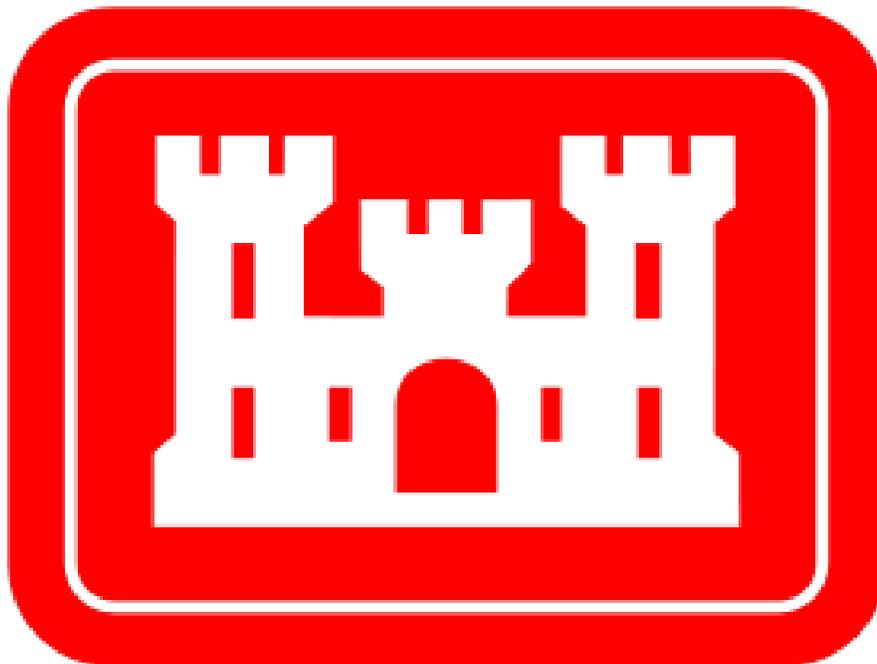


Draft Environmental Assessment  
Section 594  
Village of Cadiz South and Center Wastewater Collection  
System Improvements and Dedicated Storm Sewers  
Harrison County, Ohio



U.S. Army Corps of Engineers  
Huntington District  
Huntington, West Virginia  
August 2020



**Environmental Assessment**  
**Village of Cadiz South and Center Wastewater Collection**  
**System Improvements and Dedicated Storm Sewers**  
**Harrison County, Ohio**  
**Executive Summary**

The Village of Cadiz is proposing to design and construct improvements to the existing wastewater collection system, specifically the South and Center collection system as well as installation of dedicated storm sewers. The original wastewater collection system was constructed in 1939 and is comprised of a combination of vitrified clay pipe (VCP), polyvinyl chloride (PVC) pipe, and PVC-relined pipe. The proposed infrastructure improvements would reduce inflow and infiltration problems, assist with bringing the Village into compliance with Findings and Orders issued by the Ohio Environmental Protection Agency, decrease operation and maintenance costs, and increase system capacity to allow for continued growth.

The Proposed Action Alternative would consist of construction of approximately 26,900 linear feet of gravity sewer pipe replacement, 22,950 linear feet of gravity sewer pipe rehabilitation, 130 manhole replacements, 120 manhole rehabilitations, 3,470 linear feet of gravity storm sewer pipe, six (6) catch basins, 17 storm manholes, and all necessary appurtenances.

The proposed project is a partnership agreement between the Village of Cadiz and the U.S. Army Corps of Engineers, established under the authority of Section 594 of the Water Resources Development Act of 1999 (Public Law 106-109), as amended, which provides authority for the Corps to establish a program to provide environmental assistance to Non-Federal entities in Ohio. This law provides design and construction assistance for water related environmental infrastructure projects to Non-Federal interests in Ohio. Funding, as established under Section 594, shall be shared 75% Federal and 25% Non-Federal (State and Local).

This Environmental Assessment is prepared pursuant to the National Environmental Policy Act, Council on Environmental Quality Regulations (40 CFR 1500-1508) and the Corps Implementing regulation, ER-200-2-2.



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SECTION 594  
VILLAGE OF CADIZ  
WATER SYSTEM IMPROVEMENTS PROJECT  
PERRY COUNTY, OHIO  
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*The brief and concise nature of this document is consistent with the 40 CFR requirements of the National Environmental Policy Act (NEPA) to reduce paperwork and delay by eliminating duplication with existing environmental documentation, incorporating pertinent material by reference, and by emphasizing interagency cooperation. The majority of data collection and analysis in this document was performed by E.L. Robinson Engineering Company in conjunction with the U.S. Army Corps of Engineers (Corps).*

## **1.0 PROJECT DESCRIPTION**

### **1.1 Project Background**

The Village of Cadiz (Village) is located in Harrison County, Ohio. The Village's original wastewater collection system was constructed in 1939. The entire existing collection system is comprised of a combination of vitrified clay pipe (VCP), polyvinyl chloride (PVC) pipe and PVC-relined pipe. The existing collection system is approximately 188,765 feet of four (4) inch to 16-inch diameter gravity sewer lines, 34,071 feet of one and a half (1-1/2) inch, two (2) inch, four (4) inch, six (6) inch and eight (8) inch diameter force main, 798 manholes, 14 cleanouts, four (4) lift stations, one (1) individual grinder lift station and all requisite appurtenances.

This Environmental Assessment (EA) examines the potential environmental impacts of the proposed improvements to the wastewater collection system and dedicated storm sewer as proposed by the Village. The purpose of the EA is to analyze the potential environmental impacts of the proposed project and to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). An EIS is typically conducted where significant human or natural resources exist and the implementation of a proposed project may have significant effects to those resources. An EA typically involves projects where no significant resources occur or the project is expected to have less than significant impacts to the human and natural environment. In both EISs and EAs, additional project actions can be implemented to help avoid, minimize, or mitigate for potential project impacts.

### **1.2 Purpose, Need, and Authorization**

The purpose of the proposed project is to provide improvements to the Village's wastewater collection system, specifically the South and Center collection systems as well as installation of dedicated storm sewers throughout the Village. The Village's original wastewater collection system was constructed in 1939 and is comprised of a combination of vitrified clay pipe (VCP), polyvinyl chloride (PVC) pipe, and PVC-relined pipe. The need for wastewater improvements in the proposed area is to reduce inflow and infiltration problems, assist with brining the Village into compliance with Findings and Orders (F&O) issued October 2017 by the Ohio Environmental Protection Agency (OEPA), decrease operation and maintenance costs, and increase system capacity to allow for continued growth.

The proposed project is a partnership agreement between the Village and the Corps established under the authority of Section 594 of the Water Resources Development Act (WRDA) of 1999 (Public Law 106-109), as amended, which provides authority for the Corps to establish a



program to provide environmental assistance to Non-Federal entities in Ohio. This law provides design and construction assistance for water related environmental infrastructure projects to Non-Federal interests in Ohio, including projects for wastewater treatment and related facilities, water supply, water storage, water treatment, water distribution facilities, and surface water resource protection and development.

This EA is prepared pursuant to NEPA, Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508), and Corps implementing regulation, ER 200-2-2.

## **2.0 ALTERNATIVES DISMISSED FROM FURTHER CONSIDERATION**

### **2.1 Vacuum Sewers**

This alternative considered replacing the existing system with vacuum sewers. The best application for vacuum sewer collectors is in flat gently rolling terrain of moderate slopes, with the absence of long and/or steep upgrades exceeding 15 feet in vertical difference. The optimum length of a vacuum collector mail is approximately 3,000 feet. The Village would have to maintain specialized parts and equipment for serving the system. Only small, confined, and widely separated areas within the project area would meet the vacuum sewer design criteria due ground slopes and elevation differences. This alternative was dismissed from further consideration due to existing topographical and geological constraints and greater operation and maintenance costs than the proposed action.

### **2.2 Low Pressure Sewer System**

This alternative considered installation of a low pressure sewer system (LPSS) which consists of small diameter force mains into which individual grinder pumps discharge sewage from one or two homes. The low pressure sewer system is not subject to infiltration from ground water or from surface storm water entering through leaking pipe joints or manholes. However, capital costs as well as long term operation and maintenance costs are higher than other types of collection systems. Additionally, since there is usually a long time between pumping cycles the sewage tends to go septic even in small systems. This alternative was dismissed from further consideration due to greater costs than the proposed action.

## **3.0 PROPOSED ACTION AND ALTERNATIVES**

### **3.1 Proposed Action Alternative (PAA)**

The PAA would include construction of approximately 26,900 linear feet of gravity sewer pipe replacement, 22,950 linear feet of gravity sewer pipe rehabilitation, 130 manhole replacements, 120 manhole rehabilitations, 3,470 linear feet of gravity storm sewer pipe, six (6) catch basins, 17 storm manholes, and all necessary appurtenances. Gravity collection utilizes pipes installed to flow on a continuous downward grade to a point of discharge. Direction is changed by use of manholes that provide maintenance personnel access to the system. The point of discharge of a gravity collector is either a treatment facility or a pumping station. Pump stations are used to lift



the wastewater to a point where gravity flow can start again. This process is repeated until the treatment facility is reached.

### **3.2 No Action Alternative (NAA)**

Under the NAA, the Corps would not provide funding for the project and the Village would not improve the wastewater system. Without this proposed project, further deterioration of the wastewater system would likely continue and result in excessive inflow and infiltration problems and treatment concerns during wet weather events. Additionally, the Village would be out of compliance with the F&O issued by OEPA. However, it is included in the alternatives analysis to establish a baseline condition for existing human and natural environmental conditions, to allow comparison between future without and with project actions, and to determine potential environmental effects of proposed with project alternatives.

## **4.0 ENVIRONMENTAL SETTING AND CONSEQUENCES**

This section discusses the existing conditions by resource category and any potential environmental impacts associated with the NAA as well as with implementation of the PAA.

The Corps took context and intensity into consideration in determining potential impact significance, as defined in 40 CFR part 1508.27. The intensity of a potential impact is the impact's severity and includes consideration of beneficial and adverse effects, the level of controversy associated with a project's impacts on human health, whether the action establishes a precedent for future actions with significant effects, the level of uncertainty about project impacts and whether the action threatens to violate federal, state, or local laws established for the protection of the human and natural environment. The severity of an environmental impact is characterized as none/negligible, minor, moderate, significant, or beneficial. The impact may also be short-term or long-term in nature.

- None/negligible – No measurable impacts are expected to occur.
- Minor – A measurable and adverse effect to a resource. A slight impact that may not be readily obvious and is within accepted levels for permitting, continued resource sustainability, or human use. Impacts should be avoided and minimized if possible, but should not result in a mitigation requirement.
- Significant – A measurable and adverse effect to a resource. A major impact that is readily obvious and is not within accepted levels for permitting, continued resource sustainability, or human use. Impacts likely result in the need for mitigation.
- Beneficial – A measurable and positive effect to a resource. May be minor to major, resulting in improved conditions, sustainability, or viability of the resource.
- Short-Term – Temporary in nature and does not result in a permanent long-term beneficial or adverse effect to a resource. For example, temporary construction-related



effects (such as, an increase in dust, noise, traffic congestion) that no longer occur once construction is complete. May be minor, significant, adverse or beneficial in nature.

- Long-Term – Permanent (or for most of the project life) beneficial or adverse effects to a resource. For example, permanent conversion of a wetland to a parking lot. May be minor, significant, adverse or beneficial in nature.

The Corps used quantitative and qualitative analyses, as appropriate, to determine the level of potential impact from proposed alternatives. Based on the results of the analyses, this EA identifies whether a particular potential impact would be adverse or beneficial, and to what extent. CEQ regulations also require that a proposed action's cumulative impact be addressed as part of a NEPA document. Cumulative impacts are discussed in section 4.19 below

#### 4.1 Location

The affected area is located within the Village of Cadiz in Harrison County, Ohio. The wastewater collection system improvements and dedicated storm sewers would be located within the Village's boundaries and figure 1 below shows the overall project location. See Appendix A for project location maps.

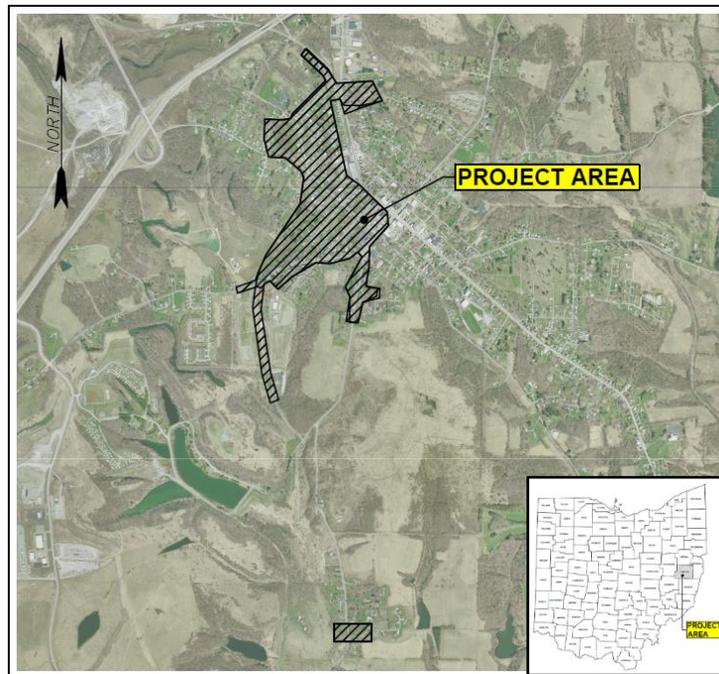


Figure 1: Project Location

#### 4.2 Land Use



Land use in the vicinity of the PAA is primarily residential and commercial. Land use surrounding the Village is primarily agricultural, forested, and open space. The majority of the wastewater improvements would be constructed in road right-of-ways or previously disturbed areas. A small portion of the proposed project is outside of road right-of-ways and would not impact land use as the new wastewater lines would be placed underground and the land surface would be restored to pre-construction contours.

There would be no impacts to land use as a result of either the PAA or NAA.

### **4.3 Climate**

On average, the winter temperature in Harrison County is approximately 45 degrees Fahrenheit while the average summer temperature is 73 degrees Fahrenheit. The county receives 40.74 inches of precipitation annually. The majority of rainfall occurs between March and September. February is the driest month, while June is the wettest month for Harrison County (<https://weatherspark.com>).

Only short duration, minor discharges of carbon based pollutants would occur during construction activities that could contribute to greenhouse gases. The NAA or PAA would not involve any activity that could significantly affect the environment in regards to climate change and would not likely be influenced by future changes in climate. Therefore, no significant adverse impacts to climate or climate change would occur as a result of the PAA.

### **4.4 Terrestrial Habitat**

The PAA would be constructed primarily in previously disturbed areas, including road right-of-ways. Removal of grass and vegetation may occur within areas where trenching for the wastewater system improvements and bore pit directional activities are implemented. Potential impacts to vegetation would be minimal and temporary. Areas would be returned to pre-construction conditions upon completion of construction activities through soil grading and grass seeding. Any necessary tree clearing would be limited to those that are necessary for the project and only occur between October 1<sup>st</sup> and March 15<sup>th</sup> to avoid impacts to federally threatened or endangered bat species. Only minor, temporary impacts to existing vegetation during construction are anticipated to occur. Therefore, no significant long-term impacts to terrestrial habitat are anticipated as part of the PAA.

Without the proposed project, under the NAA it is likely that inflow and infiltration problems could result in local environmental contamination from bacteria, nitrates, and trace quantities of toxic materials, this would pose a health risk to both humans and wildlife in the natural environment.



#### **4.5 Floodplains**

Executive Order 11988 requires Federal agencies to consider the potential effects of their proposed actions to floodplains. In order to determine the PAA's potential floodplain impact, the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) were reviewed and the proposed project is located outside of the Special Flood Hazard Area and is located in areas of minimal flood hazard identified on the FEMA FIRM as Zone X (<https://www.fema.gov/floodplain-management/flood-zones>). The proposed wastewater lines would be buried and result in no change in grade or elevation. Proposed construction activities would not involve the placement of fill material and all subgrade and above grade components such as manholes would be designed for flood protection (e.g. manholes would be fitted with flood proofed lids).

Therefore, no impacts to floodplains are anticipated to occur from the PAA or NAA.

#### **4.6 Prime and Unique Farmland**

The Farmland Protection Policy Act (FPPA) requires Federal agencies to minimize the conversion of prime and unique farmland to non-agricultural uses. The majority of the project area follows road right-of-ways, and previously disturbed areas. These improvements would take place within the Village's corporate boundaries, which is already committed to urban development. The Corps' Huntington District has determined that due to the majority of the area being pre-disturbed, the FPPA would not apply to this proposed project and no impacts on prime or unique, statewide, or locally important farmland is expected to occur. On January 5, 2017, the Natural Resources Conservation Service (NRCS) determined the project area is located in the right-of-way and/or committed to urban development and therefore is not subject to FPPA.

There are no impacts to Prime and Unique Farmland anticipated as part of the NAA.

#### **4.7 Aquatic Habitat/Water Quality**

The Village is located within Sally Buffalo Creek, a tributary to Middle Fork Short Creek, part of the Upper Ohio-Wheeling Watershed (HUC 05030106) which flows and drains into the Ohio River. The major sources of impairment within the Sally Buffalo Creek and Middle Fork Short Creek is total dissolved solids. Sources of impairment include abandoned mine drainage and municipal wastewater treatment plants.

Surface water in the project area is designated as modified warm water habitat, agricultural water supply, industrial water supply, and primary contact recreation. The quality of this surface water has been negatively affected by excessive amount of infiltration/inflow during heavy rain events, overflows at manholes, and breaks in the wastewater lines with wastewater being discharged into the ground and area streams. Currently, the Village is operating under a National Pollutant Discharge Elimination System (NPDES) permit that expired on July 31, 2006, with a renewal application submitted on January 27, 2008. Implementation of the PAA would not result in any



new discharge of pollutants. A NPDES permit for construction of the proposed action would be required due to the size of construction area

An Aquatic Resource Delineation was conducted in February 2017 and thirty-six (36) stream channel segments were identified, delineated, and documented. In addition, eight (8) non-jurisdictional drainage ditches were identified within the project area. Approximately ten stream crossings along Mill Creek, Unnamed Tributaries to Mill Creek, Sally Buffalo Creek, and Unnamed Tributaries to Sally Buffalo Creek are associated with the proposed project. The total length and width of stream crossings are approximately 196 feet and 133 feet respectively. Four of the crossings would be constructed by bore & jack methods and the other six constructed by open cut. Direct impacts to streams would be minor and temporary due to the short duration and through utilization of BMPs. Permanent disturbance to streams would be avoided by utilizing proper construction techniques and restoration as soon as construction is complete. Prior to construction, authorization from the Corps' Regulatory Branch shall be completed under Section 404 of the Clean Water Act and a State Water Quality Certification (Section 401 Clean Water Act) shall be obtained by the local sponsor.

Based on the above, implementation of the PAA would not result in significant adverse long-term environmental impacts to aquatic habitat and water quality. In the long-term, implementation of the PAA is expected to have a positive impact on the aquatic habitat and water quality within the project area. Implementation of the PAA would ensure the removal of untreated sewage into the Upper Ohio-Wheeling Watershed during storm events.

Under the NAA, aquatic impacts would continue in nearby streams and surface water runoff would continue to negatively impact water quality in the project area due to inflow and infiltration problems.

#### **4.8 Wetlands**

National Wetland Inventory Maps (NWI) were reviewed for the proposed project area and identified approximately seven wetland resources within the boundaries of the project area. Formal wetland delineations were conducted in January 2017. During the field reconnaissance, a total of nineteen (19) wetland resources, consisting of approximately 1.7 acres, was identified, delineated, and documented. The identified wetland resources within the vicinity of the proposed sewer line have been avoided through project design. Therefore, there would be no impacts to wetlands under the PAA.

No impacts to wetlands are anticipated as part of the NAA. However, there is potential for increased risk of contamination to wetlands that may be located downstream of existing wastewater systems if infrastructure failure occurs in the future.



#### **4.9 Wild and Scenic Rivers**

No designated State Wild or Scenic Rivers are present within the Project Area. Therefore, no impacts to these resources are anticipated as part of the PAA or NAA.

#### **4.10 Hazardous, Toxic, and Radioactive Waste (HTRW)**

A Phase 1 HTRW Environmental Site Assessment was conducted for the Village of Cadiz Wastewater Collection System Improvements Project to identify environmental conditions and to identify the potential presence of HTRW contamination located in the project's construction work limits. Below are the following Phase 1 HTRW findings:

The Corps HTRW staff determined the Phase 1 HTRW report showed no evidence of recognized environmental contamination within the property and no further HTRW action is required. Therefore, no impacts to HTRW are anticipated with the PAA. A clearance memorandum was signed by Corps HTRW staff January 14, 2019.

The NAA would not result in ground disturbing activities, and thus would not disturb areas of potential HTRW contamination. Therefore, there are no HTRW impacts associated with the NAA.

#### **4.11 Cultural Resources**

A Phase 1 Archeological Survey for the proposed project was conducted in August 2018. The report was submitted to the Ohio State Historic Preservation Office (SHPO) on September 6, 2018. On October 3, 2018 the SHPO stated in a letter that the proposed project "would not affect historic properties" and that no further archeological work is necessary within the proposed project area. The Corps Huntington District concurs with the determination from Ohio SHPO. In accordance with 36 CFR 800.4(d)(1)(i), the Huntington District has fulfilled its obligations under Section 106.

If unanticipated archaeological deposits or human remains are discovered during construction, all work near the location of the discovery shall cease and the Project Manager and Huntington District Archaeologist shall be contacted immediately. The Ohio State Police, the Harrison County Coroner, and Ohio Historic Preservation Office must also be notified immediately if human remains are discovered.

#### **4.12 Threatened and Endangered Species**

According to the U.S. Fish and Wildlife Service (USFWS) in email correspondence dated December 21, 2016, the project area is within the range of the Indiana bat (*Myotis sodalis*) and Northern long-eared bat (*Myotis septentrionalis*). The proposed project would occur primarily within previously disturbed areas and it is anticipated no tree clearing would occur. However, if limited tree clearing would need to occur, tree removal would only take place between October 1st and March 15<sup>th</sup> to minimize potential impacts to federally listed bat species. Therefore, the



Corps has determined that the proposed action may affect but is not likely to adversely affect the Indiana Bat and Northern Long-eared bat. Coordination under Section 7 of the Endangered Species Act and Fish and Wildlife Coordination Act is on-going and will be completed prior to execution of the Finding of No Significant Impact. The USFWS will be copied on this EA to provide concurrence with USACE's determinations.

#### **4.13 Air Quality**

According to the Ohio Environmental Protection Agency (OEPA) website, Harrison County is classified as "in attainment" (maintaining applicable standards) for all criteria pollutants. Emissions from construction equipment would occur during the construction period. Contractors would operate all equipment in accordance with local, state, and Federal regulations. The PAA is exempted by 40 CFR Part 93.153 from making a conformity determination, since estimated emissions from construction equipment would not be expected to exceed de minimis levels, direct emissions of a criteria pollutant, or its precursors. Any impacts would be short-term, localized, and would occur only during construction phase activities. Impacts to air quality under the PAA would be temporary during construction and minor.

No impacts to air quality are anticipated to occur as part of the NAA.

#### **4.14 Noise**

Noise associated with the PAA would be limited to that generated during construction. The noise associated with construction would be short in duration and would only occur during daylight hours. Noise is measured as Day Night average noise levels (DNL) in "A-weighted" decibels that the human ear is most sensitive to (dBA). There are no Federal standards for allowable noise levels. According to the Department of Housing and Urban Development Guidelines, DNLs below 65 dBA are normally acceptable levels of exterior noise in residential areas. The Federal Aviation Administration (FAA) denotes a DNL above 65 dBA as the level of significant noise impact. Several other agencies, including the Federal Energy Regulatory Commission, use a DNL criterion of 55 dBA as the threshold for defining noise impacts in suburban and rural residential areas. According to Dr. Paul Schomer in his 2001 *A White Paper: Assessment of Noise Annoyance*, while there are numerous thresholds for acceptable noise in residential areas, research suggests an area's current noise environment, which has experienced noise in the past, may reasonably expect to tolerate a level of noise about 5 dBA higher than the general guidelines. The Corps Safety and Health Requirements Manual provides criteria for temporary permissible noise exposure levels (see Table 3.1 below), for consideration of hearing protection or the need to administer sound reduction controls.



Duration/day (hours)	Noise level (dBA)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105

Construction noise would be similar to that of farm equipment and other small machinery used in the local area. A backhoe, end loader, road grader and/or vibratory roller are examples of equipment that is likely to be used during construction. Each emits noise levels around 85 dBA at 45 feet. Construction equipment would be operated during daylight hours; therefore a reasonable exposure time of two hours would be expected during the time residents may be home during the day. Peak outdoor noise levels ranging from 78-90 dBA would occur during the time in which equipment is directly in front of or in proximity to homes and businesses (within 25-100 feet). A maximum noise exposure of approximately 98 dBA, for one hour could occur if equipment were within 10 feet of homes and business. The noise projections do not account for screening objects, such as trees, outbuildings or other objects that muffle and reduce the noise being emitted. The outdoor construction noise would be further muffled while residents are inside their homes. While the construction noise generated would be considered unacceptable according to HUD and FAA standards, these limited exposures and time intervals are still within allowable Corps safety levels. Further, they are similar to typical neighborhood noise generated by gas powered lawnmowers in the local area, which could range from 90-95 dBA at three feet and 70-75 dBA at 100 feet. Residents being exposed to these noise levels would occur if and/or when residents are home and outdoors.

Due to daytime construction and the short and limited duration of elevated noise levels associated with the PAA, impacts from the noise to local residences would be temporary and minor.

There would be no change in noise and thus no impact under the NAA.

#### **4.15 Environmental Justice and Protection of Children**

Executive Order (E.O.) 12898 requires Federal actions to address environmental justice in minority populations and low-income populations. According to the U.S. Census Bureau, the 2018 population estimate for Harrison County was 15,174 and does not contain significant minority populations. The 2018 estimates indicates Perry County is 94.8% white and has a median household income of \$46,223 compared with the median household income of \$52,407



for the State of Ohio. Individuals residing in the county below the poverty level is 12.8% compared to 14% statewide.

EO 13045 requires each Federal agency “to identify and assess environmental health risks and safety risks that may disproportionately affect children” and “ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.” This EO was prompted by the recognition that children, still undergoing physiological growth and development, are more sensitive to adverse environmental health and safety risks than adults. The potential for impacts on the health and safety of children is greater where projects are located near residential areas.

Service provided by the wastewater collection system improvements would serve residents who presently experience frequent overflow events during wet weather conditions, resulting in contaminant sources into surface water during these events. Implementation of the PAA would provide residents and children with a safe, reliable wastewater system, thereby improving the living environment for all residents. No homes or buildings would be impacted by the proposed project; therefore, the PAA meets the directive of EO 12898 and EO 13045 by avoiding any disproportionately high adverse human health or environmental effects on minority or low income populations or children.

The NAA could result in overflow events during wet weather conditions, which could pose a safety and long-term health risk.

#### **4.16 Aesthetics**

Temporary disturbance of the local aesthetics would be anticipated during construction of the water system improvements; however after construction, the excavated sites would be restored to original conditions.

Neither the PAA nor NAA would significantly impact local aesthetics.

#### **4.17 Transportation and Traffic**

The majority of the proposed water system would follow road right-of ways. New permanent traffic patterns would not occur as a result of this project. Construction of the PAA in and along existing road right-of-ways would involve some delays. It is not anticipated that any modifications to transportation routes would be necessary. Construction would be in compliance with standard traffic controls to minimize traffic disruptions and avoid public safety problems. Impacts anticipated to occur from the PAA would be minimal and temporary.

No impacts to transportation and traffic are anticipated to occur from the NAA.

#### **4.18 Health and Safety**



The PAA has been designed to provide a safe, reliable wastewater system to the residents of the project area that are currently utilizing an aged system. The existing system experiences significant inflow and infiltration problems during wet weather events. Providing improvements to the wastewater system is necessary to reduce the inflow and infiltration problems. Therefore, the PAA is anticipated to have a long-term, beneficial impact on health and safety for the residents in the project area.

Under the NAA, residents would continue to experience inflow and infiltration problems, perpetuating health and safety concerns that could cause negative impacts on the community.

#### **4.19 Cumulative Effects**

The Corps must consider the cumulative effects of the proposed project on the environment as stipulated by NEPA. Cumulative effects are "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or Non-Federal) or person undertakes such actions". Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR Part 1508.7 Council on Environmental Quality [CEQ] Regulations).

The cumulative effects analysis is based on the potential effects of the proposed project when added to similar impacts from other projects in the region. An inherent part of the cumulative effects analysis is the uncertainty surrounding actions that have not yet been fully developed. The CEQ regulations provide for the inclusion of uncertainties in the analysis and states that "when an agency is evaluating reasonably foreseeable significant adverse effects on the human environment...and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking" (40 CFR 1502.22).

Temporal and geographical limits for this project must be established in order to frame the analysis. These limits can vary by the resources that are affected. The construction of a wastewater collection system improvement project would have minimal and insignificant negative impacts on the environment. Long-term, beneficial effects would result from the project and would include improved health and safety living conditions and improved operations of the collection system system. The temporal limits for assessment of this impact would initiate in 1972 with the passage of the Clean Water Act and end 50 years after completion of this project. The geographical extent would be broadened to consider effects beyond the PAA. The geographical extent considered is the Upper Ohio-Wheeling Watershed.

The Upper Ohio-Wheeling Watershed is listed as impaired for various sources throughout the watershed. Sources of impairment include total dissolved solids, abandoned mine drainage, and municipal wastewater treatment plants. In the past, other villages within the watershed have performed upgrades to existing wastewater systems. These past actions had similar temporary impacts but no significant cumulative impact. Harrison County Soil and Water Conservation District has undertaken numerous efforts including monitoring water quality, inventory of resources, and education within the watershed. Within the watershed, a partnership between



Harrison County Soil and Water Conservation District, Carroll County Soil and Water Conservation District, and the Muskingum Watershed Conservancy District in on-going and focuses on maintaining and improving water quality in the watersheds of Atwood, Leesville, Tappan, and Clendening Lakes. Impairment of the Upper Ohio-Wheeling Watershed is expected to continue but as communities continue to improve existing public wastewater systems, a cleaner, healthier watershed would be possible. Water quality standards and regulations are expected to remain as stringent in the future as today.

Section 4.0 documents the existing environment and potential environmental effects of the PAA and NAA with respect to existing conditions. The effects of the PAA, as discussed beforehand, are localized and minor. Past actions that may have resulted in similar effects may include wastewater or water infrastructure improvement actions. No reasonably foreseeable future actions that would have similar impacts as the proposed action were identified. In scoping cumulative effects issues, no resources were identified as having a potential to be significantly affected. Only minor and temporary impacts to ecological resources would be sustained with the implementation of the PAA. These resources would be reestablished upon completion of construction.

The availability of Federal funds through programs, such as the 594 Program, to assist communities with installation and construction of water-related environmental infrastructure and resource protection and development projects in Ohio is an additional benefit to the area. The significance of this action on health, safety, and water quality would be positive. Given that the current program remains in place for the foreseeable future and the overall beneficial effect from implementation of the PAA, there is expected to be a positive, though small, cumulative effect on health and safety based on past, present, and reasonably foreseeable actions.

### 5.0 Status of Environmental Compliance

The PAA will be in full compliance with all local, state, and Federal statutes as well as Executive Orders prior to issuance of a FONSI. Coordination with the U.S Fish and Wildlife Service is on-going under Section 7 of the Endangered Species Act and Fish and Wildlife Coordination Act. Compliance is documented below in Table 2.

<b>Table 2 - Environmental Compliance Status</b>			
Statute/Executive Order	Full	Partial	N/A
National Environmental Policy Act (considered partial until the FONSI is signed)		X	
Fish and Wildlife Coordination Act		X	
Endangered Species Act		X	
Clean Water Act		X	
Wild and Scenic Rivers Act	X		
Clean Air Act	X		
National Historic Preservation Act	X		
Archeological Resources Protection Act			N/A



<b>Table 2 - Environmental Compliance Status</b>			
Comprehensive, Environmental Response, Compensation and Liability Act	X		
Resource Conservation and Recovery Act	X		
Toxic Substances Control Act	X		
Quiet Communities Act	X		
Farmland Protection Act	X		
Executive Order 11988 Floodplain Management	X		
Executive Order 11990 Protection of Wetlands	X		
Executive Order 12898 Environmental Justice in Minority Populations and Low-Income Populations	X		
Executive Order 13045 Protection of Children	X		

## 6.0 REQUIRED COORDINATION

### 6.1 Agencies Contacted

Direct coordination with NRCS, SHPO, and USFWS was completed prior to publication of the EA. Agency correspondence is included in Appendix B.

### 6.2 Public Review and Comments

The EA and FONSI will be available for public review and comment for a period of 30 days, as required under NEPA. A Notice of Availability will be published in the local newspaper, Harrison News Herald, advising the public of this document's availability for review and comment. A copy of the EA will also be placed in the Puskarich Public Library and made available on-line at <http://www.lrh.Corps.army.mil/Missions/PublicReview.aspx>. The mailing list for the EA is located in Appendix C.

## 7.0 CONCLUSION

The Village of Cadiz is proposing to improve the wastewater collection system as well as installation of dedicated storm sewers throughout the Village. Wastewater improvements would reduce inflow and infiltration problems and assist with bringing the Village into compliance with the F&O issued by the OEPA, decrease operation and maintenance costs, and increase system capacity to allow for continued growth. By providing a safe and reliable wastewater collection system, the proposed project is anticipated to have long-term beneficial impacts on health and safety for residents in the project area and surrounding area by providing a reliable system. No significant, adverse impacts have been identified as a result of implementation of the proposed improvement project. The NAA was considered unacceptable due to health and safety hazards for the community in the proposed project area.

The majority of the proposed project would take place on previously disturbed land. Health and safety would be realized immediately with project implementation. Effects associated with



construction would be minor and temporary. BMPs would be implemented during construction to minimize impacts to residents and the environment. Therefore, the PAA would not be expected to have significant impacts on the human or natural environment.

## **8.0 LIST OF INFORMATION PROVIDERS AND PREPARERS**

The following agencies were involved in preparation of the EA.

E.L. Robinson Engineering  
5088 Washington Street  
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Planning Branch  
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Huntington, WV 25701

## **9.0 REFERENCES**

Council for Environmental Quality  
1996 Draft Guidance for Addressing Environmental Justice under NEPA. 1996.

Council for Environmental Quality  
1997 Considering cumulative Effects Under the National Environmental Policy Act.

Federal Emergency Management Agency 2019 Floodplain Maps Website:  
<https://msc.fema.gov/portal/home>

Schomer, Paul  
2001 A White Paper: Assessment of Noise Annoyance. Schomer and Associates

U.S. Census Bureau  
2019 American FactFinder Website:  
<https://www.quickfacts.census.gov>

U.S. Fish and Wildlife Service  
2019 National Wetlands Inventory website:  
<https://www.fws.gov/wetlands/data/mapper.html>

U.S. Fish and Wildlife Service  
2019a Information for Planning and Conservation website:  
<https://www.fws.gov/ipac>

U.S. Geological Survey



2019 StreamStats: Streamflow Statistics and Spatial Analysis Tools for Water- Resources  
Application. StreamStats Application Website:  
<https://streamstats.usgs.gov/ss/>

WallacePancher Group  
2017 Aquatic Resources Delineation Report

Weller & Associates, Inc.  
2018 Phase I Cultural Resource Survey for the Proposed South and Center Collection System  
Project in Cadiz, Harrison County, Ohio