

Urban Waters Project Description

Project Title: *Use of Optical Brighteners to Provide Rapid Assessment of Anthropogenic Inputs into Surface Waters*

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: **Adaptation Institute**

Partners (if applicable): Parishes assisted, Will welcome interested federal agencies

How does this project fit into Urban Waters? Please refer to ***UWFP Vision, Mission and Principles***
https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

This project serves to assist municipalities in the rapid and cost-effective tracking of anthropogenic wastewater sources so that they may focus their time and effort on addressing the inputs, ultimately improving the water quality of Lake Pontchartrain

If project builds on an existing work, please describe in a sentence: This project builds on and enhances municipalities' (particularly MS4s) efforts to track sources of anthropogenic wastewater input.

Status of project: Is the project ready to be implemented? Estimated lead up needed?
Estimated one-month lead time needed for project.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

Municipalities (particularly those subject to MS4 regulations or responsible for the implementation of TMDLs) are tasked with the detection of anthropogenic wastewater sources, either through direct discharge or through stormwater infiltration and inflow. This process can be costly, so municipalities need to rapidly and economically screen large stretches of their watershed in order to focus money, time, and effort on areas of need. One tool that can potentially assist in the rapid detection of anthropogenic wastewater sources is optical brighteners (OB). OBs are widely used in laundry detergent and are slow to break down, hence, are a good marker for anthropogenic wastewater. They are also easy to detect with a field fluorometer tuned to the active wavelengths and studies have shown correlations with fecal coliform.

In this study, we propose to assess stormwater conveyances (urban drainage pipes, canals, and ditches and rural ditches) that ultimately contribute to Lake Pontchartrain. During dry weather, we will perform OB analysis and *in situ* monitoring for a suite of physiochemical parameters on selected urban and rural stormwater conveyances. We will focus on conveyances with existing water quality data and/or collect our samples concurrent with other monitoring so as to perform correlations of the findings. The anticipated outcome is to determine if the detection of OBs will be a useful rapid assessment tool for municipalities.

Federal Funding Needs: \$ 30K – 40K **Match?:** Not yet determined, likely match from parishes
(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: *Retrofitting Small Commercial Wastewater Treatment Plants (WWTPs) for Improved Performance*

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: **Adaptation Institute**

Partners (if applicable): Dr. Robert Reimers, Headworks International

How does this project fit into Urban Waters? Please refer to *UWFP Vision, Mission and Principles*
https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

This project serves to address water quality by assisting owners of small commercial Wastewater Treatment Plants (WWTPs) investigating a cost effective retrofit to enable their plants to meet more stringent effluent limits.

If project builds on an existing work, please describe in a sentence: This project builds on Drs. Robert Reimers and Andrea Calvin's years of work and research on addressing wastewater issues.

Status of project: Is the project ready to be implemented? Estimated lead up needed?
Estimated two-month lead time needed for project.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

Total Maximum Daily Loads (TMDLs) implemented on waterways draining to Lake Pontchartrain caused reductions in discharge limits for many small commercial WWTPs. Reductions to biological oxygen demand (BOD) and nitrogen limits (ammonia) are sometimes so steep that the WWTPs were not designed to achieve such low concentrations. Hence, the need exists for an economical retrofit to small WWTPs to achieve stricter effluent limits.

Moving Bed Biofilm Reactor (MBBR) is a biological wastewater treatment process utilizing specialized high-density polyethylene media to create a large surface which supports waste treating biofilm. It is installed in the existing activated sludge chamber of the WWTP where it provides resilience to peak flows, toxic shocks, and is free from sludge bulking while being easy to use. MBBR meets stringent effluent limits on large municipal WWTPs and has been shown effective for common wastewater applications including: BOD reduction, nitrification, and nutrient control.

We propose to scale down the MBBR process to small WWTPs and test its efficacy. We will retrofit one to three Class 1 (500-5000 gpd) small WWTPs with MBBR, monitoring effluent water quality pre and post installation, to demonstrate the efficacy of MBBR in improving the effluent quality. If successful, this proof-of-concept study could ultimately produce a cost-effective solution to assist owners/operators of small WWTPs.

Federal Funding Needs: \$ 50K **Match?:** MBBR material from Headworks

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Adaptation Institute

Submitted to Urban Waters Partnership 6/24/19

Urban Waters Project Description

Project Title: *Critical Period Dissolved Oxygen Analysis in Impaired Waterways Contributing to Lake Pontchartrain*

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: **Adaptation Institute**

Partners (if applicable): Parishes assisted, Will welcome interested federal agencies

How does this project fit into Urban Waters? Please refer to *UWFP Vision, Mission and Principles*
https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

This project serves to further assess water bodies currently impaired for dissolved oxygen, impacting their Fish and Wildlife Propagation use, and will serve to direct future appropriate management measures to the waterways

If project builds on an existing work, please describe in a sentence: This project builds on Total Maximum Daily Loads (TMDLs) completed on waterways that contribute to Lake Pontchartrain.

Status of project: Is the project ready to be implemented? Estimated lead up needed?
Estimated one-month lead time needed for project.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

A number of waterways that contribute to Lake Pontchartrain are considered “impaired” for dissolved oxygen (DO) according to EPA’s 303(d) Impaired Waterbodies List and “not meeting” their designated use of Fish and Wildlife Propagation. Consequently, they have had TMDLs completed on them, some calling for steep reductions in oxygen-demanding substances. However, some DO TMDLs are based on less-than-optimal data. For example, DO monitoring for TMDLs has been completed during algae blooms (Orleans Parish) and following tropical events (St. Tammany Parish). The data produced is not necessarily representative of the waterway, yet municipalities are held to load reductions based on this data.

In this project, we propose to perform 48-hour continuous DO monitoring on waterways with TMDLs during the “critical period”- dry weather June-September- to more accurately describe DO conditions at multiple points in waterways contributing to Lake Pontchartrain. Target parishes include St. Tammany, Orleans, and east bank Jefferson. Data obtained from monitoring will be analyzed and shared with parish officials to help them 1) better understand DO issues in their waterways and 2) understand where the issues begin and are worst in the waterways. This will help the parishes focus efforts to track and address the sources contributing to low DO.

Federal Funding Needs: \$ 40K – 50K **Match?:** Not yet determined, likely match from parishes
(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: Community Driven Green Infrastructure Projects in Treme, 7th Ward and Upper 9th Ward.

Sub-Committee (Underline 1 or more applicable): **Water Quality & Quantity** Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Water Wise Gulf South

Partners (if applicable):

Greater Treme Consortium (a non-profit in the Treme neighborhood)
Healthy Community Services (a non-profit in the 7th Ward)
Bunny Friend Neighborhood Association (a non-profit organization in the Upper 9th Ward)
Dana Brown and Associates (licensed landscape architects and green infrastructure experts)
Recharge NOLA (an organization focused on teaching rainwater harvesting)
City of New Orleans-not confirmed
New Orleans Redevelopment Authority (NORA) -not confirmed
Louisiana Department of Transportation and Development (LaDOTD)-not confirmed

How does this project fit into Urban Waters? Please refer to ***UWFP Vision, Mission and Principles***
https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

This work will build upon the following principles:

Promote Clean Urban Water: We see the following projects as a way to help improve water quality and beautify neighborhoods that have been under resourced due to institutionalized racism.

Encourage community improvements through active partnerships: The success of these projects is through an intentional partnership between community-based organizations, residents, environmental nonprofits, professional landscape architects, and city and state agencies.

Reconnect people to their waterways: A large component of identifying these projects is to get residents out to see green infrastructure and drainage in action. Residents have opportunities to attend a green infrastructure tour to see projects that have already been implemented in New Orleans. They also have the opportunity to join a "Work n Learn" to build small scale green infrastructure projects on residential properties such as rain gardens, bioswales, rain barrels, and French drains.

Be open and honest and listening to communities is the best way to engage them: The projects have been identified by community members that live in these neighborhoods. After being trained in green infrastructure, residents gathered to share the solutions that they would like to see in their neighborhoods to help solve some of these chronic issues such as flooding.

If project builds on an existing work, please describe in a sentence:

These projects have come out of a "green infrastructure visioning process" with community members (known as the Water Wise Neighborhood Champions) in Treme, 7th Ward and Upper 9th Ward.

Status of project: Is the project ready to be implemented? Estimated lead up needed?

The two projects in Treme and 7th Ward have some funding dedicated to them (\$10,000 each) and need to go through permitting processes, which we estimate will take up to 3 months. The project in the Upper 9th Ward would need approval by the New Orleans Redevelopment Authority (NORA) to move forward.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

Water Wise Gulf South and its partners, Greater Treme Consortium, Healthy Community Services and the Bunny Friend Neighborhood Association recruit and train community members from the Treme, 7th Ward and Upper 9th Ward neighborhoods in green infrastructure and stormwater management. A component of this training includes green infrastructure visioning workshops during which residents identify priority green infrastructure projects in their neighborhoods. In Treme, residents have identified installing street trees in soil cells along N Villere Street and St Philip Street (around and near the Treme Center) as a way to help mitigate chronic flooding in this area and combat the Urban Heat Island Effect. In the 7th Ward, residents envisioned rain gardens in an open green space adjacent to Claiborne Avenue to capture water that falls from the elevated I-10, specifically in the green space below the I-10 on-ramp at Claiborne between Lapeyrouse and Laharpe streets. Finally, residents of the Upper 9th Ward just wrapped up their initial green infrastructure visioning workshop. Many of the residents identified vacant lots as an opportunity to capture and manage stormwater. They envision working with NORA to install a series of stormwater lots in the Upper 9th Ward, similar to the stormwater lots that NORA has installed around the city.

Water Wise Gulf South, Greater Treme Consortium, Healthy Community Services, the Bunny Friend Neighborhood Association, and the Water Wise Neighborhood Champions (i.e. trained residents) will work with the appropriate departments to obtain approvals and develop maintenance plans.

The anticipated outcomes of these projects include reduction of localized flooding, improved water quality, improved air quality, and neighborhood beautification.

Federal Funding Needs: \$50,000 **Match?:** \$20,000

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: *Sewerage & Water Board Adaptation Support Light*

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: *Sewerage & Water Board Department of Environmental Affairs (504)-865-0628*

Partners (if applicable): *City of New Orleans*

How does this project fit into Urban Waters? Please refer to ***UWFP Vision, Mission and Principles***
https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

The proposed project will address many facets of the Urban Waters Program. By providing an easy-to-use tool that quantifies the effects of green infrastructure to the individual property owner, we hope to both expand local understanding of stormwater management and encourage a more holistic and collaborative approach to water management in New Orleans. More onsite stormwater management will lead to a cleaner Lake Pontchartrain, will create local opportunities for economic development, expansion of the local water management sector, and increased engagement of individuals in the protection of our urban waters.

If project builds on an existing work, please describe in a sentence:

The Adaptation Support Tool Light is an upgrade of the original Adaptation Support Tool.

Status of project: Is the project ready to be implemented? Estimated lead up needed?

Project scope development has been conducted and is nearly complete as of 6/21/19. An estimated budget has been provided.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

The original Adaptation Support Tool (AST) is an interactive online mapping application that shows the estimated benefits of proposed green infrastructure interventions at the district and neighborhood scale. It is a complex tool that relies heavily on guided facilitation of an experienced user. For these reasons, the tool has not been utilized adequately.

The Adaptation Support Tool Light will build upon much of the groundwork laid by the original AST, but will cater to the individual property owner by showing how proposed green infrastructure interventions can reduce runoff and increase storage capacity at the smaller lot scale. The AST Light will also include improved cost estimates of proposed green infrastructure interventions and an updated, more intuitive user interface. The intention is to provide a self-standing, straightforward tool that quantifies the benefits of green infrastructure for individuals so that they can then use that information to begin the process of actual physical implementation. The anticipated outcomes are a greater understanding of green infrastructure practices and an increased number of small-scale green infrastructure projects throughout New Orleans. Ultimately, these outcomes will complement and take some of the burden off the Sewerage & Water Board's existing, traditional drainage system.

Federal Funding Needs: \$25,000 - \$30,000 **Match?:** \$120,000

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title

Microplastics study on recreational beaches in the Pontchartrain Basin.

Sub-Committee

Water Quality & Quantity **Public Access** Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name

Lake Pontchartrain Basin Foundation (LPBF)

Potential Partners

GOMA, LDEQ

How does this project fit into Urban Waters?

Study of Microplastic deposition through bi-weekly sampling of recreational beaches in the Pontchartrain Basin aligns with the Urban Waters principle of protecting and advocating for clean, urban waterways. Addressing environmental pressures in our communities means first identifying those pressures.

If Project builds on an existing work, please describe in a sentence

LPBF staff scientists will study Microplastics at three recreational beach locations within the Pontchartrain Basin. This will build upon our existing Citizen Science baseline study of emerging plastics pollutions within the region.

Status of Project

This project would require one week to fabricate the needed equipment for the study of Microplastics on recreational beaches, and then will be used to bolster our Weekly Water Quality and Citizen Science programs.

Project Summary

Over a period of two years, LPBF will analyze microplastics concentration at five points within one transect at each of three beach locations within the Pontchartrain Basin: Fontainebleau State Park, Northshore Beach and Pontchartrain Beach. A bulk water sample will also be collected at each location. The three sites will be sampled bi-weekly by a member of the LPBF Water Quality staff.

Microplastics concentrations will be quantified using a water density separator and a vacuum filter funnel. The microplastics will be examined under a microscope and categorized according to their size and composition. Analysis of the composition, distribution, and timing of microplastic collections may inform strategies to mitigate further pollution.

Federal Funding Needs

Supplies	Cost
Density Separator	\$500.00
Bulk Water Collection	\$1,000.00
Sampling Supplies	\$1,000.00
Reporting	\$1,000.00
Transportation and Mileage	\$1,500.00
Employee Hrs	\$20,000.00
Total:	\$25,000.00

Urban Waters Project Description

Project Title: New Orleans Workforce Innovation (NOWI) Green Infrastructure

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Greater New Orleans Foundation (GNOF)

Partners (if applicable): Employers in Green Infrastructure (GI) sector.

How does this project fit into Urban Waters? Please refer to *UWFP Vision, Mission and Principles*
https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

If project builds on an existing work, please describe in a sentence:

Status of project: Is the project ready to be implemented? Estimated lead up needed?

NOWI just completed its first year of implementation partnering with employers in the healthcare and construction sectors. Program is primed to launch with employers in the GI sector.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

NOWI works with employers to provide post hire support to their incumbents in an effort to assist with those barriers employees face that may or may not be associated with their day to day work, but impacts their ability to optimally perform their job. The program is structured to be a compliment to the employer's current Employee Assistant Program, but allows for deeper, comprehensive engagement of services on the local level. Assistance with resources for things such as housing, childcare, stress management and financial asset building are provided by way of a Workforce Navigator who is located on the employer's site. This program fits with the overall vision and mission of the Urban Water Project, in that, it provides the supports needed for job retention and promotion, while encouraging overall personal health, financial wellness and stability. Anticipated outcomes include employee retention and boosted employee morale which positively impact the employer's corporate culture.

Federal Funding Needs: \$25,000-50,000 depending on number of hours the workforce navigator will be on site. **Match?:** _____

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: New Orleans Works (NOW)

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Greater New Orleans Foundation (GNOF)

Partners (if applicable): Training Providers (i.e. Delgado Community College).

How does this project fit into Urban Waters? Please refer to *UWFP Vision, Mission and Principles*
https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

If project builds on an existing work, please describe in a sentence:

Status of project: Is the project ready to be implemented? Estimated lead up needed?
Yes, given that we work with training providers to implement the trainings offered, we will need approximately 1-2 months for recruitment of program participants.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

The New Orleans Works Funders Collaborative was established in 2010 with the purpose of providing the Greater New Orleans Foundation with a framework for guiding the Foundation's workforce initiatives through input from national and local funders as well as employer partners within the region. As an innovation, the Collaborative embraces an employer-led model with 7 funder organizations actively participating in helping to drive critical decisions regarding the work and priorities of the New Orleans Works program. The Collaborative reviews and approves proposals from local community based organizations and training providers that best align to the areas of predetermined focus. The programs funded by the Collaborative aligns with the mission/vision of the Urban Water Project in the effort to create a sustainable workforce, specifically in the area of Green Infrastructure. Outcomes include providing training to local residents in green infrastructure that culminates with nationally recognized industry based credentials.

Federal Funding Needs: \$25,000-50,000 **Match?:** _____

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: *St. Tammany Parish Adopt-A-Pond Program*

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: St. Tammany Parish Government

Partners (if applicable): U.S Fish & Wildlife Service, Louisiana State University AgCenter Youth Wetlands Group, Louisiana SeaGrant, St. Tammany Parish School Board, and Sunbelt Innovative Plastics

How does this project fit into Urban Waters? Please refer to *UWFP Vision, Mission and Principles*
https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

The St. Tammany Parish Adopt-A-Pond is a multi-agency, environmentally innovative program focused on environmental education, stewardship and community outreach. The re-forestation of the parish ponds will provide a filtration system for runoff, flood control, recreate habitat for other species, enhance the aesthetics of the community, reduce maintenance costs to the parish, and provide erosion control. These plantings will have innumerable benefits to the neighborhoods and the watershed. Vegetation filters pollutants from urban runoff prior to discharge into receiving streams; restores canopy to the urban developments; recreates habitat for wildlife that share the watersheds; provides opportunities for social interactions; and improves quality of life, health and well-being for residents through greater outdoor use and appreciation.

If project builds on an existing work, please describe in a sentence:

This funding request is for years 2 & 3 (2019-2021) of St. Tammany Parish's Adopt-A-Pond program that will engage additional students to "adopt," plant, and test water quality in their neighborhood ponds for a healthier watershed and environment.

Status of project: Is the project ready to be implemented? Estimated lead up needed?

The pilot project was a resounding success from the perspective of students, teachers, partners, and homeowners. Funding will purchase trees and supplies that ensure ongoing participation of the students and create a parishwide "restoration energy"! The project is ready to be implemented beginning in September 2019 thru March 2020.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

Since Hurricane Katrina in 2005, St Tammany Parish has experienced "significant out-migration from Greater New Orleans (LPBF)." As a consequence, many of the streams in the Parish are listed on EPA's Impaired Waterbodies List with TMDLs completed for low dissolved oxygen (DO) and bacterial constituents. Planting the sterile, unaesthetic, urban stormwater detention ponds will mitigate flood risk; improve water quality; and

restore tree canopy, habitat and biological diversity. As the ponds are enhanced to a robust ecosystem they become an asset to the neighborhoods and protective of waters and species downstream.

Through this project, high school and Junior high STEM students and their teachers adopt neighborhood detention ponds. They perform water quality testing, plant trees in or around ponds and learn practical, hands-on scientific applications regarding watersheds, ecosystems and the environment. Over 2300 trees were planted during the pilot year of the program. Data were collected to track how the trees help filter pollutants from runoff and create habitat to make a healthier watershed and environment. Students who were interviewed during planting spoke of their commitment to stewardship and responsibility for the environment! Results will be shared among the partners and the public, facilitating parishwide comparisons and presentations by students.

Federal Funding Needs: \$35,000 (2020 and 2021) **Match?:** Significant soft match will be provided through the efforts of St. Tammany Parish, LA SeaGrant, LSU AgCenter and the students and teacher volunteers.

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Reforestation New Orleans with SOUL

Sub-Committee: Small Scale Restoration

Applicant Name: Sustaining Our Urban Landscape (SOUL)

Partners: The New Orleans Department of Parks and Parkways, Baton Rouge Green, The Urban Conservancy, Green Light New Orleans

How does this project fit into Urban Waters? SOUL's Community Forestry programming aligns closely with the Urban Waters Federal Partnership's vision, mission and principles. Trees are barometers of wealth and health, and low-income communities suffer disproportionately from a lack of trees and their benefits. SOUL's community-driven Community Forestry programming partners with numerous low-income neighborhoods to improve their environmental conditions, namely stormwater runoff and flooding, while revitalizing these communities. The organization trains neighborhood-based Block Captains and empowers them to imagine a tree canopy vision for their community, including choosing a palette of relevant native water-loving tree species, streetscape locations, and then implementing the vision during a volunteer planting event.

SOUL leverages partnerships at the statewide, municipal and local level including The New Orleans Department of Parks and Parkways, The New Orleans City Council, The Urban Conservancy and Green Light New Orleans in order to make the greatest possible impact on the city's environmental challenges. Likewise, its partnership with Baton Rouge Green empowers SOUL to map its trees and measure their impact on stormwater, air quality, energy savings and carbon sequestration using the MyTree Louisiana technologies.

If project builds on an existing work, please describe in a sentence: SOUL will build on its existing Community Forestry programming that has worked with communities for the last three years to strategically plant urban forests as systems at an impactful scale in order to mitigate stormwater runoff/flooding, and other environmental issues, while improving community health.

Status of project: The project is ready to be implemented and will build on SOUL's existing programming.

Project Summary: Sustaining Our Urban Landscape (SOUL) was founded in 2016 with the mission of driving a resilient and environmentally equitable New Orleans through reforestation of our city. After losing 100,000 trees in 2005 due to Hurricane Katrina, the U.S. Forest Service declared New Orleans the most deforested city in the United States. This matters. Trees have tremendous capacity to mitigate flooding, perhaps New Orleans' most existential challenge, with Bald Cypress absorbing up to 880 gallons of water per day, for example. They also clean the air, soil and water, lower air temperatures and electricity bills, slow subsidence, increase property values, and beautify and revitalize communities while improving public health. But in order to truly mitigate these issues, trees must be strategically planted as a system and at an impactful scale. This was the impetus behind founding SOUL.

Last planting season (November-March) SOUL planted 1,025 large, native, water-loving trees during community volunteer events. It partners with the diverse communities of Mid-City/7th Ward, Broadmoor, Hoffman Triangle in Central City, Algiers/Algiers Point, Bywater/Marigny/St. Roch, New Orleans East and Gentilly. Partnership includes a commitment by SOUL to returning annually to the same communities until they have significant and impactful tree canopies. A \$50,000 Urban Waters grant would enable SOUL to plant 285 large, native, water-loving trees in one of its partner communities as part of its Community Forestry program, and drive measurable outcomes on stormwater, carbon, air quality and energy usage.

Urban Waters Project Description

Project Title: Restoring Coastal Wetlands in Big Branch National Wildlife Refuge

Sub-Committee: Small Scale Restoration

Applicant Name: Common Ground Relief

Partners (if applicable): Southeast Louisiana National Wildlife Refuges, Louisiana office of the U.S. Fish and Wildlife Service; University of New Orleans' Pontchartrain Institute for Environmental Sciences, Coastal Education Program

How does this project fit into Urban Waters? Common Ground Relief's mission is "to create resilient Gulf Coast communities that are environmentally sustainable, financially viable and personally cohesive." ***Restoring Coastal Wetlands in Big Branch National Wildlife Refuge*** directly aligns with this mission, as well as the UWFP Vision, Mission, and Principles. The Project is designed to "revitalize urban waters and the communities that surround them." Restoring this important ecosystem that lies on the North shore of Lake Pontchartrain, will foster community hope and energy because it is community-based, tangible, and accessible. The outcomes include healthier urban waters, improved public health, strengthened local businesses, and new jobs, as well as expanded educational, recreational, housing, and social opportunities. ***Restoring Coastal Wetlands in Big Branch National Wildlife Refuge*** specifically addresses the following UWFP principles:

- Promote clean urban waters: This Project will connect Orleans and Jefferson Parishes with upstream waters;
- Reconnect people to their waterways: This project will enhance the recreational functions of the watershed;
- Use urban water systems to promote economic revitalization and prosperity: Healthier habitats foster greater economic opportunities vis-à-vis commercial fishing, tourism, and willingness to invest in the future;
- Focus on measuring results and evaluation will fuel future success: Common Ground Relief monitors both its process and outcomes to ensure efficacy and efficiencies.

If project builds on an existing work, please describe in a sentence: Common Ground Relief's ***Building Restoring Coastal Wetlands in Big Branch National Wildlife Refuge*** is an-going project to re-establish 325 acres of marshlands in Big Branch Marsh National Wildlife Refuge; Common Ground Relief has secured \$50,000 to date to support the Project.

Status of project: ***Restoring Coastal Wetlands in Big Branch National Wildlife Refuge*** is in process and can be implemented immediately due to Common Ground Relief's continuous access to plant materials, volunteers, equipment, and site access.

Project Summary: ***Restoring Coastal Wetlands in Big Branch National Wildlife Refuge*** is a three-year project to re-establish 325 acres of marshlands with 100,000 plugs of California bulrush, and nourish maritime forests with a combination of 1,000 Sand Oaks and Live Oaks in Big Branch Marsh National Wildlife Refuge (BBMNWR). To date, Common Ground Relief (CGR) has raised \$50,000 towards its implementation.

CGR will grow the trees at its half-acre, state-licensed nursery in New Orleans. The native grasses will come from the Angola Penitentiary nursery, which is part of a horticultural training and green job placement program established by CGR in 2016. CGR will secure, train, and coordinate approximately 500 national university, college, and high school student volunteers, who will implement the tree and grass plantings. Common Ground Relief also provides appropriate tools and maintains its own insurance. This full-service approach enables CGR to keep its cost low while yielding a 95% plant survival rate.

The Project will foster greater community resilience by reducing risk of storm surge and flooding, improving water quality, increasing wildlife habitat, supporting existing and new economic opportunities, and preserving the traditions of the people living in Orleans, St. Tammany, and Jefferson parishes.

Federal Funding Needs: \$50,000 **Match?:** \$100,000 (in-kind volunteer labor)

Urban Waters Project Description

Project Title: Lake Pontchartrain Project Mapping and Assessment

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Adaptation Institute

Partners (if applicable):

How does this project fit into Urban Waters? Please refer to *UWFP Vision, Mission and Principles*
Reconnect people to their waterways by creating a single, informational tool the facilities and programs that exist to access Lake Pontchartrain.

If project builds on an existing work, please describe in a sentence:

This project will catalogue and assess past and present projects in the Urban Waters region along Lake Pontchartrain.

Status of project: Is the project ready to be implemented? Estimated lead up needed?
Implementation of the project can begin almost immediately.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

Lake Pontchartrain is a key natural feature of the Greater New Orleans region and there are many access points to the lake. However, many recent project have not been well catalogued and members of the public may not be aware they exist.

This project will develop a comprehensive catalogue of facilities, programs, and projects that improve community access to Lake Pontchartrain. In addition to highlighting completed and in-progress projects, we will catalogue recent projects that were never completed or have stalled and try to determine what impediments have prevented their completion. With that information we will be able to identify projects that may be restarted and completed.

Federal Funding Needs: \$45 - 50,000 _____ **Match?:** _____
(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: Connect the Bayou

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Adaptation Institute

Partners (if applicable): Bike Easy, Girl Trek (New Orleans Chapter), Friends of Lafitte Greenway

How does this project fit into Urban Waters? Please refer to *UWFP Vision, Mission and Principles*

Community-based organizations using a “tactical urbanism” approach to improve access to natural amenities aligns directly to the mission and principles of UWFP. Tactical urbanism enables change with temporary reconfiguration of streets (preliminary and visible action) to serve as a primer for permanent change. This project will be collaboration among several existing partnerships and an opportunity to expand them. Tactical urbanism is in and of itself a highly visible, proven way to engage residents to have a more meaningful dialogue around change, build trust, and deliver better outcomes for permanent projects. Robust evaluation using both qualitative and quantitative results will capture opinions and effectiveness, bringing greater attention to issues of water quality and human use on bayou in a large, visible community conversation.

If project builds on an existing work, please describe in a sentence:

Last year the City of New Orleans and Bike Easy conducted a major 3-month demonstration project called Connect the Crescent, focused on safer streets and transportation choices for job access in the city’s core (www.connectthecrescent.com).

Status of project: Is the project ready to be implemented? Estimated lead up needed?

Project requires about 3 months lead-time prior to implementation primarily for preliminary community engagement, finalize and secure all materials, organize volunteers, and develop supportive evaluation and educational programming during demonstration. As a result of Connect the Crescent, many materials are available for re-use and most of the technical and logistical expertise has been developed among partners.

Project Summary: *1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes*

In a region surrounded by water, Bayou St John is the primary urban waterway within New Orleans that residents can access without crossing the flood protection system. The waterway is reemerging as destination to recreate after decades of neglect thanks to years of work to improve water quality, perceptions, and activity. However, safe access remains limited, particularly along the beginning segment that is bounded by streets and neighborhoods on both sides. Efforts for further improvements have met conflicting opinions.

This project proposes to temporarily convert one lane of Moss Street, a two-way road running just over half a mile along the bayou, to a shared-use path for safer walking and bicycling. This reallocation would fill a major gap in trails recently developed on either end – the Wisner Trail, running along City Park and the rest of the bayou to Lake Pontchartrain, with the Lafitte Greenway, a 3-mile rails-to-trails project leading to the French Quarter with a major canal draining into the bayou. Signage would inform residents of the newly connected

trail network, potential for improving the water networks along them, and opportunities to provide feedback. Programming, such as tours and pop-up events, would be organized with partners as funding allows.

Federal Funding Needs: \$50,000 **Match:** \$5,000 minimum (materials)
(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: Sankofa Wetland Park and Nature Trail

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Sankofa Community Development Corporation (CDC)

Partners (if applicable):

CDC works with the City of New Orleans Resilience Office to remain in alignment with storm water overflow, green infrastructure systems, and wetlands and habitat restoration. Sankofa CDC is in partnership with the National Parks Service-Rivers Trails and Conservation Program to develop a master plan for the entire 40-acre site with community feedback and stakeholder leadership. Sankofa CDC is in partnership with the Children & Nature Network, City Council District E, and New Orleans Recreation Department to represent the City of New Orleans as a Leadership City to develop policies that enhance spaces for youth-centered wetland ecology education, nature play activities, and outdoor recreational activities. Dr. John Day of LSU School of Coast and Environment and Dr. Gary Shaffer of Southeastern Louisiana University are providing wetland ecology advisement for vegetation and habitat identification, wetland enhancement, hurricane protection, and ecology design. Sankofa CDC is also working with Orleans Parish School Board District 2, ARISE Academy, MLK Charter School, STEM Nola, LA Green Corps, and Serve LA to develop youth environmental education programming at the site.

How does this project fit into Urban Waters? Please refer to *UWFP Vision, Mission and Principles*

https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

The Sankofa Wetland Park and Nature Trail entails the implementation of a 40-acre wetland park that increase storm water storage capacity, with the development of bald cypress and water tupelo habitat and approximately 8 million gallons of bioretention ponds. This project also increases the migratory and native bird species utilizing the habitat. The project is located in the Lower 9th Ward of New Orleans, Louisiana. The Wetland Park is located adjacent to Bayou Bienvenue, a tributary of Lake Borgne and part of the larger Pontchartrain Basin. Although early maps show Lake Borgne as a closed lake, due to coastal erosion, it is currently a lagoon of the Gulf of Mexico. As it further develops, the Wetland Park will host ongoing environmental education programs for schoolchildren, as well as serve as a space to promote mental, physical, and cognitive health & wellness.

Small Scale Restoration

The Wetland Park was developed from citizen-driven planning and leadership to restore blighted and under resourced land into a site that beautifies the neighborhood and benefits community residents. As a small scale restoration, the project will: 1) improve wetland habitat and storm water storage capacity to approximately 8 million gallons within bioretention ponds; 2) increase number and variety of migratory and native bird species utilizing the habitat; 3) create programs for public participation at site that promote mental, physical, and cognitive health and wellness; and 4) develop a successful model that can be utilized by city government for policy and implementation efforts for other urban green infrastructure projects.

Public Access

The Wetland Park utilizes an innovative design following diverse partnerships with citizens, experts, and advisors to work with local and state policymakers. Community access, empowerment, and education are key components of its planning and success. The Wetland Park offers solutions to neighborhood revitalization within the intersection of human and environmental healthy. The project prioritizes the importance of the natural environment as an integral part of planning and community development across a range of areas, including equity of health and wellness, environmental restoration, education, out-of-school time activities, employment and workforce support, transportation access, and land use.

Environmental Education

Sankofa CDC is working in partnership with the Children & Nature Network's Connecting Children to Nature (CCCN) Initiative, City Council District E and New Orleans Recreation Department to develop and expand strategies to introduce more children to outdoor parks, green space and natural areas. The CCCN program provides support from the National League of Cities Institute for Youth, Education, and Families to develop systems specific to the New Orleans area following national best practice models that create more equitable solutions which enhance connections between children and nature. Sankofa CDC is presently working with Orleans Parish School Board District 2, ARISE Academy, LA Green Corps, MLK Charter School and STEM Nola to develop programming on nature -based programming and environmental education activities for youth and children to create more equitable nature access in the area.

Water Quality & Quantity

Wetland ecologists Dr. John Day and Dr. Gary Shaffer serve as advisors on the development of storm water storage systems, water quality improvement, hurricane protection, and wetland habitat restoration. Dr. Day and Dr. Shaffer are leading the design of bioretention pond and weirs that connect to the city drainage systems and watershed adjacent to the site. Dr. Day manages baseline measurements of storm water retention and water quality. Dr. Shaffer leads wetland habitat restoration, tree and plant surveying, and invasive vegetation removal with wetland flora planting.

If project builds on an existing work, please describe in a sentence:

Sankofa CDC has already developed a 2-acre pilot site to test project ideas, with 400,000 gallons of water stored in bioretention ponds and wetland habitat restoration.

Status of project: Is the project ready to be implemented? Estimated lead up needed?

This project is ready to be implemented. The successful 2-acre pilot has created a space for several native and migratory bird species which have become established within the pilot site, including: egrets, herons, ibis, hawks, and song birds. In addition, other wetland species have moved into the site, including a variety of reptiles, fish, amphibians, mammals, and insects. Sankofa CDC is presently developing an additional 6 acres of land into bioretention ponds with forest space and a nature trail, along with a parking lot and shade structure for school field trips and other visitors to utilize the site as an educational and recreational resource, with completion by July 2019. Educational programs with school partners encourage the use of Wetland Park as an academic and learning space for children. The design phase for the 40-acre master plan began during June 2019 and will continue with design charrettes and community input until December 2019. This community-driven process led by the National Park Service Rivers, Trails, and Conservation Program (NPSRTCP) and a steering committee of neighborhood residents ensures citizen-centered planning is central to the project development.

Federal Funding Needs: \$ 50,000 **Match?:** 50,000

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: **Lafitte Greenway Historic and Environmental Signage**

Sub-Committee: **Water Quality & Quantity** Public Access
Sustainable Economies Environmental Education **Small Scale Restoration**

Applicant Name: **Friends of Lafitte Greenway**

How does this project fit into Urban Waters?

This project fits into Urban Waters because it “reconnects people to their waterways” and it “uses urban water systems as a way to promote economic revitalization and prosperity.”

Status of project: **Project is ready to be implemented.**

Project Summary:

The Greenway is a unique public amenity that both serves a city-wide audience as a transportation route and destination, and serves as a neighborhood park for residents of the 6 neighborhoods along the Lafitte Greenway. Friends of Lafitte Greenway works to engage with residents and trail users, directing intentional resources and tailoring programming toward those who live, work, worship, and play on the Greenway and in neighboring communities. Recently, the local architecture firm of Eskew+Dumez+Ripple designed a comprehensive signage plan for the Greenway including:

- **Historic Interpretive Signage**
- **Environmental Education Signage**
- **Wayfinding and Identification Signage**
- **Programmatic Informative Signage**

This grant money would be used to design, fabricate, and install Historic and Environmental signage along the Lafitte Greenway. Through this signage, the visitor will learn of the site’s history not only through the text and photos in the copy but will also learn about the Greenway's connection to the larger urban watershed.

“From its history as a canal, to a railroad, to today’s bike and walking trail, this land has always played a crucial role in the transportation, commerce, and connectivity.”

Federal Funding Needs: \$ 50,000 Match?: _____

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Project Title: LPBF's "Exploring the Basin" Online Teacher Toolkit

Sub-committee: Environmental Education

Applicant Name: Lake Pontchartrain Basin Foundation, Education Department

How does this project fit into Urban Waters?

Urban Waters guiding principle of connecting people to their waterways is in line with LDOE's mandate to teachers and students to explore natural phenomena, including watersheds, via the LSSS. Our "Exploring the Basin" toolkit allows area teachers and students, with a focus on Title I teachers and students, to explore geological, meteorological and other anchor phenomena through local, real-world scenarios. The goal of this toolkit is to address the commonly stated obstacles to implementing phenomena-based investigations, such as choosing anchor phenomena, professional development around the anchor topics, and providing free/low-cost access to materials and tools.

If project builds on an existing work, please describe in a sentence:

The toolkit will utilize timely water-based maps, data, and reports collected and created by scientists at the Lake Pontchartrain Basin Foundation, creating a bridge between our science content and the public.

Status of project: This project is ready to begin. An AmeriCorps member has been hired and assigned to this project and will start September 3, 2019. The maps, data, and other materials that will be utilized in this toolkit are generated on a regular basis by LPBF scientists.

Project Summary:

The toolkit will consist of two primary areas 1) Professional Development and 2) Curriculum. The Toolkit is Phase I of a broader educational goal that includes free, place-based professional development, and on-going mentoring for Title I teachers as they implement this curriculum with their students.

The Professional Development section will consist of multimedia resources and short courses. Teachers will be able to learn about water-based issues such as water quality, pollution, storm water, waste water, marine debris, micro-plastics, land loss and restoration, hydrological modifications, the Mississippi Watershed, green infrastructure, climate change, Multiple Lines of Defense, algal blooms, aquatic macro-invertebrates, kinds of wetlands, and the history of the Basin's waterways.

The Curriculum area will consist of online packets organized by anchor phenomena and include investigative phenomena lesson plans. Examples include:

- Micro-plastics and our Waterways: Plastic Pathways
HS-LS2-7: Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
- Climate Change and Relocation: Isle de John Charles – a Tough Decision
HS-ESS2-2: Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth's systems.
- Coastal Land Loss: Phoenix and the Human Impact of Climate Change
HS-ESS3-1: Construct an explanation based on evidence for how availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.
- Marsh Restoration: Rebuilding Bayou Saint John: an Urban Marsh

HS-EVS1-3: Analyze and interpret data about the consequences of environmental decisions to determine the risk-benefit values of actions and practices implemented for selected issues.

- Development and the Wetlands: The Northshore’s Wetland Dilemma
HS-EVS1-1: Analyze and interpret data to identify the factors that affect sustainable development and natural resource management in Louisiana.
- Water Pollution: a Northshore Drainage Mystery: Tracking Pollution to its Source
HS-EVS2-1: Design and evaluate a solution to limit the introduction of non-point source pollution into state waterways.
- Water Quality: Can we swim in Lake Pontchartrain? An EPA Mystery
HS-EVS2-2: Use a model to predict the effects that pollution as a limiting factor has on an organism’s population density.

The packets will also include interactive, standards-aligned lesson plans, links to videos, articles, books, local resources, and DIY options for equipment, etc. Some content and resources will come from possible partner organizations.

Outcomes:

Expected outcomes include an increase in teacher/student knowledge around urban water issues and increased access to high-quality, dynamic curriculum and resources for Title I teachers. We expect to reach teachers throughout the Pontchartrain Basin. The predicted number of teachers with access to this resource in year one includes all basin-based educators through direct partnering with local parish school boards. The goal for active engagement and use of these resources for the first year after it is completed is forty teachers, with twenty-five of those being from Title I schools. Tracking will include downloads of materials, completed modules, self-reported use of materials, and online evaluations. In addition, teachers who participate in on-site professional development will also have use of the online teacher toolkit and track their use of the materials in the classroom through an online portal.

Federal Funding Needs: \$50,000

Match?: \$14,000

Sample Budget (scalable upon request):

Expense	Grant Request
Grant Management and related costs	\$10,000
Curriculum Development (\$14,000 of the \$30,000 for this expense will be provided by AmeriCorps staff assigned to this project)	\$16,000
Video Production for Modules	\$6,000
Web Design (modules, tracking, etc)	\$8,000
Marketing and Recruitment of Teachers	\$2,000
Supplies for demo labs, etc	\$5,000
Teacher Professional Development (for stipends)	\$3,000
TOTAL REQUEST	\$50,000

Urban Waters Project Description

Project Title: Water Map New Orleans

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Aron Chang

Partners (if applicable): Blue House Civic Studio, Antenna Gallery (fiscal sponsor)

How does this project fit into Urban Waters?

A water map will support public access to and active use of waterways and waterfronts for a range of recreational, educational, and restoration activities. It will also support more informed dialogue on critical planning and development issues as a resource for educators, researchers, and community advocates. Where can I put a boat in water or go swimming? Where are there pump stations and canals? What are areas of highest flood risk? Providing ready access to this information, in a way that is consistently geo-located, will support the public in seeing the water resources, waterways, and water bodies of Greater New Orleans as part of a broader ecosystem in which they are active agents.

If project builds on an existing work, please describe in a sentence

This builds on previous mapping efforts related to the development of the Greater New Orleans Urban Water Plan, mapping resources created through the Water Collaborative and made available on the Water Collaborative website, and current efforts by the Blue House Civic Studio to provide public resources for learning about, studying, and accessing water systems throughout the region.

Status of project

Work on this map is underway. We have a core group working on the framing, principle, and early prototyping, and have some funding through an NEA Our Town Grant to develop a fully working prototype in late summer and fall. Urban Waters funding will support user testing, development of a robust public, online interface, and printing and distribution of paper versions throughout the community.

Project Summary

The Water Map project will be an interactive map serving this region's residents and visitors. It will be accessed as a website and app, and also in printed form for wide distribution to populations without ready access to online resources. Through this map, users can come to understand the ways in which water is integrated into the urban landscape and the ways in which public agencies, institutions, industries, business owners, and citizens access and manage our shared water resources.

The information shared via the water map will exist along two axes. On one, users will be able to study the past, present, and future of waterways, waterfronts, and water systems. For example, a resident of the Gentilly could locate their home, see the swamps and bayous that once existed in that location, and connect that information to present-day flood risk and subsidence. Another axis is that of use – the map will provide information relevant to users' day-to-day lives in terms of understanding topography, hydrology, and risk. At the same time, the map will support collective learning, dialogue, and advocacy, as users are equipped with the information (sea level rise data, resilience planning efforts, for example) with which to engage future conditions, and to work together in defining different approaches to reshaping our relationship to water in this delta city, in order to improve safety, quality of life, water quality, and biodiversity.

Federal Funding Needs: \$32,000 **Match:** \$24,000 from NEA Our Town grant and private donations

Urban Waters Project Description

Project Title: 2019 and 2020 Water Leaders Institute Community Leader Cohorts

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Tanya James (Central City Renaissance Alliance), Aron Chang

Partners: L9 Center for Sustainable Engagement and Development, the Renaissance Project

How does this project fit into Urban Waters? Please refer to *UWFP Vision, Mission and Principles*

New Orleans and the surrounding region are at a critical moment of transition, with \$300 million currently being invested in hazard mitigation and resilience projects. While a substantial investment, that is a small portion of the resources necessary to drive systems-scale shifts in urban water management and coastal restoration efforts, both vital to the future of the region. The best way to build community understanding, buy-in, and participation in these adaptation efforts will be by involving the community in planning and design as holders of critical knowledge and as leaders in adaptation, and not just as a source of tax revenue or as populations to be protected or moved.

If project builds on an existing work, please describe in a sentence:

The framework and curriculum for these leadership cohorts exists as a result of a Fall 2018 pilot cohort, successfully completed with a diverse group of 20 community leaders from all five New Orleans Council districts, as well as St. Bernard Parish.

Status of project: We have the team, partnerships, and methodologies for outreach and facilitation with which to successfully convene the next three cohorts of Water Leaders, one in fall 2019, and two in spring 2019, in anticipation of 2020 Hazard Mitigation planning and Sewerage & Water Board strategic planning processes.

Project Summary:

The Water Leaders Institute empowers New Orleans residents and neighborhood leaders to work with policy makers, planners, designers, and other stakeholders in reshaping our relationship to water, and in leading community-driven processes that address safety, access, equity, ecology, health, and culture. The curriculum for this program is the result of a co-creation process that brought together water experts, designers, and neighborhood leaders. This team developed resources and workshop modules to support a pilot cohort of 20 residents and leaders in developing local water leadership.

Each cohort member took part in 15 hours of hands-on activities, such as mapping the path of water from their home to surrounding waterways and water bodies. The cohort also took part in a field trip that followed the flow of water through the city, from Central City to the city's drainage outfall canals. Each cohort member also developed a community project with which to bring WLI content back to their neighborhood. Through Water Leaders, community members and technical experts came together to build a common language, exchange knowledge and wisdom, and work collaboratively on community-led projects that support living with water, environmental stewardship, and climate adaptation. Urban Waters funding will support three new cohorts of Water Leaders (60 to 80 participants).

Federal Funding Needs: \$37,500 **Match:** \$32,000 from Kellogg Foundation

Urban Waters Project Description

Project Title: Mixed Media – Water Systems

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Blue House Civic Studio

Partners (if applicable): New Orleans Advocate, Antenna Gallery, Central City Renaissance Alliance

How does this project fit into Urban Waters? Please refer to ***UWFP Vision, Mission and Principles***

This project uses art to bring together diverse stakeholder groups and experts to learn about and engage water systems, including the policies, people, and physical structures (pipes, pumps, floodwalls, canals, wetlands). This project reconnects people to urban waterways, and encourages them to serve as stewards of urban water systems.

If project builds on an existing work, please describe in a sentence:

This is a second iteration of the Mixed Media project, and also builds upon the work of the Water Leaders Institute, Water Collaborative, and other entities that have sought to deepen knowledge and broaden engagement with critical water issues throughout the region over the last five years.

Status of project: This project is ready to be implemented, and is taking place July through November of 2019 – funding for this project will support equitable compensation for participating artists, technical experts, and community leaders, as well as distribution of project outputs and resources to diverse stakeholder groups.

Project Summary:

Mixed Media is a multi-disciplinary project that uses storytelling, dialogue, and art to create new pathways for viewers to engage critical civic issues. This second issue of Mixed Media focuses on New Orleans's water systems and the ways in which the water that falls from the sky interacts with soils, plants, people, pipes, and pumps. The work is organized around collective learning, dialogue, and creation. There will be two exhibitions featuring artists' responses to the city's water systems and also photo documentation of the SWBNO's drainage network. Public coffee hours will provide opportunities to engage in dialogue with geohydrologists, farmers, policy-makers, planners, and others active in shaping the flow of water. We will also host a screening of water-focused films, and workshops focused on mapping, sculpture, and other forms of hands-on exploration and imagination.

Our first project goal is to contribute to the urgent, present dialogue on the future of our city's water systems, and to elevate the voices of systems operators, youth, people of color, and other New Orleanians who are least likely to be represented at the planning table. Our second goal is to create new resources for residents, educators, scholars, and institutions to support and inspire a broad range of environmental leadership and stewardship initiatives. The research, interviews, dialogues, artwork, and news stories that come out of this project will be publicly available in the form of two exhibitions, a website and online archive, public events, and also through broad distribution with our publication partner, the New Orleans Advocate. All events are open to participants of all ages and abilities.

Federal Funding Needs: \$12,750 **Match:** \$8,500 from Blue House Civic Studio and Central City Renaissance Alliance

Urban Waters Project Description

Project Title: Recharge NOLA Satellite Stations and Mobile Unit for Rainwater Harvesting Education and Enterprise

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Hilaire Schackai, founder, Recharge NOLA, L3C

Partners (if applicable): Water Wise Gulf South, Healthy Community Services, Greater Tremé Consortium, NewCorps FARMacia, Hollygrove-Dixon Neighborhood Association, Groundwork New Orleans

How does this project fit into Urban Waters? Please refer to ***UWFP Vision, Mission and Principles***
https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

Recharge shares UWFP values as evidenced in its mission statement: “To promote citywide rainwater harvesting through self-sustaining social enterprise networks that act to strengthen neighborhood ties, bolster community capacity, and inspire civic and ecological responsibility.”

Recharge greatly values partnerships, actively supports community-driven processes, and passionately promotes a healthy Lake Pontchartrain, as documented in *A Simple Guide to Rainwater Harvesting: New Orleans* authored by Recharge’s founder, Hilaire Schackai (http://bit.ly/DIY_RWH_WaterWiseNOLA_updated11-22-15).

If project builds on an existing work, please describe in a sentence:

The Recharge Satellite Stations and Mobile Unit concept represents the most mature iteration yet of a simple program for rainwater harvesting education and outreach originating with a 2010 Audubon-Toyota TogetherGreen fellowship to address flooding and water quality from urban stormwater runoff that gradually transformed into a comprehensive series of community-based programs, workshops, and demonstrations.

Status of project: Is the project ready to be implemented? Estimated lead up needed?

The project is ready to be implemented, as Recharge NOLA has already developed a Mobile Unit and informal partnerships for Satellite Stations.

The project would positively flourish with a six-month lead-up time to secure the following:

- Centralized headquarters with storage facilities and an office space
- Additional potential partners
- Formalization of partnership agreements
- Development of a training curriculum
- Payment for intern
- Establishment of Satellite Stations to include stocking of tools and materials

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

To further rainwater harvesting (RWH) work engaged in since 2010, Recharge NOLA has been conceived as a mission-driven social enterprise. Working in partnership with established community-based organizations, Recharge NOLA will establish Satellite Stations, each receiving training, supplies, and guidance. The Satellites will work toward achieving measurable RWH goals. By offering workshops, sales, installations, and servicing of RWH systems, they will generate a modest revenue stream. A Recharge “Mobile Unit” has been designed for two purposes: to transport materials; and to serve as a pop-up educational station featuring graphic panels and demonstration elements to portray concepts of catchment, conveyance, collection, conservation, stormwater management, green infrastructure, and water quality. The Mobile Unit is to be used at schools, community events, and festivals.

Within a year’s timeframe, Recharge expects to establish a headquarters, hire an intern, and set up five Satellite Stations. Each Satellite will train three people, offer four workshops involving ten participants each, and reap revenues through sales, installations, and servicing. As an additional anticipated outcome, the Recharge Mobile Unit will visit five schools and five community events.

Federal Funding Needs: \$50,000 _____ **Match?:** _____

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: Developing Environmental Stewards - 9th and 10th grade Wetlands Education Program

Sub-Committee: Environmental Education

Applicant Name: Common Ground Relief

Partners Greater New Orleans Collaborative of Charter Schools; Pontchartrain Institute for Environmental Sciences, Coastal Education Program, University of New Orleans.

How does this project fit into Urban Waters? *Developing Environmental Stewards - 9th and 10th grade Wetlands Education Program* directly aligns with the UWFP Vision, Mission, and Principles. This environment education Project recognizes that environmental literacy takes time to develop and it is never too early to instill a sense of environmental responsibility. Creating environmental stewards is one the most important steps in creating sustainable community resiliency. While ***Developing Environmental Stewards - 9th and 10th grade Wetlands Education Program*** long-term outcomes will address the physical aspects of Urban Waters – clean water, access to waterways, water conservation, and economic revitalization, the more immediate outcomes relate:

- Reconnect people to their waterways: Creating connections between youth and their natural surroundings;
- Encourage community improvements through active partnerships: Partnering with school systems to foster a generation of environmental literate citizens;
- Be open and honest, and listening to the communities is the best way to engage them: The Program materials and activities will align with Louisiana Student Standards in science and social studies; meet the needs and capacity of the schools, educators, and students; and speak to the unique culture of New Orleans and its environment.
- Focus on measuring results and evaluation will fuel future success: Common Ground Relief monitors both its process and outcomes to ensure efficacy and efficiencies.

If project builds on an existing work, please describe in a sentence: *Developing Environmental Stewards - 9th and 10th grade Wetlands Education Program* builds on Common Ground Relief’s decade of providing hands-on wetlands education experiences to over 10,500 students.

Status of project: To date, CGR has secured \$38,000 to develop, pilot, and evaluate the Program materials over the Summer and Fall of 2019. Funding is needed to implement the Program starting in Spring 2020, providing this education opportunity to approximately 2,000 9th and 10th grade students.

Project Summary: *Developing Environmental Stewards - 9th and 10th grade Wetlands Education Program* (“DES”) combines classroom lessons with hands-on, site-based wetlands restoration activities. The curriculum materials will focus on watershed concepts – locally and globally, as well as the interaction between wetland, human activity, social systems, and resiliency planning.

Wetlands erosion is one of the biggest threats to Louisiana's coastal residents. Achieving environmental resilience will require all people, not just “experts,” to have high levels of environmental literacy – skills and knowledge about climate change, as well as the connection to their natural surroundings. While many New Orleans youth are aware of the impacts of coastal wetlands loss, they lack the skills and connection that drive them to act. Despite the proximity of New Orleans to the coast, many youth have never personally experienced the coastal wetlands. Thus, their perceptions are that “wetlands are far away,” “there is nothing they can do,” and “someone else will solve the problem.”

DES seeks to foster a new generation of environmental stewards who have the awareness, knowledge, and skills to become more resilient to extreme weather events and/or other environmental hazards and, equally as important, are motivated to become involved in achieving that resilience.

Federal Funding Needs: \$31,000 **Match:** \$38,000 (Local foundation funding)

Urban Waters Project Description

Project Title: Mirabeau Water Garden: Transforming a Public Work into a Learning Laboratory

Subj Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Aimée K. Thomas and Robert (Bob) A. Thomas

Partners (if applicable): Hamline University Center for Global Environmental Education (CGEE) in St. Paul, Minnesota;
NOLA Code

How does this project fit into Urban Waters? Two of the Urban Waters guiding principles are “water conservation” and “use urban water systems as a way to promote economic revitalization and prosperity”, which is what the City of New Orleans envisions with their Mirabeau Water Garden (MWG), a key component of the Gentilly Resilience District. Our proposed project will contribute to these principles by expanding our reach of environmental education to the greater community by developing curricular modules that can be used on personal computers, interactive smartphone apps and an interactive kiosk (think 2’ – 6’ iPad) that will be used at local schools, libraries, museums and festivals.

If project builds on an existing work, please describe in a sentence: This project builds upon the Entergy-funded and ATT-funded environmental education piece of the MWG project by developing and distributing the science in a digestible format to the greater local community.

Status of project: Is the project ready to be implemented? Yes. We have begun work on the team formation this summer (2019) and will train our first cohort of educators (local teachers, high school and university students) fall 2019. Estimated lead up needed? This is the final piece of our puzzle and thus we predict that the curriculum for the website, app and kiosk will be ready to use by the public in summer 2020.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

The MWG is an urban environmental showcase and storm water management system which embodies key aspects of the Nola flood resiliency plan (<http://livingwithwater.com/>). This environmental education project will extend the accessibility through interactive technology. In a recent study we found that technology can stimulate engagement in a natural setting. Other studies have found that “using technology in informal learning environments is beneficial in engaging underrepresented students in learning science” (see Boyce et al 2014 for additional positive findings). In collaboration with scientists at Hamline University, we will not only develop curricula to explain the Mississippi watershed and its’ importance to the nation, but we will also address local environmental issues such as reducing neighborhood flooding and subsidence by developing and implementing new techniques for managing excess water instead of focusing traditionally on water removal.

The development of the app will enable greater dissemination so more people will see and learn how the water management system functions and benefits the area by removing flood waters from streets and homes and storing it in the landscape—both subaerial and subterranean (the latter being dry, prehistoric sandy beach trends). Increased environmental science literacy is essential in this coastal city at risk of being under water within 100 years.

Boyce, C.J., Mishra, C., Halverson, K.L. and **Thomas, A.K.** (2014 Online First). Getting students OUTSIDE: Using technology as a way to stimulate engagement. *Journal of Science Education and Technology*, 23, 815-826.

Federal Funding Needs: \$41,000

Match: \$100,000 Entergy March 2019 – March 2021 \$48,000 ATT July 2019 – July 2021

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Item Description	Quantity	Unit Price	Total Requested
Kiosk	2	\$5,000	\$10,000
App & Software Developers	3	\$10,000	\$30,000
Signage	2	\$500	\$1,000
Total Amount Requested			\$41,000

Urban Waters Project Description

Project Title: Wetlands Ecology Program

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: LOOP NOLA

Partners (if applicable): New Orleans City Park, Louisiana Office of State Parks, and Bayou Sauvage National Wildlife Refuge

How does this project fit into Urban Waters?

Wetlands and water surround, protect, and sustain the city of New Orleans. Most urban, public school students have not had a positive, hands-on experience with wetland areas and nearby bodies of water and do not understand the value of what they provide. Through an experiential wetlands ecology program, LOOP NOLA will provide local public school students with a better understanding of science concepts, help them make a personal connection to the wetlands and the bodies of water nearby, and inspire them to respect and protect these resources.

If project builds on an existing work, please describe in a sentence:

Status of project: Is the project ready to be implemented? Estimated lead up needed?

We already have schools registering and have the funding to run the Wetlands Ecology Program for the 2019-20 school year. This grant will allow us to expand our impact and reach more participants.

Project Summary:

Established in 2018, our Wetlands Ecology Program is focused on creating the next generation of environmental stewards from diverse and underserved youth populations. Program participants will be in elementary and middle school, participating in experiential, outdoor programs based around state science standards to better understand the ecology and importance of nearby bodies of water and wetlands areas. Elementary students learn about the wildlife that depends on the wetlands, invasive species that can hinder them, and the role humans play in their preservation. They hike and dip-net to collect data during the program and discuss everyday phenomenon to keep it interactive and engaging. Middle school students focus on the differing connections that exist in and around the wetland ecosystems through water quality testing, fishing, and hiking. They will be able to relate the importance of the wetlands to their own daily lives and understand how human actions can affect the environment in both positive and negative ways.

The short-term outputs of this grant will be to provide 1,000 public school students and students from low-income families with phenomenon-based programs. These programs will improve student understanding of environmental science concepts and inspire students to make a personal connection with natural spaces and nearby waterways. The long-term outcomes will be to create a new generation of environmental stewards and inspire life-long participation in outdoor activities and the physical and mental health benefits they offer. We will track the number of participants by collecting waivers from each participant and analyze post-program surveys from teachers and students to assess our progress in meeting our outcomes.

Federal Funding Needs: \$25,000

Match?: \$15,000

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: Urban Water Series Technical Master Classes

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Greater New Orleans Foundation (GNOF)

Partners (if applicable): City of New Orleans

How does this project fit into Urban Waters? Please refer to ***UWFP Vision, Mission and Principles***
https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

If project builds on an existing work, please describe in a sentence:

Status of project: Is the project ready to be implemented? Estimated lead up needed?
This project is ready to be implemented. Estimated lead up time is at least three months.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcome

In partnership with the City of New Orleans, GNOF has been holding the Urban Water Series Technical Master Classes since 2016. These workshops aim to deepen the technical knowhow of public and private sector professionals in New Orleans who will be designing, developing, installing, and maintaining urban water management systems and green infrastructure in New Orleans. GNOF and the City of New Orleans brings in a combination of international, national and local experts to give these workshops. The workshops are also usually paired with evening lectures which are open to the public and give an overview of the topic discussed during the day. Topics have ranged from integrating green infrastructure into streets to how plants can contribute to water quality in green infrastructure projects.

Continuing Education Units are provided for several industry associations such as the American Institute of Architects (AIA) and the American Society of Civil Engineers (ASCE). The technical master classes have been consistently highly-rated by participants via their evaluations.

Federal Funding Needs: \$25,000-50,000

Match?: _____

(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: Building Active Stewardship in New Orleans (BASIN)

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: The Urban Conservancy, Dana Eness (Executive Director), dana@urbanconservancy.org

Partners (if applicable): Sojourner Truth Community Center, Sustaining Our Urban Landscape, Green Light New Orleans, Loyola University's Environmental Sciences program, Wisner Fund

How does this project fit into Urban Waters? Please refer to *UWFP Vision, Mission and Principles*

New Orleans' changing climate, aging infrastructure, and critical water management issues requires us to redefine our relationship with the environment. The UC has redoubled its efforts to educate and empower New Orleanians on how we can live with water sustainably. BASIN, our "water civics" program for children, is a critical component of our comprehensive community education strategy.

If project builds on an existing work, please describe in a sentence: Funding will enable us to reach more children with our existing BASIN program, which is volunteer led and therefore limited in scope.

Status of project: Is the project ready to be implemented? Estimated lead up needed? The project is ready to be implemented. We have our 2019 BASIN summer camp scheduled for July 15-19 with anticipated enrollment of 30-40 campers, and will begin planning for 2020 immediately following camp.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

[Building Active Stewardship in New Orleans \(BASIN\)](#) is a 30-hour program of the Urban Conservancy, a New Orleans-based nonprofit. BASIN is designed for school-aged New Orleanians to introduce them to the **vocabulary, concepts, and skills** required to fully understand what it means to live with the water that surrounds (and often floods) our city, and to develop them into effective ambassadors of "living with water" principles. Since 2013, we have educated over 150 New Orleans school children aged 8 to 12 in the Treme and Faubourg Lafitte neighborhoods. BASIN approaches environmental literacy with a three-pronged approach: **experiential hands-on learning activities, guest speakers, and field experiences.**

Lessons related to water quality include, for example, a lesson on water filters, with the objective of understanding issues of water pollution and the importance of access to clean water; understanding why we use water filters and how they work, building a small-scale, simple filter and experiment with filtering various substances from water. Additional funding would enable us to expand this water literacy program by providing dedicated staff to engage in outreach efforts year-round with the potential to expand BASIN in future years to more than one week, to more than one site, or both.

Federal Funding Needs: \$ 40,000 _____ **Match?:** _____ \$30,000 _____
(Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

Urban Waters Project Description

Project Title: The Little Library of Water

Sub-Committee (Underline 1 or more applicable): Water Quality & Quantity Public Access
Sustainable Economies Environmental Education Small Scale Restoration

Applicant Name: Imagine Water Works

Contacts: Klie Kliebert and Miriam Belblidia

Website: <https://www.imaginewaterworks.org/>

Partners (if applicable): New Orleans Public Library, Friends of New Orleans Public Library, and Waggoner & Ball

How does this project fit into Urban Waters? Please refer to *UWFP Vision, Mission and Principles*

https://www.epa.gov/sites/production/files/2018-03/documents/uw_vision_mission_principles_11-28-17_-_new_third_page_only.pdf

The Little Library of Water reconnects people with their waterways. The project provides a space, visuals, and resources that encourage communities to have honest conversations about the water that flows through, under, and around them. Ultimately, it seeks to increase our understanding of water in New Orleans so that, as we revitalize urban areas, we are able to do so in a way that is transformative, healthy, sustainable, and driven by community input and knowledge. In an effort to be as inclusive as possible, the project also brings many partners to the table, from government to small businesses, artists, hazard mitigation experts, community organizers, families and children. True to the vision of Urban Waters, the Little Library of Water recognizes that government, traditionally under-served communities, and the water sector must all work together if we are to break down silos and leverage existing neighborhood assets while also revitalizing our metropolitan waterways.

If project builds on an existing work, please describe in a sentence:

This project expands public access and environmental education opportunities for the Little Library of Water, an interactive installation that connects children and adults with what “living with water” means in a city like New Orleans, in which flood risk and climate change require adaptation and a nuanced understanding of our urban environment.

Status of project: Is the project ready to be implemented? Estimated lead up needed?

The Little Library of Water is ready to be implemented. The 3D mobile display has been constructed and installed at the Main Branch of NOPL, and the first program ([an unveiling and hurricane preparedness workshop](#)) was held on June 18, 2019. However, the current funding did not cover the full cost of construction or any of the programming, which is planned to run monthly through November 2019. With Urban Waters funding, we will be able to immediately expand access to the Little Library of Water, including all ages environmental education and adding more water-related books and resources requested by our community that feature local and BIPOC (Black/Indigenous/People of Color) authors. Additional funding will also allow us to continue programming in 2020 by having the installation rotate to each of NOPL’s neighborhood library branches, further expanding public access, conversation, and education.

Project Summary: 1-2 paragraphs (200 words max)- background, how project fits into current work, description of the methods, and anticipated outcomes

The Little Library of Water is an interactive installation developed in collaboration with the New Orleans Public Library (NOPL) and Waggoner & Ball. It is a component of the Library of Water concept, developed by Imagine Water Works, which sees libraries as irreplaceable community spaces that share knowledge and resources — and as critical to our understanding of water in New Orleans and beyond. The installation combines shelving for displaying the NOPL's water-related books, a display for community resources, and a 3D map detailing local topography and drainage systems, which helps residents understand how water that flows throughout their neighborhoods.

The project connects children and adults with their waterways throughout New Orleans, where vulnerable communities are attempting to adapt to increased flood risk and sea level rise, in addition to increased pollutants flowing into our waterways from upriver. In addition to serving as a library installation, the project includes monthly workshops that engage residents in learning about water management, hurricane preparedness, and more. The installation was unveiled in June 2019 at the Main Branch of the NOPL but will eventually act as a rotating exhibit that moves to all other branches of the NOPL system, increasing access to the materials.

Federal Funding Needs: \$50,000

Match?: \$750 grant from The Nature Generation; \$40,000 in pro bono hours dedicated thus far by Imagine Water Works and Waggoner & Ball staff; \$900 in materials for construction of Little Library of Water (Two funding categories: \$25,000 - \$50,000- near term; Higher amounts- develop for larger grant opps.)

FirstLine Schools / Urban Waters Project Description

Project Title: Elevate Wheatley! Yes to Students' Request for Comprehensive Seed-to-Table Education

Sub-Committee (Underline 1 or more applicable): Environmental Education

Applicant Name: FirstLine Schools, Inc.

Partners (if applicable): Landscape Architects, New Orleans Town Gardeners, Eskew Dumez Ripple Architects, Ryan Gootee General Contractors, Uncommon Construction

How does this project fit into Urban Waters? Phillis Wheatley Community School, with FirstLine's signature program, Edible Schoolyard New Orleans, piloted its first water education curriculum in 2015, with afterschool wetlands education that helped 3rd graders to trace raindrops from their garden to Lake Pontchartrain, while planting native irises and studying wetlands inhabitants. **Elevate Wheatley!** expands the Wheatley garden footprint and regular, school-day integrated environmental, food and nutrition lessons offered to PK-4 students, by adding new classes for middle schoolers (grades 5 to 8). Wheatley is now constructing a 21' x 15' human-centered design outdoor education pavilion that diverts rainwater to rain barrels so it may be used to irrigate the one-quarter acre garden. Designed by Eskew Dumez Ripple Architects with input from students as young as Kindergarten, the garden design responds to school community aspirations for a more comprehensive seed-to-table learning space.

What do Wheatley students want to grow? Lettuces, greens and berries. **To build?** Fences, birdhouses and comfy chairs for 40-minute classes. **To see, hear and feel?** Tiger caterpillars, birds and wind. **What do teachers want to grow, build, and see?** Teachers want to grow healthy children into adults who have a strong sense of connection to food, the natural world, their community, and themselves. They want to build a school culture of empathy through gratitude for our interrelationship with bees and worms, and at some schools, chickens and goats. They want to see children excel in school because they are socially and emotionally equipped to handle success and failure as they embrace curiosity and risk. **Urban Waters could provide start-up funds for a new part-time middle school garden educator** at Wheatley, to scale up existing curricula to 5-8th grade lessons that incorporate local water literacy, technology, and engineering, using the resources of local environmental scientists, educators, and water experts.

If project builds on an existing work, please describe in a sentence: Between 2015-2017 the Greater New Orleans Foundation Environmental Fund supported Wheatley's 3rd grade afterschool water literacy pilot that was later revised to include 4th graders across FirstLine's four PK-8 schools, exposing 300 children to hands-on science and engineering through school meteorological stations, laying the foundation for future middle school curricula.

Status of project: In progress.

Project Summary: (199 of 200 words max): FirstLine offers one of the nation's most comprehensive food, nutrition and environmental education programs at four New Orleans open-admissions public schools, through Edible Schoolyard New Orleans. Four expansive school gardens feature outdoor classrooms, greenhouses, butterfly gardens, and wetland ponds in low-lying school areas to address drainage, while producing over two tons of food for student and family consumption, and for use in 4,500 garden science and whole food nutrition and culinary education classes offered annually to approximately 3,000 students. Located in Tremé, a neighborhood with some of the city's highest indications of chronic nutrition-related disease, Wheatley's student body is 99.4% children of color and 100% receive free school meals. New middle school classes taught by the educator funded through the New Orleans Urban Waters Partnership (NOUWP) would foster student leadership, scientific discovery, and curiosity around future STEM careers. The new outdoor pavilion will also host family and school community whole food harvests, distributions and celebrations. We anticipate a 50% increase in food production, 25% increase in class offerings, and 50% increase in food and nutrition events (e.g. family garden days, nutrition education and community cooking). The Federal Funding Need for this project is \$50,000 (including FTE salary and benefits).