



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

March 6, 2023

Limited Environmental Review and Finding of No Significant Impact

**City of Dayton – Montgomery County
Anaerobic Digestion Project - Phase 1
Loan number: CS390302-0024
Phase 2 Anaerobic Digester
Loan number: CS390302-0025**

The attached Limited Environmental Review (LER) is for the Phase 1 and Phase 2 anaerobic digester repair and improvements projects in Dayton 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.

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. 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,

A handwritten signature in cursive script that reads "Kathleen Courtright".

Kathleen Courtright, Assistant Chief
Division of Environmental and Financial Assistance

Attachment

LIMITED ENVIRONMENTAL REVIEW

Project Identification

Projects: Anaerobic Digestion Project - Phase 1
Phase 2 Anaerobic Digester

Applicant: City of Dayton
101 West 3rd Street
Dayton, Ohio 45402

Loan Numbers: CS390302-0024, CS390302-0025

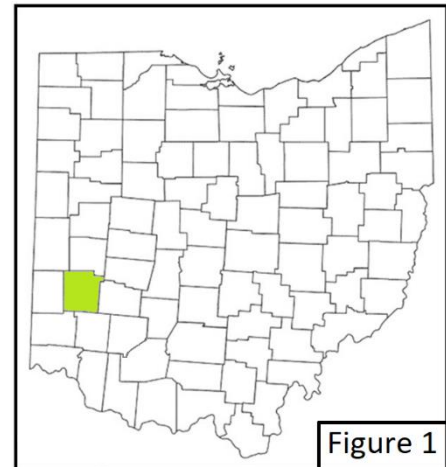
Project Summary

The City of Dayton has applied to the Ohio Water Pollution Control Loan Fund (WPCLF) for \$21,099,062 for an Anaerobic Digestion Project Early Work Package, and will be submitting for a WPCLF Loan in 2024 for the Construction Phase of the Combined Anaerobic Digester Project with an estimate of \$90,900,000. The anaerobic digestion facilities are past their useful lives and in need of updating and rehabilitation as described below. Environmental impacts will be minimal as these two anaerobic digester projects involve repairs and improvements at the existing Dayton water reclamation facility (WRF).

History & Existing Conditions

The City of Dayton is located in Montgomery County (Figure 1), along the Great Miami River. Dayton owns and operates a wastewater reclamation facility (WRF) on the southeast end of the city (Figure 2) that discharges into the Great Miami River. Dayton's WRF has a design flow of 72 million gallons per day (mgd) with an average daily flow of 50 mgd to serve its population of approximately 140,939 people. The WRF provides preliminary, primary, secondary, advanced secondary filtration, chlorination/dichlorination, and post-aeration treatment before discharging to the Great Miami River.

The liquid stream side of the plant is mainly composed of two offsite influent flow pump stations (Broadway and Westwood), four grit basins, seven primary clarifiers, twenty trickling filters, a low lift pump station, ten intermediate clarifiers, an intermediate pump station, eight aeration basins, four activated sludge compressors, and eight final clarifiers. The WRF processes sludge through waste-activated sludge and thickening via dissolved air floatation and anaerobic digesters. Digested class B biosolids solids are dewatered and stored as cakes, where they are later land applied to farm fields as fertilizer. Methane-rich biogas is also produced during anaerobic digestion and is either burned in a waste gas flare, or sent to beneficial use where it is conditioned, dried, and compressed. Compressed biogas is stored and converted into energy by engine generators to heat hot water boilers for the facility.



The City of Dayton prepared a WRF master plan in 2018 identifying and prioritizing repairs and improvements for the facility. One of the highest priority projects was repairing and improving capacity of the anaerobic digesters.

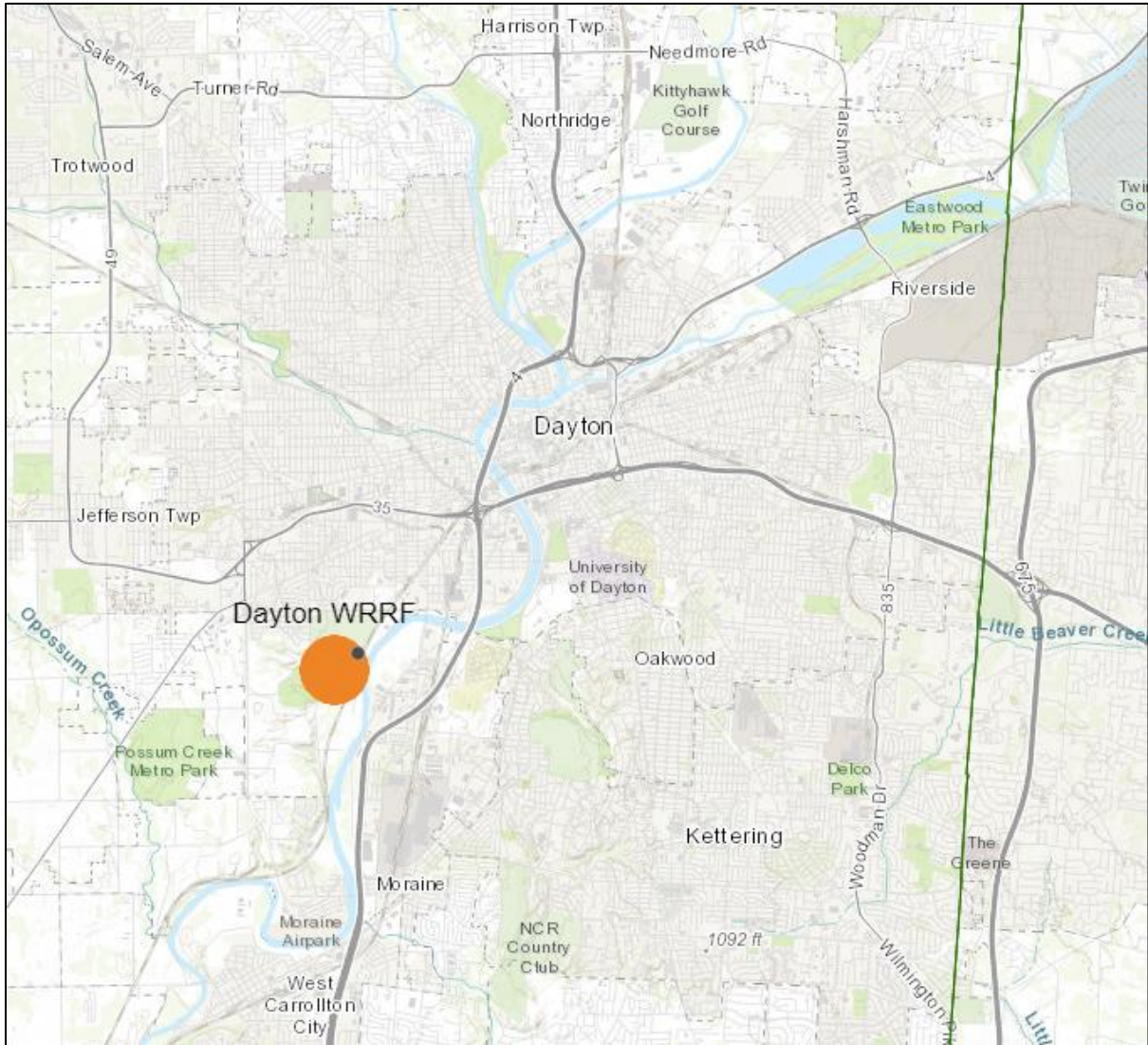


Figure 2. Location of the Dayton WRF along the Great Miami River

Project Description

This two-phased anaerobic digester project will add additional anaerobic digesters and rehabilitate existing digesters to address the level of service needed to process and treat sludge into beneficial Class B biosolids (see Figure 3). The project will occur within the existing WRF property and will not disturb natural resources, as this land has already been developed.

Phase 1 of the anaerobic digester project includes the following improvements and additions:

1. Two new pancake style digesters, new Digester Complex, and tie-ins to existing East Digester and gas handling facilities
2. Rehabilitation of the East Digesters and Digester Complex
3. Rehabilitation of the boiler room
4. Installation of isolation valves at key location on existing plant hot water loops
5. Minor piping improvements to improve conveyance of digested sludge to and from the West Digesters
6. Construction of a new Digester Blending Complex and tie-ins to existing north primary sludge and waste activated sludge mains (Digester Blending Complex will be connected to the existing South Primary Complex via a buried tunnel)
7. Relocation of South Primary Clarifier sludge pumps to the new Digester Blending Complex
8. Replacement of the North Primary Clarifier sludge pumps in kind
9. Replacement of flare piping from the Digester Complexes to the flares, including isolation valve and flame arrestors
10. Replacement of Main Switchgear
11. Construction of three new Tier II Generators
12. Replacement of Substation 9
13. Replacement of two Feeders (AR-F-1B and AR-F-2B)
14. Associated site work including relocation of existing utilities where required to accommodate the above improvements
15. Ancillary improvements including electrical, instrumentation and control, architectural, HVAC, and plumbing

Phase 2 of the anaerobic digester improvements will include:

1. Rehabilitation of the North Primary Sludge Pumping Station with four new primary sludge transfer pumps, a new submersible drain pump, new electrical room and HVAC improvements
2. Rehabilitation and conversion of West Digesters and Digester Complex to dedicated sludge storage tanks
3. Demolition to equipment in the Sludge Heat Exchanger Building to convert to new electrical room and HVAC improvements
4. Replacement of main plant electrical feeders between main switchgear and substations around facilities
5. Walkable buried utility corridor for sludge piping between existing West and East Digester Complexes
6. Rehabilitation of plant hot water piping and implementation of hybrid hot water and natural gas heating system
7. Associated site work, including relocation of existing utilities where required for the planned improvements
8. Ancillary improvements including electrical, instrumentation and control, architectural, HVAC, and plumbing required for the planned improvements

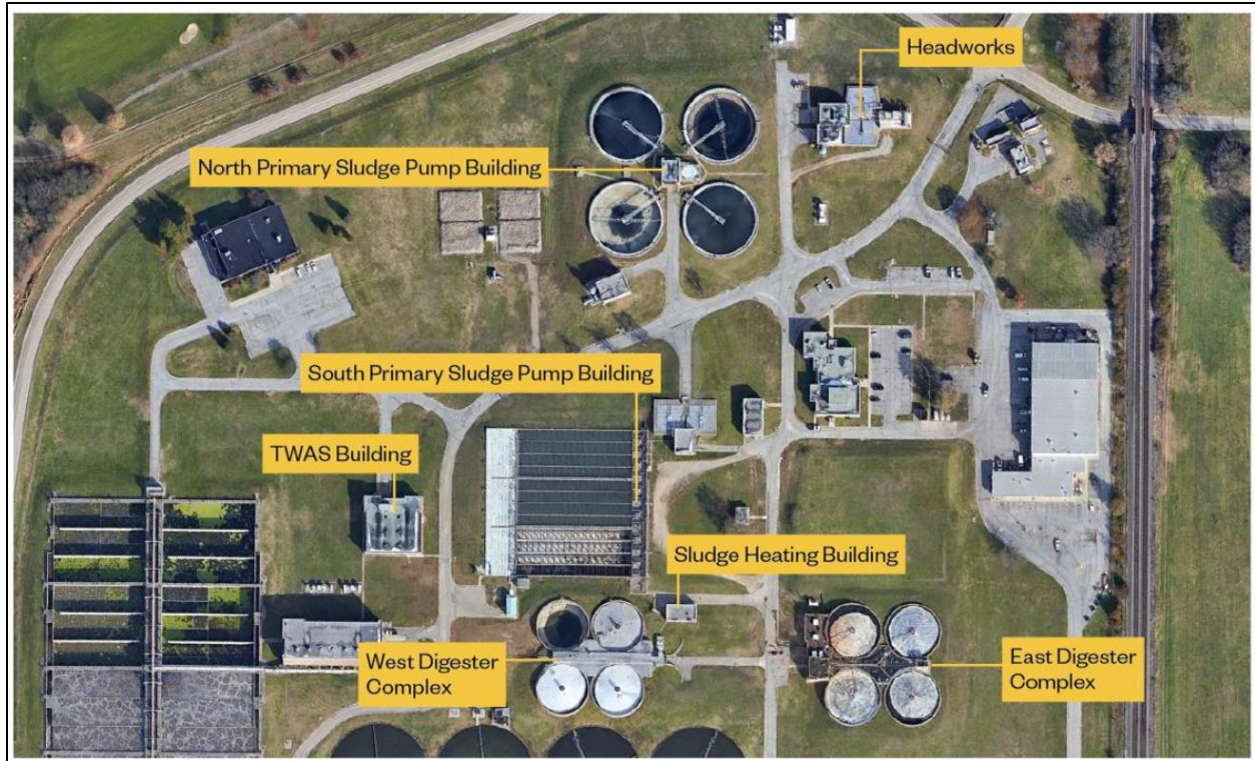


Figure 3. Map of Dayton WRF with labelled major facility buildings where improvements will occur

Implementation

Dayton will borrow \$21,099,062 from WPCLF for Phase 1 and \$90,900,000 for Phase 2. The city qualifies for a standard interest rate, currently 2.68%. During the 25-year loan period, could collectively save approximately \$26,708,000 by using WPCLF dollars at this rate, compared to the market rate of 3.98%. Interest rates are set monthly and may change for the requested loan award date.

A residential customer living in Dayton is currently paying \$21.06 monthly for base sewer service. The previous sewer rate increase was 7.8% in 2022, and the city plans regular sewer rate increases of 7.5% for 2023 through 2025. According to the 2015-2019 American Community Survey, the estimated median household income (MHI) for a resident of Dayton is \$32,540. The average yearly sewer costs amount to \$342, which is 1.1% of the MHI and compares favorably to the average Ohio sewer bill of \$749.

Anticipating loan award in March 2023 for Phase 1 and August 2023 for Phase 2, construction is estimated to be complete by 2026.

Public Participation

Public participation for this project occurred at several city commission meetings over the past couple years, in May 2020, May 2022, August 2022, and February 2023. The project design, contract agreement, and Phase 2 preconstruction services were discussed at these public meetings.

Ohio EPA will make a copy of this document available to the public on the following webpage and can provide it upon request:

<https://epa.ohio.gov/divisions-and-offices/environmental-financial-assistance/announcements>.

Conclusion

The proposed project meets the criteria for a Limited Environmental Review (LER); namely, it is an action within a public wastewater treatment system, which involves improvements to existing infrastructure at the WRF. Furthermore, the project meets the other qualifying criteria for an LER; specifically, the proposed project:

Will have no significant environmental effect, will require no specific impact mitigation, has no effect on high-value environmental resources, is cost effective, and not a controversial action because this project will occur within the existing Dayton WRF, and involve replacing and improving existing structures. The WRF is a site that has been previously disturbed and graded. No trees will need to be cut down. By using a zero percent WPCLF loan, Dayton is minimizing the financial impact to sewer customers. No alternatives were considered for the anaerobic digestion improvements projects, as no-action was the only alternative, and this is not an option. Ohio EPA is unaware of any opposition to this project.

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 this project will not increase discharge, or create any new discharge. The improvements will not increase pollutant loads and are in preparation to provide better wastewater treatment.

Will not provide capacity to serve a population substantially greater than the existing population because the project will not change the capacity of wastewater treatment and is replacing and improving existing treatment facilities.

The planning activities for the project have identified no potentially significant adverse impacts. The project is expected to have no significant short-term or long-term adverse impacts on the quality of the human environment or on sensitive resources (surface waters, coastal zones, floodplains, wetlands, state-designated scenic or recreational rivers, prime or unique agricultural lands, aquifer recharge zones, archaeologically or historically significant sites, threatened or endangered species, or state and federal wildlife areas) because these resources are not present in the project area. The entire project will occur on WRF property at existing structures.

Contact information

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