



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

April 4, 2023

**Preliminary Finding of No Significant Impact
To All Interested Citizens, Organizations, and Government Agencies**

**Village of Plain City – Madison and Union Counties
Village of Plain City WWTP Improvements
Loan Number: CS390757-0006**

The attached Environmental Assessment (EA) was updated on April 4, 2023 to correct an error on page 2. The EA stated that the NPDES permit for the village's WWTP had expired, when in fact it was renewed in October 2022 and doesn't expire until September 30, 2027. No other changes were made to the EA from its original posting.

This EA is for a sewer infrastructure improvement project in Plain City which the Ohio Environmental Protection Agency intends to finance through its Water Pollution Control Loan Fund (WPCLF) 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 WPCLF 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 attached EA.

Any comments on our preliminary determination should be sent to the email address of the contact named at the end of the EA. We will not act on this project for 30 calendar days from the date of this notice. In the absence of substantive comments during this period, our preliminary decision will become final. After that, the Village of Plain City can then proceed with its application for the WPCLF loan.

Sincerely,

Kathleen Courtright, Assistant Chief
Division of Environmental & Financial Assistance

Attachment

ENVIRONMENTAL ASSESSMENT

Project Identification

Project: WWTP Improvements

Applicant: Village of Plain City
P.O. Box 167
800 Village Boulevard
Plain City, Ohio 43064

Loan Number: CS390757-0006

Project Summary

The Village of Plain City has requested \$8 million in financial assistance from Ohio EPA's Water Pollution Control Loan Fund (WPCLF) to make improvements to its wastewater treatment plant (WWTP) as shown below in figures 1 and 2. This proposed project is intended to provide a solution to the village's wastewater treatment needs, including those identified in the compliance schedule in the National Pollutant Discharge Elimination System (NPDES) permit. All of the proposed construction will occur within a village-owned parcel. More specifically, the proposed improvements will be made within or just adjacent to existing WWTP components and include construction of a new oxidation ditch, final clarifier, and related treatment improvements.

History & Existing Conditions

Plain City, a village in Madison and Union Counties, has a population of 3,831. The village owns and operates a WWTP, two pump stations, and a wastewater collection system ranging in size from 8- to 18-inches in diameter. In May 2017, Plain City first prepared a facilities plan explaining how the village would address its current and future wastewater treatment needs. Subsequently, this plan was updated in 2020 and 2021 to reflect the changes in the village's approach to wastewater collection and treatment.

Plain City's WWTP is a 0.75 million gallons per day (mgd) WWTP that currently processes over 1 mgd of wastewater. This flow exceeds the rated capacity of its WWTP and is responsible for the compliance schedule in the village's NPDES permit. This exceedance is thought to be due to the growth the village has undergone in the past few years, as well as higher infiltration and inflow (I/I)¹ due to recent consecutive years of above-average rainfall. As such, these extraneous flows are largely responsible for the hydraulic overloading at the village's WWTP. Additionally, the village has not completed any major upgrades to this facility since 2007.

Figure 1 below illustrates the current corporate limits of the village, as well as the maximum extent of the project planning area, much of which is likely to be developed over the next twenty years.

¹ I/I is defined as extraneous, clear water that enters a sanitary sewer system through surface or subsurface locations. Infiltration usually occurs when clear water enters the system below ground through cracked or broken pipes and manholes, poorly sealed or misaligned pipe joints, damaged or poorly connected sewer laterals, etc. Inflow may include clear water entering the system through manhole covers, roof or foundation drains, direct storm sewer connections, etc.

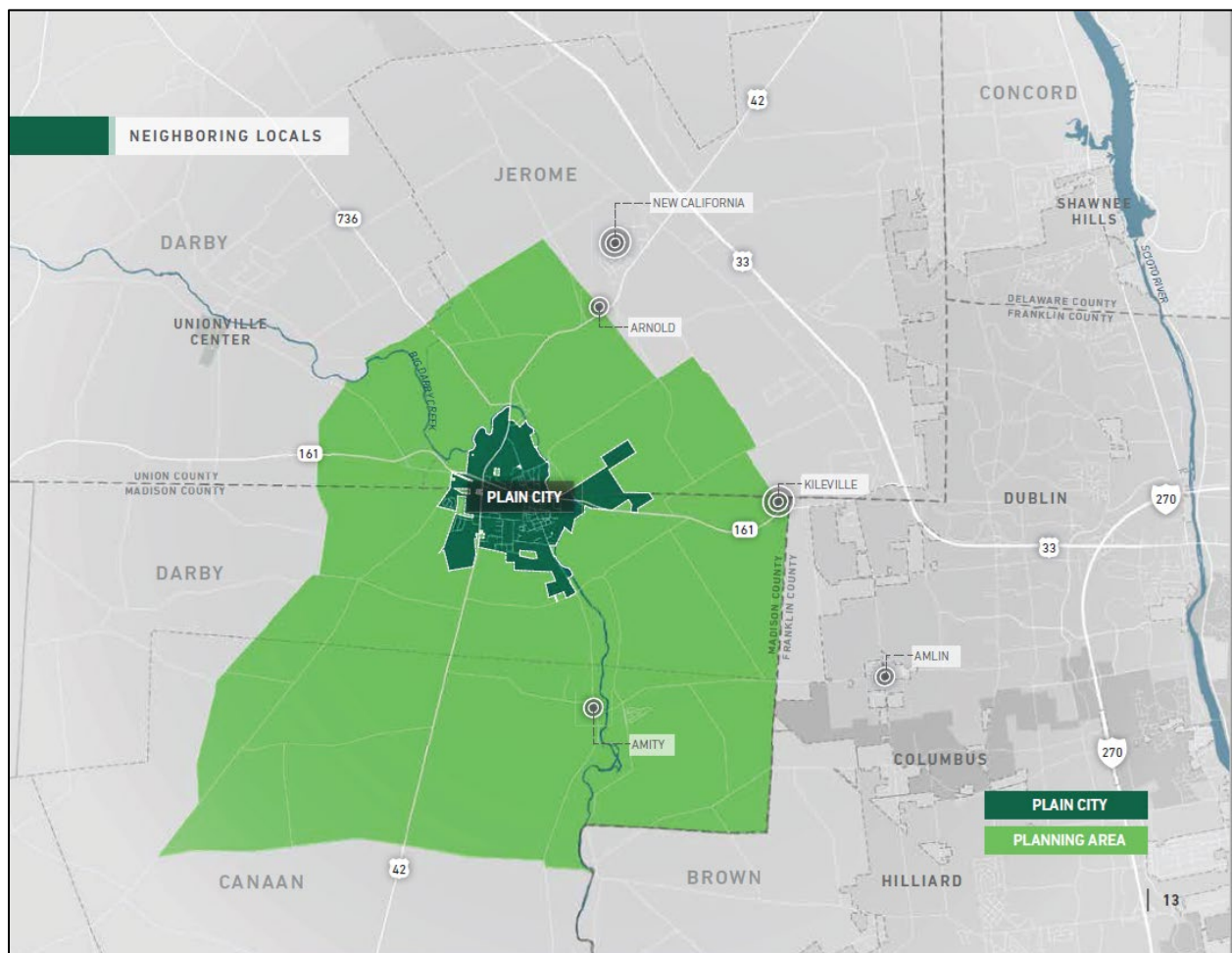


Figure 1. Village of Plain City's facilities planning area

Population and Flow Projections

The village has an active NPDES permit which will allow the WWTP to continued discharging to Big Darby Creek, an exceptional warmwater quality stream and a national and state scenic river. The proposed WWTP with an average daily flow of 1.25 mgd, a maximum daily flow of 3.13 mgd, and a peak flow of 4.12 mgd has been designed to meet the following effluent limitations:

Table 1. NPDES Permit Limits for Plain City's WWTP		
Parameter	30-Day Average Limitations - Summer	30-day Average Limitations - Winter
CBOD ₅ , mg/l	6	12
Suspended Solids, mg/l	7.2	10.8
NH ₃ -N, mg/l	0.4	2.8
Phosphorus, mg/l	0.4	
E. Coli, #/100 ml	126/100	
Dissolved Oxygen, mg/l (minimum)	7.0	

According to the village, its population and resulting wastewater flows are expected to increase to 21,000 people and about 4 mgd over the next 20 years. However, since the village's WWTP expansion will only be to 1.25 mgd under a NPDES permit (allowing a maximum capacity of 1.5 mgd), any flows above this amount will need to be handled at another wastewater facility such as is under consideration by the village and Madison County as part of a regionalization approach. For this reason, the following section only covers treatment options at the village's WWTP site shown below in Figure 2.

Alternatives

As noted above, Plain City is considering a regionalization alternative to handle its wastewater treatment needs. Originally, the village evaluated connection to Columbus and Marysville. However, these facilities were either unwilling or unable to handle the village's expected wastewater flows coming from new development. For that reason, the village considered the following options to process its wastewater. These alternatives included mechanical wastewater treatment at the existing WWTP site and a new pump station and force main to convey flows to a new WWTP site.

The three local alternatives included an integrated fixed-film activated sludge facility, adding an additional oxidation ditch to the existing treatment components, and a sequencing batch reactor, while the fourth option was a pump station and force main to convey flows to a new WWTP site. Of the four, the integrated fixed-film activated sludge facility had the lowest relative costs.

Non-monetary factors also influenced the village's alternatives analysis and included ease of use and maintenance, length of relative hydraulic retention time and the ability to adjust to the presence of shock loads and peak flows, WWTP components footprints that could limit future expansion at the existing site; WWTP component disruption; future site expansion opportunities; space requirements; the need for larger size yard piping; and the ability to provide back-up treatment components.



Figure 2. Plain City's existing WWTP

Selected Alternative

The selected alternative shown below in Figure 3 includes the installation of ten biological treatment components consisting of:

- A new mechanical bar screen in the existing manual rack bypass channel and keep the existing mechanical bar screen
- An upgraded pump station
- A 750,000-gallon per day oxidation ditch (#4) with mechanical surface aerators designed for nitrification
- A new final clarifier influent splitter box for the two new final clarifiers (#4 and #5) and a future final clarifier (#6)
- A new final clarifier (#4) with full diameter vacuum tube sludge collector, scum baffle, energy dissipating inlet well, density current baffles and full bridge and handrail
- New return activated sludge (RAS) and waste activated sludge (WAS) pumping, piping, and metering using available building space
- Yard piping, yard hydrants, and new manholes
- Site grading, drainage, and paving and restoration
- Electrical improvements, instrumentation and control system integration and SCADA
- Related miscellaneous work as may be necessary to complete the contract in accordance with the contract documents



Figure 2. Proposed Plain City WWTP improvements

Restoring the project area to its existing (or better) condition is an additional component of the proposed project. As noted before, these ten components are only an interim solution for the village's wastewater treatment needs. Expectations are that the village and Madison County will build a new pump station, force main, and WWTP discharging to a stream other than Big Darby and its tributaries to address the village's future wastewater needs.

Implementation

A typical village residential customer using on average 3,790 gallons per month can expect to pay a fee of \$41.61 and a capital improvements fee of \$5.50, or about \$565.32 a year in 2025. When expressed as a percentage of the service area's most recent median household income (MHI) figure of \$79,000, this annual post-project fee is about 0.72% of the village's MHI.

Plain City intends to finance the estimated \$8 million improvements to its WWTP through a 40-year low-interest loan from Ohio EPA's WPCLF. Currently, the WPCLF standard interest rate is 2.33%. This fixed interest rate is adjusted monthly to reflect changing market conditions and may change for a later loan award.

Assuming the project funding presented above, Ohio EPA expects that the village will save about \$4 million when compared to a market-rate loan of 4.13%. By proposing to fund its project in this way, Ohio EPA anticipates that Plain City should be able to generate enough revenue under its current and proposed wastewater rate structure to continue to own, operate, and maintain its wastewater collection and treatment systems well into the future. Under the village's proposed project schedule,

WPCLF funds are expected to be awarded in June 2023, so that construction can commence soon thereafter. The village estimates that construction on this project can be completed in about 2.5 years.

Public Participation

According to the village, the public was provided with opportunities to learn more about this compliance-driven wastewater improvements project, the village's wastewater rates, and the village's wastewater needs. These included activities such as Ohio EPA's public hearing on the WWTP expansion project held on July 11, 2022, as well as village council meetings held 2021 through 2023. On this basis, Ohio EPA has determined that no additional public review and comment on the proposed project is necessary. All potentially interested parties appear to have been given adequate opportunity to review and comment on this project and its costs. The village has not received any recent comments or responses to interested parties lately. Recently, the village held public meetings that were summarized in two newspaper articles.

Ohio EPA will make a copy of this document available to the public on its web page: <https://epa.ohio.gov/divisions-and-offices/environmental-financial-assistance/announcements> for review and comment and will provide it upon request. A copy may also be posted at the village's offices, and on its web site.

Environmental Impacts

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

Temporary construction impacts on noise, dust, traffic, and air emissions will be minimized. In particular, the detail plans and specifications indicate that noise will be reduced for example by limiting construction activities to daytime hours and providing construction equipment with proper intake silencers and mufflers. Further, air emissions will be limited by making sure that all construction equipment has proper emission control devices and that they are properly maintained. Any unpaved areas will be wet down (as necessary) during construction to minimize dust generation. Finally, traffic control will be accomplished by requiring that one lane of traffic must be maintained, that emergency vehicles have access to the construction site, and that other traffic control practices in the detail plans are followed.

Aquatic Habitat and Surface Water

As noted earlier, Plain City's WWTP lies within the Big Darby Creek watershed and its treated effluent, as well as surface runoff, flows into Big Darby Creek and its tributaries. Based on the limited scope of the village's WWTP expansion proposal, Ohio EPA has concluded that the project's potential impacts on surface water will be minimal as a result of the impact mitigation discussed below.

Overall, the long-term effect of the project is not expected to result in significant, adverse environmental impacts on these surface water features. More specifically, any impacts will be through an increase in the volume of treated wastewater discharged to Big Darby Creek for the length of time this WWTP is in use. While this activity will be noticeable, the village is proposing to install energy dissipating rip-rap that should minimize the effect of site runoff and effluent on Big Darby Creek and its stream banks. On this basis, the expected improvements in the WWTP's performance in accordance with its NPDES permit are a major benefit of this project and are expected to result in

better surface water quality conditions. Other than this long-term effect, the other activities associated with this project are expected to be relatively short-term (about two years in length) and limited to construction related erosion and sheet flow runoff from the relatively flat conditions found at the WWTP site.

The village will require the contractor to use appropriate erosion and sedimentation controls, such as silt fences, and will monitor their installation and maintenance during the construction period. Adherence to prohibited construction activities and a storm water pollution prevention plan will also assure that impacts on surface water resources from site runoff are kept to minimal, acceptable levels. In particular, the Village of Plain City's WWTP is sufficiently isolated from Big Darby Creek so the proposed project will have no significant direct adverse impacts on aquatic habitats, floodplains, and surface water resources such as wetlands and wild and scenic rivers.

In a similar way, expected residential development over the next 20 years will likely result in additional hardening of the Big Darby Creek watershed and increasing amounts of surface water runoff. However, Ohio EPA expects that appropriate storm water controls will be included in new developments that should limit the amount of runoff entering area streams, while concurrently helping retain sediment and other pollutants. As with our conclusions on the direct impacts of this proposed project, the indirect and cumulative effects of related suburbanization should be controlled and kept to acceptable levels through current regulatory approaches available under the Clean Water Act and related state and local laws.

Conclusion

Based on Ohio EPA's review of the village's proposed WWTP expansion project, it will have no direct effect on air quality, archaeological and historical resources, coastal zones, endangered species, energy, farmland, fish and wildlife, ground water resources, land use, local economy, noise/traffic/aesthetics, safety, safe drinking water, and sole source aquifers. Similarly, no major indirect and cumulative effects on these resource types are anticipated by Ohio EPA.

For example, any indirect and cumulative impacts on Big Darby Creek's exceptional warmwater habitat will be minimized by Plain City implementing all necessary measures to protect critical natural systems and landscapes for both their inherent value and for enjoyment by future generations as described in the village's 2018 comprehensive plan. More information on these concepts can be found in the open space conservation plan section of the Plain City Comprehensive Plan. These ideas are modeled after the Big Darby Accord. Figure 4 below helps illustrate these concepts, which Ohio EPA expects Plain City to employ for all new development and anywhere else it may be needed to help protect water quality. Overall, the village's proposed project is expected to result in improved chemical water quality in Big Darby Creek and enable the village to meet the terms and compliance schedule in its NPDES permit.

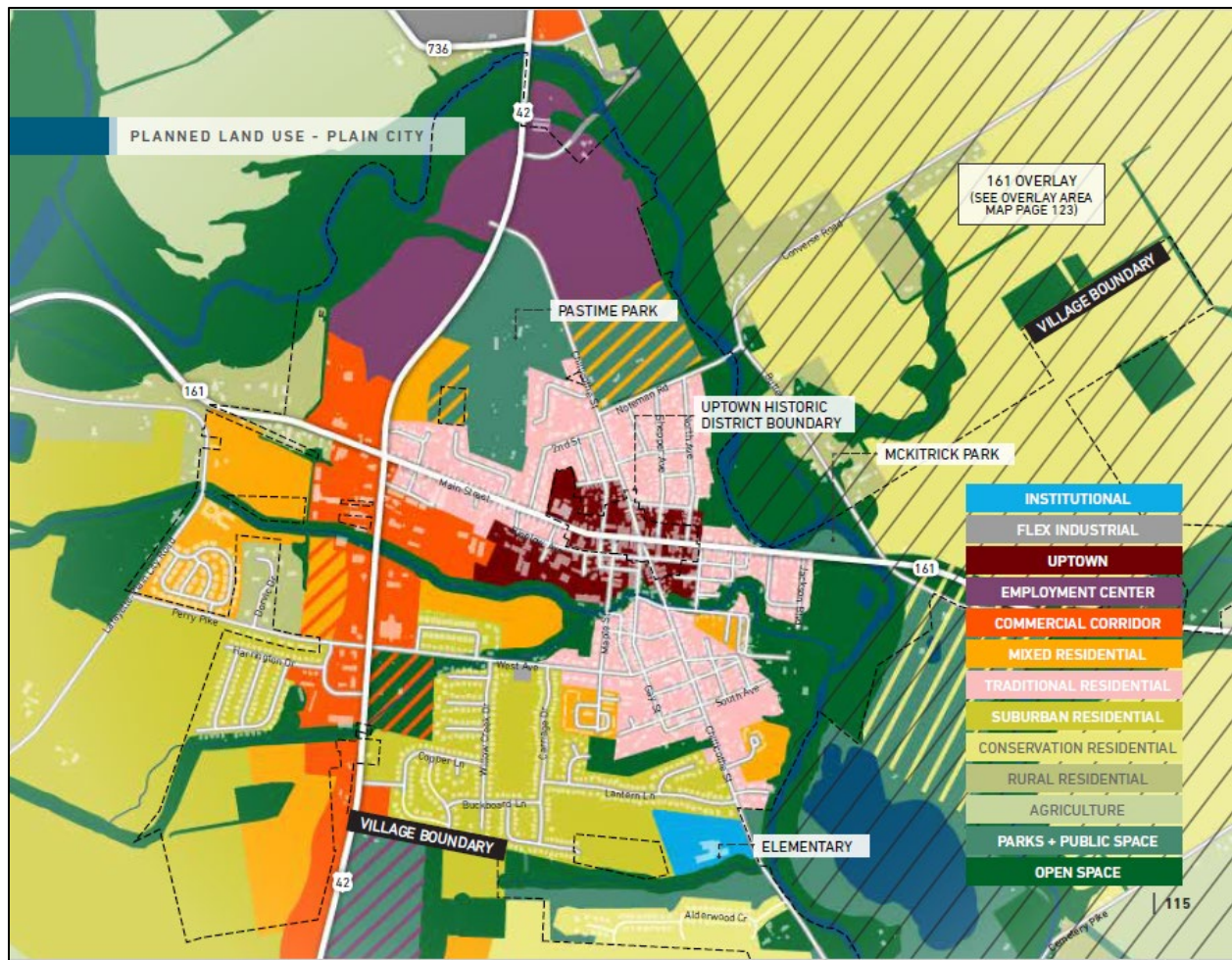


Figure 3. Taken from Plain City's Comprehensive Plan

Contact information

Kevin Hinkle
Ohio EPA, Division of Environmental and Financial Assistance
P.O. Box 1049
Columbus, Ohio 43216-1049

E-mail: kevin.hinkle@epa.ohio.gov