



**"RE-BUILDING THE CITY'S WATER SYSTEMS FOR THE 21<sup>ST</sup> CENTURY"**

# **Sewerage & Water Board OF NEW ORLEANS**

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April 24, 2014

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601 D Street N.W.  
Washington, DC 20579  
Reference DOJ Case No. 90-5-1-1-4032

Re: Sewerage and Water Board of New Orleans  
Second Modified Consent Decree – Civil Action No. 93-3212  
Paragraph 99: Submittal of Green Infrastructure Proposal

Gentlemen:

Pursuant to Paragraph 99 of the Second Modified Consent Decree, the Sewerage and Water Board of New Orleans hereby submits the Green Infrastructure Proposal within one year of the entry of the Second Modified Consent Decree for April 24, 2014.

This report contains proposed activities related to:

- Identifying and selecting projects that embody the principles of living with water
- Implementing projects that comply with green infrastructure design criteria
- Developing partnerships to implement a regional approach to green infrastructure
- Developing community outreach programs to provide education on green infrastructure practices and include the community in the decision making process to ensure sustainable projects
- Inclusion of performance measures

These activities are described in Sections 3.0 Program Goals and Objectives, and 4.0 Approach to Implementation. Appendix A describes the RFP process for consideration.

I certify that the information contained in or accompanying this document is true, accurate, and complete. As to those identified portions of this document for which I cannot personally verify their truth and accuracy, I certify as the official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification, that this is true, accurate, and complete.

Sincerely,



Joseph Becker  
General Superintendent

cc: Ted Palit, USEPA  
Benjamin F. Wilson, Beveridge & Diamond  
Nolan P. Lambert, Special Counsel, S&WB  
Linda Walker, League of Women Voters of New Orleans  
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# Green Infrastructure Plan

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*Sewerage and Water Board of New  
Orleans*

*4/24/2014*

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## 1.0 Introduction

New Orleans is at a watershed point in the management of its urban stormwater. Although the city's century old drainage system will continue to be the primary means for draining the city into the foreseeable future, New Orleans is poised to add a significant new component to its drainage infrastructure. Green Infrastructure activities have mushroomed in all corners of the city in recent years—on private lots, in city parks, in parking lots, public rights-of ways, and in residential yards.

The private sector from community groups, landscape engineers, environmental/ "green" non-profits to universities have been green infrastructure pioneers in developing rain gardens, bioswales, and permeable pavement throughout the city. The public sector of New Orleans is primed to take the leap of developing and implementing green infrastructure as a tool for stormwater management. Several recently adopted or imminent planning and regulatory policies have helped spur the public sector's immersion in green infrastructure initiatives. These plans and policies emphasize implementation of best management practices to retain, reuse and delay stormwater while simultaneously improving water quality, mitigating flooding, and lessening the burden on the drainage system.

The Green Infrastructure Plan (Plan) is a formal commitment by the Sewerage and Water Board of New Orleans (SWBNO) and the City of New Orleans (City) to explore and pursue inclusion of green infrastructure as fulfillment of the Second Modification of the Consent Decree entered on April 24, 2013. The Plan presented herein represents input gathered from presentations made to various organizations (Horizon Water Initiative Committee, Lake Pontchartrain Basin Foundation, League of Women Voters of New Orleans, Louisiana Environmental Action Network, Louisiana Civil Engineering Conference and Show, Lower Ninth Neighborhood, Orleans Audubon Society, Sierra Club, and Sustainability Series), and discussions with EPA representatives and participation in the Greater New Orleans Foundation Urban Water Series. The Plan describes the policies guiding development of the Plan, description of the principal goals and objectives for green infrastructure, understanding of the approach toward achieving the goals, and establishment of performance measurements.

Furthermore, as part of the commitment to green infrastructure in the Third Modification of the Consent Decree (lodged on March 13, 2014 and currently under public review), the SWBNO agreed to dedicate \$500,000 per year, averaged over the next five years, to be subsequently used for green infrastructure projects and activities carried out pursuant to the Plan. Therefore, the Plan is expected to be updated to reflect the projects awarded, the lessons learned, and reflect the successes and failures in changes to the goals and objectives.

### 1.1 Organization

The Sewerage & Water Board of New Orleans (SWBNO) was created in 1899 by the Louisiana Legislature to furnish, construct, operate, and maintain a water treatment and distribution system and a sanitary sewerage system for the City of New Orleans (City). The Drainage Commission was organized earlier in 1896 to develop a drainage master plan for the City. In 1903, SWBNO merged with the New Orleans Drainage Commission in order to consolidate these various programs into one agency for more efficient operations. SWBNO is an agency of the State of Louisiana, confirmed by a State Supreme Court decision, charged with the responsibility for constructing, operating, and maintaining the water, sewerage, and drainage systems for the City (i.e. Orleans Parish) and drainage facilities in part of Jefferson Parish.

SWBNO's mission is to provide safe drinking water to everyone in New Orleans; to remove wastewater for safe return to the environment; to drain away stormwater; to provide water for fire protection; to provide information about products and services; and to do all of this continuously at a reasonable cost to the community. The vision of SWBNO is to have the trust and confidence of our customers for reliable and sustainable water services.

SWBNO is staffed to implement the Green Infrastructure Plan. The Environmental Affairs Department under the oversight and guidance of both the General and Deputy General Superintendents will be the lead on all efforts. The Environmental Affairs Department is responsible for overseeing all regulatory compliance and permits for the SWBNO. They have a dedicated stormwater division, including environmental planners and technical inspectors. The department is supported by Engineering, Networks, Operations and Plumbing Departments with staff expertise in design, construction and inspection, and operations of water, sewer, drainage and power systems.

## 1.2 Drainage System

The City of New Orleans is situated in a geographic depression where many areas are six feet or more below sea level. The City is bounded by the Mississippi River (bisecting the East and West Bank of the City) and Lake Pontchartrain to the north. A series of levees have been constructed to protect the City from surge waters associated with severe tropical events. These levees are maintained by federal and state governmental agencies.

SWBNO maintains a drainage system comprised of 24 pump stations and 13 underpass pumping stations. The system's pumping capacity is over 29 billion gallons a day, enough to empty a lake 10 square miles by 13.5 feet deep every 24 hours. That flow rate (over 45,000 cubic feet per second) is more than the flow rate of the Ohio River, the nation's fifth largest river.

A network of subsurface drainage pipes operated by the City collects all rainfall from city streets and discharges it to either open or concreted reinforced, covered canals operated and maintained by the SWBNO. The rainwater is pumped via a network of 90 miles of open unlined canals, ranging from 6 to 125 feet wide, and 90 miles of subsurface canals, ranging from 8 inches to 28 feet wide, into Lake Pontchartrain, with the exception of two West Bank pumping stations and two Eastern New Orleans that pump rainwater into the Intracoastal Waterway or the Industrial Canal.

New Orleans receives an average of 63 inches of rain per year. SWBNO is capable of pumping the first inch of rain in the first hour and ½ inch for each hour after that.

## 2.0 Guidance Documents

Development of the Green Infrastructure Plan is guided by recently published permits and guidance documents from local, state and federal agencies and private entities. The documents are listed as follows:

1. Second and Third Modified Consent Decrees
2. Louisiana Pollution Discharge Elimination System (LPDES) Municipal Separate Storm Sewer Systems (MS4)
3. Greater New Orleans Urban Water Plan

4. City of New Orleans Master Plan 2010
5. City of New Orleans Draft Comprehensive Zoning Ordinance 2014

## 2.1 Second and Third Modified Consent Decrees

The purpose of the Green Infrastructure Plan is to fulfil the commitment that Sewerage & Water Board of New Orleans (SWBNO) and the City of New Orleans (City) entered into the Second Modified Consent Decree with the United States Department of Justice, the Environmental Protection Agency (EPA) and the Plaintiff-Interveners including the League of Women Voters of New Orleans, Louisiana Environmental Action Network, Lake Pontchartrain Foundation and Orleans Audubon Society on April 24, 2013. Per paragraph 99 of the Second Modified Consent Decree:

“Defendants commit to explore and pursue inclusion of green infrastructure as part of the RMAPs for all Basins under the Second Modified Consent Decree. Defendants may pursue those measures at any location within its system. Defendants commit to coordinate and work with EPA, and to consult with Plaintiff-Interveners, in this effort. Defendants will submit their green infrastructure proposal to EPA within one year of the entry of this Second Modified Consent Decree. Defendants’ green infrastructure commitment shall be final and limited to entry of this Second Modified Consent Decree.”

The Third Modified Consent Decree, currently undergoing public review, amends that paragraph, renumbered as paragraph 100 to read as follows:

“Defendants shall develop a plan to incorporate green infrastructure as part of the RMAPs for all Basins. Defendants may pursue those measures at any location within its system. Defendants commit to coordinate and work with EPA, and to consult with Plaintiff-Interveners, in this effort. Defendants will submit the green infrastructure plan to EPA for review by April 24, 2014 – one year after entry of the Second Modified Consent Decree. As part of this commitment, the Board agrees to dedicate \$500,000 per year, averaged over the next five years, to be subsequently used for green infrastructure projects and activities carried out pursuant to the plan. In addition, the Board shall include in its quarterly and annual reports submitted pursuant to paragraphs 56 and 57 above a summary of any green infrastructure activities undertaken pursuant to this paragraph or the plan developed under it. Defendants’ green infrastructure commitment as stated herein shall be final and shall satisfy all green infrastructure requirements contained in any and all Consent Decrees issued in this matter.”

The modified consent decrees require the Plan to incorporate green infrastructure as part of the Remedial Measures Actions Plans (RMAPs) for all Basins. A basin is defined as a sewer service area in which all wastewater flows by gravity to a sewer pump station, and from there pumped via a force main to the East Bank Wastewater Treatment Plant. There are nine Basins (Carrollton, Central Business District, Gentilly, Lakeview, Mid-City, New Orleans East, Ninth Ward, South Shore, and Uptown) on the East Bank of Orleans Parish as shown on Figure 1.

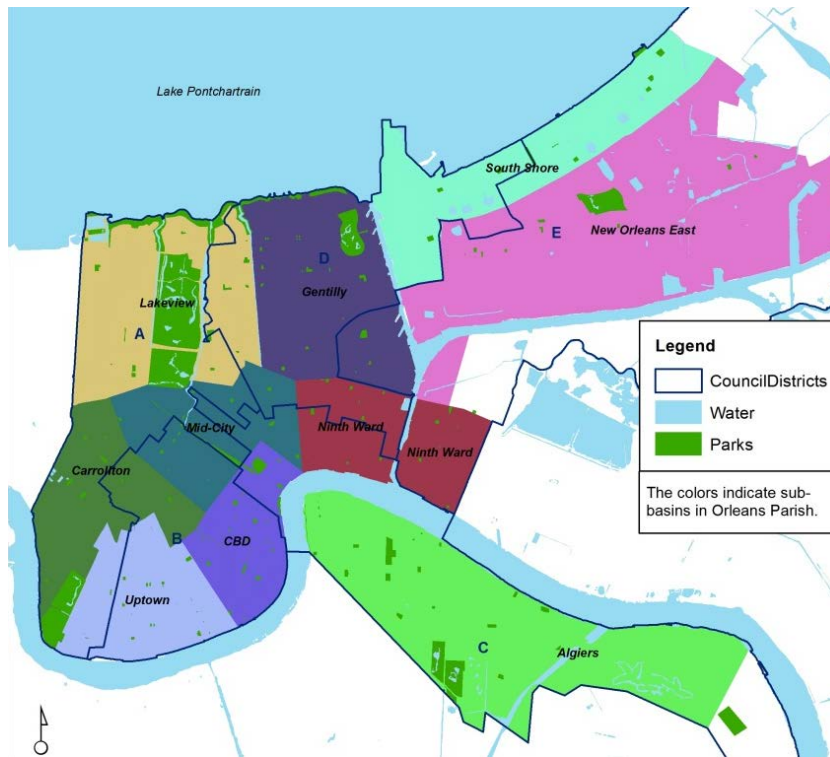


Figure 1: New Orleans Sewer Service Basins

The consent decrees do not address the West Bank of the City of New Orleans, nor require implementation of the Plan in the Algiers Basins; however it is the intent of the SWBNO to incorporate green infrastructure for **all** the Basins, including Algiers.

## 2.2 Louisiana Pollution Discharge Elimination System (LPDES) Municipal Separate Storm Sewer Systems (MS4)

The Louisiana Pollution Discharge Elimination System (LPDES) Municipal Separate Storm Sewer Systems (MS4) Permit was issued September 10, 2013, and became effective October 1, 2013, for the SWBNO, State of Louisiana Department of Transportation and Development (District 2), City of New Orleans, Port of New Orleans, Orleans Levee District and the 17<sup>th</sup> Street Canal stormwater discharges from Jefferson Parish. The MS4 permit covers all areas located within Orleans Parish that are served by regulated municipal separate storm sewer systems.

The MS4 permit Page 26, Part II, Paragraph 14 is as follows:

*“Green Infrastructure/Low Impact Development: In conjunction with Part II.A.9.d (Construction Site Run off-Site Plan Review) the permittees shall review requirements for construction developments to identify and remove impediments, where feasible, the use of Green Infrastructure/Low Impact Development practices that could help avoid water quality degradation, as well as, reduce flooding potential caused by increased runoff volumes and rates associated with development.”*

Further on the Page 27, Paragraph 14 of Part II, references and resources were provided for co-permittees as follows:

“The Internet website <http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm> serves as an informational clearinghouse for issues related to green infrastructure. Green infrastructure management approaches can be used to keep rainwater out of the sewer system so that it does not contribute to sewer overflow and also to reduce the amount of treated runoff discharging to surface waters. Green infrastructure also allows stormwater to be absorbed and cleansed by soil and vegetation and either re-used or allowed to flow back into groundwater or surface water resources. Other related resources can be found at [www.epa.gov/dced](http://www.epa.gov/dced), [www.smartgrowth.or](http://www.smartgrowth.or) and [www.epa.gov/owow/nps/lid](http://www.epa.gov/owow/nps/lid).”

And finally, the MS4 permit, Paragraph 9, Page 2 of Part VIII provides the following definition:

“Green Infrastructure” generally refers to systems and practices that use or mimic natural processes to infiltrate, evapotranspire (the return of water to the atmosphere through evaporation by plants), or reuse stormwater or runoff on the site where it is generated. Green infrastructure approaches that are currently used include green roofs; trees and tree boxes; rain gardens; vegetated swales; pocket wetlands; infiltration planters; porous and permeable pavements, vegetated median strips; reforestations/re-vegetation; and protection and enhancement of riparian buffers and floodplains.”

SWBNO realizes it is in the best interest of the City and the region for all co-permittees as stakeholders to improve the water quality by reducing the amount of urban stormwater runoff into the Lake Pontchartrain Basin. The co-permittees have identified green infrastructure components (rain barrels, downspout disconnections, rain gardens, tree canopy, permeable pavement/subsurface storage, green roofs, and bioswales/bioretention ponds) that, if successfully implemented, can significantly improve water quality and reduce the quantity of stormwater runoff entering Lake Pontchartrain.

The MS4 Permit has recognized that stormwater management is not the sole responsibility of one entity and has issued the permit to multiple agencies to ensure a regional approach in the development and implementation of green infrastructure practices. Each agency brings a unique perspective in management of stormwater. Gathering input from each agency can be further expanded to gathering input from the community that green infrastructure impacts as well as utilizing resources available on the EPA website such as the *“EPA Greening CSO Plans: Planning and Modeling Green Infrastructure for Combined Sewer Overflow (CSO) Control”*.

### **2.3 Greater New Orleans Urban Water Plan**

Greater New Orleans, Inc. (GNO, Inc.) released in September 2013 *The Greater New Orleans Water Plan*. The plan is a vision for long-term urban water management that addresses groundwater and stormwater as critical factors in shaping a safer, more livable, and economically vibrant Southeast Louisiana. The plan proposes strategies of “living with water” by implementing green infrastructure practices to address flooding caused by excess runoff and subsidence caused by pumping of stormwater. GNO, Inc. provided maps (Figures 2-4) illustrating the repetitive loss claims due to flooding as determined by FEMA, elevation of New Orleans neighborhoods in 2005 and impact subsidence as of 2006.



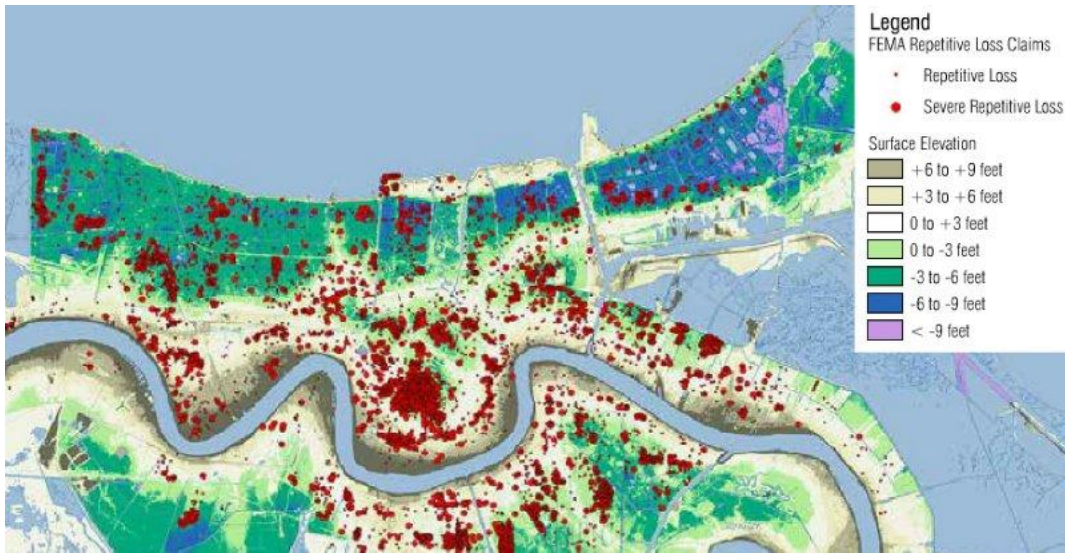


Figure 2: FEMA Repetitive Flood Losses, Greater New Orleans Urban Water Plan-Implementation

SWBNO is guided by GNO, Inc.’s plan to ensure that green infrastructure projects are developed and implemented to 1) address areas of repetitive flooding and/or subsidence, 2) be cost effective and show long term cost savings, and 3) provide benefit to the community whether its recreational or aesthetics.

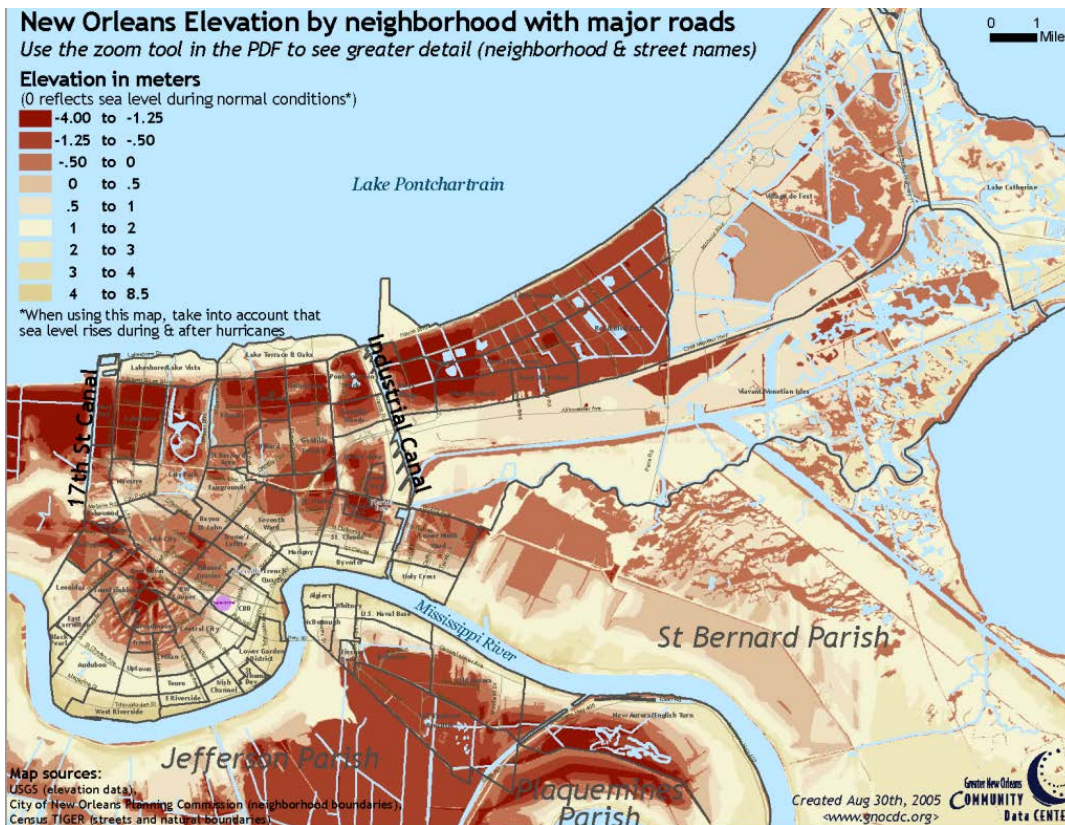


Figure 3: New Orleans Elevation, GNO Community Data Center (Aug 2005)

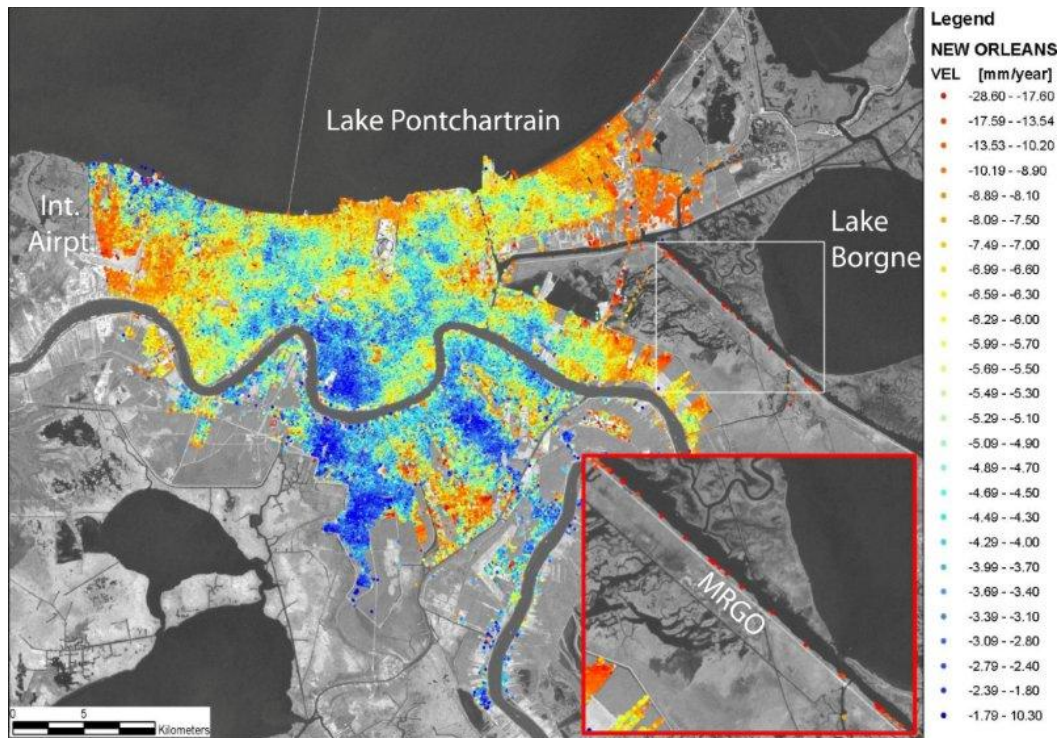


Figure 4: Space Geodesy and Subsidence and flooding in New Orleans, Timothy Dixon et al, Nature 441 (1 June 2006)

## 2.4 City of New Orleans Master Plan

New Orleans adopted the City's first master plan entitled "Plan for the 21<sup>st</sup> Century: New Orleans 2030" in August 2010. The master plan provides a credible and legitimate basis for future public policy and decision making regarding, land use, development, zoning, city capacity expenditures, transportation and similar fundamental decisions that shape the city's future for the next 20 years. Specifically in Volume 2, Chapter 12, Section 12, Resilience: Living with Water and Natural Hazards, the policy and recommended actions are as follows:

"Develop a Stormwater Management Plan that will provide technical expertise, identify best management practices, and establish minimum requirements to control the adverse effects of stormwater runoff for all new development and capital improvements.

### *ACTIONS*

- Convene a working group of city agencies, including the Department of Public Works, the Sewerage and Water Board, the City Planning Commission, Parks and Parkways, the Department of Safety and Permits, and the Office of Environmental Affairs to co-author the stormwater management plan.
- Create a stormwater management unit in the Sewerage and Water Board. Innovative stormwater management techniques that rely on natural drainage can reduce the costs of hard infrastructure and mitigate flooding from rain events. Retrofit parks, playgrounds, and neutral grounds to function as stormwater retention and groundwater filtration infrastructure. New Orleans has a wealth of playgrounds, parks, and neutral grounds that are not incorporated into the city's



stormwater management system. All of these assets could be used to retain water in the event of a heavy rainstorm, and rain gardens and groundwater filtration infrastructure could be incorporated into their re-design.

- Replace most lawn areas in neutral grounds and street swales with shrubs and groundcover. Stormwater engineering increasingly is adapting the lessons of natural systems to controlling and filtering runoff. These techniques can be applied at any scale, from backyard rain gardens to streets and city parks. Rain gardens are small areas that are lower in elevation than their surroundings and are filled with plantings. They capture stormwater from roofs and other drains and allow the water to seep into the ground. Lawns are only marginally superior to paved areas in retaining stormwater, particularly when soils are compacted, so less lawn and more groundcover, shrubs and trees in the neutral grounds will help the city manage water, mitigate flooding, and reduce subsidence. This planting strategy can coexist with the use of neutral grounds for walking and bike paths. On the neighborhood streets where there are no curbs or catch basins, plantings in drainage ditches (“swales”) improve stormwater management by enhancing absorption of water and reducing the velocity of stormwater.
- Examine the feasibility of utilizing the Mississippi River as a potential source for managing groundwater levels and reducing subsidence. The desiccation of New Orleans’ soils over time is a principal reason why the city has experienced such a severe rate of subsidence. Dutch engineers and landscape architects who visited New Orleans and have suggested that the Mississippi River could potentially be used to maintain groundwater levels.
- Incorporate natural drainage systems, create rain gardens and small scale water management infrastructure to reduce runoff and increase the permeability of the urban landscape.
- Retrofit existing public buildings and design new public buildings to include stormwater management best practices including the use of pervious materials and green roofs. The many new and renovated public buildings underway during recovery present tremendous opportunity for the city government, New Orleans Public Schools, and other public bodies to pursue green building practices that will retain stormwater on-site rather than adding to runoff.
- Determine the feasibility and cost of retrofitting drainage canals into landscape amenities (“blueways”) that are accessible to adjacent neighborhoods.”

Volume 2, Chapter 12, Paragraph 13 addresses private property, as follows:

- “• Modify zoning and subdivision regulations to encourage on-site storage and filtration of stormwater. Aside from public buildings and public infrastructure, the other principal mechanism at the city’s disposal to manage stormwater and runoff is to permit and promote stormwater best practices on private property.

Encourage the use of green roofs, porous paving materials, and other techniques to encourage on-site storage of rainwater and to enhance groundwater filtration. Local building code regulations and zoning regulations should be adapted to permit green roofs, cisterns, rain gardens, porous paving materials and other on-site stormwater management techniques. Given the unique climatic challenges that New Orleans faces (mosquitoes, torrential rains, searing summer temperatures, and occasional tropical events), these guidelines must be carefully crafted to account for the exigencies of local conditions. The city should also actively encourage the use of these techniques through conditions attached to the disposition of publicly owned property and the use of public development subsidies.”

SWBNO comprehends that in implementing the Plan, there is a need to a) continuously coordinate with all City departments as listed above, including New Orleans Mosquito, Termite and Rodent Control Board, to ensure successful implementation of green infrastructure projects; b) utilize the available public lands as sites, c) redesign existing green landscape to include stormwater management practices, d) locate projects in areas subject to subsidence or urban flooding, e) provide opportunities for demonstration of innovative technologies, and f) follow the project after construction for sustainability and suitability to the New Orleans climate.

## 2.5 City of New Orleans Comprehensive Zoning Ordinance

The City of New Orleans Planning Commission issued a draft comprehensive zoning ordinance, including new Article 23-Stormwater Management Requirements, in October 2013 for public comments. Points of interest in the new article are as follows:

### “A. Storm water Management Measures

1. Effective on-site stormwater management is supported by a combination of successive BMP’s, outlined in Section 23.1(B) that are guided by the following overarching strategies:
  - a. First, create conditions that allow detention and infiltration of storm water runoff through the use of pervious paving, open vegetated areas, green roofs, and other methods that allow water to permeate back into the ground.
  - b. Next, additional stormwater runoff should be detained, stored, infiltrated, and filtered through the use of BMPs
  - c. Finally, runoff in excess of the first 1.25 inches (*expected to be revised to 1 inch*) shall be allowed to exit the site through surface or subsurface drainage.
2. Infiltration practices must be utilized to reduce runoff volume increases, stabilize subsoils, and recharge shallow groundwater.
3. Best Management Practices (BMP) must be employed to minimize pollutants in stormwater runoff prior to discharge into a separate storm drainage system or water body.
4. All stormwater management facilities must be designed to provide an emergency overflow system, and incorporate measures to provide a non-erosive velocity of flow along its length and at any outfall.

5. The designed release rate of any stormwater structure must be modified if any increase in flooding or stream channel erosion would result at a downstream dam, highway, structure or normal point of restricted stream flow.

B. Storm water Best Management Practices

Storm water best management practices (BMP) minimize runoff, increase infiltration, recharge groundwater and improve water quality. In order to accomplish the performance standard required by this section, stormwater BMPs must be used. Stormwater BMPs must be designed as described in Louisiana's "Technical Design Standards: Landscape Design Components and Storm Water BMPs for the Model Storm Water Based Landscape Code."

The model code provides engineers, developers, property owners, and citizens with information on storm water management requirements, technical guidance on the methodology to be used to meet the requirements, and guidelines for designing, implementing, and maintaining the BMPs in the City of New Orleans. Additional BMPs may be considered but must be approved as part of the storm water management plan. The following BMPs are not prescriptive, but provide guidance for establishing a site-specific storm water management regime:

1. Bioswales
2. Circular depressions
3. Constructed wetlands
4. Detention and retention basins
5. Disconnected roof tops, recycling, and irrigation
6. Ditch gardens
7. Flow Diffusers
8. French drains, infiltration trenches and dry wells
9. Grassed swales
10. Habitat Preservation and protection areas
11. Permeable pavers, porous surfaces, grass paving, and structural soils
12. Planted storm water buffers
13. Preserved forest floors
14. Preserved wetlands
15. Rain gardens
16. Rain groves
17. Roof top runoff management (captured storm water), including green roofs, cisterns, and rain barrels.
18. Sand filters
19. Stream bank or riparian buffers
20. Tree protection areas (Tree protection areas (TPA) are small habitat preservation areas (HPA) that are set aside as an area around the trunk of a tree to be preserved

on a development site. The purpose of the TPA is to protect the critical root zone (CRZ) of the tree and to prevent damage or interference during construction

21. Underground storm water chambers that capture parking lot water
22. Vegetative filters”

The City’s master plan provided the legal framework contained in the draft zoning ordinance to modify zoning and subdivision regulations to encourage on-site storage and filtration of stormwater. The City Planning Commission is currently reviewing the public comments and intends to present to the public a revised ordinance in spring of 2014 for comment and approval.

SWBNO participated in the development of Article 23 cited above and is an integral member of the new Stormwater Management Team to ensure compliance with the ordinance. SWBNO’s Green Infrastructure Plan shall 1) ensure the projects are engineered designs to comply with detention volumes, 2) include water quality analysis to help evaluate filtration rates and other benefits among the various designs and components; and 3) provide for sustainability and maintenance.

### **3.0 Program Goal and Objectives**

The goal of the Green Infrastructure Plan is to explore and include green infrastructure projects for all of New Orleans, and dedicate \$500,000 per year, averaged over the next five years, to be subsequently used for green infrastructure projects and activities carried out pursuant to the plan. The projects shall be demonstration projects composed of a single or combination of green infrastructure components from rain gardens to tree planting to bioswales, and complementing these projects that will provide education to the entire community of young and old, private citizens, professionals and commercial vendors.

In order to achieve the goal per the principles provided in the guidance documents above, the following objectives must be incorporated in the Plan development and implementation:

1. Identifying and selecting projects that embody the principles of living with water,
2. Implementing projects that comply with green infrastructure design criteria,
3. Developing partnerships to implement a regional approach to green infrastructure,
4. Developing community outreach programs to provide education on green infrastructure practices and include the community in the decision making to ensure sustainable projects, and
5. Inclusion of performance measurements, including monitoring of water quality, to help evaluate the siting and selection of future proposed green infrastructure projects.

#### **3.1 Identifying and selecting projects that embody the principles of living with water**

SWBNO intends to select green infrastructure projects that embody the principles of living with water. This includes selection of projects that meet social, economic and environmental criteria or the “triple bottom line” for the City’s and its residents. The Green Infrastructure Performance Matrix - Orleans Parish shown in Figure 5 summarizes the criteria to be considered in locating and designing the green infrastructure components and the anticipated likelihood of success based on other cities’ outcomes.

Figure 5: Green Infrastructure Performance Matrix—Orleans Parish

	GI BMP →	Rain garden	Vegetated Bio swale	Green Space	Tree Planting	Green roof	Permeable pavement	Rain Barrels	Downspout Disconnection
<b>Factors Impacting BMP Viability<sup>i</sup>:</b>		[photo]							
Soil type/ Site permeability	p <sup>ii</sup> (positive)	High <sup>iii</sup>	High	High	Moderate	Low/NA	Moderate	Low	High
Groundwater level	n/m/u <sup>iv</sup>	Moderate	Moderate	Moderate	Moderate	Low	Moderate	Low	Moderate
Size of site	p	High	Moderate	High	Moderate	Moderate	High	Low	Moderate
BMP Catchment Area	p	High	High	High	Moderate	Moderate	High	Low	Low
Flood prone Site Location	p	High	High	High	Low	Low	High	High	High
BMP Maintenance	p	High	High	Moderate	Low	High	High	Moderate	Low
Community Input/Buy-in	p	High	High	Moderate	Moderate	Low	Moderate	Moderate	High
Component Community Improvement Effort	p	Moderate	Moderate	High	Moderate	Low	High	Moderate	Moderate
Elevation	n/m/u	Moderate	Moderate	Moderate	Moderate	Low	Moderate	Moderate	Moderate
Subsidence	n/m/u	Moderate	Moderate	Moderate	Moderate	Low	High	Low	Low

<sup>i</sup> Viability refers to the practicality of the GI BMP at a given site as well as the likelihood of a positive benefit to cost ratio and meeting of Plan objectives.

<sup>ii</sup> “p” refers to positive correlation between the viability factor and the impact on BMP. For example, the size of a rain garden and its drainage area will tend to correlate positively and significantly (see iii below) with its viability

<sup>iii</sup> “High, Moderate, Low” refers to the degree the factor will impact the viability of a given GI BMP. Highly permeable soils will have a high positive impact on the viability of rain gardens (excluding impact of other factors). Conversely, the permeability and type of soil at a particular site on which a rain barrel is located is likely to have minimal impact on the viability of the rain barrel at that location.

<sup>iv</sup> “Negative/mixed/ or unknown”. Generally, a higher elevation is likely to lessen the need for a GI BMP. However, a rain garden located at a higher elevation may help to alleviate downstream accumulation of storm water and pollutants. In the case of subsidence rates at a given location, long term monitoring of the BMP would be needed to assess the impact, if any, on the performance of the BMP

### 3.1.1 Social Criteria

Green infrastructure projects shall be community assets. They should improve the neighborhoods by providing aesthetic value and recreational benefits beyond the tangible benefits associated with storm water detention or flood mitigation.

Community commitment is essential to ensuring long-term maintenance and sustainability. Experience with green infrastructure initiatives in other jurisdictions has demonstrated that success of any effort—whether rain gardens, bioswales, green roofs at the community level, or rain barrel installation at individual residences—is heavily dependent on commitment to long term operation and maintenance of the project. In this regard, SWBNO will strongly support Operation and Maintenance agreements in place before project construction begins.

### 3.1.2 Economic Criteria

Green infrastructure projects shall be cost effective. A cost benefit or cost effectiveness analysis shall be performed on the selected projects to show long term life cycle costs. The analysis includes reviewing costs associated with development, design, construction, monitoring/sampling and maintenance of the project, i.e. “cradle to grave”.

### 3.1.3 Environmental Criteria

Green infrastructure projects shall be on public lands and mitigate areas subject to repetitive urban flooding or subsidence. Sites selected should show that implementing a green infrastructure project will improve water quality through detention (reducing stormwater flows into Lake Ponchartrain or the Mississippi River) and filtration of stormwater pollutants prior to entering the drainage canals or the groundwater table.

## 3.2 Implementing projects that comply with green infrastructure design criteria

SWBNO intends to fund implementation of green infrastructure projects (rain barrels, downspout disconnections, rain gardens, tree canopy, permeable pavement/subsurface storage, green roofs, and bioswales/ bioretention ponds) that meet these basic criteria:

- Comply with the City's Draft Comprehensive Zoning Code Article 23 to retain at a minimum the first inch of stormwater on site within a 24-hour rain event,
- Provide opportunities for demonstration of innovative technologies and/or design elements,
- Readily adaptable to other locations- It's the intent to have detailed design templates that are flexible enough to be applied in a variety of neighborhood conditions based on various typologies. Moving forward, design professionals, engineers, planners, and developers can utilize the approved design standards and procedures therein to expedite green infrastructure development in New Orleans.
- Utilization of native trees and plants where applicable, and
- Inclusion of water quality monitoring/sampling that may be used in the evaluation of other proposed green infrastructure projects.

Additionally, technical resources such as those listed below will be utilized as a basis for selecting, implementing and monitoring green infrastructure projects.

### 3.2.1 Stormwater BMP Guidance Tool: A Stormwater Best Management Practices Guide for Orleans and Jefferson Parishes

The Stormwater Best Management Practice Guidance Tool was issued in October 2010 by Bayou Land Resource Conservation and Development Council, Louisiana Public Health Institute and Geosyntec Consultants and funded by the Louisiana Department of Environmental Quality, as authorized by Section 604(b) of the Federal Clean Water Act. The guidance document provides a standardized and strategic approach selection and design that applies uniquely to Orleans and Jefferson Parishes. The document provides a comprehensive discussion of constraints (physical, cost, public and regulatory), design standards for green infrastructure components, evaluation methods (hydrology, water quality) and conceptual models.

### 3.2.2 Greening CSO Plans: Planning and Modeling Green Infrastructure for Combined Sewer Overflow (CSO) Control

The Greening CSO Plans: Planning and Modeling Green Infrastructure for Combined Sewer Overflow (CSO) Control was issued March 2014 by the U.S. Environmental Protection Agency. The guidance document provides help in quantifying green infrastructure contributions to an overall CSO plan utilizing

the Storm Water Management Model v. 5.0 (SWMM5). The technical resource also describes how green infrastructure approaches fit into the Federal regulatory framework and highlight opportunities for integrating into municipalities long term control plans.

### 3.2.3 New Orleans Redevelopment Authority – NORA Green



New Orleans Redevelopment Authority-NORA Green is an initiative which included a series of projects and programs designed to promote the beneficial use of vacant NORA property. NORA has constructed a total of five (5) pilot stormwater management lots throughout the City, as shown in Figure 6.

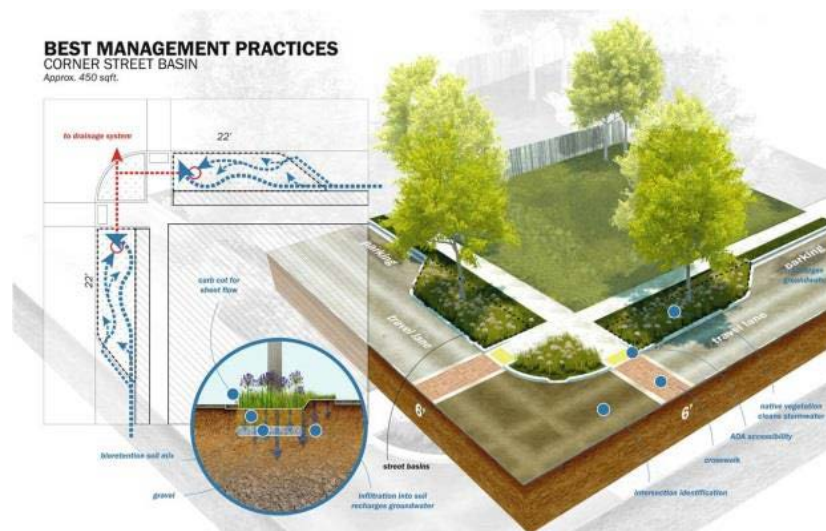


Figure 6: Conceptual diagram of a corner street basin, NORA

Growing Green is the second iteration of the NORA's alternative land use program. This program provides individuals, community-based groups, and others with opportunities to utilize vacant NORA property for certain purposes. Small-scale (two contiguous lots or less) greening and/or urban agriculture projects are permitted under Growing Green. The program is open to virtually anyone. The participants are offered leases in one-year increments (\$250/year) and may be offered an opportunity to purchase the property at fair market value after three (3) consecutive years of successful participation. Participants who are offered an opportunity to purchase property under Growing Green may be eligible for a discount of up to \$5,000 for making additional green improvements to the property.

### 3.2.4 Other Technical Resources

SWBNO has also reviewed the works of several U.S. cities and municipalities, including:

- Philadelphia, PA – Green City Clean Waters



- New York, NY – NYC Green Infrastructure Plan
- Washington, D.C. – Blue Horizon 2020
- Milwaukee, WI – h2o Capture Green Infrastructure Plan
- Louisville, KY – Sustainability Master Plan
- Lancaster, PA – Green Infrastructure Plan

### 3.3 Developing partnerships to implement a regional approach to green infrastructure

Partnerships can provide opportunities for public and private agencies to work collaboratively on implementing green infrastructure projects. The advantages include capitalizing on varied funding sources, sharing of data and knowledge for improved design and implementation, reducing or eliminating barriers to implementation, engaging support in long-term maintenance and operation whilst also providing a united and regional approach to the community. SWNBO has several partnerships in progress.

#### 3.3.1 City of New Orleans Department of Public Works (DPW)

In July 1992, SWBNO had entered into a Cooperative Endeavor Agreement (CEA) with DPW to work together on all capital construction projects related to roads, water, sewer and drainage. The CEA was amended in December 2011 to provide for close coordination of all work related to the FEMA-Funded Roads Recovery Program in order to maximize the available federal funding and reduce the impact of construction to the community. The partnership has also allowed us to work closely with DPW to review capital construction projects for potential green infrastructure projects inclusion in areas of repetitive urban flooding. Data is also being shared on the long-term feasibility of components such as permeable paving for the region.

#### 3.3.2 City of New Orleans Department of Parks and Parkways (DPP)

SWBNO is entering into a CEA with DPP for funding development and implementation of green infrastructure projects - tree canopies – on public lands. The roles and responsibilities of the two partners are as follows:

- SWBNO will participate in the approval of project sites, support development of the conceptual design, review and approve the final plans and specifications, advertise and bid the green infrastructure projects, award and enter into an agreement with the successful contractor and process all invoices for payments.
- DPP will provide staff to manage the project, including recommending sites for development, developing of the conceptual design, preparation of final plans and specifications, participation in pre-bid conferences, review of bid tabs and recommendation for award, provide construction management and inspection services, review and approve payment invoices and negotiate change orders from award of contract through final acceptance.
- DPP agrees to participate in the planned SWBNO community outreach program, when feasible, and provide support and expertise in development of brochures and website.
- DPP is establishing an asset GIS database, and has agreed to share data, when available.



### 3.3.3 New Orleans Redevelopment Authority (NORA)

NORA is a catalyst for the revitalization of the City, partnering in strategic developments that celebrate the City's neighborhoods and honor its traditions. SWBNO is partnering with NORA on several projects including the Pontilly Stormwater Management project and SWBNO Request for Proposals for Green Infrastructure where NORA has offered up their large inventory of vacant lots in New Orleans for potential projects as part of their Growing Green initiative discussed in Section 3.2.3.

#### *Pontilly Stormwater Management Project*

The Pontchartrain Park and Gentilly Woods (Pontilly) neighborhoods were deeply affected by Hurricane Katrina. Water damage to homes was significant and many residents were displaced. In response, Pontilly residents and concerned community members have rallied together to form organizations dedicated to rebuilding the culturally rich neighborhood. Members of the Executive Committee of the Pontilly Neighborhood Association formed the Pontilly Disaster Collaborative (PDC) in 2006 to support homeowners returning to the neighborhood.

In 2008, the Pontilly Neighborhood Association approached NORA to help remedy their flooding issues. NORA has received \$15 M in FEMA Hazard Mitigation Grant Funds to implement a community-wide stormwater management plan. The Pontilly Project shall install over 50 green infrastructure best management practices (BMPs) on various sites in the neighborhood including bioswales along streets, street corner bump out basins, and rain gardens on empty lots. The BMPs are designed to filter runoff and improve water quality. The project is part of a cost efficient approach to reduce flooding in the neighborhood as well as creating a more socially, environmentally, and economically beneficial place to live.

The NORA Pontilly Project will create a more sustainable community by renovating streets and sidewalks as well as landscaping lots for improved access and walkability. There will be improved access to the commercial corridor which includes a new Wal-Mart to promote economic development and stimulate job growth in the neighborhood. Increasing the number of pedestrians should also have a positive effect on crime prevention in the neighborhood.

#### *SWBNO Green Infrastructure Monitoring Project*

SWBNO had applied for an EPA Urban Waters Small Grant to support NORA's Pontilly Project. The monitoring project involves the collection, analysis, and communication of data on the effects of green infrastructure installations on the water quality of urban runoff on a site specific level and on the community scale. The project will engage community volunteers (Rain Rangers) to collect important supplemental visual characteristics of the stormwater runoff. SWBNO will maintain and analyze all data to be communicated in annual reports, community workshops, and training sessions.

- This project will provide analytical water quality data to measure how well community goals of reduced runoff and improved water quality are attained.
- The project will monitor the efficacy of NORA Hazard Mitigation Project to reduce and treat stormwater runoff.
- The project will cultivate a knowledgeable and engaged public that takes personal responsibility and advocates for stormwater management.

- The monitoring efforts will validate the green infrastructure approach set forth by the community priorities documented in the NORA Pontilly Stormwater Management Project, the Greater New Orleans Urban Water Plan, and the EPA Urban Waters Partnership.
- The project will engage the underserved community by establishing neighborhood volunteers to visually monitor green infrastructure during rain events.

Five (5) sites have been identified in the Pontilly neighborhood to conduct water quality monitoring at fixed sampling stations on a flow stimulated basis. NORA will install the monitoring units as determined by SWBNO. Monitoring of the urban runoff shall be conducted pre-construction to provide a baseline. After the green infrastructure has been constructed, monitoring will continue on these sites for one (1) year. The sampling stations will also be capable of measuring precipitation, flow, and velocity. The hydrologic, hydraulic and water quality data will provide for the characterization of the urban stormwater runoff from the neighborhood and identify changes and trends in the water quality over time. The expected results are that the water quality will improve as the green infrastructure sites are implemented. SWBNO will also assess whether the NORA Pontilly Project's goals are being met, and what kind of impact green infrastructure projects in general have on water quality in the New Orleans region.

Other partners in the monitoring project include the Lake Pontchartrain Basin Foundation (LPBF) and Louisiana Urban Stormwater Coalition (LUSC). LPBF will be responsible for managing sampling activities and meeting protocol and QA/QC requirements. LUSC will be responsible for outreach to communities/residents about urban water quality issues and engaging them in activities and training workshops, documentation, and school programs.

NORA, SWBNO, LPBF and LUSC will promote and host public workshops to provide education on stormwater management, green infrastructure and the water quality monitoring activities. Assuming the results will be favorable, the public engagement will encourage individuals to advocate for stormwater management in other New Orleans neighborhoods, as well as empower them to take action to reduce runoff and pollution at their own residences. Newsletters and social media will also be utilized to engage the community.

#### 3.3.4 LPDES MS4 Co-Permittees

The Louisiana Pollutant Discharge Elimination System (LPDES) permit for the Municipal Separate Storm Sewer Systems (MS4) covers all areas, except agricultural lands, located within the parish boundary of Orleans Parish that are served by regulated MS4s owned or operated by SWBNO, the Louisiana Department of Transportation and Development (District 2), the City of New Orleans, the Port of New Orleans, the Orleans Levee District, and the 17th Street Canal storm water discharges from Jefferson Parish.

The co-permittees are partnered by permit and convene for regular meetings to discuss annual reporting and provide updates on current stormwater management projects. SWBNO has invited the co-permittees to participate as the technical evaluation team to review the proposals submitted following SWBNO Request for Proposal Green Infrastructure Project.

#### 3.3.5 Carrollton-Hollygrove Community Development Corporation (CHCDC)

SWBNO has entered into an agreement with the Carrollton-Hollygrove Community Development Corporation to provide use of and maintenance responsibility for three large parcels of the Greenline (former rail bed) owned by the SWBNO, running from Olive Street to Forshey Street and from Eagle Street to Joliet Street. CHCDC worked closely with the Tulane City Center to create plans for the Greenline site, focusing on community use, urban farming, recreational and event space, and most importantly, water management and education. The group has also partnered with Engineers Without Borders and Dana Brown & Associates, Inc., (landscape architects). The group has secured funding from Emerging Philanthropists of New Orleans and the Tulane City Center has secured funding from Surdna Foundation to implement Phase I on the parcel bounded by Monroe, Olive, Eagle, and Forshey Streets. Phase I has been reviewed and approved by the SWBNO and includes trees, planters and pathways incorporating a mixture of turf and pavers.

### 3.3.6 Horizon Initiative Water Committee

The Horizon Initiative Water Committee (HIWC) formed in late 2008 and held its first meeting in early 2009. Every month between 20 and 40 people attend, all in support of the promotion of integrated water management and green infrastructure as drivers of the economic, environmental and cultural future of Louisiana. Inspired by the work of David Waggoner and the Dutch Dialogues, the group maintains a watershed-oriented perspective that seeks balance between development and natural systems. HIWC is made up of diverse experts from business, government, academia and non-profits. Members include architects, engineers, planners, landscape architects, environmental advocates, biologists, attorneys, representatives from the business and non-profit organizations. HIWC provides opportunities for meeting in an open, non-confrontational exchange of ideas and information aimed at transforming Louisiana. SWBNO regularly participate in a local roundtable of urban stormwater and coastal issues.

### 3.3.7 Louisiana Urban Stormwater Coalition (LUSC)

Louisiana Urban Stormwater Coalition (LUSC) is a non-profit organization created to assist parishes, municipalities, neighborhoods, and Small MS4s in meeting the requirements of their stormwater permits. Formed in concert with Region VI EPA Stormwater Office and the Permit Division of LDEQ, LUSC seeks to facilitate the successful meeting of the Urban Stormwater Permit requirements through sharing of information, analysis, and programs among members of the organization.

The Coalition promotes collaboration among stormwater managers, educators, engineers, landscape architects, planners, and regulators to develop solutions that maximize return on investment of time, effort, and funds. It also provides small MS4s, who have limited staffs and budgets, access to effective solutions developed by larger municipalities with common problems. This network will foster rapid development, distribution, and acceptance of custom solutions that are applicable to Louisiana.

Concern about the rate of development of Urban Stormwater Programs by Small MS4 permit holders in Louisiana has prompted the formation of The Louisiana Urban Stormwater Coalition by representatives of some of the permit holders. Coalition goals are to assist members in the achievement of the Urban Stormwater Programs goals and to facilitate compliance with the permit requirements through sharing information, ideas, and techniques among the members. LUSC will be responsible for outreach to communities/residents about urban water quality issues and engaging them in activities and training workshops, documentation, and school programs.

The SWBNO Chief of Environmental Affairs currently serves as a Board Member.

### 3.3.8 Lake Pontchartrain Basin Foundation (LPBF)

The Lake Pontchartrain Basin Foundation (LPBF) is the public's independent voice and is dedicated to restoring and preserving the water quality, coast, and habitats of the entire Pontchartrain Basin. Since 2001, LPBF's Water Quality Program has actively monitored water quality in basin waterways and creates on-the-ground programs with partners to address water quality issues.

LPBF performs water quality monitoring bi-weekly and for SWBNO. SWBNO provides partial funding to LPBF annually. LPBF samples six stormwater drainage canals for physiochemical and bacteriological parameters 25 times per year. Data is collected by LPBF and regularly shared with SWBNO for analysis.

### 3.3.9 Orleans Parish Water Quality Task Force (OPWQTF)

The Orleans Parish Water Quality Task Force was formed in 2011 by LPBF and SWBNO as an open forum about water quality issues in canals and surrounding water bodies. The task force focuses on specific parameters identified by TMDLs including dissolved oxygen and fecal coliform levels. The group meets monthly and is combined with the MS4 co-permittees.

### 3.3.10 New Orleans Mosquito, Termite & Rodent Control Board

The New Orleans Mosquito, Termite and Rodent Control Board is responsible for the monitoring of mosquito populations and ensuring the prevention of breeding grounds for disease and virus-transmitting mosquitoes. Normal floodwater conditions can result in abundant mosquito breeding and West Niles Virus carried by the mosquitoes is a major concern to communities in New Orleans. SWBNO will work with the agency to alleviate community's concerns by prioritizing all green infrastructure projects that are designed to convey or absorb water in 48 hours or less.

### 3.3.11 EPA Office of Research and Development

SWBNO is working with EPA's Office of Research and Development to review existing soil information, (Figure 7) and perform additional soil sampling in Orleans Parish. This project is independently contracted by EPA's Office of Research and Development and is for research only. The results will aid SWBNO in identifying locations in each RMAP basin with higher permeability suitable for the various green infrastructure components. This will increase the chances that pilot installations requested by the SWBNO in the recently issued Request for Proposals-Green Infrastructure will succeed and demonstrate to the communities that green infrastructure is an effective tool for stormwater management.

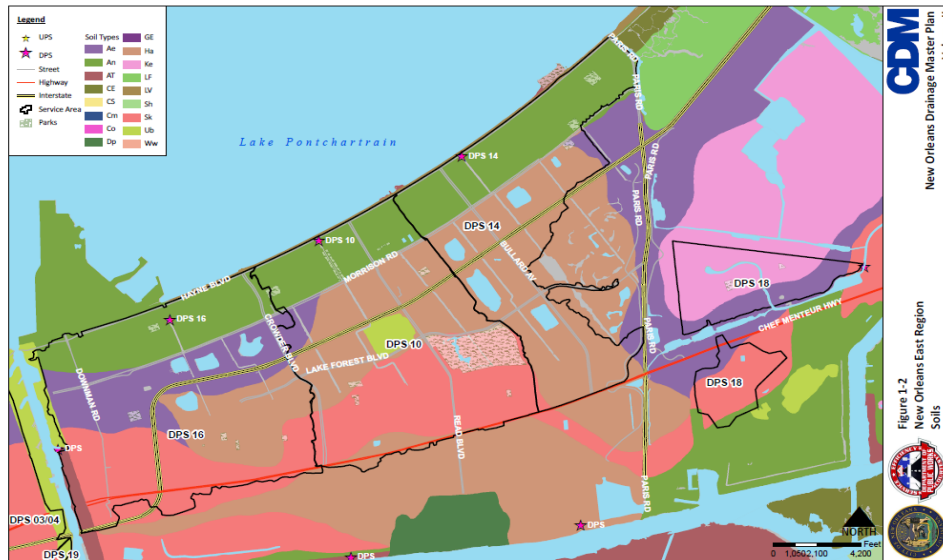


Figure 7: New Orleans East Region Soils, New Orleans Drainage Plan, CDM

### 3.4 Developing community outreach programs to provide education on green infrastructure practices and include the community in the decision making to ensure sustainable projects

Implementation of green infrastructure is not just design and construction of projects but a change in the mindset of the people residing in New Orleans. The philosophy has always been to remove the stormwater as fast as possible from the urban landscape and discharge it into Lake Pontchartrain or the Mississippi River. The abundance of rainfall and the vicinity of the Mississippi River have always ensured water is plentiful thereby deeming conservation and reuse low priorities. Neighborhoods with open canals were considered less desirable than neighborhoods with closed canals (boxed culverts). Standing waters in natural ditches was considered natural breeding grounds for mosquitoes and disease.

Currently, with the City rebuilding from the 2005 flood after the levee failures associated with Hurricane Katrina, some members of the community are becoming aware that living with water provides social, economic and environmental benefits. Stormwater can be retained to recharge the groundwater and prevent subsidence. Stormwater can be reused for landscaping and beautification. Stormwater filtered through natural vegetation and soils improves the quality of the water discharged into the lake and river. Stormwater delayed in bioretention ponds can add value to the land. Stormwater management results in long-term cost savings from mitigating the urban flooding, subsidence and stormwater pumping.

SWBNO is also considering various approaches to funding for needed repairs of its aging drainage infrastructure throughout the City. Options being studied include accessing a drainage fee on square feet of non-permeable surface. Informing the public prior to seeking approval for a drainage fee provides opportunities for private property owners to retrofit their properties to include green infrastructure practices where they do not already exist. Beneficially sited and designed green infrastructure practices demonstrating positive value to the community could pave the way for favorable perception of an incentive based drainage fee structure. (“The more green you put in to your property the less green (\$) you put out for drainage improvements”).

Thus, to change the perception of the whole community and provide the public prior knowledge before assessing a future drainage fee, SWBNO shall promote public understanding of green infrastructure and allow the public to participate in decision making as essential elements of responsible and responsive management of our natural resources. Community outreach and education shall be provided as follows:

1. Targeting education of school age children
2. Targeting residents through community/neighborhood workshops
3. Targeting commercial businesses and professionals
4. Developing brochures and utilize websites and/or social media

#### 3.4.1 Targeting education of school age children

Green infrastructure and stormwater management education shall be provided to school age children from 1<sup>st</sup> grade through college. Possible activities include developing age appropriate coursework and teach the teachers through free summer workshops, offering classroom instruction along with hands-on installation and participating in organized after-school events.

SWBNO is already scheduled to provide a green infrastructure activity with painting of rain-barrels at the 2014 Girl Scout STEM event and co-sponsoring a community service event with the Young Professionals in the 2014 Water Environment Federation Technical Conference. The latter event consists of attendees at the annual conference volunteering to construct green infrastructure components at a neighborhood park and presenting a workshop to the school nearby.

#### 3.4.2 Targeting residents through community/neighborhood workshops

SWBNO intends to hold community workshops throughout the City. The workshops may be dedicated to construction of rain barrels or show how to disconnect down spouts, presentation of green infrastructure projects specifically for the neighborhood for review and discussion, or presentation of green infrastructure practices. As appropriate, representatives from City Departments on Permitting and Safety, Public Works, Parks and Parkways, and the New Orleans Mosquito, Termite and Rodent Control shall be requested to participate.

Presenting green infrastructure projects as they are sited for each neighborhood, and prior to final design provides community stakeholders—neighborhood associations, community groups, etc.—the opportunity to have substantive input in the final product affecting their community. Community input and buy-in at the outset will promote a sense of neighborhood investment in these activities (“we were involved in their development—they were not imposed on us”); neighborhood post-project maintenance and stewardship (e.g. “adopt a rain garden”) is more likely to be successful when there is a sense of neighborhood ownership of the project.

#### 3.4.3 Targeting commercial businesses and professionals


SWBNO intends to present to commercial businesses and professionals through local fairs, festivals and conferences. Events scheduled for 2014 include the New Orleans Earth Day Festival and Green Business Expo, Household Hazardous Waste Day, and the Louisiana Restaurant Food Association Show.

#### 3.4.4 Developing brochures and utilize websites and/or social media




SWBNO recognizes the importance of good marketing and branding to promote the positive images of green infrastructure and stormwater management. The goal is to develop brochures, signage, logo, etc. to have a city-wide uniform visual association with the Plan. Figure 8 shows a brochure developed by the SWBNO Environmental Affairs Department on “How to Disconnect Downspouts”. SWBNO is also developing an Environmental Affairs website to promote the work accomplished, including but not limited to the Green Infrastructure Plan. SWBNO has plans to utilize social media including Facebook and Twitter in order to reach a larger audience. These initiatives will further help with monitoring efforts whereby outreach can be quantified by the number of followers for the organization page. And finally as demonstration green infrastructure projects are completed, SWBNO intends to have signage as a form of public education for respective neighborhoods.


### Why Disconnect?



- New Orleans gets approximately 64 in. average annual rainfall.
- Pumping capacity for New Orleans is 1 in. in the first hour and 1/2 in. each following hour.
- Cost of pumping is high, reducing runoff will save money.
- 1 in. rainfall produces 600 gal. runoff from 1000 sqf. Roof.
- Gutters drain straight to Lake Pontchartrain, vegetation will naturally filter stormwater leading to cleaner bodies of water.
- Pumping contributes to subsidence in New Orleans.
- Keeping rainfall in the soil instead of running off into storm drains will stabilize the soil and help stop our ground from sinking.
- Create a more beautiful place to live!




### How to Disconnect



**Materials:**

- Measuring tape
- Pencil
- Downspout elbows and extensions
- Downspout straps
- Hack saw
- Screwdriver
- Metal screws
- Hammer or pry bar
- Crimper
- 3" to 4" plug for drain
- Splash block



1. Survey Property—decide which downspouts to disconnect
2. Plan the flow of the water—Make sure water is NOT directed under your house, or your neighbor's house, or onto a paved sidewalk or driveway
3. Cut the downspout approximately 2 ft. off the ground, and attach the new elbow and extension.
4. Plug the drain
5. Secure downspout to the house
6. Add a splash block to spread the water out
7. Clean your gutters regularly






Figure 8: SWBNO brochure on “How to Disconnect” Downspouts.

### 3.5 Inclusion of performance measurements, including monitoring of water quality, to help evaluate the siting and selection of future proposed green infrastructure projects.

Performance measurements shall be established to help develop information to assist the SWBNO as it continues to implement the Green Infrastructure Plan and help evaluate the selection and siting of future proposed projects under the plan.

1. GIS mapping of green infrastructure projects
2. Monitoring and analysis of water quality
3. Tracking of community workshops/presentations

### 3.5.1 GIS mapping of green infrastructure projects

Green infrastructure projects implemented in New Orleans shall be mapped utilizing the Geographic Information System (GIS). Basic mapping shall provide an assessment of the number and type of projects implemented, the amount of stormwater retained or detained, and if applicable, percentage reduction of pollutants. For each type of project, the database will include, if applicable, project reference identification number, project name, location (address and GPS coordinates), status (development, design, construction, monitoring or maintenance), RMAP Basin, project owner, name of person or group providing long-term maintenance, and cost. The ability to follow the project after construction shall allow for determination of component's sustainability and suitability to the New Orleans climate.

Dependent upon the availability of staff and in partnership with others, an additional goal would be to evaluate the ecosystem service of green infrastructure in the New Orleans by geo-coding the green area as well as gray area, analyzing the ecosystem service of green surfaces, including trees, green roof, and other green surfaces, calculating the effects of future land cover change on the Region's EPA attainment levels for water quality. Further analysis may be performed to provide the suitability of the green infrastructure approach for each site based on soil, slope, and proximity to buildings as well as depth to ground water.

### 3.5.2 Monitoring and analysis of water quality

Green infrastructure projects, if applicable, generally will include water quality monitoring and analysis to help evaluate the level of benefit to evaluate the proposed siting and design of future green infrastructure projects.

Stormwater runoff may contain contaminants such as motor oil, pesticides, automotive fuel, industrial waste, and other chemicals that pollute water bodies. Green infrastructure is a low impact development (LID) practice that reduces water quality degradation of the stormwater. The stormwater is either taken up by the vegetation (evapotranspiration) or filtered naturally through the native plants and soil to recharge the ground water table or discharge into drainage canals.

As appropriate, SWBNO will require baseline and post project monitoring to assess total suspended solids (TSS), COD (or BOD) and copper. Other alternatives might include phosphorus and nitrogen. All data will be collected and analyzed using Standard Methods, and all meters will be calibrated and maintained in accordance to manufacturer's recommendations. Grab samples will be taken for fecal coliform analysis, labeled, cooled with ice, and transported to a LELAP laboratory within six hours. The post project monitoring should be a minimum of one year to provide sufficient data for analysis, identify changes and trends in water quality over time.

Sampling stations will be installed in specific green infrastructure projects. The sampling stations will consist of hydrologic and hydraulic monitoring to measure precipitation, flow, and velocity. Flow meters may be installed to determine how much runoff enters the drainage system by utilizing flow meters. By testing the physiochemical parameters of water quality of the green infrastructure installations pre- and



post-construction, the data analysis will determine how effective the installations are in naturally filtering out the pollutants through native plants with the custom-designed soil mix, and before the runoff enters the drainage system.

### 3.5.3 Tracking of community workshops/presentations

SWBNO intends to track the workshops and presentations made to ensure that the Green Infrastructure Plan is being delivered throughout the City. Documentations for quarterly reporting shall include as a minimum photographs, copies of sign-in sheets and power point presentations.

## 4.0 Approach to Implementation

SWBNO will partner with several agencies to initiate projects and activities that will achieve the goal and objectives described in Section 3. Soliciting proposals from the community provides solutions to those objectives not yet enacted and serves as a very viable approach to obtaining community acceptance of green infrastructure. The Request for Proposals (RFP) for green infrastructure projects from qualified environmental professionals (individuals or groups (engineers, landscape architects, planners), non-profit or community organizations) to implement a Green Infrastructure (GI) project was advertised on January 27, 2014. A pre-submittal conference for this project was held on February 13, 2014. Proposals were received on March 28, 2014 and have been distributed for evaluation. The Technical Review Committee is tentatively scheduled to meet in mid-May 2014, and provide their recommendations to the SWBNO Board of Directors in June 2014 for approval to enter into an agreement.

Evaluation of the proposals will be as follows:

- 30% Experience and qualifications of the Proposer (firm and/or project manager) in meeting the minimum background and experience as contained in Section IV. A score of less than 10 shall result in disqualification of the Proposer's proposal from further consideration.
- 60% Evaluation of the Proposal in meeting the requirements as contained in Section V including Project Team (use of volunteers is encouraged); Quality of proposal; Proposed Site (adherence to public lands requirement); Monitoring plan; Maintenance Plan; Project Scale and GI Component(s). Proposals will receive favorable consideration for GI Type 1 projects which are: (1) part of a community/neighborhood plan, (2) located in repetitive flood loss areas, (3) innovative in nature. (e.g. including retention of cooling tower effluent in green roof design) (4) a combination of several GI components or Project types into one proposal.
- 10% Overall evaluation of the proposal. This includes an evaluation of the Proposer's capability to perform the scope of services. This is to be determined by the selection panel members. No submittal response is required.

SWBNO has established the following guidelines in the RFP for developing budgets for the proposal.

- Project budget and any additional funding sources must be specifically detailed with budget not to exceed \$100,000 for each submitted proposal.
- Requested funds may be used for expenses directly related to the proposed project, including wages and consultant fees.

- While cost share or match is not required, projects including this component will be reviewed more favorably. Cost share may be in the form of cash or in-kind contributions, but must be clearly explained in the proposal and must be verifiable.
- Labor requirements including volunteers as in-kind services should be included in the budget (TYPE 1).
- Materials must be itemized and specified including construction equipment and plant materials (TYPE 1).
- Include cost of any stormwater monitoring devices and labor for sampling for a minimum one (1) year following substantial completion (TYPE 1).
- Budget table should be submitted in Excel spreadsheet format similar to table below:

Sewerage and Water Board of New Orleans				
Green Infrastructure Project Proposal 2014				
<i>Proposer:</i>				
<i>Title:</i>				
<b>BUDGET:</b>				
<b>Item/Task</b>	<b>Description</b>	<b>Total Amount</b>	<b>In-Kind</b>	<b>Total</b>
Personnel				
Fringe Benefites				
Equipment				
Supplies				
Contractual				
Construction				
Other				
Indirect Costs				
<b>Total</b>				

The RFP for Green Infrastructure, including Addenda 1 and 2 are found in Appendix A. The RFP provided a brief summary on the intent of the RFP, background of the SWBNO and its drainage system, scope of services or types of green infrastructure projects requested, the minimum qualifications of the proposers, the proposal requirements (project type, background and experience of the project leader and partners, description and design, including plan, schedule, operations and management, and project budget), and evaluation criteria.

The following provides the three (3) types of proposals being requested and the information required in the submittal.

*Type 1: Plan, develop, implement and maintain one (1) or more green infrastructure demonstration projects on public land within Orleans Parish.*

Proposers may submit projects related to rain gardens, bioswales, green roofs, and tree plantings, and are encouraged to combine several components into one overall project. Public land includes SWBNO, NORA, City and/or other public properties (State, or Federal). The project is considered substantially complete when the construction is completed. Final completion of the project is accepted upon performance at a minimum of one year water quality and quantity monitoring and data analysis. Water quality monitoring and sampling prior to, during, and after completion of the green infrastructure project is a key component for all green infrastructure rain garden, bioswale, and green roof projects. All GI projects will be designed to retain, detain, and filter the first one (1) inch of stormwater runoff during each rain event. To ensure sustainability of the green infrastructure project, responsibility for maintenance of the project must be accepted by a designated entity.

GI demonstration project directions are as follows:

*Rain Gardens*

Objective: Design and build rain garden or series of rain gardens in flood prone areas.

- Design shallow excavated basin that collects and cleans stormwater runoff on a small scale.
- Soil layers and plantings designed for infiltration and the removal of pollutants.
- Determine costs of proposed project. Include matching funds or in-kind services.
- Build community support for long term sustainability of rain garden.
- Opportunity to work with NORA, Orleans Parish schools for educational school program.
- Stormwater planter may also be considered in this category.

*Bioswales*

Objective: Strategically locate, design and build bio-retention swales in parking lots, next to streets, or other public land, to naturally filter and absorb surface runoff.

- Design linear depression in the landscape constructed to slow and filter stormwater with vegetation and soil media.
- Determine costs of proposed project. Include matching funds or in-kind services.
- Build community support for long term sustainability of bioswale.

*Green Roofs*

Objective: Lessen roof runoff, improve effluent and water quality, and reduce heat gain through evapotranspiration.

- Design a roof system of soil media and vegetation that will help to absorb and store stormwater that falls on the roof.
- Develop criteria for choosing green roof site. Identify public structures suitable for green roofs.
- Emphasis on water quality improvement is encouraged (e.g. capturing coolant tower effluent).
- Establish performance measures for type of green roof (e.g. Partial vs. total roof coverage; extensive vs. intensive site development).
- Load analysis and structural assessment must be completed before design phase.

- Determine costs of proposed project. Include matching funds or in-kind services.

### *Tree Planting*

Objective: Demonstrate value of tree canopies as a viable BMP to absorb storm water in Orleans Parish

- Work with City Department of Parks and Parkways, neighborhood associations, and other stakeholders to identify suitable locations for group tree plantings.
- Identify most suitable trees for optimal stormwater retention, with preference given to native trees. Establish performance measures/evaluation criteria.
- Plant trees/monitor growth.

Project deliverables are as follows:

#### Planning and Development

- Cost-Benefit Analysis: A Cost-Benefit Analysis should be performed for all green infrastructure BMP Type 1 projects.
- Stormwater retention analysis: (1) Runoff retention calculations shall be made for proposed projects, including a no-build option for the specific sites (pre and post construction). (2) Soil and hydrologic testing must be conducted. All green infrastructure installations should be designed to retain, detain, and filter the first one inch of stormwater runoff during each rain event.
- Preliminary Schematic Design: Drawings with site dimensions and proposed catchment area dimensions. Include a context map of proposed site in relation to neighborhood/city. Include features for: (1) water quality and quantity monitoring plan (devices such as flow meters and probes should be considered), (2) signage and/or educational component.
- Final design: Pre-construction conference with SWBNO. Final plans should be easily adapted to other locations.
- Community Outreach: Facilitate public meetings at a minimum to present and receive comments on preliminary/conceptual design, final designs and neighborhood concerns. Develop brochures or signage that illustrates, educates, and promotes stormwater management through green infrastructure.

#### Implementation

- Construction plan that incorporates neighborhood input and participation if feasible.
- Construction schedule to show completion of project within 18 months of SWBNO approval of project and Notice to Proceed.
- Attend on-the-job field meetings as needed and provide minutes of these meetings to SWBNO.

#### Operations and Maintenance

- Water quality and quantity monitoring plan for a minimum one year following substantial completion, including data analysis.
- Plan to ensure the project is maintained through the life of green infrastructure.

Type 2: Develop a green infrastructure educational curriculum to be implemented in Orleans Parish schools.

The curriculum can include (but are not limited to) (a) rain barrel decoration/activities/contests/ and decorated rain barrel sale/auctions (b) partnership with NORA for rain garden/bioswale installation part of a science curriculum. Innovative and reproducible (teach the teacher) programs are recommended.

#### Planning and Development

- Deliverables include workbooks, projects, PowerPoint, or other education material on green infrastructure and best management practices that can be easily reproduced and/or updated.
- Identify schools and show curriculum agreement to implement green infrastructure program in 2014-1015 school year.
- Produce teaching materials to be used at all schools.
- Plan and organize curriculum including classes, field trips, and service learning projects.

#### Implementation

- Include green infrastructure curriculum activities in weekly classes for the selected schools.

#### Operations and Maintenance

- Create a database of participating schools and include completed projects
- Discuss lessons learned and propose recommendations for future educational programs.

Type 3: Develop green infrastructure workshops curriculum for educating professionals, commercial businesses, homeowners, and neighborhood groups about the rapidly growing green infrastructure field.

#### Planning and Development

- Identify neighborhood associations interested in workshops.
- Develop materials, brochures, signage, e-newsletters, and social media.

#### Implementation

- Hold community workshops (preferably in all council districts) for professionals, commercial businesses, homeowners, and neighborhood groups.
- Maintain participant information, sign-in sheets, etc.

#### Operations and Maintenance

- Update news and green infrastructure continuing education in e-newsletters, social media, etc.
- Identify future participants in outreach workshops.

## APPENDIX A

**SEWERAGE AND WATER BOARD OF NEW ORLEANS  
REQUEST FOR PROPOSALS  
GREEN INFRASTRUCTURE PROJECTS  
New Orleans, Louisiana, January 27, 2014**

The Sewerage and Water Board of New Orleans (SWB) is issuing a request for proposals (RFP) from qualified environmental professionals (individuals or groups (engineers, landscape architects, planners), non-profit or community organizations) to implement a Green Infrastructure (GI) project. The project must be one of the following types, or a combination thereof:

Type 1: Plan, develop, implement and maintain one (1) or more GI demonstration projects on **public land** within Orleans Parish.

Type 2: Develop a GI educational curriculum to be implemented in Orleans Parish schools.

Type 3: Develop GI workshops curriculum for educating professionals, commercial businesses, homeowners, and neighborhood groups about the rapidly growing GI field.

RFP will be available **Monday, January 27, 2014** for download at the following website: [http://www.swbno.org/business\\_bidspecifications.asp](http://www.swbno.org/business_bidspecifications.asp).

There will be an optional Pre-Submittal Conference on **Thursday, February 13, 2014 at 10:00 AM** in the 2<sup>nd</sup> floor training room at the SWB Carrollton Water Plant (8800 South Claiborne Avenue).

Inquiries and/or Requests for Clarification are due to SWBNO at the office of its Purchasing Agent Mr. Willie Mingo, Jr. on **Friday, February 21, 2014**. **Inquiries may be either in writing or via email to [wmingo@swbno.org](mailto:wmingo@swbno.org)**. All responses will be posted by Friday, **February 28, 2014**.

Proposals will be due **Friday, March 14 not later than 11:00 AM** to the SWB at the office of its Purchasing Agent, Mr. Willie Mingo, Jr., 625 St. Joseph Street, Room 133, New Orleans, Louisiana 70165.

The total estimated available funding for awards under this competitive opportunity is \$500,000. Awards will be made in amounts of **up to \$100,000 per award** for an **18 month project period**.

REQUEST FOR PROPOSAL TABLE OF CONTENTS:

- I. Summary
- II. Background Information
- III. Scope of Services
- IV. Minimum Qualifications
- V. Proposal Requirements
- VI. Pre-Submittal Conference
- VII. Submission Process
- VIII. Evaluation Criteria
- IX. Evaluation Process

**I. SUMMARY:**

GI is low impact development practices that can help avoid stormwater quality degradation as well as reduce flooding potential. GI naturally filters stormwater with soil and vegetation to allow surface water with improved quality to be used as a resource and recharge the ground water table. The intent of this RFP is to identify and select five (5) or more grantees to implement these types of GI projects in order to demonstrate to the Orleans Parish community a proactive approach to living with water by incorporating Stormwater Best Management Practices.

**Project Types:**

For **Type 1** projects, Proposers may submit projects related to rain gardens, bioswales, green roofs, and tree plantings with the caveat that all projects are limited to development on public lands (easements, SWB properties, New Orleans Redevelopment Authority (NORA) blighted properties, State and Federal properties or rights of way, etc.). *See appendix for list of available NORA properties.*

For **Type 2** projects, Proposers may submit projects which create and implement a robust educational program for Orleans Parish schools. Program should include curriculum with materials and workbooks, field trips, and hands-on activities such as enviroscares, rain barrel painting, and rain garden plantings. *See appendix for map of several schools with nearby available NORA lots.*

For **Type 3** projects, Proposers may submit projects to develop and implement GI workshops for educating professionals (architects, engineers, home builders and landscapers), commercial businesses (hardware suppliers, concrete contractors), homeowners, and neighborhood groups about GI stormwater practices.

Eligible Proposers include qualified professional environmental individuals or groups (engineers, landscape architects, planning), non-profit or community organizations. The development of these projects shall require the Proposer to partner after award with SWB, NORA and/or the City.

**II. BACKGROUND INFORMATION**

The SWB was created in 1899 by the Louisiana Legislature to furnish, construct, operate, and maintain a water treatment and distribution system and a sanitary sewerage system for the City of New Orleans. In 1903, SWB merged with the New Orleans Drainage Commission, originally founded seven years earlier, in order to consolidate these various programs into one agency for more efficient operations. SWB is an agency of the State of Louisiana, confirmed by a State Supreme Court decision, charged with the responsibility for constructing, operating, and maintaining the water, sewerage, and drainage systems for the City of New Orleans (i.e. Orleans Parish) and drainage facilities in part of Jefferson Parish. The mission of the SWB is to be recognized as one of the best suppliers of sewage, water, and drainage services in the South Central United States by providing continuous and outstanding cost effective services to our customers while maintaining a reputation for fair and ethical treatment of our well-trained and highly motivated employees.

SWB's Second Modified Consent Decree requires a GI proposal to be submitted to the Environmental Protection Agency (EPA) by April 24, 2014. Additionally, SWB's Municipal Separated Storm Sewer System (MS4) discharge permit and the Draft Comprehensive Zoning Ordinance for the City of New Orleans require SWB to implement GI Best Management Practices (BMPs) as part of its stormwater management plan. It is in the best interest of all stakeholders and the City of New Orleans as a whole to improve the water quality in and around the city by reducing the amount of urban stormwater runoff

into the Lake Pontchartrain Basin. SWB, co-permittees, interveners, and other stakeholders have identified several GI components that, successfully implemented, can significantly improve water quality and reduce the quantity of storm water runoff entering Lake Pontchartrain.

### III. SCOPE OF SERVICES

Successful Proposers should expect to work closely with SWB representatives throughout the entire process of the project. One or more SWB employees will be included on the project management team.

Project should be completed (with all deliverables met) within 18 months of Notice to Proceed.

*This section is sub-divided by project type, with unique deliverables for each type.*

#### **TYPE 1 PROJECT – GI project installation**

The proposed site must be on public land; SWB, NORA, City and/or other public properties (State, or Federal) should be considered (see appendix of approved NORA properties). The project is considered substantially complete when the construction is completed. Final completion of the project is accepted upon performance at a minimum of one year water quality and quantity monitoring and data analysis. Water quality monitoring and sampling prior to, during, and after completion of the GI project is a key component for all GI rain garden, bioswale, and green roof projects. All GI projects should be designed to retain, detain, and filter the first one (1) inch of stormwater runoff during each rain event. To ensure sustainability of the GI project, responsibility for maintenance of the project must be accepted by a designated entity.

#### ***Components:***

SWB will evaluate the Proposer based on their ability to meet the scope of services and proposal requirements for one (1) or a combination of the following GI components. (Proposer is encouraged to combine several components into one overall project). The GI installation must be on public land (see attached appendix of pre-approved NORA lots).

- **Rain Gardens**

*Objective:* Design and build rain garden or series of rain gardens in flood prone areas.

- Design shallow excavated basin that collects and cleans stormwater runoff on a small scale.
- Soil layers and plantings designed for infiltration and the removal of pollutants.
- Determine costs of proposed project. Include matching funds or in-kind services.
- Build community support for long term sustainability of rain garden.
- Opportunity to work with NORA, Orleans Parish schools for educational school program.
- Stormwater planter may also be considered in this category.

- **Bioswales**

*Objective:* Strategically locate, design and build bio-retention swales in parking lots, next to streets, or other public land, to naturally filter and absorb surface runoff.



- Design linear depression in the landscape constructed to slow and filter stormwater with vegetation and soil media.
- Determine costs of proposed project. Include matching funds or in-kind services.
- Build community support for long term sustainability of bioswale.

- **Green Roofs**

*Objective:* Lessen roof runoff, improve effluent and water quality, and reduce heat gain through evapotranspiration.

- Design a roof system of soil media and vegetation that will help to absorb and store stormwater that falls on the roof.
- Develop criteria for choosing green roof site. Identify public structures suitable for green roofs.
- Emphasis on water quality improvement is encouraged (e.g. capturing coolant tower effluent).
- Establish performance measures for type of green roof (e.g. Partial vs. total roof coverage; extensive vs. intensive site development).
- Load analysis and structural assessment must be completed before design phase.
- Determine costs of proposed project. Include matching funds or in-kind services.

- **Tree Planting**

*Objective:* Demonstrate value of tree canopies as a viable BMP to absorb storm water in Orleans Parish

- Work with City of New Orleans, Parks and Parkways, neighborhood associations, and other stakeholders to identify suitable locations for group tree plantings.
- Identify most suitable trees for optimal stormwater retention, with preference given to native trees. Establish performance measures/evaluation criteria.
- Plant trees/monitor growth.

### **Summary of Deliverables:**

#### **Planning and Development**

- **Cost-Benefit Analysis:** A Cost-Benefit Analysis should be performed for all GI BMP Type 1 projects. Cost-Benefit Analysis - Use one of the available online stormwater calculators. <http://epa.gov/nrmrl/wswrd/wq/models/swc/>
- **Stormwater retention analysis:** (1) Runoff retention calculations shall be made for proposed projects, including a no-build option for the specific sites (pre and post construction). (2) Soil and hydrologic testing must be conducted. All GI installations should be designed to retain, detain, and filter the first one inch of stormwater runoff during each rain event.
- **Preliminary Schematic Design:** Drawings with site dimensions and proposed catchment area dimensions. Include a context map of proposed site in relation to neighborhood/city.

Include features for: (1) water quality and quantity monitoring plan (devices such as flow meters and probes should be considered), (2) signage and/or educational component.

- **Final design:** Pre-construction conference with SWB. Final plans should be easily adapted to other locations.
- **Community Outreach:** Facilitate public meetings at a minimum to present and receive comments on preliminary/conceptual design, final designs and neighborhood concerns. Develop brochures or signage that illustrates, educates, and promotes stormwater management through GI.

#### **Implementation**

- Construction plan that incorporates neighborhood input and participation if feasible.
- Construction schedule to show completion of project within [18 months] of SWB approval of project and Notice to Proceed.
- Attend on-the-job field meetings as needed and provide minutes of these meetings to SWB.

#### **Operations and Maintenance**

- Water quality and quantity monitoring plan for a minimum one year following substantial completion, including data analysis.
- Plan to ensure the project is maintained through the life of GI infrastructure.

### **TYPE 2 PROJECT – Educational Curriculum**

Promote GI education at each or all levels to demonstrate a proactive approach to living with water. The curriculum may incorporate components of TYPE 1 GI Projects listed above.

#### ***Objective:***

Develop a GI educational curriculum to be implemented in Orleans Parish schools for elementary, middle, or high school age students. The curriculum activities can utilize could include (but are not limited to) (a) rain barrel decoration/activities/contests/ and decorated rain barrel sale/auctions (b) partnership with NORA for rain garden/bioswale installation part of a science curriculum. Innovative and reproducible (teach the teacher) programs are recommended.

#### ***Summary of Deliverables:***

##### **Planning and Development**

- Deliverables include workbooks, projects, PowerPoint, or other education material on GI and best management practices that can be easily reproduced and/or updated.
- Identify schools and show curriculum agreement to implement GI program in 2014-1015 school year.
- Produce teaching materials to be used at all schools.
- Plan and organize curriculum including classes, field trips, and service learning projects.

##### **Implementation**

- Include GI curriculum activities in weekly classes for the selected schools.

**Operations and Maintenance**

- Create a database of participating schools and include completed projects
- Discuss lessons learned and propose recommendations for future educational programs.

**TYPE 3 PROJECT – Professional Development**

Develop GI workshops curriculum for educating professionals (architects, engineers, home builders and landscapers), commercial businesses (hardware suppliers, concrete contractors), homeowners, and neighborhood groups about the rapidly growing GI field as well as specific best management practices.

***Objective:***

- Develop and facilitate community workshops focusing on downspout disconnections, rain barrel installations, and landscaping to retain and reuse rainwater.

***Summary of Deliverables:*****Planning and Development**

- Identify neighborhood associations interested in workshops.
- Develop materials, brochures, signage, e-newsletters, and social media.

**Implementation**

- Hold community workshops (preferably in all council districts) for professionals, commercial businesses, homeowners, and neighborhood groups.
- Maintain participant information, sign-in sheets, etc.

**Operations and Maintenance**

- Update news and GI continuing education in e-newsletters, social media, etc.
- Identify future participants in outreach workshops.

**IV. MINIMUM QUALIFICATIONS**

At a minimum, the proposal must include the following information to be considered and comply with the stated submission instructions.

**Background:**

SWB wishes to obtain services from highly experienced and qualified professionals (individuals or groups (engineers, landscape architects, planners), non-profit or community organizations). Proposers must be able to start the project with qualified individuals who shall be committed to this work from inception to completion.

The Proposer (firm and/or project manager) should demonstrate experience in the following disciplines:

- GI Plan Development
- GI design of site improvements
- Landscape improvements

- Scheduling
- Cost estimating

SWB understands that a key to success of any project is the Proposer's project manager and/or key team member responsible for the management of the project. At a minimum, a resume for the Proposer's project manager and/or key team member shall be provided. The resume shall be limited to a maximum length of two pages and should be included in this section.

Firms, non-profits or community organizations must provide history and background of the organization including documents that provide tax ID numbers and articles of incorporation. Letters of support are encouraged.

**Experience:**

A description must be provided of two (2) of the most recent projects/programs/efforts that included GI initiatives, preferably in the metro New Orleans area. The following information shall be included for each completed project:

- Project title
- Project location
- Role of Proposer/team members involved
- Project description
- Client name
- Client contact (address, phone, e-mail)
- Year completed
- Total design fee and construction cost (if applicable)

**V. PROPOSAL REQUIREMENTS – Content of Application Submission**

All GI project proposals must include:

- **Cover Letter** addressed to SWB Purchasing Agent
- **Narrative** to include the following:

**Project Type**

- Describe the project type (1, 2, or 3) or the combination thereof.

**Background**

- As described in the Minimum Qualification above (Section IV).
- Proposer name, address, telephone number, and email of contact person(s)
- Mission Statement or background proposer.
- Relevant experience of the project leader and partners, and include list of relevant projects completed (see Section IV above).
- Project partners and their roles, including public entity landowners.

### Project Description and Design

- A Statement of Purpose must be provided for all projects.
- Outline the project design and objectives (describe the tasks that will be conducted to meet the project's objectives).

#### TYPE 1:

- Description the planned GI components, as well as plans for post-construction monitoring and maintenance.
- Identification of location of proposed project and reasons for choosing site. Discuss any barriers to siting of the proposed project. *Project site must be on public land (see appendix for list and maps of pre-approved NORA lots).*
- Map of proposed site with installation, and context map of site in relation to neighborhood/city.
- Description of existing site conditions such as location/address, current land use, permeability, and other important site features.
- Description of how project will be designed to retain, detain, or filter the first one (1) inch of runoff during each rain event.
- Identification of strategic locations for water quality monitoring and sampling (including flow meters/probes if applicable).

#### TYPE 2:

- Identify participating schools and grade levels to be targeted.
- Describe proposed curriculum components.
- If curriculum includes GI installation, include requirements for TYPE 1.

#### TYPE 3:

- Identify targeted neighborhoods.
- Identify professional and community groups to be targeted.

### Plan/Schedule

- Proposer shall present, as a part of its proposal, a proposed Milestone Schedule (Gantt chart or similar preferred) for Deliverables (Section III). A final Milestone Schedule will be negotiated with the successful proposers. An eighteen (18) month timeline is expected for projects from the date of notice to proceed to end of construction.
- Milestone Schedules should incorporate the following phases:
  - Planning and development (Pre-Construction)
  - Implementation (Project Construction)
  - Operation and Maintenance (Post-Construction Completion)
- A community outreach component must be included in the project in all phases.

### Operations and Management / Expected outcome

- A preliminary plan must be submitted for ongoing maintenance of the project (Type 1).
- A plan for monitoring methodology and result reporting (Type 1).

- Signage scheme.
- Include criteria to measure success and effectiveness of the project, including measurable goals, outputs, and expected outcomes.
- Measure of potential for project to expand and replicate GI technology/curriculum.

**Budget**

- Project budget and any additional funding sources must be specifically detailed with budget not to exceed \$100,000 for each submitted proposal.
- Requested funds may be used for expenses directly related to the proposed project, including wages and consultant fees.
- While cost share or match is not required, projects including this component will be reviewed more favorably. Cost share may be in the form of cash or in-kind contributions, but must be clearly explained in the proposal and must be verifiable.
- Labor requirements including volunteers as in-kind services should be included in the budget (TYPE 1).
- Materials must be itemized and specified including construction equipment and plant materials (TYPE 1).
- Include cost of any stormwater monitoring devices and labor for sampling for a minimum one (1) year following substantial completion (TYPE 1).
- Budget table should be submitted in Excel spreadsheet format similar to table below:

Sewerage and Water Board of New Orleans				
Green Infrastructure Project Proposal 2014				
<i>Proposer:</i>				
<i>Title:</i>				
<b>BUDGET:</b>				
Item/Task	Description	Total Amount	In-Kind	Total
Personnel				
Fringe Benefites				
Equipment				
Supplies				
Contractual				
Construction				
Other				
Indirect Costs				
<b>Total</b>				

## **VI. PRE-SUBMITTAL CONFERENCE**

A pre-submittal conference for this project will be held at 10:00 o'clock A.M., Thursday, February 13, 2014 in the 2<sup>nd</sup> floor training room at the Carrollton Water Plant (8800 South Claiborne Avenue). At this meeting staff will discuss the minimum qualifications, proposal requirements, submittal requirements and respond to questions from the attendees. The SWB staff will not be available to respond to individual inquiries regarding this announcement outside of this pre-submittal conference, therefore it is strongly recommended that the interested firms send a representative to the pre-submittal conference.

Parking is available at the entrance to the plant, immediately before the guard gate. All visitors to the Carrollton Water Plant are required to check in with the guard in the Engineering Building, exchanging a state issued pictured I.D. for a visitor's badge.

## **VII. SUBMISSION PROCESS**

Proposers that meet the requirement of this RFP and are experienced in these areas as described within the RFP are invited to submit an original plus six (6) copies (total of seven) of the Proposal, and one (1) electronic version (CD or flash drive). The one (1) copy marked ORIGINAL shall contain a cover letter with original signature of person(s) authorized to contractually bind the Prospective groups. The cover letter shall also include an affirmation that there is not a conflict of interest of the Proposer and the proposed team in performing work for the Sewerage and Water Board of New Orleans or identify any possible conflicts that might impair their ability to perform if awarded the contract, including any familiar or business relationships that the Proposer and the proposed team have with SWB and its employees.

The proposal shall be submitted by 11:00 AM, Local Time on **Friday, March 14, 2014** to the Sewerage and Water Board of New Orleans at the office of its Purchasing Agent, Room 133, 625 St. Joseph Street, New Orleans, Louisiana 70165.

Proposals received, in whole or in part, after this date and time will not be considered. A proposal may be rejected if it is conditional or incomplete, deemed non-responsive, or if it contains any alterations of form or other irregularities of any kind. SWB may reject any or all Proposals and may waive any immaterial deviation in a Proposal. The SWB waiver of immaterial defect shall in no way modify the RFP or excuse the prospective group from full compliance with all requirements if selected and engaged.

Costs for developing Proposals and participating in the selection process are entirely the responsibility of the prospective group and shall not be charged to the SWB. There is no expressed or implied obligation for the SWB to reimburse prospective group for any expense incurred in preparing proposals or participating in the selection process in response to this request.

While the Board strongly encourages firms interested in submitting on this project to comply with the Disadvantaged Business Enterprise Program a DBE goal of participation of 0% has been established for this contract because of the specialized nature of the work. A list of Sewerage and Water Board certified DBE landscape architects/engineers can be seen at: [http://www.swbno.org/business\\_disadvantagedbusinessprogram.asp](http://www.swbno.org/business_disadvantagedbusinessprogram.asp).



## **VIII. EVALUATION CRITERIA**

Each Proposal will be evaluated according to the following criteria:

Proposals should follow the format outlined in Section V.

30% Experience and qualifications of the Proposer (firm and/or project manager) in meeting the minimum background and experience as contained in Section IV. A score of less than 10 shall result in disqualification of the Proposer's proposal from further consideration.

60% Evaluation of the Proposal in meeting the requirements as contained in Section V including Project Team (use of volunteers is encouraged); Quality of proposal; Proposed Site (adherence to public lands requirement); Monitoring plan; Maintenance Plan; Project Scale and GI Component(s). Proposals will receive favorable consideration for GI Type 1 projects which are: (1) part of a community/neighborhood plan, (2) located in repetitive flood loss areas, (3) innovative in nature. (e.g. including retention of cooling tower effluent in green roof design) (4) a combination of several GI components or Project types into one proposal.

10% Overall evaluation of the proposal. This includes an evaluation of the Proposer's capability to perform the scope of services. This is to be determined by the selection panel members. No submittal response is required.

## **IX. EVALUATION PROCESS**

The purpose of the proposal evaluation is two-fold: (1) to assess the responses for compliance with the minimum qualification, content, and format requirements; and (2) to identify the prospective group that has the highest probability of successfully performing the services as described herein.

The Proposal must be organized to correspond with all requirements and formats set forth in this RFP. The Proposal should be clear, concise, and must be complete. All information must be contained in the Proposal. No assumptions will be made regarding the intentions of the prospective group in submitting the Proposal. Written proposals must be bound and organized in a manner to facilitate ease of review by evaluators. All sections will be used in the evaluation. A prospective group not providing all requested information may be rejected.

All proposals submitted will be evaluated for form and content in accordance with the provisions stated in this RFP. Clarifications may be requested from the prospective group at any phase of the evaluation process for the purpose of clarifying ambiguities in the information presented in the proposal.

Proposals and any subsequent presentations should be submitted with the most favorable terms the prospective group can offer. If the SWB is unable to execute Agreements with selected group for any reason, the SWB reserves the right to award an agreement to the next highest scoring responsive and responsible group whose proposal conforms to the requirements of this RFP.

Evaluation of the Proposers and their proposals submitting under this announcement will be based upon the information and the evaluation criteria listed above. From the review of the proposals, the SWB technical selection committee shall score and rank all the proposals. SWB shall also have the option to interview the firms; otherwise a recommendation shall be given to the SWB Board of Directors for approval to enter into an agreement with the most qualified Proposer(s).

Questions pertaining to the proposal evaluation process or contract issues should be directed to Willie Mingo, Purchasing Department at (504) 585-2124.



**"RE-BUILDING THE CITY'S WATER SYSTEMS FOR THE 21<sup>ST</sup> CENTURY"**

## **Sewerage & Water Board** OF NEW ORLEANS

MITCHELL J. LANDRIEU, President  
WM. RAYMOND MANNING, President Pro-Tem

625 ST. JOSEPH STREET  
NEW ORLEANS, LA 70165 • 504-529-2837 OR 52W-ATER  
www.swbnola.org

February 17, 2014

RE: REQUEST FOR REQUEST FOR PROPOSAL FOR GREEN INFRASTRUCTURE PROJECTS

Enclosed herewith is Addendum No.1 issued by Sewerage & Water Board of New Orleans for the above mention project on which information will be received by the Purchasing Agent of the Sewerage and Water Board at 625 St. Joseph Street Room 133, New Orleans, Louisiana 70165, up to 4:00 o'clock CST.

Please acknowledge the receipt of the Addendum for this project by attaching a signed copy of the addendum cover letter with the submittal.

Very truly yours,

Willie Mingo  
PURCHASING AGENT

Encl. (1) Addendum

Members of the Board: MARION BRACY • KERRI KANE • WM. RAYMOND MANNING • MARK M. MOODY • MITCHELL J. LANDRIEU  
GLEN PILIE • FLORENCE W. SCHORNSTEIN • CHARLES F. WEBB • BEVERLY WRIGHT, PHD • LOYCE P. WRIGHT  
"An Equal Opportunity Employer"

ADDENDUM NO. 1

Request for Proposal for the Green Infrastructure Projects

Proposals to be received 11:00 a.m. CST on Friday March 14, 2014

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The original contract documents for this project are hereby amended as noted below in this Addendum No.1

Receipt of this Addendum shall be acknowledged by attaching a signed copy of the addendum cover letter with your submittal.


This addendum consists of one (1) page & 3 attachments

ADD 1-1 Sign-in sheet from pre-bid conference held on February 13, 2014  
(attachment)

ADD 1-2 PowerPoint from the pre-bid conference held on  
February 13, 2014 (attachment)

ADD 1-3 Map of vacant NORA lots near schools (attachment)

END OF ADDENDUM

Sewerage and Water Board of New Orleans		
Meeting Sign in Sheet		
Project: <b>RFP GREEN INFRASTRUCTURE PROJECT</b>	Meeting Date: <b>2/13/14</b>	
Facilitator:	Place/Room: <b>Carrollton Auditorium</b>	


Name	Title	Company	Phone	Fax	Email
Eric McQuiston	10:00 A	Eric R McQuiston LLC	985-789-9468		ermcquiston@gmeil
Shelley Sparks	Assoc. Planner	Royal Engineering	(504) 616-9150		ssparks@royalengineering
Marcus Rozbisky		Engy. Wtr Alliance	504 355 1975		rozbiskye@gmail.com
Alicia Neal	Ex. Director	Groundwork NOLA	504 - 256-2735		alicia@groundworknola.com
Tiffany Bergeron	BD	EDR	504 971 0066		tbergeron@eskw.dumetzrippk.com
Cristina Ungureanu	Planner	EDR	"		cungureanu@ " "
Tilman Hardy	CEO	CORE USA	504 298 9556		TILMAN@COREUSA.ORG
Hamid Ali Zadeh	CBET/BD	CBETS	504 583-4510		hamid.ali.zadeh@cbet.com
Sophie Harris	Program Director	Friends of Lafitte	504-821-7236		sharris@folk-nola.org
Emily Bullock	Landscape Architect	Sparkman Mossop Michaels	504-218-8991		emily@sm2group.com
Sarah Olivier	P. Manager	TPL	620-574		sarah.olivier@tpl.org
Diane J. Allen	Landscape Architect	Design Jones LLC	410-456-0418		diane@designjonesllc.com
Craig Fowaren	Gov. Mgr.	CORE USA	504 983-3677		Craig@consusm.com
Tim Jackson		UNO	504 231-3067		tjackson@ecor.net
Anna Bernal	10 AM	Royal	504 309 4129		abernal@royalengineering.com
Monica Rowand		Global Green	504-525-2121		mrowand@globalgreen.com
David Fruzynski		Hernandez Consulting	504 385-8571		dfruzynski@hernandezconsulting.com
Jackie Dadakis	Director	Green Coast	203-550-0996		jackie@greencoastenterprises.com
Alex Suedeller	Project Staff	Green Coast	919-622-2593		alex@greencoastenterprises.com
MARK SCALLY	DIRECTOR OF PROJECTS	CHESTER ENGINEERS	504 584-5560		mscally@chesterengineers.com
Linzey Powers	Grants Manager	City Park	504-483-9409		lpowers@nccp.org
Jamie Wine	F.O.	EWA	656-6224		jamienergy@a.org









Sewerage and Water Board of New Orleans		
Meeting Sign in Sheet		
Project: <b>RFP GREEN INFRASTRUCTURE PROJECT</b>	Meeting Date: <b>2/13/14</b>	
Facilitator:	Place/Room: <b>Carrollton Auditorium</b>	

Name	Title	Company	Phone	Fax	Email
Kathryn Wilhelm	New Orleans Office	Chester	504 584 5577		k.wilhelm@chestereng.com
Meg Adams	Const. Mgr	City Park	504 909 6714		m.adams@noap.org
Grant Ferrand	P.M.	WOOD MATERIALS	504 351 3564		
Taylor Fogelman	Student	Hilma 4 Landscape	504 475 2823		tfogelman@fabrice.com
Adam Perkins	Landscape Arch.	Dufreche-Perkins & Assoc	(985) 773-8802		adam@dufreche-perkins.com
Laura Dickwort	Landscape	Thrive Aloise	915 618 6077		ldickwort@thrivekenn.com
Susannah Burkly	Prog. Director	Parkway Partners	626 222 224		sburkly@parkwaypartners.com
Jean Fahr	Exec. Dir				j.fahr@parkwaypartners.com
Miriam Belbidia	Co-Founder	Water Works	504-615-2711		miriam@waterworksLA.com
Robert Mora	Engineer	Royal	504-261-7193		rmora@royalengineering.net
LINDA STONE	DIRECTOR	GGUSA	504-525-2121		lstone@globalgreen.com
Jeff Cornin	Eng	SolAH	931 0954		jeff@solalt.com
Tyler Ortega	Engineer	ORA Estuaries	225 372 5570		tyler@oratechnology.com
Jody Laska	Owner	E+E Strategies LLC	504 579 3633		laska.ees@gmail.com
Jolie Lemoine	Ch. Coord	USGBC-LA	504-330-1292		jolie@usgbcloisians.org

# ***Sewerage & Water Board of New Orleans***



## ***SWB Green Infrastructure - Request for Proposals Pre-Submittal Conference***

*February 13, 2014*

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## **Agenda**

- Sign-in / Question Cards
- Introduction
- Timeline
- Project Description
- Scope of Services
- Summary of Deliverables
- Budget
- Minimum Qualifications
- Proposal Requirements
- Selection Criteria
- Questions



*Sewerage & Water Board of New Orleans*

*<http://swbno.org>*

# Introduction

Please sign in and take an index card for questions

Third Modified Consent Decree  
\$500,000 x 5 years = \$2.5 million

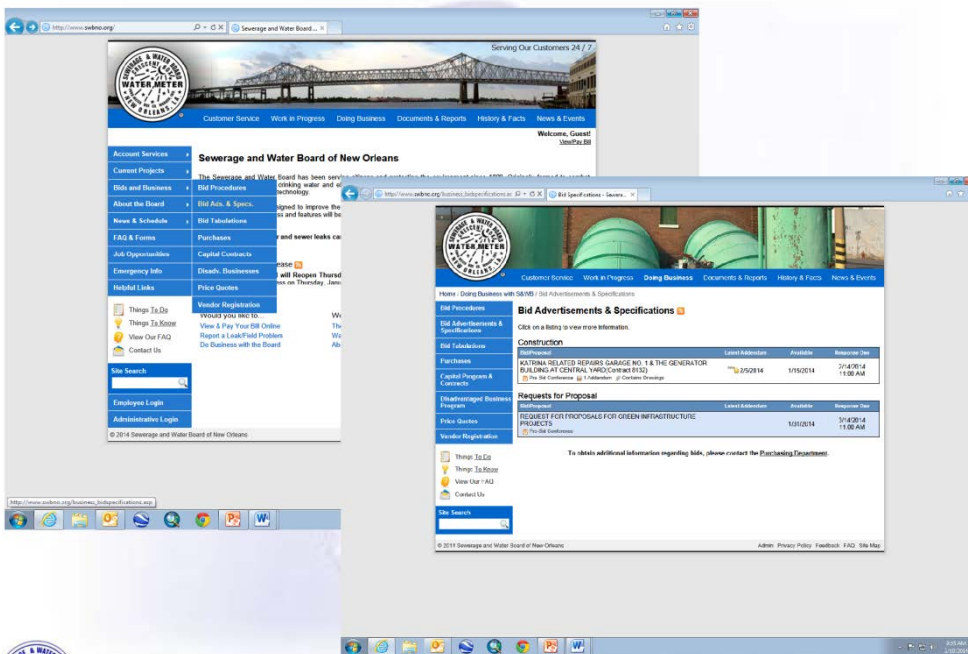
EPA MS4 Permit  
TMDLs

Partners/Co-Permittees



Sewerage & Water Board of New Orleans

<http://swbno.org>



Sewerage & Water Board of New Orleans

<http://swbno.org>



## Timeline

Date Issued:	January 27, 2014
Pre-Proposal Meeting:	February 13, 2014, 10:00 AM
Inquiries and/or Requests for Clarification Due to SWB:	February 21, 2014
SWB Response to Inquiries and/or Requests for Clarification Due:	February 28, 2014
<b>Proposals Due:</b>	<b>March 14, 2014, 11:00 AM</b>
Notice to Proceed:	Early Summer



Sewerage & Water Board of New Orleans

<http://swbno.org>

## Questions/Requests

Mr. Willie Mingo, Jr.  
Purchasing Agent  
Sewerage & Water Board of New Orleans  
625 St. Joseph Street – Room 133  
New Orleans, Louisiana 70165  
[wmingo@swbno.org](mailto:wmingo@swbno.org)



Sewerage & Water Board of New Orleans

<http://swbno.org>

## Project Description

The Sewerage and Water Board of New Orleans (SWB) is issuing a request for proposals (RFP) from qualified environmental professionals, non-profit, or community organizations to implement a Green Infrastructure (GI) project.

“Green infrastructure is an approach that communities can choose to maintain healthy waters, provide multiple environmental benefits and support sustainable communities...green infrastructure uses vegetation and soil to manage rainwater where it falls.” (EPA)



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## Project Description

The project must be one of the following types, or a combination thereof:

### Type 1

- Plan, develop, implement and maintain one (1) or more GI demonstration projects on public land within Orleans Parish.
- *Rain Gardens, Bioswales, Green Roofs, Tree Planting*

### Type 2

- Develop a GI *educational curriculum* to be implemented in Orleans Parish schools.

### Type 3

- Develop GI *workshops* curriculum for educating professionals, commercial businesses, homeowners, and neighborhood groups about the rapidly growing GI field.



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# Type 1

- The proposed site must be on **public land**
  - NORA list or other (subject to lease agreement)
- May be one (1) or a combination of several components
- Community outreach
- Must have maintenance plan
- Must propose water *quality* and water *quantity* monitoring plan



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# Type 1

**EPA Stormwater Calculator:**

<http://epa.gov/nrmrl/wswrd/wq/mo-dels/swc/>

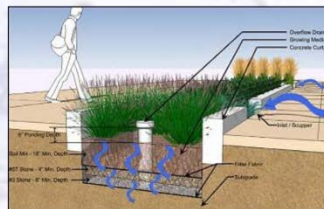
**Training Webinar:**

<http://water.epa.gov/learn/training/wacademy/archives.cfm#w20131023>



**NYC Design Standards**

[http://www.nyc.gov/html/dep/pdf/green\\_infrastructure/bioswales-standard-designs.pdf](http://www.nyc.gov/html/dep/pdf/green_infrastructure/bioswales-standard-designs.pdf)



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## Water Quality Monitoring

- **Minimum Parameters**
  - Dissolved Oxygen (D.O.)
  - Total Suspended Solids (TSS)
  - Fecal Coliform
  
- **Additional Parameters**
  - BOD, COD, CU, Pb, Zn, TP, TKN, NO<sub>2</sub>, NO<sub>3</sub>, TN, Oil and Grease, Pesticides



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## Type 2

- Educational Curriculum
- All schools, all grades eligible
- Preference to incorporating GI components from Type 1
- “Teach the teacher”



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## Type 3

- Professional Development
- Community outreach
- Adult education
- Workshops
- Outreach materials
- Social media



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## Summary of Deliverables

\*To be submitted by project completion



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## Minimum Qualifications

- Environmental/Landscape Background
- Documented Experience
- Includes proposed partners / sub-contractors



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## Budget

Sewerage and Water Board of New Orleans Green Infrastructure Project Proposal 2014				
Proposer:				
Title:				
<b>BUDGET:</b>				
Item/Task	Description	Total Amount	In-Kind	Total
Personnel				
Fringe Benefites				
Equipment				
Supplies				
Contractual				
Construction				
Other				
Indirect Costs				
<b>Total</b>				



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# Proposal Requirements

- Cover Letter
- Narrative
  - Project Type
  - Background
  - Project Description and Design
  - Plan/Schedule
  - Operations and Management / Expected Outcome
  - Budget
  - Letters of Support/Partnership



Sewerage & Water Board of New Orleans

<http://swbno.org>

# Selection Criteria

30%	60%	10%
<ul style="list-style-type: none"> <li>• Experience and qualifications</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluation of the Proposal</li> <li>• Quality of proposal;</li> <li>• Proposed Site</li> <li>• Monitoring plan</li> <li>• Maintenance Plan</li> <li>• Project Scale and GI Component(s)</li> <li>• Proposals will receive favorable consideration:                             <ul style="list-style-type: none"> <li>• Part of a community/neighborhood plan</li> <li>• Located in repetitive flood loss areas</li> <li>• Innovative in nature</li> <li>• Combination of several GI components</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Overall evaluation of the proposal</li> <li>• Evaluation of the Proposer's capability to perform the scope of services</li> <li>• Determined by the selection panel members</li> <li>• No submittal response is required</li> </ul>



Sewerage & Water Board of New Orleans

<http://swbno.org>

## Timeline

Date Issued:	January 27, 2014
Pre-Proposal Meeting:	February 13, 2014, 10:00 AM
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SWB Response to Inquiries and/or Requests for Clarification Due:	February 28, 2014
<b>Proposals Due:</b>	<b>March 14, 2014, 11:00 AM</b>
Notice to Proceed:	Early Summer



Sewerage & Water Board of New Orleans

<http://swbno.org>

## Questions

- Please submit in writing
  - Now on an index card, or
  - By email to Mr. Willie Mingo:

[wmingo@swbno.org](mailto:wmingo@swbno.org)

- Addendum to follow



Sewerage & Water Board of New Orleans

<http://swbno.org>



# ***Sewerage & Water Board of New Orleans***



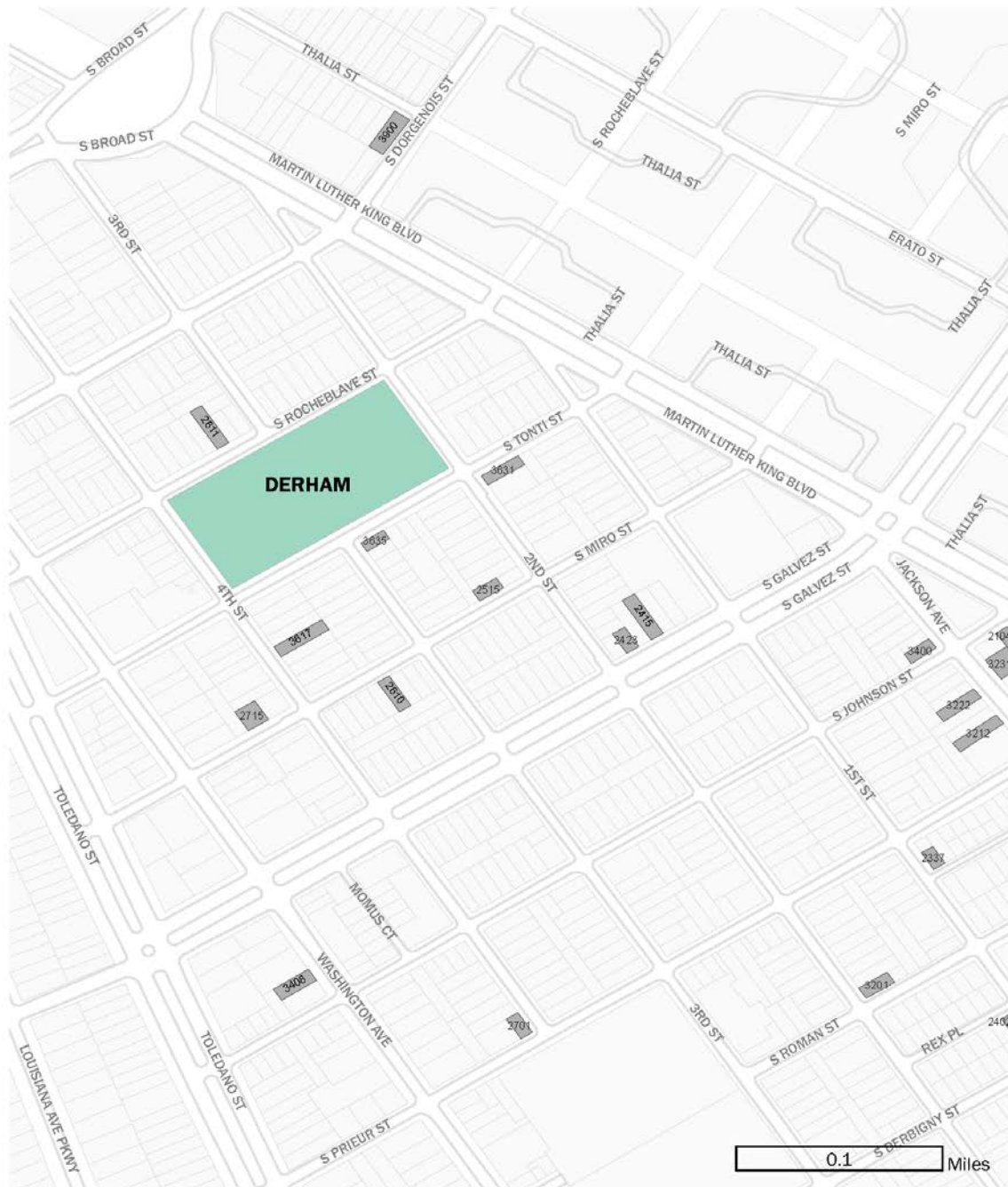
*Serving Our Community, Caring for the Environment*

## ***Thank You***

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### Vacant NORA Lots Near Derham



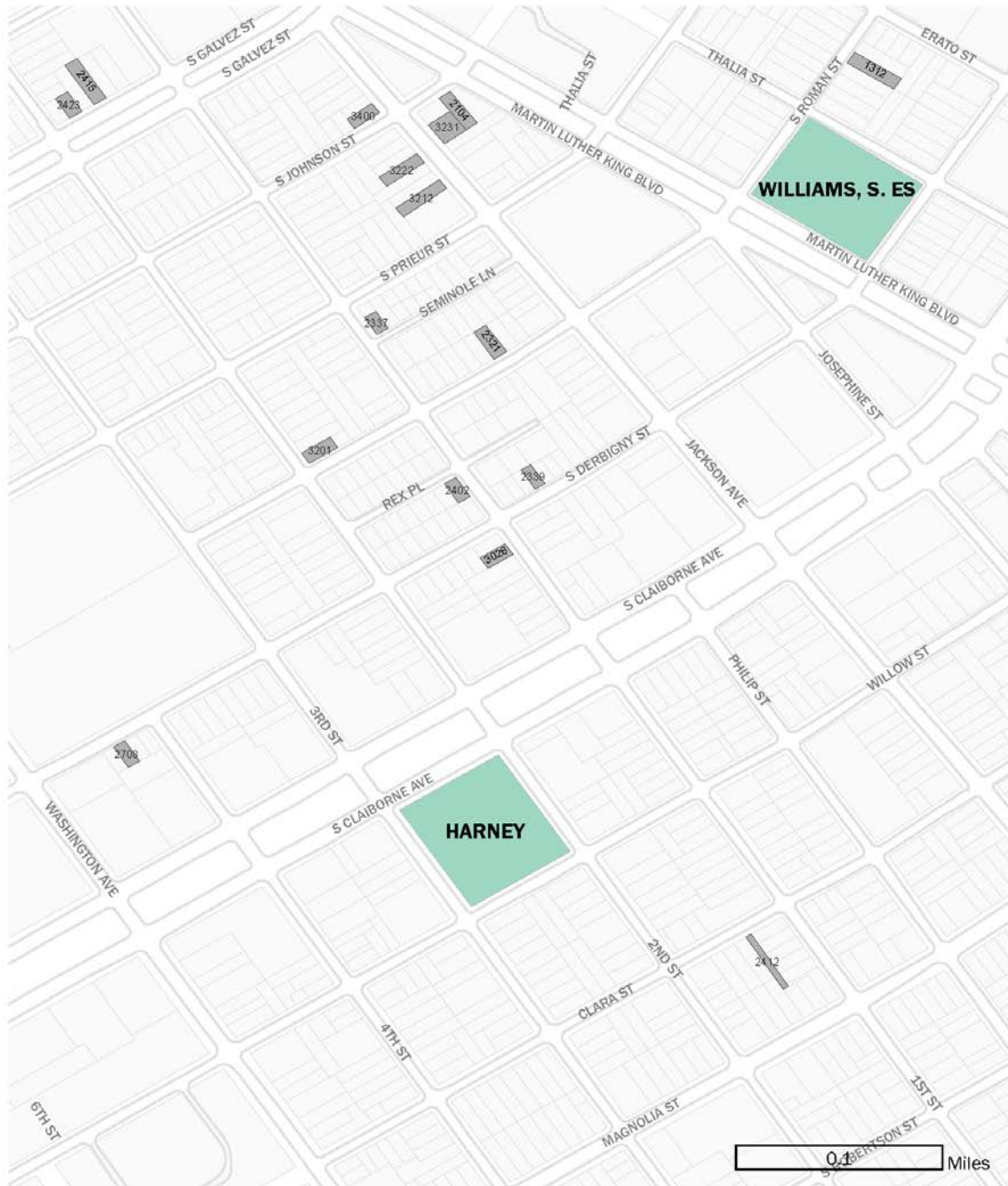
■ NORA available inventory

1/23/2014





### Vacant NORA Lots Near Harney



■ NORA available inventory

1/23/2014

### Vacant NORA Lots Near Guste

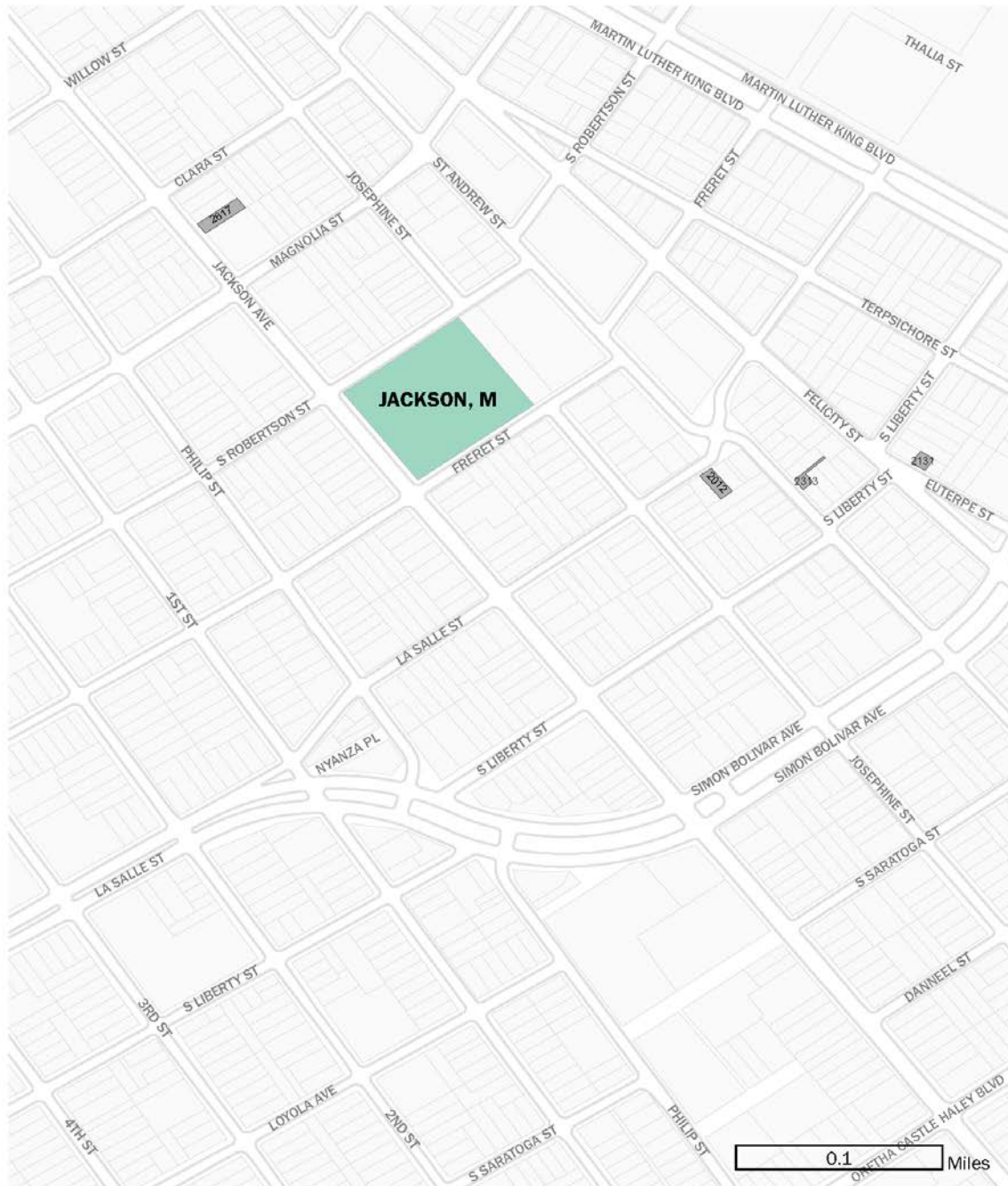


■ NORA available inventory

1/23/2014



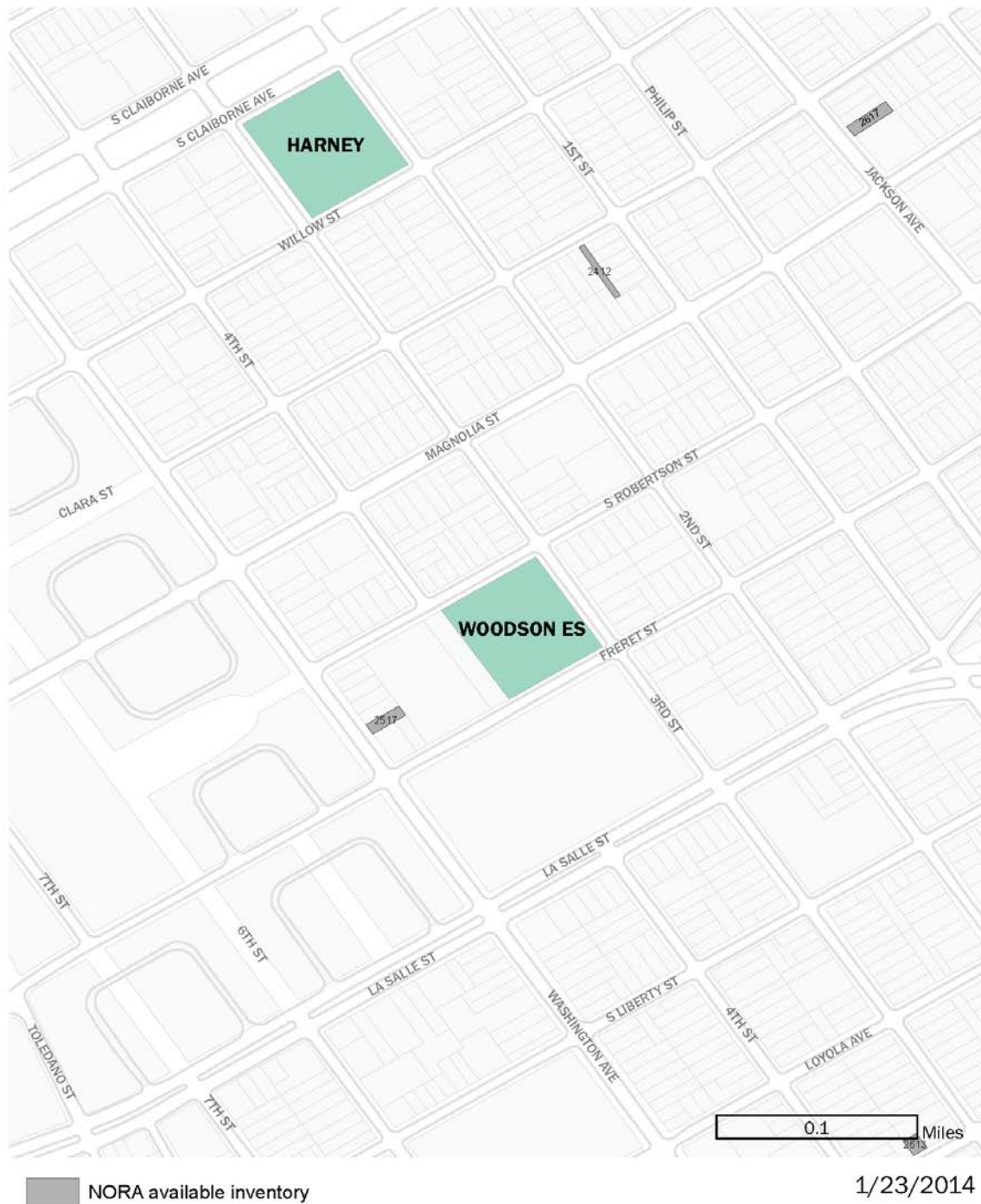
### Vacant NORA Lots Near Jackson



■ NORA available inventory

1/23/2014

### Vacant NORA Lots Near Woodside



### Vacant NORA Lots Near Tureaud



■ NORA available inventory

1/23/2014



### Vacant NORA Lots Near Frantz

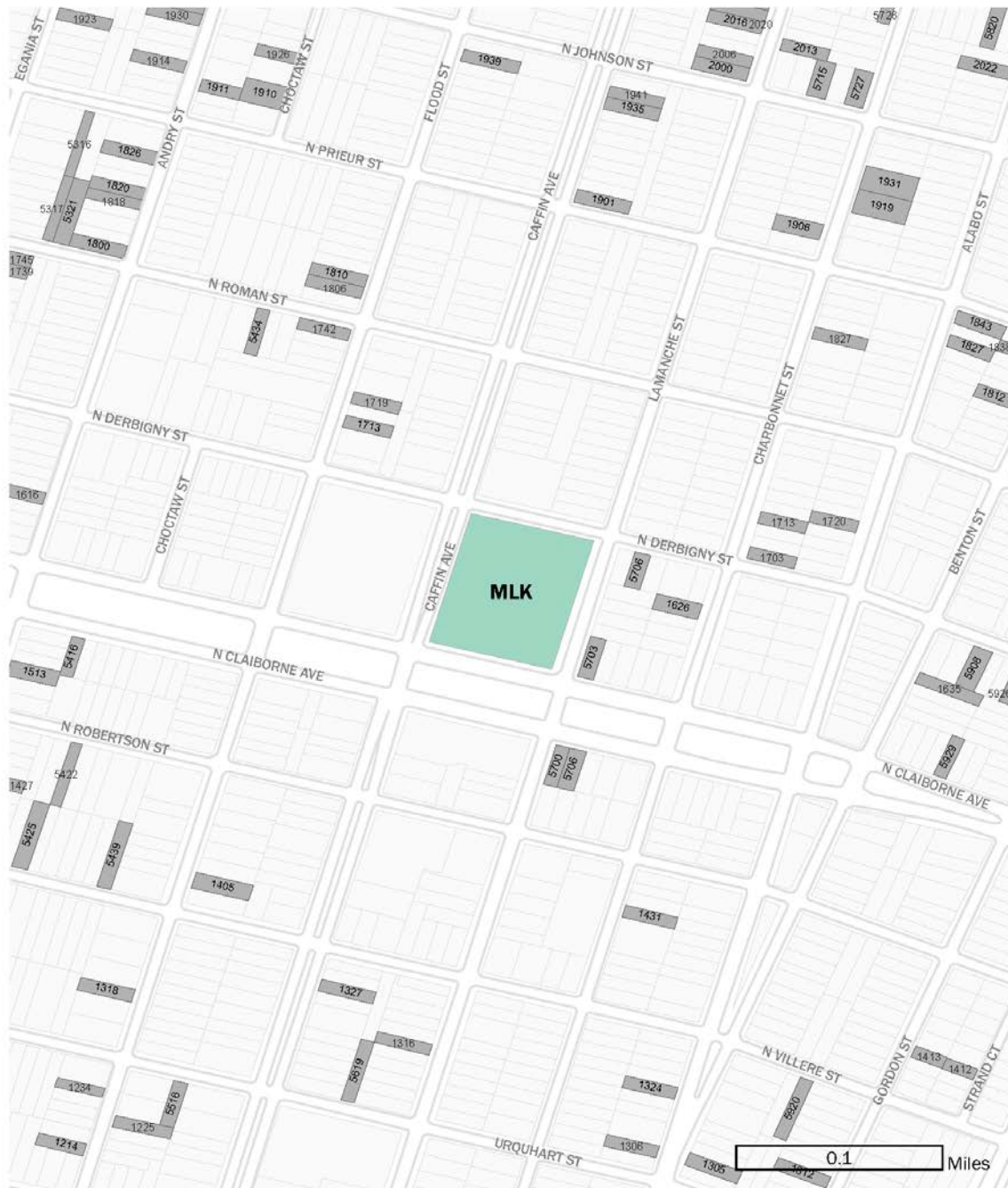


■ NORA available inventory

1/23/2014



### Vacant NORA Lots Near MLK



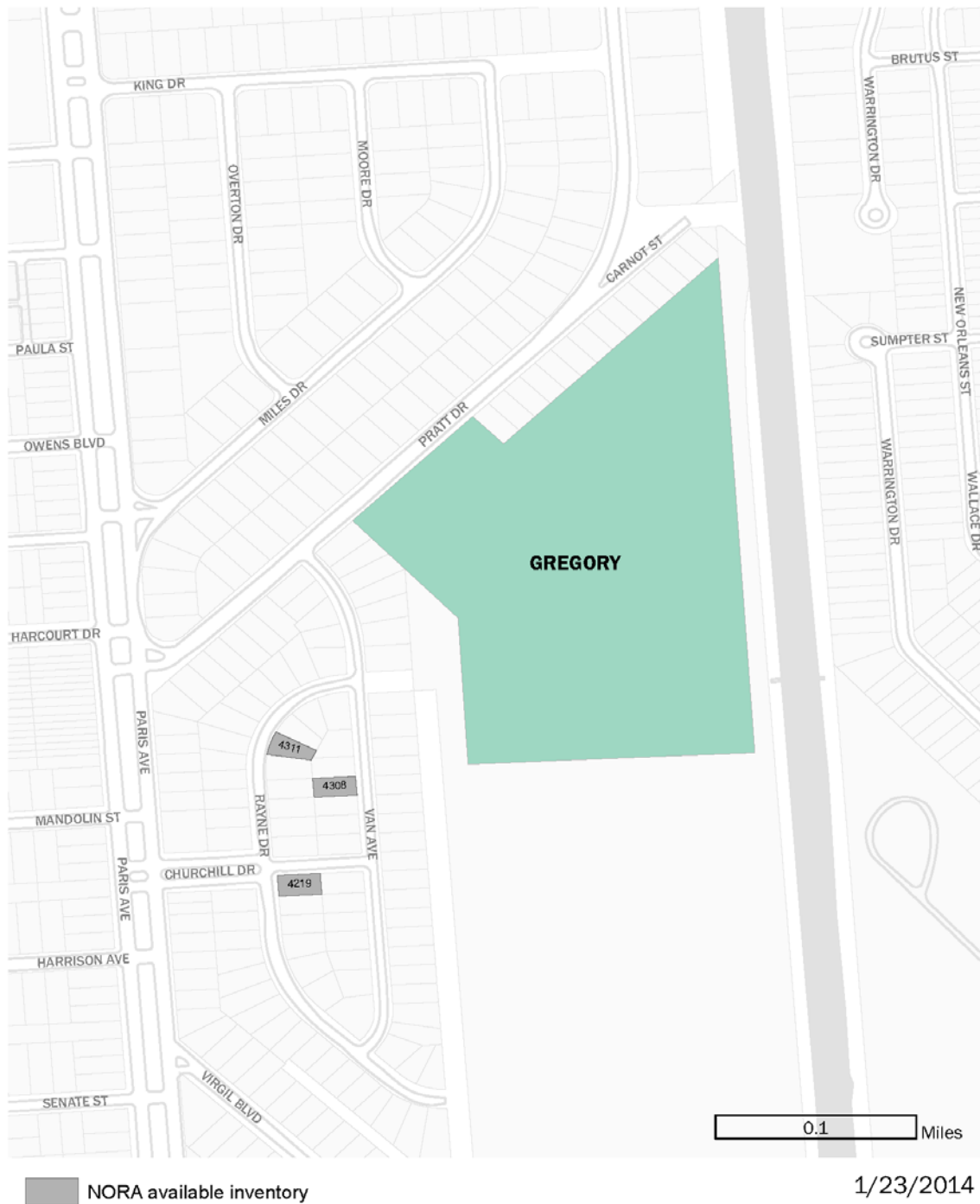
■ NORA available inventory

1/23/2014

### Vacant NORA Lots Near Lake Area HS and Gordon



### Vacant NORA Lots Near Gregory



### Vacant NORA Lots Near Gentilly Terrace



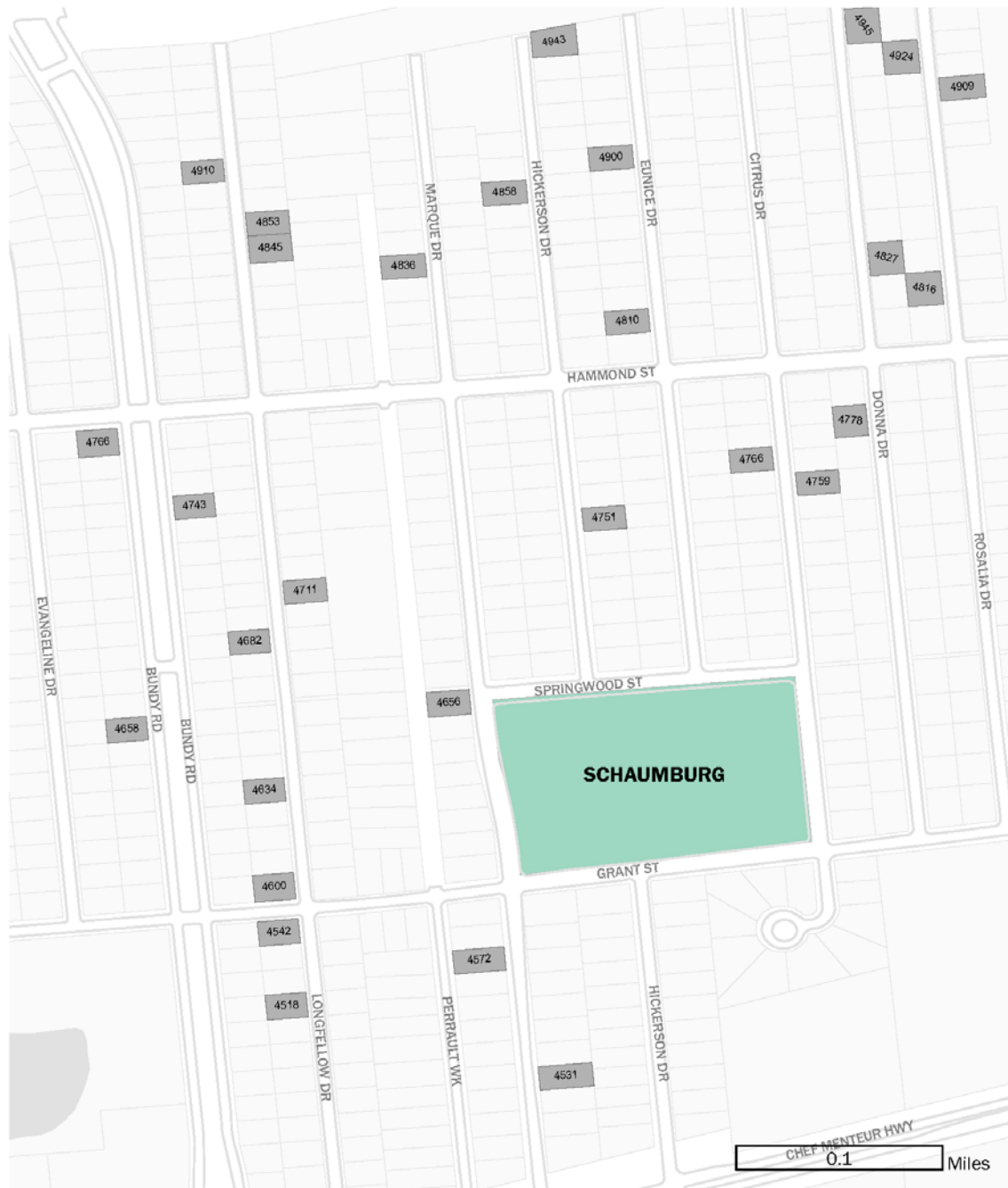
### Vacant NORA Lots Near Osborne



■ NORA available inventory

1/23/2014

### Vacant NORA Lots Near Schaumburg



■ NORA available inventory

1/23/2014





### Vacant NORA Lots Near Williams



### Vacant NORA Lots Near Village De L'est





**"RE-BUILDING THE CITY'S WATER SYSTEMS FOR THE 21<sup>ST</sup> CENTURY"**

## **Sewerage & Water Board OF NEW ORLEANS**

MITCHELL J. LANDRIEU, *President*  
WM. RAYMOND MANNING, *President Pro-Tem*

625 ST. JOSEPH STREET  
NEW ORLEANS, LA 70165 • 504-529-2837 OR 52W-ATER  
[www.swbnola.org](http://www.swbnola.org)

February 28, 2014

RE: REQUEST FOR REQUEST FOR PROPOSAL FOR GREEN INFRASTRUCTURE PROJECTS

Enclosed herewith is Addendum No.2 issued by Sewerage & Water Board of New Orleans for the above mention project on which information will be received by the Purchasing Agent of the Sewerage and Water Board at 625 St. Joseph Street Room 133, New Orleans, Louisiana 70165, up to 4:00 o'clock CST.

Please acknowledge the receipt of the Addendum for this project by attaching a signed copy of the addendum cover letter with the submittal.

Very truly yours,

Willie Mingo  
PURCHASING AGENT

Encl. (1) Addendum

Members of the Board: MARION BRACY • KERRI KANE • WM. RAYMOND MANNING • MARK M. MOODY • MITCHELL J. LANDRIEU  
GLEN PILIE • FLORENCE W. SCHORNSTEIN • CHARLES F. WEBB • BEVERLY WRIGHT, PHD • LOYCE P. WRIGHT  
*"An Equal Opportunity Employer"*

February 28, 2014

**ADDENDUM NUMBER (2)**

REQUEST FOR PROPOSALS FOR GREEN INFRASTRUCTURE PROJECTS

Proposals to be submitted by 11:00 o'clock A.M. Local Time on Friday, March 28, 2014.

The original request for proposal for this project, dated January 27, 2014 for the project are amended as noted in this Addendum Number (2).

This Addendum consists of 1 page and one (1) attachment.

<u>ITEM NO.</u>	<u>DESCRIPTION</u>
ADD 2-1	Page 1, delete paragraph 4 and replace with new paragraph that reads as follows:  "Inquiries and/or Requests for Clarification are due to SWBNO at the office of its Purchasing Agent Mr. Willie Mingo, Jr. on <b>Friday, March 7, 2014.</b> <b>Inquiries may be either in writing or via email to <a href="mailto:wmingo@swbno.org">wmingo@swbno.org</a>.</b> All responses will be posted by Friday, <b>March 14, 2014.</b> "
ADD 2-2	Page 1, paragraph 5, change the submittal date for all proposals from "Friday, March 14, not later than 11:00 A.M." to "Friday, March 28, 2014, not later than 11:00 A.M."
ADD 2-3	Page 11, Section VII. SUBMISSION PROCESS, paragraph 2, replace the date of submittal from "Friday, March 14, 2014" to " <b>Friday, March 28, 2014.</b> "
ADD 2-4	Responses to inquiries and /or requests for clarification. (7 pages)
ADD 2-5	Receipt of Addenda 1 and 2 shall be acknowledged in the cover letter submitted with your proposal.

END OF ADDENDUM #2

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**SEWERAGE AND WATER BOARD OF NEW ORLEANS  
REQUEST FOR PROPOSALS FOR THE GREEN INFRASTRUCTURE PROJECTS  
ADDENDUM NO. 2**

No.	QUESTION	RESPONSE
<b>ALL TYPE PROJECTS:</b>		
1.	Can an organization/firm be a part of more than one proposal?	An organization and/or firm can participate in more than one proposal submission.
2.	Would a comprehensive proposal – three proposals integrated into one big one with three components – be eligible?	A proposal may contain one, two or all three components as long as the proposal meets the objectives of each of the Project Types (components) as stated in the RFP.
3.	If plans include roll out of a program over multiple years, should this be submitted as well as part of the proposal?	The more detail and information provided in understanding the proposal and its part in an overall program would help the reviewers in scoring the project.
4.	If a proposal for \$ 100,000 is submitted and if it is not approved in full, is there a possibility you would choose that project still, but only partially fund.	The intent and preference is to evaluate each proposal as submitted. However, pending availability of funds and quality of the proposals submitted there is a possibility that a project may be partially funded.
5.	Can a group submit multiple proposals or does everything need to be tied into one and fit at \$100,000 or less?	Multiple proposals can be submitted and each will be reviewed individually.
6.	Can an organization /company submit 3 different projects up to \$100,000 under each project type?	Yes, an organization/company can submit as multiple proposals; however SWB intend to distribute the funds fairly among the proposers and across the City.
7.	Regarding minimum qualifications: is each team member's resume limited to two pages? Any limit to team size?	Each team member's resume is limited to two pages. There is no limit to size of the team.
8.	Can educationally obtained, non- Quality Assurance Project Plan (QAPP) led data be shared on-line as a teaching tool?	Yes, non-QAPP data may be shared on-line as a teaching tool with 1) SWB approval, 2) a disclaimer that the data does not follow QAPP protocol, and 3) if the SWB website is up and running.

**SEWERAGE AND WATER BOARD OF NEW ORLEANS  
REQUEST FOR PROPOSALS FOR THE GREEN INFRASTRUCTURE PROJECTS  
ADDENDUM NO. 2**

No.	QUESTION	RESPONSE
9.	Can groups of individuals apply if we have a fiscal sponsor?	Each proposal with a fiscal sponsor shall be evaluated on a case by case basis. Details on the sponsor's role and responsibility shall be included in the proposal.
10.	We don't yet have 501c3 status, but do have support and guidance from our partner organizations; one of them is willing to act as the fiscal sponsor. Is this kind of arrangement discouraged in any way?	Each proposal with a fiscal sponsor shall be evaluated on a case by case basis. Details on the sponsor's role and responsibility shall be included in the proposal.
11.	Is the project likely going to start in June 2014?	SWB desires to enter into an agreement with the successful respondents by early summer. However, delays may be encountered in processing the agreement.
12.	What is the expected time of the project?	Per the RFP, "An eighteen (18) month timeline is expected for projects from the date of notice to proceed to end of construction." This is a general guideline only.
<b>TYPE 1 PROJECTS:</b>		
13.	Is a project eligible if it is on private land, but has NORA-imposed storm water requirements?	No. Only publically owned sites are eligible.
14.	[Are] watershed connections to other regions [eligible]?	No. Only property in Orleans parish is eligible.
15.	Are SWB properties also candidates for Type 1 projects?	Yes. SWB properties are eligible candidates.
16.	Are other GI technologies besides those listed acceptable?	Yes.
17.	Any pitfalls from previous rain garden projects?	SWB does not have any experience with rain gardens.
18.	Any soil specifications?	SWB does not have any soil specifications for green infrastructure projects to provide to the proposers.

SEWERAGE AND WATER BOARD OF NEW ORLEANS  
REQUEST FOR PROPOSALS FOR THE GREEN INFRASTRUCTURE PROJECTS  
ADDENDUM NO. 2

No.	QUESTION	RESPONSE
19.	[Type 1] flood prone areas [favored]? Or are areas that mitigate flooding in flood prone areas [also favored]?	Sites in flood prone areas or sites that mitigate flood prone areas are encouraged. Geographically diverse locations will also be factored into project evaluation
20.	Regarding NORA sites—the list does not include all lots that NORA owns. Why?	The list provided with the RFP is limited to NORA sites near schools. All NORA property listed at data.nola.gov is eligible for consideration if available.
21.	Are the NORA properties listed in the RFP preferred?	The NORA properties are “public lands” and provided as an option only for respondents.
22.	If we should not contact NORA, how can we ensure the property in question will be available for a lease? Is it limited to the sites already provided?	NORA Properties listed in the RFP addendum and on the NORA web site are available for lease as of time of listing. Should a chosen property become unavailable NORA will work with SWB and the respondent to identify alternative sites.
23.	In the interest of sustainability, would property owned by a non-profit land conservation [entity], which is held open for public access/public good, qualify as public land?	Yes.
24.	Does a HANO owned property qualify as public?	Yes.
25.	Would you consider a storm water management project on private land if 1) an easement is planned, 2) it is leased by a nonprofit, 3) it is integrated in the local school, 4) it supports all of the other projects by reducing costs (i.e. by providing plant material).	Only publically owned sites are eligible. Option 3, private land integrated in the local school is acceptable as long as it's part of the Type 2 project.
26.	How are you defining the first one inch of rainfall?	One inch of rainwater is water one inch deep per surface area. Thus, 1 inch of rain is equal to 5.61 gallons per square yard or 27,150 gallons per acre or 17.37 million gallons per square mile.

**SEWERAGE AND WATER BOARD OF NEW ORLEANS  
REQUEST FOR PROPOSALS FOR THE GREEN INFRASTRUCTURE PROJECTS  
ADDENDUM NO. 2**

No.	QUESTION	RESPONSE
27.	How is the watershed area defined?	Watershed area is based upon drainage basins. SWB encourages the proposers to address specific areas with recognized drainage needs rather than dealing with an entire basin.
28.	Are projects that retain greater than one inch acceptable?	Yes.
29.	Does property owned by the Port of New Orleans qualify as public land for the purpose of the RFP? Should the land not qualify, could we consider locating green infrastructure along the public right-of-way associated with the street frontage of the property (i.e. bioswales near road/sidewalks, etc.)	Property owned by the Port of New Orleans does not qualify as public property for the purpose of this RFP. SWB currently understands that the "public" right-of-way on Port of New Orleans property is essentially an easement on private land and would not be considered eligible.
30.	Would a project be considered if it was on private land but involved multiple property owners and a nearby school, and a case could be made that the aggregate impact of the project reduces flooding in the neighborhood and the burden on public infrastructure? If the footprint of rain gardens involved were protected through easements would that make that project more eligible/attractive? What about projects that involve a streetscape (i.e. public right of way)?	Public rights of way are eligible, but private property is not. The definition of "public lands" for public purpose may be reconsidered as proposals are reviewed. SWB is willing to consider each proposal on a case by case basis.
31.	If the demonstration projects include another use other than storm water management, such as a public use (i.e. park, playground, fitness center), would it be considered?	If the project is designed primarily for storm water management, but will have secondary public benefits (such as for recreation), it would be considered for funding.
32.	How much does S&WB desire to be included in the design process? What about projects that have been designed and funded, but there is a piece missing that is needed to move them forward?	SWB intends to be an active partner with all successful respondents. This includes reviewing and providing final approval for all designs that are funded by SWB to ensure in compliance with the goals of the grant and design standards.
33.	Are projects eligible if they are already designed, and therefore closer to construction/completion?	Yes

**SEWERAGE AND WATER BOARD OF NEW ORLEANS  
REQUEST FOR PROPOSALS FOR THE GREEN INFRASTRUCTURE PROJECTS  
ADDENDUM NO. 2**

No.	QUESTION	RESPONSE
34.	There was reference to a map of NORA lots near schools, but it was not attached to the RFP. Are those properties still intended for sale eventually, to be put back into development/commerce?	The map has been attached to the RFP.  Long term disposition of the property would be defined in the terms of the lease signed between NORA and the grantee. SWB shall not fund projects that are not sustainable by the proposer.
35.	Is there an expected life of the project? For example 2 to 4 years for the project to exist on a lot.	The goal for Type I projects is to continue to be sustained by the proposer after the construction and monitoring periods.
36.	Can the demonstration projects include contiguous private land if the primary property is public and the project secures an easement to the private land?	Projects only on public lands are eligible  The definition of "public lands" for public purpose may be reconsidered as proposals are reviewed. SWB is willing to consider each proposal on a case by case basis.
37.	If two projects are equal, would one be preferred if in a more flooded area?	The purpose of green infrastructure projects is to delay, retain and reuse stormwaters. Thus, the project proposed in or upstream flood prone areas would be given preference.
38.	I know the RFP says 18months but then in places it says monitoring for 1 year. Is the total proposal timeline 18 months? Or is it 18 months to design and install and then the monitoring is another year?	Monitoring is expected to be completed within the 18 month period of the project. However, this is a general guideline.
39.	I'm seeking some clarification on if the RFP is for leasing the public space or if it also for purchase of the space on which proposed structures may be built.	NORA is a partner with the SWB, and in support of this partnership the RFP shall allow for leasing only of NORA lots through the construction for one year. It shall be the responsibility of the proposer to show the ability to lease throughout the maintenance period.



**SEWERAGE AND WATER BOARD OF NEW ORLEANS  
REQUEST FOR PROPOSALS FOR THE GREEN INFRASTRUCTURE PROJECTS  
ADDENDUM NO. 2**

NO.	QUESTION	RESPONSE
<b>TYPES 2 AND 3 PROJECTS:</b>		
40.	For Type 2 projects, is this expected to be an intensive, single school program, a program that moves among schools, or after school?	The purpose of Type 2 projects is to educate school age children on storm water best management practices with specific emphasis on green infrastructure. SWB is open to entertain all proposals that comply with the objective.
41.	Is the intent to have OPSB institute the program in the schools, or is this an elective program?	The intent is to have a program available as an educational tool for teachers to utilize.
42.	Does an after school program at a community center qualify as a school for Category 2 projects? The community center is owned and managed by HANO.	Yes.
43.	Do you want design of a project or education plan before awarding the proposal?	Awards shall be based upon the information provided in the proposal. Thus, sufficient detail and information shall be provided to describe the project and ensure it shall be successfully implemented.
44.	Can part of the plan be program development?	Yes.
45.	Type 3 proposals are listed as targeting professionals. But the objective refers to installation of rain barrels, a largely single family home strategy. Are Type 3 proposals aimed at promoting storm water detention and infiltration techniques for designers, builders and owners of commercial buildings, site landscapes, and parking lots appropriate for this grant opportunity?	The purpose of Type 3 projects is to educate adults in storm water management and green infrastructure practices. SWB shall entertain all proposals that accomplish this objective.
46.	For Type 3 projects, would SWB want input on the public awareness campaign?	Yes. SWB shall have final approval on all materials developed. The materials will be part of the SWB campaign and include the SWB logo.

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NO.	QUESTION	RESPONSE
47.	Will there be preference for professional development or for homeowner outreach?	No.
48.	Would there be an opportunity to review the campaign to fine tune details with SWB?	Yes. SWB will have final approval on all campaign details.
49.	What are possible deliverables for Type 2 projects?	The successful proposal shall provide a comprehensive plan and indicate what deliverables will be provided to ensure a successful Type 2 project.
50.	Is the construction of a GI project a requirement for the Type 2 and Type 3 projects?	No.
51.	Sales tax exempt status?	The SWB sales tax exempt status is non-transferable to grantees.
52.	How many hours of actual teaching time are expected in the classroom? For example once a week, once a month, etc.	The amount of teaching time required is dependent upon what is being proposed and leaves it to the proposer to recommend.
53.	During the pre-bid conference, it was mentioned that SWB wants to have rights to the curriculum. What does that mean exactly? Does the organization still get to use their curriculum? Will SWB be willing to use it in conjunction with or support an organization's development and promotion of the curriculum with both names attached?	All materials developed with public funds will become the property of the SWB for our use and distribution. However, SWB may entertain entering into an agreement with the developer to allow for mutual use, development and promotion of the curriculum with both names attached.
54.	At what point in the process should we approach individual schools about their interest and willingness to implement a curriculum? Is that something that needs to be done before we submit a proposal, or only if we are chosen to create the curriculum	There is no preference as to when school(s) are approached.