



John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Craig W. Butler, Director

**December 12, 2018**

**FINDING OF NO SIGNIFICANT IMPACT  
TO ALL INTERESTED CITIZENS, ORGANIZATIONS,  
AND GOVERNMENT AGENCIES**

**CITY OF STEUBENVILLE  
ISOLATION VALVE REPLACEMENT AND REHABILITATION  
FS390883-0020**

The attached Environmental Assessment (EA) is for a drinking water infrastructure improvement project in your area which the Ohio Environmental Protection Agency intends to finance through its Water Supply Revolving Loan Fund (WSRLF) below-market interest rate revolving loan program. The EA describes the project, its costs, and expected environmental benefits. We would appreciate receiving any comments you may have on the project. Making available this EA and seeking your comments fulfills Ohio EPA's environmental review and public notice requirements for this loan program.

Ohio EPA analyzes environmental effects of proposed projects as part of its WSRLF program review and approval process. We have concluded that the proposed project should not result in significant adverse environmental impacts. More information can be obtained by contacting the person named at the end of the EA.

Any comments on our preliminary determination should be sent to me at the letterhead address. We will not act on this project for 30 calendar days from the date of this notice to receive and consider comments. In the absence of substantive comments during this period, our preliminary decision will become final. After that, Steubenville can then proceed with its application for the WPCLF loan.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry Rouch", is written over a faint, larger signature.

*for*  
Jerry Rouch, Assistant Chief  
Division of Environmental & Financial Assistance  
Office of Financial Assistance

Attachment

## ENVIRONMENTAL ASSESSMENT

### **Project Identification**

Project: Steubenville Isolation Valve Replacement and Rehabilitation

Applicant: Honorable James S. Mavromatis, Mayor  
City of Steubenville  
115 South Third Street  
Steubenville, Ohio 43952

Loan Number: FS390883-0020

### **Project Summary**

The City of Steubenville, located in Jefferson County, has applied for financing from the Ohio Water Supply Revolving Loan Account (WSRLA) to fund the Isolation Valve Replacement and Rehabilitation project. This project is necessary to improve the aged and deteriorated water distribution system in Steubenville, and will include the mapping and assessment of approximately 1,782 water system isolation valves, and repairs of locations with critical damage. The estimated construction cost of this project is \$1,597,080, with construction scheduled to begin in early 2019 and last approximately 12 months.

### **History & Existing Conditions**

Steubenville's water treatment plant (WTP), located at 1565 University Boulevard, utilizes the Ohio River as its source water, which is then treated by coagulation, flocculation, clarification, filtration, and disinfection prior to distribution. The WTP has an average daily flow rate of 3.8 million gallons per day (MGD). Steubenville's distribution system has experienced a disproportionately recent and large number of waterline breaks. These breaks are believed to be primarily due to leaky pipes which have exceeded their useful life. Despite having an ongoing water pipe replacement program that prioritizes replacement based on areas with the highest number of pipe breaks, Steubenville has an annual calculated water loss in excess of 65%. Over the last eight years Steubenville has experienced approximately 80 waterline breaks per 100 miles of pipe per year, while the average in the region is approximately 26.5 breaks per 100 miles of pipe. Water line leaks and breaks create added expense for Steubenville related to routine and emergency repairs and necessitate energy and resources for the treatment of a greater volume of water than the customer demand.

On January 12, 2018 in Steubenville's downtown water district, an emergency water system event occurred, resulting from one significant waterline break and one non-functioning isolation valve, that was not resolved until January 24, 2018. The event resulted in that service area being without water for a substantial period of time. As a result of this event

and city-wide leaks, Ohio EPA issued a deficiency violation to Steubenville on February 7, 2018 requiring the location, mapping and exercising of all broken or non-functional isolation valves that are necessary within the distribution system.

### **Future Needs**

Steubenville's population of 18,305 has decreased by approximately 2,000 residents since 2000. During that same period, three major water customers, Wintersville, Jefferson County and RG Steel Mill were lost. Population trends show a likely continued decline in the water system's customer base.

Primary needs for the water system include continued improvements in the aged distribution system. This includes distribution line improvements to aged and leaking lines and elevated water tank improvements.

### **Alternatives**

Steubenville initially submitted designs to address their compliance requirements by replacing or repairing all critical isolation valves. This project would allow Steubenville to achieve compliance and follow-up the project with repairs to the various non-critical isolation valves in the service area. However, during subsequent discussions with Ohio EPA and its consultants, Steubenville determined that the project, as designed, would not efficiently allow the necessary repairs and make the best use of WPCLF principal forgiveness monies (principal that does not need to be repaid) made available to the city.

On October 15, 2018 Steubenville submitted phased alternative improvement projects to meet its compliance requirements. This two-phased alternative was accepted by Ohio EPA. Phase I will be performed under this project review and will be followed by Phase II, which will be further designed based on the findings of Phase I (Phase II of the project is the portion that will utilize principal forgiveness monies). The projects consist of the following:

Phase I: Valve Replacement/Rehabilitation and Leak Detection, which allows Steubenville to expedite their path to compliance by locating, mapping, exercising, repairing or replacing broken or non-functioning valves as required per the Ohio EPA Notice of Violation.

Phase II: Prioritized Pipe Replacement for Leak Reduction, which allows Steubenville to utilize data collected in Phase I to prioritize and replace or rehabilitate distribution pipe to further minimize Steubenville's real water losses as well as providing a reduction in pipe breaks.

### **Selected Alternative**

Phase I (see Figures 1 and 2) will begin with exercising all of the system's isolation valves. This action will determine if the individual valves are operable and functioning, operable and leaking, or non-operable. Non-operable valves will be replaced. Depending on the type of

leak and condition of the pipe, operable and leaking valves will either be repaired or replaced.

Leak detection and location in distribution lines will also take place. This will utilize a combination of acoustic correlators, ground microphones and other approved technologies. Based on this information, repairs of leaks will be determined in the field. Major leaks will be repaired as part of this project while small leaks may be repaired as part of the Phase II project.

Unidirectional Flushing (UDF) of hydrants and pipes will take place once all valves are returned to operational compliance. This action will improve water quality by removing tuberculation and biofilms, and flush other components from the system that negatively impact water quality. During UDF, hydrant flows and residual system pressures will be recorded, which will provide data necessary for calibrating the hydraulic model to be utilized for Phase II.

### **Implementation**

The total estimated cost of the proposed project is \$1,597,080, and borrowing that amount over 30 years at the current market rate of 3.77 percent would cost Steubenville approximately \$2,680,500. However, Steubenville is expecting to receive a grant from the Appalachian Regional Commission (ARC) in the amount of \$250,000 to assist in funding this project. Assuming Steubenville receives the ARC grant that it has applied for, the outstanding balance for the project is \$1,347,080. Steubenville qualifies for the Disadvantaged Communities zero-percent interest rate for Human Health Projects. Borrowing \$1,347,080 at zero percent, in combination with the \$250,000 ARC grant, will save Steubenville approximately \$1,333,386 over the life of the loan compared to the current market rate of 3.77 percent.

Construction of the proposed project is estimated to begin late in early 2019 and last approximately 12 months.

### **Public Participation**

Steubenville has conducted numerous public meetings pertaining to city water issues and this project, and they have been well attended by residents. There have also been extensive newspaper articles and online reporting regarding water issues, the proposed project and rate increases. Several residents have expressed concern or opposition to the rate increases. However, the proposed project is the most affordable option for the Steubenville to address Ohio EPA's Notice of Violation and an aged and deteriorated distribution system requiring significant improvements. A public notice announcing the future availability of this Environmental Assessment will be posted on City of Steubenville and Ohio EPA Division of Environmental and Financial Assistance websites. The public notice for the Environmental Assessment will be open for a 30-day public comment period. Thus, there have been adequate opportunities for information dissemination and public participation.

## **Environmental Impacts**

The project, which will help to ensure safe, potable water is delivered to Steubenville's customers, is unlikely to directly affect important environmental features. The project is designed to test, repair and replace existing isolation valves and adjacent watermains in an existing drinking water distribution system.

The project has the potential to affect the following features, but the effects will be reduced or mitigated to acceptable levels as explained below.

**Surface Water and Ground Water:** Construction will not have significant adverse long-term impacts on surface water resources as there will be no in-water work, no wetlands are present in the project area, and work will be performed in area in which the predominant cover is paved roads, gravel and lawn grass. Minor, short-term impacts from open-cut construction could occur. Excavation of the project area could be prone to erosion and deposition if construction mitigation is not followed. A Stormwater Pollution Prevention Plan (SWPPP), which describes the measures that will be taken to prevent pollution caused by runoff into surface waters, is required. Dewatering of ground water to enable work below grade may be necessary, but engineering controls are part of the specifications to minimize the impacts of discharging pumped ground water to a river or stream. No impacts to ground water resources are expected as all properties are connected to public water. The project areas are predominately located outside of the 100-year Ohio River floodplain and will add no new above-ground structures in the 100-year floodplain.

**Terrestrial and Aquatic Habitat:** Habitat will be insignificantly affected by this project. No trees are expected to be taken down due to the alignment of the project locations in rights-of-way in which the predominant cover is paved roads, gravel and lawn grass. All areas will be restored to pre-construction conditions.

The U.S. Fish and Wildlife Service (USFWS) indicates that the endangered Indiana bat and threatened northern long-eared bat can be found in Jefferson County. However, the project does not include any tree clearing and trimming. Therefore, no impacts to these species are anticipated.

The species of concern eastern hellbender salamander can be found in Jefferson County. However, the project does not include any in-water work, and the project will include adherence to a SWPPP. Therefore, no impacts to this species are anticipated.

The species of concern bald eagle can be found in Jefferson County. However, they are not believed to be present in the project area. This is due to the project area's habitat (busy urban roads, maintained lots, residential and commercial lots) not being conducive to the species as described on USFWS webpages. Therefore, we have determined that the project may affect, but is not likely to adversely affect, the bald eagle.

Air Quality: Jefferson County meets standards for five of the six regulated air pollutants (carbon monoxide, nitrogen oxide, lead, particulate matter and ozone). The area is currently in nonattainment for sulfur dioxide; however, air quality will be unaffected by this project. The project will add no permanent sources of air pollution, although short-term, insignificant increases in dust and local air pollution from construction vehicle exhaust are expected during construction and will be controlled by standard construction best management practices. For these reasons, the project should have no significant adverse short-term or long-term impacts on local air quality.

Dust, Noise, Odors, Safety and Traffic: Standard construction best management practices will minimize noise and dust. Construction noise will be audible but insignificant compared to normal vehicle traffic in the greater project area. Traffic will be disrupted temporarily due to excavation in rights-of-ways and will be controlled and minimized by standard traffic controls (signs, barricades, flaggers). Public safety will be protected during construction primarily by proper traffic management in the construction areas and by covering or filling excavations at the end of each work day. Local aesthetics will be unchanged after construction as project areas will be restored to pre-construction conditions.

The project is expected to have a net reduction on local or regional energy supplies related to a reduction in the volume of drinking water needing treatment due to repairs to leaking water distribution lines.

Archaeological and Historical Resources: Ohio EPA has concluded, based on the project's alignment, a thorough review of State Historical Preservation Office (SHPO) mapping data, and prior disturbance within the project locations, that no features listed on, or eligible for listing on, the National Register of Historic Places will be adversely impacted by the proposed project.

Based on this information Steubenville and Ohio EPA believe that unrecorded archaeological sites or properties eligible or listed on the National Register of Historic Places are not likely to be present.

In the event that archaeological properties are found during construction, contractors and subcontractors are required under Ohio Revised Code Section 149.53 to notify the Ohio State Historical Preservation Office (and Ohio EPA) and to cooperate with those entities in archaeological and historic surveys and salvage efforts when appropriate.

Local Economy: Debt for this project will be repaid from monthly water rates and a Water Infrastructure Improvement Fund fee. Water rates were raised significantly in 2018 and were scheduled to increase annually over the next five years in anticipation of this project and various future water infrastructure improvements. Likewise, the Water Infrastructure Improvement Fund fee that was instituted is scheduled to increase annually over the next five years. The residential water bill in Steubenville, based on average water usage, is \$71.90, plus a \$6.00 Water Infrastructure Improvement Fund fee, for a total of \$77.90 per month, or \$934.80 per year. This is 2.8 percent of the median household income of \$33,369, which is

considered high. However, based on the extensive deficiencies within the drinking water infrastructure and various proposed projects, this rate represents the minimum amount necessary to fund this project and make other necessary improvements going forward.

Unaffected Environmental Features: No state-designated scenic rivers or state-designated or federally-designated wildlife areas are present in or near the work sites. No farmland losses are expected as a result of this project. The project is not located in the Lake Erie coastal zone. No sole source aquifers are present under the project.

### **Conclusion**

Based on the planning documentation, associated correspondence, and public participation, the proposed project as designed will have no adverse long-term effect on farmland, coastal zones, surface water, ground water, floodplains, wetlands, aquatic or terrestrial habitat, endangered species, state or federal wildlife areas, state-designated scenic or recreational rivers, cultural properties, air quality or the local economy. It will have no long-term adverse effects with respect to noise, dust and odors. It will have long-term benefits associated with the testing and functional replacement of aging drinking water infrastructure, and the provision of a safe and adequate supply of potable water that is maintained according to the standards of the Safe Drinking Water Act and is capable of providing adequate and reliable water pressure to support the needs of residential customers and businesses throughout the project area.

For further information, please contact:

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Division of Environmental & Financial Assistance  
Ohio Environmental Protection Agency  
P.O. Box 1049  
Columbus, Ohio 43216-1049

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Figure 1: General project area (in red).



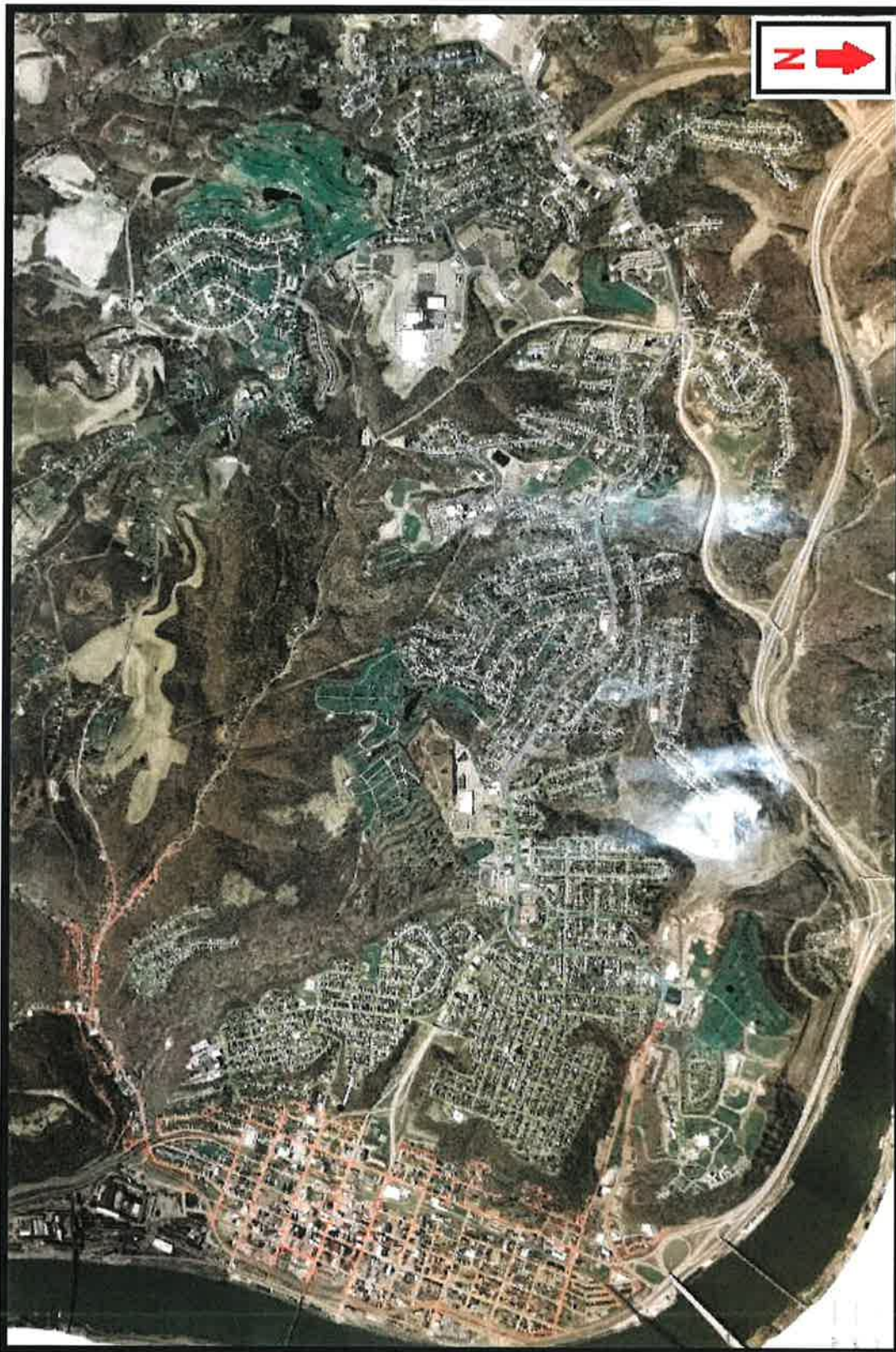


Figure 2: Steubenville Water Service Area