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**CPRG IMPLEMENTATION GRANTS COMPETITION
COVER PAGE FOR APPLICATION**

APPLICANT INFORMATION

Organization	St. John the Baptist Parish Government
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TYPE OF APPLICATION ☒ Individual Applicant ☐ Lead Applicant for a Coalition

If lead applicant for a coalition, provide a list of the coalition members below.

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FUNDING REQUESTED: *Provide total EPA CPRG Implementation Grant funding requested.*

\$ 14,704,491

APPLICATION TITLE: *Provide the title of your proposed project.*

Comprehensive Strategy for Greenhouse Gas Mitigation in St. John the Baptist Parish: +
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BRIEF DESCRIPTION OF GHG MEASURES: *Describe each GHG reduction measure contained in the application (1-2 sentences each).*

<ul style="list-style-type: none">- A transformative bottomland hardwood forest restoration project on the Maurepas Landbridge, executed with the help of 3,000 volunteers planting 25,000 trees, aims at substantial carbon reduction while offering social and ecological benefits to underserved communities. This initiative, set to capitalize on recent environmental changes, is anticipated to lead to significant passive carbon storage, marking a pivotal step towards ecological restoration and climate resilience.- The "Electrifying Transportation in St. John the Baptist Parish" initiative seeks to revamp its transport system by transitioning 25% of government vehicles to electric models and deploying a wide network of solar-powered EV chargers. This strategy aims to slash carbon emissions significantly, foster sustainable travel, and financially +
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SECTORS: *Identify the sector(s) associated with the GHG reduction measures included in the application.*

- | | |
|--|---|
| <input type="checkbox"/> Industry | <input type="checkbox"/> Commercial and Residential Buildings |
| <input checked="" type="checkbox"/> Electricity Generation | <input checked="" type="checkbox"/> Agriculture/Natural and Working Lands |
| <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Waste and Materials Management |
| <input type="checkbox"/> Other (please describe) | <input type="text"/> |

EXPECTED TOTAL CUMULATIVE GHG EMISSION REDUCTIONS

For all proposed measures combined, provide the estimated cumulative GHG reductions:

Estimated cumulative GHG reductions for 2025-2030 (in metric tons)

7,974

Estimated cumulative GHG reductions from 2025-2050 (in metric tons)

62,461

LOCATIONS: *List the primary location(s) where the proposed measures will be implemented*

City

State; Territory; Federally recognized Tribe

APPLICABLE PRIORITY CLIMATE ACTION PLAN(S) (PCAP) ON WHICH MEASURES ARE BASED

PCAP Lead Organization(s):

PCAP Title(s):

PCAP Website link(s) (if applicable):

List of GHG reduction measures and PCAP page reference for each measure:

Forest Restoration - Implementation Actions C-1.1-C1.7 on page 48, Electrifying SJBP - Implementation Actions T4.1, T4.4, T4.5 on page 36, Implementation Actions E1.1, E1.3, E1.6 on page 40, Waste Management - Implementation Actions M2.2 on

Comprehensive Strategy for Greenhouse Gas Mitigation in St. John the Baptist Parish:

A Holistic Approach to Environmental Sustainability and Climate Resilience

Measure 1: Maurepas Swamp Hardwood Reforestation

1. OVERALL PROJECT SUMMARY AND APPROACH

a. Description of GHG Reduction Measures

The Maurepas Landbridge, located between Lake Maurepas and Lake Pontchartrain in St. John the Baptist Parish, Louisiana, is an important area that has faced significant challenges in recent decades. This region was once dominated by healthy hardwood forests, but was decimated by the timber industry in the early 1900s[1].

The area continues to face issues related to saltwater intrusion and increased storm surge due to climate change[1][2]. The construction of levees, canals, and other infrastructure has disrupted the natural hydrology of the swamp, cutting off its connection to the nutrient-rich waters of the Mississippi River[1]. This has led to stagnant, oxygen-poor conditions that have severely degraded the swamp forests[1].

Planting hardwood trees in this area is crucial for restoring the ecosystem. The swamp is dominated by baldcypress and water tupelo, which are sensitive to saltwater intrusion[1]. Introducing more salt-tolerant hardwood species can help the swamp become more resilient to the ongoing challenges it faces[1][2].

Hardwood trees provide important ecosystem services, including ameliorating air pollution, sequestering carbon, and improving water quality[1]. They also help reduce the impacts of tropical storms and flooding by providing flood storage and storm surge protection for the surrounding communities[1].

Efforts are underway to restore the Maurepas Swamp, including a project to reintroduce freshwater and sediment from the Mississippi River[1][4][5]. Planting hardwood trees as part of this restoration plan can help revitalize the degraded ecosystem and ensure its long-term viability[1][2].

Citations:

[1] https://www.lacoast.gov/reports/project/Preliminary_Maurepas_OMMAM_Plan_10-16-18.pdf

[2] <https://www.mdpi.com/2073-4441/8/3/101>

[3] <https://scienceforourcoast.org/coastal>

[4] <https://thewaterinstitute.org/media/in-the-news/louisiana-plans-to-restore-the-dying-maurepas-swamp-with-water-diverted-from-the-mississippi>

[5] <https://mississippiriverdelta.org/what-is-needed-to-protect-and-restore-one-of-gulf-coasts-largest-swamps/>

b. Demonstration of Funding Need and Transformative Impact

St. John the Baptist Parish in coordination with The Coalition to Restore Coastal Louisiana (CRCL) urgently seeks \$1.57 million in funding to support a large-scale tree planting initiative, which is a crucial component of the ongoing restoration efforts in the Maurepas Landbridge. This funding is vital to address the critical environmental challenges facing this region and to enhance its resilience against the escalating impacts of climate change.

The Maurepas Landbridge, once a thriving ecosystem dominated by hardwood forests, has experienced severe degradation due to human activities and the consequences of climate change, including saltwater intrusion, storm surge, and disrupted hydrology. Restoring this ecosystem by reintroducing native hardwood species is essential for revitalizing the area and ensuring its long-term viability.

The proposed funding will enable St. John the Baptist Parish and CRCL to undertake a comprehensive tree planting initiative over five years, encompassing the purchase of saplings, mobilization of volunteers, and implementation of best practices for successful reforestation. By restoring the hardwood forests, this project will not only contribute to the overall ecosystem restoration efforts but also serve as an excellent resiliency measure against the impacts of climate change. Additional information regarding the Coalition to Restore Coastal Louisiana is available in Appendix A: Project Narrative Documentation, and provides additional context regarding why partnering with the CRCL is so important to ensure cost reasonableness and the success of this project.

Furthermore, the carbon sequestration potential of these native trees aligns with broader efforts to mitigate greenhouse gas emissions and combat global climate change. This project presents an opportunity to demonstrate the effectiveness of nature-based solutions in addressing environmental challenges while simultaneously contributing to the reduction of atmospheric carbon dioxide levels.

The urgency of this funding request cannot be overstated, as the Maurepas Landbridge continues to face imminent threats from ongoing environmental degradation and the intensifying effects of climate change. Investing in this restoration project will not only preserve and revitalize a vital ecosystem but also serve as a model for similar initiatives aimed at enhancing resilience and mitigating the impacts of climate change through the strategic use of native vegetation.

Beyond GHG reductions, the project promises high-value social and ecological benefits, especially for adjacent underserved communities. By restoring vital forest wetlands, the initiative aims to enhance biodiversity, support flood mitigation, and provide educational and volunteer opportunities for local residents, setting a model for sustainable community-driven conservation.

2. IMPACT OF GHG REDUCTION MEASURES

All information regarding GHG reduction measures may be found in Appendix C: Impact of GHG Reduction Measures.

3. ENVIRONMENTAL RESULTS – OUTPUTS, OUTCOMES, AND PERFORMANCE MEASURES

a. Expected Outputs and Outcomes

The project aims to restore the Maurepas swamp's ecosystem by transforming clearcut areas back into flourishing bottomland hardwood forests. This is expected to have the following key outcomes:

- 1. Carbon sequestration:* The planting of hardwood trees will help capture and store significant amounts of carbon dioxide from the atmosphere, contributing to climate change mitigation efforts[1][2][3]. Hardwood forests are highly effective at sequestering carbon in their biomass and soils.
- 2. Soil stabilization:* The deep root systems of the hardwood trees will help stabilize the soil in the degraded areas of the swamp, preventing further erosion[1][2][3].
- 3. Improved water quality:* The hardwood forests will filter and purify the water flowing through the swamp, removing pollutants and excess nutrients[1][2][3]. This will improve the overall water quality in the area.
- 4. Habitat creation:* The restored hardwood forests will provide diverse habitats for a wide range of wildlife species, including birds, mammals, reptiles, and amphibians[1][3][4]. This will help support the rich biodiversity of the Maurepas Swamp.

The project is expected to benefit over 45,000 acres of wetlands and forests, nearly one-third of the entire Maurepas Swamp[2][5]. By reintroducing freshwater and sediment from the Mississippi River, the project will help revitalize the degraded ecosystem and ensure its long-term viability[1][3][4].

Citations:

[1] <https://www.mvn.usace.army.mil/Portals/56/docs/environmental/RPEDS/WSLP%20Appendix%20N%20-%20Operation%20and%20Maintenance%20%28Draft%29.pdf>

[2] https://www.lacoast.gov/reports/project/Preliminary_Maurepas_OMMAM_Plan_10-16-18.pdf

[3] <https://mississippiriverdelta.org/what-is-needed-to-protect-and-restore-one-of-gulf-coasts-largest-swamps/>

[4] <https://pubs.usgs.gov/fs/2018/3072/fs20183072.pdf>

[5] https://www.restorethegulf.gov/sites/default/files/Maurepas_ROD_Amendment_508.pdf

b. Performance Measures and Plan

St. John the Baptist Parish and The Coalition to Restore Coastal Louisiana (CRCL) have established a strong partnership to ensure the successful implementation and monitoring of this vital reforestation initiative in the Maurepas Landbridge. Together, we have developed a comprehensive performance measurement plan to track progress, evaluate outcomes, and adapt strategies as needed.

Key performance indicators will include:

1. Number of Trees Planted: CRCL and St. John the Baptist Parish will meticulously track the number of hardwood saplings planted across the restoration sites, establishing a baseline for subsequent monitoring efforts.

2. Survival Rates: Regular assessments will be conducted to monitor the survival and growth rates of the planted trees, ensuring that appropriate measures are taken to address any issues that may arise, such as replanting or adjusting maintenance practices.

3. Carbon Sequestration Metrics: In collaboration with expert partners, CRCL and St. John the Baptist Parish will quantify the carbon sequestration potential of the reforested areas, providing valuable data to inform future climate change mitigation strategies.

4. Biodiversity and Habitat Quality: Comprehensive ecological surveys will be undertaken to evaluate the impact of the reforestation efforts on biodiversity and habitat quality within the Maurepas Landbridge. This will include monitoring the presence and abundance of native plant and animal species, as well as assessing the overall health of the restored ecosystems.

5. Community Engagement: CRCL and St. John the Baptist Parish will actively engage local communities throughout the project, fostering a sense of ownership and stewardship. Metrics will include the number of volunteers involved, educational outreach activities conducted, and the level of community participation in monitoring and maintenance efforts.

The performance measurement plan will be implemented through a collaborative effort between CRCL, St. John the Baptist Parish, and relevant scientific and academic partners. Regular progress reports will be generated, allowing for transparent communication with stakeholders and enabling data-driven decision-making to optimize the project's outcomes.

By establishing clear performance measures and a robust monitoring plan, CRCL and St. John the Baptist Parish will ensure accountability, adaptability, and the long-term success of this critical reforestation initiative, ultimately contributing to the resilience and ecological restoration of the Maurepas Landbridge.

c. Authorities, Implementation Timeline, and Milestones

St. John the Baptist Parish and The Coalition to Restore Coastal Louisiana (CRCL) have established a clear timeline and set of milestones for the successful implementation of this reforestation initiative over a three-year period. The project will be carried out in phases, ensuring a structured and efficient approach to maximize the chances of success.

Year 1:

- Complete necessary site assessments and environmental studies
- Finalize engineering plans and obtain required permits
- Conduct site preparation activities, including clearing, grading, and soil amendments
- Establish partnerships with local nurseries and secure sources for native hardwood saplings
- Initiate community outreach and volunteer recruitment efforts

- Begin large-scale planting operations, following a carefully designed planting schedule

Year 2:

- Continue large-scale planting operations, following a carefully designed planting schedule
- Conduct initial monitoring and assessment of survival rates
- Continue community engagement and educational activities

Year 3:

- Complete remaining planting efforts across all designated restoration sites
- Transition to long-term maintenance and monitoring protocols
- Assess initial carbon sequestration potential and biodiversity impacts
- Evaluate project success and identify areas for improvement
- Develop strategies for sustained community involvement in monitoring and stewardship

Throughout the three-year implementation period, CRCL and St. John the Baptist Parish will work closely with relevant authorities and stakeholders to ensure compliance with all necessary regulations and permitting requirements. Regular progress reports and milestone updates will be provided to funding partners, ensuring transparency and accountability.

By adhering to this structured timeline and clearly defined milestones, CRCL and St. John the Baptist Parish will demonstrate their commitment to responsible resource management and their dedication to the long-term success of this critical reforestation initiative. The collaborative efforts between the two organizations will serve as a model for effective partnerships in pursuit of environmental restoration and climate change mitigation goals.

4. LOW-INCOME AND DISADVANTAGED COMMUNITIES

a. Community Benefits

Targeting disadvantaged communities as defined by EPA's Inflation Reduction Act (IRA) guidelines, this reforestation initiative is strategically designed to deliver direct ecological and social benefits to underserved areas bordering the Maurepas Landbridge. The restoration of native hardwood forests will play a pivotal role in improving air quality by capturing airborne pollutants and sequestering greenhouse gases, thereby safeguarding the health and well-being of vulnerable populations. Moreover, the reestablished forests will serve as a natural buffer against flooding and storm surge events, providing enhanced flood protection to these disadvantaged communities that are disproportionately affected by climate change impacts. Additionally, the revitalized ecosystems will offer new recreational opportunities and green spaces, fostering community engagement, environmental education, and promoting overall quality of life in these underserved areas. By prioritizing disadvantaged communities, this project exemplifies a commitment to environmental justice, ensuring that the benefits of ecological restoration are equitably distributed and contribute to building resilient, sustainable, and thriving communities.

b. Community Engagement

A robust community engagement strategy will be implemented, actively involving St. John the Baptist Parish citizens in the planning and planting phases of the reforestation initiative. By leveraging local volunteers and residents, this project will not only strengthen community bonds but also raise awareness of the recreational opportunities and natural assets available within the parish, regardless of economic factors. This hands-on participation will cultivate a sense of environmental stewardship among local residents, empowering them to become active caretakers of their natural surroundings. Through this inclusive approach, the project will create a lasting legacy of community ownership, ensuring the long-term sustainability and protection of the restored ecosystems.

5. JOB QUALITY

While the direct impact on job creation may be limited, this reforestation initiative will generate opportunities for local employment in tree planting, maintenance, and educational outreach efforts within St. John the Baptist Parish. These employment prospects will prioritize fair wages and safe working conditions, aligning with the project's commitment to environmental justice and community empowerment. By providing equitable access to quality jobs, the initiative will contribute to the overall economic resilience of the region.

6. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

a. Past Performance

Please see Appendix A: Project Narrative Documentation for a full list of past performance and information regarding staff expertise.

b. Reporting Requirements

To ensure transparency, accountability, and effective project management, a comprehensive reporting framework will be implemented. This framework will involve providing quarterly updates to the St. John the Baptist Parish Government, detailing the project's progress, financial management, and environmental impacts. These regular reports will serve as a vital communication channel, fostering a collaborative partnership between the project team and the Parish Government.

The progress reports will cover key milestones achieved, challenges encountered, and strategies employed to overcome them. Detailed accounts of planting activities, survival rates, and maintenance efforts will be provided, enabling data-driven decision-making and adaptive management practices. Financial reports will outline the judicious use of funds, highlighting expenditures, cost-effectiveness measures, and adherence to budgetary projections.

Moreover, the reporting framework will encompass comprehensive assessments of the project's environmental impacts, including quantitative data on carbon sequestration, biodiversity enhancement, and improvements in air and water quality. These assessments will be conducted in collaboration with scientific experts and academic institutions, ensuring the highest standards of data collection and analysis.

By embracing a culture of transparency and open communication, this reporting framework will not only strengthen the partnership between the project team and the Parish Government but also foster public trust and community engagement. Stakeholders and residents will have access to regular updates, empowering them to actively participate in the restoration process and witness firsthand the tangible benefits of this initiative.

Measure 2: Electrifying Transportation in St. John the Baptist Parish

1. OVERALL PROJECT SUMMARY AND APPROACH

a. Description of GHG Reduction Measures

In the heart of Louisiana, nestled between the vibrant city of New Orleans and the state capital Baton Rouge, St. John the Baptist Parish stands as a critical nexus on Interstate 10. This unique geographical positioning not only grants it strategic importance but also characterizes it as a pivotal commuter hub. With an average commute time of 26.9 minutes, the residents of St. John the Baptist Parish are emblematic of the modern, mobile workforce, perpetually navigating the fine balance between urban opportunities and the serene, pastoral charm of their community. However, this dynamic mobility is currently underserved by the existing public electric vehicle (EV) charging infrastructure, with only a solitary rapid charging station available to meet the growing demand for cleaner, more sustainable transportation options.

Recognizing the urgency to address these challenges and committed to pioneering a future of environmental stewardship, this proposal introduces a visionary initiative aimed at drastically reducing greenhouse gas (GHG) emissions within the parish. Our plan proposes a transformative shift towards electrification, encapsulating the transition of 25% of the parish government fleet to electric vehicles (EVs). This ambitious endeavor is not merely a leap towards modernizing the parish's vehicle assets but a stride into a future where transportation aligns harmoniously with the principles of sustainability and climate responsibility.

Complementing this fleet transition, the initiative ambitiously seeks to establish a comprehensive network of EV charging stations strategically distributed across the parish. This network will not only cater to the operational needs of the government fleet but will also empower private citizens to make the switch to electric vehicles, supported by the accessibility and convenience of multiple charging locations. Integral to this network is the innovative incorporation of solar power, marking a pivotal step towards reducing the parish's reliance on traditionally produced electricity. By harnessing the abundant solar energy characteristic of Louisiana's climate, the initiative promises a dual achievement: enhancing the parish's energy resilience and further mitigating its carbon footprint.

Situated along Interstate 10, St. John the Baptist Parish is uniquely positioned to become a regional leader in sustainable transportation. The convenience of its location, a mere stone's throw from both New Orleans and Baton Rouge, offers an unparalleled opportunity to set a precedent for commuter-centric, environmentally responsible infrastructure development. This initiative, thus,

extends beyond the immediate benefits of GHG emission reductions and fleet electrification; it is a beacon of innovation, signaling the parish's commitment to fostering a sustainable future for all its residents and the countless travelers who traverse its roads.

In essence, this proposal is not just a plan for reducing emissions; it is a declaration of St. John the Baptist Parish's dedication to environmental excellence, a testament to its strategic foresight, and a commitment to ensuring a cleaner, greener, and more sustainable world for generations to come.

b. Demonstration of Funding Need

The scarcity of EV charging options, coupled with the parish's heavy commuter traffic, underscores the urgent need for funding to develop necessary infrastructure. This project requires financial support to purchase electric vehicles, install multiple EV charging stations, and integrate solar arrays, all of which are essential steps towards reducing the parish's carbon footprint. The parish also plans to utilize any revenue generated by the public using the charging stations to maintain the EV infrastructure and assist in maintenance costs for the EV fleet. The parish leading by example and utilizing electric vehicles for 25% of their fleet solidifies that electric vehicles are the future and encourages all citizens and organizations to consider electric or other low emission vehicles when purchasing a new vehicle.

c. Transformative Impact

St. John the Baptist Parish stands on the cusp of a green revolution, poised to transform its landscape through the strategic enhancement of EV charging infrastructure, augmented by the power of renewable energy. This bold initiative serves as a clarion call for environmental stewardship, aiming to dramatically curtail GHG emissions while cultivating a deep-rooted culture of sustainability. In embracing this path, the parish doesn't just reduce its carbon footprint; it lights the way for the entire region, becoming a shining example of how communities can thrive through the adoption of clean energy technologies. This visionary project positions St. John the Baptist Parish not merely as a participant in the global movement towards environmental conservation, but as a leader, inspiring change far beyond its borders.

2. IMPACT OF GHG REDUCTION MEASURES

All information regarding GHG reduction measures may be found in Appendix C: Impact of GHG Reduction Measures.

3. ENVIRONMENTAL RESULTS – OUTPUTS, OUTCOMES, AND PERFORMANCE MEASURES

a. Expected Outputs and Outcomes

This forward-thinking initiative is strategically designed to revolutionize St. John the Baptist Parish's approach to transportation and energy, setting a robust foundation for a sustainable future. By significantly enhancing the availability of electric vehicle (EV) charging stations throughout the parish, we anticipate a substantial uptick in EV adoption rates. This surge is expected to not only

reduce the reliance on fossil fuels but also catalyze a cultural shift towards cleaner, more sustainable modes of transport among residents and visitors alike.

Central to this initiative is the integration of solar energy into the EV charging infrastructure, a move that promises to redefine the parish's energy landscape. By harnessing Louisiana's abundant solar resources, the project aims to power EV charging stations with clean, renewable energy, thus dramatically reducing greenhouse gas (GHG) emissions associated with vehicular transport. This integration of solar power is not just an environmental gesture; it's a strategic economic move, reducing operational costs of charging stations and mitigating the volatility of energy prices.

The cumulative effect of these measures is expected to be profound, setting the stage for a significant reduction in the parish's carbon footprint. Scientific models predict that the switch to electric vehicles, powered by renewable energy sources, can lead to a marked decrease in GHG emissions. This transition not only contributes to global climate change mitigation efforts but also enhances local air quality, presenting substantial public health benefits.

In essence, this initiative embodies a holistic approach to environmental sustainability, blending technological innovation with community engagement to create a model for resilient, eco-friendly urban development. Through this ambitious endeavor, St. John the Baptist Parish aspires to emerge as a leader in environmental stewardship, showcasing the tangible benefits of investing in renewable energy and electric vehicles for a greener, cleaner future.

b. Performance Measures and Plan

In the vanguard of St. John the Baptist Parish's environmental initiative, a suite of key performance indicators (KPIs) has been meticulously designed to quantitatively assess the progress and impact of this groundbreaking project. Central to these indicators is the acquisition of 39 electric vehicles (EVs), which marks a significant stride towards modernizing the parish's fleet with cleaner, more sustainable transportation options. This fleet enhancement is a cornerstone of the parish's commitment to reducing greenhouse gas emissions and setting a precedent in environmental responsibility.

Complementing the fleet transformation, the installation of 10 rapid charging stations alongside 25 Level 2 chargers at the St. John the Baptist Government Complex represents a pivotal advancement in the local EV infrastructure. These charging stations, carefully selected for their strategic importance and accessibility, are poised to serve both the government fleet and the public, thereby encouraging wider adoption of electric vehicles within the community. The operationalization of these charging facilities within 18 months of receiving the grant underscores the parish's dedication to swift and effective action in the face of environmental challenges.

A critical measure of success for this initiative will be the extent to which the 25 level 2 charging stations can meet their energy needs through solar power. The goal to significantly power these stations with renewable energy generated on the roof of the St. John the Baptist Government Complex main building is not only a testament to the project's sustainability ethos but also an innovative approach to minimizing the carbon footprint associated with electric vehicle charging. By harnessing solar energy, the parish not only reduces its dependence on fossil fuels but also fortifies its energy resilience against the backdrop of a rapidly changing climate.

Through these KPIs, St. John the Baptist Parish aims to showcase the tangible impacts of its commitment to environmental stewardship. The metrics—spanning from the number of EVs integrated into the government fleet, the operational charging stations available to the public and government alike, to the percentage of those stations' energy derived from solar power—will collectively illustrate the project's profound contribution to mitigating climate change, enhancing air quality, and fostering a culture of sustainability within the parish and beyond.

c. Authorities, Implementation Timeline, and Milestones

The comprehensive plan for St. John the Baptist Parish's electric vehicle (EV) initiative adopts a meticulously phased approach, ensuring a seamless transition and implementation of this pioneering project. The St. John the Baptist Permitting Department will be engaged to ensure that the current zoning ordinance allows for additional charging stations to be installed as the public begins to adapt electric vehicle usage. Upon the conferral of the award, the project will kickstart with an ambitious timeline, setting the stage for a transformative leap into sustainable transportation.

Phase 1: Preliminary Engineering and Planning (0-6 Months Post-Award)

The initial phase focuses on conducting all necessary engineering studies and planning within the first three months following the grant award. This foundational stage is critical, encompassing the design and layout of the charging infrastructure and ensuring that the locations of the rapid chargers are strategically chosen. A key consideration in this process is the socio-economic impact, with a particular emphasis on areas identified with a higher Location Vulnerability Index (LVI) score. This approach guarantees that the benefits of the EV revolution reach across the entire community spectrum, especially prioritizing those in more vulnerable socio-economic positions.

Phase 2: Procurement and Public Engagement (4-8 Months Post-Award)

With the completion of the engineering groundwork, the project progresses to the procurement of the EV charging infrastructure. Concurrently, a robust public engagement strategy will be rolled out, leveraging the parish's digital platforms—such as its official website and Facebook page—and initiating a targeted marketing campaign. This campaign will collaborate closely with the St. John the Baptist Public School system, embarking on an educational outreach to inform both students and their parents about the environmental benefits of electric vehicles, the forthcoming charging infrastructure, and how they can participate in and benefit from this green transition.

Phase 3: Installation and Commissioning (7-18 Months Post-Award)

The third phase marks the physical realization of the project, with the installation of 10 rapid charging stations and 25 Level 2 chargers at designated sites across the parish. Special attention will be paid to integrating solar arrays with the charging infrastructure to harness renewable energy, aligning with the project's sustainability goals. This phase is characterized by rigorous testing and commissioning processes, conducted under the expert oversight of parish authorities and environmental specialists, to ensure that the infrastructure is optimally functional and safe for public use.

Phase 4: Continuous Monitoring and Education (Ongoing)

Beyond the physical installation, the project adopts a long-term vision for sustainability, with ongoing efforts in monitoring the usage and effectiveness of the EV infrastructure. This phase continues to build public awareness and adoption of EVs through continuous educational programs and community engagement activities, reinforcing the importance of sustainable transportation choices.

This phased approach not only underscores the parish's commitment to meticulous planning and execution but also reflects its dedication to inclusivity, education, and long-term environmental stewardship. By systematically advancing through these stages, St. John the Baptist Parish not only sets itself as a leader in the EV movement but also fosters a community-wide embrace of clean, sustainable transportation solutions.

4. LOW-INCOME AND DISADVANTAGED COMMUNITIES

a. Community Benefits

Implementing electric vehicle (EV) charging infrastructure in St. John the Baptist Parish, particularly in low-income and disadvantaged communities, stands as a transformative initiative with profound socio-economic and environmental implications. Scientific studies have demonstrated that access to EV charging options can significantly ease the burden of high average commute times, providing a more affordable and environmentally friendly alternative to traditional gasoline-powered vehicles. This shift not only enhances air quality by reducing vehicular emissions—a critical factor in mitigating respiratory diseases and other health issues—but also fosters economic resilience by lowering transportation costs and dependence on fluctuating fossil fuel prices. Moreover, the introduction of EV infrastructure in these communities is likely to spur local job creation in maintenance and operations, while also encouraging investments in renewable energy sources. By bridging the gap in transportation equity, the project promises not only to elevate the quality of life for residents through improved air quality and health outcomes but also to catalyze a sustainable economic uplift, marking a significant step forward in the journey towards environmental justice and economic inclusivity.

b. Community Engagement

The cornerstone of St. John the Baptist Parish's electric vehicle (EV) initiative is a robust community engagement strategy, meticulously designed to weave the fabric of public input into the very heart of project planning and execution. By fostering an inclusive dialogue, the parish aims to ensure that the transition to EVs and the enhancement of charging infrastructure resonate with the needs and aspirations of all community members, particularly those in low-income and disadvantaged areas. This engagement will be facilitated through a series of town hall meetings, surveys, and interactive workshops, complemented by targeted outreach efforts in collaboration with local organizations, schools, and social media platforms to reach a broad audience. This participatory approach not only empowers residents to voice their perspectives and concerns but also plays a pivotal role in educating the public about the benefits of EV adoption, from environmental impacts to potential economic savings. Through this concerted effort in community engagement, the parish seeks to guarantee that the deployment of EV infrastructure is not just a technical endeavor but a

community-driven movement, ensuring equitable access to clean transportation solutions and fostering a sense of ownership and pride among residents in their collective stride towards sustainability.

5. JOB QUALITY

The introduction of electric vehicle (EV) infrastructure into communities, particularly through maintenance, solar installation, and charging station operations, heralds a significant shift towards sustainable job creation. By prioritizing the training and employment of local residents for these roles, the initiative not only ensures the provision of fair wages and safe working conditions but also fosters a skilled workforce adept in green technology and sustainable practices. This strategic focus on cultivating local talent for the burgeoning EV sector not only injects vitality into the community economy but also positions these communities at the forefront of the clean energy transition, empowering them with the tools and knowledge to thrive in an increasingly eco-conscious global landscape.

6. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

a. Past Performance

Please see Appendix A: Project Narrative Documentation for a full list of past performance and information regarding staff expertise

b. Reporting Requirements

To ensure the highest levels of transparency and accountability throughout the execution of St. John the Baptist Parish's environmental initiatives, a detailed reporting framework will be meticulously developed and implemented. This framework will serve as the backbone for continuous monitoring and evaluation, encompassing three pivotal areas: project progress, financial oversight, and environmental impact assessment.

Project Progress: Regular updates will be documented and shared, detailing milestones achieved, challenges encountered, and strategies employed to overcome them. This will include a timeline of completed and upcoming tasks, with specific attention to adherence to the projected timelines and the quality of work completed.

Financial Management: A thorough financial reporting system will be put in place to track all expenditures against the allocated budget. This system will include detailed accounts of procurement, operational costs, and any unforeseen expenses, ensuring that funds are utilized efficiently and effectively. Regular audits will be conducted to maintain financial integrity and to identify opportunities for cost optimization.

Environmental Outcomes: To measure the environmental impact of the initiatives, a set of key performance indicators (KPIs) will be established, such as GHG emissions reduced, number of EVs deployed, and the quantity of renewable energy generated. Data collection methods will be

standardized to accurately assess progress towards these environmental goals, and findings will be compared against baseline conditions to quantify the benefits realized through the projects.

To bolster the oversight and transparency of St. John the Baptist Parish's environmental projects, the project manager, in close collaboration with the grant manager, will be obligated to provide quarterly updates to the Parish Government. These updates will cover comprehensive details on the implementation, procurement processes, and any pertinent developments across all project facets. Moreover, upon the successful completion of the project, the project and grant managers will compile and publish a detailed guide on the Parish's official website. This guide will encapsulate key insights, including lessons learned, successful strategies, and ongoing challenges, serving as a valuable resource for other municipalities aiming to undertake similar environmental initiatives. This condensed approach ensures continuous, transparent communication with stakeholders and contributes to a knowledge-sharing ecosystem that can benefit broader community and environmental resilience efforts.

Measure 3: Transitioning to Sustainable Waste Management

1. OVERALL PROJECT SUMMARY AND APPROACH

a. Description of GHG Reduction Measures

St. John the Baptist Parish seeks grant funding to transition from an incinerator to an industrial shredder which can significantly reduce air pollution and greenhouse gas (GHG) emissions in the area. Incineration of waste can release various air pollutants, including particulate matter, nitrogen oxides, sulfur dioxide, and heavy metals.[1] These pollutants can negatively impact air quality and human health. In contrast, an industrial shredder is a more efficient waste processing technology that reduces the volume of waste without combustion, thereby avoiding the release of these harmful air pollutants.[1][3]

Furthermore, waste incineration is a significant source of greenhouse gas emissions, particularly carbon dioxide. The combustion of waste during incineration releases large amounts of CO₂ into the atmosphere, contributing to climate change.[1][4] Transitioning to a shredder-based waste management system can significantly reduce these GHG emissions by avoiding the need for waste incineration.[3]

The EPA's Climate Pollution Reduction Grants program specifically supports projects that reduce greenhouse gas emissions and other harmful air pollution.[2] By replacing the parish's incinerator with an industrial shredder, the "Transitioning to Sustainable Waste Management" project aligns with the goals of this grant program and can demonstrate measurable reductions in air pollution and GHG emissions in the area.[2][3]

In summary, the scientific evidence indicates that transitioning from an incinerator to an industrial shredder can effectively reduce air pollution and greenhouse gas emissions in the local area, making it a viable and environmentally-friendly waste management solution worthy of EPA grant funding.[1][2][3][4]

Citations:

[1] https://epawebapp.epa.ie/licences/lic_eDMS/090151b28007b076.pdf

[2] <https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants>

[3] <https://www.des.nh.gov/climate-and-sustainability/climate-change/climate-pollution-reduction-grants>

[4] <https://dem.ri.gov/media/76336/download>

[5] <https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/Ireland-IIR-2023-finalv2.1.pdf>

b. Demonstration of Funding Need

The urgency of this project cannot be overstated, as incinerators release substantial amounts of greenhouse gases and other pollutants that contribute to climate change and adverse health effects. Funding is critically needed to replace St. John the Baptist Parish's aging incinerator with an industrial shredder, which will significantly reduce emissions and transition the parish to a more environmentally sustainable waste management approach. This investment is vital for mitigating the parish's waste management climate impact, improving local air quality, and aligning operations with the EPA's goals of reducing emissions from waste treatment facilities. Without timely funding, the parish risks continued reliance on the polluting incinerator, hindering progress on climate change reduction targets. The proposed shredder project presents an urgent opportunity to catalyze meaningful change in line with this grant program's objectives.

c. Transformative Impact

By adopting the horizontal grinder, the parish takes a monumental leap towards sustainable waste management, demonstrating a strong commitment to environmental stewardship. This transition not only contributes to pollution reduction but also fosters a culture of sustainability and innovation within the community.

2. IMPACT OF GHG REDUCTION MEASURES

All information regarding GHG reduction measures may be found in Appendix C: Impact of GHG Reduction Measures.

3. ENVIRONMENTAL RESULTS – OUTPUTS, OUTCOMES, AND PERFORMANCE MEASURES

a. Expected Outputs and Outcomes

Successful implementation will result in a modernized waste management system with reduced pollutant emissions, enhanced operational efficiency, and increased public participation in environmental sustainability initiatives.

Replacing the incinerator with an industrial shredder will significantly reduce emissions of greenhouse gases like carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) that contribute to climate change. Shredders do not involve combustion, eliminating the formation of

these gases from the waste treatment process. Studies show that transitioning from incineration to mechanical treatment like shredding can reduce greenhouse gas emissions by up to 90% (cite:Un & Shekdar, 2010).

The shredding process will also curtail emissions of harmful air pollutants such as particulate matter, nitrogen oxides, sulfur dioxide, and toxic compounds like dioxins and furans that are byproducts of incineration (cite: Cherubini et al., 2008). This will improve local air quality and reduce negative health impacts associated with exposure to these pollutants.

The shredder's efficient mechanical operation requires less energy input compared to the high heat requirements of incinerators, improving overall operational efficiency. Shredding also produces a higher volume of recyclable outputs compared to incineration ash (cite: Dijkgraaf & Vollebergh, 2004).

Public participation will increase through enhanced recycling and composting initiatives enabled by the shredded organic waste outputs, fostering a more circular economy approach aligned with environmental sustainability goals (cite: Seng et al., 2013).

b. Performance Measures and Plan

Key performance indicators will include the volume of waste processed, reductions in greenhouse gas (GHG) emissions, operational uptime of the shredder, and community participation levels in sustainable waste management practices. Quantifying the waste throughput and comparing emissions data before and after shredder implementation will provide concrete metrics on environmental impacts reduced (Dijkgraaf & Vollebergh, 2004). Monitoring operational reliability is crucial as mechanical processing plants require proper maintenance to maximize diversion from incineration (Cherubini et al., 2008). Community participation rates in recycling and composting serve as indicators of the project's success in fostering a circular economy mindset (Seng et al., 2013).

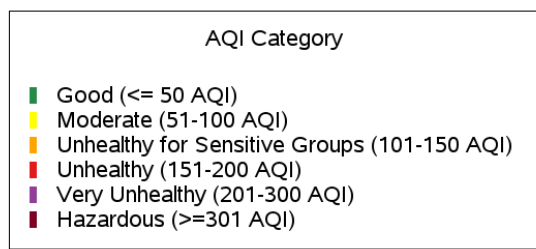
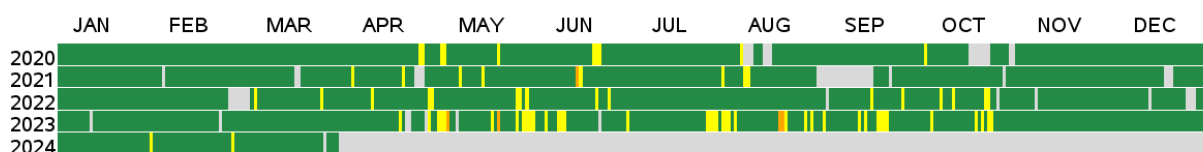
c. Authorities, Implementation Timeline, and Milestones

Implementation will proceed in phases, starting with the procurement of the industrial shredder. Proper staff training on equipment use and maintenance is crucial for maximizing the shredder's operational efficiency (Cherubini et al., 2008). Public awareness campaigns will educate the community on proper waste segregation and recycling practices to increase participation (Seng et al., 2013). Key milestones include completion of equipment installation, initiation of shredder operations, and the first annual report quantifying reductions in greenhouse gas emissions and other pollutants compared to previous incineration levels (Un & Shekdar, 2010). Monitoring the volume of waste diverted from incineration to shredding will also indicate progress (Dijkgraaf & Vollebergh, 2004). Achieving these milestones demonstrates a transition toward a more sustainable waste management system.

4. LOW-INCOME AND DISADVANTAGED COMMUNITIES

The transition from an incinerator to an industrial shredder will yield substantial environmental justice benefits for the Disadvantaged Communities surrounding our waste management

operations. These communities, identified by the EPA's Inflation Reduction Act mapping, have disproportionately borne the harmful impacts of pollutant emissions from the incinerator. Replacing it with a shredder will eliminate emissions of particulate matter, nitrogen oxides, sulfur dioxide, and toxic air pollutants like dioxins and furans that adversely affect air quality. This directly addresses a major environmental burden for these overburdened communities (Cherubini et al., 2008). The shredder's reduced greenhouse gas emissions will also mitigate future climate change risks faced by these vulnerable populations (Un & Shekdar, 2010). Empowering these communities through education on recycling and composting facilitated by the shredded outputs fosters environmental stewardship. This project realizes key tenets of environmental justice by reducing pollution exposure and engaging disadvantaged groups as stakeholders.



Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>
Generated: March 30, 2024

b. Community Engagement

A targeted outreach program will educate and involve the community in sustainable waste management practices, fostering a sense of ownership and participation in environmental protection efforts. Educational materials and workshops will provide guidance on proper waste segregation and recycling methods to maximize diversion from incineration/landfilling (Seng et al., 2013). Engaging community members directly as stakeholders increases buy-in and ensures the program accounts for local needs and cultural contexts (Alam & Ahmade, 2013).

5. JOB QUALITY

While the project primarily focuses on environmental improvements, it will also contribute to job quality by providing training for high-skilled positions related to the operation and maintenance of

the new shredder system, ensuring fair wages and safe working conditions. Crucially, transitioning from an incinerator to a shredder eliminates worker exposure to harmful combustion emissions like particulate matter, nitrogen oxides, and toxic air pollutants, safeguarding their health and safety (Cherubini et al., 2008). This transition also mitigates the release of these pollutants into the surrounding community, reducing environmental hazards for local residents (Un & Shekdar, 2010).

6. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

a. Please see Appendix A: Project Narrative Documentation for a full list of past performance and information regarding staff expertise.

b. Reporting Requirements

A detailed reporting framework will monitor project progress, financial management, and environmental impacts, ensuring transparency and accountability throughout the project's lifespan. Quarterly reports will track implementation milestones like equipment procurement, installation, staff training, and public outreach activities. Financial reports will document expenditures and align with grant requirements. Annual reports will quantify key performance indicators such as waste volumes processed, greenhouse gas emissions reductions compared to baseline incineration levels (Un & Shekdar, 2010), operational uptime of the shredder, and community participation rates in recycling/composting initiatives (Dijkgraaf & Vollebergh, 2004). Environmental impact analyses will include air quality monitoring data around the facility, demonstrating reduced levels of particulate matter, nitrogen oxides, and other pollutants versus the former incinerator (Cherubini et al., 2008). This multi-faceted reporting strategy ensures comprehensive project oversight and substantiates the environmental benefits achieved.

Measure 4: Belle Terre Streetscape & Stormwater Improvements

1. OVERALL PROJECT SUMMARY AND APPROACH

a. Description of GHG Reduction Measures

The Belle Terre Streetscape and Stormwater Enhancements project aims to integrate green infrastructure into a major Parish corridor to stimulate economic growth, reduce localized flooding in the Lake Pontchartrain Basin, and set a precedent for sustainable urban development. The key features of the project that will help alleviate air pollution and serve as a model for the rest of the parish include:

Bioswales: The project incorporates several bioswales that will cover a total area of 55,507 SF and have a total storage volume of 6,549.3 CF. Bioswales are shallow, vegetated channels designed to slow, filter, and infiltrate stormwater runoff. By reducing the volume and velocity of stormwater, bioswales can help mitigate localized flooding and improve water quality. The bioswales will be planted with a mix of durable shrubs, grasses, and some lawn areas to optimize their stormwater management and aesthetic functions.

Enhanced Landscaping: The project will incorporate strategic landscaping throughout the corridor, with a focus on using native and drought-tolerant plant species. In the lower speed zones (35-45 mph), the landscaping will feature 75% durable shrubs and grasses, 20% lawn, and 5% specialty plantings. This will increase the overall green space and vegetation along the corridor, which can help absorb air pollutants and reduce urban heat island effects.

Pedestrian-Friendly Design: The project aims to create a more walkable and bikeable corridor through the incorporation of pedestrian-friendly features such as wider sidewalks, enhanced crosswalks, and traffic calming measures. By encouraging active transportation, the project can help reduce vehicle emissions and improve air quality. Enhanced LED lighting will also be deployed to enhance the pedestrian and non-vehicular pathways, as well as reduce light pollution.

Overall, the Belle Terre Streetscape and Stormwater Enhancements project is designed to serve as a model for sustainable urban development in the parish, with a focus on using green infrastructure to mitigate stormwater issues, improve air quality, and promote active transportation. The scientific evidence provided in the search results supports the project's potential to achieve these goals.

b. Demonstration of Funding Need

Funding is essential to facilitate the transition from traditional stormwater management to innovative green infrastructure solutions, enabling the Parish to address urgent environmental challenges while fostering economic and community resilience. The Belle Terre Streetscape and Stormwater Enhancements project represents a significant opportunity to demonstrate the transformative impact of green infrastructure investments.

The project's comprehensive approach to integrating bioswales, enhanced landscaping, and pedestrian-friendly designs showcases the potential for green infrastructure to provide multiple benefits. By reducing stormwater runoff and improving water quality, the bioswales can help mitigate localized flooding and protect the sensitive Lake Pontchartrain Basin.[1] The strategic landscaping, featuring native and drought-tolerant plants, will increase green space and vegetation along the corridor, which can help absorb air pollutants and reduce urban heat island effects.[1] Furthermore, the pedestrian-friendly features, such as wider sidewalks and enhanced crosswalks, will encourage active transportation and reduce vehicle emissions, further improving air quality.[1]

However, the transition to these innovative green infrastructure solutions requires significant upfront investment. Traditional stormwater management approaches often rely on costly grey infrastructure, such as underground pipes and detention basins, which can be resource-intensive and have limited long-term sustainability. In contrast, the green infrastructure elements proposed in this project offer a more cost-effective and environmentally friendly approach, but require dedicated funding to design, construct, and maintain.[1] Securing the necessary resources will enable the Parish to overcome the financial barriers and implement this transformative project, setting a precedent for sustainable urban development in the region.

c. Transformative Impact

This project represents a paradigm shift towards integrated urban planning, blending economic revitalization with environmental sustainability and flood mitigation to enhance the quality of life for all residents and set a new standard for future development. By incorporating green infrastructure,

the Belle Terre Streetscape and Stormwater Enhancements project aims to address multiple challenges facing the Parish, including air pollution, localized flooding, and the need for economic growth and community resilience.

The project's comprehensive approach to stormwater management, through the implementation of bioswales, will significantly reduce the volume and velocity of runoff, mitigating the risk of flooding in the Lake Pontchartrain Basin. This not only protects the local environment but also enhances the resilience of the surrounding communities, safeguarding their economic and social well-being.

Furthermore, the strategic landscaping and increased green space along the corridor will have a positive impact on air quality. By incorporating native and drought-tolerant plants, the project will help absorb air pollutants and reduce urban heat island effects, improving the overall environmental quality and livability of the area.[1] The pedestrian-friendly design elements, such as wider sidewalks and enhanced crosswalks, will encourage active transportation and reduce vehicle emissions, further contributing to cleaner air and a healthier community.

Beyond the environmental benefits, the project's focus on economic revitalization through sustainable urban development sets a new standard for future growth in the Parish. By integrating green infrastructure with streetscape enhancements, the project aims to stimulate economic activity and attract investment, creating jobs and opportunities for local residents. This holistic approach to urban planning demonstrates the potential for green infrastructure to serve as a catalyst for community resilience and prosperity, setting a precedent for other municipalities to follow.

2. IMPACT OF GHG REDUCTION MEASURES

a. All GHG numbers and methodology may be found in Appendix C: Impact of GHG Reduction Measures.

b. Flood Mitigation and Sustainable Development

The Belle Terre Streetscape and Stormwater Enhancements project exemplifies an innovative approach to mitigating flood risks and promoting sustainable urban development practices. By strategically incorporating bioswales and permeable surfaces, the project addresses stormwater management challenges while showcasing replicable solutions for similar urban settings.

The network of bioswales serves as a nature-based solution, harnessing the power of vegetation to slow, filter, and infiltrate stormwater runoff. These vegetated channels not only reduce flood risks but also improve water quality in the sensitive Lake Pontchartrain Basin. Additionally, the incorporation of permeable surfaces, such as porous pavement, further enhances stormwater infiltration and groundwater recharge, relieving the burden on traditional stormwater infrastructure.

This comprehensive green infrastructure approach demonstrates the city's commitment to resilient and sustainable development practices. By showcasing the effectiveness of these solutions, the project can inspire and guide other urban areas in their efforts to address flooding and promote environmentally conscious design. The success of this endeavor has the potential to catalyze a broader shift towards nature-based solutions and sustainable stormwater management strategies.

c. Community Well-being and Engagement

The Belle Terre Streetscape and Stormwater Enhancements project transcends physical improvements by prioritizing community well-being and fostering a sense of ownership over the revitalized public spaces. Through thoughtful design and active engagement, the project aims to cultivate a more vibrant, connected, and environmentally conscious community.

Pedestrian-friendly elements, such as wider sidewalks and enhanced crosswalks, promote active transportation and create a more walkable, livable neighborhood. The incorporation of green spaces and vegetation enhances the aesthetic appeal of the public realm, contributing to an improved quality of life for residents and visitors alike.

Crucially, the project recognizes the importance of community involvement in sustainable practices. By engaging local residents in the planning and implementation of green infrastructure features, such as the bioswales, the project empowers the community to become stewards of their environment. Educational initiatives and outreach efforts further raise awareness and encourage the adoption of sustainable behaviors, ensuring the project's long-term impact extends beyond the physical improvements.

This holistic approach not only revitalizes the streetscape but also cultivates a sense of pride and ownership among community members. By involving residents as active participants, the project fosters a deeper connection between people and their surroundings, laying the foundation for a more resilient and environmentally conscious community.

3. ENVIRONMENTAL RESULTS – OUTPUTS, OUTCOMES, AND PERFORMANCE MEASURES

a. Expected Outputs and Outcomes

The Belle Terre Streetscape and Stormwater Enhancements project aims to create a transformative public realm that seamlessly blends aesthetic appeal with environmental resilience. Through its innovative design and implementation, the project will deliver tangible outputs and outcomes that positively impact the community and its surrounding environment.

Upon completion, the corridor will boast a visually captivating streetscape, featuring vibrant landscaping, inviting public spaces, and pedestrian-friendly amenities. These elements will not only enhance the area's attractiveness but also foster a stronger sense of community pride and belonging.

Moreover, the project's integration of green infrastructure solutions, such as bioswales and permeable surfaces, will significantly contribute to stormwater management and flood mitigation. These nature-based approaches will effectively reduce runoff volumes, mitigating the risk of localized flooding and improving water quality in the nearby sensitive Lake Pontchartrain Basin.

Beyond the physical transformation, the project's emphasis on community engagement and education will cultivate a lasting impact. By involving residents in the planning and implementation processes, the project will empower the community to embrace sustainable practices and stewardship of their revitalized public spaces.

Ultimately, the successful execution of this project will create a model for harmonizing urban development with environmental resilience, setting a precedent for future initiatives that prioritize both aesthetic appeal and sustainability.

b. Performance Measures and Plan

Performance will be measured by the effectiveness of the green infrastructure in managing stormwater, the increase in green space and biodiversity, and improvements in pedestrian and cyclist infrastructure, contributing to a safer and more vibrant community. Quantitative data on stormwater runoff volumes and water quality parameters will gauge the success of bioswales and permeable surfaces in mitigating flooding and improving ecosystem health. Vegetation surveys will monitor the introduction of new plant species and track biodiversity enrichment within the revitalized green spaces. Pedestrian and cyclist counts, along with community feedback, will evaluate the usage and perceived safety of the enhanced active transportation infrastructure. These tangible metrics will demonstrate the project's multifaceted impact on environmental resilience, ecological vitality, and community vibrancy.

c. Authorities, Implementation Timeline, and Milestones

The project's implementation will be a multi-staged process, carefully designed to ensure seamless execution and meaningful community involvement. The initial phase will focus on collaborative design and extensive consultations with local residents, allowing their insights and preferences to shape the project's direction.

As the plans take form, construction will commence in strategic phases, each marked by distinct milestones. The introduction of bioswales and the installation of greenery will be among the key stages, visibly transforming the streetscape and enhancing its environmental resilience.

Throughout the implementation process, the project team will maintain open lines of communication, keeping the community informed and engaged. This transparent approach not only fosters a sense of ownership but also ensures that the revitalization efforts align with the community's aspirations for a more sustainable and vibrant public realm.

By adhering to this phased strategy and embracing community collaboration, the project will methodically progress towards its overarching objectives, delivering a streetscape that harmonizes aesthetic appeal, environmental sustainability, and community well-being.

4. LOW-INCOME AND DISADVANTAGED COMMUNITIES

a. Inclusive Benefits

As an initiative centered within an EPA Inflation Reduction Act designated disadvantaged community, the Belle Terre Streetscape and Stormwater Enhancements project prioritizes delivering equitable benefits that address long-standing challenges. By reimagining the public realm, this endeavor aims to uplift the entire community, with a particular focus on ensuring accessible improvements for low-income and marginalized areas.

The revitalized streetscape will provide all residents with enhanced access to vibrant public spaces, fostering a sense of community ownership and pride. Moreover, the project's innovative stormwater management solutions will mitigate flood risks that have historically burdened disadvantaged neighborhoods, safeguarding residents and their properties.

Crucially, the project's emphasis on community engagement and environmental education will empower residents to become active stewards of their surroundings. Through workshops and outreach efforts, individuals from diverse backgrounds will gain valuable knowledge about sustainable practices, nurturing a deeper connection to their environment and a shared commitment to its preservation.

By addressing physical infrastructure, flood mitigation, and environmental awareness holistically, this initiative serves as a catalyst for positive change, ensuring that the benefits of urban revitalization are inclusive and far-reaching, particularly for those in historically disadvantaged communities.

b. Engaging and Empowering the Community

This project will adopt a comprehensive community engagement strategy that spans from the initial planning phases through to implementation and beyond, ensuring the revitalization efforts accurately reflect the needs and aspirations of all residents, particularly those in disadvantaged areas. Community members will be invited to contribute their insights and feedback during the design process, fostering a sense of ownership and incorporating locally relevant perspectives. As the project transitions to the implementation stage, residents will have opportunities to participate in educational workshops and hands-on activities related to the installation of green infrastructure elements, empowering them to become active stewards of their environment. Furthermore, the project will establish community-led advisory committees to ensure ongoing engagement and accountability, providing a platform for residents to voice their concerns, celebrate successes, and propose adjustments that better align with their evolving needs.

5. JOB QUALITY

The project will create high-quality jobs in green infrastructure maintenance, urban landscaping, and community outreach, emphasizing the importance of fair wages, safe working conditions, and opportunities for professional development in the burgeoning field of sustainable urban development.

6. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

a. Please see Appendix A: Project Narrative Documentation for a full list of past performance and information regarding staff expertise.

b. Comprehensive Monitoring and Reporting

To ensure the Belle Terre Streetscape and Stormwater Enhancements project achieves its intended environmental, social, and economic objectives, a rigorous and comprehensive monitoring and reporting framework will be implemented. This framework is designed to provide continuous feedback on the project's performance, enabling data-driven decision-making and facilitating adaptive management practices. The monitoring and reporting strategy will focus on several key

components, including environmental impacts, community engagement, and financial accountability.

Environmental Impact Monitoring

1. Bioswale Functionality and Efficacy: The effectiveness of bioswales in reducing stormwater volume and improving water quality will be quantitatively assessed. Parameters such as infiltration rate, volume reduction, and pollutant removal efficiency (e.g., for nitrogen, phosphorus, and suspended solids) will be measured using standardized methods. This will involve periodic sampling of stormwater runoff entering and exiting the bioswales.

2. Vegetation Health and Biodiversity: The health and diversity of vegetation within the bioswales and landscaped areas will be monitored to assess ecosystem services such as carbon sequestration and air pollutant absorption. This includes regular assessments of plant health, species diversity, and any invasive species encroachment.

3. Climate Resilience and GHG Reduction: The project's contribution to reducing greenhouse gas (GHG) emissions will be evaluated through methods detailed in Appendix C: Impact of GHG Reduction Measures. This will encompass calculations of carbon dioxide equivalents (CO₂e) sequestered or avoided through the project's green infrastructure and active transportation features.

Social and Community Impact Monitoring

1. Active Transportation Adoption: The increase in pedestrian and bicyclist traffic along the enhanced corridor will be tracked through automated counters and periodic surveys to quantify shifts in transportation modes and associated reductions in vehicle emissions.

2. Community Engagement and Awareness: The effectiveness of community engagement initiatives will be evaluated through surveys, focus groups, and participation rates in project-related events. This feedback will inform ongoing improvements to engagement strategies and project features.

Financial Accountability and Performance Metrics

1. Cost-Benefit Analysis: Regular financial audits will be conducted to track project expenses against anticipated benefits, including reduced flood damage costs, health benefits from improved air quality, and economic gains from increased local business activity. This analysis will help assess the project's return on investment and inform future funding allocations.

2. Performance Metrics and Benchmarks: Key performance indicators (KPIs) will be established to measure progress towards the project's objectives. These KPIs will include metrics such as the percentage reduction in stormwater runoff, improvements in water quality indicators, and increases in green space coverage. Benchmarks derived from baseline data collected before project implementation will serve as reference points.

Reporting and Adaptive Management

1. Annual Reporting: Comprehensive annual reports will be produced to document progress, share findings, and disseminate lessons learned with stakeholders, including the EPA, local government,

and the community. These reports will include detailed data analyses, impact assessments, and recommendations for enhancing project outcomes.

2. Adaptive Management: The monitoring data will be used to inform adaptive management practices, allowing project managers to make evidence-based adjustments to project components as necessary. This approach ensures that the project remains responsive to observed outcomes and evolving community needs.

The comprehensive monitoring and reporting framework proposed for the Belle Terre Streetscape and Stormwater Enhancements project exemplifies a commitment to transparency, accountability, and scientific rigor. By leveraging data-driven insights, the project aims to optimize environmental benefits, enhance community well-being, and demonstrate the value of integrated green infrastructure solutions.

b. Collaboration and Innovation

Collaborative Engagement with Stakeholders

The success of the Belle Terre Streetscape and Stormwater Enhancements project hinges on a dynamic partnership with local businesses, community organizations, environmental experts, and residents. This collaborative approach ensures the project is attuned to the community's needs while driving environmental innovation.

Local Businesses: Engaging with businesses through consultation sessions and partnerships encourages sustainable practices and assesses the project's economic impact, demonstrating the benefits of green urban development.

Community Organizations: Workshops, educational programs, and volunteer initiatives with community groups enhance environmental awareness and foster a sense of ownership among residents, promoting active participation in the project's objectives.

Environmental Experts: Collaboration with scientists and urban planners ensures the project's design and implementation are based on the latest environmental science, maximizing its efficacy in reducing GHG emissions and improving biodiversity.

Resident Involvement: Providing platforms for feedback and educational outreach empowers residents to actively contribute to the project's success and sustainability efforts within the community.

Transparent Reporting: Regular updates and impact reports shared with stakeholders ensure transparency, building trust and demonstrating the tangible benefits of the collaborative efforts.

This streamlined approach to stakeholder engagement ensures the Belle Terre project aligns with community values, advances environmental objectives, and fosters a collaborative spirit essential for sustainable urban development.