall cumulative impact of the Proposed Alternative and other actions that are related in terms of time or proximity. According to the 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 the context of evaluating the scope of a proposed action, direct, indirect and cumulative impacts must be considered.

In addition to NEPA, other statutes require federal agencies to consider cumulative impacts. These include the CWA Section 404 (b)(1) guidelines and regulations implementing the conformity provisions of the CAA, Section 106 of the NHPA, and Section 7 of the ESA.

In addition to the Proposed Alternative, the Village of Cobleskill intends to complete the following projects within the next few years:

- Main Street Project – replace utilities on Main Street from Grand Street to North Street, and replacement of road. NYSDOT is repaving Main Street from Rose Street east to Walmart.
- Lark Street Project – replace utilities on Lark Street and Jay Street, and road/sidewalk repair on North Street.
- Water System Improvements Project - replace distribution system lines, replace existing village water storage tanks and expand clarifier storage at water plant.
- Sidewalks project – install new sidewalks on South Grand Street and Campus Drive.
- Pool Liner Project – install new pool liner at Village pool.

These other projects would not result in cumulative impacts when combined with the proposed project, with the exception of the Water System Improvement Project, because they are not near or connected to the project site. The Water System Improvement Project is located adjacent to the reservoir system; however, the projects would not be constructed concurrently.. In addition, the replacement of lines and storage tanks would not result in a change in water levels at the reservoirs; therefore, there would be no effect on the dams, spillways, or risk of downstream impacts due to storm events.

6.0 PERMITS AND PROJECT CONDITIONS

The subrecipient is responsible for obtaining all applicable federal, state, and local permits and other authorizations for project implementation prior to construction and for adherence to all permit conditions. Any substantive change to the approved scope of work would require re-evaluations by FEMA for compliance with NEPA and other laws and EOs. The subrecipient must also adhere to the following conditions during project implementation. Failure to comply with grant conditions may jeopardize federal funding:

1. The subrecipient shall be responsible to comply with the NYSDEC SPDES permit for stormwater discharge from construction activity or other applicable SPDES permit, in accordance with NYSDEC regulations. If the NYSDEC General Permit for Stormwater Discharges is determined to cover the proposed action, the subrecipient shall provide DHSES/FEMA a copy of the SWPPP and a copy of the Notice of Intent Form at grant project close-out or other time identified by DHSES/FEMA per grant administrative documentation guidance requirements. If an individual SPDES permit is determined to be required, the subrecipient shall provide a copy of the obtained permit, as well as supporting SWPPP to DHSES/FEMA at grant project close-out or other times identified by DHSES/FEMA per grant administrative documentation guidance requirements. For more

information regarding SPDES, visit the following website:
<http://www.dec.ny.gov/chemical/43133.html>.

2. Construction vehicles and non-road construction equipment will comply with applicable standards and use ultra-low sulfur diesel fuel, as required by EPA regulations. The use of BMPs, including dust control, will be applied during construction to help minimize air quality impacts.
3. The work may be authorized by a general CWA permit or a nationwide CWA permit; however, USACE and NYSDEC may require an individual CWA permit(s) for the subject work if general and nationwide permits do not cover the work. The subrecipient is 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 would likely qualify for a NYSDEC blanket Section 401 Water Quality Certification for USACE and Article 15 from the NYSDEC; a Joint Permit Application will be submitted to both agencies.
4. Disposal of dredged sediments on uplands within the project area shall employ best management practices to remove excess water from the dredge spoils and to prevent such water from carrying suspended fine sediments and other contaminants to wetlands and streams downstream of the disposal site. The subrecipient will submit an application for a BUD for the disposal of the material. Additional testing and monitoring of the material will likely be required in order to ensure contamination levels meet the requirements for the selected disposal site. BMPs might include measures such as filter fabric barriers, construction of infiltration swales, or the use of dewatering tanks to remove excess water from the dredge spoils before disposal on the adjacent land.
5. The subrecipient will 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
6. Fish habitat protection, including possible fish relocation, will comply with all NYSDEC permitting requirements.
7. Schoharie County is currently identified as a quarantine zone for the invasive insect Emerald Ash Borer (EAB). Since this is an EAB quarantine county, any woody tree and

shrub material to be removed for the proposed action is required to be chipped on site to chips of less than one inch in two dimensions and must not be transported whole outside the community in order to adhere with EO 13112 Invasive Species, federal regulations at 7 CFR Parts 301.53-1 through 301.53-9, and state regulations at 1 NYCRR Part 141. For more information concerning this environmental stewardship requirement, visit USDA-APHIS, New York State Department of Agriculture and Markets, and other websites concerning EAB:

- www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/
 - www.agriculture.ny.gov/PI/eab.html
 - www.nyis.info/?action=news_detail&event_id=306
8. Threatened or endangered species and bald eagles are not likely to be found in the area of the proposed project site. There will be no effect on Northern long-eared bats. No trees suitable for roosting long-eared bats or for perching bald eagles will be disturbed. As a result, pursuant to Section 7(a)(4) of the ESA, Bald and Golden Eagle Protection Act, and implementing regulations at 50 CFR §402.02 and 50CFR §402.10, FEMA has determined that the proposed action would have no effect on endangered or threatened species or Bald eagles, or destroy or adversely modify designated critical habitat. If any threatened or endangered species or Bald eagles are found in the project area, work will cease and consultation with USFW and other appropriate agencies will be conducted.
 9. Removal of trees and shrubs will occur outside of the bird breeding season between April 1 and August 15.
 10. BMPs would be used to minimize noise levels by ensuring that construction equipment uses the manufacturer's standard noise control devices to comply with EPA and OSHA requirements. If noise levels exceed typical levels described above on a permanent or prolonged basis, outreach to EPA and OSHA would be required to assess noise.
 11. Any previously unidentified hazardous waste, shall be managed and disposed of in accordance with applicable federal, state, and local regulations. Solid waste haulers shall be required to have an NYSDEC hazardous waste hauler permit and all waste shall be disposed of or processed at an NYSDEC permitted facility.

7.0 AGENCY COORDINATION AND PUBLIC INVOLVEMENT

This EA will be made available for agency and public review and comment for a period of 30 days. The public information process will include a public notice with information about the proposed project in the Times Journal newspaper. The EA will be made available for download at <http://www.schohariecounty-ny.gov/CountyWebSite/villcob/>.

A hard copy of the EA will be available for review at the following locations:

Village Hall
378 Mineral Springs Road, Suite 2
Cobleskill, NY 12043

Lamont Engineers Offices
548 E. Main Street
Cobleskill, NY 12043

The Community Library
110 Union Street
Cobleskill, NY 12043

FEMA will send copies of the EA to:

NYS DHSES
1220 Washington Avenue, Suite 101, Building 22
Albany, NY 12226-2251

NYSDEC Region 4
65561 State Highway 10
Suite 1
Stamford, NY 12167

The following parties will receive notices of the EA's availability for comment:

Mr. John Bonafide
New York State Office of Parks, Recreation and Historic Preservation
Peeples Island, PO Box 189
Waterford, NY 12188-0189

Kristy Primeau
NYSDEC
Divisions of Environmental Permits Region 4
1130 North Westcott Road
Schenectady, NY 12306

Mr. Brad Sherwood
US Army Corps of Engineers CENAN-OP-RU
1 Buffington Street, Building 10, 3rd Floor
N Watervliet, NY 12189-4000

Arnold Printup Jr.
Tribal Historic Preservation Officer
St. Regis Mohawk Tribe
412 State Route 37
Akwesasne, NY 13655

Tribal Council
St. Regis Mohawk Tribe
412 State Route 37
Akwesasne, NY 16355

Tamara Francis Fourkiller
Cultural Preservation Director
Delaware Nation
PO Box 825
Anadarko, OK 73005

Tribal President
Delaware Nation
PO Box 825
Anadarko, OK 73005

Blair Fink
Delaware Tribe Historic Preservation Representatives
Department of Anthropology
Gladfelter Hall
Temple University
1115 W. Polett Walk
Philadelphia, PA 19122

Chief Paula Pechonick
Delaware Tribe of Indians
Delaware Tribal Headquarters
170 N.E. Barbara
Bartlesville, OK 74006

Sherry White
Tribal Historic Preservation Officer
Stockbridge-Munsee Community Band of Mohicans
W13447 Camp 14 Road
Bowler, WI 54416

Wallace Miller
President
Stockbridge-Munsee Community Band of Mohicans
N8476 Moh He Con Nuck Road
Bowler, WI 54416

Interested parties may also request an electronic copy of the EA by emailing FEMA at FEMA-4085-Comment@fema.dhs.gov. 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. The public is invited to submit written comments by emailing FEMA-4085-Comment@fema.dhs.gov or via mail to:

FEMA Region II NY Sandy Recovery
26 Federal Plaza
New York, NY 10278
Attn: EHP – Cobleskill Water Supply Project EA Comments.

If no substantive comments are received from the public and/or agency reviewers, the EA will be adopted as final and a FONSI will be issued by FEMA. If FEMA receives substantive comments, the Agency will evaluate and address comments as part of the FONSI record documentation or in a Final EA.

8.0 CONCLUSION

FEMA through NEPA, and the subrecipient through the State Environmental Quality Review Act (SEQRA) process, have found that the Proposed Alternative to reconstruct the spillways of the Dow and Smith Reservoirs of the Village of Cobleskill, located in the Town of Cobleskill, which is the subrecipient's preferred alternative, is a practicable alternative that would not significantly adversely impact the human environment. The evaluation resulted in identification of no negative moderate or major impacts associated with the resources of geology and soils, air quality, water resources, coastal resources, vegetation, biological resources, cultural resources, aesthetic resources, socioeconomic resources, land use and planning, noise, transportation and utilities, public health and safety, hazardous materials, and climate change. Coordination and permit submissions shall be completed between several agencies during project review and mitigation measures shall be incorporated into the design in order to meet all regulatory requirements. During the construction period, short-term minor to negligible impacts on transportation, air quality, climate change, and noise are anticipated. Short-term impacts would be mitigated utilizing BMPs that include silt fences, proper equipment maintenance, and appropriate signage and the conditions detailed in Section 6 that would avoid or minimize effects associated with the Proposed Alternative. The long-term environmental impacts on soils, topography, and vegetation as a result of issued

permits would be beneficial post construction. The entire community would benefit from the repairs and mitigation to the reservoirs as they would be better equipped to handle severe rain events and would reduce the risk of dam failure and downstream flooding. Should no substantive comments be received, or significant impacts be identified, during the public comment period, it is recommended that a FONSI be issued for the Proposed Alternative.

9.0 LIST OF PREPARERS

Lamont Engineers, 548 Main Street, PO Box 610, Cobleskill, NY 12043

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

Matthew Estes (Environmental Specialist)

Brandon Webb (Environmental Lead)

Brock Giordano (Sandy Environmental and Historic Preservation Director)

John Dawson (Regional Environmental Officer Representative)

10.0 SUMMARY OF IMPACTS

Section	Area of Evaluation	Alternative 1: No Action Alternative	Alternative 2: Proposed Action Alternative)	Agency	Mitigation
5.1	Geology, Topography, and Soils	No impact from normal use. In the event of a dam failure there could be a moderate negative effect on soils and topography and no effect to bedrock.	Minor permanent impact to topography and soil resources and no impact to geological resources. Disturbance of soils during construction and placement of sediment materials removed from reservoirs onto spoils site would have a minor temporary impact.	NYSDEC SPDES permit	Fill site to match existing site topography and soil.
5.2	Air Quality	Negligible impact	Would have a temporary minor impact to air quality during construction and would have a permanent negligible impact once project is complete.	NYSDEC and USEPA	Emissions of fugitive dust during construction would be controlled by best management practices. Construction vehicles and non-road construction equipment would comply with applicable standards

Section	Area of Evaluation	Alternative 1: No Action Alternative	Alternative 2: Proposed Action Alternative)	Agency	Mitigation
					and would use ultra-low sulfur diesel fuel, as required by EPA regulations.
5.3	Water Quality	Moderate negative impact from spillway failure on water quality. Negligible negative impact to principal aquifers and no impact to sole source aquifers.	Moderate positive impact to water quality during and after storm and flood events and no impact during normal operation. No impact to principal or sole source aquifers.	USACE and NYSDEC	Compliance with SWPPP, SPDES, 404, and 401 Permits. BMPs, including dewatering and scour protection during construction, would occur.
5.4	Floodplain and Wetlands	No impact to wetlands and floodplains from normal use. Moderate negative impact to downstream flood zones from a dam failure and minor negative impacts to wetlands.	No impact to floodplains and a minor beneficial impact to wetlands from structure failure protection.	USACE	Will be determined in USACE Final Jurisdictional Determination.
5.5	Vegetation	No impact from construction, minor negative impact from dam failure flooding. Negligible effect in spreading invasive species from flooding.	Minor temporary negative impact from construction activity and a minor permanent positive impact due to native species plantings.		Native planting that is consistent with the goals of US Green Building Council in accordance with EO 13112 will be undertaken.
5.6.1	Wildlife Habitat	No impact from normal use and minor negative impact from dam failure.	Minor temporary negative impact to wildlife from construction and dewatering activities and potential for a minor positive impact post construction due to revegetation plans (section 5.5).	NYSDEC	Comply with NYSDEC requirements and guidelines for protecting fish wildlife and habitat during construction. Mitigation action includes phasing project to allow fish relocation from one reservoir to another. Subrecipient will adhere to EAB quarantine zone

Section	Area of Evaluation	Alternative 1: No Action Alternative	Alternative 2: Proposed Action Alternative)	Agency	Mitigation
					regulations by USDA and NYS Department of Agriculture and Markets
5.6.2	Threatened and Endangered Species	No impact from normal use and negligible negative impact from dam failure.	No impact with the use of BMPs	USFW	Work will be done in daytime hours when Northern Long-Eared Bats are inactive.
5.6.3	Migratory Birds	No impact from normal use and negligible negative impact from dam failure.	No impact	USFW	BMPs in accordance to USFW, NYSDEC, and local regulations.
5.7	Cultural Resources	Minor negative impact from dam failure flooding	No impact	NYSSHPO	
5.8	Environmental Justice	A minor negative impact on low-income and minority populations in the community of concern.	No disproportionate impact within the community of concern	USEPA	
5.9	Noise	No impact during normal operation and a minor impact during potential repairs of damaged dams.	Short term, minor, negative impact to noise levels from construction activity and long-term negligible impacts.	EPA	Use of manufacturers' standard noise control devices will be used during construction.
5.10	Transportation	No impact during normal conditions and a moderate temporary negative impact from dam failure.	A minor temporary negative impact from construction activities and no impact post construction.		Compliance with town ordinances that relate to operations on a construction site.
5.11	Infrastructure	Moderate negative impact from dam failure from lost water resources.	Moderate positive impact through water supply protection.	NYSDEC	Compliance with NYSDEC Bureau of Dam regulations.
5.12	Public Health and Safety	Moderate negative impact during and after flood events.	Moderate positive impact through reduced flood impact and a negligible temporary impact during construction		

Section	Area of Evaluation	Alternative 1: No Action Alternative	Alternative 2: Proposed Action Alternative)	Agency	Mitigation
5.13	Hazardous Materials	Minor impact during storm events.	Negligible impact as long as all NYSDEC and EPA hazardous waste regulations are followed.	NYSDEC and EPA	Any hazardous waste shall be managed and disposed of in accordance with applicable Federal, state, and local regulations and haulers shall be required to have a NYSDEC waste hauler permit.
5.14	Climate Change	No impact on climate change and e a moderately negative impact from climate change related storm events.	Temporary negligible effects to climate change due to construction emissions and potential positive minor effect from facilities ability to respond to increased water levels.		

11.0 REFERENCES

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2016 “Ldn – Day and Night Sound Level” http://www.engineeringtoolbox.com/sound-level-d_719.html

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2015b “Region 2 Water; Sole Source Aquifers” https://www.hudexchange.info/resource/reportmanagement/published/ESD_900000010004046_10022016_900000010005760_1443811800947.pdf

2015c “Climate Change: Basic Information” <http://www3.epa.gov/climatechange/basics/>

1994 “Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” <http://www2.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice>.

1974 “EPA Identifies Noise Levels Affecting Health and Welfare” <http://www.epa.gov/aboutepa/epa-identifies-noise-levels-affecting-health-and-welfare>

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2013 “Intergovernmental Panel on Climate Change Fifth Assessment Report”
<https://www.ipcc.ch/report/ar5/>

New York Heritage Program (NYHP)

2016 “iMapInvasives” <https://sites.google.com/site/nyimapinvasives/>

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2016a “Dam Safety” <http://www.dec.ny.gov/lands/4991.html>

2016b “Protection of Waters Program” <http://www.dec.ny.gov/permits/6042.html>

2016c “Primary and Principal Aquifers” <http://www.dec.ny.gov/lands/36119.html>

2016d “Hazardous Waste Management” <http://www.dec.ny.gov/chemical/8486.html>

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http://www.dec.ny.gov/docs/water_pdf/swdm2010chptr4.pdf

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<http://www.schohariecountypublictransit.com/index.php/schedules-1>

Town of Cobleskill

2011 “Agricultural and Farmland Protection Plan” <http://www.schohariecounty-ny.gov/CountyWebSite/towncob/FinalDraftPlan5162011.pdf>

US Census Bureau (Census)

2010 “Census Demographic Profiles” <http://www.census.gov/2010census/popmap/>

2014 “American Community Survey” <https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/2014/>

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2015 “Soil Survey of Schoharie County, New York” Retrieved 7/15/2015.

<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

US Department of Labor (USDOL)

2004, “Public Law 91-596”

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=OSHACT&p_id=2743

2002 “Hearing Conservation” <https://www.osha.gov/Publications/osh3074.pdf>

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2009 “New York Seismic Hazard Map”

http://earthquake.usgs.gov/earthquakes/states/new_york/hazards.php

US Global Change Research Program

2014 “Third National Climate Assessment” <http://nca2014.globalchange.gov/report>

US National Library of Medicine (NLM)

2016 “TOXMAP: Environmental Health Map” <http://toxmap-classic.nlm.nih.gov/toxmap/main/index.jsp>