



Draft Environmental Assessment

Muskingum Avenue Improvements

City of Zanesville, Muskingum County, OH

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List of Acronyms, Chemical Formulas, and Abbreviations

ACS	American Community Survey	NOAA	National Oceanic and Atmospheric Administration
AMSL	Above Mean Sea Level	NOI	Notice of Intent
APE	Area of Potential Effect	NPDES/SDS	National Pollution Discharge Elimination System/State Disposal System
B&N	Burgess & Niple, Inc.	NPS	National Park Service
BGEPA	Bald and Golden Eagle Protection Act	NRCS	Natural Resources Conservation Service
BMP	Best Management Practices	NRHP	National Register of Historic Places
CAA	Clean Air Act	NWI	National Wetland Inventory
CBRS	Coastal Barrier Resource System	NWP	Nationwide Permit
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	O ₃	Ozone
CEQ	Council on Environmental Quality	OAC	Ohio Authorized Code
C.F.R.	Code of Federal Regulations	ODNR	Ohio Department of Natural Resources
CO	Carbon Monoxide	ODOT	Ohio Department of Transportation
CWA	Clean Water Act	OEPA	Ohio Environmental Protection Agency
CZMA	Coastal Zone Management Act	OHWM	Ordinary High-Water Mark
DA	Director's Authorization	ORC	Ohio Revised Code
dbh	Diameter at Breast Height	OSHA	Occupational Safety and Health Administration
DGS	Division of Geologic Survey	Pb	Lead
DHS	United States Department of Homeland Security	PM	Particulate Matter
EA	Environmental Assessment	PTI	Permit to Install
EFH	Essential Fish Habitat	RCRA	Resource Conservation and Recovery Act
EJ	Environmental Justice	SFHA	Special Flood Hazard Area
EMA	Emergency Management Agency	SHPO	State Historic Preservation Office
EO	Executive Order	SO ₂	Sulfur Dioxide
ESA	Endangered Species Act	SWPPP	Stormwater Pollution Prevention Plan
FEMA	Federal Emergency Management Agency	TMDL	Total Daily Maximum Load
FHA	Federal Highway Administration	TSS	Total Suspended Solids
FIRM	Flood Insurance Rate Map	UNT	Unnamed Tributary
FPPA	Farmland Protection Policy Act	USACE	United States Army Corps of Engineers
FONSI	Finding of No Significant Impact	U.S.C.	United States Code
HDPE	High-Density Polyethylene	USDA	United States Department of Agriculture
HMGP	Hazard Mitigation Grant Program	USEPA	United States Environmental Protection Agency
IPaC	Information for Planning and Consultation	USFWS	United States Fish and Wildlife Service
kJ	Kilojoule	USGS	United States Geological Survey
L&A	Lawhon & Associates, Inc.	VOC	Volatile Organic Compound
MBTA	Migratory Bird Treaty Act	WQC	Water Quality Certification
NAAQS	National Ambient Air Quality Standards		
NATA	National Scale Air Toxics Assessment		
NEPA	National Environmental Policy Act		
NHPA	National Historic Preservation Act		
NO ₂	Nitrogen Dioxide		
NO _x	Nitrogen Oxides		

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1 BACKGROUND

1.1 Project Authority

The City of Zanesville proposes stabilization and restoration work for Muskingum Avenue and Putnam Hill Park to address rockfall and land slippage hazards associated in part due to flooding of the Muskingum River. The City of Zanesville applied to the Federal Emergency Management Agency (FEMA) through the Ohio Emergency Management Agency (EMA) for grant assistance under the Hazard Mitigation Grant Program (HMGP). The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. § 5170c. The key purpose of FEMA's Hazard Mitigation Grant Program is to ensure that the opportunity to take critical mitigation measures to reduce the risk of loss of life and property from future disasters is not lost during the reconstruction process following a disaster. The project reviewed here was funded under Federal disaster declaration DR-4507-OH, COVID-19 Pandemic declared statewide on March 31, 2020, and continuing. The declaration made HMGP assistance available statewide to fund hazard mitigation measures.

This environmental assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. §§ 4321 -4370h; President's Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [C.F.R.] Parts 1500 to 1508); U.S. Department of Homeland Security (DHS) Directive No. 023-01; rev. 1, Implementation of the National Environmental Policy Act (Oct. 31, 2014); DHS Instruction Manual No. 023-01-001-01, rev. 1, Implementation of the National Environmental Policy Act (Nov. 6, 2014); FEMA Directive No. 108-01, Environmental Planning and Historic Preservation Responsibilities and Program Requirements (Aug. 22, 2016); and FEMA Instruction 108-01-1, Instruction on Implementation of the Environmental and Historic Preservation Responsibilities and Program Requirements (Aug. 22, 2016). FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this EA is to meet FEMA's responsibilities under NEPA and to analyze the potential environmental impacts of the proposed project. FEMA will use the findings in this EA to determine whether to prepare an environmental impact statement for the proposed project or to issue a finding of no significant impact (FONSI).

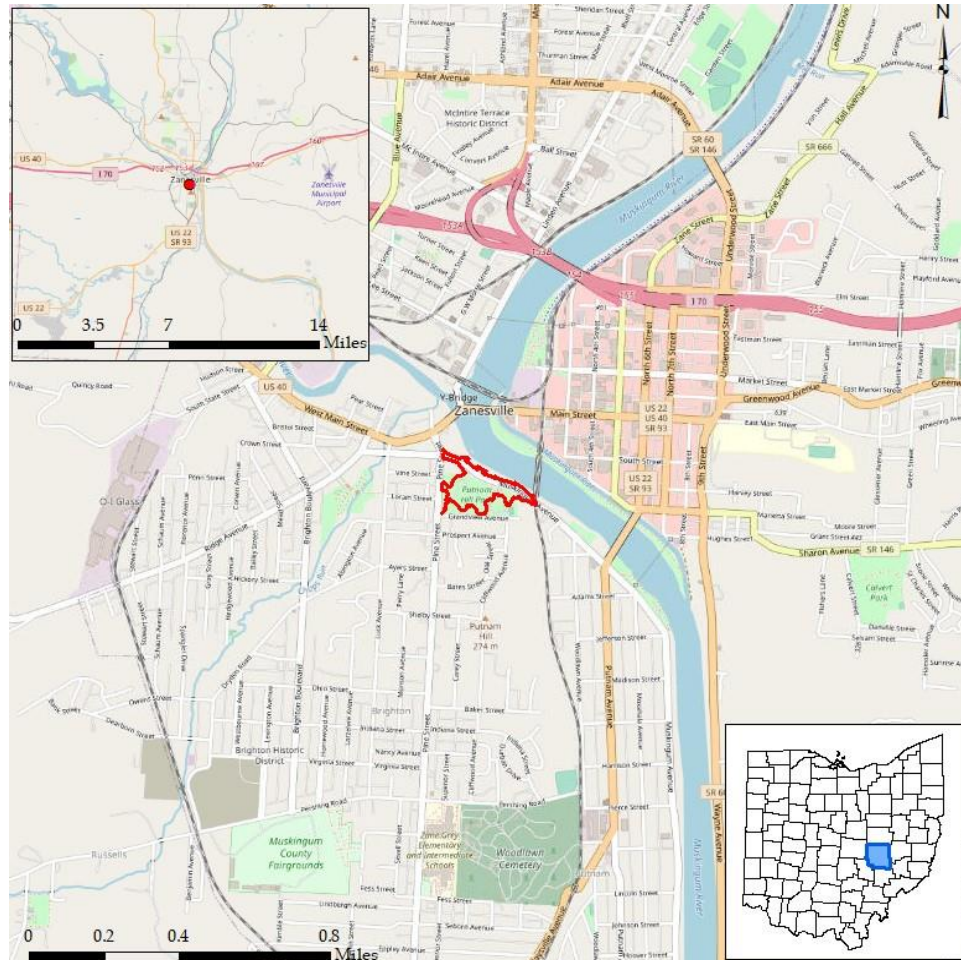
In accordance with federal laws and FEMA regulations, the EA process for a proposed federal action must include an evaluation of alternatives and a discussion of the potential environmental impacts. As part of this NEPA review, the requirements of other environmental laws and executive orders (EO) are addressed.

1.2 Project Location

Address:	Muskingum Avenue & Putnam Hill Park
County:	Muskingum
City:	Zanesville
USGS Quadrangle:	Zanesville West, OH
PLSS Section/Township/Range:	S1/T16N/R14W
Latitude/Longitude:	39.937327, -82.013468 (approximate project center)

The project area extends approximately 1,500 feet along Muskingum Avenue from Pine Street on the west to the Genesee and Wyoming Railroad crossing on the east. It extends north toward the Muskingum River and south into Putnam Hill Park. It is approximately 9.6-acres in total size. All property is owned by the City of Zanesville. According to the U.S. Census Bureau, the City of Zanesville has a land area of 11.78 square miles and a population of 24,765 in the 2020 census (U.S. Census Bureau QuickFacts, 2023).

Figure 1.1 Project Location



1.3 Purpose and Need

The purpose of the project is to restore the functional operation of Muskingum Avenue for motorists, pedestrians, and bicyclists as well as upgrading and relocating the existing sanitary sewer force main for future full replacement.

The project is needed as Muskingum Avenue has been closed between Pine Street and the Genesee and Wyoming Railroad crossing, located approximately 1,500 feet to the east of Pine Street, since February 2019. Multiple safety hazards have contributed to this closure including a slip on the north side of the roadway due to flooding of the Muskingum River as well as multiple rock and tree falls that have occurred on the south side of the road due to the steep, weathered cut rock face. These hazards have resulted in damage to the roadway pavement and sidewalk located on the north side of the road. Muskingum Avenue in this location acts as a thoroughfare

between U.S. Route 22 and U.S. Route 40. A detour to the south of the Muskingum River adds an additional 2.2 miles, approximately 6 minutes, along city streets connecting these two U.S. Routes and a detour to the north contributes to more congestion within downtown Zanesville.

A study performed in 2018 noted that the continued rock falls, pavement patching, landslip damage, and associated sediment have also resulted in the poor condition and ultimate failure of the storm sewer system in the area.

In addition, an existing 24-inch sanitary sewer force main runs adjacent to the Muskingum River. This sewer main has been determined to be undersized and in poor condition.

2 ALTERNATIVE ANALYSIS

NEPA requires FEMA to evaluate alternatives to the proposed project and describe the environmental impacts of each alternative. NEPA also requires an evaluation of the No Action alternative, which is the future condition without the project being executed. This section describes the No Action alternative, the Proposed Action, and alternatives that were previously considered but eliminated from further consideration.

2.1 Alternative 1 – No Action

Under the No Action alternative, Muskingum Avenue and the surrounding safety hazards and utility deficiencies would not be repaired. As a result, the roadway and sidewalk would continue to deteriorate from additional slips and rock falls and would not reopen. The force main would also not be replaced and the larger sanitary sewer upgrade could not be completed as proposed.

2.2 Action Alternative 2 – Proposed Action

This project consists of five components as outlined below:

2.2.1 South Slope Stabilization

The south slope stabilization (Alternative S5, as identified within the Muskingum Avenue Improvement Study, dated November 2020) will stabilize the slope to the south of Muskingum Avenue by creating a 10-foot-wide bottom bench and barrier wall with a catchment fence adjacent to the back of the curb/gutter. The south bluff will be cutback at a 4:3 (run:rise) slope with 10-foot-wide benches at soft soil/rock layers. These benches occur at approximately 755 to 757 feet above mean sea level (AMSL) and 776 to 782 feet AMSL. The cutback will result in the removal of approximately 69,083 cubic yards (CY) of soil and rock which will be placed within Putnam Hill Park as outlined in **Section 2.2.5** below. A 5-foot-tall concrete barrier wall will be placed along the south side of the roadway for 959 feet.

2.2.2 North Slope Stabilization

Referred to as Alternative N3 for the north slope stabilization, the north slope of Muskingum Avenue at the location of the landslip will be stabilized with a 191-foot-long precast concrete lagging retaining wall with steel soldier piles drilled into bedrock. In addition, a 1,180-foot-long 3.5-foot-tall barrier wall will be placed along the north side of the sidewalk along Muskingum Avenue.

In March 2023, an additional slip occurred to the north of Muskingum Avenue and toward the western end of the project area. Plans were revised to include an additional 175-foot-long retaining wall of the same type as the 191-foot-long wall to remediate this slide.

2.2.3 Repair of Muskingum Avenue, Sidewalk, and Stormwater Drainage System

The project will replace the existing roadway surface, sidewalk, and drainage system and will reopen these facilities to motorists, pedestrians, and bicyclists. The existing asphalt roadway, concrete sidewalk, and stone wall will be removed and disposed of within a licensed landfill. The new roadway will consist of two-way traffic with two 12-foot-wide lanes with a design speed of 25 miles per hour (MPH), 2.5-foot-wide curb and gutter sections on each side, and a 6-foot-wide sidewalk on the north side of the roadway. A mix of full-depth pavement replacement and milling with resurfacing will occur beginning at the eastern edge of the Pine Street intersection with Muskingum Avenue and terminate at the western edge of the railroad crossing for a total length of 1,667 feet.

The existing stormwater drainage system will be replaced by the curb and gutter inlet system with the storm sewer discharging to the north into the Muskingum River as originally designed by the existing system. The outlets will consist of one 12-inch pipe and three 18-inch pipes onto tied concrete block matting on the river embankment where it will drain into the river.

2.2.4 Construction of Wastewater Force Main

1,200 feet of 30-inch high-density polyethylene (HDPE) sanitary sewer force main will be installed a minimum of 4 feet below the westbound lane of Muskingum Avenue. As part of this project, the new line will not be connected to any existing infrastructure, nor will it be active. The inclusion of this project is to avoid disturbing the road in the future when the existing force main is replaced. The existing force main will remain and stay active. It will be abandoned at a later time.

2.2.5 Reconstruction of Putnam Hill Park

Approximately 69,083 CY of excess fill from cuts associated with the slope stabilizations will be placed within Putnam Hill Park to the south of Muskingum Avenue. The fill will be placed within a ravine toward the western side of the park, affecting approximately 4 total acres. This will raise the existing ground level 25 to 30 feet in some locations. The proposed fill will slope westward where runoff will be directed into a detention basin. 970 feet of the existing 13-foot-wide access drive on the west side of the park that goes through the ravine will be removed prior to fill placement and replaced with a new 1,275-foot-long by 8-foot-wide multi-use path.

The Muskingum Avenue south slope stabilization will impact the Y-Bridge overlook located within Putnam Hill Park; therefore, the existing overlook will be removed and a new 68-foot-long by 14-foot-wide concrete overlook with four benches will be constructed at the top of the newly cut bluff and west of the original location. The parking lot and access road adjacent to the existing overlook will be reconstructed and will contain 10 parking spaces. An additional parking area will be constructed east of the new overlook location and will contain 10 parking spaces including 3 Americans with Disabilities Act (ADA)-accessible spaces. Twenty 14-foot-tall light poles will be installed along the shared-use path, overlook, and parking lots.

2.3 Alternatives Considered and Eliminated from Further Consideration

The following alternative design options were studied during the planning process. The conceptual alternatives described below were considered but dismissed from further analysis because of cost and community impact.

In their Muskingum Avenue Improvement Study (November 2020), the City of Zanesville considered five additional alternatives for the south slope stabilization, labeled S1 through S4 (S5 is the preferred alternative covered in **Section 2.2.1**), and two additional alternatives for the north slope stabilization in Putnam Hill Park, labeled N1 and N2 (N3 is the preferred alternative covered in **Section 2.2.2**), as outlined below:

2.3.1 Alternative S1A: South Slope Cutback with Catchment Ditch

This alternative would create a 10-foot-wide depressed catchment ditch, extending out 25 feet from the roadway adjacent to the back of the curb/gutter. The south bluff would be cutback at a 1:2 (run:rise) slope then a 3:2 slope to a 10-foot-wide bench at a soft soil/rock layer. A 1:1 slope would then extend up for the remainder of the cut with another 5-foot-wide bench at a soft soil/rock layer.

This alternative was removed from additional consideration as it had greater park impacts, excavation quantities, and construction costs than Alternative S5.

2.3.2 Alternative S1B: South Slope Cutback with Catchment Ditch

This alternative would create a 10-foot-wide depressed catchment ditch, extending out 25 feet from the roadway adjacent to the back of the curb/gutter. The south bluff would be cutback at a 3:2 (run/rise) slope to a 10-foot-wide bench at a soft soil/rock layer then at a 1:1 slope for the remainder of the cut with another 5-foot bench at a soft soil/rock layer.

This alternative was removed from additional consideration as it had greater park impacts, excavation quantities, and construction costs than Alternative S5.

2.3.3 Alternative S2: South Slope Soldier Pile and Lagging Fill Wall

This alternative utilizes a soldier pile and permanent lagging wall to prevent further weathering of the softer rock layers such as limestone and coal. The wall would include a cutback that starts approximately 2 feet in from the base of the wall and would extend out 8 feet horizontally from the top of the wall. This cutback would allow for the placement of panel drains against the rock face to collect ground water and allow it to be discharged away from the wall. The top of the wall would have a 6-foot-tall fence with a 25 kJ impact rating. This would be to keep any rock falls on top of the wall and not continue onto the roadway. Between the fence and the rock face, a minimum 8-foot-wide concrete slab would be constructed in order to redirect water and take energy away from any rock falls that may occur. The slab would also be designed for maintenance so that crews could access the top of the wall with equipment to remove any rock debris.

This alternative was removed from additional consideration as it had similar impacts and service life, but more than \$1 million in greater construction costs as compared to Alternative S3.

2.3.4 Alternative S3: South Slope Soldier Pile and Lagging Cut Wall

This alternative would install a D-50 barrier wall to prevent debris from falling onto Muskingum Avenue, a 15-foot-wide depressed catchment ditch to catch falling rocks and debris, draped mesh to remove energy from rockfalls, and a soldier pile with lagging retaining wall placed into the base of the bluff to support the lower sections of the bluff.

This alternative was advanced for additional consideration as it would have minimal excavation and park impacts as compared to Alternative S5. It was ultimately removed from consideration as it had more than \$1 million in greater construction costs, a shorter service life as compared to Alternative S5, and the park impacts of S5 could be mitigated by making more useable park land.

2.3.5 Alternative S4: South Slope Cutback with Barrier Wall

This alternative would create an 8-foot-wide depressed catchment ditch, extending out 18 feet from a barrier wall adjacent to the back of the curb/gutter. The south bluff would be cutback at a 4:3 (run/rise) slope with two 10-foot-wide benches at soft soil/rock layers.

This alternative was removed from additional consideration as it had greater park impacts, excavation quantities, and construction costs than Alternative S5.

2.3.6 Alternative N1: North Slope Retaining Wall and Bank Stabilization

This alternative would construct a retaining wall along the north side of Muskingum Avenue at the location of the existing slip. The soils below the wall would be benched and the toe of the slip would be excavated to bedrock. Rock slope protection would then be placed over the benched soils up to the bottom of the wall.

This alternative was removed from additional consideration as it had greater disturbed earth, floodplain impacts, Muskingum River impacts, and construction costs than Alternative N3.

2.3.7 North Slope Reconstructed Embankment

This alternative would remove an approximately 225-foot-long strip of soil, vegetation, and debris at the existing slip down to bedrock. The embankment would be replaced with durable rock at a 1.7:1 (run/rise) or flatter slope. The toe would need to be excavated to an elevation of approximately 671 feet which is lower than the ordinary high-water mark (OHWM) of the Muskingum River.

This alternative was removed from additional consideration as it had greater disturbed earth, floodplain impacts, Muskingum River impacts, and construction costs than Alternative N3.

Table 2.1 South Slope Alternative Comparison

Alternative	Estimated Cost	Park Impacts (acre)	Service Life
S1A	\$5,165,070	1.3	Indefinite
S1B	\$6,119,200	1.5	Indefinite
S2	\$4,872,300	0	75 Years
S3	\$3,757,900	0	75 Years
S4	\$3,763,900	0.8	Indefinite
Proposed Action S5	\$2,680,760	0.6	Indefinite

Table 2.2 North Slope Alternative Comparison

Alternative	Estimated Cost	Muskingum River Impacts	Floodplain Impacts	Earth/Vegetation Disturbance
N1	\$ 2,269,500	No	Yes	Yes
N2	\$ 3,511,000	Yes	Yes	Yes
Proposed Action N3	\$ 897,900	No	No	Minimal

3 AFFECTED ENVIRONMENT AND CONSEQUENCES

This section describes the natural and human environment of the study area potentially affected by the alternatives, evaluates potential impacts, and recommends measures to avoid or reduce those impacts. The description of the study area represents current conditions and serves as a baseline from which to identify and evaluate environmental changes that may occur because of the Proposed Action. When possible, quantitative information is provided to establish potential impacts, but qualitative information may also be used where data are unavailable. Potential impacts are then evaluated qualitatively based on the criteria listed in **Table 3.1**.

Table 3.1 Evaluation Criteria for Potential Impacts

Impact Scale	Criteria
None / Negligible	The resource area would not be affected, or changes or benefits would be either nondetectable 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, although the changes would be small and localized. Impacts or benefits 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/benefits. 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 would be readily measurable and would have substantial consequences on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, but long-term changes to the resource would be expected.

3.1 Preliminary Screening of Assessment Categories

Based on a preliminary screening of resources and the project's geographic location, the following resources do not require a detailed assessment.

- *Coastal Barrier Resources System (CBRS)*. The Coastal Barrier Resources Act, 16 U.S.C. §§ 3501-3510, is not applicable because the project is not within or near a CBRS unit (Coastal Barrier Resources System Maps - Ohio, 2016). See Section 7.3 for references listed by author or agency and year of publication.
- *Coastal Zone Management*. The Coastal Zone Management Act (CZMA), 16 U.S.C. §§ 1451-1464, ch. 33, enacted in 1972, is not applicable because the project is not near the Lake Erie Coastal Management Area. (ODNR Ohio Coastal Atlas Map Viewer, (Ohio Coastal Atlas Map Viewer, 2023).
- *Essential Fish Habitat (EFH)*. The Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. §§ 1801 *et seq.*, does not apply because there are no Habitat Areas of Particular Concern and no EFH Areas identified at the project site according to the National Oceanic and Atmospheric Administration (NOAA) Essential Fish Habitat (EFH) Mapper (Essential Fish Habitat Mapper, 2021).
- *Seismic Risks*. EO 13717, Establishing a Federal Earthquake Risk Management Standard, does not apply because there is low seismic risk in the project area based on seismic hazard maps developed by the U.S. Geological Survey (USGS). This includes less than 1 percent chance of potentially minor-damage (equivalent to Modified Mercalli Intensity VI) ground shaking in the 2018 Short-Term Seismicity Model (Short-term Induced Seismicity Models, 2019), and the second lowest hazard in the 2018 Long-Term National Seismic Hazard Map (2018 Long-term National Seismic Hazard Map, 2018).

- *Sole Source Aquifers.* The nearest sole-source aquifer (Pleasant City Sole Source Aquifer) regulated by the Safe Drinking Water Act of 1974, 42 U.S.C. §§ 300f et seq., is located approximately 23 miles east of the project area (United States Environmental Protection Agency (Map of Sole Source Aquifer Locations, 2022)). This component of the Safe Drinking Water Act is not applicable.
- *Wild and Scenic Rivers.* The Wild and Scenic Rivers Act, 16 U.S.C. §§ 1271 et seq., is not applicable because no federally designated wild and scenic rivers exist near or in the project area based on a review of the National Wild and Scenic Rivers System website maintained by the National Park Service (Ohio, 2023). The closest federally designated wild and scenic river are Big and Little Darby Creeks, approximately 56 miles west of the project area.

3.2 Physical Environment

3.2.1 Geology, Soils, and Topography

Bedrock geology was characterized using the Ohio Department of Natural Resources (ODNR) Division of Geological Survey (DGS) Geology Interactive Map (Ohio Geology Interactive Map, 2023). The geology in the project area (Allegheny and Pottsville Groups, Undivided, IPap) formed in the early to middle Pennsylvanian age (323.2 to 298.9 million years ago) and consists of shale, siltstone, sandstone, conglomerate, and subordinate amounts of limestone, clay, flint, and coal. The average thickness is 450 to 620 feet. This feature can be distinguished by economic beds of coal and clay, marine limestone, flint and shale beds, local development of thick quartzose sandstone and conglomerate in the lower quarter of the unit, predominant gray color of unweathered rock, and rapid horizontal and vertical changes of rock types. The project area is within an unglaciated portion of Ohio within Muskingum County. This area consists of colluvial deposits and outwash along the Muskingum River. Three soils units were identified within the project area using the U.S. Department of Agriculture (USDA) National Resource and Conservation Service (NRCS) web soil survey (Web Soil Survey, 2019).

Figure 3.1 Topographic Map

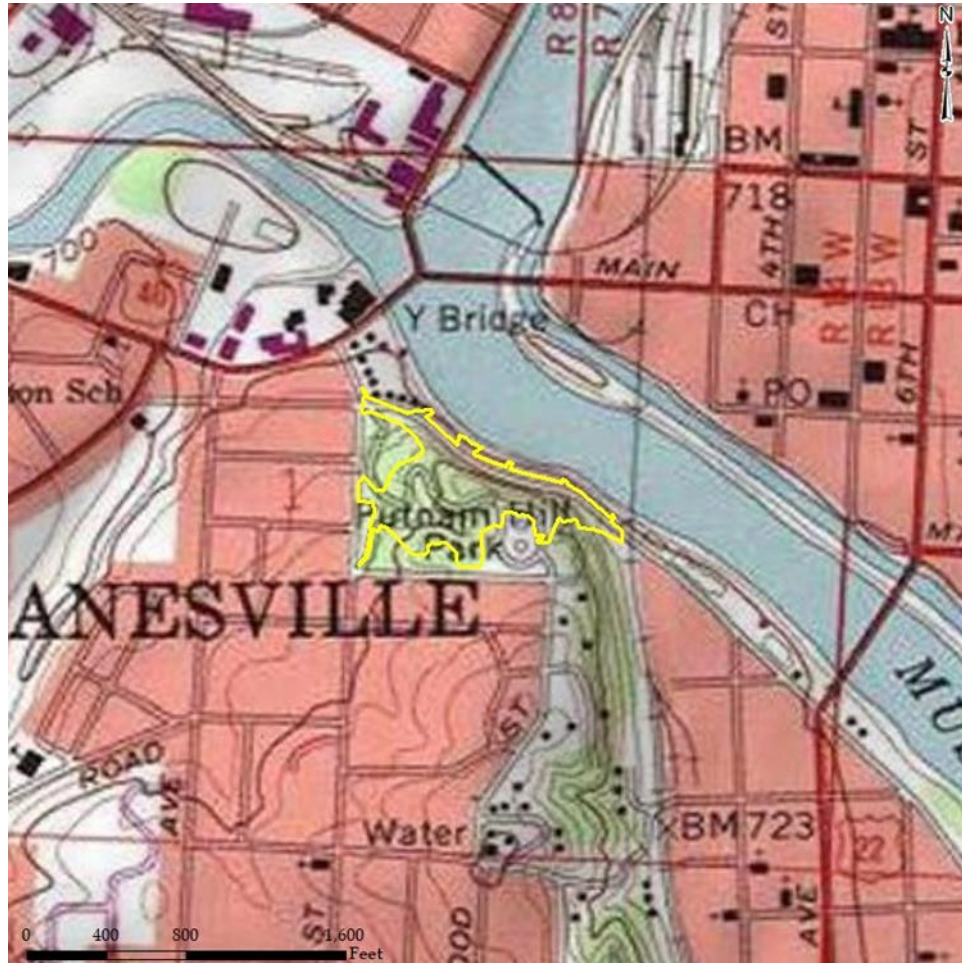


Figure 3.2 NRCS Soil Units within the Project Area



Table 3.2 Soil Types within the Proposed Project Area

Symbol	Soil Unit	Percent of Project Area
BkF	Berks-Westmoreland complex, 40 to 70 percent slopes	22.9%
UvB	Urban land-Watertown complex, 1 to 15 percent slopes	0.3%
WvD	Westmoreland-Urban land complex, 15 to 35 percent slopes	76.7%

The area to the north of Muskingum Avenue, including the roadway, and along the embankment with the Muskingum River is primarily comprised of Berks-Westmoreland complex. These consist of well-drained soils formed on hills with slopes ranging from 40 to 70 percent. Putnam Hill Park, at the top of the bluff, is comprised of Westmoreland-Urban land complex. These consist of well-drained soils formed on hills with slopes ranging from 15 to 35 percent. A small portion of the far western project area consists of Urban land-Watertown complex. This consists of well-drained soils formed on terraces with slopes ranging from 1 to 15 percent.

The Farmland Protection Policy Act of 1981 (FPPA), 7 U.S.C. §§ 4201 *et seq.* has the primary purpose of minimizing the extent that federal programs contribute to the unnecessary and irreversible conversion of prime or unique farmland to non-agricultural uses. The conversion of prime or unique farmland must be considered whenever Federal funding or time is used in the direct or indirect conversion of prime farmland unless an exemption exists. All three soil types identified within the proposed project area are listed as not prime farmland.

The topography of the project area is hilly with elevations ranging from approximately 678 feet AMSL at the Muskingum River to approximately 820 feet AMSL on the east side of Putnam Hill Park. A steep escarpment bisects the project area along the southern side of Muskingum Avenue. The escarpment contains softer rock layers that contribute to the hill slips within the project area. In addition, a natural spring discharges from a coal seam on this slope. Another steep hillside runs along the north side of Muskingum Avenue down to the edge of the Muskingum River. Putnam Hill Park sits atop a relatively flat-topped bluff that slopes down to the west and contains a ravine in the center.

No Action Alternative:

Under the No Action alternative, the proposed improvements would not occur; therefore, no direct short or long-term effects to the geology would occur. However, with the No Action alternative, soils and topography would remain susceptible to the erosion associated with flood events along the Muskingum River and erosion of the slope leading down from Putnam Hill Park to Muskingum Avenue would continue resulting in moderate short and long-term adverse effects to the soils and topography.

Proposed Action:

The Proposed Action would require earth-moving activities resulting in moderate short-term adverse effects to the geology, soils, and topography. Construction activities would result in the relocation of 69,083 CY of parent material from cutting back the escarpment south of Muskingum Avenue and placing the fill within the ravine within Putnam Hill Park. The soil in this location will be stripped and overlaid to a depth of 4 inches overtop of the parent material and reseeded with native vegetation. There are minor long-term positive effects from this project as the efforts to minimize erosion of this area will stabilize the geology, soils, and topography.

3.2.2 Water Resources and Water Quality

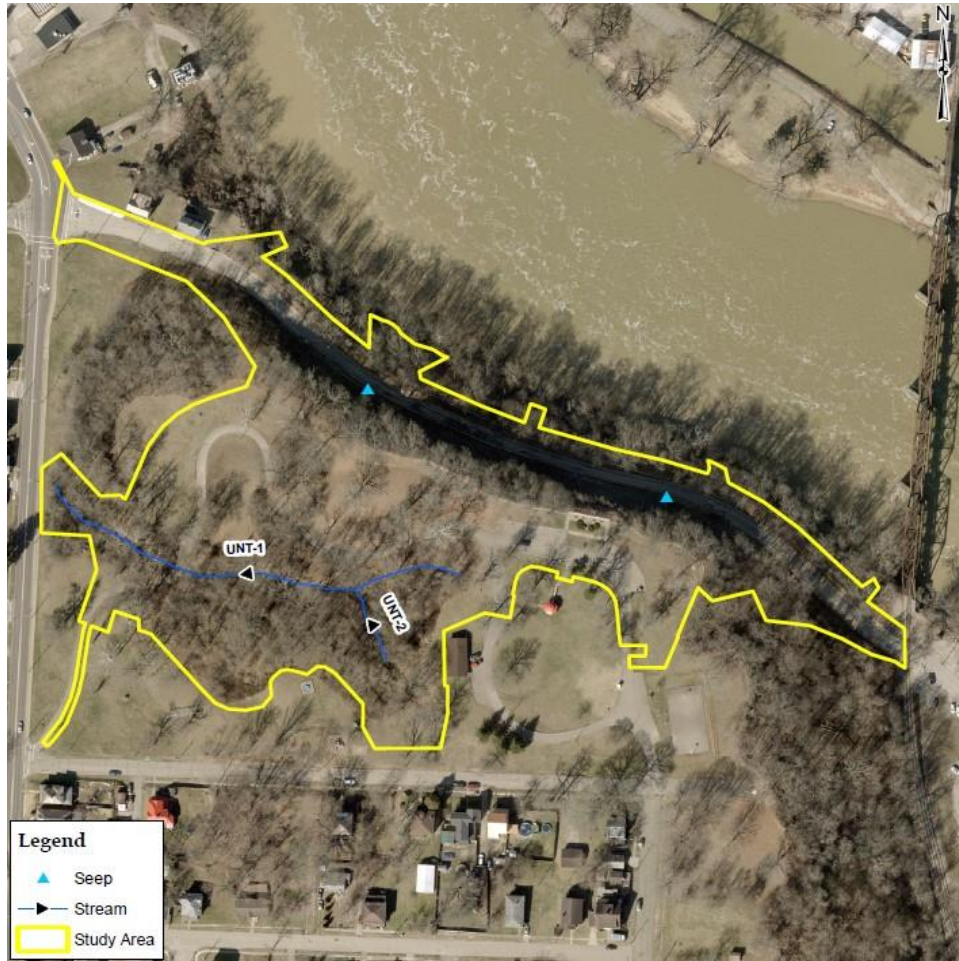
Water resources include surface water, groundwater, stormwater, and drinking water (wetlands are evaluated in **Section 3.3.2**). The Clean Water Act (CWA) of 1972, 33 U.S.C. §§ 1251 *et seq.*, is the primary federal law in the United States that regulates the discharge of pollutants into water, with various sections falling under the authority of United States Army Corps of Engineers (USACE) and the United States Environmental Protection Agency (USEPA) or as delegated to the states. Section 404 of the CWA establishes USACE permit requirements for discharge of dredged or fill materials into waters of the United States. Furthermore, USACE regulation of activities within navigable waters are authorized under the 1899 Rivers and Harbors Act, Section 10 (33 U.S.C. §§ 403 *et seq.*). Section 401 of the CWA is administered by Ohio Environmental Protection Agency (OEPA) and provides regulations for the protection of water quality on projects that involve dredge or fill in waters of the United States (Ohio Authorized Code (OAC), § 3745-32). The CWA made it unlawful to discharge any pollutant from a point source into navigable waters unless permitted. Under the National Pollution Discharge Elimination System (NPDES) (Section

402 of the CWA), USEPA's regulation of both point and nonpoint pollutant sources, including stormwater and stormwater runoff, has been delegated to the state and is administered by the OEPA. Therefore, the City must apply for and obtain coverage under the Ohio EPA General Permit Authorization for Stormwater Discharges from Small and Large Construction Activities under the National Pollutant Discharge Elimination System (OEPA Permit No. OHC000006), Effective Date April 23, 2023, Expiration Date April 22, 2028. This general permit regulates stormwater discharges to waters of the state in compliance with the federal Water Pollution Control Act (33 U.S.C Section 1251 et seq), the Ohio Water Pollution Control Act (ORC Chapter 6111) and OAC Rule 3745-38-02.

The project area is located adjacent to, but not within, the Muskingum River which is a navigable water of the U.S. Within the project area, there are two unnamed tributaries (UNT) to the Muskingum River; these are referred to as UNT-1 and UNT-2. UNT-2 is an ephemeral stream that runs for approximately 122 feet from southeast to northwest before reaching a confluence with UNT-1. UNT-1 is an intermittent stream that runs for approximately 685 feet from east to west before entering a culvert below Pine Street where it reaches a confluence with either Chaps Run or the Muskingum River off-site. Both streams are considered to be jurisdictional Waters of the U.S. by the USACE as confirmed in the Preliminary Jurisdictional Determination, dated August 18, 2022.

To complete the reconstruction of the Putnam Hill Park, UNT-1 and UNT-2 will be filled in to allow cut material from the north and south slopes of Muskingum Avenue to be redistributed through the park. The filling of these streams will result in 807 linear feet (0.063 acre) of impacts. The impacts will require a CWA Section 404 Nationwide Permit (NWP) #14 (Linear Transportation Projects). The OEPA responded to a Section 401 pre-application meeting request on April 11, 2023, and stated that "based on our project review, provided Headwater Habitat Evaluation Index (HHEI) scores, and pre-application follow-up correspondence, it is not likely that your proposed project will require a 401 Water Quality Certification." As impacts to jurisdictional streams will exceed 3/100-acre, stream mitigation is required and mitigation credits have been reserved through Water & Land Solutions, LLC sponsored Hodgson Mitigation Bank within the Licking Watershed (HUC 05040006). 807 linear feet of stream credits have been reserved for the City of Zanesville that will be paid for upon receipt of the Section 404 permit from the USACE.

Figure 3.3 Surface Water Resources Map



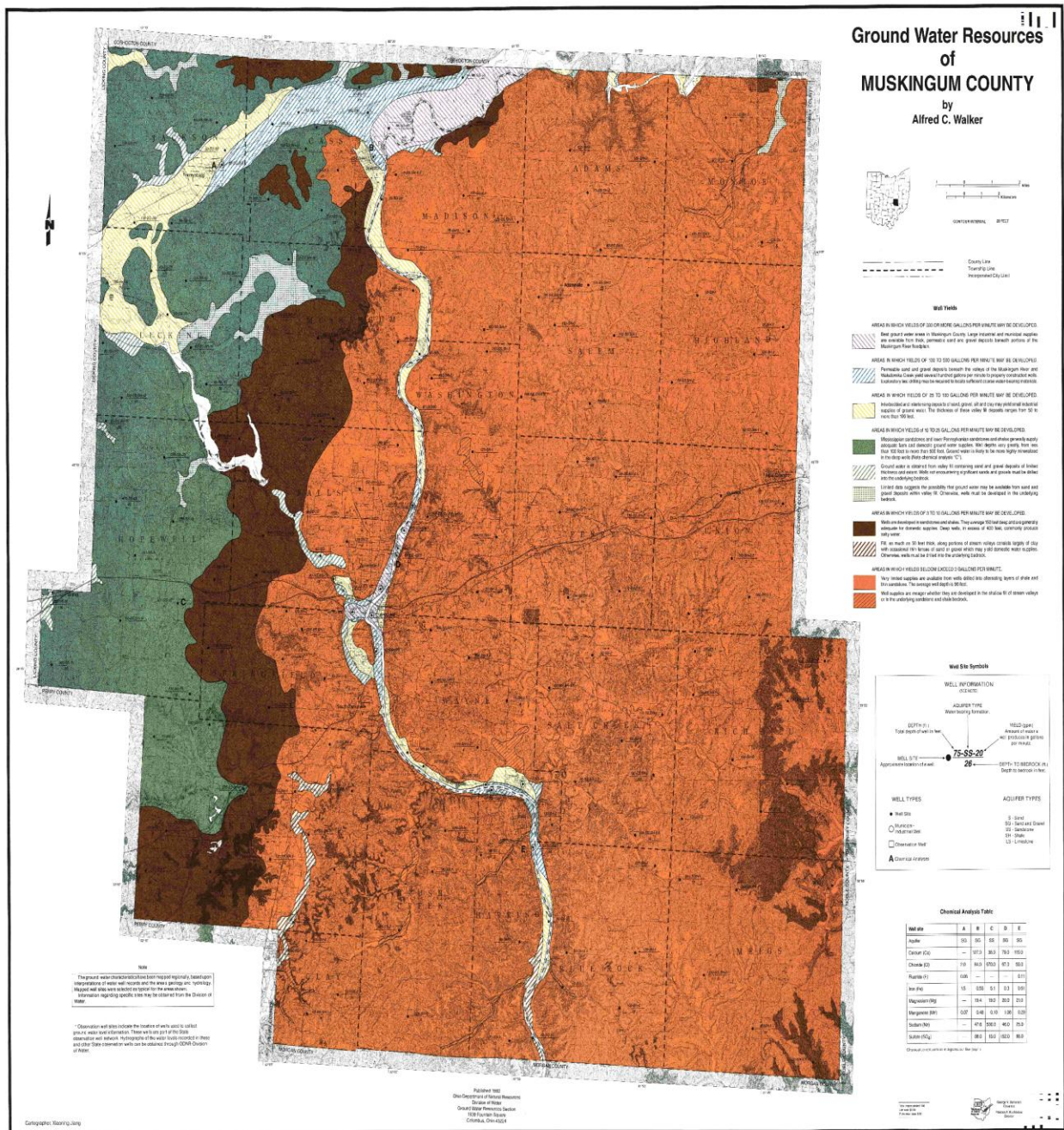
The Muskingum River is listed in the 2022 Ohio Integrated Water Quality Monitoring and Assessment Report (Ohio 2022 Integrated Water Quality Monitoring and Assessment Report, 2022) as a CWA Section 303(d) listed stream as impaired for *Escherichia coli*. No total maximum daily load (TMDL) plan is in place.

Two separate groundwater resources regions based on the ODNR Groundwater Resource Map for Muskingum County are located within the project area (*Ground Water Resources of Muskingum County, 1992*). See **Figure 3.4** below.

The majority of the project area that includes Putnam Hill Park and the western end of Muskingum Avenue has very limited groundwater supplies available from wells drilled into alternating layers of shale and thin sandstone. Wells drilled into the shale and sandstone will seldom exceed a pumping rate of 3 gallons per minute. The average well depth in this area is 90 feet. The portion of the project area to the east along Muskingum Avenue to the railroad tracks will yield 100 to 500 gallons per minute. In this area, groundwater is obtained from permeable sand and gravel deposits in the buried river valleys of the Muskingum River and Wakatomika Creek.

A spring is located on the south side of Muskingum Ave, along a coal seam near the east end of the project area at the bottom of the slope. This spring has a man-made catch basin at the

Figure 3.4 Groundwater Resources Map



No Action Alternative:

Under the No Action alternative, the proposed improvements would not occur; therefore moderate, direct, and short and long-term adverse effects to the surface water quality of the Muskingum River will continue due to the ongoing erosion of the riverbank and the slope south

of Muskingum Avenue resulting in the increase in the turbidity and total suspended solids (TSS) of the river. No impact to groundwater would be expected.

Proposed Action:

The Proposed Action will require the removal of over 1 acre of undisturbed ground which will require the Ohio EPA General Permit Authorization for Stormwater Discharges Associated with Construction Activity resulting in minor short-term adverse effects to surface water quality. There will also be moderate, long-term adverse effects to surface water due to the filling of the streams and change in surface water runoff from the project area. This will be offset by the purchase of stream mitigation credits. The proposed stormwater collection system along Muskingum Avenue will include a curb and gutter inlet system with the storm sewer out-letting to the north into the Muskingum River as originally designed by the existing system. It will outlet via one 12-inch pipe and three 18-inch pipes onto tied concrete block matting on the river embankment where it will drain into the river. This will result in minor long-term positive effects to surface water quality in addition to the stabilization of the slopes which will minimize erosion reaching the Muskingum River.

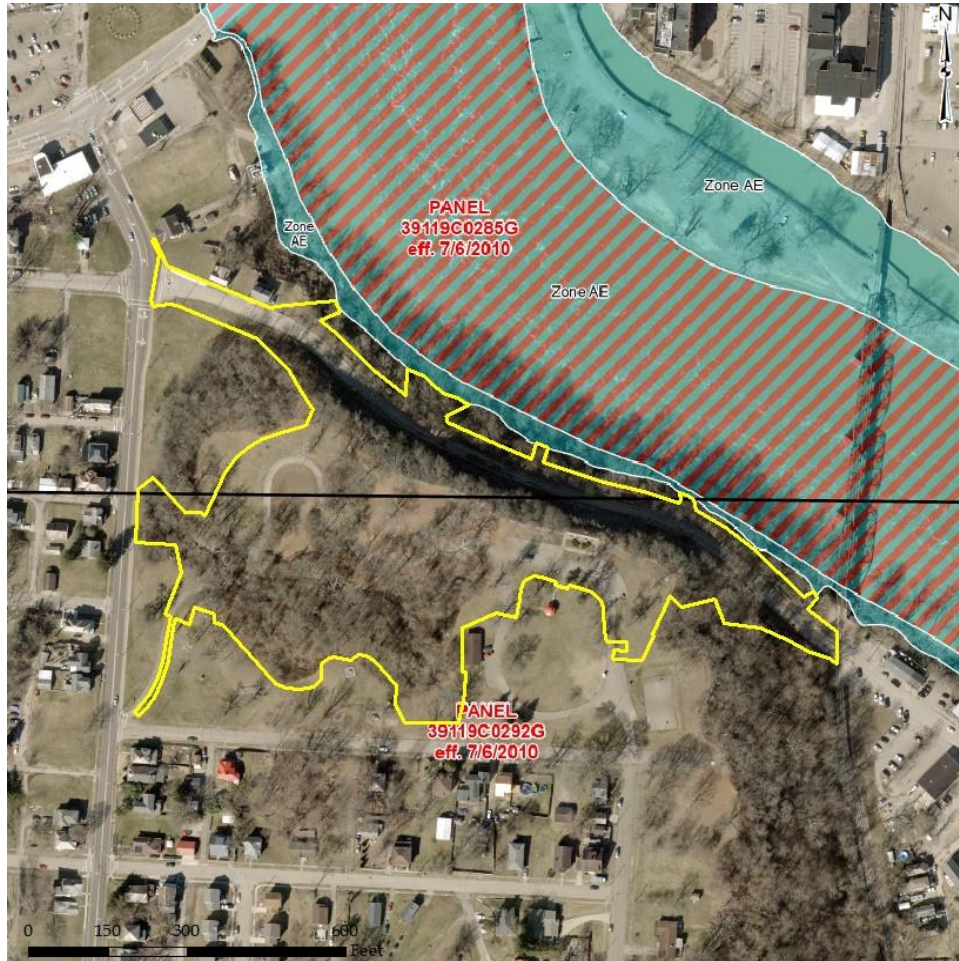
A spring located on the south side of Muskingum Avenue at the foot of the slope from Putnam Hill Park will be impacted. The spring is not currently used as a drinking source. The rock and soil slope around the spring will be excavated to bench the existing slope. The spring will continue to outlet along the slope and the water from the spring will be diverted into a culvert that will carry the water under Muskingum Avenue discharging into the Muskingum River. The spring is located within the buried river valleys of the Muskingum River and Wakatomika Creek within a coal seam. This area is not tied to sand and gravel aquifers. Thus, no impact to groundwater quality is anticipated or drinking water resources is expected.

3.2.3 Floodplain Management (Executive Order (EO) 11988 and EO 13690)

EO 11988, Floodplain Management, requires federal agencies to minimize occupancy and modification of the floodplain. Specifically, EO 11988 prohibits federal agencies from funding construction in the 100-year floodplain unless there are no practicable alternatives. FEMA's regulations for complying with EO 11988 are promulgated in 44 C.F.R. Part 9. Based on those regulations, analysis through a Floodplain Management checklist is not required. EO 13690 on Climate Related Financial Risk established a *Federal Flood Risk Management Standard and a Process for further soliciting and considering stakeholder input*, which was aimed at ensuring that federal investments located in or near floodplains will be resilient in the face of climate change (Guidelines for Implementing Executive Order 11988, Floodplain Management, and Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input, 2015).

The project area is within FEMA Flood Insurance Rate Map (FIRM) panels 39119C0285G and 39119C0292G (both effective 7/6/2010). The entirety of the project area is within Zone X, indicating that it is an Area of Minimal Flood Hazard (FEMA's National Flood Hazard Layer (NFHL) Viewer, 2023). Construction limits will terminate at the edge of Special Flood Hazard Area (SFHA) Zone AE (1% Annual Chance Flood Hazard) along the Muskingum River; therefore, no fill will be placed within the floodplain. The FEMA Flood Hazard Map is shown in **Figure 3.5**.

Figure 3.5 FEMA Flood Hazard Map



No Action Alternative:

Construction activities would not occur under the No Action alternative. Minor long-term adverse impacts would occur due to continued erosion of the embankment of the Muskingum River resulting in additional fill within the floodplain and the river.

Proposed Action:

No impacts would occur within any floodplains. The project has been designed to prevent any work within the 100-year floodplain elevation. The project would result in minor, long-term positive impacts due to the north slope retaining wall preventing future land slips into the floodplain of the Muskingum River.

3.2.4 Air Quality

The Clean Air Act (CAA), 42 U.S.C. §§ 7401 et seq., requires the USEPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The CAA established two types of national air quality standards. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and

buildings. Current criteria pollutants are carbon monoxide (CO), nitrogen dioxide (NO₂), ground-level ozone (O₃), lead (Pb), particulate matter (PM), and sulfur dioxide (SO₂).

Federally funded or permitted actions in nonattainment and maintenance areas are subject to USEPA conformity regulations, 40 C.F.R. §§ 51 and 93. The air conformity analysis process ensures that emissions of air pollutants from planned federally funded and permitted activities would not affect the state's ability to achieve the CAA goal of meeting the NAAQS. Section 176(c) of the CAA requires that federally funded or permitted projects must not cause any violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any interim milestone. Activities that would cause emissions to exceed the NAAQS or cause an area to fall out of attainment status would be considered a significant impact. 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 nonattainment 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. The prescribed annual rates are 50 tons of volatile organic compounds (VOCs) and 100 tons of nitrogen oxides (NO_x) (O₃ precursors), and 100 tons of PM_{2.5}, SO₂, or NO_x (PM_{2.5} and precursors).

An area is classified as nonattainment when it does not meet NAAQS standards. According to EPA's NAAQS county attainment record, Muskingum County is in attainment for all NAAQS criteria pollutants (Current Nonattainment Counties for All Criteria Pollutants, 2023).

No Action Alternative:

Construction activities would not occur under the No Action alternative. Minor long-term adverse impacts would occur due to continued closure of Muskingum Avenue. This will result in congestion along the detour routes and longer delays resulting in an increase in air quality pollutants.

Proposed Action:

The Proposed Action would have minor short-term adverse impacts to air quality due to construction equipment and airborne PM from earthmoving activities. These adverse impacts would be localized and cease once construction has finished. Reopening Muskingum Avenue to vehicular, pedestrian, and cyclist traffic would have negligible long-term impacts to air quality as it would increase traffic capacity; however, it would also decrease local commute times and relieve congestion caused by the closure of the roadway.

3.3 Biological Environment

3.3.1 Terrestrial and Aquatic Environment

As previously discussed, the steep slope from the top of the bluff at the edge of Putnam Hill Park to the Muskingum River of which Muskingum Avenue cuts through is rock outcropping with trees growing on the portion of the slopes that have not experienced slips. These trees are a mix of hardwood deciduous trees with some shrub growth in the understory. The Putnam Hill Park area that is within the project area includes open maintained grass lawns and wooded area that covers mostly the western half of the park.

Common tree species within the park include American sycamore (*Platanus occidentalis*), northern red oak (*Quercus rubra*), sugar maple (*Acer saccharum*), and slippery elm (*Ulmus rubra*). Understory species consist of green ash (*Fraxinus pennsylvanica*), wild grape vine (*Vitis riparia*), bush honeysuckle (*Lonicera maackii*), common blackberry (*Rubus allegheniensis*), and multiflora rose (*Rosa multiflora*). Herbaceous species consist of common grasses such as tall fescue (*Festuca arundinacea*), Kentucky bluegrass (*Poa pratensis*), and perennial ryegrass (*Lolium perenne*) as well as Canadian goldenrod (*Solidago canadensis*), winter creeper (*Euonymus fortunei*), greater burdock (*Arctium lappa*), ground ivy (*Glechoma hederacea*), white clover (*Trifolium repens*), and common dandelion (*Taraxacum officinale*). All identified species are either common to Ohio and the region or invasive to the area.

Aquatic habitat includes the two UNTs discussed in Section 3.2.2. These are relatively low-quality, streams whose hydrology is sourced from surface runoff within Putnam Hill Park. Although no fauna was identified during the site visits by B&N, they do provide some habitat for frogs, toads, and macroinvertebrates.

No Action Alternative:

There would be minor, long-term adverse impacts on the terrestrial habitat of the project area as the north and south slopes would continue to erode resulting in impacts to existing vegetation and exposing deeper soil layers.

Proposed Action:

The proposed action would have minor, short-term adverse impacts due to the removal of trees and vegetation within the project area as well as soil disturbance from construction activities. However, trees will be planted within the park after construction which will help mitigate this impact. All disturbed areas within the Putnam Hill Park will be seeded with native species after construction activities and will have a minor, long-term positive effect to this location.

3.3.2 Wetlands (EO 11990)

EO 11990, Protection of Wetlands, requires federal agencies to take action to minimize the loss of wetlands. FEMA regulation 44 C.F.R. Part 9, *Floodplain Management and Protection of Wetlands*, sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990. EO 11990 prohibits FEMA from funding activities in a wetland unless no practicable alternatives are available. The NEPA compliance process requires federal agencies to consider direct and indirect impacts on wetlands which may result from federally funded actions. Based on the requirements of 44 C.F.R. Part 9, a Floodplain Management Checklist to ensure compliance with EO 11990 is not required.

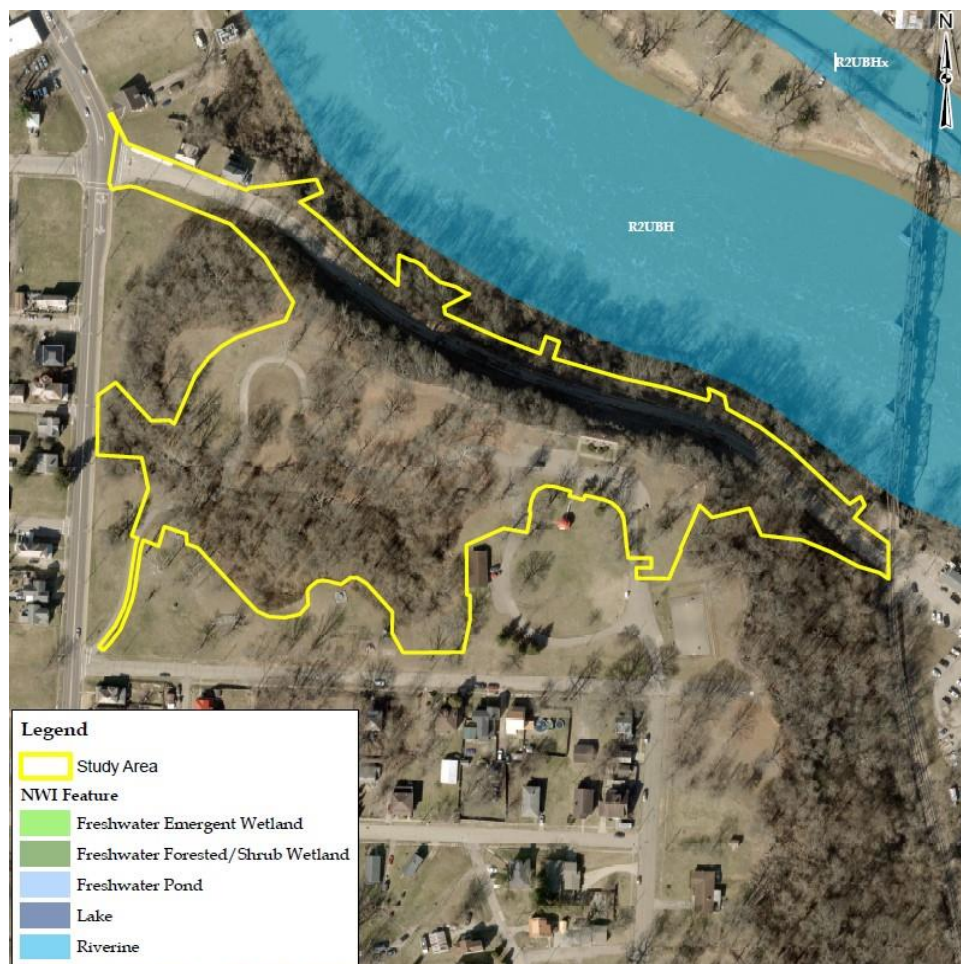
USACE and USEPA define wetlands as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” 40 C.F.R. § 122.2. In 2008, USEPA and the USACE, through joint rulemaking, expanded the CWA Section 404(b)(1) Guidelines to include more comprehensive standards for compensatory mitigation. The rule addresses the sequence for mitigating unavoidable impacts to aquatic resources that result from work authorized by permits under the Corps’ (USACE) Regulatory Program. Activities that disturb jurisdictional wetlands require a permit from USACE under Section 404 of the CWA of 1977. 33 U.S.C. § 1344. Permit applicants are required to

describe how they will avoid, minimize, and compensate for impacts to waters of the United States. Compensatory mitigation for unavoidable impacts is required to replace the loss of wetland, stream, and/or other aquatic resource functions.

The U.S. Fish & Wildlife Service's (USFWS) National Wetlands Inventory (NWI) was reviewed to identify potential wetlands in the project area (National Wetlands Inventory, 2023). No NWI features are present within the project area. The NWI classifies the Muskingum River to the north as Riverine with applicable code R2UB2H. **Figure 3.6**, below depicts the NWI map of the project area. <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>

A Waters Investigation Report by B&N, dated July 2022, did not identify any wetlands within the study area. The Waters Investigation Report is included in **Appendix D**.

Figure 3.6 NWI-Wetland Map



No Action Alternative:

The No Action Alternative will allow soil and bedrock erosion to continue reaching the Muskingum River. The No Action Alternative may have minor, long-term adverse impacts as sediment from the erosion at the slip may deposit within downstream riverine wetlands.

Proposed Action:

The Proposed Action would not have short or long-term impacts to any wetlands, as there are no wetlands in the project area.

3.3.3 Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973, 16 U.S.C. §§ 1531 - 1544, provides a framework for the conservation and protection of threatened and endangered species listed under the act in addition to their habitats. Federal agencies are required to ensure that actions they fund, authorize, permit, or carry out are not likely to jeopardize the continued existence of any listed species (including plant species) or result in the destruction or adverse modification of designated critical habitats for such species. In accordance with Section 7 of the ESA, the proposed project area was evaluated for potential impacts to listed threatened and endangered species.

In December 2022, the Information for Planning and Consultation (IPaC) tool was utilized to obtain a list of species within range of the project area. The search found that there is no critical habitat within the project area. The project area is within range of the federally endangered Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), fanshell (*Cyprogenia stegaria*), sheepnose mussel (*Plethobasus cyphus*), and snuffbox mussel (*Epioblasma triquetra*). It is within range of the federally threatened rabbitsfoot (*Quadrula cylindrica cylindrica*). It is also within range of the proposed endangered tricolored bat (*Perimyotis subflavus*) and candidate species monarch butterfly (*Danaus plexippus*) (Information for Planning and Consultation, 2023).

The Indiana bat and northern long-eared bat prefer caves or mines for their winter habitat where the temperatures are stable and above freezing. In the summer, these species prefer forested areas where they live in live or dead trees in cavities or under peeling bark. The bats forage for food within forests or along forest edges for insects. Small, forested areas are present within the park and on the slopes along Muskingum Avenue. The tricolored bat has a similar summer habitat to the Indiana bat and the northern long-eared bat. Winter habitat for these bats is not present within the project area, but summer habitat is present. As the project will not impact the Muskingum River, there is no potential habitat for fanshell, sheepnose mussel, snuffbox mussel, or the rabbitsfoot. The monarch butterfly is currently a candidate species and FEMA has no responsibility to evaluate impacts to this species.

USFWS responded to consultation on February 3, 2023. They concurred with FEMA's determination that the project may affect, not likely to adversely affect the Indiana bat and northern long-eared bat and is not likely to jeopardize the tri-colored bat. This determination is based upon the commitment to cut all trees ≥3 inches dbh between October 1 and March 31.

ODNR responded to consultation on September 22, 2022. They stated that the Natural Heritage Database has record of these species within one mile of the project area: blue sucker (*Cycleptus elongatus*) a state threatened species, mountain madtom (*Noturus eleutherus*) a state threatened species, northern madtom (*Noturus stigmosus*) a state endangered species, and threehorn wartyback (*Obliquaria reflexa*) a state species of concern.

They also stated that the project area was within range of the federally endangered species listed above by USFWS in addition to the following state-listed species: the state endangered

long-solid (*Fusconaia maculata maculata*), Ohio pigtoe (*Pleurobema cordatum*), sharp-ridged pocketbook (*Lampsilis ovata*), wartyback (*Quadrula nodulata*), northern madtom (*Noturus stigmosus*), eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), eastern spadefoot toad (*Scaphiopus holbrookii*), black tern (*Chlidonias niger*), and the northern harrier (*Circus hudsonis*). The state threatened black sandshell (*Ligumia recta*), fawnsfoot (*Truncilla donaciformis*), threehorn wartyback (*Obliquaria reflexa*), American eel (*Anguilla rostrata*), blue sucker (*Cycleptus elongatus*), channel darter (*Percina copelandi*), mountain madtom (*Noturus eleutherus*), paddlefish (*Polyodon spathula*), sandhill crane (*Grus canadensis*), and trumpeter swan (*Cygnus buccinator*).

The coordination responses from USFWS and ODNR are included in **Appendix B**.

No Action Alternative:

The No-Action alternative will not result in any short or long-term impacts to threatened and endangered species or their habitats within the project area.

Proposed Action:

The Proposed Action will remove 5.5 acres of wooded habitat that is potential bat roosting habitat. No hibernacula were identified within 0.5-mile radius from the project area. In coordination between FEMA and the USFWS, the USFWS has requested that all trees be cut between October 1 and March 31 to avoid adverse impacts to the bat species. USFWS determined the project may affect, not likely to adversely the Indiana bat and the northern long-eared bat. Minor short-term impacts are expected due to the removal of potential habitat. There will be no effect to the fanshell, sheepsnose mussel, snuffbox mussel, or the rabbitsfoot. USFWS determined the project is not likely to jeopardize the tri-colored bat. The monarch butterfly is only a candidate species; therefore, no determination was made. No habitat for any of the state-listed species is proposed for impact.

3.3.4 Migratory Birds

A migratory bird is any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. The Migratory Bird Treaty Act (MBTA) of 1918, as amended, 16 U.S.C. §§ 703–712, prohibits unpermitted killing, capturing, selling, trading, and transport of migratory birds and their nests, eggs, and body parts. Almost all native birds, including common species such as American robin (*Turdus migratorius*) and American crow (*Corvus brachyrhynchos*) are protected by the MBTA. The proposed project area would support protected migratory birds.

The Bald and Golden Eagle Protection Act (BGEPA) of 1940, 16 U.S.C. §§ 668 *et seq.*, prohibits the unpermitted take (defined as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb), possession, sale, purchase, barter, offer to sell, transport, export, or import any golden (*Aquila chrysaetos*) or bald eagle (*Haliaeetus leucocephalus*), alive or dead, including any part, nest, or egg. 16 U.S.C. § 668(a).

The following birds were listed by the USFWS as migratory birds within range of the project area: the bald eagle (*Haliaeetus leucocephalus*), the black-billed cuckoo (*Coccyzus erythrophthalmus*), the black-capped chickadee (*Poecile atricapillus praticus*), the cerulean warbler (*Dendroica cerulea*), the chimney swift (*Chaetura pelagic*), the eastern whip-poor-will (*Antrastomus vociferus*), the Henslow's sparrow (*Ammodramus henslowii*), the Kentucky warbler (*Oporornis*

formosus), the prairie warbler (*Oporornis formosus*), the red-headed woodpecker (*Melanerpes erythrocephalus*), the rusty blackbird (*Euphagus carolinus*), and the wood thrush (*Hylocichla mustelina*). IPaC identified these twelve species as birds of particular concern because they occur on the USFWS Birds of Conservation Concern or warrant special attention in the project location. The probability of presence of each species ranges throughout the year. The birds most likely to be present based on the probability throughout the year are the chimney swift, red-headed woodpecker, and wood thrush. See **Appendix B** for IPaC results (Information for Planning and Consultation, 2023).

No Action Alternative:

The No-Action alternative will not result in any short or long-term impacts to migratory birds or their habitats within the project area.

Proposed Action:

The Proposed Action will remove approximately 5.5 acres of forested upland areas that may temporarily disturb potential migratory bird habitat in the project area resulting in minor, short-term adverse impacts to migratory birds. There are nearby wooded areas to the south, west, and northwest that may provide habitat for birds. There may be minor, long-term positive impacts to migratory bird habitat by the replanting of native tree species and vegetation within the project area. Zanesville is part of Tree City USA and has a Zanesville Shade Tree Commission. The City of Zanesville will coordinate with the tree commission to replant Putnam Hill Park with trees.

3.3.5 Invasive Species

EO 13112, Invasive Species, requires federal agencies to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health impacts caused by invasive species. Although a thorough inventory was not completed, during the Waters Investigation by B&N, Amur honeysuckle (*Lonicera maackii*), multiflora rose (*Rosa multiflora*), reed canary grass (*Phalaris arundinacea*), and narrowleaf cattail (*Typha angustifolia*) were identified within the project area. These species are identified by the Ohio Department of Agriculture as invasive species within the state (Invasive & Noxious Plants, 2023).

No Action Alternative:

The No Action alternative would have minor, long-term adverse effects as construction would not occur and invasive plant species would continue to persist and spread.

Proposed Action:

The Proposed Action will have minor, long-term positive impacts due to the removal of the invasive species within the project area. The narrowleaf cattail and reed canary grass along Muskingum Avenue will be removed in order to cut the new slopes. The forested section of Putnam Hill Park containing the Amur honeysuckle, and multiflora rose will be cleared to allow for the relocation of the fill material from cutting the slopes. The project could have some minor, short-term adverse impacts from construction equipment potentially spreading invasive species to other areas when disturbance of these species is taking place.

3.4 Hazardous Materials

Hazardous materials are any items or agents (biological, chemical, radiological, or physical) that have the potential to cause harm to humans, animals, or the environment either by themselves or through interaction with other factors. Sites within or adjacent to the project area, regulated by federal hazardous materials laws such as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601 - 9675, and the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 *et seq.*, were identified using the USEPA Envirofacts (Envirofacts, 2023) and NEPAAssist websites (NEPAAssist, 2023).

No hazardous waste sites were identified within the project area. Five properties were identified within 800 feet of the project area. **Table 3.3** lists the properties within 800 feet of the project area. Due to the location of the project area at the top of the bluff overlooking the Muskingum River, all the sites are either side or down gradient from the project.

Table 3.3 Hazardous Waste Identified Properties (Envirofacts, 2023)

Facility Information	Hazardous Waste Program	Distance From Project Area (feet)	Direction From Project Area	Up/ Down/ Side Gradient
Anchor Glass Container Corp. 126 Muskingum Ave Zanesville OH	TRI	790	Southeast	Down and Side Gradient (No longer at this address)
JW City Car Comp West Main & North Pine St. Zanesville, OH	Acres	730	Northwest	Down and Side Gradient (No longer at this location)
Main & Pine Property Corner of Main and Pine Zanesville, OH	Acres	730	Northwest	Down and Side Gradient
Royal Cleaners 820 Prospect Ave Zanesville, OH	RCRAInfo	660	Southwest	Down gradient
White Chevrolet 721 W Main Street Zanesville, OH	RCRAInfo	790	Northwest	Down and Side gradient (No Building at this location)

In addition to the listed sites by USEPA, a review of the project area during the site visit and mapping sources, one abandoned gas station is located on the southeast corner of Pine Street and W Main Street. This site is down/side gradient from the project area.

No Action Alternative:

The No-Action alternative will not result in any short or long-term impacts to hazardous waste sites within 800 feet of the project area.

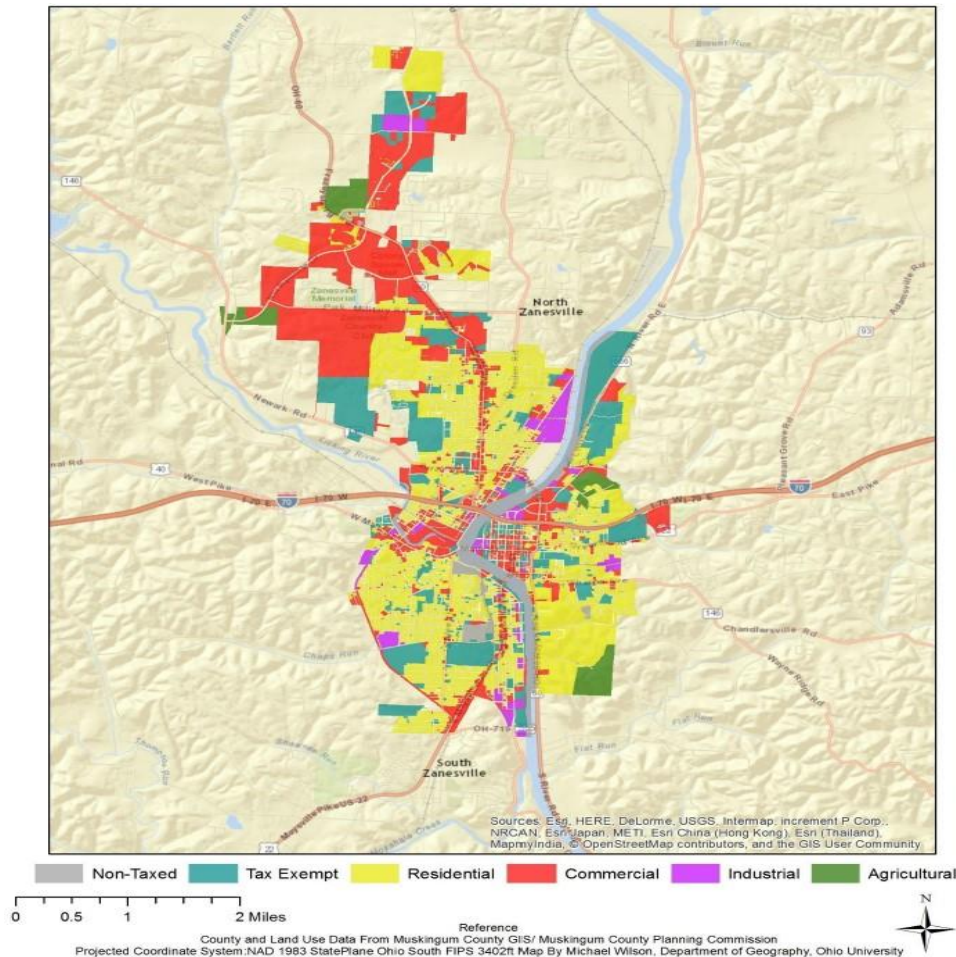
Proposed Action:

The Proposed Action may have minor, short-term impacts from the potential risk of leaks from construction equipment. The Proposed Action would not involve the exposure of any known hazardous materials or chemicals on or adjacent properties to the site. Although unlikely given the characteristics of the site, there could be an increase in the overall risk of hazardous materials not known to already exist in the environment being released because of excavation, resulting in moderate short-term impacts to onsite workers. The Proposed Action will also allow for the re-opening of Muskingum Ave and easier access to some of the vacant sites containing potentially hazardous wastes. Over the long-term, redevelopment of these sites could have a minor, positive impact on the surrounding area.

3.5 Socioeconomics**3.5.1 Zoning and Land Use**

The Project Area is in the incorporated area of the City of Zanesville, Muskingum County, Ohio and is subject to the City of Zanesville Comprehensive Plan (Section 3.8 Land Use Element), City of Zanesville Zoning Ordinance, and City of Zanesville Zoning Map (**Figure 3.7**) (Geographic Information Systems, 2023). The Zanesville Zoning Ordinance and Map specify the project area as untaxed city-owned recreational land (Putnam Hill Park) and city-owned Greenway along the Muskingum River. Muskingum Avenue is a city-owned transportation right-of-way.

Figure 3.7 City of Zanesville Zoning Map (Geographic Information Systems, 2023)



No Action Alternative:

The No-Action alternative will result in no changes to the current zoning or land uses within or adjacent to the project area. This may have a minor, long-term adverse effect on land use due to the vacant adjacent properties remaining vacant due to the Muskingum Avenue closure.

Proposed Action:

The Proposed Action will result in no changes to the current zoning or land use within or adjacent of the project area. The re-opening of Muskingum Avenue could result in minor, long-term positive impacts as vacant commercial properties along Muskingum Avenue and Pine Street are redeveloped.

3.5.2 Noise

The Noise Control Act of 1972 defines “noise” as an undesirable sound which is regulated at the federal level through that Act. 42 U.S.C. §§ 4901, *et seq.* Noise standards developed by USEPA (USEPA 1974) provide a basis for state and local government decision-making in setting local noise standards. Park, municipal, and residential areas are defined as noise-sensitive land uses for purposes of Federal Highway Administration (FHA) noise abatement criteria. 23 C.F.R. § 772.5.

The Ohio Department of Transportation (ODOT) determines noise impacts and evaluates possible mitigation measures, such as noise barriers in areas adjacent to principal highways. Muskingum Avenue is a city-owned road and bisects the project area. Through City of Zanesville regulation Section 509.09, construction equipment may only operate “between the hours of 7:00 a.m. and 9:00 p.m. unless such operation is approved by the Public Safety Director and not plainly audible 25 feet from the property line or is necessary for a governmental function.”

No Action Alternative:

The No-Action alternative will result in no changes to the current noise levels within or adjacent to the project area.

Proposed Action:

The Proposed Action will result in short-term noise increase due to construction equipment. Once the construction is complete, the noise levels along Muskingum Avenue will have a minor, long-term increase due to the road re-opening to vehicular traffic. The reconstruction of the multi-use path through the Putnam Hill Park could encourage more non-vehicular modes of transportation to the park resulting in a minor, long-term positive impact.

3.5.3 Public Services and Utilities

The project area is served by the City of Zanesville police and fire departments, City of Zanesville sanitary sewer system and water distribution system, and AEP Ohio electric service. The project area is within the Zanesville City School District. The closest in-patient hospital is Genesis Hospital located at 2951 Maple Avenue, Zanesville, OH approximately 2.5 miles north of the project area. The closing of Muskingum Avenue has resulted in a 2.2-mile detour for emergency vehicles. Putnam Hill Park is located within the project area and will be impacted by the selected alternative.

No Action Alternative:

The No-Action alternative will result in no changes to the existing public services and utilities. This will result in moderate, long-term adverse effects to public services as the existing 2.2-mile detour between U.S. Route 22 and U.S. Route 40 will persist preventing shorter routes for emergency vehicles. It could also result in moderate, short-term adverse effects to public utilities if the existing force main along the Muskingum River fails due to erosion and results in a sewage release into the river and interruption of service to the area.

Proposed Action:

The Proposed Action will result in moderate, long-term positive impacts from the improved public service response time by re-opening Muskingum Avenue, eliminating the 2.2-mile detour. In addition, during the rebuilding of Muskingum Avenue a new 30-inch sanitary force main will be placed beneath the westbound lanes. This sewer line will not be put in-service at this time but will eventually replace the existing 24-inch force main along the Muskingum River. It will also prevent the roadway from being closed in the future for construction of this sewer line resulting in a minor, long-term positive impact. The excavated material that will be placed into the Putnam Hill Park will result in additional usable parkland and improvements to the multi-use path through the park resulting in a minor, long-term positive impact. Another moderate, long-

term positive impact of the project is the minimization of erosion and landslides in the area which could interrupt public utilities in the area if future slides were to damage the utilities.

3.5.4 Traffic and Circulation

Muskingum Avenue is the major road through the project area but is currently closed due to the land slips both up and downhill from the road. This closure has resulted in a detour of 2.2 miles between U.S. Route 22 and U.S. Route 40. Putnam Hill Park is accessible by motorized vehicle by a one-way road into the park at the corner of Pine Street and Grandview Avenue and a two-way drive on Grandview Avenue approximately 970 feet east of Pine Street.

No Action Alternative:

The No-Action alternative will result in no changes to the existing traffic patterns and circulation due to the continued erosion and safety issues, resulting in moderate, long-term adverse impacts due to the continued increased response time by emergency personnel and increased traffic through detours.

Proposed Action:

The Proposed Action will result in re-opening of Muskingum Avenue which will eliminate the current 2.2-mile detour. This elimination will improve the response time of emergency services in the area as well as improve the traffic flow. The existing one-way park drive will be converted into a multi-use path with the only entrance to the park being on Grandview Avenue approximately 970 feet east of Pine Street. The multi-use trail, the parking lot, and the overlook will be reconstructed to resulting in moderate, long-term positive impacts to traffic and circulation of pedestrians, non-motorized and motorized vehicles. There may be minor, short-term adverse impacts from the relocation of construction equipment to and from the site that may temporarily inconvenience motorists in the area.

3.5.5 Environmental Justice (Executive Order 12898)

EO 12898, Federal Actions to Address Environmental Justice (EJ) in Minority and Low-income Populations, requires federal agencies to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations caused by their actions. Minorities are defined as anyone who identifies as black or African American, American Indian (Native American), or Alaska Native, Asian American, Native Hawaiian or Pacific Islander, Hispanic, or multiracial. Low-income populations are those with incomes at or below the annual statistical federal poverty thresholds determined by the U.S. Census Bureau.

To characterize the demographics of the area, the U.S. Census Bureau Community Survey (ACS) 2016-2020 data was collected for the affected area using the USEPA's Environmental Justice Screening and Mapping tool (EJScreen: Environmental Justice Screening and Mapping Tool, 2023). The affected area was determined to be an approximately 0.26-mile area surrounding the project area that may be directly, indirectly, or cumulatively affected by the Proposed Action.

EJ populations are determined to be present if the state percentile of low income (**Table 3.4**) or minority (**Table 3.5**) populations is 50th or greater or if the state percentile of any of the twelve EJ indexes is 80th or greater. The twelve EJ indexes are summarized in **Table 3.6**.

The review of the 2016-2020 ACS concluded that low-income populations are present as the state percentile of the affected area is 98th, exceeding the 50th percentile threshold. It was also concluded that minority populations are present as the state percentile of the affected area is 79th, exceeding the 50th percentile threshold.

The 80th percentile threshold for EJ indices was also exceeded by National Scale Air Toxics Assessment (NATA) diesel particulate matter, NATA air toxics cancer risk, NATA respiratory hazard index, traffic proximity and volume, lead paint indicator, proximity to national priorities list sites (superfund), proximity to risk management plan sites, underground storage tanks, and wastewater discharge indicator.

Table 3.4 Low-Income Populations, 2016-2020 ACS

	Affected Area Population	Affected Area Percentage	Percentile in State
Total Population	593	--	--
Low Income	510	86%	98 th

Table 3.5 Minority Populations, 2016-2020 ACS

Race	Affected Area Population	Affected Area Percentage	Percentile in State
Total Population	593	--	
White	353	59.5%	--
Black or African American	93	15.7%	--
American Indian and Alaska Native	0	0%	--
Asian	10	1.7%	--
Native Hawaiian and Other Pacific Islander	0	0%	--
Some Other Race/Multiracial	52	8.8%	--
Hispanic¹	85	14.3%	--
Total Minority Population^{2,3}	240	40.5%	79 th

¹ The terms "Hispanic" and "Latino" can apply to members of any race, including respondents who self-identified as "White." The total numbers of Hispanic and Latino residents for each geographic region are tabulated separately from the racial distribution by the U.S. Census Bureau.

² A minority is defined in CEQ's environmental justice guidance as a member of the following population groups: American Indian/Alaskan Native, Asian or Pacific Islander, Black (non-Hispanic), or Hispanic (CEQ 1997).

³ "Total Minority" includes all people who are not "White alone," plus Hispanics and Latinos who identify as white alone. This number may capture individuals who identify as both "not white" and those who identify as Hispanic or Latino, essentially counting those individuals twice. Percent and number values do not equal the total due to double counting of individuals.

Table 3.6 EJ Indexes, 2016-2020 ACS

Index	Percentile in State
Particulate Matter 2.5	37th
Ozone	49th
Diesel Particulate Matter	83rd
Air Toxics Cancer Risk	90th
Air Toxics Respiratory Hazard	89th
Traffic Proximity	88th
Lead Paint	89th
Superfund Proximity	97th
Risk Management Plan Facility Proximity	95th
Hazardous Waste Proximity	72nd
Underground Storage Tanks	94th
Wastewater Discharge	97th

No Action Alternative:

The No Action alternative will result in no changes to the current condition and will require continued use of the 2.2-mile detour. As the project area is located within an Affected Area that has a greater presence of low-income and minority populations, the No Action Alternative will have a moderate, long-term adverse effect on these groups.

Proposed Action:

Both low-income and minority populations are present within the project area. The proposed action will result in the re-opening of Muskingum Avenue which will eliminate the existing 2.2-mile detour through a heavily low-income and minority affected area. No property will be acquired so no displacement of residents or businesses will occur. Minor, short-term adverse effects to these populations may occur from generation of dust and exhaust from construction equipment as well as construction traffic causing minor delays to vehicles in the area. These adverse effects will cease upon project completion. The addition of the multi-use trail in place of the one-way drive in Putnam Hill Park will allow easier access into the park for pedestrians. The proposed action will not have disproportionately high or adverse impacts on low-income or minority populations. Moderate, long-term positive impacts to these populations would therefore occur due to the re-opening of the roadway and associated actions.

3.5.6 Safety and Security

The Occupational Safety and Health Act, 29 U.S.C. §§ 651 – 678, requires safe and healthful conditions for workers by setting and enforcing standards through training, outreach, and compliance assistance. The act created the Occupational Safety and Health Administration (OSHA) which established construction standards under 29 C.F.R. Part 1926. In addition, EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, directs federal

agencies to identify and assess environmental health and safety risks that may disproportionately affect children to ensure their policies, programs, activities, and standards address those risks. The EO broadly defines environmental health and safety risks as products or substances that a child is likely to encounter or ingest through the air, soil, water, or food.

No Action Alternative:

Under the No Action alternative, the slopes to the north and south of Muskingum Avenue would continue to slip, potentially creating moderate, long-term adverse conditions to the safety of pedestrians within Putnam Hill Park. The road will remain closed and emergency services will continue to have longer response times to certain areas due to the 2.2-mile detour also resulting in moderate, long-term adverse effects to the general public.

Proposed Action:

Standard construction-related safety risks would occur for construction workers at the project site. During construction, site safety from the equipment would be ensured by the contractors performing the work by following standard industry safety practices. Post-construction, the project would reduce natural hazard impacts to Muskingum Avenue through the stabilization of the slopes, potentially reducing safety risks to the public using the road. Muskingum Avenue reopening would also allow for quicker response times by emergency services. Both of these result in moderate, long-term positive impacts to park users and the general public.

3.6 Historic and Cultural Resources

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, 54 U.S.C. §§ 300101 - 307108, requires federal agencies to consider the potential effects on cultural resources of actions it proposes. Cultural resources are defined as prehistoric or historic archaeology sites, historic standing buildings and structures, historic districts, objects, artifacts, and cultural properties of historic or traditional significance—referred to as Traditional Cultural Properties—that may have religious or cultural significance to federally-recognized Native American Tribes (Tribes). Any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons is also considered a cultural resource.

Historic properties are districts, sites, buildings, structures, and objects that are included in the National Register of Historic Places (NRHP) or that meet the criteria for listing on the NRHP; they also include records and human remains that are related to and/or located within such properties. Consideration of effects on historic properties is mandated both by NEPA and by Section 106 of the NHPA of 1966, as amended. 16 U.S.C. § 470f. Section 106 requires Federal agencies to consider the effects of their undertakings on historic properties and to afford the SHPO and the Advisory Council on Historic Preservation an opportunity to comment on such undertakings.

Cultural resources listed, eligible for listing, or potentially eligible for listing on the NRHP are subject to protection from adverse effects resulting from a federally funded undertaking. To be considered eligible for listing, a cultural resource must meet one or more of the criteria regarding the resource's significance, as well as demonstrate the integrity of physical features or other characteristics that are related to that significance. Eligibility criteria for listing a property in the NRHP are detailed in 36 C.F.R. § 60. Under the implementing regulations for conducting

Section 106 consultation under the NHPA at 36 C.F.R. § 800, federal agencies are required to determine whether resources are eligible for listing and obtain concurrence on that finding from the SHPO, which maintains records of known historic properties in the state of Ohio.

Under 36 C.F.R. § 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).

In addition to the NHPA, FEMA must also comply with the following federal laws that relate to historic and cultural resources:

- American Indian Religious Freedom Act of 1978 (AIRFA), 42 U.S.C. § 1996, which provides for the protection and preservation of Native American sites, possessions, and ceremonial and traditional rites.
- Native American Graves Protection and Repatriation Act of 1990, 25 U.S.C. §§ 3001–3013, in cases where Native American cultural items are found on federal and tribal lands.
- Archaeological Resources Protection Act of 1979, 16 U.S.C. §§ 470aa–470 mm, which provides for the protection of archaeological resources on public lands and Native American lands.
- The Archaeological and Historic Preservation Act of 1974, 16 U.S.C. §§ 469 - 469c-2, provides for the survey, recovery, and preservation of significant scientific, prehistoric, archaeological, or paleontological data when such data may be destroyed or irreparably lost due to a federal, federally licensed, federally funded (in part or whole) project.

A Programmatic Agreement (PA) among the Federal Emergency Management Agency, the Ohio State Historic Preservation Officer, the Ohio Emergency Management Agency, and Tribes, concerning cultural resources on FEMA funded projects, was executed in August of 2022. The PA includes provisions for the resolution of adverse effects that will guide Section 106 consultation for this undertaking.

To comply with the NHPA and the PA, a Phase I Cultural Resources Survey was conducted by Lawhon & Associates, with the report dated August 15, 2022. The survey was conducted by qualified archaeologists and historians. The Phase I Cultural Resources Survey included visual inspection and sub surface excavation, and a survey of archaeological resources and historic resources, including structures and objects. This survey was conducted within the APE, defined as the area that will be impacted by the construction as well as adjacent areas within the viewshed of the project. The areas for equipment staging and access will be confined to the existing roadway and park. Following the issuance of the August 22, 2022, report, FEMA initiated consultation with the SHPO to confirm the finding, with the outcome being a request to conduct a Phase II Archaeological Evaluation to identify archaeological features that might exist within the park. That survey laid the groundwork for subsequent consultation with SHPO and Tribal Nations regarding the effects of the undertaking on historic properties, both above and below ground (**Appendix C**).

3.6.1 Historic Structures

Consultation documentation shared with SHPO and Tribal Nations recorded the following structures and features within the APE and determined the eligibility of each for listing on the NRHP.

Table 3.7 Eligibility Determinations for Surveyed Resources

<i>OHI Resource Name</i>	<i>OHI Number</i>	<i>Date</i>	<i>Status</i>
Putnam Hill Park	MUS0143732	ca 1801	Eligible
<i>Topography</i>	--	<i>N/A</i>	<i>Contributing</i>
<i>Park Drive</i>	--	<i>1913</i>	<i>Contributing</i>
<i>Stone Bridge</i>	--	<i>ca 1914</i>	<i>Contributing</i>
<i>Overlook</i>	--	<i>ca1991</i>	<i>Non-Contributing</i>
<i>Parking Lots</i>	--	<i>ca 2000</i>	<i>Non-Contributing</i>
<i>Basketball Court</i>	--	<i>ca 2000</i>	<i>Non-Contributing</i>
<i>Playground Equipment</i>	--	<i>ca 2000</i>	<i>Non-Contributing</i>
<i>Shelter</i>	--	<i>ca 2004</i>	<i>Non-Contributing</i>
<i>Gazebo</i>	--	<i>2018</i>	<i>Non-Contributing</i>
<i>Drinking Fountain Base</i>	--	<i>1916 (?)</i>	<i>Non-Contributing</i>
Putnam Hill Spring	MUS0143832	N/A	Eligible
West Muskingum Avenue Stone Wall	MUS0143932	ca 1914	Not Eligible
64 Pine Street	MUS0143432	1901	Not Eligible
789 West Muskingum Avenue	MUS0143532	1895	Not Eligible
781 West Muskingum Avenue	MUS0143632	1895	Not Eligible

No Action Alternative:

The No Action alternative would have no effect on historic properties listed or eligible for listing in the NRHP for no work will be conducted that will impact the two identified resources.

Proposed Action:

The Proposed Action would have direct impacts to Putnam Hill Park and the Putnam Hill Spring, two resources were determined eligible for inclusion in the NRHP. Stabilization of the slope south of West Muskingum Avenue requires cutback at a 4:3 (run: rise) slope. The material from the excavation of the bluff will be used to fill the ravines on the west side of the park. This work will result in the demolition and reconfiguration of the alignment and access to paved roadways in the park (Plans, Appendix A). The result of these activities will be the loss of Putnam Hill Spring, and the topography, curved drives, and stone bridge which are contributing resources to

Putnam Hill Park. The result of these losses will be an adverse effect under Section 106 of the NHPA. The SHPO concurred with FEMA's adverse effect finding on April 4, 2023 (**Appendix C**), and accepted FEMA's recommendation to rely on the Abbreviated Consultation Process for resolution of adverse effects pursuant to Stipulation II.C.6(a) of the PA.

Resolution of Adverse Effects

The Abbreviated Consultation Process for resolution of adverse effects includes the participation of SHPO, interested Tribal Nations, and interested consulting parties in the development of treatment measures to address the adverse effects resulting from this undertaking. The treatment measures are then formally proposed by FEMA to the consulting parties and to the Advisory Council for Historic Preservation (ACHP). Unless a consulting party or the ACHP objects within fifteen (15) days of receipt of FEMA's formal proposal, FEMA shall proceed with the implementation of the Treatment Measure(s) and will conclude the Section 106 review.

Tribal Nations offered no objections to FEMA's finding and indicated no interest in participating as consulting parties (see section 3.6.3, below). After consulting with SHPO, FEMA invited two non-profit organizations that might have an interest in the undertaking to participate in the development of the treatment measures; however, neither Preservation Ohio nor the Pioneer and Historical Society of Muskingum County responded to invitations to consult.

The treatment measures proposed by the City of Zanesville were developed with the assistance of Lawhon & Associates, then revised per comments provided by FEMA and Ohio EMA. The draft treatment measures were forwarded to SHPO for preliminary review and comment on May 22, 2023.

[The final EA will provide the outcomes of SHPO preliminary review and final review by all consulting parties, including the ACHP, when that process completes. This section in the final EA will include a summary of the approved treatment measures and the proposed timeline for completion as agreed to by all consulting parties.]

3.6.2 Archaeological Resources

SHPO qualified archaeologists hired by the subrecipient conducted a background literature search for known archaeological sites within one mile of the project area. Based on the background literature search, a variety of Phase I and Phase II methodological approaches were utilized including a non-invasive geophysical survey using gradiometry to survey the project area. No archaeological historic properties were identified and SHPO concurred with FEMA's finding on March 9, 2023.

No Action Alternative:

The No Action alternative would have no effect on known archaeological resources as no construction or ground disturbance activities would occur.

Proposed Action:

The Proposed Action would have no effect on any archaeological sites or resources that are historic properties. Consultation documentation is included in **Appendix C**. The following project conditions, also included in **Section 6.2**, would provide additional protection to unknown archaeological sites:

- The subrecipient will monitor all ground disturbance during the construction phase. Should human skeletal remains be discovered during construction, all ground-disturbing activities on the project site shall cease and the City of Zanesville will notify the coroner's office, OEMA, and FEMA. FEMA will notify the SHPO, the Tribal Nations known to have an interest in the area.
- All borrow or fill material must come from pre-existing stockpiles or commercially procured material from a pre-existing source. If this is not the case, the subrecipient shall inform FEMA of the fill source so required agency consultations can be completed and FEMA approval will be required prior to beginning ground disturbing activities.

3.6.3 Tribal Coordination and Religious Sites

EO 13175, Consultation and Coordination with Indian Tribal Governments, directs federal agencies, "to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes...."

FEMA is aware of the following Tribal Nations as potentially having ancestral interests in Muskingum County:

- Delaware Nation
- Delaware Tribe of Indians
- Nottawaseppi Huron Band of the Potawatomi
- Shawnee Tribe
- Turtle Mountain Band of Chippewa

FEMA notified the above federally recognized tribal nations with potential interests in the area of the project on May 27, 2022. FEMA provided this opportunity for the Tribal Nations to identify concerns about historic properties or sites of religious and cultural significance that may be affected by this undertaking.

On June 1, 2022, FEMA received a response from the Delaware Nation stating their objection to projects that will disturb or destroy archaeological sites that may be eligible for the National Register of Historic Places. The Delaware Nation requested that FEMA's finding to the State Preservation Office be provided. The Turtle Mountain Band of Chippewa responded on October 7, 2022, expressing interest in the project area. No other tribes responded to FEMA. FEMA's finding was provided to all the Tribal Nations on September 13, 2022, and February 24, 2023. The Shawnee Tribe responded on April 13, 2023, with concurrence that no historic properties will be negatively affected. They requested notification of unanticipated discoveries within the project area during construction. No other Tribal Nations responses were received.

FEMA's correspondence with the Tribal Nations is considered privileged information.

No Action Alternative:

The No-Action alternative would have no effect on known Native American archaeological, historic, or religious sites as no construction or ground disturbance activities would occur.

Proposed Action:

The proposed action will result in ground disturbance on the steep slope leading to the Muskingum River and the Putnam Hill Park. The proposed action would have no effect on any archaeological sites or resources that are historic properties as provided to SHPO in FEMA's findings and SHPO concurrence. Tribal Nations offered no objections to FEMA's finding.

The following project condition, also included in **Section 6.2**, would provide additional protection to unknown archaeological sites:

- The subrecipient will monitor all ground disturbance during the construction phase. Should human skeletal remains be discovered during construction, all ground-disturbing activities on the project site shall cease and the City of Zanesville will notify the coroner's office, OEMA, and FEMA. FEMA will notify the SHPO, the Tribal Nations known to have an interest in the area.

3.7 Comparison of Alternatives

Table 3.8 Comparison of Alternatives

Geology, Soils, and Topography

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• No short or long-term effects to the geology would occur.• Moderate short and long-term adverse effects to soils and topography from continued erosion.	<ul style="list-style-type: none">• Moderate short-term adverse impacts to geology, soils, and topography from construction activities.• Minor, long-term positive effects from limiting erosion of the area and stabilizing the geology, soils, and topography.• No short- or long-term impacts to important farmland soil because no farmland will be converted.	<ul style="list-style-type: none">• See Section 6.2, Conditions 3 and 5.

Water Resources and Water Quality

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• Moderate short and long-term adverse impacts to surface water quality from the continued erosion of the riverbank and slope south of Muskingum Ave into the Muskingum River.• No impact on groundwater quality and drinking water resources.	<ul style="list-style-type: none">• Moderate short-term impact on water quality during construction activities caused by excavators and other heavy equipment for fill and excavation.• Moderate long-term adverse effects due to the filling of streams on-site and the change in surface water runoff from the project area.• Moderate long-term benefits from reduced erosion and turbidity.• No impact on surface water pollutants or groundwater quality and drinking water resources.	<ul style="list-style-type: none">• See Section 6.2, Conditions 4-6.

Floodplain Management

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• Minor, long-term adverse impacts from continued erosion of the embankment and additional fill within the floodplain and the Muskingum River.	<ul style="list-style-type: none">• Minor, long-term positive impacts from the north slope retaining wall preventing future land slips into the floodplain	<ul style="list-style-type: none">• None

Air Quality

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• Minor, long-term adverse impacts due to longer travel on time because of the Muskingum Avenue closure.	<ul style="list-style-type: none">• Minor, short-term adverse impacts from construction equipment emissions and exposed soils.• Negligible long-term impacts from re-opening of road due to increase traffic capacity.	<ul style="list-style-type: none">• See Section 6.2, Conditions 7-9.

Terrestrial and Aquatic Environment

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• Minor, long-term adverse impacts from the continued erosion of the north and south slopes resulting in impacts to existing vegetation and exposure of deeper soil layers.	<ul style="list-style-type: none">• Minor, short-term adverse impacts such as soil disturbance and removal of vegetation due to construction activities.• Minor, long-term positive effects to all disturbed areas from reseeding and planting with native species.	<ul style="list-style-type: none">• See Section 6.2, Condition 10.

Wetlands

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• Minor, long-term adverse impacts to downstream riverine wetlands as sediment from the erosion at the slips may travel downstream and deposit within riverine wetlands.	<ul style="list-style-type: none">• No short or long-term impacts to any wetlands as there are no wetlands within the project area.	<ul style="list-style-type: none">• None

Threatened and Endangered Species

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• No short- or long-term impacts.	<ul style="list-style-type: none">• May effect, not likely to adversely affect the Indiana bat and northern long-eared bat.• Not likely to jeopardize the tri-colored bat.• No effect to the fanshell, sheepsnose mussel, snuffbox mussel, or rabbitsfoot.	<ul style="list-style-type: none">• See Section 6.2, Condition 11.

Migratory Birds

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• No short- or long-term impacts.	<ul style="list-style-type: none">• Minor, short-term adverse impacts from tree and vegetation removal that may serve as migratory bird habitat.• Minor, long-term positive impacts from native vegetative seeding and tree planting.	<ul style="list-style-type: none">• See Section 6.2, Condition 12.

Invasive Species

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• Minor, long-term adverse impacts as invasive plant species continue to persist and spread.	<ul style="list-style-type: none">• Minor, long-term positive effects from the removal of invasive species throughout the project area and replanting of native species.• Minor, short-term adverse impacts from construction equipment potentially spreading invasive species to other areas when disturbance of these species is taking place.	<ul style="list-style-type: none">• See Section 6.2, Condition 13.

Hazardous Materials

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• No short- or long-term impacts.	<ul style="list-style-type: none">• Minor, short-term impact from potential risk of leaks from construction equipment.• Minor, long-term positive effects due to the potential redevelopment of surrounding sites containing hazardous materials.• The Proposed Action would not involve the exposure of any known hazardous materials or chemicals on or adjacent properties to the site. Although unlikely given the characteristics of the site, there could be an increase in the overall risk of hazardous materials not known to already exist in the environment being released because of excavation, resulting in moderate short-term impacts to onsite workers.	<ul style="list-style-type: none">• See Section 6.2, Conditions 14-16.

Zoning and Land Use

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• Minor, long-term adverse effects on land use due to the adjacent vacant properties remaining vacant due to the Muskingum Avenue closure.	<ul style="list-style-type: none">• The area within the construction limits of the proposed project will remain in current zoning and land use plans as a public park and public transportation right-of-way.• Possible minor, long-term positive impacts on land use as vacant commercial properties along Muskingum Avenue and Pine Street are redeveloped.	<ul style="list-style-type: none">• None

Noise

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• No short or long-term impacts.	<ul style="list-style-type: none">• Minor short-term adverse impacts associated with construction activity.• Possible minor, long-term positive impacts as the re-construction of the multi-use path through Putnam Hill Park could encourage more non-vehicular modes of transportation to the park.• Minor, long-term adverse impacts to noise with the re-opening of Muskingum Avenue to vehicular traffic.	<ul style="list-style-type: none">• See Section 6.2, Condition 17.

Public Services and Utilities

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• Moderate short-term adverse impacts on public utilities if the erosion continues and the existing force main along the Muskingum River fails releasing sewage into the river and interrupts service to the area.• Moderate, long-term adverse effects to public services as the road closure requires the use of the detour for emergency services, resulting in longer response time.	<ul style="list-style-type: none">• Moderate, long-term positive impacts from the improved public service response time by re-opening Muskingum Avenue, eliminating the current detour.• Minor, long-term positive impacts from the construction of a 30-inch force main sewer under reconstructed Muskingum Ave. to prevent future roadway closure when the existing force main is removed from service.• Minor, long-term positive impact by creating more useable parkland with the excess fill.• Moderate, long-term positive impact by eliminating the threat of erosion that could damage public utilities and impact services and returning Muskingum Avenue to safe public use.	<ul style="list-style-type: none">• None

Traffic and Circulation

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• Moderate, long-term adverse impacts on traffic and circulation due to the continued closure of Muskingum Avenue.	<ul style="list-style-type: none">• Minor, short-term adverse impact from the operation of construction vehicles and equipment to and from the site.• Moderate, long-term positive impact by the reconstruction and the opening of Muskingum Avenue.• Moderate, long-term positive effect from improvement park traffic circulation including pedestrian and cycling traffic conditions in the park.	<ul style="list-style-type: none">• None

Environmental Justice

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• Moderate, long-term adverse effect from the continued closure of Muskingum Avenue on low-income and minority populations due to the greater presence of these groups within the affected area.	<ul style="list-style-type: none">• The proposed action will not have disproportionately high or adverse impacts on low-income or minority populations.• Minor, short-term adverse effects from generation of dust and construction equipment exhaust during construction• Minor, short-term adverse effects from construction traffic.• Moderate, long-term positive impacts to these populations would occur due to the re-opening of the roadway and associated actions.	<ul style="list-style-type: none">• See Section 6.2, Conditions 7-9.

Safety and Security

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• Moderate, long-term adverse effects on safety of pedestrians within Putnam Hill Park due to future slips.• Moderate, long-term adverse effects to the general public due to the continued closure of the road and detour required by emergency services.	<ul style="list-style-type: none">• Minor short-term adverse impact for construction workers due to general construction-related safety.• Moderate, long-term positive impact to the safety of pedestrians within Putnam Hill Park due to the stabilization of the slope.• Moderate, long-term positive impact to the general public from the reopening of Muskingum Avenue and the elimination of the detour required by emergency services.	<ul style="list-style-type: none">• See Section 6.2, Conditions 18-21.

Historic Structures

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• No short- or long-term impacts.	<ul style="list-style-type: none">• Loss of Putnam Hill Spring and the topography, curved drives, and stone bridge which are contributing resources to Putnam Hill Park.	<ul style="list-style-type: none">• Consultation must be completed to meet the requirements of NHPA.• See Section 6.2, Condition 22.

Archaeological Resources

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• No short- or long-term impacts.	<ul style="list-style-type: none">• No short- or long-term impacts.	<ul style="list-style-type: none">• See Section 6.2, Conditions 23 and 24.

Tribal and Religious Sites

No Action Impacts	Proposed Action	Mitigation
<ul style="list-style-type: none">• No short- or long-term impacts.	<ul style="list-style-type: none">• No short- or long-term impacts.	<ul style="list-style-type: none">• See Section 6.2, Conditions 23 and 24.

4 CUMULATIVE IMPACTS

This section evaluates the potential cumulative impacts associated with the implementation of the Proposed Action. Cumulative impacts are defined in CEQ regulations for implementing NEPA (40 C.F.R. § 1508.7) as:

“The impacts of a proposed action when combined with impacts of past, present, or reasonably foreseeable future actions undertaken by any agency or person.”

CEQ regulations require an assessment of cumulative effects during the decision-making process for federal projects. Cumulative impacts can result from individually minor but collectively significant actions.

The Proposed Action is an effort to repair and mitigate erosion damages within the Muskingum River corridor between Pine Street and the Genesee and Wyoming Railroad tracks. There are no known recently completed or proposed mitigation or natural restoration projects within one mile of the project site. Additionally, there are no other known proposed projects within or adjacent to the project area led by the City of Zanesville, Muskingum County or ODOT. There are no known projects that may cause cumulative impacts.

There is currently a 24-inch concrete-encased sanitary sewer force main located on the south bank of the Muskingum River. This force main has been determined to be undersized and in poor condition. The City of Zanesville is in the planning process of a separate project that will replace this force main from the pump station located along the river northeast of the intersection of Muskingum Avenue and Pine Street to south of 6th Street. The proposed route for this force main is under the westbound lane of Muskingum Avenue. To prevent having to dig up reconstructed

Muskingum Avenue, the section of the 30-inch force main will be constructed as part of the proposed erosion control project. This will have a long-term positive impact as it will prevent future closures of Muskingum Avenue to complete this section of the upcoming project.

5 PUBLIC PARTICIPATION

In preparation for the draft EA, initial public notice mentioning part of the work outlined in this EA was published in the Zanesville Times Recorder on May 13, 2022. The notice was also posted on the Zanesville Times Recorder website. An additional public notice detailing the specific work and impacts was posted in the Zanesville Times Recorder and website on March 16, 2023. No public comments were received as a result of these notices. The notices are located in **Appendix G**.

This EA is available for agency and public review and comment for a period of 30 days. The public information process includes a public notice with information about the Proposed Action in the *Zanesville Times Recorder*, <https://www.zanesvilletimesrecorder.com>. The EA will be available on FEMA's website at <https://www.fema.gov/about/news-multimedia/events> during the public comment period and the final EA will be archived at <https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository>. The EA is also available on the City of Zanesville website at <https://www.coz.org/CivicAlerts.aspx>.

Those without internet access can review the EA on a computer available to the public during normal business hours at the Muskingum County Library System's John McIntire Library or at Zanesville City Hall.

John McIntire Library
Muskingum County Library System
220 N. 5th Street
Zanesville, OH 43701

Zanesville City Hall
401 Market Street
Zanesville, OH 43701

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-r5-environmental@fema.dhs.gov or via mail to:

Duane Castaldi, Regional Environmental Officer
Attn: Muskingum Avenue Improvements Comments
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, IL 60605

If FEMA receives no substantive comments from the public and/or agency reviewers, this EA will be adopted as final, and FEMA will issue a FONSI. If FEMA receives substantive comments, it will evaluate and address those comments as part of the FONSI documentation and may consider whether changes to the grant or project implementation are appropriate.

5.1 Subrecipient Outreach

The City of Zanesville discussed the Muskingum Avenue Improvements, including the closure of the road and possible alternatives at several of their meetings from 2018 through 2023. All City meetings are open to the public. The City of Zanesville has received multiple letters in support of the project stating reasons such as easing access to city services and private businesses, the need for safety services to have quicker access through the city, and relieving congestion within downtown Zanesville and the Y-bridge. Documentation of these meetings and comments is provided in **Appendix F**.

6 MITIGATION MEASURES AND PERMITS

6.1 Permits

The Proposed Action will require several permits and clearances from state and federal agencies. **Table 6.1** summarizes the necessary permits to implement the Proposed Action and their status. Any additional permits or clearances necessary will be obtained by the responsible party prior to commencement of construction.

Table 6.1 Permit Summary

Issuing Agency	Resource	Permit Title	Applicable Regulation/Law	Status
OEPA	Soils (Erosion), Water quality	Notice of Intent (NOI) for a General Permit for Stormwater Discharges from Small and Large Construction Activities (OHC000006)	Federal Water Pollution Control Act ORC 6111 OAC 3745	Will be Obtained. See Section 6.2
OEPA	Wastewater	Wastewater Permit to Install (PTI)	ORC 6111.44 ORC 6111.45 OAC 3745-42	Approved. PTI No.: 1442817
USACE	Waters of the U.S.	Nationwide Permit	Section 404 of the CWA	Will be obtained. See Section 6.2.

6.2 Project Conditions

The subrecipient is responsible for compliance with federal, state, and local laws and regulations, including obtaining any necessary permits prior to beginning construction activities, and adhering to any conditions laid out in these permits. Any substantive change to the scope of work will require reevaluation by FEMA for compliance with NEPA and any other laws or EOs. Failure to comply with FEMA grant conditions may jeopardize federal funding.

General Project Conditions

1. The subrecipient is responsible for obtaining and complying with all required local, state, and federal permits and approvals.
2. If deviations from the proposed scope of work result in substantial design changes, the need for additional ground disturbance, additional removal of vegetation, or any other

unanticipated changes to the physical environment, the subrecipient must contact FEMA so that the revised project scope can be evaluated for compliance with NEPA and other applicable environmental laws.

The following condition address mitigation of impacts to ***Water Resources and Water Quality, Wetlands, and Soils***:

3. The City of Zanesville will receive an approved NPDES NOI from the OEPA prior to any ground disturbance taking place.
4. The City of Zanesville will receive an approved NWP from the USACE prior to any in-water work taking place.
5. The City of Zanesville and its contractor(s) will adhere to best management practices (BMPs) and minimization measures set out in the NPDES General Permit, Stormwater Pollution Prevention Plan (SWPPP), and NWP.
6. The City of Zanesville is responsible for completing payment for the stream mitigation credits to the Hodgson Mitigation Bank prior to any work within the streams occurring and within 30 days of receiving the approved NWP.

Air Quality

7. To reduce the emission of criteria pollutants, construction equipment engine idling will be minimized to the greatest extent practicable, and engines will be kept properly maintained.
8. Open construction areas will be minimized and watered as needed to minimize particulates such as fugitive dust.
9. Hauling routes shall be established and designed to minimize the effect of short-term emissions on homes, schools, daycare centers, and playgrounds.

Terrestrial and Aquatic Environment

10. The City of Zanesville will implement a revegetation plan and will work with the local tree commission on planting native trees within Putnam Hill Park.

Threatened and Endangered Species

11. To avoid adverse effects to the Indiana bat, northern long-eared bat, and tri-colored bat, all trees ≥ 3 inches dbh will be cut between October 1 and March 31.

Migratory Birds

12. Tree removal should be avoided during the migratory bird nesting season (approximately March 15 to October 10) to the greatest extent practicable.

Invasive Species

13. Disturbed areas will be revegetated with native grasses and forbs, or native seed mixes.

Hazardous Materials

14. The City of Zanesville and its contractor(s) will manage construction equipment to avoid oil, fuel, or lubricant leaks during equipment use, and will employ BMPs as described in the SWPPP to mitigate potential impacts to hazardous materials.
15. If hazardous source materials are encountered during construction activities for the Proposed Action, the contractor(s) will identify, manage, and dispose of hazardous materials, or other heavily contaminated materials, in accordance with all local, state, and federal regulations. The City of Zanesville will be notified if hazardous material or other heavily contaminated material is encountered.
16. Procedures should be in place that address safety, health, and emergency response; environmental protection; contaminated soil excavation; transportation and disposal of hazardous or contaminated material; and contaminated dewatering and drainage. These procedures may be followed in accordance with existing City of Zanesville plans and operations, or shall be developed for this project.

Noise

17. In accordance with the City of Zanesville regulation Section 509.09, construction equipment may only operate “between the hours of 7:00 a.m. and 9:00 p.m. unless such operation is approved by the Public Safety Director and not plainly audible 25 feet from the property line or is necessary for a governmental function.”

Safety and Security

18. To minimize risks to safety and human health, construction activities will be performed using qualified personnel trained to use the required equipment properly.
19. The construction site will be secured from public access.
20. All construction activities will be conducted in accordance with the standards specified in the Occupational Safety and Health Administration (OSHA) regulations.
21. All conditions of the project Health and Safety Plan will be adhered to.

Historic Structures

22. Consultation to identify treatment measures to resolve adverse effects must be completed in accord with Stipulation II.C.6(a) of the statewide programmatic agreement.

Archaeological, Tribal, and Religious Sites

23. The subrecipient will monitor all ground disturbance during the construction phase. Should human skeletal remains be discovered during construction, all ground-disturbing activities on the project site shall cease and the City of Zanesville will notify the coroner’s office, Ohio EMA, and FEMA. FEMA will notify the SHPO and the five Tribal Nations known to have an interest in the area.
24. All borrow or fill material must come from pre-existing stockpiles or commercially procured material from a pre-existing source. If this is not the case, the subrecipient shall inform FEMA of the fill source so required agency consultations can be completed and FEMA approval will be required prior to beginning ground disturbing activities.

7 CONSULTATIONS AND REFERENCES

The following agencies were consulted during the preparation of this EA:

7.1 Federal, State, and Local Agencies

- U.S. Environmental Protection Agency, Region 5
- U.S. Fish and Wildlife Service, Ohio Ecological Services Field Office
- U.S. Army Corps of Engineers, Huntington District
- Ohio Environmental Protection Agency
- Ohio Department of Natural Resources
- Ohio State Historic Preservation Office

7.2 Tribal Nations

- Delaware Nation
- Delaware Tribe of Indians
- Nottawaseppi Huron Band of the Potawatomi
- Shawnee Tribe
- Turtle Mountain Band of Chippewa

7.3 References

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8 LIST OF PREPARERS

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Subrecipient: City of Zanesville

Subrecipient: Chip Saunders, PE, City Engineer

Ohio Emergency Management Agency Preparers

Project Monitor: Steve Ferryman, CFM, Mitigation Branch Chief

Project Monitor: Dan Blanchard, Hazard Mitigation Consultant

Federal Emergency Management Agency Preparers

Project Monitor: Duane Castaldi, Regional Environmental Officer (REO)

Technical Monitor: Jack Grafton, Environmental Protection Specialist

Project Monitor: Andrew Davis, Grants Management Specialist

Cultural Resources—Archaeology: Karen Poulson, RPA, Environmental Protection Specialist

Cultural Resources—Structures: Nicholas Dorochoff, Environmental Protection Specialist

9 APPENDICES

Appendix A: Project Plans

This appendix contains excerpts of the plans, prepared by ADR & Associates, Ltd., and provide details of the project as covered by Section 2.2 of the EA.

Appendix B: Agency Consultation

Compilation of various reports and consultations between FEMA and various agencies.

- Environmental Assessment Scoping Document, dated August 22, 2022, from FEMA to the other agencies and interested parties. The major sections of this 9-page document are Background, Alternative Analysis, Affected Environment, References, Distribution List, and FEMA Contact Information.
- Informal Section 7 of the ESA consultation letter from FEMA to USFWS, dated February 2, 2023. This 7-page letter details FEMA's determinations for the federally-listed species within range of the project area. These determinations are covered in Section 3.3.3 of the EA.
- USFWS Section 7 coordination email chain from Angela Boyer, USFWS Endangered Species Coordinator for the Ohio Field Office. This email chain is a response from USFWS

to the Environmental Assessment Scoping Document. The most recent response from Ms. Boyer (August 24, 2022) states that if trees cannot be removed during the clearing season, then a summer presence/absence survey must be performed.

- USFWS's IPaC official threatened and endangered species list for the project area, dated January 25, 2023. It lists three bat species and four mussel species within the project area as well as one candidate insect species. The results of this list are covered in Section 3.3.3 of the EA.
- USFWS Section 7 concurrence letter, dated February 3, 2023, from Patrice Ashfield, Ohio Field Office Supervisor (Project Code: 2022-0044042). The letter states that this project, as proposed, is not likely to adversely affect the federally endangered Indiana bat or threatened northern long-eared bat, and it not likely to jeopardize the proposed endangered tri-colored bat. This is based on the commitment to cut all trees ≥ 3 inches diameter at breast height only between October 1 and March 31.
- USACE letter, dated August 30, 2022, from Teresa Spagna, Chief of the North Branch of the USACE – Huntington District. The letter states that the project will require authorization under Section 404. The letter also requests that a Purpose and Need for the project, Aquatic Resource Identification, Avoidance and Minimization, Compliance with Section 404(b)(1) Guidelines, Corps Public Interest Review Factors, Effects to Aquatic Resources, Cumulative and Indirect Effects, Off-Site Areas, and Compliance with Other Federal Laws and Executive Orders be included in the scoping and evaluation of any submitted NEPA document.
- OEPA Pre-Application Follow-up Letter, dated September 15, 2022, from Brooke Cherry, Application Coordinator in the 401/Wetlands/Mitigation Section (OEPA ID No. 228175). The letter states the required components should a 401 WQC be required.
- OEPA Pre-Application Follow-up Letter, dated April 11, 2023, from Brooke Cherry, Application Coordinator in the 401/Wetlands/Mitigation Section (OEPA ID No. 238456P). The letter states that it is not likely that the proposed project will require 401 WQC based on OEPA's project review, provided HHEI scores, and pre-application follow-up correspondence.
- ODNR letter, dated September 22, 2022, from Mike Pettegrew, Environmental Services Administrator. This 4-page letter summarizes the ODNR Natural Heritage Database

results, Division of Fish and Wildlife comments, and Division of Water Resources comments. The contents of this letter are summarized in Section 3.3.3 of the EA.

- Letter from FEMA to the Ohio SHPO, dated March 8, 2023. The letter requests SHPO's concurrence of FEMA's finding of adverse effect on historic properties.
- SHPO letter, dated April 4, 2023, from Diana Welling of the Ohio SHPO. A box is checked that SHPO concurs with FEMA's finding that the undertaking will result in adverse effects on historic properties.

Appendix C: Cultural Resources

This appendix contains the SHPO cover letter and concurrence:

- SHPO letter, dated April 4, 2023, from Diana Welling of the Ohio SHPO. A box is checked that SHPO concurs with FEMA's finding that the undertaking will result in adverse effects on historic properties. This is in response to a letter from FEMA to SHPO on March 8, 2023, that requests SHPO's concurrence with FEMA's determination of adverse effects on historic properties.

It contains tribal cover letters:

- Letter dated March 8, 2023, from FEMA to Katelyn Lucas of the Delaware Nation. The letter provides justification for FEMA's finding of no historic properties affected for archaeological sites and adverse effects on historic properties for Putnam Hill Park. The letter provides the tribal nation to join the consultation by contacting FEMA.
- Letter dated March 8, 2023, from FEMA to Larry Heady of the Delaware Tribe of Indians. The letter provides justification for FEMA's finding of no historic properties affected for archaeological sites and adverse effects on historic properties for Putnam Hill Park. The letter provides the tribal nation to join the consultation by contacting FEMA.
- Letter dated March 8, 2023, from FEMA to Douglas Taylor of the Nottawaseppi Huron Band of the Potawatomi. The letter provides justification for FEMA's finding of no historic properties affected for archaeological sites and adverse effects on historic properties for Putnam Hill Park. The letter provides the tribal nation to join the consultation by contacting FEMA.
- Letter dated March 8, 2023, from FEMA to Tonya Tipton of the Shawnee Tribe. The letter provides justification for FEMA's finding of no historic properties affected for archaeological sites and adverse effects on historic properties for Putnam Hill Park. The letter provides the tribal nation to join the consultation by contacting FEMA.
- Letter dated March 8, 2023, from FEMA to Larus Longie of the Turtle Mountain Band of Chippewa. The letter provides justification for FEMA's finding of no historic properties affected for archaeological sites and adverse effects on historic properties for Putnam

Hill Park. The letter provides the tribal nation to join the consultation by contacting FEMA.

It contains consultation documentation:

- Sample Letter dated March 8, 2023, that was sent to consulting parties. It provides a description of the undertaking, steps taken to identify historic properties and the description of the identified historic properties, determination of eligibility, the undertaking's effects on historic properties, finding, summary of views of consulting parties or public, proposed resolution of adverse effects, figures, and photographs. Some information has been redacted.

Appendix D: Waters Investigation Report

This appendix contains excerpts of the 71-page waters investigation report by B&N. The included documentation contains the executive summary and conclusions and recommendations sections of the report. The additional 66 pages have been excluded from this appendix as they are adequately summarized in the Section 3.2 of the EA and the included sections of the Appendix. This appendix also contains the Preliminary Jurisdictional Determination from the USACE-Huntington District, dated August 18, 2022. This determination confirms that the two identified streams in the waters investigation report are under the jurisdiction of the USACE. The determination was given the USACE file number of LRH-2021-598-MUS-UNT Chaps Run.

Appendix E: City of Zanesville Public Involvement

This appendix includes a link under community notices to the City of Zanesville's Request for Qualifications (RFQ) and Proposal for an EA for the proposed project. It also includes the public notice posted in the Zanesville Times Recorder for the RFQ. The appendix includes Zanesville City Council ordinance No. 19-98 authorizing the mayor to request funding through the Community Development Block Grant for the proposed project and references resolution 19-93 which authorized submission for FEMA's HMGP. The appendix also includes meeting minutes of a City of Zanesville Special Public Service Meeting Agenda, dated November 30, 2020 that contains City Ordinance No. 2020-141 which authorize a professional contract for ADR for final engineering services for Muskingum Avenue Improvements and declaring an emergency as well as City Ordinance No. 2020-142 which authorizes the proper city official to enter into a financing agreement to pay ADR for engineering costs for the Muskingum Avenue Improvements project. The appendix also includes a letter from Charles Saunders, City Engineer, to the City Council stating the reason for the emergency declaration passage of Ordinance No. 2020-73 is to make the city's best attempt to make Muskingum Avenue available to traffic for the impending closure of the Maple Avenue on-ramp to I-70. The appendix also contains multiple letters of support to the Mayor of Zanesville for the project from early 2021 from Friends of Putnam, Muskingum County Emergency Management Agency, Muskingum County Commissioners, South East Area Transit, Weasel Boy Brewing Company, Zanesville City Schools, City of Zanesville Division of Fire, and City of Zanesville Division of Police. Comments are summarized in Section 5.1 of the EA.

Appendix F: Public Notice and Comments

This appendix includes a public notice from Duane Castaldi, Regional Environmental Officer of FEMA Region V. The public notice states that Hazard Mitigation Assistance has been applied for

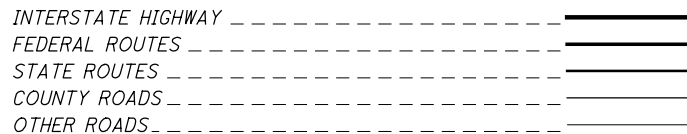
and the public notice is being issued due to EO 11988, EO 11990, and the NHPA. The public notice invites comments to be submitted to FEMA. An excerpt from the Zanesville Times Recorder is also included. This appendix also includes a public notice from Duane Castaldi, Regional Environmental Officer of FEMA Region V summarizing the proposed project and impacts and inviting comments to be submitted to FEMA. An excerpt from the Zanesville Times Recorder is also included.

Appendix G: Permits

This appendix includes a letter from the OEPA stating a time extension has been granted for the Permit to Install Application No. 1442817 on April 19, 2023. The permit will become void on November 30, 2024, unless the applicant has initiated construction as proposed by that time.

Appendix A

Project Plans



ADR
ADR & ASSOCIATES, LTD.

Newark Office:
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Newark, OH 43055
(740) 345-1921 (ph)
(740) 345-4994 (fax)
www.adrinnovation.com

SIGNED: _____
DATE: _____

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[illegible]

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

PRELIMINARY
NOT FOR CONSTRUCTION
AUGUST 12, 2021

APPROVED _____
DATE _____ CITY OF ZANESVILLE
PUBLIC SERVICE DIRECTOR

APPROVED _____
DATE _____ CITY OF ZANESVILLE
CITY ENGINEER

RAILROAD INVOLVEMENT

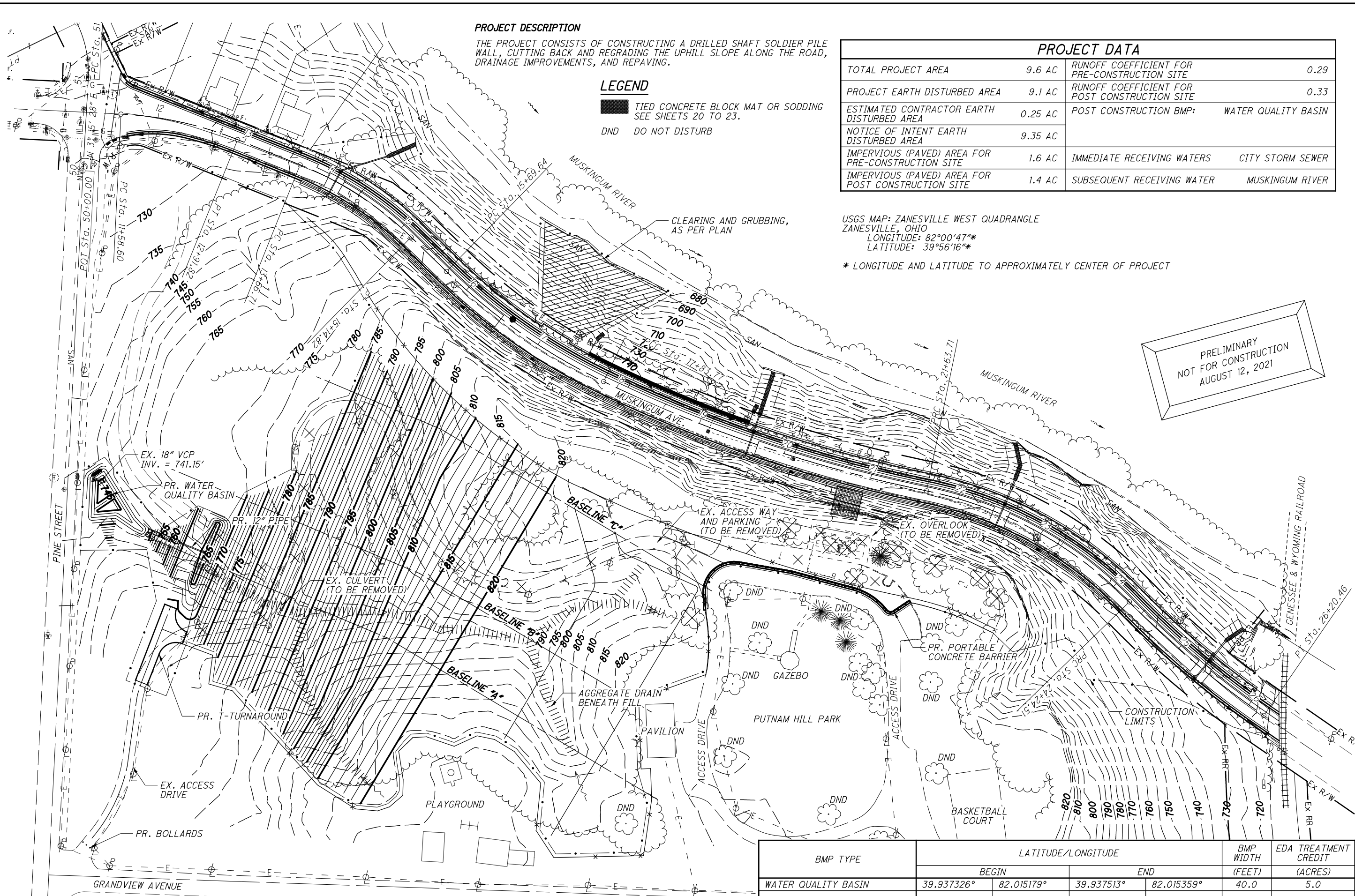
GENESSEE & WYOMING
RAILROAD INVOLVEMENT

CONSTRUCTION PROJECT NO.

PID NO.

FEDERAL PROJECT NO.

MUSKINGUM
AVENUE



PROJECT DESCRIPTION

THE PROJECT CONSISTS OF CONSTRUCTING A DRILLED SHAFT SOLDIER PILE WALL, CUTTING BACK AND REGRADING THE UPHILL SLOPE ALONG THE ROAD, DRAINAGE IMPROVEMENTS, AND REPAVING.

LEGEND

- TIED CONCRETE BLOCK MAT OR SODDING
SEE SHEETS 20 TO 23.
- DND DO NOT DISTURB

PROJECT DATA

TOTAL PROJECT AREA	9.6 AC	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.29
PROJECT EARTH DISTURBED AREA	9.1 AC	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE	0.33
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	0.25 AC	POST CONSTRUCTION BMP:	WATER QUALITY BASIN
NOTICE OF INTENT EARTH DISTURBED AREA	9.35 AC		
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	1.6 AC	IMMEDIATE RECEIVING WATERS	CITY STORM SEWER
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE	1.4 AC	SUBSEQUENT RECEIVING WATER	MUSKINGUM RIVER

USGS MAP: ZANESVILLE WEST QUADRANGLE
ZANESVILLE, OHIO
LONGITUDE: 82°00'47"*
LATITUDE: 39°56'16"*

* LONGITUDE AND LATITUDE TO APPROXIMATELY CENTER OF PROJECT

PRELIMINARY
NOT FOR CONSTRUCTION
AUGUST 12, 2021

PLAN

BMP TYPE	LATITUDE/LONGITUDE				BMP WIDTH (FEET)	EDA TREATMENT CREDIT (ACRES)
	BEGIN		END			
WATER QUALITY BASIN	39.937326°	82.015179°	39.937513°	82.015359°	40.0	5.0

TREATMENT PROVIDED	5.0
TREATMENT REQUIRED*	1.7

* CALUCLATED PER L&D VOL. 2, SEC. 1115.7

P:\ADR\2020\325102 Zanesville Muskingum Avenue (Dug Road) Plans.dgn sheets - roadway\325102_76 Grading Plan.dgn 8/12/2021 10:41:36 AM DGerde

POINT	NORTHING	EASTING	ELEVATION
A-1	705,686.8758	2,105,025.2885	823.8
A-2	705,866.5092	2,104,724.9024	812.5
A-3	705,982.9960	2,104,448.4411	748.2
B-1	705,784.0799	2,105,018.6150	824.1
B-2	705,938.0514	2,104,761.1412	812.5
B-3	706,054.5358	2,104,484.6800	767.3
C-1	705,918.8445	2,105,085.5213	822.4
C-2	706,098.4779	2,104,785.1351	806.0
C-3	705,156.7213	2,104,646.9045	777.6

NOTE

1. NO SLOPE SHALL BE GREATER THAN 2:1 UNLESS OTHERWISE SHOWN

ITEM 203, EMBANKMENT

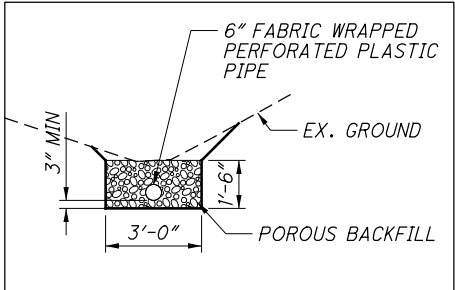
THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS THE BUILDUP OF EMBANKMENT FOR FUTURE USE AS A PEDESTRIAN PATH. THE EMBANKMENT SHALL BE CONSTRUCTED WITH A TOP WIDTH OF 11 FEET AND SLOPE DOWN AT A 1:1 SLOPE TO MATCH EXISTING. ANY FILL OUTSIDE OR ABOVE THIS THIS AREA SHALL BE 203 EXCAVATION, AS PER PLAN AND SHALL BE PLACED AT THE DIRECTION OF THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY IS CARRIED TO THE GENERAL SUMMARY FOR THIS WORK.

REFERENCE NUMBER	518	518	601	611
	6" PERFORATED CORRUGATED PLASTIC PIPE, FABRIC WRAPPED	POROUS BACKFILL, AS PER PLAN	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	PRECAST REINFORCED CONCRETE OUTLET
	FT	CY	SY	EACH
UD-3	1,050	169		1
EC-5			2	
EC-6			16	
TOTALS CARRIED TO GENERAL SUMMARY	1,050	169	18	1

LEGEND

- ITEM 203, EMBANKMENT
- TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT
- PR. FLOOD ROUTING ARROW
- PR. FLOW ARROW
- DND DO NOT DISTURB

FILL UNDERDRAIN DETAIL

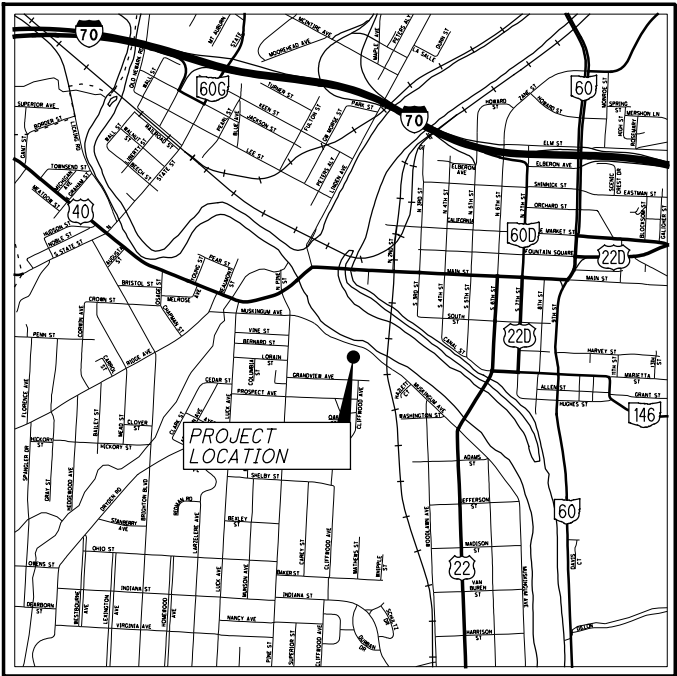


PARK FILL AREA
GRADING PLAN

MUSKINGUM
AVENUE

76
93

P:\ADR\2020\325102_Zanesville Muskingum Avenue (Dug Road) Plans\ dgn\ sheets - Putnam Hill Park Restoration\325102_Php 01 Title.dgn 8/19/2021 3:35:54 PM JBobak



LOCATION MAP

LATITUDE: 39°56'15" LONGITUDE: 82°00'48"



INTERSTATE HIGHWAY	_____
FEDERAL ROUTES	_____
STATE ROUTES	_____
COUNTY ROADS	_____
OTHER ROADS	_____

CITY OF ZANESVILLE

PUTNAM HILL
PARK

RESTORATION

INDEX OF SHEETS:

TITLE	1
SCHEMATIC PLAN	2
TYPICAL SECTIONS	3
GENERAL NOTES	4-6
MAINTENANCE OF TRAFFIC	7
GENERAL SUMMARY	8-9
SITE PLAN	10
PLAN & PROFILE	11-13
CROSS-SECTIONS	14-19
GRADING PLAN	20-21
OVERLOOK DETAILS	22
TRAFFIC CONTROL	23-24
LIGHTING PLAN	25-26

PROJECT DESCRIPTION

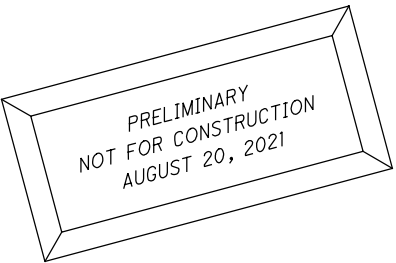
THIS PROJECT CONSISTS OF THE RESTORATION OF PUTNAM HILL PARK LOCATED IN THE CITY OF ZANESVILLE, OHIO. THE WORK ON THIS PROJECT CONSISTS OF FULL DEPTH PAVEMENT REPLACEMENT, INSTALLATION OF A MULTI-USE PATH, RESTORATION OF THE "Y-BRIDGE OVERLOOK", AND A 12" CULVERT.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 1.36 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 1.36 ACRES

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.



UNDERGROUND UTILITIES

Contact Two Working Days
Before You Dig



OHIO811. 8-1-1. or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:



Newark Office:
88 West Church Street
Newark, OH 43055
(740) 345-1921 (ph)
(740) 345-4994 (fax)
www.adrinnovation.com

ENGINEERS SEAL:

SIGNED: _____
DATE: _____

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1-17-20	MT-101.60	1-17-20			SS800 7-16-21	
BP-5.1	7-16-21					SS832 10-19-18	
BP-7.1	7-17-20	RM-5.1	7-18-14				
DM-1.1	7-16-21	TC-71.10	7-16-21				
DM-1.2	7-16-21						
DM-4.3	7-16-21						
DM-4.4	7-16-21						
HL-30.11	1-15-21						
HL-30.21	4-17-20						
HL-30.22	1-15-21						
HL-40.20	7-17-20						
HW-2.2	7-20-18						

APPROVED _____
DATE _____ CITY OF ZANESVILLE
PUBLIC SERVICE DIRECTOR

APPROVED _____
DATE _____ CITY OF ZANESVILLE
CITY ENGINEER

FEDERAL PROJECT NO.	NONE
PID NO.	NONE
CONSTRUCTION PROJECT NO.	NONE
RAILROAD INVOLVEMENT	NONE
PUTNAM HILL PARK	
1 26	

P:\ADR\2020\325102 Zanesville Muskingum Avenue (Dug Road) Plans\ dgn\ sheets - Putnam Hill Park Restoration\325102_Php 09 Project Site Plan.dgn 8/19/2021 3:36:06 PM JBobok

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF CONSTRUCTING PARKING LOTS, A MULTI-USE TRAIL, CONCRETE OVERLOOK, AND RESTORING PARK FACILITIES REMOVED AS PART OF THE MUSKINGUM AVENUE ROADWAY IMPROVEMENTS PROJECT.

NOTES

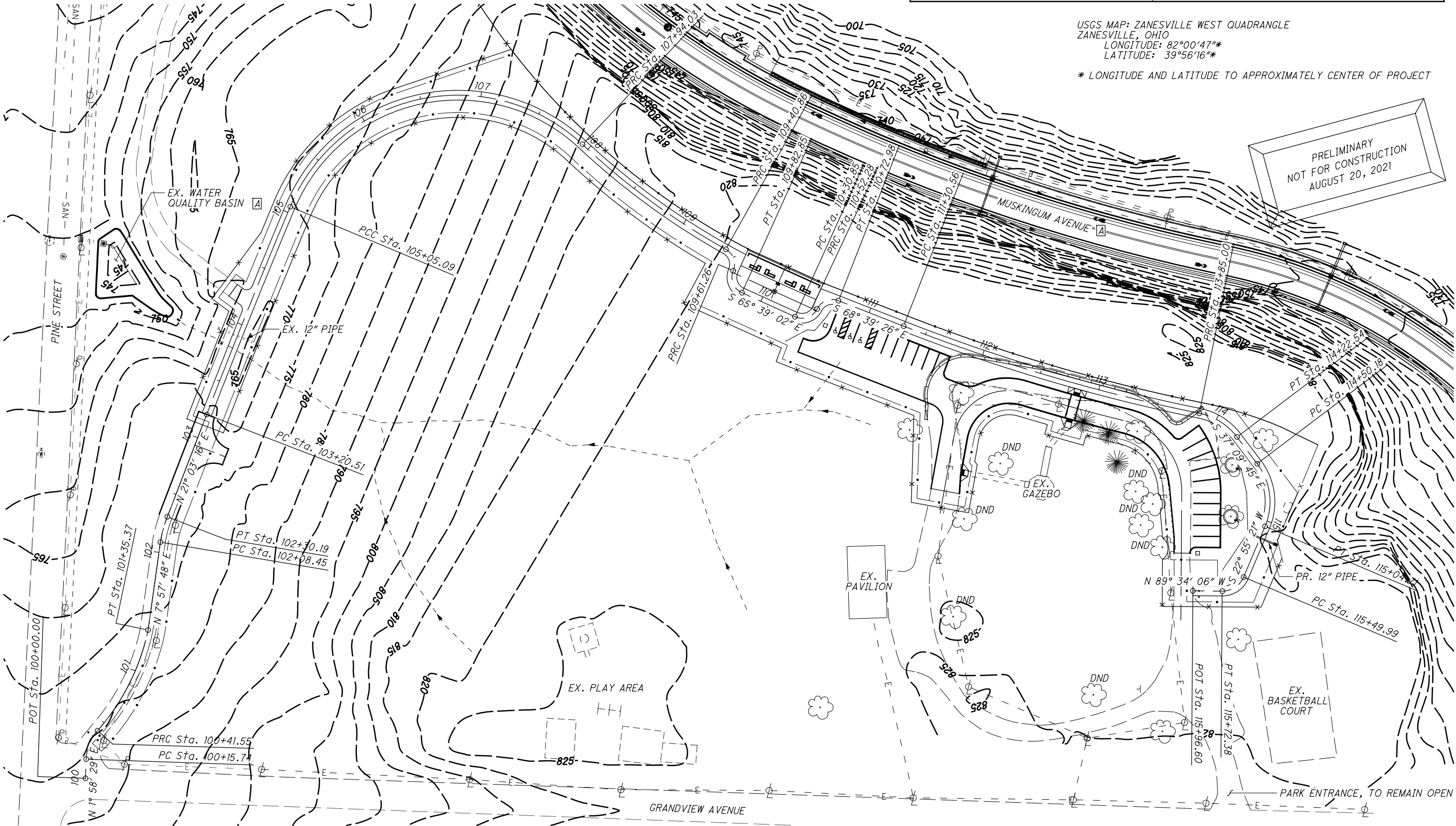
SEE MUSKINGUM AVE. (DUG RD.) IMPROVEMENT PROJECT FOR MORE DETAILS

PROJECT DATA

TOTAL PROJECT AREA	1.4 AC	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.29
PROJECT EARTH DISTURBED AREA	1.4 AC	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE	0.33
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	0.0 AC	POST CONSTRUCTION BMP:	XX
NOTICE OF INTENT EARTH DISTURBED AREA	1.4 AC		
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	0.25 AC	IMMEDIATE RECEIVING WATERS	CITY STORM SEWER
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE	0.64 AC	SUBSEQUENT RECEIVING WATER	MUSKINGUM RIVER

USGS MAP: ZANESVILLE WEST QUADRANGLE
ZANESVILLE, OHIO
LONGITUDE: 82°00'47"*
LATITUDE: 39°56'16"*

* LONGITUDE AND LATITUDE TO APPROXIMATELY CENTER OF PROJECT



Appendix B

Agency Consultation



FEMA

August 22, 2022

Environmental Assessment Scoping Document

SECTION ONE: BACKGROUND

1.1 Project Information:

Project ID: HMGP-4507-0040 (R)
Recipient: Ohio Emergency Management Agency
Subrecipient: City of Zanesville
Title: Muskingum Avenue Improvements
Address: Muskingum Avenue and Putnam Hill Park
Locality: Zanesville, Muskingum County, Ohio
GPS: 39.937327, -82.013468 (approximate project center)
PLSS: T16N R14W S1

1.2 Purpose and Need:

The purpose of the project is to restore the functional operation of Muskingum Avenue for motorists, pedestrians, and bicyclists as well as upgrading and relocating the existing sanitary sewer force main for future full replacement.

The project is needed as Muskingum Avenue has been closed between Pine Street and the Genesee and Wyoming Railroad crossing, located approximately 1,500 ft. to the east of Pine Street, since February 2019. Multiple safety hazards have contributed to this closure including a slip on the north side of the roadway due to flooding of the Muskingum River as well as multiple rock and tree falls that have occurred on the south side of the road due to the steep, weathered cut rock face. These hazards have resulted in damage to the roadway pavement and sidewalk located on the north side of the road. Muskingum Avenue in this location acts as a thoroughfare between U.S. Route 22 and U.S. Route 40. A detour to the south of the Muskingum River adds an additional 1.5 mi. along city streets connecting these two U.S. Routes and a detour to the north contributes to more congestion within downtown Zanesville.

A study performed in 2018 noted that the continued rock falls, pavement patching, landslip damage, and associated sediment have also resulted in the poor condition and ultimate failure of the storm sewer system in the area.

In addition, an existing 24 in. sanitary sewer force main runs adjacent to the Muskingum River. This force main has been determined to be undersized and in poor condition.

SECTION TWO: ALTERNATIVE ANALYSIS

NEPA requires FEMA to evaluate alternatives to the proposed project and describe the environmental impacts of each alternative. NEPA also requires an evaluation of the No Action alternative, which is the future condition without the project. This section

describes the No Action alternative, the Proposed Action, and alternatives considered but eliminated from further consideration.

2.1 Alternative 1 – No Action Alternative

Under the No Action alternative, Muskingum Avenue and the surrounding safety hazards and utility deficiencies would not be repaired. As a result, the roadway and sidewalk would continue to deteriorate from additional slips and rock falls and would not reopen. The force main would also not be replaced and the larger sanitary sewer upgrade could not be completed as proposed.

2.2 Alternative 2 – Proposed Action

This project consists of five components as outlined below:

2.2.1 South Slope Stabilization (S5)

The south slope stabilization (Alternative S5, as identified within the Muskingum Avenue Improvement Study, dated November 2020) will stabilize the slope to the south of Muskingum Avenue by creating a 10 ft. wide bottom bench and barrier wall with a catchment fence adjacent to the back of the curb/gutter. The south bluff will be cutback at a 4:3 (run:rise) slope with 10 ft. wide benches at soft soil/rock layers. These benches occur at approximately 755 to 757 ft. above mean sea level (AMSL) and 776 to 782 ft. AMSL. The cutback will result in the removal of approximately 69,083 cubic yards (CY) of soil and rock which will be placed within Putnam Hill Park as outlined in Section 2.2.5 below. Approximately 5.5 acres of tree cover will be removed in the process of the cutback, filling of the park, and minor clearing that will occur in the north side stabilization area. A 5 ft. tall concrete barrier wall will be placed along the south side of the roadway for 959 ft.

2.2.2 North Slope Stabilization (N3)

Referred to as Alternative N3 for the north slope stabilization, the north slope of Muskingum Avenue at the location of the landslide will be stabilized with a 191 ft. long precast concrete lagging retaining wall with steel soldier piles drilled into bedrock. In addition, a 1,180 ft. long 3.5 ft. tall barrier wall will be placed along the north side of the sidewalk along Muskingum Avenue.

2.2.3 Repair of Muskingum Avenue, Sidewalk, and Stormwater Drainage System

The project will replace the existing roadway surface, sidewalk, and drainage system and will reopen these facilities to motorists, pedestrians, and bicyclists. The existing asphalt roadway, concrete sidewalk, and stone wall will be removed and disposed of within a licensed landfill. The new roadway will consist of two-way traffic with two 12 ft. wide lanes with a design speed of 25 miles per hour (MPH), 2.5 ft. wide curb and gutter sections on each side, and a 6 ft. wide sidewalk on the north side of the roadway. A mix of full-depth pavement replacement and planing and resurfacing will occur beginning at the eastern edge of the Pine Street intersection with Muskingum Avenue and terminate at the western edge of the railroad crossing for a total length of 1,667 ft.

The existing stormwater drainage system will be replaced by the curb and gutter inlet system with the storm sewer discharging to the north into the Muskingum

River as originally designed by the existing system. The outlets will consist of one 12 in. pipe and three 18 in. pipes onto tied concrete block matting on the river embankment where it will drain into the river.

2.2.4 Construction of Wastewater Force Main

1,200 ft. of 30 in. high-density polyethylene (HDPE) sanitary sewer force main will be installed a minimum of 4 ft. below the westbound lane of Muskingum Avenue. As part of this project, the new line will not be connected to any existing infrastructure, nor will it be active. The inclusion of this project is to avoid disturbing the road in the future when the existing force main is replaced. The existing force main will remain and stay active. It will be abandoned at a later time.

2.2.5 Reconstruction of Putnam Hill Park

Approximately 69,083 CY of excess fill from cuts associated with the slope stabilizations will be placed within Putnam Hill Park to the south of Muskingum Avenue. The fill will be placed within a ravine toward the western side of the park, and all trees in the area will be removed to promote a level surface. This will raise the existing ground level 25 to 30 ft. in some locations and will result in the removal of two jurisdictional streams present in the area. The proposed fill will slope westward where runoff will be directed into a detention basin. 970 ft. of the existing 13 ft. wide access drive on the west side of the park that goes through the ravine will be removed prior to fill placement and replaced with a new 1,275 ft. long by 8 ft. wide multi-use path.

The south slope stabilization will impact the Y-Bridge overlook located within Putnam Hill Park; therefore, the existing overlook will be removed and a new 68 ft. long by 14 ft. wide concrete overlook with four benches will be constructed at the top of the newly cut bluff and west of the original location. The parking lot and access road adjacent to the existing overlook will be reconstructed and will contain 10 parking spaces. An additional parking area will be constructed east of the new overlook location and will contain 10 parking spaces including 3

Americans with Disabilities Act (ADA)-accessible spaces. Twenty 14 ft. tall light poles will be installed along the shared-use path, overlook, and parking lots.

Exhibit 1: Project Location Map

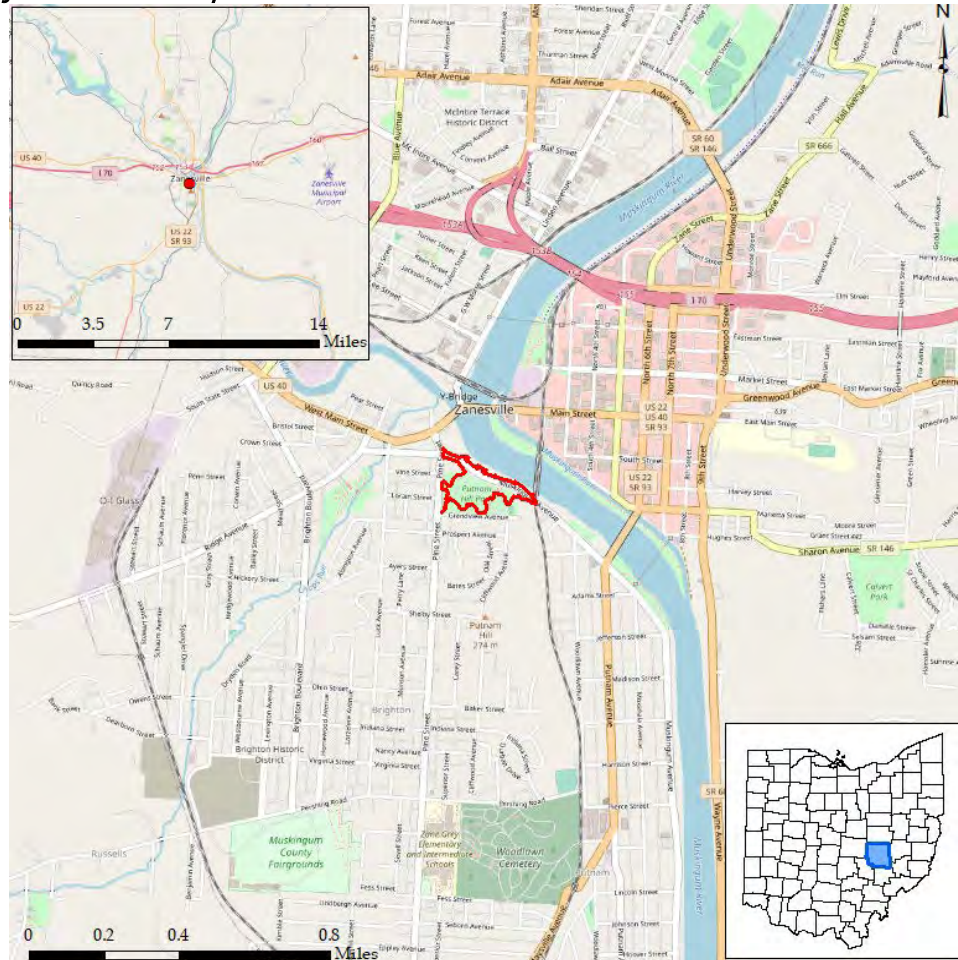
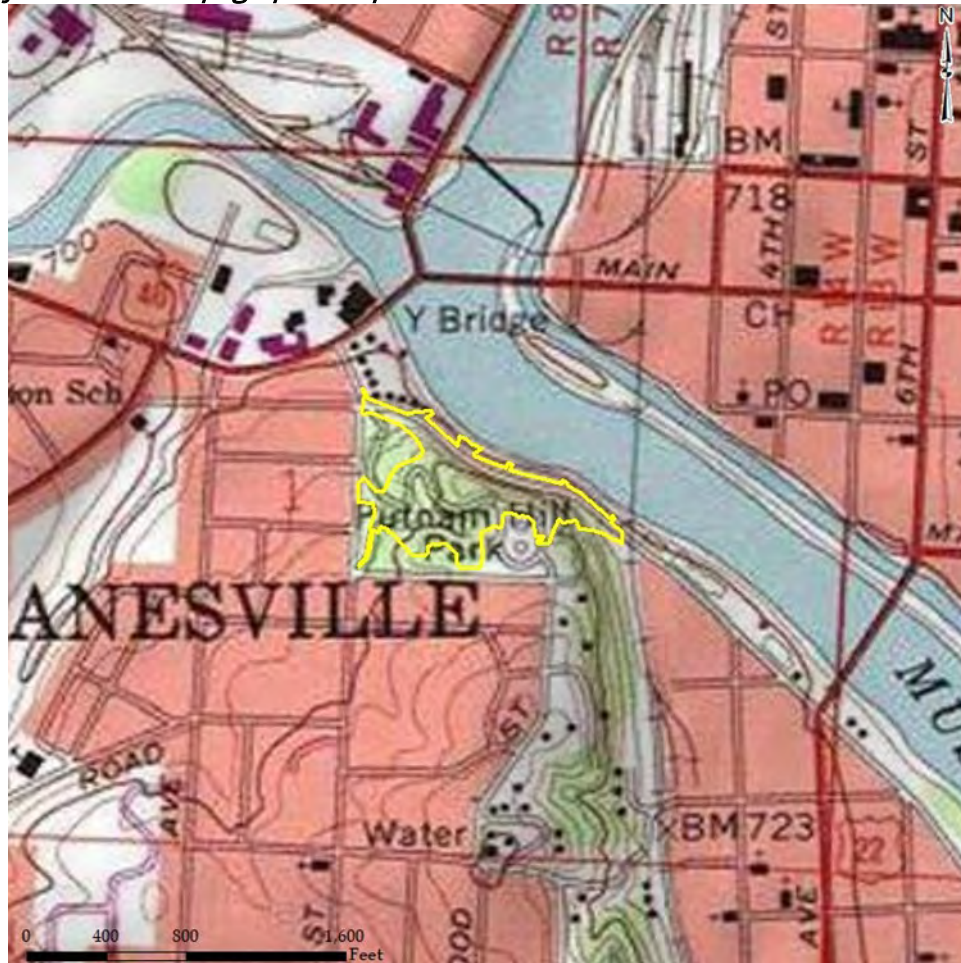


Exhibit 2: Project Location Topographic Map



2.3 Alternatives Considered and Eliminated from Further Analysis

The following alternative design options were studied during the planning process. The conceptual alternatives described below were considered but dismissed from further analysis because of cost and community impact.

In their Muskingum Avenue Improvement Study (November 2020), the City of Zanesville considered five additional alternatives for the south slope stabilization, labeled S1 through S4 (S5 is the preferred alternative covered in **Section 2.2.1**), and two additional alternatives for the north slope stabilization, labeled N1 and N2 (N3 is the preferred alternative covered in **Section 2.2.2**), as outlined below:

2.3.1 South Slope Cutback with Catchment Ditch (S1A)

This alternative would create a 10 ft. wide depressed catchment ditch, extending out 25 ft. from the roadway adjacent to the back of the curb/gutter. The south bluff would be cutback at a 1:2 (run:rise) slope then a 3:2 slope to a 10 ft. wide bench at a soft soil/rock layer. A 1:1 slope would then extend up for the remainder of the cut with another 5 ft. wide bench at a soft soil/rock layer. This alternative was removed from additional consideration due to greater park impacts, excavation quantities, and construction costs.

2.3.2 South Slope Cutback with Catchment Ditch (S1B)

This alternative would create a 10 ft. wide depressed catchment ditch, extending out 25 ft. from the roadway adjacent to the back of the curb/gutter. The south bluff would be cutback at a 3:2 (run:rise) slope to a 10 ft. wide bench at a soft soil/rock layer then at a 1:1 slope for the remainder of the cut with another 5 ft. bench at a soft soil/rock layer. This alternative was removed from additional consideration as it had greater park impacts, excavation quantities, and construction costs than the Proposed Action.

2.3.3 South Slope Soldier Pile and Lagging Fill Wall (S2)

This alternative utilizes a soldier pile and permanent lagging wall to prevent further weathering of the softer rock layers such as limestone and coal. The wall would include a cutback that starts approximately 2 ft. in from the base of the wall and would extend out 8 ft. horizontally from the top of the wall. This cutback would allow for the placement of panel drains against the rock face to collect ground water and allow it to be discharged away from the wall. The top of the wall would have a 6 ft. tall fence with a 25 kJ impact rating. This would be to keep any rock falls on top of the wall and not continue onto the roadway. Between the fence and the rock face, a minimum 8 ft. wide concrete slab would be constructed in order to redirect water and take energy away from any rock falls that may occur. The slab would also be designed for maintenance so that crews could access the top of the wall with equipment to remove any rock debris. While this alternative has similar impacts and service life as the Proposed Action, it is more than \$1 million in greater construction costs.

2.3.4 South Slope Soldier Pile and Lagging Cut Wall (S3)

This alternative would install a D-50 barrier wall to prevent debris from falling onto Muskingum Avenue, a 15 ft. wide depressed catchment ditch to catch falling rocks and debris, draped mesh to remove energy from rockfalls, and a soldier pile with lagging retaining wall placed into the base of the bluff to support the lower sections of the bluff. While this alternative would have minimal excavation and park impacts, it was ultimately removed from consideration as it had more than \$1 million in greater construction costs and a shorter service life as compared to the Proposed Action.

2.3.5 South Slope Cutback with Barrier Wall (S4)

This alternative would create an 8 ft. wide depressed catchment ditch, extending out 18 ft. from a barrier wall adjacent to the back of the curb/gutter. The south bluff would be cutback at a 4:3 (run:rise) slope with two 10 ft. wide benches at soft soil/rock layers. This alternative was removed from additional consideration as it had greater park impacts, excavation quantities, and construction costs than the Proposed Action.

2.3.6 North Slope Retaining Wall and Bank Stabilization (N1)

This alternative would construct a retaining wall along the north side of Muskingum Avenue at the location of the existing slip. The soils below the wall would be benched and the toe of the slip would be excavated to bedrock. Rock slope protection would then be placed over the benched soils up to the bottom of the wall. This alternative was removed from additional consideration as it had greater disturbed earth, floodplain impacts, Muskingum River impacts, and construction costs than the Proposed Action.

2.3.7 North Slope Reconstructed Embankment (N2)

This alternative would remove approximately a 225 ft. long strip of soil, vegetation, and debris at the existing slip down to bedrock. The embankment would be replaced with durable rock at a 1.7:1 (H:V) or flatter slope. The toe would need excavated to an elevation of approximately 671 ft. which is lower than the OHWM of the Muskingum River. This alternative was removed from additional consideration as it had greater disturbed earth, floodplain impacts, Muskingum River impacts, and construction costs than the Proposed Action.

Table 1
South Slope Alternative Comparison

Alternative	Estimated Cost	Park Impacts (acre)	Service Life
2.3.1(S1A)	\$ 5,165,070	1.3	Indefinite
2.3.2(S1B)	\$ 6,119,200	1.5	Indefinite
2.3.3(S2)	\$ 4,872,300	0	75 Years
2.3.4(S3)	\$ 3,757,900	0	75 Years
2.3.5 (S4)	\$ 3,763,900	0.8	Indefinite
Proposed Action (S5)	\$ 2,680,760	0.6	Indefinite

Table 2
North Slope Alternative Comparison

Alternative	Estimated Cost	Muskingum River Impacts	Floodplain Impacts	Earth/Vegetation Disturbance
2.3.6 (N1)	\$ 2,269,500	No	Yes	Yes
2.3.7 (N2)	\$ 3,511,000	Yes	Yes	Yes
Proposed Action (N3)	\$ 897,900	No	No	Minimal

SECTION THREE: AFFECTED ENVIRONMENT

The project area extends approximately 1,500 ft. along Muskingum Avenue from Pine Street on the west end to the Genesee and Wyoming Railroad crossing on the east end. It extends north toward the Muskingum River and south into Putnam Hill Park. It is approximately 9.6-acres in total size.

3.1 Preliminary Screening of Assessment Categories:

To better understand the affected environment, FEMA contracted for two field Phase I surveys on environmental resources to be conducted.

The proposed action will impact existing jurisdictional streams in Putnam Hill Park, according to the Preliminary Jurisdictional Determination and Waters Investigation Report. Significant coordination with USACE will be required to ensure the project complies with any permitting requirements.

The cultural resources survey indicates that additional review and investigation will be required to understand the impacts to historic and archaeological resources within

Putnam Hill Park. Per the Phase I Cultural Resources Survey, three sites potentially eligible for listing on the National Register of Historic Places exist in the project area: Putnam Hill Park, Putnam Hill Spring, and an archaeology site. Formal Section 106 consultation will occur as a part of this review.

During the scoping phase, FEMA will review the possibility of avoiding or minimizing the impacts to water and cultural resources.

The alternatives listed above are likely to result in impacts governed by the federal laws and executive orders listed below. Items listed below will require closer coordination with the appropriate agencies to identify and mitigate potentially significant impacts.

- Clean Water Act (CWA)
- Endangered Species Act (ESA)
- Executive Order 13175 – Consultation and
- Coordination with Indian Tribal Governments
- National Historic Preservation Act (NHPA)

3.2 Reasonably Foreseeable Future Actions

Section 2.2.4 details the construction of the wastewater force main as part of this project that extends from Pine Street to the railroad. The City of Zanesville is in the planning process of a separate project that will connect a new 30 in. sanitary force main to the existing pump station located along the river northeast of the intersection of Muskingum Avenue and Pine Street and to continue the force main replacement east of the railroad.

SECTION FOUR: REFERENCES

U.S. Census Bureau. 2021. Quickfacts – Zanesville city, Ohio.
<https://www.census.gov/quickfacts/zanesvillecityohio>

PHASE I CULTURAL RESOURCES SURVEY - Muskingum Avenue Improvements Project - Zanesville, Muskingum County, Ohio. 2022. Prepared by Lawhon & Associates, Inc.

Waters Investigation Report – Muskingum Avenue Improvements – Zanesville, Ohio. 2022. Prepared by Burgess & Niple, Inc.

Preliminary Jurisdictional Determination. 2022. U.S. Army Corps of Engineers.

SECTION FIVE: DISTRIBUTION LIST

The Agencies listed below have been provided a copy of this document. Other Agencies and interested parties (SHPO, Tribal Nations, etc.) will be contacted through the usual FEMA Region 5 coordination and consultation practice.

- U.S. Environmental Protection Agency Region 5 (EPA Region 5)
- U.S. Army Corps of Engineers (USACE)
- U.S. Fish and Wildlife Service (USFWS)
- Ohio Department of Natural Resources (ODNR)
- Ohio Environmental Protection Agency (OEPA)
- Ohio State Historic Preservation Office (OHPO)

- Delaware Nation

SECTION SIX: FEMA CONTACT INFORMATION

Anyone interested in providing comment on this document may respond as noted below before September 21, 2022. Be sure to provide your name and contact information along with your comments.

Respond by Mail:

Federal Emergency Management Agency, Region 5
c/o Duane Castaldi, Regional Environmental Officer
536 South Clark Street, 6th Floor
Chicago, IL 60605-1521

Respond by Email:

Send comments to fema-r5-environmental@fema.dhs.gov.



U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605-1521

FEMA

February 2, 2023

Angela Boyer
Fish and Wildlife Biologist
Ohio Ecological Services Field Office
U.S Fish and Wildlife Service
4625 Morse Road, Suite 104
Columbus, OH 43230

Re: City of Zanesville Muskingum Ave. (Dug Rd.) Improvements
City of Zanesville, Muskingum County, Ohio
HMGP-4507-0040 (R) (1) / Project Code 2022-0044042
39.937, -82.013

Dear Ms. Boyer:

Pursuant to Section 7 of the Endangered Species Act, I am writing this letter to reopen the informal consultation between the Federal Emergency Management Agency (FEMA) and your office regarding the captioned project under FEMA's Hazard Mitigation Grant Program. We are reopening consultation because the uplisting of the northern long-eared bat to endangered status will occur during the project cycle, and because the tricolored bat now exists in the species list as a proposed endangered species. Additionally, the timeline for tree removal in this project has been defined and all trees will be removed in October or later. Please find attached the prior correspondence and recommendation from FWS dated August 24, 2022. As we previously mentioned, FEMA has determined that this project will require an Environmental Assessment. In addition to the Section 7 documentation, we have attached the agency Scoping Document.

FEMA has carefully reviewed your agency's Information for Planning and Consultation (IPaC) online tool for a list of species and critical habitat that may be present within the action area. FEMA concludes this project is not likely to adversely affect the northern long-eared bat, the Indiana bat, or the tricolored bat. FEMA is determining a "no effect" for the fanshell, rabbitsfoot, sheepnose mussel, and snuffbox mussel. The monarch butterfly was not reviewed as it is a candidate species. FEMA's determinations have not changed for any species; however, the tricolored bat is now included in the review with a May Affect, but Not Likely to Adversely Affect determination. The official species list is attached, along with documentation supporting FEMA's conclusions. FEMA requests concurrence with this determination and any additional input from your office. Please send your response or any questions to Jack Grafton of my staff at fema-r5-environmental@fema.dhs.gov or 312-408-5549.

Sincerely,

Duane Castaldi
Regional Environmental Officer
FEMA Region V



U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605-1521

FEMA

February 2, 2023

***City of Zanesville Muskingum Ave. (Dug Rd.) Improvements
City of Zanesville, Muskingum County, Ohio
HMGP 4507
39.937, -82.013***

Project Description:

All details for the proposed scope of work can be referenced in the attached Scoping Document.

May Affect, Not Likely to Adversely Affect (MANLAA) Determinations:

<i>Species</i>	<i>Status and Support for Determination of May Affect</i>
<i>Indiana Bat (E)</i>	<p><i>Species Characteristics:</i></p> <p>According to the Range Wide Indiana Bat Survey Guidelines effective March 2020, Indiana bats are active during summer months between April to September for breeding, roosting, and foraging. They are known to roost in wooded areas under loose tree bark and within crevices or cracks of dead or dying trees. Suitable summer habitat for these species may be defined as patches of forest of half an acre in size or greater with potential roost trees that are 5-inches in diameter at breast height (dbh) and containing cavities, loose bark, hollows, or split limbs; or single and small patches of trees of those same characteristics and within 1,000 feet of forested areas. Outside of summer months, these species hibernate in caves and mines called hibernacula, and require cool, humid caves with stable temperatures, under 50 degrees but above freezing.</p> <p><i>Support for MANLAA Determination:</i></p> <p>Trees will be removed in the process of cutting back the slope and when the cut material is placed in the existing ravine. Minor tree clearance will also occur in the north side stabilization area. Approximately 5.5 acres of tree cover in the project area will be removed. Aerial imagery indicates a larger 30-acre area of tree cover immediately nearby. Additionally, trees in the western section of the park and along the bank of the Muskingum River will not be affected. All trees in this project are planned to be removed in October or later, and no trees will be taken down between March 31st and October 1st. Taking these factors into consideration, FEMA determines that this project may affect but is not likely to adversely affect the Indiana bat.</p>

***Northern Long-Eared Bat
(T)***

Species Characteristics:

The northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for this species include live and standing dead trees 3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses. In the winter, northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Support for MANLAA Determination:

Trees will be removed in the process of cutting back the slope and when the cut material is placed in the existing ravine. Minor tree clearance will also occur in the north side stabilization area. Approximately 5.5 acres of tree cover in the project area will be removed. According to the IPaC Determination Key evaluation, the project is not located within 0.25 miles of a known northern long-eared bat hibernaculum and is also not located within 150 feet of a known occupied northern long-eared bat maternity roost tree. All trees in this project are planned to be removed in October or later of this year, and no trees will be taken down between March 31st and October 1st. Taking these factors into consideration, FEMA determines that this project may affect but is not likely to adversely affect the northern long-eared bat.

Tricolored Bat (PE)

Species Characteristics:

The tricolored bat has a wide range across the eastern and central United States and portions of southern Canada, Mexico and Central America. During the winter, tricolored bats are often found in caves and abandoned mines, although in the southern United States, where caves are sparse, tricolored bats are often found roosting in road-associated culverts where they exhibit shorter torpor bouts and forage during warm nights. They have also been observed within artificial roosts like barns, beneath porch roofs, bridges, and concrete bunkers. During the spring, summer, and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be found in Spanish moss, pine trees, and occasionally human structures.

Support for MANLAA Determination:

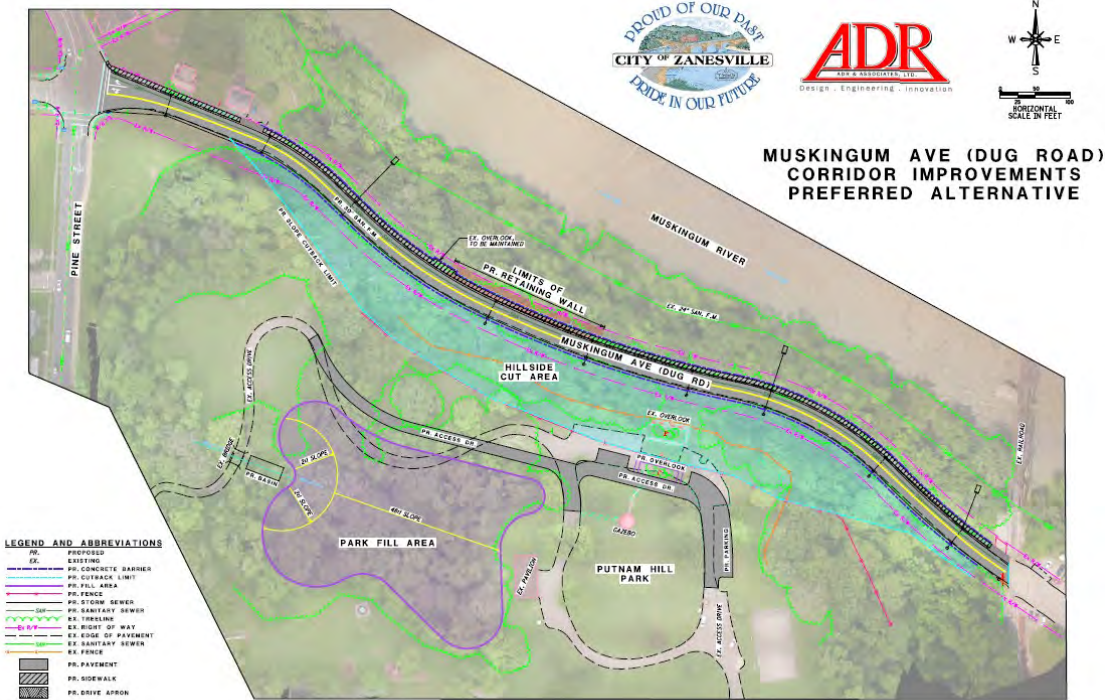
The tricolored bat is listed as Proposed Endangered in IPaC. Due to its potential to be uplisted to Endangered during the project cycle, FEMA is including it in this review and treating it similarly to the other bat species. Trees will be removed in the process of cutting back the slope and when the cut material is placed in the existing ravine. Minor tree clearance will also occur in the north side stabilization area. Approximately 5.5 acres of tree cover in the project area will be removed. Aerial imagery indicates a larger 30-acre area of tree cover immediately nearby. Additionally, trees in the western section of the park and along the bank of the Muskingum River will not be affected. All trees in this project are planned to be removed in October or later, and no trees will be taken down between March 31st and October 1st. Taking these factors into consideration, FEMA determines that this project may affect but is not likely to adversely affect the tricolored bat.

No Effect Determinations:

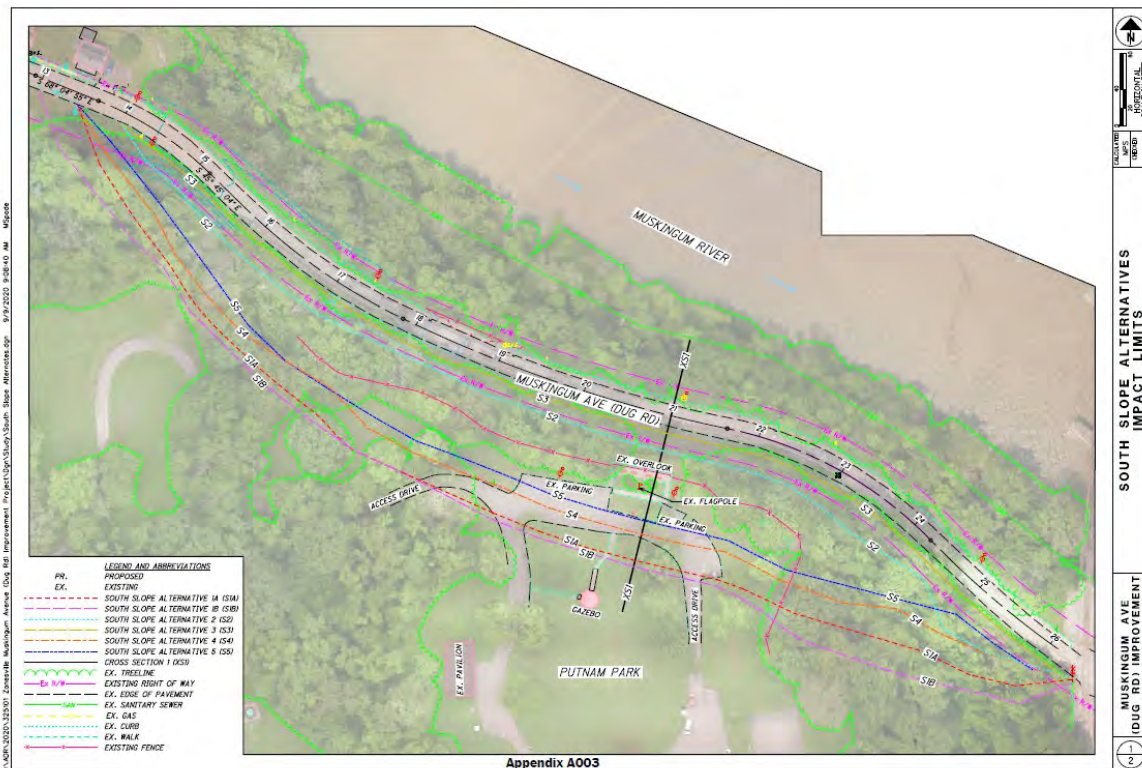
<i>Species</i>	<i>Support for Determination of No Effect</i>
<i>Fanshell (E)</i>	<i>Support for No Effect Determination</i> No work will be occurring below the ordinary high-water mark of the Muskingum River in this project; therefore, actions detailed in this project will have no effect to the fanshell.
<i>Rabbitsfoot (T)</i>	<i>Support for No Effect Determination</i> No work will be occurring below the ordinary high-water mark of the Muskingum River in this project; therefore, actions detailed in this project will have no effect to the rabbitsfoot.
<i>Sheepnose Mussel (E)</i>	<i>Support for No Effect Determination</i> No work will be occurring below the ordinary high-water mark of the Muskingum River in this project; therefore, actions detailed in this project will have no effect to the sheepnose mussel.
<i>Snuffbox Mussel (E)</i>	<i>Support for No Effect Determination</i> No work will be occurring below the ordinary high-water mark of the Muskingum River in this project; therefore, actions detailed in this project will have no effect to the snuffbox mussel.

Maps and Photos

Proposed Project Improvements



Appendix A002

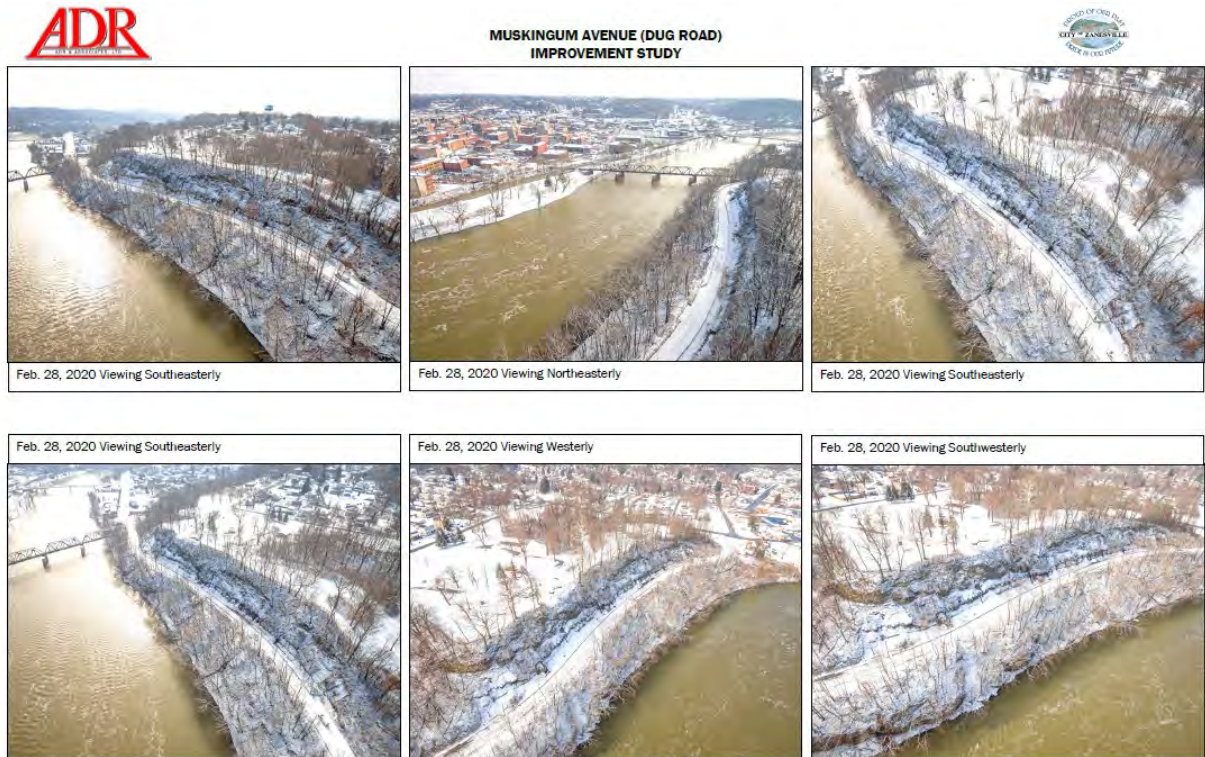


Appendix A003

Location Map:



Photos:



Grafton, Jack

From: Boyer, Angela <angela_boyer@fws.gov>
Sent: Wednesday, August 24, 2022 1:24 PM
To: Castaldi, Duane
Cc: Grafton, Jack
Subject: Re: [EXTERNAL] RE: Section 7 Informal Consultation - Putnam Hill Park, Zanesville, Muskingum County

Follow Up Flag: Follow up
Flag Status: Flagged

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Thank you for the clarification. Because the project would require 5.5 acres of tree removal, the USFWS recommends a summer presence/absence survey be performed if the trees cannot be removed before March 31. Also, if all the trees cannot be removed before March 31, then we recommend that none of the trees be removed before the survey is performed so that the character of the site is not altered prior to the survey. The survey season is June 1 - August 15.

Sincerely,
Angie

From: Castaldi, Duane <Duane.Castaldi@fema.dhs.gov>
Sent: Wednesday, August 24, 2022 2:00 PM
To: Boyer, Angela <angela_boyer@fws.gov>
Cc: Grafton, Jack <jack.grafton@fema.dhs.gov>
Subject: RE: [EXTERNAL] RE: Section 7 Informal Consultation - Putnam Hill Park, Zanesville, Muskingum County

Hi Angie.

Sorry for the confusion. The applicant had submitted a plan for all tree removal to occur between the date that FEMA signs the FONSI (projected to be December 2022) and March 31, 2023. However, in the Environmental review significant cultural resource concerns have arisen and the applicant has expressed concern if the cultural resource surveying and subsequent consultation delayed the FONSI signature from December to March that there might not be enough time to remove all the trees before March 31. In Ohio, I understand that bat survey season has just ended a week or so ago. Therefore, FEMA is submitting this informal consultation to your office to determine if the project due to location and other cases specific criteria could still meet the definition of May Affect but not likely to adversely affect if tree clearing timing conditions cannot be met.

Potentially, there could be another solution to survey just prior to tree cut as you mentioned on a separate project a year or so ago. However that was a very different project.

Any guidance from you would be most appreciative. FEMA would like to make sure that we manage the local community expectations and make sure they know the potential options for review.

Jack and I are available to discuss by phone if easier.

Thanks

Duane Castaldi
Regional Environmental Officer | FEMA Region V | Department of Homeland Security
Office: 312.408.5549 | Mobile: 312.576.0067
duane.castaldi@fema.dhs.gov

Federal Emergency Management Agency
[fema.gov](https://www.fema.gov)

Duane Castaldi
Regional Environmental Officer | FEMA Region V | Department of Homeland Security
Office: 312.408.5549 | Mobile: 312.576.0067
duane.castaldi@fema.dhs.gov

Federal Emergency Management Agency
[fema.gov](https://www.fema.gov)

From: Boyer, Angela <angela_boyer@fws.gov>
Sent: Wednesday, August 24, 2022 10:48 AM
To: FEMA-R5-Environmental <fema-r5-environmental@fema.dhs.gov>
Subject: Fw: [EXTERNAL] RE: Section 7 Informal Consultation - Putnam Hill Park, Zanesville, Muskingum County

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Hello,

I am emailing for clarification on the timing of tree removal for this project. Will all clearing of trees 5 inches dbh and larger be restricted to the seasonal period of Oct. 1 - March 31? The wording in your letter is a bit unclear.

Thank you,
Angie

From: Finfera, Jennifer <jennifer_finfera@fws.gov>
Sent: Tuesday, August 23, 2022 4:25 PM
To: Boyer, Angela <angela_boyer@fws.gov>
Subject: Fw: [EXTERNAL] RE: Section 7 Informal Consultation - Putnam Hill Park, Zanesville, Muskingum County

From: Ohio, FW3 <ohio@fws.gov>
Sent: Tuesday, August 23, 2022 1:51 PM

To: Finfera, Jennifer <jennifer_finfera@fws.gov>

Subject: Fw: [EXTERNAL] RE: Section 7 Informal Consultation - Putnam Hill Park, Zanesville, Muskingum County

More

From: FEMA-R5-Environmental <fema-r5-environmental@fema.dhs.gov>

Sent: Monday, August 22, 2022 9:40 PM

To: Ohio, FW3 <ohio@fws.gov>

Subject: [EXTERNAL] RE: Section 7 Informal Consultation - Putnam Hill Park, Zanesville, Muskingum County

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Please see attached.

Region V Environmental and Historic Preservation

Office: 312.408.5549 | fema-r5-environmental@fema.dhs.gov

FEMA Region V, Regional Environmental Officer

536 South Clark Street, 6th Floor

Chicago, IL 60605

Federal Emergency Management Agency

[fema.gov](https://www.fema.gov)



FEMA

From: FEMA-R5-Environmental

Sent: Monday, August 22, 2022 8:37 PM

To: Ohio, FW3 <ohio@fws.gov>

Subject: Section 7 Informal Consultation - Putnam Hill Park, Zanesville, Muskingum County

Good Afternoon.

Please see attached.

Thank you.

Region V Environmental and Historic Preservation

Office: 312.408.5549 | fema-r5-environmental@fema.dhs.gov

FEMA Region V, Regional Environmental Officer

536 South Clark Street, 6th Floor

Chicago, IL 60605

Federal Emergency Management Agency

[fema.gov](https://www.fema.gov)



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ohio Ecological Services Field Office

4625 Morse Road, Suite 104

Columbus, OH 43230-8355

Phone: (614) 416-8993 Fax: (614) 416-8994



In Reply Refer To:

Project Code: 2022-0044042

Project Name: Muskingum Ave Improvements

January 25, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ohio Ecological Services Field Office

4625 Morse Road, Suite 104

Columbus, OH 43230-8355

(614) 416-8993

Project Summary

Project Code: 2022-0044042

Project Name: Muskingum Ave Improvements

Project Type: Clearing Land

Project Description: Improvements of a road, cut back of a cliff and filling of a park. See Scoping Document for full details.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.93748875,-82.01360334401275,14z>



Counties: Muskingum County, Ohio

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Clams

NAME	STATUS
Fanshell <i>Cyprogenia stegaria</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4822	Endangered
Rabbitsfoot <i>Quadrula cylindrica cylindrica</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5165	Threatened
Sheepnose Mussel <i>Plethobasus cyphus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6903	Endangered
Snuffbox Mussel <i>Epioblasma triquetra</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4135	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Federal Emergency Management Agency

Name: Jack Grafton

Address: 536 South Clark Street, 6th floor

City: Chicago

State: IL

Zip: 60605

Email: jack.grafton@fema.dhs.gov

Phone: 2563435917

United States Department of the Interior



FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994



February 3, 2023

Project Code: 2022-0044042

Dear Mr. Castaldi:

The U.S. Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse effects to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

The Service has reviewed your project description and concurs with your determination that the project, as proposed, is not likely to adversely affect the federally endangered Indiana bat (*Myotis sodalis*) or threatened northern long-eared bat (*Myotis septentrionalis*), and is not likely to jeopardize the proposed endangered tri-colored bat (*Perimyotis subflavus*). This is based on the commitment to cut all trees ≥ 3 inches diameter at breast height only between October 1 and March 31 in order to avoid adverse effects to the Indiana bat, northern long-eared bat, and tri-colored bat.

This concludes consultation on this action as required by section 7(a)(2) of the ESA. Should, during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be reinitiated to assess whether the determinations are still valid.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

Patrice Ashfield
Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Eileen Wyza, ODNR-DOW



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
HUNTINGTON DISTRICT, CORPS OF ENGINEERS
502 EIGHTH STREET
HUNTINGTON, WEST VIRGINIA 25701-2070

August 30, 2022

Regulatory Division
North Branch
LRH-2021-598-MUS-Unnamed tributary (UNT) Chaps Run

Mr. Duane Castaldi
Federal Emergency Management Agency, Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605

Dear Mr. Castaldi:

I refer to the agency scoping letter dated August 22, 2022, submitted on behalf of the Ohio Emergency Management Agency (OEMA) and the Federal Emergency Management Agency (FEMA). You have requested the United States Army Corps of Engineers (Corps) submit comments for consideration in the FEMA's preparation of an Environmental Assessment for the proposed OEMA Muskingum Avenue Improvements Project pursuant to the Hazard Mitigation Grant Program and the National Environmental Policy Act (NEPA).

The Corps' authority to regulate waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR 328 and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires a Department of the Army (DA) permit be obtained prior to the discharge of dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 requires a DA permit be obtained for any work in, on, over or under navigable water.

As you are aware, this office completed a jurisdictional determination (JD) dated August 18, 2022 for the Muskingum Avenue Improvements Project. Based upon a review of the information provided, this office determined the site contains two (2) streams which may be waters of the United States in accordance with the Regulatory Guidance Letter for JDs issued by the Corps on October 31, 2016 (Regulatory Guidance Letter No. 16-01).

Based on a preliminary review of the provided information, the proposed project will require authorization under Section 404. Therefore, a DA permit will be required. In this regard, to ensure the information presented in any NEPA document is adequate to fulfill the Corps statutory requirements, including the requirements of Section 404(b)(1) of the Clean Water Act and the Corps' public interest review, the Corps requests the topics listed in Enclosure 1 be included in the scoping and evaluation of any submitted NEPA document.

We look forward to working with the FEMA and the OEMA during the preparation of the EA for the proposed project. If you have any questions concerning the above, please contact Kayla Osborne of the North Branch at 304-399-5850, by mail at the above address, or by email at kayla.n.osborne@usace.army.mil.

Sincerely,

Teresa D. Spagna
Chief, North Branch

Enclosure 1 - Corps Request for Items to be Scoped and Evaluated in the National Environmental Policy Act (NEPA) document

- 1) **Purpose and Need for the Project.** The NEPA document should clearly describe the purpose and need for the proposed project.
- 2) **Aquatic Resource Identification.** The NEPA document must include a site-specific identification of all aquatic resources within the proposed project areas, including any aquatic resources within proposed borrow, spoil, or mitigation areas. The identification should include a description of any streams, open water areas, and wetlands. The identification of aquatic resources within the on-site and off-site project areas must be based on field observations and field data. The identification must include a wetland delineation for each site prepared in accordance with the Corps' 1987 Wetland Delineation Manual (87 Manual) and any applicable Regional Supplement. This information would be required to determine the effects of the project on aquatic resources.
- 3) **Avoidance and Minimization.** A fundamental precept of the Corps' Regulatory Program under Section 404 of the Clean Water Act is that the discharge of dredged and/or fill material into waters of the United States will be avoided and minimized, where it is practicable to do so. Under Section 404 of the Clean Water Act, only the least environmentally damaging practicable alternative would receive Corps authorization. An alternative is practicable if it is available and capable of being done after taking into consideration cost, logistics and existing technology in light of overall project purposes. The NEPA document should evaluate how the project was designed to avoid and minimize the discharge of dredged and/or fill material into waters of the United States. The alternatives analysis section of the NEPA document should analyze on-site avoidance and minimization alternatives and avoidance and minimization alternatives for any off-site borrow, spoil, or mitigation areas.
- 4) **Compliance with the Section 404(b)(1) Guidelines.** The Section 404(b)(1) Guidelines (Guidelines) are the substantive criteria used in evaluating discharges of dredged and/or fill material under Section 404 of the Clean Water Act. The Guidelines are published at 40 CFR Part 230. The fundamental precept of the Guidelines is that discharges of dredged and/or fill material into waters of the United States, including wetlands, should not occur unless it can be demonstrated that such discharges, either individually or cumulatively, will not result in unacceptable adverse effects on the aquatic ecosystem. Subpart B of the Guidelines establishes the four (4) conditions which must be satisfied in order to make a finding that a proposed discharge of dredged and/or fill material complies with the Guidelines. These conditions generally state:
 - a. No discharge of dredged and/or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.
 - b. No discharge of dredged or fill material shall be permitted if it:
 - i. Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard;
 - Violates any applicable toxic effluent standard or prohibition under section 307 of the Act;

- ii. Jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, or results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, as amended; or
 - iii. Violates any requirement imposed by the Secretary of Commerce to protect any marine sanctuary designated under title III of the Marine Protection, Research, and Sanctuaries Act of 1972.
- c. No discharge of dredged and/or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States. Under these Guidelines, effects contributing to significant degradation considered individually or collectively, include:
 - i. Significant adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites;
 - ii. Significant adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical and chemical processes;
 - iii. Significant adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy; or
 - iv. Significant adverse effects of discharge of pollutants on recreational, aesthetic and economic values.

Findings of significant degradation related to the proposed discharge are based upon appropriate factual determinations, evaluations, and tests required by Subparts B and G of the Guidelines, after consideration of subparts C through F, with special emphasis on the persistence and permanence of the effects outlined in those subparts.

- d. No discharge of dredged and/or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem.

NEPA document should provide a sufficient analysis to determine compliance with the Guidelines.

- 5) **Corps Public Interest Review Factors.** The Corps must evaluate the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Among the factors that must be evaluated as part of the Corps' public interest review include: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplains values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, energy needs, safety, food and fiber production, mineral needs, water quality, considerations of property ownership, air and noise impacts, and, in general, the needs and welfare of the people (See 33 CFR 320.4). These factors should be scoped and evaluated in the NEPA document.

- 6) **Effects to Aquatic Resources.** The NEPA document should quantify the anticipated impacts to waters of the United States, both temporary and permanent, resulting from activities within the Corps jurisdiction. For rivers and streams, the quantity should be described in linear feet and in acreage. For wetlands, the quantity should be described by acreage. The NEPA document should also describe the wetland classification (e.g. palustrine, forested, scrub-shrub, or emergent). The NEPA document should differentiate between permanent and temporary impacts and must describe any permanent conversion in the wetland classification (e.g. palustrine forested to palustrine emergent, etc.).
- 7) **Cumulative and Indirect Effects.** The cumulative and indirect impacts on aquatic resources resulting from the project should be scoped and evaluated in the NEPA document.
- 8) **Off-Site Areas.** The NEPA document should include an analysis of the environmental effects to any off-site borrow, spoil, or mitigation areas.
- 9) **Compliance with Other Federal Laws and Executive Orders.** The NEPA document should document compliance with:
 - a. **Section 7 of the Endangered Species Act (ESA).** The NEPA document must describe compliance with Section 7 of the ESA.
 - b. **Section 106 of the National Historic Preservation Act (NHPA).** The NEPA document must describe compliance with Section 106 of the NHPA and must describe the research efforts undertaken to identify historic properties within the project areas, including any off-site borrow, spoil, or mitigation area. The NEPA document should use site-specific collected data in the identification of historic properties within the project area.
 - c. **Section 401 of the Clean Water Act.** The NEPA document must describe compliance with Section 401 of the Clean Water Act.
 - d. **Section 402 of the Clean Water Act.** The NEPA document must describe compliance with Section 402 of the Clean Water Act
 - e. **Migratory Bird Treaty Act.** The NEPA document must describe compliance with the Migratory Bird Treaty Act.
 - f. **Executive Orders (EO).** The NEPA document must described compliance with
 - i. EO 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians;
 - ii. EO 11988, Floodplain Management;
 - iii. EO 12898 and 14008, Environmental Justice;
 - iv. EO 13112, Invasive Species as amended by EO 13571; and
 - v. EOs 13212 and 13302, Energy Supply and Availability.



Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

September 15, 2022

Transmitted Electronically

Mr. Duane Castaldi
Ohio Emergency Management Agency
Columbus, OH 43235

**Re: Putnam Park Reconstruction
Permit - Intermediate
Correspondence
401 Wetlands
Muskingum County
DSW401228175**

**Subject: Pre-Application Meeting Follow-Up Letter
Putnam Park Reconstruction
Ohio EPA ID No. 228175**

Dear Mr. Castaldi:

Thank you for submitting the FEMA Scoping Document for the Putnam Hill Park Reconstruction project. The project is located at 0 Grandview Avenue, Zanesville, OH 43701. The project involves restoring the functional operation of Muskingum Avenue for motorists, pedestrians, and bicyclists as well as upgrading and relocating the existing sanitary sewer force main for future full replacement, as outlined in the FEMA Scoping Document.

Anyone who wishes to discharge dredged or fill material into the waters of the state, including wetlands, lakes, and streams, must obtain a Section 404 permit from the U.S. Army Corps of Engineers (Corps) and a Section 401 Water Quality Certification (WQC) from the state. The scoping document states that the proposed action will impact jurisdictional streams. The required permitting path would be dependent upon the length of stream and quality of stream proposed for impact. The scoping document references a Preliminary Jurisdictional Determination and Waters Investigation Report. Review of this report would be helpful to determine the required permitting; this report was not provided to the Agency.

If your proposed project will require an individual Section 401 Water Quality Certification, the components on an individual 401 WQC application are listed below:

1. A complete [401 Water Quality Certification application form](#)
2. Current and unexpired correspondence from the United States Army Corps of Engineers' documenting the jurisdictional status of waters located within the project area (jurisdictional determination).
3. If the project impacts a wetland, a wetland characterization analysis consistent with the [Ohio Rapid Assessment Method](#) (Completed ten-page form including background information, scoring boundary worksheet, narrative rating, quantitative rating, and wetland categorization worksheet) for each wetland within the project boundary

4. Data to determine existing aquatic life use, if the project impacts a stream for which a specific aquatic life use designation has not been made (QHEI or HHEI)
5. A specific and detailed mitigation plan prepared in accordance with 33 C.F.R. Part 332 and rule 3745-1-54, including the location and proposed real estate instrument or other mechanism for protecting the property long term
6. Applicable application and review fees in accordance with ORC 3745.114
7. Site photographs of water resources in accordance with 3745-32-03(B)(2)(e)
8. Documentation confirming that the applicant has requested comments from ODNR and USFWS regarding threatened and endangered species, including the presence or absence of critical habitat [Ohio Department of Natural Resources](#) and the [United States Fish & Wildlife Service](#) regarding threatened and endangered species, including the presence or absence of critical habitat;
9. Descriptions, schematics, and appropriate economic information of the applicant's alternatives analysis prepared in accordance with 40 C.F.R. Part 230 and 3745-1-54 for the project
10. The delineation report of the waters of the United States in support of a federal license or permit
11. A copy of the United States Army Corps of Engineers' public notice regarding the 404-permit application or other notification from the Corps that the project will be authorized under a general permit or letter of permission if applicable.

You may find a copy of Ohio EPA's rules and laws online at <https://epa.ohio.gov/dsw>. Information regarding Ohio's Section 401 and Isolated Wetlands Permitting programs is also available online at <https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/permitting/water-quality-certification-and-isolated-wetland-permits>.

I have enclosed fact sheets that provide an overview of Ohio EPA's 401 permitting program for you reference

If you have any questions or concerns regarding these comments, please contact me at 740-380-5225, or via e-mail at Brooke.Cherry2@epa.ohio.gov.

Sincerely,

Brooke Cherry
Application Coordinator
401/Wetlands/Mitigation Section

BC/ms

ec: Teresa Spagna, Department of the Army, Huntington District, Corps of Engineers
Rachel Taulbee, Ohio EPA, DSW, SEDO (rachel.taulbee@epa.ohio.gov)



Mike DeWine, Governor
Jon Husted, Lt. Governor
Anne M. Vogel, Director

April 11, 2023

Transmitted Electronically

Chip Saunders
City of Zanesville
401 Market Street, #220
Zanesville, OH 43701

**Re: Muskingum Avenue
Improvements
Permit - Intermediate
Correspondence
401 Wetlands
Muskingum County
DSW401238456P**

Subject: Pre-Application Follow-Up Letter
Muskingum Avenue Improvements
Ohio EPA ID No. 238456P

Dear Mr. Saunders:

Thank you for submitting a Pre-Application Request with Ohio EPA on February 17th, for the Muskingum Avenue Improvements project. The project will restore the functional operation of Muskingum Avenue for motorists, pedestrians, and bicyclists, as well as upgrading and relocating the existing sanitary sewer force main for future full replacement. The project is located at Muskingum Avenue in Zanesville, Ohio, Muskingum County.

Based on our project review, provided HHEI scores, and Pre-Application follow-up correspondence, it is not likely that your proposed project will require 401 Water Quality Certification.

You may find a copy of Ohio EPA's rules and laws online at <https://epa.ohio.gov/dsw>. Information regarding Ohio's Section 401 and Isolated Wetlands Permitting programs is also available online at <https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/permitting/water-quality-certification-and-isolated-wetland-permits>.

If you have any questions or concerns regarding these comments, please contact me at 740-380-5225 or via e-mail at brooke.cherry2@epa.ohio.gov.

Sincerely,

Brooke Cherry
Application Coordinator
401/Wetlands/Mitigation Section

BC/ms

ec: Kayla Osborne, Department of the Army, Huntington District, Corps of Engineers
(kayla.n.osborne@usace.army.mil)
Matthew Aldridge, Burgess & Niple, Inc. (Mathew.Aldridge@burgessniple.com)
Rachel Taulbee, Ohio EPA, SEDO (Rachel.taulbee@epa.ohio.gov)



Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate

John Kessler, Chief

2045 Morse Road – Bldg. E-2

Columbus, OH 43229

Phone: (614) 265-6621

Fax: (614) 267-4764

September 22, 2022

Daniel Blanchard
Ohio Emergency Management Agency
2855 W Dublin Granville Road
Columbus, OH 43235

Re: 22-0239; Zanesville Soil Stabilization UPDATED

Project: The project proposes to stabilize the slope of the embankment above the Muskingum River in order to prevent further erosion and protect the roadway and utilities.

Location: The proposed project is located in the City of Zanesville, Muskingum County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Natural Heritage Database: The Natural Heritage Database has the following data at or within one mile of the project area:

Blue Sucker (*Cyprinus elongatus*), state threatened
Mountain Madtom (*Noturus eleutherus*), state threatened
Northern Madtom (*Noturus stigmosus*), state endangered
Threehorn Wartyback (*Obliquaria reflexa*), state species of concern

The review was performed on the project area specified in the request as well as an additional one-mile radius. Records searched date from 1980. Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an area is not a statement that rare species or unique features are absent from that area.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that Best Management Practices be utilized to minimize erosion and sedimentation.

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the “OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING”. If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Erin Hazelton at Erin.hazelton@dnr.ohio.gov).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS “Range-wide Indiana Bat Survey Guidelines.” If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Erin Hazelton for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species.

Federally Endangered

fanshell (<i>Cyprogenia stegaria</i>)	snuffbox (<i>Epioblasma triquetra</i>)
sheepnose (<i>Plethobasus cyphus</i>)	

Federally Threatened

rabbitsfoot (<i>Quadrula cylindrica cylindrica</i>)

State Endangered

long-solid (<i>Fusconaia maculata maculata</i>)	sharp-ridged pocketbook (<i>Lampsilis ovata</i>)
Ohio pigtoe (<i>Pleurobema cordatum</i>)	wartyback (<i>Quadrula nodulata</i>)

State Threatened

black sandshell (<i>Ligumia recta</i>)	threehorn wartyback (<i>Obliquaria reflexa</i>)
fawnsfoot (<i>Truncilla donaciformis</i>)	

This project must not have an impact on freshwater native mussels at the project site. This applies to both listed and non-listed species. Per the Ohio Mussel Survey Protocol (2020), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be

recommended for these streams as well. This is further explained within the Ohio Mussel Survey Protocol. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, as a last resort, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the 2022 [Ohio Mussel Survey Protocol](#).

The project is within the range of the following listed fish species.

State Endangered

northern madtom (*Noturus stigmosus*)

State Threatened

American eel (*Anguilla rostrata*)

blue sucker (*Cycleptus elongatus*)

channel darter (*Percina copelandi*)

mountain madtom (*Noturus eleutherus*)

paddlefish (*Polyodon spathula*)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, this project is not likely to impact this species.

The project is also within the range of the eastern spadefoot toad (*Scaphiopus holbrookii*), a state endangered species. This species is found in areas of sandy soils that are associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the black tern (*Chlidonias niger*), a state endangered bird. The black tern prefers large, undisturbed inland marshes with fairly dense vegetation and pockets of open water. They nest in various kinds of marsh vegetation but cattail marshes are generally favored. Nests are built on top of muskrat houses or on top of floating vegetation. If this type of habitat will be impacted, construction should be avoided in this habitat from April 1 through June 30 to reduce impacts to this species. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this

type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through August 31. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the trumpeter swan (*Cygnus buccinator*), a state threatened bird. Trumpeter swans prefer large marshes and lakes ranging in size from 40 to 150 acres. They like shallow wetlands one to three feet deep with a diverse mix of plenty of emergent and submergent vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through June 15. If this habitat will not be impacted, this project is not likely to have an impact on this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

Water Resources: The Division of Water Resources has the following comment.

The [local floodplain administrator](#) should be contacted concerning the possible need for any floodplain permits or approvals for this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

Appendix C

Cultural Resources

**SHPO Cover Letter
and Concurrence**



U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605-1521

FEMA

March 8, 2023

Diana Welling
Deputy State Historic Preservation Office
Ohio Historic Preservation Office
800 East 17th Avenue
Columbus, Ohio 43211

Re: Muskingum Avenue (Dug Road) Improvements
Vicinity of Muskingum Avenue between Pine Street and the Railroad west of 6th Street
Zanesville, Muskingum County, OH
HMGP-4507-0040-R / SHPO ID 2022MUS55854
39.937563, -82.012948 / T16N R14W S01.

Dear Diana Welling:

Pursuant to the Section 106 of the National Historic Preservation Act, I am writing this letter to initiate consultation regarding the captioned Hazard Mitigation Grant project.

In accordance with 36 CFR §800.11, I am enclosing documentation regarding this undertaking and its effect on historic properties. This documentation provides the justification for FEMA's finding of adverse effects on historic properties; the purpose of this communication is to seek concurrence in that finding.

We would appreciate a response by email. For your convenience, we have included a response area below. Upon receipt of your concurrence, FEMA intends to rely on the Abbreviated Consultation Process for resolution of adverse effects pursuant to Stipulation II.C.6(a) of the statewide programmatic agreement. If you have questions, do not hesitate to contact Nick Dorochoff of my staff at 312-408-5549 or at fema-r5-environmental@fema.dhs.gov.

Sincerely,

Duane Castaldi
Regional Environmental Officer
FEMA Region V

enclosures

+++++++You may email this page to fema-r5-environmental@fema.dhs.gov+++++++

Re: Muskingum Avenue (Dug Road) Improvements
Vicinity of Muskingum Avenue between Pine Street and the Railroad west of 6th Street
Zanesville, Muskingum County, OH
HMGP-4507-0040-R / SHPO ID 2022MUS55854
39.937563, -82.012948 / T16N R14W S01.

- ☒ Under the authority of the National Historic Preservation Act of 1966, as amended, the Ohio State Historic Preservation Office *concurs* with FEMA's finding that the captioned undertaking will result in *adverse effects on historic properties*.
- ☐ Under the authority of the National Historic Preservation Act of 1966, as amended, the Ohio State Historic Preservation Office *objects* to FEMA's finding that the captioned undertaking will result in *adverse effects on historic properties* for the reasons provided below:

Diana Welling

Ohio State Historic Preservation Office

April 4, 2023

Date

Tribal Cover Letters



U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605-1521

FEMA

March 8, 2023

Katelyn Lucas, Historic Preservation Assistant
Delaware Nation
31064 SH 281
P.O. Box 825
Anadarko, Oklahoma 73005

Re: City of Zanesville Muskingum Ave. (Dug Rd.) Improvements, Zanesville, Muskingum County, Ohio
HMGP 4507 / 39.937, -82.013 / T16N R14W S1

Dear Ms. Lucas:

Pursuant to the Section 106 of the National Historic Preservation Act, I am writing this letter continue and conclude consultation regarding the captioned Hazard Mitigation Grant Program project. FEMA previously requested comments prior to an archaeological survey on May 27, 2022, and the Delaware Nation responded on June 1, 2022. Based on your June 1, 2022, response, FEMA discussed with the State Historic Preservation Office (SHPO) [REDACTED]

[REDACTED] FEMA conducted outreach in June 2022 for updates to areas of Tribal Nation interest, and the Shawnee Tribe indicated an interest in Muskingum County. The Turtle Mountain Band of Chippewa responded on October 7, 2022 and expressed an interest in the archaeology survey. The Phase I Archaeological Survey was provided to the Tribal Nations listed below on September 13, 2022.

In accord with 36 CFR §800.11, I am enclosing documentation regarding this undertaking and its effect on historic properties, which is being sent concurrently to the Ohio State Historic Preservation Office for their review. [REDACTED]

[REDACTED] This documentation provides the justification for FEMA's finding of no historic properties affected for archaeological sites and adverse effects on historic properties for the Putnam Hill Park.

FEMA is providing these materials to the following federally recognized Indian tribes (Tribes) thought to have interests in the area:

- Delaware Nation
- Delaware Tribe of Indians
- Nottawaseppi Huron Band of the Potawatomi
- Turtle Mountain Band of Chippewa
- Shawnee Tribe

In accord with 36 CFR 800.2(c)(2)(ii), FEMA is providing this opportunity for the Delaware Nation to join the consultation by identifying concerns about historic properties that may be affected by this undertaking. FEMA would also appreciate notice of Tribes other than those listed above that may have an interest in this undertaking.

We would appreciate a response from your office within 30 days. If you have questions, do not hesitate to contact me at 312-408-5549 or at fema-r5-environmental@fema.dhs.gov. If we do not receive a response within 30 days, FEMA will move forward with this undertaking without comment from the Delaware Nation.

Sincerely,



Duane Castaldi
Regional Environmental Officer
FEMA Region 5



U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605-1521

FEMA

March 8, 2023

Larry Heady, Tribal Historic Preservation Officer
Delaware Tribe of Indians
125 Dorry Lane
Grants Pass, Oregon 97527

Re: City of Zanesville Muskingum Ave. (Dug Rd.) Improvements, Zanesville, Muskingum County, Ohio
HMGP 4507 / 39.937, -82.013 / T16N R14W S1

Dear Mr. Heady:

Pursuant to the Section 106 of the National Historic Preservation Act, I am writing this letter continue and conclude consultation regarding the captioned Hazard Mitigation Grant Program project. FEMA previously requested comments prior to an archaeological survey on May 27, 2022, and the Delaware Nation responded on June 1, 2022. FEMA conducted outreach in June 2022 for updates to areas of Tribal Nation interest, and the Shawnee Tribe indicated an interest in Muskingum County. The Turtle Mountain Band of Chippewa responded on October 7, 2022 and expressed an interest in the archaeology survey. The Phase I Archaeological Survey was provided to the Tribal Nations listed below on September 13, 2022.

In accord with 36 CFR §800.11, I am enclosing documentation regarding this undertaking and its effect on historic properties, which is being sent concurrently to the Ohio State Historic Preservation Office for their review. This documentation provides the justification for FEMA's finding of no historic properties affected for archaeological sites and adverse effects on historic properties for the Putnam Hill Park.

FEMA is providing these materials to the following federally recognized Indian tribes (Tribes) thought to have interests in the area:

- Delaware Nation
- Delaware Tribe of Indians
- Nottawaseppi Huron Band of the Potawatomi
- Turtle Mountain Band of Chippewa
- Shawnee Tribe

In accord with 36 CFR 800.2(c)(2)(ii), FEMA is providing this opportunity for the Delaware Tribe of Indians to join the consultation by identifying concerns about historic properties that may be affected by this undertaking. FEMA would also appreciate notice of Tribes other than those listed above that may have an interest in this undertaking.

We would appreciate a response from your office within 30 days. If you have questions, do not hesitate to contact me at 312-408-5549 or at fema-r5-environmental@fema.dhs.gov. If we do not receive a response within 30 days, FEMA will move forward with this undertaking without comment from the Delaware Tribe of Indians.

Sincerely,



Duane Castaldi
Regional Environmental Officer
FEMA Region 5



U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605-1521

FEMA

March 8, 2023

Douglas Taylor, Tribal Historic Preservation Officer
Nottawaseppi Huron Band of the Potawatomi
1301 T Drive S
Pine Creek Indian Reservation
Fulton, Michigan 49052

Re: City of Zanesville Muskingum Ave. (Dug Rd.) Improvements, Zanesville, Muskingum County, Ohio
HMGP 4507 / 39.937, -82.013 / T16N R14W S1

Dear Mr. Taylor:

Pursuant to the Section 106 of the National Historic Preservation Act, I am writing this letter continue and conclude consultation regarding the captioned Hazard Mitigation Grant Program project. FEMA previously requested comments prior to an archaeological survey on May 27, 2022, and the Delaware Nation responded on June 1, 2022. FEMA conducted outreach in June 2022 for updates to areas of Tribal Nation interest, and the Shawnee Tribe indicated an interest in Muskingum County. The Turtle Mountain Band of Chippewa responded on October 7, 2022 and expressed an interest in the archaeology survey. The Phase I Archaeological Survey was provided to the Tribal Nations listed below on September 13, 2022.

In accord with 36 CFR §800.11, I am enclosing documentation regarding this undertaking and its effect on historic properties, which is being sent concurrently to the Ohio State Historic Preservation Office for their review. This documentation provides the justification for FEMA's finding of no historic properties affected for archaeological sites and adverse effects on historic properties for the Putnam Hill Park.

FEMA is providing these materials to the following federally recognized Indian tribes (Tribes) thought to have interests in the area:

- Delaware Nation
- Delaware Tribe of Indians
- Nottawaseppi Huron Band of the Potawatomi
- Turtle Mountain Band of Chippewa
- Shawnee Tribe

In accord with 36 CFR 800.2(c)(2)(ii), FEMA is providing this opportunity for the Nottawaseppi Huron Band of the Potawatomi to join the consultation by identifying concerns about historic properties that may be affected by this undertaking. FEMA would also appreciate notice of Tribes other than those listed above that may have an interest in this undertaking.

We would appreciate a response from your office within 30 days. If you have questions, do not hesitate to contact me at 312-408-5549 or at fema-r5-environmental@fema.dhs.gov. If we do not receive a response within 30 days, FEMA will move forward with this undertaking without comment from the Nottawaseppi Huron Band of the Potawatomi.

Sincerely,



Duane Castaldi
Regional Environmental Officer
FEMA Region 5



U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605-1521

FEMA

March 8, 2023

Tonya Tipton, Tribal Historic Preservation Officer
Shawnee Tribe
P.O. Box 189
29 S Hwy 69A
Miami, Oklahoma 74354

Re: City of Zanesville Muskingum Ave. (Dug Rd.) Improvements, Zanesville, Muskingum County, Ohio
HMGP 4507 / 39.937, -82.013 / T16N R14W S1

Dear Ms. Tipton:

Pursuant to the Section 106 of the National Historic Preservation Act, I am writing this letter continue and conclude consultation regarding the captioned Hazard Mitigation Grant Program project. FEMA previously requested comments prior to an archaeological survey on May 27, 2022, and the Delaware Nation responded on June 1, 2022. FEMA conducted outreach in June 2022 for updates to areas of Tribal Nation interest, and the Shawnee Tribe indicated an interest in Muskingum County. The Turtle Mountain Band of Chippewa responded on October 7, 2022 and expressed an interest in the archaeology survey. The Phase I Archaeological Survey was provided to the Tribal Nations listed below on September 13, 2022.

In accord with 36 CFR §800.11, I am enclosing documentation regarding this undertaking and its effect on historic properties, which is being sent concurrently to the Ohio State Historic Preservation Office for their review. This documentation provides the justification for FEMA's finding of no historic properties affected for archaeological sites and adverse effects on historic properties for the Putnam Hill Park.

FEMA is providing these materials to the following federally recognized Indian tribes (Tribes) thought to have interests in the area:

- Delaware Nation
- Delaware Tribe of Indians
- Nottawaseppi Huron Band of the Potawatomi
- Turtle Mountain Band of Chippewa
- Shawnee Tribe

In accord with 36 CFR 800.2(c)(2)(ii), FEMA is providing this opportunity for the Shawnee Tribe to join the consultation by identifying concerns about historic properties that may be affected by this undertaking. FEMA would also appreciate notice of Tribes other than those listed above that may have an interest in this undertaking.

We would appreciate a response from your office within 30 days. If you have questions, do not hesitate to contact me at 312-408-5549 or at fema-r5-environmental@fema.dhs.gov. If we do not receive a response within 30 days, FEMA will move forward with this undertaking without comment from the Shawnee Tribe.

Sincerely,



Duane Castaldi
Regional Environmental Officer
FEMA Region 5



U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605-1521

FEMA

March 8, 2023

Larus Longie, Tribal Historic Preservation Officer
Turtle Mountain Band of Chippewa
PO Box 900
Belcourt, North Dakota 58316

Re: City of Zanesville Muskingum Ave. (Dug Rd.) Improvements, Zanesville, Muskingum County, Ohio
HMGP 4507 / 39.937, -82.013 / T16N R14W S1

Dear Mr. Longie:

Pursuant to the Section 106 of the National Historic Preservation Act, I am writing this letter continue and conclude consultation regarding the captioned Hazard Mitigation Grant Program project. FEMA previously requested comments prior to an archaeological survey on May 27, 2022, and the Delaware Nation responded on June 1, 2022. FEMA conducted outreach in June 2022 for updates to areas of Tribal Nation interest, and the Shawnee Tribe indicated an interest in Muskingum County. FEMA received a response from your office on October 7, 2022, expressing an interest in the archaeology survey. The Phase I Archaeological Survey was provided to the Tribal Nations listed below on September 13, 2022.

In accord with 36 CFR §800.11, I am enclosing documentation regarding this undertaking and its effect on historic properties, which is being sent concurrently to the Ohio State Historic Preservation Office for their review. This documentation provides the justification for FEMA's finding of no historic properties affected for archaeological sites and adverse effects on historic properties for the Putnam Hill Park.

FEMA is providing these materials to the following federally recognized Indian tribes (Tribes) thought to have interests in the area:

- Delaware Nation
- Delaware Tribe of Indians
- Nottawaseppi Huron Band of the Potawatomi
- Turtle Mountain Band of Chippewa
- Shawnee Tribe

In accord with 36 CFR 800.2(c)(2)(ii), FEMA is providing this opportunity for the Turtle Mountain Band of Chippewa to join the consultation by identifying concerns about historic properties that may be affected by this undertaking. FEMA would also appreciate notice of Tribes other than those listed above that may have an interest in this undertaking.

We would appreciate a response from your office within 30 days. If you have questions, do not hesitate to contact me at 312-408-5549 or at fema-r5-environmental@fema.dhs.gov. If we do not receive a response within 30 days, FEMA will move forward with this undertaking without comment from the Turtle Mountain Band of Chippewa.

Sincerely,



Duane Castaldi
Regional Environmental Officer
FEMA Region 5

**Consultation
Documentation**



FEMA

March 8, 2023

***Documentation Continuing Section 106 Consultation
for a FEMA-Funded Undertaking***

Project Information:

Project ID: HMGP-4507-0040-R / SHPO ID 2022MUS55854
Title: Muskingum Avenue (Dug Road) Improvements
Address: Vicinity of Muskingum Avenue between Pine Street and the Railroad west of 6th Street
Location: Zanesville, Muskingum County, OH
GPS: 39.937563, -82.012948
PLSS: T16N R14W S01

Description of Undertaking and APE:

The purpose of the project is to restore the functional operation of Muskingum Avenue for motorists, pedestrians, and bicyclists as well as upgrading and relocating the existing sanitary sewer force main for future full replacement. That work will include stabilizing the south slope of the bluff on which Putnam Park is located, requiring significant cutbacks which will affect configuration of facilities in the park. The project has two main scope items including five components. All work is represented in the attached plans.

Muskingum Avenue Repair and Related Improvements

This work is included in the attached construction documents.

- **North Slope Stabilization** will provide a 191 ft. long precast concrete lagging retaining wall with steel soldier piles drilled into bedrock on the north side of Muskingum Avenue. A 1,180 ft. long 3.5 ft. tall barrier wall will be placed between the sidewalk and the riverbanks.
- **Repair of Muskingum Avenue, Sidewalk, and Stormwater Drainage System** will reopen these facilities to motorists, pedestrians, and bicyclists. The existing asphalt roadway, concrete sidewalk, and stone wall will be removed and disposed of within a licensed landfill. The new roadway will consist of two-way traffic with two 12 ft. wide lanes with a design speed of 25 miles per hour (MPH), 2.5 ft. wide curb and gutter sections on each side, and a 6 ft. wide sidewalk on the north side of the roadway. A mix of full-depth pavement replacement and planing and resurfacing will occur beginning at the eastern edge of the Pine Street intersection with Muskingum Avenue and terminate at the western edge of the railroad crossing for a total length of 1,667 ft.

The existing stormwater drainage system will be replaced by the curb and gutter inlet system with the storm sewer discharging to the north into the Muskingum River as the existing system was originally designed to do. The outlets will direct flow through one 12 in. pipe and three 18 in. pipes onto tied concrete block matting on the river embankment where it will drain into the river.

- **Construction of Wastewater Force Main** will install 1,200 ft. of 30 in. high-density polyethylene (HDPE) sanitary sewer force main a minimum of 4 ft. below the westbound lane of Muskingum Avenue. The new line is being placed for future use; it will not be connected to any existing infrastructure as part of this project. This will allow future work to replace the existing force main without disturbing the reconstructed roadway and related infrastructure.

Work Affecting Putnam Hill Park

This work is represented in “Putnam Hill Park Reconstruction Alt. 4,” as well as in the attached construction documents.

- **South Slope Stabilization** requires cutback at a 4:3 (run:rise) slope on the south side of Muskingum Avenue, removing approximately 69,083 cubic yards (CY) of soil and rock which will be placed within Putnam Hill Park as noted below. This cutback will result in the loss of Putnam Hill Spring. Approximately 5.5 acres of tree cover will be removed to facilitate the cutback, filling of the park, and minor clearing at the north side stabilization area. A 5 ft. tall concrete barrier wall, approximately 3 ft. wide at the base and 2 ft. wide at the top will be constructed along the south side of the roadway for 959 ft.
- **Reconstruction of Putnam Hill Park** will include using approximately 69,083 CY of excess fill from cuts associated with the slope stabilization to fill a ravine toward the western side of the park. All trees in the area will be removed. This will raise the existing ground level 25 to 30 ft. in some locations and will result in the removal of two jurisdictional streams in the area. The proposed fill will slope westward, directing runoff into a detention basin. An existing 13 ft. wide access drive that goes through the ravine on the west side of the park will be removed prior to placing fill. The 970 ft. of removed drive will be replaced with a new 1,275 ft. long by 8 ft. wide multi-use path. Other park infrastructure affected by the undertaking includes the Y-Bridge overlook, parking lot, and access road adjacent to the existing overlook, which will all be reconfigured. An additional parking area will be constructed east of the new overlook location, and twenty 14 ft. tall light poles will be installed along the shared-use path, overlook, and parking lots.

The general Area of Potential Effects (APE) has been defined as the Construction Limits and the parcel boundaries containing those limits. This includes the parcel containing Putnam Hill Park, defined by the north side of Grandview Avenue, from the east side of Pine Street eastward to the end of paved Grandview Avenue, then southeasterly to the western right-of-way of the Genesee & Wyoming Railroad, northerly along the west side of that track to the southern bank of the Muskingum River, upstream to where it meets the residential parcel at 781 Muskingum Avenue, crossing to the south side of Muskingum Avenue, then westward to its intersection with Pine Street, then following southward along the east side of Pine Street to the point of the beginning at the north side of

Grandview Avenue. In the northwestern corner of the APE are six residential parcels containing three extant dwellings. Those parcels are historically associated with these addresses (east to west):

- 781 Muskingum Avenue (dwelling present)
- 785 Muskingum Avenue (vacant)
- 789 Muskingum Avenue (dwelling present)
- 793 Muskingum Avenue (vacant)
- 797-799 Muskingum Avenue (vacant)
- and 64 Pine Street (dwelling present)

Work items include sidewalk reconstruction in front of these houses; as their parcels will be impacted by the project, the parcels and their above-ground resources stand within the APE. The general APE is noted in red on Figures 1, 2, and 4.

A separate APE has been established to define the area subject to ground disturbing activities. [REDACTED]

[REDACTED] The APE for ground disturbance is noted in purple on Figures 1, 2, and 4.

Steps Taken to Identify Historic Properties and the Description of Historic Properties:

Archaeology

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Above Ground Resources

The nearest properties listed on the NRHP include the Putnam Historic District (NPS #75001511) immediately east of eastern end of the APE, across the Genesee & Wyoming Railroad right-of-way. The listed Muskingum River Navigation Historic District (NPS #07000025) lies north of the APE. Neither of these properties are within or within visual range of the APE for this undertaking (Figure 3). The following resources stand within the APE for this undertaking.

Putnam Hill Park (OHI MUS0143732)

This resource encompasses the entire Putnam Hill Park property (Figures 2, 5–16).

After European settlement, the park's history of public use dates back to the early nineteenth century. In 1801, Rufus Putnam, Levi Whipple, and Dr. Increase Mathews reserved the top of the hill as a commons for the new village of Springfield. The area was still depicted as such on the 1866 map of Zanesville (Figure 27). The park was first fenced in 1881 and ornamental trees planted as the first step in converting the area into a formal public park. By 1905, plans were afoot to improve the park with the addition of a dancing pavilion. Various stairs and wooden walkways were also added early in the century to simplify walking through the steep ravines on the western side of the park (Figures 29 and 30). Electric lights were present by 1910 (since replaced), although the looping parkway drive was not built until 1913, which is presumably the same time that the stone bridge was erected (Figures 6 and 7). In 1916, the city park board contracted for the construction of a brick shelter house at the park. The shelter house was removed at some point in the 1980s. An overlook structure was constructed or reconstructed in 1991 (Figures 13 and 14), likely the same period when

playground equipment was installed along Grandview Avenue on the south side of the park (Figure 16). Around the same time pedestrian steps accessing the ravine from the winding parkway drive were removed. The remaining contemporary wooden stair that was paired with a long metal slide was removed ca 2021 (Figure 31). Residential density around the project area remained high until the early twenty-first century, when some of the houses along Pine Street began to be removed. A new shelter was added to the park around 2004 (Figures 11 and 15), along with a basketball court (Figure 12), and most recently a small gazebo ca 2018 (Figures 10 and 11). The park has remained a popular spot for picnics and social gatherings to the modern period.

Resources Contributing to Putnam Hill Park

While the park has lost its original shelter and the series of steps leading down the ravine, some of its original infrastructure is still intact, including:

- **Park Drive** (Figures 5, 6, 8–12, and 32): Constructed 1913. Maintains integrity of location, setting, feeling and association. Although the design has been changed to accommodate parking and the closure of an entrance at Pine Street and Muskingum Avenue, the basic form remains consistent with the winding informal park roadways popularized in the late 1800s by Frederick Law Olmstead and those who followed him. Contemporary materials and workmanship are less important than the design and alignment of these roadways.
- **Stone Bridge** (Figures 6–7): Constructed ca 1913. Maintains integrity of materials, design, location, setting, feeling, and association, and, to a lesser degree, integrity of workmanship.
- **Topography**: Naturally occurring. The series of deep ravines affected the development of the park, including the arrangement of the park drive, the construction of the rustic stone bridge, and the installation of stairways to improve access to the area (Figures 29 and 30). The ravines maintain their integrity of location, feeling, and association, and themselves contribute to the park's overall integrity of setting.

Resources not Contributing to Putnam Hill Park:

Mostly contemporary additions to the park, the following do not meet the age requirements for listing:

- **Overlook** (Figures 11, 13–14): built ca1991.
- **Parking Lots** (Figures 11 and 13): built ca 2000.
- **Basketball Court** (Figure 12): built ca 2000.
- **Playground Equipment** (Figure 16): built ca 2000.
- **Shelter** (Figures 11, 15): built ca 2004.
- **Gazebo** (Figures 10–11): built ca 2018.

The remaining feature has lost components that would help identify its purpose and use:

- **Brick Drinking Fountain Base** (Figure 15): date unknown; likely contemporary to the demolished 1916 brick shelter. Lacks integrity due to missing faucet and bowl and loss of setting and association with the lost brick shelter.

Integrity

Putnam Hill Park is associated with themes of Entertainment/Recreation and Social History through its function as a public park and retention of features that communicate that association. The park was and is culturally important to the residents of Zanesville by providing a place for relaxation. Part of the park's appeal are the views of the city, and particularly the Y-Bridge, making the park the site of what is arguably the most popular scenic overlook in Muskingum County. While the park architect was not identified, the winding drives leading up to the scenic overlook constitute an important landscape element for the park, making it a character-defining feature. This practice of designing public park spaces around naturally occurring features was one of the tenets of Frederick Law Olmstead, whose work in the late 19th and Early 20th Centuries influenced the design of public parks throughout the United States. The stone bridge carrying the drive over the ravine is emblematic of late- nineteenth to early-twentieth century park aesthetics, lending a rustic element to the park. Although built components have been altered and historic features, like the wooden stairways, have been lost, Putnam Hill Park generally retains integrity of location, setting, design, feeling, and association. Putnam Hill Park, therefore, is eligible for listing on the NRHP under Criterion A, associated with the broad themes of Community Planning and Development, Entertainment/Recreation, and Social History. The park's current boundaries, which are consistent with the annotation of the bluff as "Putnam Commons" on the 1866 map, serve as the boundaries of the National Register eligible resource.

Putnam Hill Spring (OHI MUS0143832)

This natural spring originates in the hillslope between Putnam Hill Park and Muskingum Avenue (Figure 17). It has been a focal point on the landscape for millennia, [REDACTED] the post-European settlement historical period. Local tradition maintains the spring was a popular meeting spot for young lovers in Zanesville, such that this section of Muskingum Avenue was commonly referred to as "Lovers Lane." Remnants of a stone enclosure built around the spring are still present, although other infrastructure that was added in the nineteenth century (piping and water troughs) that facilitated collection of the water for use is no longer present.

Integrity

The Putnam Hill Spring inspired the name of the nearby town of Springfield, later named Putnam and now part of Zanesville. The spring is associated with the historical development in the area, as it served as an important source of drinking water for local people in the nineteenth century, as well as during the precontact era. It is an important feature of Zanesville's historical and cultural landscape that maintains integrity of location, setting, feeling, and association. For these reasons, the Putnam Hill Spring is eligible for listing on the NRHP under Criterion A for Community Planning and Development.

West Muskingum Avenue Stone Wall (OHI MUS0143932)

A stretch of decorative stone wall along the north side of West Muskingum Avenue (Figures 18–20) was built in 1914. The wall is similar in appearance to the stone bridge in nearby Putnam Hill Park, suggesting they were part of the same general improvement program. The wall consists of rough limestone blocks mortared together, with vertically set stones above the horizontal coursing. Square piers with pyramidal caps are spaced

along the wall. The wall extends from the house at 781 West Muskingum Avenue (MUS0143632) to the railroad tracks on the east, with a gap in the middle that may represent damage from earlier hillside slips. The wall today is difficult to see except at the west end, as sections are in poor repair and much of the wall is largely obscured by vegetation in other areas (Figures 18–20).

Integrity

The West Muskingum Avenue Stone Wall is a landscape feature associated with early-twentieth century road improvement and civic beautification programs. On its own, it does not appear to possess the required historical significance to meet the eligibility criteria for nomination to the NRHP. The loss of significant portions of the wall negatively affects the structure's integrity of design, materials, and workmanship. Although similar in design and workmanship to the bridge in Putnam Hill Park, the wall itself is not visible from the park and is outside the park boundary, and so even if it maintained sufficient integrity, it could not serve as a contributing resource to Putnam Hill Park. Given their condition and location, the West Muskingum Avenue Stone Wall is not eligible for listing on the NRHP.

Residential Structures

The parcels on which three other above-ground historical-era resources stand are intercepted by the project area and are therefore within the APE. All three are undistinguished early-twentieth century vernacular residences standing just northwest of the Putnam Hill Park.

64 Pine Street (MUS0143432)

This building is a one-and-a-half-story brick residence built in 1901 (Figures 21 - 22). The house has a brick foundation with a soldier-course water table. The 34x38-foot building has a wide-eaved gable roof with a large, projecting front-gable porch that covers three-quarters of the front façade, measuring 24 feet by 8 feet. The roof is clad in asphalt shingles. There is an open shed-roofed frame porch on the rear of the building as well. The windows all appear original, being mainly pairs of double hung 3/1 windows, with some of these 3/1 windows set singly (on the north elevation), while there are half-sized windows with the three panes on the south elevation, along with a projecting shed roof bay that has a pair of narrow six-pane windows. The front façade features a large window opening with four of the typical windows filling it. There are also window openings in the raised basement, although nearly all are covered with plywood. The front door is a modern replacement. An external chimney stack was present on the north façade, but only the base is still present; the stack has been removed and there is no other chimney or exhaust visible.

Integrity

The house does not appear to have any associations with important historical events or themes and is not associated with any locally significant historical figures. It has some elements of early Craftsman styling but is basically a vernacular application of those elements and not an outstanding example of such. MUS0143432 is not recommended as eligible for the NRHP, either individually or as part of a district.

789 West Muskingum Avenue (MUS0143532)

This building is a vernacular two-story brick house with a T-plan, built in 1901 (Figures 23- 24). It sits on a poured concrete foundation and has a side-gable roof clad in slate shingles. There is a projecting shed roof front porch with brick piers; the porch is original to the house although its roof is now clad in asphalt shingles. The front door is centrally located under the porch roof and is protected by a modern storm door, preventing identification of its possible originality. The front façade has two windows on each story, set one above the other. The east wall is blank on the front wing while there is a single window on the west wall. An uncovered rear porch is present on the west side, attached to the rear wing of the house. The front wing, lateral to the street, is 32 feet long by 16 feet wide, while the rear wing is 12 feet long and 20 feet wide. The windows are 1/1 in wood frames and may be original.

Integrity

This house is one of at least four similar houses built side-by-side along this part of Muskingum Avenue. Aerial photographs show a nearly identical house present to the east as recently as 2010, but since demolished. The house is associated with the expansion of residential development around Putnam Hill Park in the late nineteenth and early twentieth century. It does not possess any distinguishing architectural characteristics and has no significant associations with historical events, themes, or persons. MUS0143532 is not recommended as eligible for the NRHP, either individually or as part of a district.

781 West Muskingum Avenue (MUS0143632)

This building is a vernacular two-story frame house built in 1895 (Figures 25- 26). It measures 32 feet by 18 feet. It has a one-story frame wing measuring 37 feet long and 8 feet wide built on its rear (north) elevation, possibly original or an early addition. The side-gable roof is clad in asphalt shingles. The foundation is rusticated concrete block and the building is clad in aluminum siding. There is a one-story hipped-roof front porch that shelters the central front door and two flanking windows. There are two windows on the second story above; the west and east elevations are blank. All windows and the front door are modern replacements. A brick chimney pierces the center of the roof.

Integrity

This house is one of at least four similar houses built side-by-side along this part of Muskingum Avenue, although it appears to predate the other houses and does not feature a T-plan. The house is associated with the expansion of residential development around Putnam Hill Park in the late nineteenth and early twentieth century. It does not possess any distinguishing architectural characteristics and has no significant associations with historical events, themes, or persons. MUS0143632 is not recommended as eligible for the NRHP, either individually or as part of a district.

While there are many other historical residences with visibility to the project area (i.e., along the west side of Pine Street and/or the south side of Grandview Avenue), they will experience no direct or visual effects from the undertaking and therefore stand outside the APE.

No other standing structures exist within the APE for this undertaking.

Summary of Resources Assessed

OAI/OHI Resource Name	OAI/OHI Number	Date	Status
Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Redacted
Putnam Hill Park	MUS0143732	ca 1801	Eligible
<i>Topography</i>	--	N/A	<i>Contributing</i>
<i>Park Drive</i>	--	1913	<i>Contributing</i>
<i>Stone Bridge</i>	--	ca 1914	<i>Contributing</i>
<i>Overlook</i>	--	ca1991	<i>Non-Contributing</i>
<i>Parking Lots</i>	--	ca 2000	<i>Non-Contributing</i>
<i>Basketball Court</i>	--	ca 2000	<i>Non-Contributing</i>
<i>Playground Equipment</i>	--	ca 2000	<i>Non-Contributing</i>
<i>Shelter</i>	--	ca 2004	<i>Non-Contributing</i>
<i>Gazebo</i>	--	2018	<i>Non-Contributing</i>
<i>Drinking Fountain Base</i>	--	1916 (?)	<i>Non-Contributing</i>
Putnam Hill Spring	MUS0143832	N/A	Eligible
West Muskingum Avenue Stone Wall	--	ca 1914	Not Eligible
64 Pine Street	MUS0143432	1901	Not Eligible
789 West Muskingum Avenue	MUS0143532	1895	Not Eligible
781 West Muskingum Avenue	MUS0143632	1895	Not Eligible

Determination of Eligibility:

Based on the information provided in this submission, FEMA has determined that [REDACTED] **the three residences assessed above are not eligible for listing on the National Register of Historic Places.**

FEMA also has determined that **Putnam Hill Park (OHI MUS0143732) and Putnam Hill Spring (OHI MUS0143832) are eligible for listing on the National Register of Historic Places.**

The Undertaking's Effects on Historic Properties:

Effects on historic properties are addressed as the results of the work segments presented above.

Muskingum Avenue Repair and Related Improvements

Stabilization work north of West Muskingum Avenue will affect the area between the existing roadway and the river, including construction of the new roadway, barrier wall, sidewalks, and overlook (See Schematic Plan, Sheet 2/93, Site Plan, Sheet 15/93, and Removal Plans, Sheets 16-18/93). This scope also involves work beneath the existing roadway to address drainage and stormwater handling, as well as pre-position infrastructure for future use. Associated excavation work is included in the next section.

This work will require demolition of the Stone Wall. The only effects on the three residential properties include a minor change in frontage, drainage improvements, and replacement of the sidewalk. None of these resources are eligible for listing, so this segment of work does not affect historic properties.

Work Affecting Putnam Hill Park

Stabilization of the slope south of West Muskingum Avenue requires cutback at a 4:3 (run: rise) slope. The material from the excavation of the bluff will be used to fill the ravines on the west side of the park. This work will result in the demolition and reconfiguration of the alignment and access to paved roadways in the park (see Removal Plan, Sheet 19/93, and Park Fill Area Grading Plan, Sheet 76/93). The result of these activities will be the loss of the following individually eligible or contributing features. An environmental assessment being undertaken for this work suggests no alternatives to the stabilization of the bluff to protect West Muskingum Avenue from future damage are feasible, and the loss of the contributing resources in the park result from the relocation of the material excavated to protect the roadway.

<i>Resource</i>	<i>OHI Number</i>	<i>Date</i>	<i>Status</i>
Putnam Hill Spring	MUS0143832	N/A	Eligible
Putnam Hill Park Topography	- -	N/A	Contributing
Putnam Hill Park Drive	- -	1913	Contributing
Putnam Hill Park Stone Bridge	- -	ca 1914	Contributing

The loss of these four resources constitutes an adverse effect on historic properties.

Finding:

FEMA finds that this undertaking will result in ***adverse effects on historic properties***, namely the total loss of the Putnam Hill Spring (MUS0143832), and contributing elements in Putnam Hill Park, including the park's topography, the park drive, and the stone bridge.

Summary of Views of Consulting Parties or Public:

FEMA requested comments prior to an archaeological survey on May 27, 2022, from the Delaware Nation, Delaware Tribe of Indians, Nottawaseppi Huron Band of the Potawatomi, and Turtle Mountain Band of Chippewa. The Delaware Nation responded on June 1, 2022, as having an interest in this undertaking. FEMA conducted outreach in June 2022 for updates to areas of Tribal Nation interest, and the Shawnee Tribe indicated an interest in Muskingum County. The Turtle Mountain Band of Chippewa responded on October 7, 2022, expressing an interest in the archaeology survey. The Phase I Archaeological Survey was provided to all five Tribal Nations on September 13, 2022. No response to that communication has been received. This documentation meeting the requirements of 36 CFR §800.11 is being provided concurrently to the five Tribal Nations for comment.

The City of Zanesville discussed the Muskingum Avenue improvements, including the closure of the road and possible alternatives at several of their meetings from 2012 through 2021. All City meetings are open to the public. In addition to publicizing plans at public meetings, the project has been the subject of several newspaper articles in the *Zanesville Times Recorder* since 2020. A public notice regarding the road repairs and slope work was published on May 13, 2022. A second notice with specifics regarding work in Putnam Park and the effects of this undertaking on historic properties will be published to solicit additional comments regarding the undertaking.

FEMA welcomes recommendations from SHPO and other consulting parties of any other parties that may have an interest in helping to develop treatment measures to mitigate the loss of historic resources resulting from this undertaking.

Proposed Resolution of Adverse Effects:

Upon receipt of SHPO's concurrence with FEMA's Adverse Effect Finding and any comments from Tribal Nations or other consulting parties, FEMA intends to rely on the Abbreviated Consultation Process for resolution of adverse effects pursuant to Stipulation II.C.6(a) of the statewide programmatic agreement. That process includes the participation of SHPO, Tribal Nations, and interested consulting parties in the development of treatment measures to address the adverse effects resulting from this undertaking.

Figures:

Figure 1: Undertaking site marked in purple, general APE marked in red.
GoogleEarth Aerial, 2021 data.

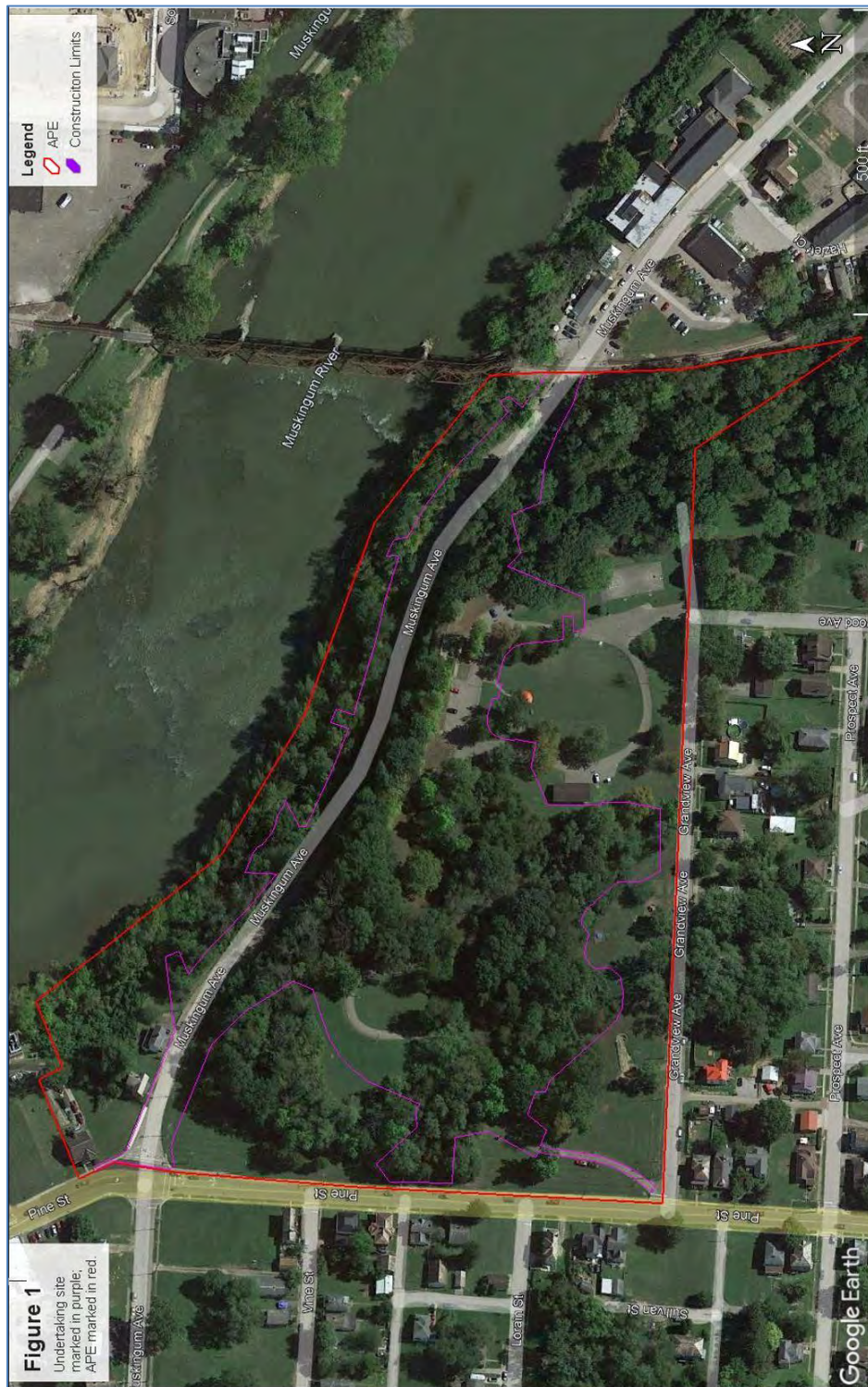


Figure 2: APE for ground disturbance marked in purple, general APE, in red.
USGS Map "Zanesville, OH," 1:24000, enlarged to show detail.

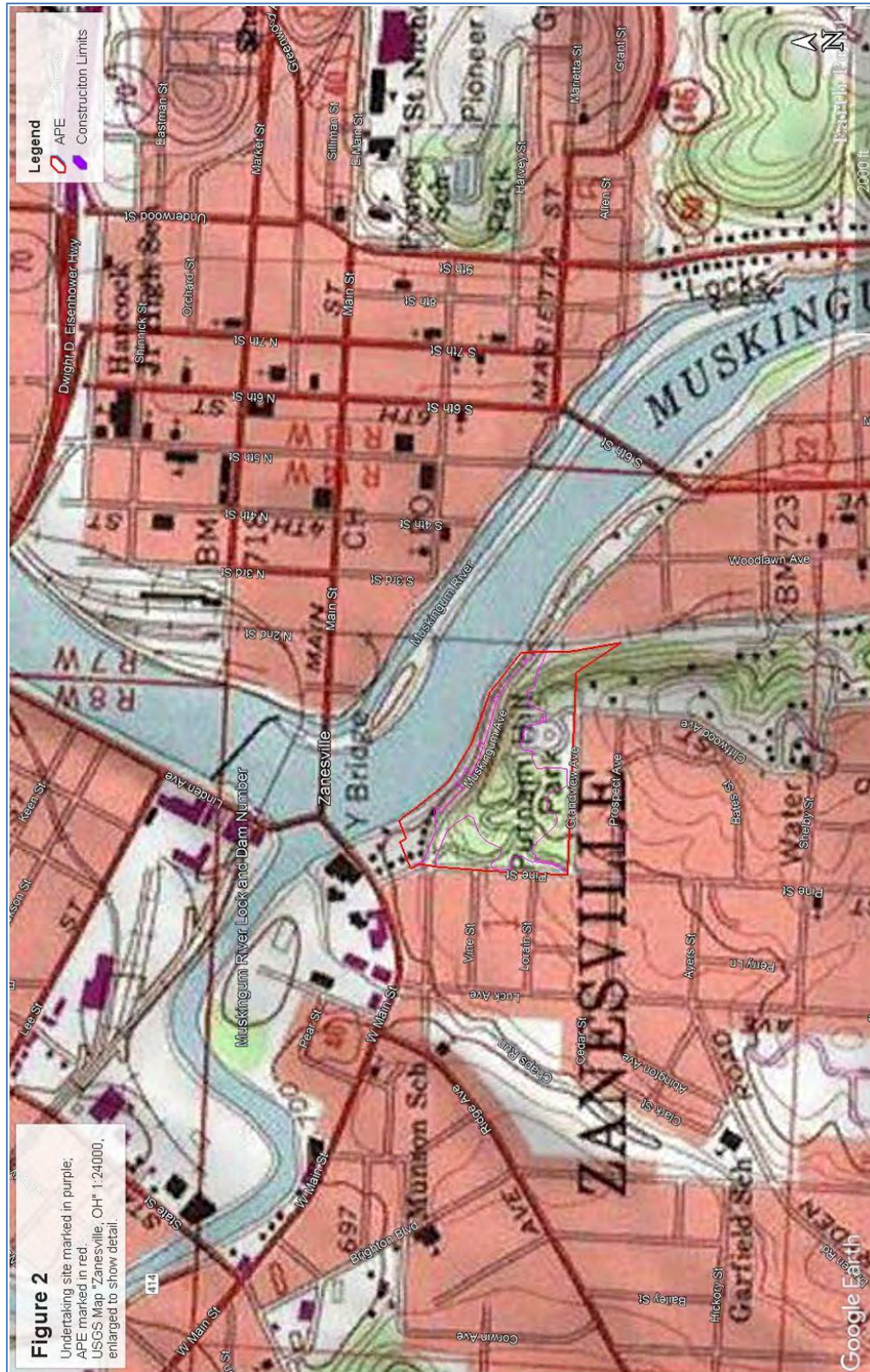


Figure 3: Cultural resource map of project vicinity.
Ohio History Connection.

Image Redacted—Privileged Information

Figure 4: General APE and photo locations marked in red; APE for ground disturbance, in purple.
GoogleEarth Aerial, 2021 data.



Figure 5: Putnam Hill Park drive, looking toward the intersection of Grandview Ave. and Pine St.
Applicant photo.



Figure 6: Stone bridge associated with Putnam Hill Park drive.
Applicant photo.



Figure 7: Stone bridge associated with Putnam Hill Park drive.
Applicant photo.



Figure 8: Putnam Hill Park drive in the center of the grounds.
Applicant photo.



Figure 9: Putnam Hill Park drive and modern element: shelter house (centered), from overlook.
Applicant photo.



Figure 10: Putnam Hill Park drive and modern elements: (L-R) gazebo, shelter house.
Applicant photo.



Figure 11: Putnam Hill Park drive and modern elements: (L-R) shelter house, gazebo, overlook structure.
GoogleEarth StreetView, 2012 imagery.



Figure 12: Putnam Hill Park drive at Grandview Ave. and modern basketball court.
Google Earth Streetview photo (c. 2012).



Figure 13: Modern overlook structure associated with Putnam Hill Park.
Google Earth Streetview photo (c. 2017).



Figure 14: Modern overlook structure associated with Putnam Hill Park, viewed from the north side of the Muskingum River.
Applicant photo.



Figure 15: Modern shelter house and former drinking fountain base associated with Putnam Hill Park.
Applicant photo.



Figure 16: Modern playground equipment associated with Putnam Hill Park.
Google Earth Streetview photo (c. 2012).



Figure 17: Putnam Hill Spring (OHI MUS0143832).
Applicant photo.



Figure 18: West end of West Muskingum Avenue Stone Walls (OHI MUS0143932).
Applicant photo.



Figure 19: Center of West Muskingum Avenue Stone Walls (OHI MUS0143932).
Applicant photo.



Figure 20: East end of West Muskingum Avenue Stone Walls (OHI MUS0143932).
Applicant photo.



Figure 21: 64 Pine Street (MUS0143432).
Applicant photo.



Figure 22: 64 Pine Street (MUS0143432).
Applicant photo.



Figure 23: 789 W. Muskingum Avenue (MUS0143532).
Applicant photo.



Figure 24: 789 W. Muskingum Avenue (MUS0143532).
Applicant photo.



Figure 25: 781 W. Muskingum Avenue (MUS0143632).
Applicant photo.



Figure 26: 781 W. Muskingum Avenue (MUS0143632).
Applicant photo.



Figure 27: Map showing designation of Putnam Commons.

Plan of the City of Zanesville and Vicinity, reproduced in the Atlas of Muskingum County (Beers, Soule, & Co.), 1866.

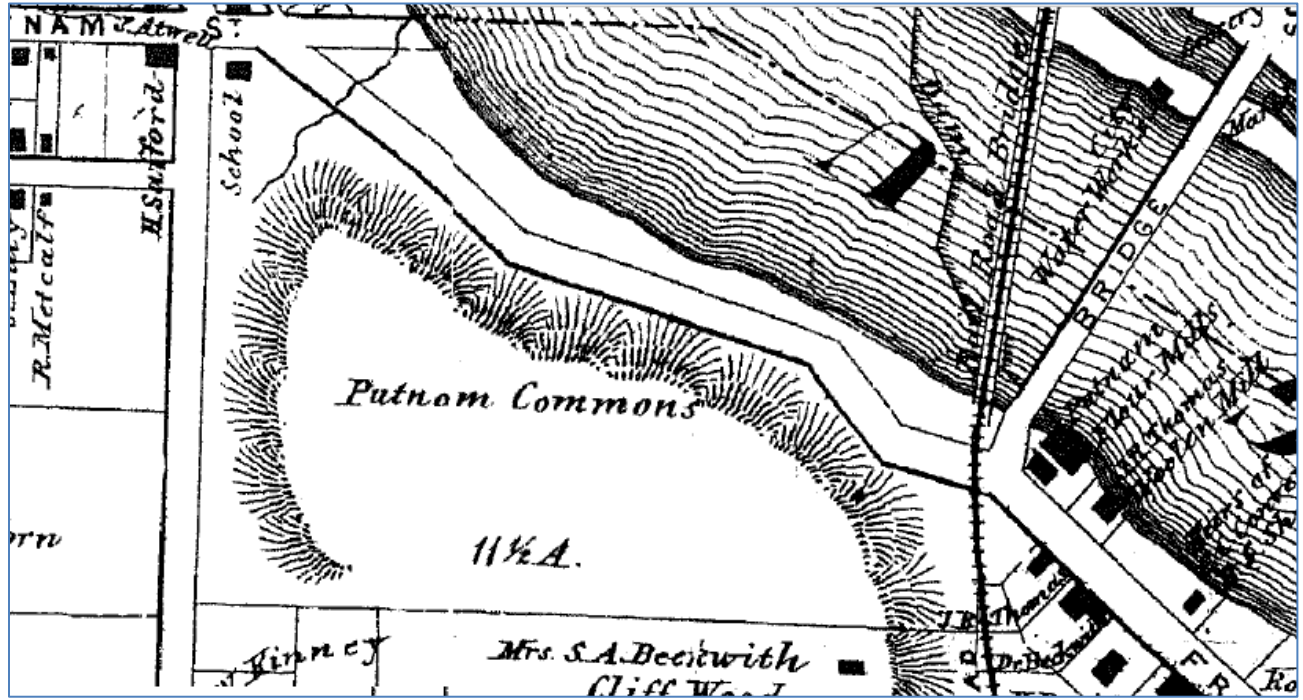


Figure 28: Map showing designation of Putnam Hill Park, ca 1932.

Unattributed map < <https://curtiswrightmaps.com/product/city-of-zanesville-ohio/> >.



Figure 29: Undated post card of Putnam Hill Park.
Ca 1907, archived image previously shared on eBay.



Figure 30: Undated post card of Putnam Hill Park.
Ca 1907, archived image previously shared on eBay.



Figure 31: Wooden stair and slide at southwest quadrant of Putnam Hill Park, since removed.
2012 photo by Tricia J., via Flickr.



Figure 32: View of the park drive, including the abandoned entry and approach from the northwest.
GoogleEarth, 4/2006 imagery.



**See Appendix A
for Project Plans**



U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605-1521

FEMA

May 3, 2023

Peter Cultice, President
Pioneer and Historical Society of Muskingum County
115 Jefferson Street
Zanesville, OH 43701

Re: Invitation to Consult on the Development of Treatment Measures to Address Adverse Effects
Muskingum Avenue (Dug Road) Improvements, Zanesville, Muskingum County, OH
FEMA ID: HMGP-4507-0040-R / SHPO ID: 2022MUS55854
39.937563, -82.012948 / T16N R14W S01

Dear Mr. Cultice:

FEMA Hazard Mitigation Assistance funding is proposed to repair and provide mitigation for Muskingum Avenue in Zanesville, Muskingum County, Ohio. The scope of work requires grading of a bluff (Putnam Hill) on the south side of the road that in turn requires changes to Putnam Hill Park atop the bluff. The park has been determined eligible for listing on the National Register of Historic Places (NRHP), and the proposed work will result in a loss of several character-defining features of the park, including a stone bridge, curvilinear paths, and naturally occurring ravines which will be filled with material excavated from the north edge of the bluff to mitigate future damages to the roadway below. The excavation will also destroy a naturally occurring spring, which has also been found eligible for listing on the NRHP.

Consultation documentation documenting the adverse effects was sent concurrently to the Ohio State Historic Preservation Office (SHPO) and Tribal Nations thought to have interests in the area on March 8, 2023. SHPO concurred on April 4, 2023, agreeing to the abbreviated process for resolving adverse effects proposed by FEMA. No Tribal Nation responded to the March 8 submission.

The Abbreviated Consultation Process for resolution of adverse effects pursuant to Stipulation II.C.6(a) of the statewide programmatic agreement includes the participation of SHPO and interested consulting parties in the development of treatment measures to address the adverse effects resulting from this undertaking. In consultation with the SHPO, FEMA has identified Pioneer and Historical Society of Muskingum County as potentially interested in helping to finalize treatment measures to address the adverse effect. Participation generally includes review and comment on proposed treatment measures. In some cases, virtual meetings may be held to facilitate discussion.

If Pioneer and Historical Society of Muskingum County is interested in joining the consultation or if you have questions, please respond at your earliest convenience, but no later than Friday May 19. Send your response by email to me at fema-r5-environmental@fema.dhs.gov.

Sincerely,

Duane Castaldi
Regional Environmental Officer
FEMA Region V

Sen by email to info@muskingumcountyhistory.org



U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605-1521

FEMA

May 3, 2023

Thomas Palmer, Executive Director
Preservation Ohio
PO Box 573
Mansfield, OH 44902

Re: Invitation to Consult on the Development of Treatment Measures to Address Adverse Effects
Muskingum Avenue (Dug Road) Improvements, Zanesville, Muskingum County, OH
FEMA ID: HMGP-4507-0040-R / SHPO ID: 2022MUS55854
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Dear Mr. Palmer:

FEMA Hazard Mitigation Assistance funding is proposed to repair and provide mitigation for Muskingum Avenue in Zanesville, Muskingum County, Ohio. The scope of work requires grading of a bluff (Putnam Hill) on the south side of the road that in turn requires changes to Putnam Hill Park atop the bluff. The park has been determined eligible for listing on the National Register of Historic Places (NRHP), and the proposed work will result in a loss of several character-defining features of the park, including a stone bridge, curvilinear paths, and naturally occurring ravines which will be filled with material excavated from the north edge of the bluff to mitigate future damages to the roadway below. The excavation will also destroy a naturally occurring spring, which has also been found eligible for listing on the NRHP.

Consultation documentation documenting the adverse effects was sent concurrently to the Ohio State Historic Preservation Office (SHPO) and Tribal Nations thought to have interests in the area on March 8, 2023. SHPO concurred on April 4, 2023, agreeing to the abbreviated process for resolving adverse effects proposed by FEMA. No Tribal Nation responded to the March 8 submission.

The Abbreviated Consultation Process for resolution of adverse effects pursuant to Stipulation II.C.6(a) of the statewide programmatic agreement includes the participation of SHPO and interested consulting parties in the development of treatment measures to address the adverse effects resulting from this undertaking. In consultation with the SHPO, FEMA has identified Preservation Ohio as potentially interested in helping to finalize treatment measures to address the adverse effect. Participation generally includes review and comment on proposed treatment measures. In some cases, virtual meetings may be held to facilitate discussion.

If Preservation Ohio is interested in joining the consultation or if you have questions, please respond at your earliest convenience, but no later than Friday May 19. Send your response by email to me at fema-r5-environmental@fema.dhs.gov.

Sincerely,

Duane Castaldi
Regional Environmental Officer
FEMA Region V

Sen by email to thomasp@preserveohio.com

Appendix D
Waters Investigation Report



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
HUNTINGTON DISTRICT, CORPS OF ENGINEERS
502 EIGHTH STREET
HUNTINGTON, WEST VIRGINIA 25701-2070

August 18, 2022

Regulatory Division
North Branch
LRH-2021-598-MUS-Unnamed tributary (UNT) Chaps Run

PRELIMINARY JURISDICTIONAL DETERMINATION

Mr. Charles Saunders
City of Zanesville, Ohio
401 Market Street
Zanesville, Ohio 43701

Dear Mr. Saunders:

I refer to the *Waters Investigation Report, City of Zanesville, Ohio, Muskingum Avenue Improvements* dated July 2022, submitted on your behalf by Burgess & Niple, Inc., and received in this office on August 4, 2022. You have requested a preliminary jurisdictional determination (JD) for the potential jurisdictional aquatic resources on the approximately 15.329-acre site located along Muskingum Avenue in Zanesville, Muskingum County, Ohio at approximately 39.937354 latitude, -82.013522 longitude. On-site waters flow to an unnamed tributary to Chaps Run, an indirect tributary to the Muskingum River, a traditional navigable water of the United States. Your JD request has been assigned the following file number: LRH-2021-598-MUS-UNT Chaps Run. Please reference this number on all future correspondence related to this JD request.

The United States Army Corps of Engineers' (Corps) authority to regulate waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR 328 and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires a Department of the Army (DA) permit be obtained prior to discharging dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over or under a navigable water.

Based upon a review of the information provided, this office has determined two (2) streams (Stream 1 – 685 linear feet and Stream 2 – 122 linear feet) are located within the preliminary JD review area. The aquatic resources identified above and on the enclosed preliminary JD form may be waters of the United States in accordance with the Regulatory Guidance Letter for JDs issued by the Corps on October 31, 2016 (Regulatory Guidance Letter No. 16-01). As indicated in the guidance, this preliminary JD is non-binding and cannot be appealed (33 CFR 331.2), and only provides a written indication that waters of the United States, including wetlands, may be present on-site.

You have declined to exercise the option to obtain an approved JD in this instance and at this time for the above aquatic resources. However, for the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that require authorization from this office, the above aquatic resources will be evaluated as if they are waters of the United States.

Enclosed please find a copy of the preliminary JD form. If you agree with the findings of this preliminary JD and understand your options regarding the same, please sign and date the preliminary JD form and return it to this office within 30 days of receipt of this letter. You should submit the signed copy to Kayla Osborne of the North Branch at kayla.n.osborne@usace.army.mil or to the following address:

United States Army Corps of Engineers
Huntington District
Attn: North Branch
502 Eighth Street
Huntington, West Virginia 25701

A copy of this letter will be provided to your agent, Matthew Aldridge with Burgess & Niple, Inc. If you have any questions concerning the above, please contact Kayla Osborne of the North Branch at 304-399-5850, by mail at the above address, or by email at kayla.n.osborne@usace.army.mil.

Sincerely,



Andrew J. Wendt
Regulatory Project Manager
North Branch

Enclosures

Waters Investigation Report



Muskingum Avenue Improvements Zanesville, Ohio

Prepared for:

City of Zanesville, Ohio
401 Market Street
Zanesville, Ohio 43701

July 2022

BURGESS & NIPLE

**WATERS INVESTIGATION REPORT
CITY OF ZANESVILLE, OHIO
MUSKINGUM AVENUE IMPROVEMENTS**

PREPARED FOR:

**CITY OF ZANESVILLE, OHIO
401 MARKET STREET
ZANESVILLE, OH 43701**

JULY 2022

PREPARED BY:

**BURGESS & NIPLE, INC.
330 RUSH ALLEY, SUITE 700
COLUMBUS, OHIO 43215**

EXECUTIVE SUMMARY

Client: City of Zanesville, Ohio
Project Name: Muskingum Avenue Improvements
Address: Muskingum Avenue
Zanesville, OH 43701
County: Muskingum
USGS Quadrangle: Zanesville West, OH
Hydrologic Unit Codes: 050400060604 (Timber Run-Licking River) &
050400040802 (Flat Run-Muskingum River)
Latitude/Longitude: 39.937603, -82.013533
Investigator(s): Seth Swearingen
Date(s) of Field Investigation: June 15, 2022

The City of Zanesville proposes stabilization and restoration work for Muskingum Avenue and Putnam Hill Park to address rockfall and land slippage hazards associated in part due to flooding of the Muskingum River.

Based upon a desktop and field reconnaissance, the following was concluded:

- Two (2) potentially jurisdictional streams are located within the investigation area.

The U.S. Army Corps of Engineers (USACE) is the regulatory authority responsible for definitively determining whether a water is a jurisdictional “water of the U.S.” (WOTUS). B&N recommends requesting a formal Jurisdictional Determination (JD) from the USACE before conducting any earth-moving or construction activities at the site. A JD may be requested in the context of obtaining Clean Water Act (CWA) Section 404/401 authorization for proposed project impacts, or as a separate action. This site is under the jurisdiction of the following USACE District:

**U.S. Army Corps of Engineers
Huntington District
502 8th Street
Huntington, WV 25701**

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Water Resources Identified

Based on the findings of this Waters Investigation, B&N concludes that a total of **807 lf** of potentially regulated stream resources are located in the investigation area, as summarized in **Table 2** above.

5.2 Regulatory Implications and Recommendations

This Waters Investigation Report has been prepared based on the best available information and best professional judgement of the responsible investigator(s). However, only the U.S. Army Corps of Engineers (USACE) can render definitive determinations of jurisdiction under Section 404 of the Clean Water Act (CWA). B&N recommends that the City of Zanesville does not need to obtain a formal Jurisdictional Determination (JD) from USACE regarding the above identified resources. If impacts occur to these resources, a Nationwide Permit (NWP) can be submitted to the USACE.

Federally regulated WOTUS require a CWA Section 404 permit from USACE and an accompanying Section 401 water quality certification (WQC) prior to undertaking jurisdictional “fill” activities in them. A series of approximately fifty-eight (58) NWPs are available from USACE for certain routine, low-impact activities such as utility line crossings, road crossings, outfalls, maintenance of existing structures, commercial developments, and stream and wetland restoration projects. NWPs are “streamlined” Section 404/401 permits that have been assigned predefined terms and conditions by USACE and Ohio EPA. As a general statement, projects impacting 0.5 acre or less of WOTUS are eligible for NWP authorization; however, USACE and Ohio EPA have imposed numerous specific and regional conditions on Ohio Nationwide Permits, including conditions affecting project location, resource types, in-water work dates, tree clearing, and Section 401 stream eligibility, among others. Therefore, it is critical to evaluate all NWP terms and conditions in order to determine eligibility for NWP authorization.

If the level of impact or nature of project activities are not eligible for NWP authorization, the project will require an Individual Section 404 Permit from USACE, and/or an accompanying Individual Section 401 WQC from Ohio EPA.

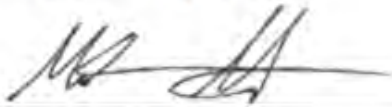
Projects impacting larger river and stream segments listed as “Section 10” waters by USACE Districts may also require prior authorization under Section 10 of the Rivers & Harbors Act (RHA). New bridges to be located in Section 10 or other navigable waterways may also require RHA Section 9 authorization by the U.S. Coast Guard.

Wetland resources determined to be "isolated" by USACE are not federally regulated but are subject to permitting requirements under Ohio EPA's IWP program. Three levels of permitting (Level 1, 2, 3) are available under this program, depending upon the extent of impacts and ORAM wetland Category ratings.

If additional information becomes available, we request the opportunity to review the information and modify the conclusions of this report, if appropriate. If you should have any questions or require further information, please feel free to contact the undersigned.

Respectfully submitted,

Burgess & Niple, Inc.



Mathew Aldridge
Environmental Scientist
(614) 459-7272 ext. 1022
Mathew.Aldridge@burgessniple.com

Appendix E
City of Zanesville Public Involvement

Community Notices

Notices

- [Muskingum Ave Environmental Assessment RFQ 4.18.2022](#)
- [2200 Linden RFQ](#)
- [APG028 FINAL Linden Avenue Phase I Property Assessment 06.26.2020](#)
- [YBridge RFQ](#)
- [Billing Water Rules and Regulations Effective January 1, 2020](#)
- [For Those Citizens with a Cable Box with Time Warner \(DOCX\)](#)
- [BILLING RATE SHEET 2021](#)



Public Notice

Your Source

Public Notices

for the latest...



Public Notices

PUBLIC NOTICE

Requests for Statements of Qualifications (RFQ) for professional services will be received by the City of Zanesville Engineering Division, 401 Market Street, Zanesville, OH 43701, until 4:30 p.m., Friday, May 6, 2022, for the Muskingum Avenue Improvements - Environmental Assessment. The City is seeking the services of a Qualified Firm for the preparation of a FEMA approvable Environmental Assessment for the Muskingum Avenue Improvements project. As required by O.R.C. 153.65-71, responding firms will be evaluated and ranked in order of their qualifications per the criteria in the RFQ. Following this evaluation, the City of Zanesville will enter into negotiations with the most highly qualified firm.

For a copy of the RFQ, please contact Charles M. Saunders, P.E., City Engineer by email at csaunders@coz.org. Please include in the email Subject line: "Muskingum Avenue Improvements - Environmental Assessment." (ZTR, Apr 18, 25, '22 #5219956)

ORDINANCE NO. 19- 98
INTRODUCED BY COUNCIL

AN ORDINANCE AUTHORIZING THE PROPER CITY OFFICIAL TO SUBMIT AN APPLICATION TO THE OHIO DEVELOPMENT SERVICES AGENCY FOR AN AWARD OF COMMUNITY DEVELOPMENT CRITICAL INFRASTRUCTURE PROGRAM FUNDS AND DECLARING AN EMERGENCY.

WHEREAS, the City of Zanesville wishes to participate in, and receive financial assistance under, the 2019 CDBG Community Development Program provided through the State of Ohio, Ohio Development Services Agency, Office of Community Development (OCD); and

WHEREAS, the City is eligible for up to \$500,000 under the Round II 2019 Critical Infrastructure Grant Program; and

WHEREAS, the City initially restricted Muskingum Avenue (from Pine Street to the Railroad track) to one-lane as a result of falling rock and debris from the hillside. Total closure was forced as a result of Muskingum River flooding, causing a significant slip which has continued, jeopardizing the loss of pedestrian facility and roadway; and

WHEREAS, the closure of Muskingum Avenue (from Pine Street to the Railroad track) has had significant impacts on the local residents, businesses and the community as a whole. Further, first responders have lost access through this route, thus lengthening emergency response time. Therefore, it is imperative to make safe and repair this important pedestrian and vehicular transportation corridor, providing for the public's safety and welfare; and

WHEREAS, the City Council through the adoption of Ordinance No 19-93 authorized submission of a FEMA Mitigation Grant Program application for the potential repair of Muskingum Avenue. If awarded, the HMGP requires a 12.5% local match. CDBG funds (if awarded) would meet the City's match requirement; and

WHEREAS, the application for CDBG assistance is expected to be due to the State of Ohio in early October, 2019. Failure to timely submit the application, would result in the loss of grant funding, thus it is in the public's best interest that the readings be waived and the Ordinance be passed as an emergency legislation.

NOW, THEREFORE, BE IT ORDAINED by the Council of the City of Zanesville, State of Ohio, that:

SECTION ONE: The Mayor is designated official representative of the City of Zanesville with respect to all matters relating to the application for the Community Development Block Grant assistance authorized by this Ordinance.

SECTION TWO: The Community Development Director is authorized to:

a) Prepare and file all documents necessary to make application to the Ohio Development Services Agency for an award of Community Development Block Grant assistance through the Fiscal Year 2019 Community Development Critical Infrastructure Grant Program;

Ordinance No. 19-98

b) Certify that the City will replace all occupied and vacant occupiable low/moderate income dwelling units demolished or converted to a use other than as low/moderate income housing as a direct result of activities assisted with funds awarded pursuant to the application as required by 24 CFR 570.496(a);

c) Enter into such contracts with, and provide such certifications to, the Ohio Development Services Agency as may be appropriate to assure that Title I funds awarded pursuant to allowance of the application are received and expended in full compliance with all requirements of the Housing & Community Development Act of 1974 and applicable Federal and State regulations; and,

d) Carry out and expend funds for all programs and activities set forth in the Community Development Block Grant application in conformity with program guidelines and applicable regulations.

SECTION THREE: For the reasons stated above, this Ordinance is declared to be an emergency measure. Provided it receives the affirmative vote of six (6) or more members of City Council, this Ordinance shall take effect and be in force immediately upon its passage and approval of the Mayor. Otherwise, it shall take effect and be in force from and after the earliest period allowed by law.

PASSED:

September 9, 2019

ATTEST:

Susan Culbertson
SUSAN CULBERTSON,
Clerk of Council

Daniel M. Vincent
DANIEL M. VINCENT,
President of Council

APPROVED:

September 10, 2019

THIS LEGISLATION APPROVED AS TO FORM

Jeff Milton
JEFF MILTON,
Mayor

[Signature]
LAW DIRECTOR'S OFFICE



THE CITY OF
Zanesville

401 Market Street • Zanesville, Ohio 43701
Phone (740) 617-4875
E-mail: council@coz.org

Council – Mayor
Government

SPECIAL PUBLIC SERVICE COMMITTEE AGENDA

The meeting will be held in Council Chambers at Zanesville City Hall, 401 Market Street, Zanesville, OH on Monday, December 14, 2020 at 5:00 p.m. by virtual means for the public.

This meeting is for discussion pertaining to the upcoming Ordinances, Resolutions, and discussion items of the Public Service Committee for review as follows and is open to the public by dialing in to telephonically attend due to the COVID-19 Pandemic. The call in information is listed at the bottom of this page.

1. Approval of Minutes of November 30, 2020

Ordinances

1. **Ordinance No. 2020-141** - An Ordinance authorizing the proper city official to enter into a professional contract with ADR for the final engineering services for the Muskingum Avenue (Dug Road) Improvements, and declaring an emergency.
2. **Ordinance No. 2020-142** – Introduced by Council – An Ordinance authorizing the proper city official to enter into a financing agreement to pay ADR & Associates, LTD., and/or reimburse city funds, for the project engineering costs for the Muskingum Avenue (Dug Road) Improvements Project.
3. **Ordinance No. 2020-146** – Introduced by Council – An Ordinance authorizing the Public Service Director to enter into a contract with Strand Associates, Inc. for services related to the Gant Stadium Upgrades Project.

Discussion Items

4. **Main Street Storm Sewer Project**

The next regular meeting is scheduled for January 11, 2021.

This meeting is an open meeting and the public is invited to attend by telephonic means to join by phone below or see the coz.org website for other options to view the meeting:

+1-415-655-0001 U.S. Toll

1-844-621-3956 United States Toll Free

Access Code: 126 750 8098

Join from a video conferencing system or application Open up a web browser and type:
zanesvillecity.webex.com Then type in the meeting number where it says Join Meeting 126 750 8098



Council-Mayor Government
Donald L Mason, Mayor

The City of Zanesville

401 Market Street, Zanesville, Ohio 43701

Phone: (740) 617-4910

Email: csaunders@coz.org

Department of Public Service

Engineering Division

Charles M. Saunders, P.E., CITY ENGINEER

M E M O

TO: Honorable Members of Council
FROM: Charles M. Saunders, City Engineer *CMS*
DATE: 5/26/2020
RE: Ord No. 20-73 emergency passage

As stated in the ordinance the reason this legislation has the emergency language inserted is to make our best attempt to get Muskingum Avenue available as an alternate route during the I-70 reconstruction project which will start impacting traffic in 2021 and is estimated to last into 2027. In 2022, one of the biggest impacts of the project will occur when the Maple Avenue on-ramp to I-70 eastbound will close. This will cause significant traffic impacts to the Adair / Underwood corridor. We believe motorists will seek to avoid this area and will use State Street or Linden Avenue, Pine Street, and Muskingum Avenue instead to if they are trying to get to a destination south of I-70. We need to get construction on this project going in the spring of 2021 if we intend to have Muskingum Avenue available to the public as part of an alternate route through the City in time for the 2022 ramp closure. Therefore, we have made the request for emergency passage.



January 18, 2021

Mayor Donald L. Mason
City of Zanesville
401 Market Street, City Hall
Zanesville, Ohio 43071

RE: Letter of Support-Muskingum Avenue (Dug Road) Improvement Project

Dear Mayor,

I am writing you to express our group's support for the improvement and reopening of Muskingum Avenue. I applaud your initiative to move this project forward.

Muskingum Avenue between Pine Street and Putnam Avenue is an important corridor for emergency services, police, motorists, and pedestrians, and to travel between the west and east sides of the City of Zanesville.

Reopening Muskingum Avenue will relieve traffic congestion through downtown along Main Street and on the Y-bridge. Having Muskingum Avenue open will also be especially important when Interstate 70 is being reconstructed through the City of Zanesville.

Reopening Muskingum Avenue will again allow residents located in the southwestern part of the City of Zanesville to have more convenient and better access to city services and to patronize the businesses located in the northern Putnam Avenue area.

Sincerely,

Nichole Schwartzmiller, President

Friends of Putnam

Muskingum County Emergency Management Agency

Jeff Jadwin
Director
Cell: 740-252-1318
jjadwin@muskingumcounty.org



Travis Roach
Deputy Director
Cell: 740-506-2507
troach@muskingumcounty.org

Tiffany Beardsley
Administrative Assistant
E-Mail: tbeardsley@muskingumcounty.org

2215 Adamsville Rd.
Zanesville OH 43701

Office
Phone: 740-453-1655
Fax: 740-588-4304
muskingumema@muskingumcounty.org

January 19, 2021

Mayor Donald L. Mason
City of Zanesville
401 Market Street
Zanesville, Ohio 43701

Reference: Letter of Support for the Muskingum Ave (Dug Road) Improvement Project

Dear Mayor,

The Muskingum County Emergency Management Agency & Office of Homeland Security has supported this project for a long period of time. I appreciate your efforts to move forward with this project to reopen a vital roadway connecting two areas of Zanesville.

Muskingum Ave between Pine Street and Maysville Ave is a vital link for the safety of our citizens and the property in those two areas. The time needed by Safety Forces (Police, Fire, & EMS) to make the trip around the detour definitely causes loss of lives and property.

The reopening of Muskingum Ave will definitely relieve some of the traffic traveling through downtown and on the Y-Bridge. This project being completed prior to the start of Interstate 70 Reconstruction Project would be a tremendous help but may not be realistic as the project start date approaches.

The reopening of Muskingum Ave will allow residents of the southwestern portion of the City to have better access to City Services. This will also help those local businesses along Pine Street and Maysville Ave that have been affected by the closure and patrons not wanting to travel the extra distance to get to those businesses.

This project is part of our 2018 Muskingum County All Hazards Mitigation Plan due to the slippage/landslides that have occurred over the years at this location. The City of Zanesville did participate in the planning process and the City did accept the plan.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey J. Jadwin".

Jeffrey J. Jadwin Director

- Susan Reese
Clerk



COMMISSIONERS

401 Main Street, Zanesville, Ohio 43701-3519

- Mollie S. Crooks
mscrooks@muskingumcounty.org
- James W. Porter
jwporter@muskingumcounty.org
- Cindy S. Cameron
cscameron@muskingumcounty.org

January 12, 2021

Mayor Donald L. Mason
City of Zanesville
401 Market Street, City Hall
Zanesville, Ohio 43701

RE: Letter of Support for the Muskingum Avenue (Dug Road) Improvement Project

Dear Mayor,

We are writing you to express our support for the improvement and reopening of Muskingum Avenue. We applaud your initiative to move this project forward.

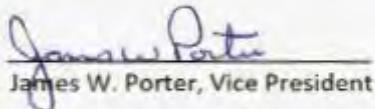
Muskingum Avenue between Pine Street and Putnam Avenue is an important corridor for emergency services, police, motorists, pedestrians, and bicyclists to travel between the west and east sides of the City of Zanesville.

Reopening Muskingum Avenue will relieve traffic congestion through downtown along Main Street and on the Y-Bridge. Having Muskingum Avenue open will also be specifically important when Interstate 70 is being reconstructed through the City of Zanesville.

Reopening Muskingum Avenue will again allow residents located in the southwestern part of the City of Zanesville to have more convenient and better access to city services and to patronize the businesses located in the Northern Putnam Avenue area.

Respectfully,
The Muskingum County Board of Commissioners


Mollie S. Crooks, President


James W. Porter, Vice President


Cindy S. Cameron

MSC,JWP,CSC/sar

740-455-7100 • Fax 740-455-3785

Muskingum County is an equal opportunity provider and employer.



January 14, 2021

Mayor Donald L. Mason
City of Zanesville
401 Market Street, City Hall
Zanesville, Ohio 43071

RE: **LETTER OF SUPPORT** for the
Muskingum Avenue (Dug Road) Improvement Project

Dear Mayor,

I am writing you to express my support for the improvement and reopening of Muskingum Avenue. I applaud your initiative to move this project forward.

Muskingum Avenue between Pine Street and Putnam Avenue is an important corridor for emergency services, police, motorists, pedestrians, and bicyclists to travel between the west and east sides of the City of Zanesville.

Reopening Muskingum Avenue will relieve traffic congestion through downtown along Main Street and on the Y-bridge. Having Muskingum Avenue open will also be specifically important when Interstate 70 is being reconstructed through the City of Zanesville.

Reopening Muskingum Avenue will again allow residents located in the southwestern part of the City of Zanesville to have more convenient and better access to city services and to patronize the businesses located in the northern Putnam Avenue area.

Sincerely,

A handwritten signature in blue ink, appearing to read "Howard Stewart".

Howard Stewart
Transit Director

www.seatbus.org
TTY 1-800-750-0750

SEAT Administrative Office
375 Fairbanks Street
Zanesville, OH 43701
(740) 454-8574 * (888) 291-7328
Fax: (740) 454-7449

SEAT Transit Center
224 Main Street
Zanesville, OH 43701
(740) 454-8573
Fax: (740) 452-9458

SEAT Cambridge Office
61322 Southgate PKWY, U#6
Cambridge, OH 43725
(740) 439-3393
Fax: (740) 439-4493

Lori Wince

Owner Weasel Boy Brewing Co.

126 Muskingum Ave. Zanesville OH 43701

740-607-2246

weaselboybrewing@yahoo.com

Jan. 07, 2021



Mayor Donald L. Mason
City of Zanesville
401 Market Street, City Hall
Zanesville, Ohio 43071

RE: **LETTER OF SUPPORT** for the
Muskingum Avenue (Dug Road) Improvement Project

Dear Mayor,

I am writing in support for the improvement and reopening of Muskingum Avenue, known locally also as Dug Road. I am thankful you were able to move legislation before Zanesville City Council and appreciate City Council members' support for the project.

Putnam residents and business owners are aware that the stretch of Muskingum Avenue between Pine Street and Putnam Avenue is a heavily traveled section of road that serves as an important corridor for emergency services, police and fire department vehicles, motorists, pedestrians, and bicyclists. Prior to the road's closure, people used Muskingum Avenue to access Putnam businesses and homes, and many Weasel Boy customers who live north of Interstate 70 complained that it was less convenient for them to visit our business once the road was closed permanently. Muskingum Avenue not only provides an east to west link in the city, but also provides an easier north to south route for some living in the northern part of the city.

Reopening Muskingum Avenue will relieve traffic congestion through downtown along Main Street and on the Y-bridge. Having Muskingum Avenue open will be specifically important when Interstate 70 is being reconstructed through the City of Zanesville.

The residents and businesses of Putnam appreciate your continued support.

Sincerely,

Lori L. Wince, Owner Weasel Boy Brewing Co.

Member Friends of Putnam



Administrative Center

ZANESVILLE CITY SCHOOLS

956 Moxahala Avenue ZANESVILLE, OHIO 43701 PHONE: (740) 454-9751
FAX: (740) 455-4325

January 13, 2021

Mayor Donald L. Mason
City of Zanesville
401 Market Street, City Hall
Zanesville, Ohio 43071

RE: LETTER OF SUPPORT for the
Muskingum Avenue (Dug Road) Improvement Project

Dear Mayor Mason:

I am writing you to express my support for the improvement and reopening of Muskingum Avenue. I applaud your initiative to move this project forward.

Muskingum Avenue between Pine Street and Putnam Avenue is an important corridor for emergency services, police, motorists, pedestrians, and bicyclists to travel between the west and east sides of the City of Zanesville. In addition, this road is used by the school to transport students and as a direct access point to the Zanesville City Schools School Bus Garage from our district office.

Reopening Muskingum Avenue will relieve traffic congestion through downtown along Main Street and on the Y-bridge. Having Muskingum Avenue open will also be specifically important when Interstate 70 is being reconstructed through the City of Zanesville.

Reopening Muskingum Avenue will again allow residents located in the southwestern part of the City of Zanesville to have more convenient and better access to city services and to patronize the businesses located in the northern Putnam Avenue area.

Sincerely,

Doug Baker, Ed. D.
Superintendent



City of Zanesville

www.coz.org

Division of Fire 332 South Street * Zanesville Ohio 43701 (Phone) 740-455-0700 (Fax) 740-455-0761

Email: zfd1@coz.org

18 January 2021

Mayor Donald L. Mason
City of Zanesville
401 Market Street, City Hall
Zanesville, Ohio 43701

RE: LETTER OF SUPPORT for the
Muskingum Ave. (Dug Road) Improvement Project

Dear Mayor,

I am writing to thank you and express my support for your efforts in reopening of Muskingum Ave.

In emergency services the ability to get on scene in a timely manner is often a determining factor in how successful an operation goes. Getting the first personnel on scene as well additional equipment for support in EMS and Fire can literally be the difference between life and death. Be it a person who is not breathing or a fire that doubles in size every 30 seconds, a little delay in response can mean a lot.

Having Muskingum Ave. reopened helps the Zanesville Fire Department with our East to West response on the South end of Zanesville. It affords us an alternate route when Construction, a train coming through, or responding from outside the station changes our primary response routes.

Please let me know if I can be of any additional help in making this happen.

Sincerely,

Chief Jeff Bell
Zanesville Fire Department



Chief H. Tony Coury



Mayor Donald Mason
City of Zanesville
401 Market Street
Zanesville, Ohio 43701

RE: Muskingum Ave. Letter of Support
For Improvement Project

Mayor Mason,

This letter is to show the Zanesville Police Department's support for the reopening of Muskingum Ave. (Dug Rd).

Muskingum Avenue from Putnam Avenue to Pine Street is a major thoroughfare for our services. The closure causes several minutes of delay for our staff to respond to emergencies on the East and West sides of the City of Zanesville.

The reopening of Muskingum Avenue will help with the traffic congestion in the downtown area along with the congestion issues that arise on the west and east sides of our southern districts. With the I70 project just around the corner, the reopening will greatly reduce our traffic problems by affording the citizens better access to city services located in this area.

Respectfully Submitted,

Chief Tony Coury

Appendix F
Public Notice and Comments

PUBLIC NOTICE

[The City of Zanesville, in Muskingum County, Ohio], in conjunction with [The Ohio Emergency Management Agency], has applied for Hazard Mitigation Assistance (HMA) funding from the Federal Emergency Management Agency for [The Muskingum Avenue Improvements project]. The objective of HMA programs is to fund mitigation measures that reduce the risk of loss of life and property from future hazard events or disasters. [The proposed scope of work is to restore the functional operation of Muskingum Avenue (Dug Road) for motorists, pedestrians, and bicyclists by repairing a roadway damaging landslip, stabilizing a hillside prone to rockfalls, and reconstructing the roadway.]

Under the National Environmental Policy Act, EO 11988 and EO 11990, public notice is required of any federal actions that may affect floodplains or wetlands. Under the National Historic Preservation Act, public notice is also required for some projects which have the potential to affect historic properties. All necessary permits and approvals will be obtained prior to construction and completion of the project.

Public participation is encouraged. Those interested are invited to comment within 30 days by e-mail to fema-r5-environmental@fema.dhs.gov or by mail to:

Duane Castaldi, Regional Environmental Officer
FEMA Region V
536 South Clark Street, 6th Floor
Chicago, IL 60605

PUBLIC NOTICE

[The City of Zanesville, in Muskingum County, Ohio], in conjunction with [The Ohio Emergency Management Agency], has applied for Hazard Mitigation Assistance (HMA) funding from the Federal Emergency Management Agency for [The Muskingum Avenue Improvements project]. The objective of HMA programs is to fund mitigation measures that reduce the risk of loss of life and property from future hazard events or disasters. [The proposed scope of work is to restore the functional operation of Muskingum Avenue (Dug Road) for motorists, pedestrians, and bicyclists by repairing a roadway damaging landslip, stabilizing a hillside prone to rockfalls, and reconstructing the roadway.]

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Public participation is encouraged. Those interested are invited to comment within 30 days by e-mail to fema-r5-environmental@fema.dhs.gov or by mail to:

Duane Castaldi, Regional Environmental Officer
FEMA Region V
536 South Clark Street, 6th Floor
Chicago, IL 60605
ZTR, May13, '22#5252079



U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605

FEMA

PUBLIC NOTICE

The City of Zanesville, Muskingum County, Ohio in conjunction with the Ohio Emergency Management Agency, has applied for funding through FEMA's Hazard Mitigation Grant Program (HMGP). The objective of Hazard Mitigation Assistance (HMA) programs is to fund mitigation measures that reduce the risk of loss of life and property from future hazard events or disasters. The City of Zanesville will use awarded funds to restore the functional operation of Muskingum Avenue for motorists, pedestrians, and bicyclists as well as upgrading and relocating the existing sanitary sewer force main for future full replacement.

In the vicinity of Putnam Hill Park, the slope south of Muskingum Ave will be cut back to create a 10 ft. wide bottom bench and barrier wall with a catchment fence adjacent to the back of the curb/gutter. The cutback will result in the removal of approximately 69,083 cubic yards (CY) of soil and rock which will be placed within the ravine on the western side Putnam Hill Park. The access drive on the west side of the park that goes through the ravine will be removed prior to fill placement and replaced with a new multi-use path. The existing Y-Bridge overlook will be removed and a new 68 ft. long by 14 ft. wide concrete overlook with four benches will be constructed at the top of the newly cut bluff and west of the original location. The parking lot and access road adjacent to the existing overlook will be reconstructed and will contain 10 parking spaces. An additional parking area will be constructed east of the new overlook location and will contain 10 parking spaces including 3 Americans with Disabilities Act (ADA)-accessible spaces. Twenty light poles will be installed along the shared-use path, overlook, and parking lots. The north slope of Muskingum Avenue at the location of the landslide will be stabilized with a concrete retaining wall. In addition, a barrier wall will be placed along the north side of the sidewalk along Muskingum Avenue. The project will replace the existing roadway surface, sidewalk, and stormwater drainage system and will reopen these facilities to motorists, pedestrians, and bicyclists. A new sanitary sewer force main will be installed below the westbound lane of Muskingum Avenue.

Under the National Historic Preservation Act, public notice is also required for some projects which have the potential to affect historic properties. Several historic resources will be destroyed by the work described above, including a natural spring on the face of the bluff along Muskingum Avenue and three features of the park: a stone bridge, the park's curving drives, and the ravines on the west side of the park.

This project will involve the removal of two jurisdictional streams within the park and will require Clean Water Act permitting through the US Army Corps of Engineers. The purchase of Mitigation Credits will be required, and the applicant has reserved 807 Stream Mitigation Credits from Hodgson Mitigation Bank. All necessary permits and approvals will be obtained prior to construction and completion of the project.

Under the National Environmental Policy Act, public participation is encouraged. FEMA's NEPA Scoping Document for the project titled *Muskingum Avenue Improvements* is available online in FEMA's NEPA repository at <https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository> or by e-mailing us and requesting a copy for anyone interested in more information about the project. Those interested are invited to comment within 30 days by e-mail to fema-r5-environmental@fema.dhs.gov or by mail to:

U.S. Department of Homeland Security
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, Illinois 60605



FEMA

Duane Castaldi, Regional Environmental Officer
FEMA Region 5
536 South Clark Street, 6th Floor
Chicago, IL 60605

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LEGAL NOTICE

Sale of Real Estate
Muskingum County
Foreclosure Auction
Case# CE2022-0128
PHH MORTGAGE
CORPORATION
VS
Robert Miller, Jr., et al.
The description of the property to be sold is as follows: 6455 Hopewell National Road, Hopewell, OH 43746; Legal Description: Full Legal Listed on Public Website; Parcel Number: 25-48-04-03-000 and 25-48-04-01-000. Bidding will be available only on www.hubzu.com opening on March 30, 2023 at 12:00 PM for a minimum of 7 days. Property may be sold on a provisional sale date should the third party purchaser fail to provide their deposit within the allotted time. Provisional sale date: April 13, 2023 at 12:00 PM for a minimum of 7 days. Subject to cancellation. The deposit required is \$5000.00 to be paid by wire transfer within 24 hours of the sale ending. No cash is permitted. Purchaser shall be responsible for those costs, allowances, and taxes that the proceeds of the sale are insufficient to cover. To view all sale details and terms for this property visit www.hubzu.com. (ZTR, Mar9,16,23, 23#5621183)

PUBLIC NOTICE

The City of Zanesville, Muskingum County, Ohio in conjunction with the Ohio Emergency Management Agency, has applied for funding through FEMA's Hazard Mitigation Grant Program (HMGP). The objective of Hazard Mitigation Assistance (HMA) programs is to fund mitigation measures that reduce the risk of loss of life and property from future hazard events or disasters. The City of Zanesville will use awarded funds to restore the functional operation of Muskingum Avenue for motorists, pedestrians, and bicyclists as well as upgrading and relocating the existing sanitary sewer force main for future full replacement.

In the vicinity of Putnam Hill Park, the slope south of Muskingum Ave will be cut back to create a 10 ft. wide bottom bench and barrier wall adjacent to the back of the curb/gutter. The cutback will result in the removal of approximately 69,083 cubic yards (CY) of soil and rock which will be placed within the ravine on the western side Putnam Hill Park. The access drive on the west side of the park that goes through the ravine will be removed prior to fill placement and replaced with a new multi-use path. The existing Y-Bridge overlook will be removed and a new 68 ft. long by 14 ft. wide concrete overlook with four benches will be constructed at the top of the newly cut bluff and west of the original location. The parking lot and access road adjacent to the existing overlook will be reconstructed and will contain 10 parking spaces. An additional parking area will be constructed east of the new overlook location and will contain 10 parking spaces including 3 Americans with Disabilities Act (ADA)-accessible spaces. Twenty light poles will be installed along the shared-use path, overlook, and parking lots. The north slope of Muskingum Avenue at the location of the landslip will be stabilized with a concrete retaining wall. In addition, a barrier wall will be

Public Notices

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Under the National Environmental Policy Act, public participation is encouraged. FEMA's NEPA Scoping Document for the project titled Muskingum Avenue Improvements is available online in FEMA's NEPA repository at <https://www.fema.gov/management-managers/practitioners/environmental-historic-nepa-repository> or by e-mailing us and requesting a copy for anyone interested in more information about the project. Those interested are invited to comment within 30

days by e-mail to fema-r5-environmental@fema.dhs.gov or by mail to: Duane Castaldi, Regional Environmental Officer, FEMA Region 5, 536 South Clark Street, 6th Floor, Chicago, IL 60605, ZTR, March 16, 23#5628715

Public Notices

days by e-mail to fema-r5-environmental@fema.dhs.gov or by mail to: Duane Castaldi, Regional Environmental Officer, FEMA Region 5, 536 South Clark Street, 6th Floor, Chicago, IL 60605, ZTR, March 16, 23#5628715

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Appendix G

Permits

Entered Director's Journal



Mike DeWine, Governor
Jon Husted, Lt. Governor
Anne M. Vogel, Director

I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.

By: *Handwritten Signature* Date: 04/19/2023

April 19, 2023

City of Zanesville
Attn: Scott Brown
401 Market Str.
Zanesville, OH 43701

RE: Zanesville Muskingum Ave Force Main
Permit-Long Term
Approval

Surface Water Permit to Install
Muskingum County
DSWPT1442817

Subject: Time Extension for Permit to Install Application No. 1442817
Zanesville Muskingum Ave Force Main
Date of Issue: April 19, 2023
Effective Date: April 19, 2023

Ladies and Gentlemen:

The Ohio Environmental Protection Agency has reviewed your request for a time extension to your Permit to Install issued on October 26, 2021, for Zanesville Muskingum Ave Force Main, located in Zanesville, Ohio. Accordingly, the above-mentioned Permit to Install is hereby modified to read as follows:

This permit shall become void November 30, 2024, unless the applicant has initiated construction as proposed by that time.

It should be noted that all special conditions which appear on the original permit and are not modified by this order, remain in force. The project must be constructed in strict accordance with these conditions as they appear in the original permit and this modification.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Treasurer, State of Ohio", which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address: Environmental Review Appeals Commission, 30 East Broad Street, 4th Floor, Columbus, OH 43215.

Sincerely,

Handwritten Signature of Anne M. Vogel

Anne M. Vogel
Director

cc: Southeast District Office