October 3, 2024

Limited Environmental Review and Finding of No Significant Impact

Columbus – Franklin County
Southerly Wastewater Treatment Plant Organics Receiving & Bioenergy Facility
Loan number: CS390274-0509

The attached Limited Environmental Review (LER) is for a cogeneration facility construction project at Southerly Wastewater Treatment Plant in Columbus which the Ohio Environmental Protection Agency (Ohio EPA) intends to finance through its Water Pollution Control Loan Fund (WPCLF) below-market interest rate revolving loan program. The LER describes the project, costs, and expected environmental benefits. Making available this LER fulfills the 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 program review and approval process. We have concluded that the proposed project should not result in significant adverse environmental impacts. In accordance with Ohio Administrative Code 3745-150-05, this project meets the criteria for an LER rather than the more comprehensive Environmental Assessment. More information can be obtained by contacting the person named at the end of the attached LER.

Upon issuance of this Final 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,

Kathleen Courtright

Kathleen Courtright, Assistant Chief
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LIMITED ENVIRONMENTAL REVIEW

Project Identification

Project: Southerly Wastewater Treatment Plant Organics Receiving and Bioenergy Facility

Applicant: City of Columbus
910 Dublin Road
Columbus, Ohio 43215

Loan Number: CS39074-0509

Figure 1: Franklin County

Project Summary

The City of Columbus in Franklin County has requested $300 million from the Water Pollution Control Loan Fund (WPCLF) for the construction of an Organics & Bioenergy Utilization Facility at Southerly Wastewater Treatment Plant (SWWTP). As construction will occur within the previously disturbed confines of SWWTP, environmental impacts are not expected.

History & Existing Conditions

Southerly Wastewater Treatment Plant (SWWTP) is one of two large municipal wastewater treatment plants operated by the City of Columbus.

Due to several ongoing digestion projects at SWWTP, evaluations were conducted on digestion capacity, industrial solids impacts, high-strength waste receiving, biogas use, and fugitive methane findings. These evaluations show the solids treatment system is nearing capacity and needs to be expanded for future growth and additional loading from new industrial users.

Expanding capacity will also allow for receipt of high strength organic waste (food waste), which will produce additional biogas for use in a cogeneration facility. Additionally, a fugitive methane investigation identified methane which is escaping into the atmosphere and, if captured, could add to the biogas available for beneficial use.

The existing solids handling process consists of two digester feed wells which store sludge directly upstream of the acid phase digesters. Waste activated sludge is thickened in pre-digestion centrifuges and then stored in the digester feed well. Primary sludge from the primary clarifiers is thickened in the gravity thickeners and then stored in another digester feed well. Sludge from the chemically enhanced primary treatment clarifiers is typically gravity-thickened with the primary sludge but can also be thickened with the centrifuges. Thickened primary sludge and thickened waste-activated sludge is pumped from the digester feed wells and conveyed to the acid-phase digestion. Sludge is transferred from the acid-phase digestion to the methane-phase digestion where it is recirculated. Digested sludge is drawn off the bottom of the methane-phase digesters and conveyed to dewatering and/or

thickening processes. The plant also consists of four boilers and associated chemical feed system and piping that produce steam used to heat the sludge throughout the digestion process. Generated biosolids are stored in silos and often used in land application or landfilled. All gas produced by at the acid-phase digesters and methane-phase digesters is flared.

This project will align with Columbus' Climate Action Plan (CAP). Some of the goals addressed in the CAP are a 50% reduction in organic waste and 45% reduction in greenhouse gas emissions by 2030.

Project Description

In order to aid the city in reducing its organic waste and greenhouse gas emissions at SWWTP, Columbus will construct an Organics & Bioenergy Utilization Facility to prepare waste organics for co-digestion, a digestion process expansion to increase solids capacity and convert organics and sludge into biogas, and a cogeneration facility to make renewable electricity and recoverable heat from the biogas.

The project includes:

1) Organics Receiving Facility to prepare waste organics for co-digestion
    - Importing wastes such as fats, oils, and grease, and food waste slurry for co-digestion with the wastewater solids will help the city reduce greenhouse gas emissions and reduce landfilled organic waste
    - Equipment will include a new building, receiving stations, equipment for screening, mixing, storage, blending, and conveyance, and ancillary systems and associated equipment
2) Digestion Process Expansion to increase solids capacity and convert organics and sludge into biogas
    - Expansion of the existing digestion system is required to handle future loadings, including new commercial and residential growth in the service area
    - Equipment will include a digest control building with two new digesters with feeding, internal heating, biogas collection and conveyance, new Waste Gas Burner facility, and ancillary systems and associated equipment
3) Cogeneration Facility to make renewable electricity and recoverable heat from biogas

The construction footprint for this project will remain within the previously disturbed confines of the existing wastewater treatment plant, thereby minimizing effects on environmental resources. The contractor is responsible for best management practices to control erosion and sedimentation and minimize the creation of dust during construction.

See Figure 2 below for a map of the project area.

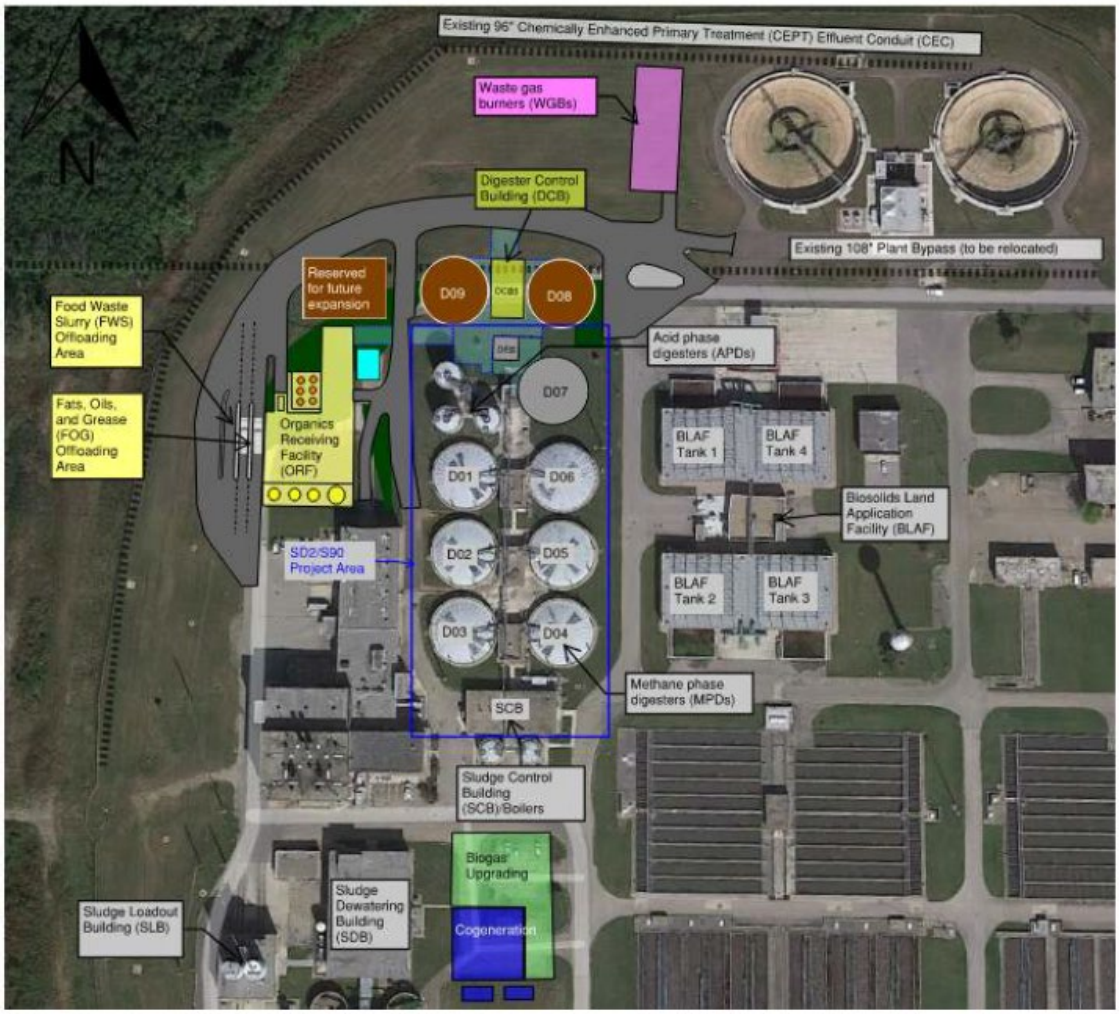

Figure 2. Project location within Southerly Wastewater Treatment Plant

Implementation

Columbus plans to borrow $300 million from the WPCLF over a 20-year loan period at the standard rate of 2.53%. When compared to the market rate of 3.78%, Columbus will save over $47 million.

The current annual Columbus residential sewer bill is approximately $661. Projected residential sewer bills with the implementation of this and other associated sewer projects are expected to increase to approximately $1,246, or 2% of median household income (MHI) of Columbus, which is $62,994. By using WPCLF financing for this project, Columbus has minimized the economic impact on customers.

The anticipated loan award will occur in October 2024. Construction is expected to be completed by January 2032.

Public Participation

The City of Columbus' Public Utilities webpage details proposed Capital Improvement Projects within the Division of Sewerage & Drainage. Contact information is provided for any public questions or concerns.

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 and will provide it upon request to interested parties. Information supporting this Limited Environmental Review (LER) is available from the project contact named below.

Conclusion

The proposed project meets the criteria for a Limited Environmental Review (LER); namely, it is an action for the infrastructure improvements at an existing WWTP. Furthermore, the project meets the other qualifying criteria for an LER; specifically, the proposed project:

Has no significant environmental effect, no effect on high value environmental resources, and does not require extensive specific impact mitigation.
This project is for the construction of a facility in the footprint of the existing treatment plant, which lacks important environmental features. Standard construction best management practices will be required to control dust, sediment runoff, noise, and maintain safety.

Is cost effective and not controversial.
The proposed project is cost effective as it involves construction of a facility that ultimately will utilize the biogas generated in the SWWTP anaerobic digestion system to convert to bioenergy to help fuel the plant and save on electricity costs as well as waste disposal reduction. DEFA is unaware of any specific opposition to or controversy about 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; and will not provide capacity to serve a population substantially greater than the existing population.
This project involves construction of a biogas utilization facility and will not increase wastewater discharges, nor provide capacity to serve a greater population. There will be no change in pollutant loading.

Based upon Ohio EPA's review of the planning information and the materials presented in this Limited Environmental Review, 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 will construct a facility to reduce organic waste and greenhouse gas emissions from Columbus' Southerly Wastewater Treatment Plant and work towards meeting the goals of the city's Climate Action Plan.

Contact Information

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