

State Water Infrastructure Authority
Meeting Date: December 12, 2023
Agenda Item G – Additional Funding Request for Kerr Lake Regional WTP Expansion and Upgrade from the Drinking Water State Revolving Fund

Division of Water Infrastructure Staff Report

Background

The Kerr Lake Regional Water System (KLRWS) currently provides drinking water to 15 municipal and community water systems throughout Vance, Granville, Warren and Franklin Counties of North Carolina. KLRWS is owned by the City of Henderson (60 percent), the City of Oxford (20 percent) and Warren County (20 percent).

The Kerr Lake Regional Water Treatment Plant (KLRWTP) has been in operation for over 40 years with an original design capacity of 10 million gallons per day (MGD) but currently operates at 13.97 MGD under a permanent high-rate approval from the Public Water Supply Section. The WTP draws raw water from Kerr Lake via a 36-inch intake. Many structures original to the plant are beyond their service life. The treatment process has challenges with removing Total Organic Carbon (TOC), which allows for potential for Disinfection By-Products (DBP) formation to exceed maximum contaminant levels (MCL). The plant has received several Notices of Violation (NOVs) due to levels of total trihalomethanes (TTHMs) exceeding state and national MCLs. Through an Interbasin Transfer (IBT) agreement, KLRWS is approved to transfer 14.2 MGD from the Roanoke River to the Tar River, Fishing Creek, and Neuse River. Water demand in the service area has been increasing as the customer population in the service area has increased.

The City of Henderson, on behalf of the three Partners, applied for funding to rehabilitate portions of the KLRWTP in the Spring 2017 DWSRF funding cycle and was awarded \$19,893,000 to rehabilitate and replace aging infrastructure, address NOVs, provide redundancy to water intake and the plant's filtration system.

Subsequently in 2017, the KLRWS Partners determined that a capacity expansion of the KLRWTP was needed and submitted two additional applications for Drinking Water State Revolving Fund (DWSRF) funding to expand plant capacity to 20 MGD. Those two applications were awarded funding by the State Water Infrastructure Authority (Authority) in March 2018, allocating an additional \$15 million in funding to the City of Henderson and \$5,000,000 to Warren County. The total amount of DWSRF project funding awarded by the Authority as of December 2023 is \$45,893,000 for the KLRWTP Upgrades project.

The following tables list the project cost estimate and a list of all secured funding to date.

The City of Henderson did apply in the Fall 2023 funding round for additional funds in DWSRF loan funding for the KLRWTP Expansion project, to fully fund the project. The Authority has an existing expectation that the Division will bring all funding increase requests in excess of \$5,000,000 to the Authority for approval (see attachment).

Table 1: Project Budget

| 8a. Project Budget for All Construction Projects and for Emerging Contaminants Evaluation/Assessment Studies Do not use for other planning studies. | | | |
|---|---|--|--------------------------|
| 1. Drinking Water/Wastewater: Costs for portions of the project that will fulfill the requirements related to rehabilitating or replacing waterlines, old infrastructure, lead service lines, or emerging contaminants (DW/WW Priority Rating System Line Items 1.C.1, 1.D.1, 1.J.1, 1.J.2, 1.J.3, or 2.B.2) must be labeled and shown separately to successfully claim points. | | | |
| 2. All: Costs for portions of the project that will directly benefit disadvantaged areas (DW/WW Priority Rating Systems Line Items 1.E or 4.C.4) must be labeled and shown separately to successfully claim points. | | | |
| | Division Funding Requested¹ | Other Secured Funding Source(s) | Total Cost Amount |
| Indicate construction costs by line item (e.g., linear feet of different-sized lines) | | | |
| Construction Costs | | | |
| Replace Clarification System HRC ² | \$12,911,223 | \$0 | \$12,911,223 |
| Rehabilitation of Existing Filter Building & Laboratory ² | \$5,014,182 | \$0 | \$5,014,182 |
| Replacement of Electrical Equipment ² | \$18,553,253 | \$0 | \$18,553,253 |
| Replace Additional Clarification System HRC ^{2,3} | \$11,960,813 | \$0 | \$11,960,813 |
| Replace Ex. 3.0 MG Clearwell with New 1.5 MG Clearwell ³ | \$7,957,738 | \$0 | \$7,957,738 |
| New Filter Building & Filters | \$4,728,513 | \$6,832,581 | \$11,561,094 |
| New High Service Pump Can and Appurtenant Work | \$318,810 | \$460,672 | \$779,482 |
| New 1-MG Clearwell | \$1,545,020 | \$2,232,515 | \$3,777,535 |
| Yard Piping and Site Improvements | \$1,929,822 | \$2,788,543 | \$4,718,365 |
| Replace Backwash Pump ¹ | \$298,129 | \$0 | \$298,129 |
| New High Service Pump ⁵ | \$2,051,893 | \$0 | \$2,051,893 |
| New Solids Thickener ³ | \$3,926,256 | \$0 | \$3,926,256 |
| <i>Contingency (10% of construction costs):</i> | <i>\$8,350,996</i> | <i>\$0</i> | <i>\$8,350,996</i> |
| <i>Construction Subtotal:</i> | <i>\$79,546,649</i> | <i>\$12,314,312</i> | <i>\$91,860,961</i> |
| <i>"Especially Old Infrastructure" (PRS Line 1.D.1)</i> | | | |
| <i>Construction Subtotal</i> | <i>\$56,397,210</i> | <i>\$0</i> | <i>\$56,397,210</i> |
| Engineering Costs | | | |
| DB Phase 1 PreCon and Design Services | \$4,437,876 | \$0 | \$4,437,876 |
| DB Phase 2 Design and Permitting | \$2,336,552 | \$0 | \$2,336,552 |
| Engineering During Construction | \$2,088,504 | \$0 | \$2,088,504 |
| <i>Engineering Subtotal:</i> | <i>\$8,862,932</i> | <i>\$0</i> | <i>\$8,862,932</i> |
| Administration Costs | | | |
| Bonds, Insurance and Warranty | \$1,233,883 | \$0 | \$1,233,883 |
| Construction Admin Services | \$1,249,536 | \$0 | \$1,249,536 |
| Loan and Grant Fees | \$0 | \$1,787,860 | \$1,787,860 |
| <i>Administration Subtotal:</i> | <i>\$2,483,419</i> | <i>\$1,787,860</i> | <i>\$4,271,279</i> |
| TOTAL PROJECT COST: | \$90,893,000 | \$14,102,172 | \$104,995,172 |

| Table 2: Secured Funding – December 2023 | | | |
|---|--|---|---|
| Partner/Owner | City of Henderson | City of Oxford | Warren County |
| SRF Loans / Grants | Loan - \$31,893,000 Grant - \$3,000,000 | Loan - \$6,000,000 Grant - \$0 (loan includes up to \$500,000 of Principal Forgiveness) | Loan - \$2,000,000 Grant - \$3,000,000 |
| Cash Reserves (Group Reserves held under KLRWS ledger) | \$12,212,000 | - | - |
| ARPA Funding | | | - |
| Federal/Congressional Appropriation for Project | \$3,500,000 (To KLRWS) Butterfield/Davis | \$3,500,000 Price/Foushee \$10,000,000 Sossamon/Wills 2023 | \$4,000,000 (5M awarded 2023 but some amount to be set aside for other projects) |
| Bank Loan (Converted to Bond) | \$15,000,000 | - | - |
| | | - | - |
| Sub Totals by Partner | \$65,605,000 | 19,500,000 | 9,000,000 |
| Total | | \$94,105,000 | |

Staff Recommendation

Staff believe that considering the long funding history and that the project is under contract and construction, this project is an excellent project to receive additional funds. Staff recommend that the Authority approve an additional \$10,890,172 (\$104,995,172-\$94,105,000) of DWSRF repayable loan funds to the City of Henderson to fully fund the KLRWTP Expansion project (DWI Project# WIF 1920).

The additional funding does not reduce the amount of DWSRF funds to be made available for the Fall 2023 Funding Round (i.e. available funds meet or exceed funding levels modeled and advertised for the round).



City of Henderson

Kerr Lake Regional Water System

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Henderson, NC 27536
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December 4, 2023

State Water Infrastructure Authority
c/o Drinking Water Projects Unit
Division of Water Infrastructure
North Carolina Department of Environmental Quality
1633 Mail Service Center Raleigh, NC 27699-1633

Re: Kerr Lake Regional Water System, Water Treatment Plant Improvements and Expansion
WIF-1920 (\$31,893,000), H-SRP-D-0131 (\$3,000,000), H-SRP-D-0152 (\$5,000,000), and
2019 (\$6,000,000).

Dear Members of the State Water Infrastructure Authority:

The Kerr Lake Regional Water System (KLRWS) currently provides drinking water to fifteen municipal and community water systems throughout the Rural Counties Vance, Granville, Warren, and Franklin North Carolina. KLRWS is owned by the City of Henderson (60%), the City of Oxford (20%), and Warren County (20%), which are hereafter referred to within this letter as the Partners.

As a short recap of the last almost decade long project history:

- The WTP project started as a ~\$20M rehab only of the 10MGD - 1973 plant
- The WTP project changed to a rehab And expansion from 10 MGD to 20 MGD
- The cost escalated to almost \$80M, even with removing 5 key components, to get to just 15MGD
- The partners were able to raise that amount to start the construction of the project before costs increased again
- The cost of the 5 removed components required to reach 20MGD is approximately **\$25M**
- Oxford and Warren County received combined 2023 appropriations of **\$14M** towards the project
- The Partners **MUST** obtain a loan for a minimum of **\$11M to add to the most recent \$14M** just to cover the \$25M cost of the 5 missing components.
- The Partners would like to replace a high interest \$15M bond (in addition to the above \$11M) with a low interest loan but not getting a loan for this does not stop the project from proceeding

The project cost was revised and updated for the Fall 2023 Application round and the Budget is shown on the next page. The total cost is anticipated to be \$104,995,172. The next chart shows the secured funding of \$94,105,000. **This leaves a shortfall of \$10,890,172 or approximately \$11M.**

Fall 2023 Application Budget

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| Engineering Costs | | | |
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| Administration Subtotal: | \$2,483,419 | \$1,787,860 | \$4,171,279 |
| TOTAL PROJECT COST: | \$90,893,000 | \$14,102,172 | \$104,995,172 |
| ¹ This project has received \$45,893,000 in grants/loans through previous rounds of DWSRF funding applications. This application seeks an additional \$45,000,000 towards the total project cost. 100% of project costs will go to serve potentially disadvantaged/underserved communities through the rehabilitation and expansion of the water treatment plant which serves them. | | | |
| ² Line Item is for repair or replacement of WTP components >20 years old (Priority Rating System Narrative Line Item 1.D.1). The existing clarifiers, electrical gear, and existing filter building are approximately 45 years old. | | | |
| ³ Line item was deferred in original scope. Item to be constructed contingent on funding availability from this application. | | | |

Secured Funding – December 2023

| Partner/Owner | City of Henderson | City of Oxford | Warren County |
|---|--|---|---|
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| High Interest Bond | \$15,000,000 | - | - |
| | | - | - |
| Sub Totals by Partner | \$65,605,000 | 19,500,000 | 9,000,000 |
| Total Funding in Hand | \$94,105,000 | | |

The four loans/grants from DWI and the four direct appropriations by the State show that this project has met the requirements for funding multiple times and from different sources but just has not been able to secure all the necessary funding before costs escalate yet again in the crazy markets we are all seeing. Finalizing this project has always just been out of reach.

While the KLRWS has not been defined as a stand-alone “special unit of government,” the system has always been owned and operated through a formal, legally binding partnership agreement that has reliably provided a regional drinking water solution that is consistent with the State of North Carolina’s regionalization goals for almost 50 years. It is worth noting that the Partners are exploring changing from a “System” to an “Authority.” Currently, as defined in the KLRWS’ charter agreement, the City of Henderson serves as the managing partner for KLRWS and is the official applicant requesting SWIA consider allowing additional funding of the project.

We thank you for your consideration of this special request that will allow us to finally get over the finish line. This project is very important to the people, businesses, and communities with the four rural counties that make up the partnership and bulk users. If additional information is needed, please reach out to Christy Lipscomb, Water Resources Director, City of Henderson, clarissalipscomb@henderson.nc.gov , (252) 430-9387 or Amy Ratliff, City Engineer, City of Oxford, aratliff@oxfordnc.org, 919-691-4221.

Sincerely,



Mr. Eddie Ellington

Mayor

City of Henderson, North Carolina

email: Christy Lipscomb, City of Henderson
Amy Ratliff, City of Oxford
Eric StSing, Warren County
Reed Barton, CDM Smith