



Mike DeWine, Governor
Jon Husted, Lt. Governor
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April 13, 2021

Limited Environmental Review and Finding of No Significant Impact

**City of Dayton – Montgomery County
WRF Odor Control Cover Replacement
Loan number: CS390302-0022**

The attached Limited Environmental Review (LER) is for an odor control cover replacement project 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,

Jonathan Bernstein

Jonathan Bernstein, Assistant Chief
Division of Environmental and Financial Assistance

Attachment

LIMITED ENVIRONMENTAL REVIEW

Project Identification

Project: WRF Odor Control Cover Replacement

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

Loan Number: CS390302-0022

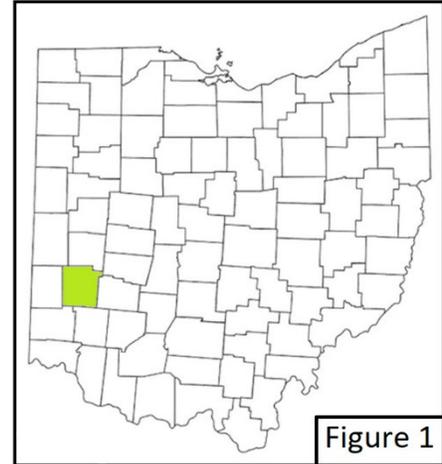
Project Summary

The City of Dayton has applied to the Water Pollution Control Loan Fund (WPCLF) for \$5,880,000 for a Water Reclamation Facility (WRF) odor control project. The City of Dayton is required by their National Pollutant Discharge Elimination System (NPDES) permit to mitigate odors in the sanitary sewer and at the WRF. Environmental impacts will be minimal as this project involves replacement of the existing odor control covers on the primary clarifier effluent launders and clarifier diversion chambers at the existing Dayton 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) to serve its population of approximately 140,939 people.

The City of Dayton tries to operate the plant in ways that reduce odors and has used hydrogen peroxide chemical controls at pump stations to reduce hydrogen sulfide concentrations. Almost all flow to the Dayton WRF is pumped from the Broadway pump station which is located a mile upstream of the WRF.



In 2011, a biofilter was constructed at the Broadway pump station and another was constructed at the WRF. The pump station biofilter treats 8,500 cubic feet per minute (cfm) of air, collected from screening rooms and the dumpster area. The WRF biofilter treats 33,000 cfm collected from the headworks facility, grit basins, north primary clarifier influent/effluent distribution box and launders, and south primary clarifier influent/effluent channels and weirs. The WRF biofilter was sized to treat up to 54,000 cfm of air in case the city decided to cover and treat air from surfaces of the primary clarifiers in the future. The biofilters have been performing well since the filter media was replaced in 2017 and the extra capacity has not been utilized yet. Currently, 33,000 cfm of air is collected and treated in a single four-cell biofilter.

Dayton evaluated alternatives for the existing WRF in their 2018 WRF Master Plan. Testing confirmed the trickling filters were the highest source of odors and hydrogen sulfide at the site, producing 90% of the total odor emissions, and the primary clarifiers were the second highest odor source. Controlling emissions from the trickling filters is a difficult and expensive proposition. The air dispersion modelling predicts that if quiescent surfaces of the primary clarifiers are covered and air treated in the existing biofilter, peak odor levels in the community would decrease by 76% and odor events would decrease by 62%. Proposed operational modifications to treat odor emissions include installing exhaust fans to draw air from the bottom of the trickling filters through ductwork to the biofilters, covering the quiescent surfaces of clarifiers and treating the air, oxygen injection to the clarifiers to reduce hydrogen sulfide production, and treating air from the biosolids building.

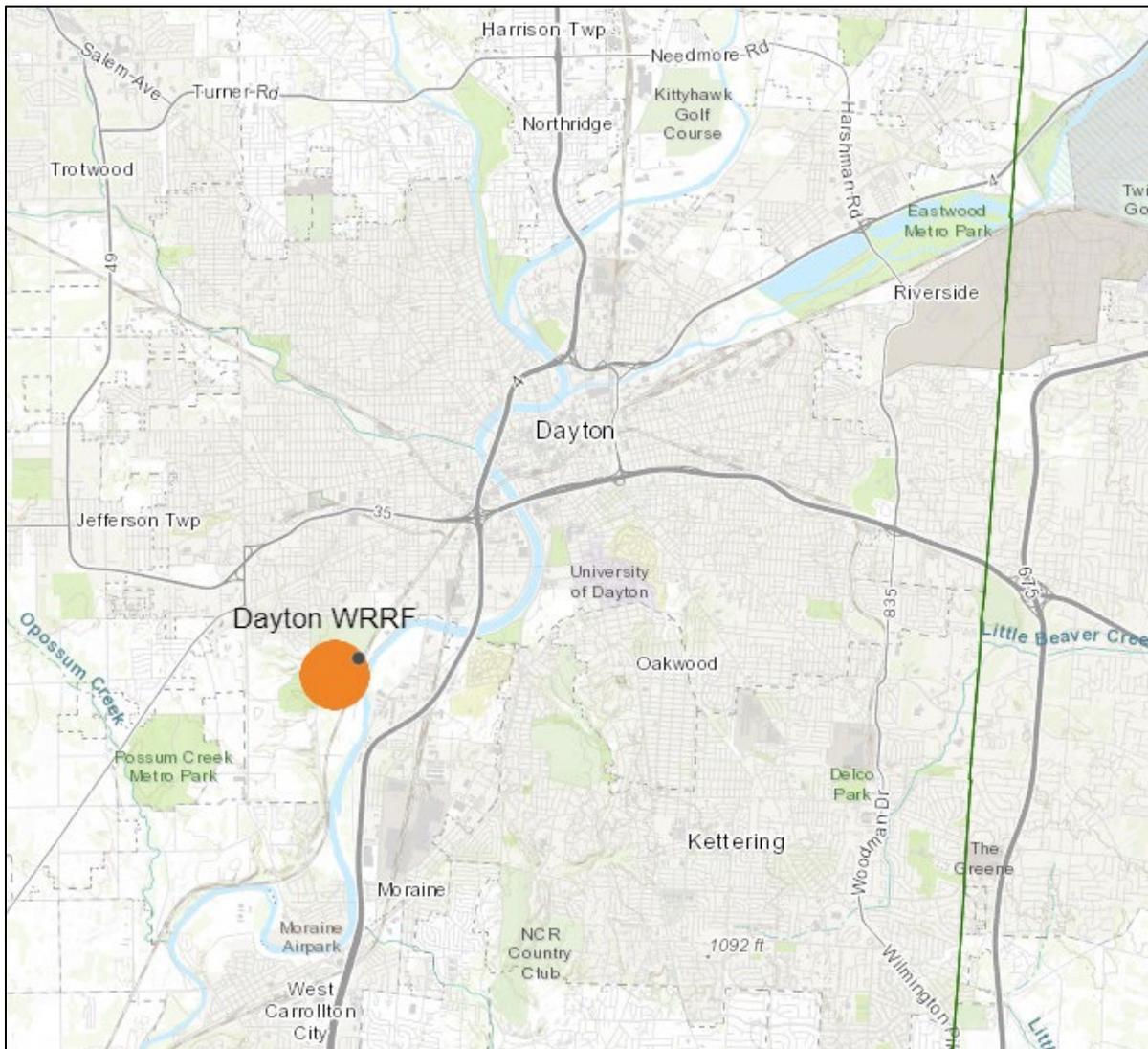


Figure 2. Location of the Dayton Water Reclamation Facility along the Great Miami River.

Project Description

The alternatives were evaluated based on environmental impact, social impact, health & safety, flexibility, adaptability, maintainability, reliability, operability, and constructability. Alternatives were scored, with primary clarifier cover replacement combined with existing biofilters scored highest.

The improvements involve construction of new fiberglass covers for the four north clarifiers and one of the south clarifiers. This will result in a total of about 11,000 cfm of air being captured. Ductwork will be installed to convey captured air from the clarifier surface to the biofilter. Air from the clarifier surfaces will be treated in the existing biofilter which was designed with excess capacity.

One new fan will be added to draw the 11,000-cfm volume of air from the clarifiers. This would add an operational cost of approximately \$24,000 annually for the electricity of running the new exhaust fan and its estimated maintenance.

Additional improvements include miscellaneous concrete repair on the clarifiers, new handrails, and electrical work.



Figure 3. Photos of the deteriorated and broken odor covers

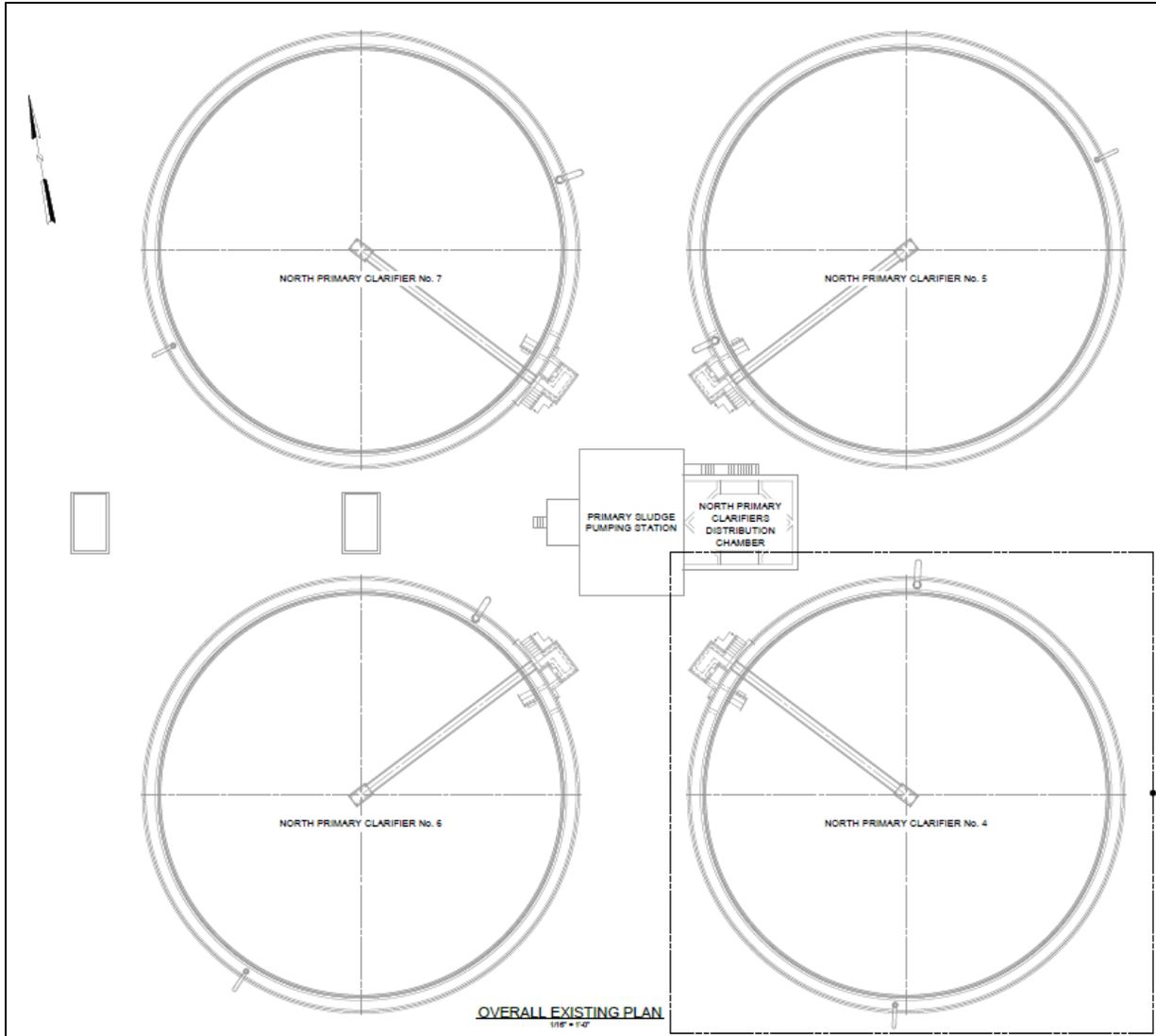


Figure 4. Diagram of the four north primary clarifiers that will receive new odor coverings

Implementation

Dayton will borrow \$5,880,000 from WPCLF. The City qualifies for a standard interest rate, currently 0.89%. During the 30-year loan period, Dayton will save approximately \$1,178,000 by using WPCLF dollars at this rate, compared to the market rate of 2.04%.

Local Economy

A typical residential customer living in Dayton is currently paying \$81 quarterly for sewer service. The previous sewer rate increase was 7.5% in January 2020, and the City plans to increase sewer rates 7% in 2021, as well. According to the 2013-2017 American Community Survey, the estimated median household income (MHI) for a resident of Dayton is \$30,128. The average yearly sewer costs amount to \$342, which is 1.1% of the MHI and is generally considered affordable.

Project Schedule

Anticipating loan award in May 2021, construction will be complete by July 2023.

Public Participation

The city held public meetings where the project was discussed in October 2017, January 2018, April 2020, and September 2020. Ohio EPA is unaware of controversy about or opposition to the project. Ohio EPA will make a copy of this document available to the public on its web page epa.ohio.gov/defa/ofa#169638769-wpclf-documents-for-review-and-comment and will provide it on request.

Conclusion

The proposed project meets the project type criteria for a Limited Environmental Review (LER); namely, it is an action within a public wastewater treatment system, which involves improvements to infrastructure. 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, and is cost-effective and not a controversial action because this project will occur within the existing Dayton WRF, and involve replacing existing fiberglass covers and adding new covers to uncovered clarifiers. The WRF is a site that has been previously disturbed and graded, and all improvements will be to existing structures. 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. Odor discharges will be reduced by covering the clarifiers and capturing odors for treatment before air is released.

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 installing new and replacement odor control equipment on existing structures.

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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