July 20, 2020

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

Village of West Farmington
West Farmington Sanitary Sewer Improvements
Loan number: CS390975-0005

The attached Environmental Assessment (EA) is for a wastewater infrastructure project in West Farmington 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 me at the email address at 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 West Farmington can then proceed with its application for the WPCLF loan.

Sincerely,

Jonathan Bernstein
Assistant Chief
Division of Environmental & Financial Assistance

Attachment
ENVIRONMENTAL ASSESSMENT

Project Identification

Project: West Farmington Sanitary Sewer Improvements

Applicant: Shirley McIntosh, Mayor
Village of West Farmington
251 Fourth Street
P.O. Box 215
West Farmington, Ohio 44491

Loan Number: CS390975-0005

Project Summary

The Village of West Farmington, Trumbull County (Figure 1) applied for a $7,551,000 low-interest Water Pollution Control Loan Fund (WPCLF) loan to construct a new wastewater treatment plant, two lift stations, and sewer lines. The village is eligible for $4,000,000 in principal forgiveness, which requires no repayment.

History & Existing Conditions

West Farmington is a village in northeast Ohio located in Trumbull County, along the Grand River. The village is approximately 1 square mile in total area. The village residential area is laid out in a grid block system; this is where the majority of the homes are located. On the outer areas of the village there are farmlands and forested areas.

Currently, the village does not have a sewer system or wastewater treatment plant (WWTP). The residents in West Farmington have septic tanks for treatment. Some septic systems are leaking, causing health concerns and water resource degradation. To remove the public health threats of failing septic tanks, a new sewer collection system and a new wastewater treatment plant are planned.

The village abandoned its water treatment plant (WTP) after connecting to the county water system in 2019. This presented an opportunity to construct a new wastewater treatment plant at the former WTP site and utilize the Grand River as a treated discharge point.

Population and Flow Projections

The 2000 U.S. Census data reported West Farmington to have a population of 519 people. In 2010, the U.S Census data reported 499 people, 171 households, and 127 families residing in the village. This population decline from 2000 to 2010 is likely due to the economic hardship communities experience in this region. The village anticipates growth in the area of commercial businesses (i.e. restaurants and businesses associated with tourism). To be conservative in the assumption of growth, an annual growth rate of 2% was selected to accommodate redevelopment and growth opportunities.
Initial daily sanitary flow has been estimated at 60,000–70,000 gallons per day (GPD). The engineer’s planning estimate is for an ultimate flow of 100,000 GPD.

**Alternatives**

Four different WWTP alternatives were evaluated for the Village of West Farmington. These were:

1) Mack Industries System: Package activated sludge WWTP
2) Aero-Mod System: Activated sludge with sequencing aeration WWTP
3) EarthTek System: Underground sequence batch reactor WWTP
4) Biolac System: Extended aeration WWTP

The WWTP is designed to receive wastewater using a gravity sewer collection system. For all WWTP alternatives listed above, the Grand River is proposed as the discharge point of the treated wastewater. The proposed WWTP alternatives are designed to treat average daily flows of 130,000 GPD.

1) Mack Industries Systems are package activated sludge systems that are constructed and assembled at a factory and then shipped and installed as a complete unit. This treatment facility includes mechanical screening and grit removal as primary treatment, aeration/clarifiers as secondary treatment, and disk filters as tertiary filtration, followed by ultraviolet disinfection, post aeration, and sludge treatment.

The advantages include readiness for installation, cost effectiveness and ease of operation and maintenance. Disadvantages include need to construct new concrete basins for expansion and cleaning is difficult.

2) Aero-Mod treatment systems are activated sludge systems equipped with sequencing aeration and continuing processes with mechanical screening and grit removal as primary treatment. Secondary treatment would be activated sludge process modified with sequencing aeration and continuous clarification processes. This would be followed by disk filters as tertiary filtration, ultraviolet disinfection, post aeration and sludge treatment.

The process offers the benefits of sequencing aeration with the reliability of continuous clarification for enhanced nitrogen and phosphorus removal from wastewater. Excellent denitrification occurs resulting in low levels of effluent nitrogen. Other advantages are a reduced energy requirement and a small footprint. The disadvantages are the need to construct new concrete basins for expansion and difficulty cleaning it.

3) EarthTek System is an underground sequencing batch reactor (SBR) extended aeration treatment process for secondary treatment. An SBR is an activated sludge process designed to operate in a batch mode with aeration and sludge settlement occurring in the same tank. It is possible to adjust the treatment cycle to allow the SBR to undergo aerobic, anaerobic, and anoxic conditions in order to achieve biological nutrient removal. The operation of an SBR basically consists of five steps: fill, react, settle, decant, and idle. All the steps can be adjusted to achieve the operational strategy. Most systems operate from between 3 and 6 cycles per day. Advantages include reduced operation, maintenance, and energy costs; high effluent quality; and nutrient reduction without additional tankage. Disadvantages include potential clogging of aeration devices and difficulty handling large organic loads.
The system consists of two buried primary fiberglass treatment tanks (FRP), three buried FRP sequencing batch reactor tanks for secondary treatment, followed by a disc filters as tertiary filtration, and ultraviolet disinfection and post aeration. Digested sludge will be hauled away from the primary tanks for landfill application.

4) A Biolac System is an extended aeration WWTP which is a modified form of the activated sludge treatment process with an extended aeration system with internal final clarification. The system utilizes low-loaded activated sludge technology, single-basin operation, simple-basin construction, and high-efficiency aeration chains with suspended fine–bubble diffusers. The system offers a longer activated sludge age than most treatments systems. This provides excellent biological oxygen demand (BOD) removal, complete nitrification, and nutrient removal in warm and cold climates.

The advantages of this system include modular and ready-for-installation; routinely maintains good effluent quality; has the highest capacity to accept increased wastewater flows; and is resistant to variable organic loads. Disadvantages include increased power consumption, increased operation and maintenance costs, and more frequent sludge handling. The treatment facility consists of mechanical screening and grit removal as primary treatment. Secondary treatment is extended aeration process and clarification. This would be followed by disc filters as tertiary filtration, UV disinfection, post aeration, and sludge treatment.

**Selected Alternative**

West Farmington plans to construct a new gravity collection system, two lift stations (Figures 2 through 5), and a new extended aeration wastewater treatment plant (Figures 3 and 5). The Biolac system alternative was selected because of better handling of variable loads, low construction costs, and easy operation. The new plant will be positioned partially on the former water supply pond reservoir.

**Implementation**

The Village of West Farmington applied for a $7,551,000 low-interest loan to construct a new wastewater treatment plant and install a collection system. The village is eligible for $4,000,000 in principal forgiveness and the remainder will be a 0% interest rate loan, unless additional grant funds from other agencies are available.

West Farmington will save approximately $4.9 million by using Ohio EPA funding, compared to the market rate.

West Farmington residents have been paying a monthly sewer project fee that started at $10, then rose to $20, and is now $30 until the new sewer system is operational. After that time, residents will begin paying monthly bills based on metered water use. The village estimates an initial average monthly residential sewer bill of $73, or $876 per year. The median household income (MHI) is $48,125. The sewer rate will be approximately 1.8% of the MHI which is slightly higher than the state average of 1.3%.

Besides a monthly sewer bill, property owners will be immediately responsible for the sewer tap fee (to be determined), the county health department septic system abandonment permit and inspection fee, and septic tank abandonment and new sanitary lateral pipe cost for connecting to
the public sewer. These various "on-lot" costs typically range from $3,000 to $6,000 for each residential property.

Construction is expected to begin in late summer of 2020 and be completed in 12 months.

**Public Participation**

The village held public meetings on March 4, 2019 and on November 28, 2019, when the mayor described the need for the project. On February 24, 2020 there was another public meeting to update residents and businesses on the project to bring sanitary sewers to the village. The mayor indicated the meetings went very well and that the community desperately wants this project to go forward as they understand what it means to their future.

Ohio EPA is not aware of any opposition to this project.

As part of its State Environmental Review Process, Ohio EPA’s Division of Environmental and Financial Assistance (DEFA) will post this Environmental Assessment (EA) to its web page located at [http://epa.ohio.gov/defa/ofa.aspx](http://epa.ohio.gov/defa/ofa.aspx).

**Environmental Impacts**

- **Unaffected Environmental Features**: The project will have no adverse secondary (development-related) environmental impacts. No state or federal wild or scenic rivers or coastal zones are present in or near the work sites.

- **Archaeological and Historical Resources**: No archaeological resources are known in the location of the old WTP/new WWTP or where the new sewer lines will be located. There are historic homes along the route of the new sewer line, but these homes will not be adversely impacted because the new sewer will be underground and mostly in the road rights-of-way.

- **Energy**: There will be increased energy use to operate the pump stations.

- **Surface Waters Resources**: Aquatic habitat, Floodplains, Groundwater, Drinking Water, and Air Quality will not be adversely impacted. Several swales will be crossed and one small stream will be crossed twice (Figure 6). After the open trench is covered when the pipe is laid, the grade will be restored to pre-existing conditions. Surface water and groundwater quality should be improved compared to continued use of failing household sewage treatment systems. No floodplains will be impacted along the pipeline route. Erosion will be minimized as disturbed areas will be seeded and mulched after construction. The detailed plans indicate that the contractor is responsible for dust control so there will be minimal impact on air quality.

- **Endangered Species**: There will be five trees removed between October 1 and March 30 to protect any endangered bat species. If trees need to be removed outside that window, the US Fish and Wildlife Service will be consulted. Because much of the area where sewers will be installed is within residential areas without suitable habitat and based on recent surveys, the eastern massasauga snake (a threatened species), should not be impacted. Since there will be no impact to area streams, the endangered clubshell mussel will not be impacted. Additionally, the two species of concern, the bald eagle and eastern hellbender, are not likely to be impacted since the project will take place in an area with no suitable habitat.
Safety, Noise, Aesthetics – The detailed plans indicate that there will be traffic control devices utilized, and traffic will be maintained for the general public and emergency management. Utility owners will be notified at least 48 hours prior to beginning work. Open cuts across roads will only be open between 9:00 AM and 4:00 PM. Construction noise will be temporary. Aesthetics will not be adversely impacted as the construction areas will be restored after the project is complete.

Farmland Protection, Fish and Wildlife, and Terrestrial Habitat - Much of the work will be in road rights-of-way that will not impact fish, mussels, wildlife, wetlands or important hellbender salamander habitat. No wetlands will be crossed. One small stream will be crossed twice by open cut, however, because of the small size of this stream, it is not expected to adversely impact fish or mussels. All terrestrial areas, farmland, and drainage areas will be restored to pre-project conditions so there will be no long-term adverse impacts.

Conclusion

Based upon Ohio EPA’s review of the planning information and the materials presented in this Environmental Assessment, we have concluded that there will be no significant adverse impacts from the proposed project as it relates to the environmental features discussed previously. This is because these features do not exist in the project area, the features exist but will not be adversely affected, or the impacts will be temporary and mitigated. This project serves the entire West Farmington community and no particular segment of the community will be faced with additional adverse impacts or be deprived of environmental benefits, compared to any other segment.

This project involves construction of a new WWTP on the old water plant site and eliminating the public health threat of failing household sewage treatment systems.

Contact information

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Figure 2. Location of lift stations (north side of West Farmington)
Figure 3. Location of new WWTP (south side of West Farmington)
Figure 4. Demolition of the water treatment plant at the new WWTP site
Figure 4. Small stream to be crossed by open ditch construction