Newark Safe Water Initiative

Newark Board of Education

U.S. Environmental Protection Agency (EPA), Office of Water,
Office of Ground Water and Drinking Water
EPA-OW-OGWDW-19-01

National Priority Area Two: Reducing Children's Exposure to Lead in Drinking Water Schools

Project Director: Steven Morlino, smorlino@nps.k12.nj.us, (973) 733-7355

Total project cost: Federal funds requested $7,475,299; Non-federal cost-match- $747,530;
Total project cost- $8,222,828

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B. Executive Summary

The Newark Board of Education (NBOE) is applying for funding through the U.S. Environmental Protection Agency (EPA), Office of Water, Office of Ground Water and Drinking Water to reduce the lead exposure in the drinking water children are exposed to in schools. The ***Newark Safe Water Initiative*** will impact all the district's 64 schools, 5,595 employees and approximately 36,200 students in grades pre-Kindergarten through 12th grade.

The project will address the conditions that contribute to increased concentrations of lead in drinking water. It will do so by meeting these three objectives: (1) complete a full remediation to eliminate lead content in the drinking water and 100% of the district schools will have safe water for students, (2) replace the identified lead service and distribution lines in 100% of the district schools with new service lines and fixtures through strategic planning, sampling and lead testing, (3) sustain the water filtration system in schools that have been remediated.

By achieving the objectives of the proposal, NBOE will have a decreased number of drinking water fixtures, fountains, outlets, and/or plumbing in schools associated with high levels of lead in drinking water. Through outreach and public education, there will be an increased number of schools with administrators, faculty, staff and community members with information about lead in drinking water. Mostly importantly, there will be a decreased number of children drinking water from outlets that are known to have high levels of lead in drinking water.

The overall outcomes of the ***Newark Safe Water Initiative*** will be a reduction in lead exposure and associated harms by removing sources of lead in drinking water in schools. There will be improvements in health outcomes of Newark students and an increase in public understanding of the health effects of lead and efforts towards the reduction of children's exposure to lead in drinking water in schools.

C. Work Plan

1. National Priority Area

i. The extent and quality of the overall approach to addressing the National Priority Area

Newark is the largest city in New Jersey and the 68th largest in the nation. The total population of 281,864 reside in 106,616 housing units within a 24 square mile area. In 2019, Newark's density measured 11,458 people per square mile, one of the highest densities among American cities. Newark's residents are mostly racial/ethnic minorities, with 50.2% African-American and 36% Hispanic/Latino. Based on data from the U.S. Census American Community Survey, 28.3% of Newark residents live in poverty, compared to 10% in New Jersey and 12.3% nationally. Forty-six percent of children in Newark, under the age of 5, were reported as living below the federal poverty level, which means an estimated 9,480 Newark children are living in poverty. According to the Newark Kids Count 2019 data report, there are 44,854 children in low-income households and 38,486 children under the age of 18 living below poverty.

The City of Newark has the largest number of children with Elevated Blood Lead Levels (EBLL) compared to any other municipality in the state of NJ. Newark comprised 13% of the State's children younger than six years of age with EBLLs as reported in the 2018 Childhood Lead Exposure in New Jersey Annual Report for the period July, 1, 2017-June 30, 2018. The City of Newark continues to be a geographic focus in New Jersey's efforts to eliminate childhood lead poisoning. Newark has demographic, economic, and health indicators representative of an underserved community with rapidly growing high priority populations, including children and families with significant exposure to lead burdened homes. Poverty remains a significant factor in target areas which impacts overall health and access to lead safe housing.

In 2016, the City of Newark experienced a lead in water crisis and is currently dealing with the impact of this crisis and implementing long-term solutions. Unfortunately, the lead in the drinking water crisis is not new to the City of Newark and has been a continual issue, posing a health risk to all the residents, including school-aged children. The City's service lines are connected to the District's water infrastructure and directly impact the children, staff, and all occupants in the District. In a disadvantaged community, such as Newark, lack of resources hinders our efforts and ability to provide long term solutions. However, with more resources and a plan of action, we foresee a promising future, especially for the health of Newark children.

Newark Board of Education (NBOE) is the largest and one of the oldest school systems in NJ with 64 school buildings that serve 36,200 students in grades pre-kindergarten through high school. NBOE is a high-need local educational agency that serves more students from low-income families than any other district in New Jersey. In fact, 82.8% of the Newark students are eligible to receive free or reduced price lunch. The composition of Newark students is ethnically diverse: the district serves approximately 43% African American, 48% Hispanic, 7% percent White, and 2% Other (including Native American and Asian) students across all schools.

The health of students and staff is one of the district's main priorities. The Newark school district has been testing its water system for more than twelve (12) years. The district works diligently to address lead in drinking water within its facilities to meet the requirements of the Environmental Protection Agency (EPA). Several factors impact the district's continued need of taking action to remediate the lead in the water: the average age of Newark's school buildings is 95 years old; the age of the water systems is approaching 100 years. Barringer High School, in Newark's North Ward, is the third oldest public high school in the nation. The gross square footage of the district is 7,493,629. This is no small task, as the cost to upgrade the water infrastructure for the district is approximately $37,468,145.

For the ***Newark Safe Water Initiative***, NBOE will collaborate with an environmental engineering consulting firm to develop a work plan for the replacement of service and distribution lines containing lead. The goal is to reduce the lead exposure in the drinking water children are exposed to in schools. The school district will meet this goal by (1) completing a full remediation to eliminate lead content in the drinking water so 100% of the district schools will have safe water for students, (2) replacing the identified lead service and distribution lines in 100% of the district schools with new service lines and fixtures through strategic planning, sampling and lead testing and (3) sustaining the water filtration system in schools that have been remediated.

NBOE water outlets with test results above the action level are in need of a deep remediation. This consists of opening walls, ceilings, floors and replacing pipes. To perform this work, the assistance of a Lead/Asbestos remediation contractor is required. The remediation contractor will open the identified walls, ceilings and floors which may contain lead paint or asbestos containing materials (ACM). They will also remove some service and distribution lines

which are insulated with ACM. The contractor will be responsible for filing all paperwork with the state and obtaining necessary permits through the city of Newark and State agencies for remediation approval.

Prior to accessing the plumbing fixtures, the building infrastructure must be assessed to identify all potential environmental hazards, including, but not limited to, asbestos and lead in paint. The Asbestos Management Plan and Lead in Paint records will be submitted to the Environmental Engineering Consulting Firm with all the known hazards recorded. Environmental samples may be collected for any areas where a presumed hazard may be present that can impact access to the plumbing fixtures. NBOE will utilize the Asbestos Management Plan to identify areas that will be impacted during the process of remediation.

NBOE will work collaboratively with an environmental consulting firm to develop the scope of work for the remediation. Once the plan of action is reviewed and approved, remediation contractors along with the Office of Facilities Management staff will proceed expeditiously with the remediation process for removal of the old water infrastructure with lead content and replacing them with new service, distribution lines, and fixtures to achieve the goal of reducing lead in drinking water and providing a healthier and safer environment for all.

ii. The extent and quality of known lead issue in the disadvantaged community

The Center for Disease Control, as one of the leading experts, agrees that there is no safe blood lead level identified in children. Pregnant women and children are most at risk. Even low lead levels are associated with serious, irreversible damage to developing brains and nervous systems. Protecting children from exposure to lead is important to lifelong good health. Even low levels of lead in blood have been shown to affect IQ, ability to pay attention, and academic achievement. And effects of lead exposure cannot be corrected. In 2012, the CDC updated its recommendations on children's blood lead levels. They also shifted their focus to the primary prevention of lead exposure. The idea is to reduce or eliminate dangerous lead sources in children's environments before they are exposed. The ***Newark Safe Water Initiative*** will eliminate the exposure to dangerous lead sources.

The City of Newark and the Newark school district recognize the impact of high lead levels in children. The Newark Department of Health and Community Wellness ("DHCW"), which manages all social services, community health, health planning, surveillance, and environmental services, has been implementing the Childhood Lead Exposure Prevention Project to the Newark community. The Newark DHCW and school district often collaborate and discuss issues impacting the children of Newark and how best to conduct outreach to families.

In 2016, through the normal routine testing, all Newark schools were tested. Extensive results can be found on the district website[1]. Test results showed there were 30 schools with elevated water lead levels containing lead above the threshold (15 parts per billion "ppb") set by EPA. Since this discovery, the district put forth aggressive efforts to get all water outlets in the buildings tested throughout the district, approximately 8,000 outlets.

After receiving those results, the district created a plan to address the elevated water lead levels. They performed surface remediation, consisting of replacing shut-off valves, supply lines faucets, fixtures and bubblers, on drinking fountains and food preparation sinks. The surface remediation process also consisted of replacing old water lines with lead free copper and fittings

[1] https://www.nps.k12.nj.us/departments/facilities/water-quality/

or PEX lines and fittings. The remediation was done in three phases to prioritize and address the needs of all schools. In Priority 3 schools, all drinking sources were turned off because all sources tested above the action level. There were 21 schools in this first phase of remediation. In Priority 2 schools, some of the drinking sources were turned off. The ones where the drinking sources tested above the action level. There were 25 schools in the second phase. The final phase had 24 schools categorized as Priority 1. In these schools, all drinking sources remained on since none of the drinking sources tested above the action level.

Once the temporary remediation was completed, these drinking fountains and food preparation sinks (outlets) were tested again for lead. A three-stage filtration system was installed on all outlets with lead test results below the action level 15 parts per billion (ppb). There were 190 outlets with lead test results still above the action levels 15 parts per billion (ppb) and had to be decommissioned.

iii. Public education, conduct outreach, and conduct post implementation monitoring

NBOE is transparent with information impacting students. Information that needs to be shared with parents is posted on the district's website. This includes water updates and educational materials. In addition, updates about the conditions of the school facilities and how the conditions impact the students' education and health are discussed at the monthly public Board meetings. Any information or documentation that needs to be shared with principals and teachers is communicated through the district's newsletters, Principal Points and Teacher Talk, which are emailed weekly to district staff. This internal communication medium is used to share test results and guidance documents between NBOE Executive Staff and School Leadership Teams.

Schools inform parents and guardians via notification letters of all exceedances placed in the students' backpacks. In addition to these notifications, schools often post information around the school that can easily be viewed. The notifications are also posted on the schools' websites.

While the NBOE shares information, more can be done to provide public education and outreach to parents and families. If awarded this grant, the district's Facilities Department will review the EPA's 3T's Toolkit. It will use the resources provided to develop a communication and outreach plan for the 2020-2021 school year.

iv. Plans to maintain lead reduction after project completion

NBOE has protocols to maintain lead reduction and will continue to follow them. The protocols as well as closely monitoring the water outlets through recordkeeping, plumbing logs, and periodic lead testing will ensure the health and safety of all students, staff, visitors and occupants. As a means of maintenance, the District has implemented a water testing schedule, Table A, which shows when each schools' drinking water will be tested.

Table A. NBOE Lead Water Testing Calendar

Test Date	Schools To be Tested
February 2, 2020	McKinley, Sussex Avenue, Roberto Clemente
February 22, 2020	South Seventeenth Street, NJ Regional Day, Ivy Hill, ECC West, Peshine

	Avenue, East Side HS
March 21, 2020	John F. Kennedy, Fourteenth Avenue, Chancellor Avenue, ECC South, Thirteenth Avenue, GW Carver, Speedway
April 18, 2020	ECC Central, Quitman Street, LA Spencer, Cleveland Avenue, Camden Street, Harriet Tubman, Arts HS
May 16, 2020	Rafael Hernandez, Ridge Street, Oliver Street, Lafayette Street
June 27, 2020	Abington Avenue, Benjamin Franklin, Dr. Horton, South Street, East Ward, American History HS,
July 11, 2020	University HS, Weequahic HS, Central HS, Shabazz HS, Avon Avenue, Belmont Runyon
August 15, 2020	Science Park, Technology HS, Barringer HS, Bard Early College, Park Elementary, Salome Urena
September 12, 2020	Newark Vocational, ECC North, Branch Brook, Hawthorne Avenue, Lincoln, Mount Vernon
October 17, 2020	Ann Street, First Avenue, Luis Munoz Marin, West Side HS
November 21, 2020	Elliot Street, Dr. E. Alma Flagg, Hawkins Street, Wilson Avenue

The Office of Facilities Management has instituted protocols for continuous flushing and aerator cleaning. By developing systems followed by all facilities workers, NBOE will be able to maintain reduced lead levels in water.

NBOE Flushing Protocol

- School Year Flush Protocol
  - Flushing to be performed by day shift custodial staff daily.
  - Locate the fixture furthest away from POE on each wing and floor of the building.
  - Open the faucet and let it run for 10 minutes.
  - Work your way back to POE by flushing every drinking fixture for 1 minute.
- Extended Breaks or Holiday Flush Protocol
  - Flushing to be performed by day shift on the first day back from extended break or holiday before students, faculty, and staff arrive for normal daily operations.
  - Locate the fixture furthest away from POE on each wing and floor of the building. Open the faucet and let it run for 10 minutes.
  - Work your way back to POE by flushing every drinking fixture for 1 minute
- Occupied Summer School Flush Protocol
  - Flushing to be performed by day shift daily until the Summer School Program has finished and is no longer on site.
  - Locate the fixture furthest away from POE on each wing and floor of the building. Open the faucet and let it run for 10 minutes.

    - Work your way back to POE by flushing every drinking fixture for 1 minute.
- Unoccupied Summer School Flush Protocol
    - Flushing to be performed by day shift bi-weekly
    - Locate the fixture furthest away from POE on each wing and floor of the building. Open the faucet and let it run for 10 minutes.
    - Work your way back to POE by flushing every drinking fixture for 1 minute.

NBOE Aerator Cleaning Protocol

- Aerator maintenance will be performed monthly by the night shift custodial staff
    - Complete one floor each month.
- Tools needed to perform aerator cleaning protocol properly
    - Channellock groove plier
    - Clean rag
- Start from the faucet on the top floor of the building furthest from Point of Entry (POE).
    - Remove Aerator from each faucet.
    - Remove any debris from the screen.
    - Clean the screen of any film or buildup.
    - Replace screens as needed.
- Log all of your findings and work performed.
    - Keep track of where you left off if not completed in same day,
    - Document action taken.
    - List any concerns or observations.
    - The aerator cleaning protocol is now complete.

v. Assistance will target disadvantaged communities with one or more lead action level exceedance(s) in the past three years

As discussed earlier, the assistance from this funding will impact the children in the City of Newark who suffer from the highest EBLLs in the state of NJ. In 2018, of the 4,500 children found with elevated levels of lead in their blood, Newark children had the highest with 587 children[2]. The District has identified several areas that have a major impact on the quality of water in schools. Some of the areas include: corroded and collapsed waste lines; broken/cracked waste lines; asbestos in walls, ceilings, floors and pipe installations; and seized gate valves on water lines. The NBOE has a collaborative partnership with the NJ Department of Environmental Protection (NJDEP) and has installed new state-of-the-art-systems that ensure water sources could be brought safely back online and has implemented processes to safeguard against oversight. The NBOE and the NJDEP have collaborated and developed guidance that was implemented throughout the state of NJ.

Within the past four years, NBOE was able to upgrade pipes at two schools and is looking to accomplish the same at the remaining schools. The district will continue to work with the appropriate authorities and implement processes to ensure safe drinking water for students and staff.

vi. The degree to which the proposed project is in an Opportunity Zone

[2] 2018 Childhood Lead Exposure in NJ Annual Report
https://www.state.nj.us/health/childhoodlead/documents/reports/childhoodlead2018.pdf

The City of Newark has the 13 Opportunity Zones. The following are the Newark census tracts[3] that services will be provided as described in the project proposal sections: Census Tracts 14, 41, 48.02, 50, 68, 74, 75.01, 75.02, 80, 81, 96, 229, and 231. The ***Newark Safe Water Initiative*** will impact schools across the city and ensure students in the mentioned Opportunity Zones are afforded safe and drinkable water.

The proposed project will impact all schools in Newark estimating to impact approximately 36,000 students. An improved/upgraded pipe infrastructure will not only support safe drinking water; but also provide an essential resource to all students and staff members.

2. Expeditious Project Readiness to Proceed

i. Past and current practices implemented to reduce exposure to lead in drinking water

In the past, when lead in water levels exceeded the threshold set by the EPA, all filtration systems on drinking water sources throughout the district were removed and replaced by an outside company. Following the replacement of the filtration system, a water test was conducted to ensure the lead in drinking water was under the threshold.

As mentioned, asbestos can impact the elevated levels of lead found in water. Since NBOE schools are very old, it is not uncommon to find classrooms with asbestos. NBOE's Facilities staff have the capacity to perform all tasks and duties required in the lead abatement process to ensure all levels of lead are reduced. Additionally, the district will procure a pool of contractors to perform any requirements for the lead abatement and school interventions that cannot be handled by the current district staff. All contractors will adhere to Federal, State and Local Public Contracts Law, and meet all public bidding requirements including licenses and required certifications. New Jersey law and regulations require Abatement contractors must "go green" and have a limit of three awarded projects at a single time to minimize production delays. All other vendors, including lead evaluators, shall be procured consistent with the local public contract laws.

Currently, the District's drinking water sources and food prep areas that tested below the action level 15 parts per billion have been equipped with new filtration systems that are monitored on a continuous basis. Through collaborative efforts, in partnership with NJ Department of EPA, a Quality Assurance Project Plan was developed. A copy of the stated plan is available via external documentation and can be provided.

ii. The extent and quality of planning and design, and securement of necessary approvals to proceed expeditiously

The ***Newark Safe Water Initiative*** will be implemented by the NBOE's Facilities Department which manages all facilities services, building planning, and environmental services. At this time, the infrastructure required to efficiently address the need within the district is all but fully in place. The Lead Remediation Team, consisting of a project manager, lead inspector, risk assessor and data entry support, are able to fully implement the project.

NBOE has a long-standing history working along with the City of Newark permit department. The District has the capacity to take on multiple large scale projects and have been

[3] https://nj.gov/governor/njopportunityzones/faqs/

successful in securing the necessary approvals required to complete the projects at hand. A large scale project that required different skilled personnel, multiple contractors, Project Managers, Construction Managers, headed by the Office of Facilities Management Team is the design and construction of the new Career Technical Education (CTE) Wing at Newark Vocational. This project required multiple permits from the City and State Uniform Construction Code (UCC) Department. The permit applications were submitted with the project work plan in a timely fashion and the District received approval for the project to commence. The Office of Facilities of the Newark Vocational CTE planning team reviewed all work plans along with the project drawings and applications prior to submission to the UCC. The architects and engineers completed scope of work for the CTE construction, the Environmental Consultants completed the scope of work for Asbestos removal and remediation at Newark Vocational.

NBOE has the necessary tools and personnel in place to ensure the permits and all required documents are obtained and made readily available. In addition, the District has an Architect and Design and Construction Team alongside the Project Managers and Environmental Team, all who have the expertise and experience needed to expeditiously complete the planning and design for this project. The District is ready to implement the processes and has (Environmental Remediation Consulting Companies) vendors in place ready to develop the scope, remediate, and conduct post water sampling, and provide supplies upon demand. A water team (made up of plumbers) was already organized and ready to be dispatched with supplies in hand.

3. Environmental Results and Measuring Progress

i. The extent and quality to which the application demonstrates the potential to achieve environmental results, anticipated outputs and outcomes, and how the outcomes are linked to the EPA's Strategic Plan

The goal and objectives of the ***Newark Safe Water Initiative*** directly support the EPA's Strategic Goal 1: A Cleaner, Healthier Environment: Deliver a cleaner, safer, and healthier environment for all Americans and future generations. NBOE wants to use this funding to complete a full remediation of identified water sources with lead. This will eliminate lead content in the drinking water so all schools are lead free.

The anticipated outputs are:

- A decreased number of drinking water fixtures, fountains, outlets, and/or plumbing in schools associated with high levels of lead in drinking water due to removal or replacement of those components.
- An increased number of schools with administrations, faculty, staff and community members with information about lead in drinking water, achieved through outreach and public education.
- A decreased number of children drinking water from outlets that are known to have high levels of lead in drinking water.

The outcomes of the ***Newark Safe Water Initiative*** are:

- An overall reduction in lead exposure and associated harms through reduction of sources of lead in drinking water in schools

- An overall improvement in health outcomes in disadvantaged communities though increased efforts to remove sources of lead.
- An overall increase in public understanding of the health effects of lead and efforts towards the reduction of children's exposure to lead in drinking water in schools.

ii. The extent and quality to which the application demonstrates a sound plan for measuring and tracking progress toward achieving the anticipated outputs and outcomes

The NBOE Facilities Office will use quantitative and qualitative data to ensure all outputs and outcomes are being monitored to show progress. They will continue to keep logs and maintain accurate records for the lead testing at each school. Since the District operates on a monthly schedule for testing lead levels in schools, this data will be used to demonstrate the decreased number of drinking water fixtures, fountains, outlets, and/or plumbing in schools associated with high levels of lead in drinking water. After each school's monthly testing, results will be reported as to the number of water sources at each location, the number of water sources with normal lead levels and the number of sources with elevated lead levels. This data will be compared to past data to ensure the schools are making progress. NBOE will use survey data to measure the increase regarding lead in drinking water. A survey will be posted annually to get information from staff and community members to measure the increase in knowledge.

By using data to measure and monitor progress towards the project's goals and objectives, the outcomes of the ***Newark Safe Water Initiative*** will be met. Newark schools will see an overall 10% reduction in lead exposure and associated harms through reduction of sources of lead in drinking water. Through strategic public outreach, there will be an increase in public understanding of the health effects of lead and efforts towards the reduction of children's exposure to lead in drinking water in schools. Finally, there will be an overall improvement in health outcomes for Newark students.

4. Milestone Schedule

i. The adequacy and completeness of the milestone schedule, including timeframes and major milestones to complete significant project tasks, and an approach to ensure that awarded funds will be expended in a timely and efficient manner.

The District's Water Team has examined the buildings blueprints and pipe layouts. The City of Newark has already identified any deteriorating lines linked to schools and addressed what is needed. Any lead/asbestos remediation has also been addressed.

Milestones

Timeframe	Activity	Responsible Parties	Milestone
Month 1	Finalize grant agreement; assemble key administrative and project management personnel to finalize roles, responsibilities and timelines Review and approve final list of equipment and resources necessary to address each identified vulnerability Prepare request for quotations in accordance with NBOE and all grant program procurement requirements	Grant Dept/Project Manager Director of Project Control Project Manager/Project Control Project Manager/Project Control Project Manager/Project Control	Grant award agreement signed; project plans reviewed, finalized and agreed upon Approved list of equipment and resources is complete Request for quotations is complete and published
Year 1-4 Month 1 (Targeting 3-4 schools each year)	Requisition for Materials and Vendors	Project Manager/Project Control	24 hours after funds budgeted
Month 2	Equipment and supplies are purchased	Project Manager/Project Control	Purchase orders are issued, equipment delivered and installed
Month 2	Activate Vendors	Project Manager/Project Control	Supplies Delivered - 2 weeks
Month 2	Water Team dispatched	Project Manager/Project Control	Process of laying down pipes begin (6 months)
Month 3	Architectural Drawings/Permits	Project Manager/Project Control	Obtain permits - 2 weeks
Month 4	Abatement	Environmental Team	Open up walls to conduct abatement (4 weeks)
Month 5	Excess Pipes	Project Manager/Project Control	Any piping that hasn't been removed during abatement will be removed (3 weeks)

Month 6	New piping	Project Manager/Project Control	Start laying down new pipes
Months 7 - 12	Finish 3-4 Schools	Project Manager/Project Control Plumbers	Completion of 3-4 schools depending on size

Detailed Budget

ii. The reasonableness of the budget and estimated funding amounts for each project component/task and the adequacy of the information provided in the detailed budget and whether the proposed costs are reasonable and allowable.

The Newark Board of Education Purchasing department in conjunction with the Legal department will administer the contracting and bidding aspects in accordance with local public contract laws of NJ. The PM will monitor all contractors to ensure conformity to contract terms, conditions and specifications. Funding will flow from Newark Board of Education to contractors after services have been performed on a cost-reimbursement basis, a standard practice in Educational Agencies. After inspection of remediated premises and clearance, the contractor will submit an invoice to the PM to ensure it fulfills the scope of services, and then to the Secretarial Assistant for processing. The PM completes final programmatic and fiscal review and submits to the Program Accountant for comparison of the invoice with grant funds and entry into the PeopleSoft financial data base for payment by the Accounts Payable Department.

NBOE has attached a letter requesting a reduced non-federal cost share/match which demonstrates how the District meets New Jersey's DWSRF affordability criteria.

	Year 1	Year 2	Year 3	Year 4	**TOTAL**
1. Personnel	$ 412,500	$ 424,875	$ 437,622	$ 450,750	$ 1,725,746
Project Manager 50%	$ 52,500	$ 54,075	$ 55,698	$ 57,368	
Plumbers (4) - $90,000	$ 360,000	$ 370,800	$ 381,924	$ 393,382	
2. Fringe Benefits & FICA -29%	$ 119,625	$ 123,214	$ 126,910	$ 130,717	$ 500,466
3. Travel	$ -	$ -	$ -	$ -	$ -
4. Equipment	$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 2,800,000
5. Supplies	$ -	$ -	$ -	$ -	
6. Contractual (Lead/Asbestos Remediation)	$ 540,480	$ 540,480	$ 540,480	$ 540,480	$ 2,161,920
Other					
Sub-Total	$ 1,772,605	$ 1,788,569	$ 1,805,012	$ 1,821,947	$ 7,188,133
Indirect Cost (3.995%)	$ 70,816	$ 71,453	$ 72,110	$ 72,787	$ 287,166
Total Federal Share	**$ 1,843,421**	**$ 1,860,022**	**$ 1,877,122**	**$ 1,894,734**	**$ 7,475,299**
District Contribution (10%)	$ 184,342	$ 186,002	$ 187,712	$ 189,473	$ 747,530
TOTAL PROJECT COSTS	**$ 2,027,763**	**$ 2,046,024**	**$ 2,064,834**	**$ 2,084,207**	**$ 8,222,828**

Budget Narrative

The proposed budget is for a four -year period of October 1, 2020 through September 30, 2024. It is designed to maximize EPA funding for the direct benefit of this proposal as part of Newark Board of Education's proposed contractual obligations. This budget narrative describes the roles and responsibilities of all key and other personnel and related budgetary costs, as well as all non-personnel costs to be incurred over a 4-year project. All personnel and non-personnel budgeted requests follow federal and institutional policies and procedures, and are reasonable, necessary, and allocable to the objectives/activities of this proposal.

Newark Board of Education has incorporated an annual 3% cost-of-living equalization adjustments for its employees consistent with District practices. NBOE's current fringe benefit rates are 29% on a base of calendar year compensation. These rates are held constant over the duration of the proposed project period.

1. Personnel **Total $1,725,746**

Project Manager- 1 FTE to work 50% of this grant. Salary is $105,00

Year 1-$52,500
Year 2-$54,075
Year 3-$55,698
Year 4-$57,368

Plumbers – (4) FTE spending 100% of time working on schools in need of remediation.
Salary per Plumber $90,000

Year 1-$90,000 x 4 = $360,000
Year 2-$92,700 x 4 = $370,800
Year 3-$95,481 x 4 = $381,924
Year 4-$98,345 x 4 = $393,282

2. Fringe Benefits **Total $500,466**
Personnel each year * 29%

3. Travel **Total $0**
No Travel will be associated with this Grant

4. Equipment **Total $2,800,000**
Replace Pipe Fixtures: $50 per linear foot
3-4 schools per year: Approx. 3,500 Linear Feet per school
50 p/Lf x Approx-3,500 Lf = $175,000
$175,000 x 4 schools=Approx $700,000 yearly
$70,0000 per year x 4 Years=$2,800,000

5. Supplies **Total $0**

6. Contractual **Total $2,161,920**

Lead/Asbestos Remediation: Inspection, additional environmental assistance
3-4 school per year = $75,000 * 4 years= $300,000
Description of process:
1. Identify contamination sources.
Lead levels within the water supply will not be consistent throughout each school in the district. water supply or throughout a building. Corrosion may be worse in some schools more than others, and older faucets and water fountains can leech lead as well. Tests have been taken at every source of drinking water to determine where the exposure is worst and the need for remediation most immediate. To get an accurate reading, samples were drawn in the morning after the water had sat overnight and before any pipes were flushed.
2. Add filters.
Once sources with elevated lead levels are identified, they can be fitted with filters designed to trap lead particles. Filters will be certified to American National Standards Institute/National Science Foundation Standard 53. The NSF's website states that Standard 53 filters "reduce a contaminant with a health effect. Health effects are set in this standard as regulated by the U.S.

Environmental Protection Agency (EPA). Any contamination sources without filters will be made off-limits until one can be installed.
3. Conduct regular maintenance.
Set a maintenance schedule that includes regularly flushing the plumbing, replacing filters, retesting drinking sources, and ultimately, replacing fixtures with lead-free alternatives. Flushing out the pipes will not eliminate lead and does not address the root of the problem, but it can get rid of accumulated lead and diminish the threat until longer-term solutions are implemented. Flushing the system is especially important after long breaks, like summer vacation, when water sits stagnant.
4. Replace fixtures.
Filters and flushing are ultimately stop-gap solutions. Replacement of taps and fountains with lead-free materials is the best way to remediate lead exposure short of replacing the entire plumbing system. For schools, the district will be choosing products that have above standards certifications. This indicates that the material is lead-free and designed for high-use environments.
5. Choose environmentally-friendly vendors for assistance of services
The Newark Board of Education has an efficient and effective facilities team that will complete the remediation process for the district. The district will use additional services from 3rd party vendors. These vendors will have to meet the specific environmental standards that the district has set in accordance to state and federal standards.
6. Communicate early and often.
Once the decision is made to conduct lead testing and an action plan is developed, The Newark Board of Education will continue to inform all stakeholders and keep the update on progress. Detail how the lead will be remediated, and how we will ensure children's drinking water is safe in the meantime. Communicating clearly and documenting all steps may be the district's best plan of action for the community.

Safe Fountain Systems (SFS) 68 Schools have a total of 500 units
$39.00 per month for 12 months = $234,000
$234,000 x 4 years = $936,000
Description: Safe Fountain Systems are a patented and certified point of use filtration technology that removes lead, pathogens, and chemicals.
Certified Contaminant Reduction:
• NSF 53 –Certified for 99.3% lead (both colloidal and dissolved lead) and VOC removal.
• NSF P231 – Certified for 99.9% bacteria, virus and cysts removal.
Security:

- A Point-Of-Use approach designed to remove a wide range of typical water contaminants, assuring safe drinking water regardless of municipal system upsets, water main breaks or plumbing problems.
- Systems come equipped with an automatic shut-off that monitors flow and turns off after the rated number of gallons is reached.
- Microbiological filter is designed to provide clean healthy water, even in the event of a boil water alert. In fact, the system automatically shuts down under excessive bacteria loading.
- Tamper proof cabinet protects the system from accidental damage and associated water leaks. The industrial design also ensures problem free operation for years to come.

Reverse Osmosis (up to 12 Schools) $295.00 per month
$295 per month for 12 months = $3,540 per school
12 schools: $3,540 x 12= $42,480
4 years: $42,480 x 4 = $169,920
Description: The Reverse Osmosis system removes sediment and chlorine from water with a pre filter before it forces water through a semipermeable membrane to remove dissolved solids. After water exits the RO membrane, it passes through a postfilter to polish the drinking water before it enters a dedicated faucet. Reverse osmosis systems have various stages depending on their number of prefilters and postfilters. Each type of system contains one or more of the following filters:

- Sediment filter: Reduces particles like dirt, dust, and rust
- Carbon filter: Reduces volatile organic compounds (VOCs), chlorine, and other contaminants that give water a bad taste or odor
- Semi-permeable membrane: Removes up to 98% of total dissolved solids (TDS)

Safe Kitchen System (SKS) 63 Schools
$250.00 per month for 12 months = $3,000
63 schools: $3,000 x 63 schools = $189,000/y
4 years: $189,000/y x 4 years= $756,000
Description: Filtration system that provides:

- N99.3% lead reduction that meets NSF/ANSI Standard 53
- 99.99% reduction of bacteria by on-board Ultra Violet (UV) treatment that meets NSF/ANSI Standard 55
- 99.95% cyst reduction based on our patented FACT® prefiltration technology that meets NSF/ANSI Standard 53
- 5 or 10 gpm flow rates and 17,000 or 34,000 gallon capacities for smaller 1-4 sink or larger 5+ sink kitchens

6. Other **Total $0**

7. Indirect Cost (3.995%) **Total $287,166**
The NBOE has a Negotiated Facilities and Administrative Cost Rate Agreement dated 4/22/20. The approved 2020-2021 Restricted Indirect Cost rate is 3.995%.
Year 1 - $70,816
Year 2 - $71,453
Year 3 - $72,110
Year 4 - $72,787

Federal Share **Total $7,475,299**
Year 1 - $1,843,421
Year 2 - $1,860,022
Year 3 - $1,877,122
Year 4 - $1,894,734
District Contribution (10%) **Total $747,530**
Project Amount **Total $8,222,828**

5. Programmatic Capability/Experience

i. Organizational experience

In the District, the Facilities Management is a diverse group of professionals who are trained and have the experience to effectively strategize and provide solutions to issues related to the welfare of the buildings in the District. These trained professionals are familiar with the Buildings and Grounds portfolio and infrastructure. We have in-house plumbers who have successfully completed repairs on pipes and fixtures that contain lead and have replaced multiple drinking water fountain units throughout the District. With the leadership of the Executive Team and competent staff in Facilities Management, the District has the ability to successfully complete and manage the proposed project.

Program Administration / Oversight. The Program Manager (PM) will administer and have oversight of the program. He/she will continue to monitor all district and 3rd party contractors to ensure conformity to contract terms, conditions and specifications. Funding will flow from Newark Board of Education to contractors and vendors after services and materials have been received and performed on a cost-reimbursement basis. The PM completes final programmatic and fiscal review and then submits to the Program Accountant for fiscal review and processing payment of the invoice with grant funds. All payment requests are entered into the Newark Board of Education PeopleSoft financial database for payment by the Accounts Payable Department. The fiscal lead will ensure the financial integrity of the program. He/she will be responsible 100% of time for all financial aspects of the program; time will be spent reviewing, reconciling, processing all contractor and program vendors' invoices to ensure timely payment and fiscal integrity.

ii. Staff expertise/qualifications

The Office of Facilities Management monitors all physical plant operations and oversees capital projects to ensure the safety and well-being of the district's students and school community utilizing more than 79 buildings across the City of Newark's five wards. Under the Leadership of Steve Morlino, who brings over 25 years of knowledge and experience.

Facilities Management includes several units such as Project Control, Building Maintenance/Custodial, Design and Construction, and Environmental Health and Safety. Within those units, there are highly qualified and trained personnel, including, but not limited to the Executive Leadership Team, Project Managers, Plumbers and Lead Inspector and Risk Assessor Environmental staff.

Steven Morlino, Executive Director: Executive Director Morlino leads the overall direction of the department with consideration from the senior leadership of the district. He has over 20 years of experience in local and federal environmental and facilities management, inspection and enforcement of sanitary and health codes/regulations and conducting training programs for the state.

Lisa Abdul, Special Assistant: Ms. Abdul has over 10 years of managing educational fiscal budgets in the State of New Jersey. She oversees the procurement, finance, budget and operations of the facilities department.

Vincent Hutcheson, Project Manager: Mr. Hutcheson is the Program Manager and provides coordination of the grant with all other state and city environmental agencies in coordination of

the set guidelines arranged by leadership. He will be responsible for day-to-day management of the remediation activities.

Benjamin Olagadeyo, Building Manager: Mr. Olagedeyo establishes programmatic and budgetary priorities for the Office of Building, Custodial and Environmental Services, aligning resources to support the systems and infrastructure necessary to meet long-term and short-term goals. He will work hand in hand with Mr. Hutcheson over the length of this grant.

Scarlette Gaudin, Environmental Specialist: Ms. Gaudin will assist Mr. Olagadeyo in conducting walk-through inspections to identify all potential and existing health hazards, prepare reports and operating procedures and address all environmental needs to ensure a healthy environment.

6. Past Performance

i. Past performance in successfully completing and managing the federally funded and/or non-federally funded assistance agreements

NBOE is fully qualified and capable to successfully execute the proposed Newark Safe Lead Water initiative and attain the desired goals, objectives and outcomes. Newark Board of Education has been successful in implementing grant projects including: 21st Century Community Learning Center grant, School Improvement Grants for five NPS schools and School Breakfast expansion grant. NBOE currently is in Year 2 of cooperative agreement through the Center for Disease Control (CDC). The district was awarded this year two mental health grants from the United States Department of Education (USDE). All these grants require collaboration with other district departments and with schools. The CDC grant focuses on sexual health education, sexual health services and safe and supportive learning environments. There is collaboration between the district's Health Department, Physical Education Department, Student Life Office and Grant Office in addition to the 15 schools named in the grant. The USDE grants focus on mental health and require the collaboration between our Student Life Office, Gants Office and external partners for implementation. The Grants Office works with all departments receiving grants to review the goals and objectives of the grants and conduct monthly check-in to ensure there is progress being made towards reaching the objectives.

ii. History of meeting reporting requirements

As mentioned the NBOE manages several discretionary grants, in addition to, the federal entitlement grants. The Grants Office is charged with ensuring the district stays in compliance and meets all reporting requirements. Timelines are shared with Project Directors so information can be gathered and submitted to the appropriate grantors. The district has a history of submitting all local, state and federal reports on time and in accordance to grant regulations.

iii. The extent and quality to which the applicant adequately documented and/or reported on their progress towards achieving the expected results

NBOE has systems, policies and frameworks to ensure the highest degree of fiscal accountability and transparency. The District follows Generally Acceptable Accounting Practices (GAAP) in its fiscal operations. Grants are supported by various district operations including: The Office of Federal Programs and Grants, responsible for providing schools with implementation

and management guidelines; the Office of Budget, which ensures budget lines are set, per grant award; the Office of Purchasing, which assists in issuing all purchase orders for payment; the Office of Accounts Payable, which ensures that all vendors are paid on time; and the Office of Accounting, which draws down funds per grant parameters. Finally, the Office of Human Resource Services assures that all persons hired with grant funds have gone through the union-negotiated procedures for hiring, and that all appropriate benefits to such individuals are provided.

The Grants Office will serve as the liaison to the U.S. Environmental Protection Agency in the submission of the grant and in post-award negotiations and is able to ensure compliance for all grants. NBOE has been successful in grant implementation because there is a central department that helps to oversee the compliance pieces of the grants (reporting, spending, drawdowns, etc.) This helps alleviate some of the pressure from schools so they can focus on implementation and activities to meet goals and objectives. To ensure collaboration and grant goals are achieved, communication is vital. Clear expectations and deadlines established and communicated to all supporting the grant. In addition, there has to be frequent and regular assessment of the grant objectives to ensure the goals will be achieved.