**April 27, 2017**

**Issuance of A Limited Environmental Review**
**To All Interested Citizens, Organizations, and**
**Government Agencies**

**Northeast Ohio Regional Sewer District**

**Kingsbury Run Preliminary Engineering Early Action CSO**
**Loan Number CS391430-0133**

The purpose of this notice is to advise the public that Ohio EPA has reviewed the referenced project and finds neither a Supplemental Study (SS) nor an Environmental Assessment (EA) is required to implement the project as discussed in the attached Limited Environmental Review (LER). Consequently, a Finding of No Significant Impact is being issued for this project.

The Water Pollution Control Loan Fund program requires the inclusion of environmental factors in the decision-making process for project approval. Ohio EPA has done this by incorporating a detailed analysis of the environmental effects of the proposed actions in its review and approval process. Environmental information was developed as part of the facilities plan, as well as through the facilities plan review process. A subsequent review by this Agency has found that the proposed actions do not require the preparation of either an EA or an SS.

Our environmental review concluded that because the proposed project is limited in scope and meets all applicable criteria, an LER is warranted. Specifically:

- The proposed project will have no significant adverse environmental effect, nor will it adversely affect any specific resource type.
- It will not require extensive general or specific direct impact mitigation.
- It will not affect current design flow value or the existing service area.
- It is clearly cost effective.
- It is not controversial.

- It will not result in an increase in the volume of discharge or loading of pollutants to receiving water or increase the withdrawal of additional water supplies.

The LER presents additional information on the proposed project, costs and the basis for our decision. Further information can be obtained by calling or writing the contact person listed on the back of the LER.

Upon issuance of this determination, loan award may proceed without being subject to further environmental review or public comment, unless information is provided which determines that environmental conditions on the proposed projects have changed significantly.

Sincerely,

Jerry Rouch

Jerry Rouch, Assistant Chief
Division of Environmental & Financial Assistance

Attachment

**LIMITED ENVIRONMENTAL REVIEW**
**For**
**Northeast Ohio Regional Sewer District**
**Kingsbury Run Preliminary Engineering Early Action CSO**
**CS391430-0133**

**Applicant:** **Ms. Kyle Dreyfuss-Wells, Chief Executive Officer**
**Northeast Ohio Regional Sewer District**
**3900 Euclid Avenue**
**Cleveland, Ohio 44115**

## Project Summary

The Northeast Ohio Regional Sewer District (NEORSD) is responsible for wastewater treatment facilities and interceptor sewers in the greater Cleveland Metropolitan Area. This service area encompasses the City of Cleveland and all or portions of 61 suburban municipalities in Cuyahoga, Summit, Lake and Lorain Counties. The Kingsbury Run Preliminary Engineering Early Action CSO (KRPE) project is located within the service area of the Southerly Wastewater Treatment Center (Southerly WWTC) in Cuyahoga Heights, Ohio, which is one of three wastewater treatment plants owned and operated by NEORSD. The KRPE project consists of improvements to two sewer regulators, construction of two new sewer regulators, construction of a new sewer drop structure, and the rehabilitation of approximately 1,200 linear feet of trunk sewer. The project is part of NEORSD's Long Term Control Plan and will help significantly reduce the number and volume of combined sewer overflows (CSO)[1] in its service area and reduce sewer surcharging. The total estimated project cost is $5,750,000. Debt for the project will be repaid from monthly service charges. The project is scheduled to begin in Spring of 2017 and last approximately 18 months.

## Existing Conditions

Flows from the KRPE project area are conveyed to the Southerly WWTC, which is situated on a 273-acre site at 6000 Canal Road, Cuyahoga Heights, Ohio, and serves a population of more than 601,000 in the Greater Cleveland area. Southerly WWTC is one of the largest plants of its kind in the country, and has an average daily flow of 125 million gallons per day (MGD) of wastewater. It can provide complete treatment to a maximum of 400 MGD of wastewater, and an additional 335 MGD of storm water can receive primary treatment only. Dewatering and incineration of sludge from Southerly WWTC and NEORSD – Easterly WWTC takes place at this facility.

The Southerly WWTC provides tertiary (advanced) treatment by utilizing primary clarification, a two-stage biological process, effluent filtration, and chlorination/de-chlorination. The first stage activated sludge process is operated to provide an effluent amenable to conditions needed for the second stage. The second stage activated sludge

[1] Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage and industrial wastewater in the same pipe. Most of the time, combined sewer systems transport all of their wastewater to a sewage treatment plant where it is treated and then discharged to a water body. During periods of heavy rainfall of snowmelt the wastewater volume in a combined sewer system can exceed the capacity of the sewer system or treatment plant. For this reason, combined sewer systems are designed to overflow occasionally (combined sewer overflow) and discharge excess wastewater directly to nearby streams, rivers or other water bodies.

process grows bacteria which will remove ammonia nitrogen. As a final step, the flow is passed through multimedia filters and is disinfected by a chlorination/de-chlorination process (during the warmer months of May through October). The last significant upgrade at the Southerly WWTP commenced in the mid-1970's and concluded in the mid-1980's.

The Kingsbury Run culverted stream serves as a drainage outlet for the central portion of the City of Cleveland, east of the Cuyahoga River, and parts of the southwest end of Shaker Heights. Nearly the entire creek has been culverted except for at its lowest portion that discharges to the Cuyahoga River and in the area of East 75th Street and Grand Avenue. The Kingsbury Run Culvert receives "natural drainage" from the separate storm sewer system in Cleveland and Shaker Heights. However, during wet weather events, additional storm overflows from the combined wastewater sewer system enter the Kingsbury Run Culvert. In the upper reach of the Kingsbury Run system the original stream culvert has been converted to a combined sewer.

In 2011, NEORSD entered into a consent decree with the U.S. EPA, the U.S. Department of Justice and Ohio EPA to implement, within a 25-year period, a Long-Term Control Plan (LTCP) to address CSOs currently impacting Lake Erie and its tributaries within the District's service area. The plan includes a series of control measures comprised of wet-weather plant upgrades, collection system improvements, remote storage tanks and green infrastructure technologies to limit storm inflow. The main component of the LTCP consists of a network of deep tunnels to store combined sewage during critical storm events for eventual treatment at NEORSD WWTP facilities. When completed, the combined tunnel systems will reduce CSO events, and related exposure to untreated sewage, in NEORSD service areas.

In October of 2014, the CSO Facilities Advanced Facilities Plan defined a Project Definition Memorandum (PDM) for the KRPE project. Based on the PDM, the KRPE project consists of improvements to be implemented prior to construction of the Southerly Tunnel System, which will further provide relief to the Kingsbury Run system during critical storm events. The KRPE project consists of two system improvements to be implemented prior to the construction of the Southerly Tunnel System – Consent Decree Control Measure #21. The first system improvement, the Kingsbury Boulevard Intercommunity Relief project, will provide surcharge relief along the Kingsbury Run Trunk Sewer in the vicinity of Kinsman Road between Kingsbury Boulevard and E. 117$^{th}$ Street, and includes project locations "SO-08" and "E. 117th." The second system improvement, the S-45A Interim Regulator Improvement (S-45A) project, will increase the current CSO/storm water capture to reduce the frequency of CSO events in a typical year at the Cleveland/Shaker Heights boundary, and includes project location "S-45A." The differences in alternatives for the overall project centered around prospective alignments at the E. 117$^{th}$ location.

## Alternatives

Alternative 1, a “no-action alternative,” is not feasible, since it would not fulfill NEORSD obligations under the consent decree to reduce the number and volume of CSO and sewer surcharge.

Alternative 2 includes a new 16-foot by 16-foot regulator designed to relieve storm events from the Kingsbury Run Diversion Sewer (KRDS) to the Kingsbury Storm Relief Sewer (KSRS), new 20-foot diameter, 80-foot deep drop baffle drop structure, new 8-foot by 16-foot connection structure designed to connect the proposed 84-inch sewer to the KSRS, new 84-inch diameter, 19-foot long storm water overflow (SWO) connection sewer, and new 84-inch diameter, 60-foot long sewer linking the baffle drop and connection structures. This alternative has the highest estimated construction cost of $7,300,000, and requires extensive disruption to road traffic due to road closure during construction. Due to the baffle drop’s location, no road closures or traffic disruption would be required related to its regular maintenance.

Alternative 3 includes a new 16-foot by 16-foot regulator designed to relieve storm events from the KRDS to the KSRS, new 20-foot diameter, 80-foot deep drop baffle drop structure, new 84-inch diameter, 12-foot long SWO connection sewer, and new 84-inch diameter, 34-foot long sewer linking the baffle drop and connection structures. This alternative has an estimated construction cost of $4,500,000. No major utility relocation is required, and minimal traffic disruption is expected during construction. Due to the baffle drop’s location, no road closures or traffic disruption would be required related to its regular maintenance.

Alternative 4 includes a new 16-foot by 16-foot regulator designed to relieve storm events from the KRDS to the KSRS, and a new 20-foot diameter, 80-foot deep drop baffle drop structure. While Alternative 4 has the lowest estimated construction cost of $4,000,000, it would also require the relocation of major utilities, including a six-duct electrical bank and a 12-inch water main, which may take up to 12 months of additional coordination. This alternative requires extensive disruption to road traffic due to road closure during construction. Furthermore, due to the baffle drop’s location, road closures would be required in the future related to its regular maintenance.

## Selected Alternative

Alternative 3 was selected for the KRPE project. While approximately 13% more expensive than Alternative 4, it avoids closures of Kinsman Road, a major artery between Cleveland and Shaker Heights, during construction and on-going maintenance.

Furthermore, no major utility relocation is required, eliminating this disruption and coordination. Alternative 3 involves the Kingsbury Boulevard Intercommunity Relief (project locations SO-08 and E. 117th) project, and the S-45A Interim Regulator Improvement project, the final design including the following:

SO-08

- Construct a new regulator structure, SO-08A, including an orifice plate.
- Modify the existing SO-08 regulator.
- Demolition of an existing home to allow for long-term access and maintenance of the of the regulator structures.
- Repair approximately 1,200-linear feet of the Kingsbury Run Trunk Sewer which connects to, and is immediately upstream of, the above-mentioned SO-08 regulator improvements. Improvements include: brick and concrete repair, replacement and sealing.
- The site will be regraded, seeded and mulched, with the only above-ground structure being an access drive, manhole access, and hatches.

The proposed modifications will discharge flows to the existing KSRS, which serves as the storm relief for this system, reducing sewer surcharge. The new regulator's orifice plate will help to maintain the current level of protection of the downstream Kingsbury Run Trunk Sewer (KRTS) until the Southerly Tunnel System is completed and in operation.

E. 117th

- Construct a new 21-foot diameter regulator designed to relieve storm events from the KRDS to the KSRS.
- Construct a new 22-foot diameter, 80-foot deep drop baffle drop structure.
- Construct a new 72-inch diameter, 21-foot long SWO connection sewer from the regulator to the baffle drop structure.
- Construct a new 72-inch diameter, 43-foot long sewer linking the baffle drop and KSRS.
- The site will be regraded, seeded and mulched, with the only above-ground structures being, access driveway, manhole accesses, and hatches.

The proposed modifications will control storm events in the downstream portion of the KRDS. Flows greater than the peak flow rate will be diverted to the KSRS via the drop shaft and SWO connection sewer.

S-45A

- Construct a riser and manhole on the existing Kingsbury Run Culvert.
- Construct a riser and manhole on the existing Kingsbury Run Diversion Sewer.
- Modify the existing S-45A regulator.
- The site will be regraded, seeded and mulched, with the only above-ground structures being a manhole accesses and hatches.

The proposed regulator modifications are designed to reduce the frequency of CSO events at the Cleveland/Shaker Heights border, including the eventual conveyance of flow to the proposed Southerly Tunnel System, and to improve access to the S-45A regulator for maintenance activities.

## Implementation

The total cost of the KRPE project is $4,774,375, all of which NEORSD proposes to borrow from the Ohio Water Pollution Control Loan Fund (WPCLF). The project service area qualifies for the standard WPCLF below-market interest rate on 20-year construction loans, which for May is 2.28-percent (WPCLF loan interest rates are set monthly and the rate may change for this loan). Borrowing at 2.28-percent will save NEORSD approximately $725,000 over the life of the loan compared to the current market rate of 3.53 percent.

The sewer service charges for NEORSD customers are driven by the total indebtedness of NEORSD (and annual operation and maintenance costs), as opposed to the specific indebtedness of any particular project. NEORSD will not enact a special increase in user rates specifically to pay for this project; instead, rates were increased in 2017 to cover debt expected during the period of 2017-2021, which includes debt for this and other projects.

**NEORSD Sewer Service Charge Rates**

| Rates Effective | 2017 | 2018 | 2019 |
|---|---|---|---|
| Cleveland | $89.77 | $96.62 | $103.98 |
| Suburbs | $91.33 | $97.87 | $104.92 |

The median household income of the benefitting properties is $43,804. The annual sewer bill based on 1,037 cubic feet of monthly water use, is $1,086.60. This represents 2.48% of the MHI, which is considered affordable.

## Public Participation

NEORSD has a long history of working with their customer base and local public officials when proposed projects are to be located in their community. NEORSD conducted public participation through various publications and an internet website that serve to keep members of their district informed of upcoming projects, by advertising for bids and providing bid updates on their website, and by advertising for bids in the Cleveland Plain Dealer. This Limited Environmental Review will be posted on the websites of NEORSD and Ohio EPA – Division of Environmental and Financial Assistance. Thus, NEORSD has provided information dissemination and public participation.

The following agencies reviewed this project's planning information:

Ohio Environmental Protection Agency
Ohio Department of Natural Resources
U.S. Fish and Wildlife Service
Ohio History Connection

## CONCLUSION

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

- *Will have no adverse environmental effect and will require no specific impact mitigation,* as there are no known sensitive environmental resources within the proposed project area. The proposed project activities include upgrades to and replacement of mechanical equipment and structures at three locations in the existing wastewater and storm water sewer systems. There will be no significant adverse effects as a result of project implementation, or the need for any additional mitigation measures beyond the required storm water pollution prevention plan(s), typical erosion control and construction best management practices;

- *Will have no effect on high-value environmental resources,* as construction will take place within urban residential/commercial settings where extensive excavation has previously taken place related to existing large-diameter sewer structures, and where no high-value resources are present;

- *Is cost-effective,* as the combined monetary and non-monetary costs of the selected alternative are more beneficial than those of the alternatives and the project will be financed through the WPCLF, saving approximately $725,000 in interest payments over conventional financing;

- *Is not a controversial action,* as there is no known opposition to the proposed project, the project requires no additional rate increase, and the cost of the project is not overly burdensome to ratepayers;

- *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 loading of pollutants from an existing source or from new facilities to*

*receiving waters,* since the project only involves upgrades to and replacement of equipment related to improved function of the existing wastewater and storm water sewer structures to improve conveyance and reduce CSO discharge and sewer surcharging;

- *Will not provide capacity to serve a population substantially greater than the existing population,* since the project only improves the existing wastewater and storm water sewer structures and is unrelated to serving new growth or increasing capacity at the wastewater treatment facility.

In summary, 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 water, ground water, air quality, floodplains, wetlands, riparian areas, prime or unique agricultural lands, aquifer recharge zones, archaeologically or historically significant sites, federal or state-designated wild, scenic or recreational rivers, federal or state-designated wildlife areas, or threatened or endangered species). Typical construction impacts, such as noise, dust, and exhaust fumes, will be short-term and addressed through the use of standard construction best management practices.

The proposed project is a cost-effective way to address necessary upgrades to the existing wastewater and storm water sewer structures. Once implemented, the project will have long-term water quality benefits associated with the prevention of a public and environmental health threat related to the exposure to untreated sewage via CSO and sewer surcharge. This project is part of NEORSD's Long Term Control Plan to address CSO, and will allow NEORSD to proceed with construction of the proposed Southerly Tunnel System, Consent Decree Control Measure #21. Also, by using WPCLF low interest financing, NEORSD has minimized the project cost.

For further information, please contact:

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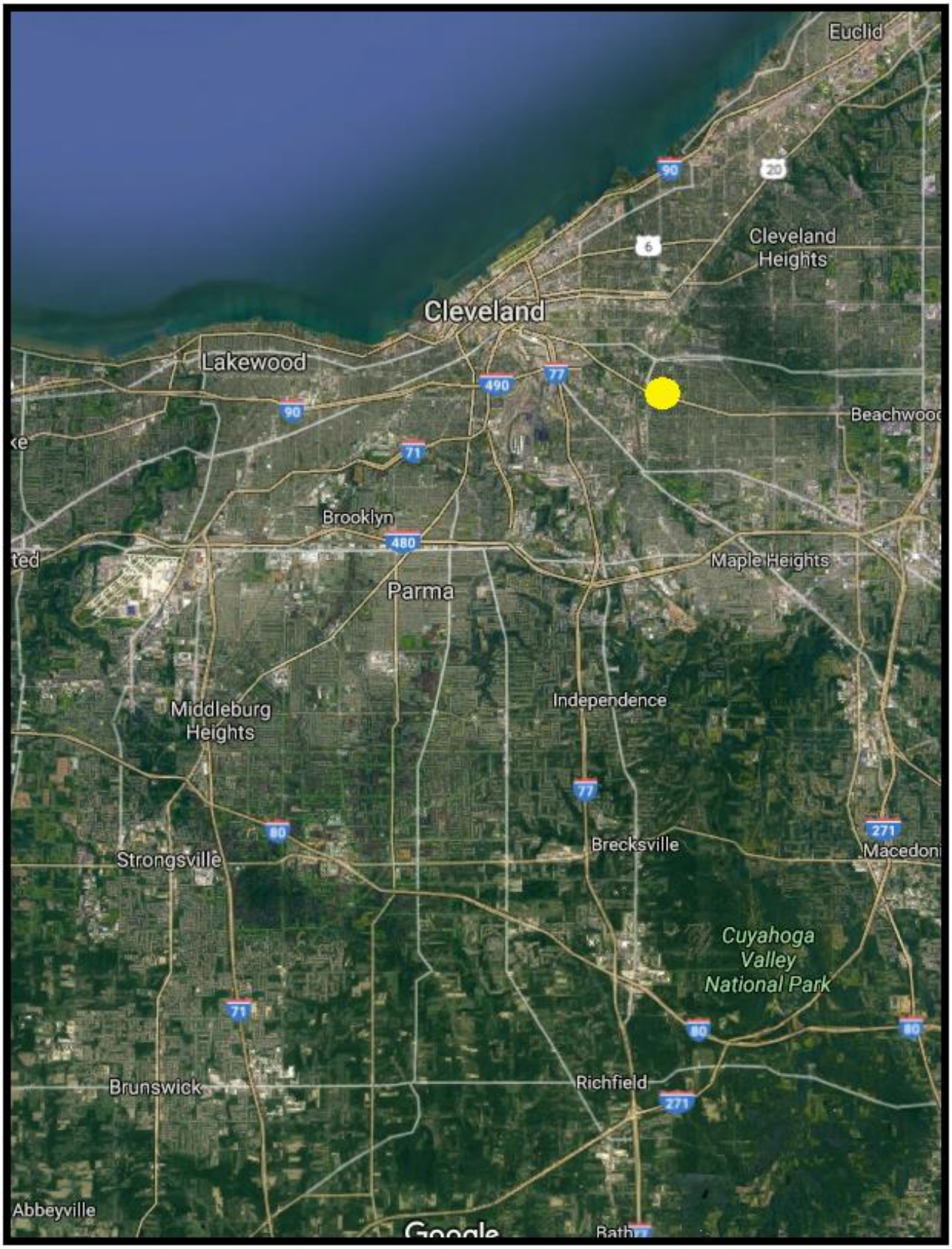


**Figure 1: General Project Location (in yellow)**


**Figure 2: Project Locations**