July 19, 2019

Limited Environmental Review and Finding of No Significant Impact

City of Willoughby – Lake County
WE-WPCC Capacity Enhancement Project
Loan number: CS390999-0025

The attached Limited Environmental Review (LER) is for a wastewater treatment project in Willoughby 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 LER describes the project, its costs, and expected environmental benefits. Making available this LER fulfills Ohio EPA’s environmental review and public notice requirements for this loan program, as described in Ohio Administrative Code (OAC) 3745-150-05.

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. This project’s relatively narrow scope and lack of environmental impacts qualifies it for the LER rather than a more comprehensive Environmental Assessment, as described in OAC 3745-150-06. More information can be obtained by calling or writing the person named at the end of the attached LER.

Upon issuance of this Finding of No Significant Impact (FNSI) determination, award of funds may proceed without further environmental review or public comment unless new information shows that environmental conditions of the proposed project have changed significantly.

Sincerely,

[Signature]
Jonathan Bernstein, Assistant Chief
Division of Environmental and Financial Assistance

Attachment
LIMITED ENVIRONMENTAL REVIEW

Project Identification

Project: WE-WPCC Capacity Enhancement Project

Applicant: Mayor Robert Fiala
City of Willoughby
One Public Square
Willoughby, Ohio 44094

Loan Number: CS390999-0025

Figure 1. Lake County

Project Summary

The City of Willoughby is requesting $4,182,624 from the Water Pollution Control Loan Fund (WPCLF) to renovate and improve the Willoughby-Eastlake Water Pollution Control Center (WE-WPCC) treatment plant in Lake County (Figure 1). This project is intended to address capacity and peak flows at the treatment plant by installing a flow diversion chamber to intercept plant bypasses and redirect to storage tanks. Other improvements include rehabilitating primary and final clarifiers, treatment equipment replacement, piping modifications, and instrumentation improvements.

The project will be constructed by the City of Willoughby as part of its joint agreement with the City of Eastlake for the construction, operation, and maintenance of the WE-WPCC. This project addresses bypassing of sewage at the plant.

History & Existing Conditions

The WE-WPCC treatment plant is located at 221 Erie Road, Eastlake in Lake County. The plant was first constructed in the 1960s and has been enlarged and improved over the years. The last major upgrade of the plant was completed in 1985. Treatment processes include influent screening, grit removal by detritus tanks, primary clarification, and secondary treatment using activated sludge process, including fine bubble aeration with secondary clarification and disinfection by chlorination, de-chlorination, and discharge by submerged outfall pipe to Lake Erie (Figure 2). The plant was designed for 9.5 million gallons per day (mgd) with a peak flow of 20 mgd. Willoughby and Eastlake jointly own and maintain six equalization storage tanks that provide additional wet weather capacity.

The Cities of Willoughby and Eastlake prepared a facilities plan for their respective individual and joint sewerage systems. The Sewer System Evaluation Survey (SSES) that resulted as part of the facilities plan was published in 1984.

The SSES recommended a series of infiltration and inflow (I/I)\(^1\) reduction and control measures including various sewer rehabilitation, relief sewers, system equalization basins and WE-WPCC

\(^1\) 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
facility improvements to prevent sewage bypasses at the plant. These recommendations were adopted and subsequently followed over 20 years.

Despite the improvements, I/I continued to be a problem, causing basement flooding and discharges to the environment. To address this issue, an updated SSES report was prepared in 2010. The WE-WPCC was directed to analyze all feasible alternatives to eliminate bypasses at the plant and sanitary system overflows. The facility's NPDES permit requires that the scope of study evaluate the following:

- Infiltration/Inflow reduction
- Wastewater flow equalization
- Adding or enhancing secondary treatment
- Bypass flow treatment
- Project cost analysis
- Implementation of improvements

The findings of the 2011 SSES updated report identified the need for an 800,000-gallon flow equalization basin to control the WE-WPCC bypasses. The intent of the recommendations was to eliminate wet weather bypasses for all rainfall events up to the 10-year 2-hour storm intensity.

To establish the WE-WPCC capacity and its capability to treat peak flow above 20 mgd, a stress test was conducted. The results of the test indicated the need for the proposed WE-WPCC Capacity Enhancement project.

The implementation plan for the SSES improvements was to happen over a period of time in a phased manner. While the WE-WPCC 800,000-gallon basin was a priority improvement, until such time as its construction, the Ohio EPA directed the WE-WPCC to proceed with a plan to maximize the plant capacity to mitigate the bypasses.

**Project Description**

The project consists of construction of a flow diversion chamber that will intercept plant bypass flow and redirect it the Primary Clarifier Tanks 3 and 4 that will be providing Primary Equalization service. Operationally, once both clarifiers are full, bypassed flows exceeding the capacity of Primary 3 and 4 will be conveyed to the existing Aeration Basins 5 and 6 (that will be providing Secondary Equalization service) via a new 9.3 million gallons per day (mgd) Transfer Pump Station (TPS) and 24-inch diameter force main (Figure 3.)

Peak capacity will be increased from 20 to 26 mgd with this proposed project.

In summary, the works associated with WE-WPCC Capacity Enhancement are as follows:

- New Flow Diversion Chamber
- Modifications to the existing Plant Bypass Chamber
- New Splitter Chamber
- Rehabilitation/improvements to the Primary and Final Clarifiers

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.
• New 9.3 mgd TPS
• New 24-inch diameter force main (from TPS to Aeration Basins 5 and 6)
• New drain pump for Aeration Basins 5 and 6
• Grit equipment rehabilitation and conveyor replacement
• Improvements to the sludge supernatant, and Waste Activated Sludge (WAS) piping
• Bypass metering
• Final Effluent Junction Chamber
• Additional site piping and utility modifications
• Related miscellaneous items

Implementation

Willoughby is requesting $4,182,624 from the Ohio EPA WPCLF to make improvements at the wastewater treatment plant. Construction will begin after loan award on September 26, 2019 and is expected to be completed by August 1, 2020.

Willoughby’s 2018 residential sewer rate was $271. The city is planning a 10% sewer rate increase in 2019. The new rate would be $299 which is 0.6% of the median household income of $53,324 and is considered affordable.

There will be a savings of $608,848 by using the WPCLF standard interest rate loan of 1.5% instead of the 2.75% market rate.

Public Participation-

This project was discussed at the March 7, 2017 regular council meeting, August 7, 2018 in which a resolution was adopted authorizing engineering costs, and September 4, 2018 in which a resolution was adopted authorizing the City Engineer to prepare plans and specifications, and advertise for bids. On July 9, 2019 a public meeting was held at City Hall to discuss the project and seek additional comments.

Ohio EPA is not aware of any significant public concern about this project.

As part of its State Environmental Review Process, Ohio EPA’s Division of Environmental and Financial Assistance (DEFA) will post this Limited Environmental Review (LER) and Finding of No Significant Impact to its web page located at http://epa.ohio.gov/defa/ofa.aspx.

Conclusion

The proposed project meets the project type criteria for a Limited Environmental Review (LER); namely, it is an action within an existing public wastewater treatment system, which involves the functional replacement of and improvements to existing mechanical equipment. Furthermore, the project meets the other qualifying criteria for an LER; specifically, the proposed project:

Will have no significant environmental effect and will require no specific impact mitigation because all work will be on the current plant site that has been previously disturbed. There are no significant environmental resources present.

Will have no effect on high-value environmental resources because the construction will be limited to the footprint of the treatment plant. In addition, the proposed construction activities will
not occur near or cross a stream or wetland and as such will not have an impact on any surface waters.

**Is cost-effective** because rehabilitating an existing plant is less expensive than building a new plant.

**Is not a controversial action** because sewer rates will only modestly rise and are well below the Ohio average annual sewer rate.

Does not create a new, or relocate an existing discharge to surface or ground waters, and will not result in substantial increases in the volume of discharge or the loading of pollutants from an existing source or from new facilities to receiving waters because the project is designed to increase capacity for current flow to the plant and will not result in an increase in pollutants discharged to surface waters to the State of Ohio.

**Will not provide capacity to serve a population substantially greater than the existing population** the project is designed to address the current population’s sewage input to the plant.

**Contact info**

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Figure 2. Location of the discharge pipe from the treatment plant
Figure 3. Changes to the treatment plant