STATEMENT OF QUALIFICATIONS FOR

Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant

Jefferson Parish Resolution No. 139147
Public Notice SOQ 22-016

Stantec

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

SOQ 22-016 - Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant

Resolution No. 139147

B. Firm Name & Address where Project work will be performed:

Stantec Consulting Services Inc.
1340 Poydras Street, Suite 1420
New Orleans, LA 70112

C. Name, title and contact information of Principal, as defined in Section 2-926 of the Jefferson Parish Code of Ordinances, who is a registered, licensed architect, professional engineer, or surveyor in the State of Louisiana:

Dan Grandal, PE, CFM, LEED AP, Vice President
Louisiana Professional Engineering License No. 39361, 2014
dan.grandal@stantec.com
504-654-1756

D. Name and contact information of employee who is a registered and licensed architect, professional engineer, or surveyor in the State of Louisiana in the applicable discipline. A subcontractor may be substituted here only if the advertised Project requires more than one discipline.

Tom Cancienne, PE, PMP Senior Principal
Louisiana Professional Engineering License No. 31527, 2004
thomas.cancienne@stantec.com
504-654-1726

E. Please provide the number of employees whose primary function corresponds with each category:

17 (3105)	Administrative	0 (179)	Geotechnical Engineers	0 (25)	Grant/Funding Specialist
0 (535)	Architects (Licensed)	0 (209)	Interior Designers	0 (11)	Sanitary Engineers
1 (136)	Chemical Engineers	0 (191)	Landscape Architects	**11** (574)	Drafting
38 (2444)	Civil Engineers	0 (225)	Land Surveyor	0 (193)	GIS Specialists
4 (451)	Construction Inspectors/Managers	**1** (636)	Mechanical Engineers	**2** (2282)	Other Technical Disciplines
3 (1246)	Ecologists/Biologists	0 (335)	Environmental Engineers		
3 (724)	Electrical Engineers	0 (39)	Specification Writers		
13 (1034)	Engineer Intern	**10** (750)	Structural Engineers		
0 (69)	Professional Land Surveyors	*See EI*	Graduate Engineers		
0 (16)	Estimators	**4** (711)	Project Managers		
1 (224)	Geologists	*See Admin*	Clerical	**108** (16344)	**Total**

Numbers in **Bold** Are for Local (LA) Personnel; Numbers in Parenthesis Indicate all North American Personnel

F. Is this submittal by a JOINT-VENTURE? Please check: YES _____ NO __X__

If marked "No" skip to Section I. If marked "yes" complete Sections G-H.

G. If submittal is by JOINT-VENTURE, list the firms participating and outline specific areas of responsibility (including administrative, technical, and financial) for each firm. Please attach additional pages if necessary.

1. N/A

2.

H. Has this JOINT-VENTURE previously worked together? Please check:

YES _____ NO _____ N/A

I. List all subcontractors anticipated for this Project. Please note that all subcontractors must submit a fully completed copy of this questionnaire, applicable licenses, and any other information required by the advertisement. See Jefferson Parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.

Name & Address:	Specialty:	Worked with Firm Before (Yes or No):
1. Infinity Engineering Consultants, LLC 4001 Division St. Metairie, LA 70002	Drainage and Roadway Design	Yes
2. Waggonner & Ball Architecture/Environment 2200 Prytania St. New Orleans, LA 70130	Landscape Architecture, Conceptual Planning, and Public Outreach	Yes
3. Batture, LLC 5110 Freret Street New Orleans, LA 70115	Survey	Yes

J. Please specify the total number of support personnel that may assist in the completion of this Project:

We have identified 17 staff members, not including our subconsultant partners, in our organization chart in Section N to deliver all tasks for the Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant project. Should additional staff be required, we have access to many additional resilience planning and design professionals as well as grant specialists available through our 25,000 global staff.

K. List the professional in charge, key persons, specialists, and individual consultants anticipated for this Project and provide their relevant information below. If necessary, please attach additional documentation (i.e. resume) that demonstrates the employment history and experience of the Firm's key persons that may assist in the completion of this Project. Please attach additional pages if necessary.

PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

Tom Cancienne, PE, PMP | Senior Principal

Project Assignment:

Project Manager

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

6 (23 Total)

Education: Degree(s)/Year/Specialization:

BS | 2000 | Civil Engineering

Active registration: Year first registered/discipline:

2004 | Civil Engineering LA No. 31527
Project Management Professional – Project Management Institute

Other experience and qualifications relevant to the proposed Project:

As your Project Manager, Tom brings 23 years of experience leading projects in Jefferson Parish and across South Louisiana. He has experience in all phases of water resource planning, design, and construction projects, including storm drainage analysis and design, stormwater green infrastructure, stream bank restoration, hydrologic and hydraulic engineering of wetlands, freshwater diversions, and mechanical and hydraulic dredging projects for beneficial use of sediments. Tom is skilled in managing large-scale projects and preparing bid-award contract documents, hydrologic and hydraulic analysis engineering reports, engineering and construction cost estimates, and master drainage plans.

Relevant Project Experience

QA/QC | Bucktown Harbor Boardwalk and Marsh Overlook | Jefferson Parish, LA
Performed design and constructability reviews of the 2,000-foot-long boardwalk designed to withstand wave loading and submergence. Bucktown Boardwalk makes new connections linking Bucktown Harbor Park to a 3.5- acre coastal marsh in an urban setting. The project immerses and informs users of all ages of the value of coastal wetlands to wildlife, birds, fisheries, and water quality by providing safe, controlled access along the shoreline between the marsh and the open water of the Lake.

Project Manager and Lead Civil Engineer | St. Bernard Campus, Gentilly Resilience District, New Orleans, LA
Leading this multi-phase stormwater resiliency project for the City of New Orleans Office of Resilience and Sustainability. The project is being designed with multiple benefits including integrating green infrastructure and recreational improvements at McDonogh 35 High School and Willie Hall Playground. By using innovative resilience strategies such as green and grey infrastructure, the design will strengthen the overall stormwater system. In addition, the project will reduce the risk of flooding by creating spaces to capture

rainwater in the urban landscape. The project features a 5 million gallon underground stormwater storage system, sports recreation fields for football, baseball and basketball, multi-purpose recreation support building, neighborhood rain gardens and road improvements. A 2.5-acre park including a kids playground, boardwalk, kayak launch, shade structure, park landscaping and walking trail will also be included in this project.

Project Engineer | Blue and Green Corridors Project, New Orleans, LA
Performed design of improvements in the right-of-way of six major street corridors in Gentilly neighborhood and seven adjacent city-owned park lots for this HUD CDBG-DR funded project. These major boulevards in Gentilly will be re-envisioned as "blue" corridors, "green" corridors, and priority complete streets. These blue and green corridors are designed capture and store stormwater during storm events and slow infiltration providing flood mitigation and reducing subsidence. The City lots are repurposed as stormwater lots, neighborhood parks and other destinations for the community. The project goals addressing resilience, social, economic, and environmental goals through innovative solutions so that people, culture, and infrastructure can thrive. The design also provides recreational facilities, exercise stations, aesthetic enhancements, roadway improvements, complete streets, bike and pedestrian facilities, landscaping water features, public education, security lighting, ADA improvements and other amenities. The project included an intensive public engagement to set the scope and included design and construction management.

Project Engineer | Hagan-Lafitte Drainage and Green Infrastructure | New Orleans, LA
Performed hydraulic modeling and analysis to establish BCA for $5.5M FEMA HMGP funding. This project to provides drainage upgrades and green infrastructure improvements for the Hagan-Lafitte neighborhood to improve the residents' quality of life. The stormwater management system includes a combination of grey and green infrastructure including rain gardens, pervious sidewalks, and underground storage to substantially reduce the risk of property loss and flooding within the neighborhood. Easton Park was utilized for underground storage and improved. The system reduces peak flows into the drainage system for extreme weather events affording the overall pumping system additional capacity. The project also increases aquifer recharge to minimize roadway and structure subsidence.

Project Engineer | Shoreline Protection at Jean Lafitte National Historic Park | Jefferson Parish, LA
Design Lead responsible for the engineering and design of an 11-mile breakwater structure along the Jean Lafitte National Park and Preserve shoreline to protect and enhance submerged aquatic vegetation (SAV) habitat that was lost during the 2010 Deepwater Horizon (DWH) oil spill. The project requires following the National Park Service Workflows and coordinating with various state and federal agencies to develop a design that will provide optimum SAV habitat and shoreline protection for decades. Utilizing his construction management expertise on similar projects, Tom is designing a constructible system to maximize benefits with minimum cost.

Project Manager | Jefferson Parish Coastal White Paper | Jefferson Parish, LA
Leading the Stantec team working with the Jefferson Parish Coastal Zone Coordinator to provide a base document for the public to understand current and future coastal land loss, as well as provide a review of historical and future coastal planning efforts to result in a more resilient Jefferson Parish. Identified and collected data from multiple sources to assist Jefferson Parish leadership with the understanding of what is at stake as the Parish continues to lose coastal landscape. This white paper provides Jefferson Parish with the information needed to help build support for their efforts to preserve and protect their coastal landscape and to help secure the funding necessary to accomplish those objectives.

Task Lead | Louisiana, FEMA Hazard Mitigation Technical Assistance Program, Federal Emergency Management Agency | LA
As a result of nine disaster declarations from 2005 – 2013 in the state of Louisiana, assisted FEMA Region 6 with review of applications for Hazard Mitigation Grant Program (HMGP) funding under its Hazard Mitigation Assistance (HMA) program. Served as a task lead to provide technical support on several applications totaling over $100M for eligibility per the Unified HMA Guidance, as well as criteria for environmental, hydrologic and hydraulic benefits, engineering feasibility, and benefit-cost.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Daniel Grandal, PE, LEED AP, CFM | Vice President

Project Assignment:

Program Manager

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

22 (28 Total)

Education: Degree(s)/Year/Specialization:

BS | 1993 | Civil Engineering

Active registration: Year first registered/discipline:

2014 | Civil Engineering LA No. 39361

Other experience and qualifications relevant to the proposed Project:

Dan brings 28 years of experience in management of stormwater, resiliency and green infrastructure projects. He is a LEED accredited professional and Certified Floodplain Manager who understands the beneficial functions of managing a floodplain using innovative stormwater principles as an amenity to improve quality of life for the community while protecting their homes and neighborhoods. Dan is the Principal-in-Charge for this opportunity. He is experienced in managing large multidiscipline projects including design management of USACE/ SWBNO's PCCP Permanent Canal Closure and Pumps (Design/Build) and the Hagan Lafitte Green Infrastructure project. These multidisciplinary projects require the cooperation and coordination with multiple agencies and the departments with interests in the success of the outcome. His experience ranges from stormwater projects, neighborhood parks, site developments, urban design and bike/pedestrian sustainable balance. He has a long track record of delivering executing projects on time and within budget while meeting federal funding requirements for his projects.

Relevant Project Experience

Principal-in-Charge | Bucktown Harbor Boardwalk and Marsh Overlook | Jefferson Parish, LA
Provided senior oversight and well as staffing resource and contracts support for this boardwalk and marsh restoration project in Jefferson Parish, LA. Bucktown Boardwalk makes new connections linking Bucktown Harbor Park to a 3.5- acre coastal marsh in an urban setting. The project immerses and informs users of all ages of the value of coastal wetlands to wildlife, birds, fisheries, and water quality by providing safe, controlled access along the shoreline between the marsh and the open water of the Lake.

Project Manager | Strategic Water Pathways – 100 Resilient Cities | New Orleans, LA
to review and assess the internal drainage system and provide consultation services for development of a future system vision including level of service and funding strategies. Tasks included mining historical studies and hydrologic models across City-system; updating hydrologic models; adding runs; representing various storm events from 1.5-year to 500-year (67% to 0.2% AEP)-; assessing consequences of various storm events; selecting level of service; identifying, screening and costing sub-basin and watershed mitigation alternatives and assessing long-term sustainable funding strategies.

Principal-in-Charge | Blue and Green Corridors Project | New Orleans, LA
Provided senior oversight for this HUD CDBG-DR funded project centered on designing improvements for major boulevards in Gentilly to be re-envisioned as “blue” corridors, “green” corridors, and priority complete streets. These blue and green corridors are designed capture and store stormwater during storm events and slow infiltration providing flood mitigation and reducing subsidence. The project goals include resilience, social, economic, and environmental goals and included an intensive public engagement to set the scope.

Principal-in-Charge/Project Manager | Hagan-Lafitte Drainage and Green Infrastructure | New Orleans, LA
Managed drainage upgrades and green infrastructure improvements for the Hagan-Lafitte neighborhood to improve the residents’ quality of life. The stormwater management system includes a combination of grey and green infrastructure including rain gardens, pervious sidewalks, and underground storage to substantially reduce the risk of property loss and flooding within the neighborhood. Easton Park was utilized for underground storage and improved. The system reduces peak flows into the drainage system for extreme weather events affording the overall pumping system additional capacity. The project increases aquifer recharge to minimize roadway and structure subsidence. Hydraulic modeling was performed to establish BCA for $5.5M FEMA HMGP funding. The project also included public outreach.

Green Infrastructure Co-Lead | MOVEBR Infrastructure Enhancement and Traffic Mitigation Program Management, Baton Rouge, LA
Has provided planning and design guidelines and details to support the development of the program design manual. MOVEBR is the largest and most significant transportation infrastructure investment in East Baton Rouge Parish, Louisiana history. The program includes comprehensive traffic improvements and community enhancements to revitalize infrastructure and enhance mobility. Stantec’s scope of work is focused on relieving traffic congestion, enhancing corridors, and increasing multi-modal mobility and safety. At the start of the program, Dan presented conceptual GI opportunities to the client for project inclusion.

Principal-in-Charge | St. Bernard Campus, Gentilly Resilience District, New Orleans, LA
This $10 Million HUD CDBG-DR funded project addresses flood mitigation through innovative green infrastructure and stormwater chambers. The project aims at improving quality of life by addressing resilience, social, economic, and environmental goals through innovative solutions so that people, culture, and economy can thrive. Project includes programming, athletic fields including baseball / football / basketball / track and field facilities, neighborhood park, playground, boardwalk, kayak launch, walking and biking trails, community covered meeting and event space, safety lighting, landscaping and other amenities throughout the neighborhood. The project included an intensive public engagement to set the scope, design and construction management.

Design Director/Construction PM | Permanent Canal Closures and Pumps Project (PCCP) | Kiewit Corporation for US Army Corps of Engineers (USACE), New Orleans District | New Orleans, LA
Dan is responsible for coordination of design process for the PCCP project, which includes three 24,300-cfs pump stations featuring flood walls, levees, generator stations, fuel farms, and flood gates designed for both current and future conditions. Dan led multidiscipline coordination, technical issue coordination, quality control, construction submittal quality assurance, construction administration, design schedule coordination, and communication with the JV partners and USACE. His knowledge of USACE MVN design standards, southeast Louisiana geotechnical conditions, large gated structures, SCADA controls, pump station design, and CPRA expectations for long-term O&M expedited the design-build project. The project also required use of leading-edge modeling, BIM and CAD tools for structures, hydraulics, geotechnical, electrical, mechanical, and other disciplines to execute over 280 design submittals to USACE.

Project Manager | Belle Meade Drainage Improvements | Miami, FL | City of Miami
Managed design of the pump station which required three 150 hp electric submersible axial-flow pumps and one 60 hp (jockey) submersible pump. Total station design capacity is 52,000gpm or 116cfs. This $12 million project consisted of the design, permitting and construction management of a large stormwater pump station, collection system and discharge force main encompassing several miles of road in a developed flood-prone 60-acre neighborhood.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

John Malueg, PE | Resilience Planning and Design Program Manager

Project Assignment:

QA/QC / Technical Advisor

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

21 (36 Total)

Education: Degree(s)/Year/Specialization:

BS | 1980 | Water Biology
BS | 1983 | Civil and Environmental Engineering

Active registration: Year first registered/discipline:

1988 | Civil Engineering KY No. 15642

Other experience and qualifications relevant to the proposed Project:

As Stantec's program manager for resilience planning and design, John is an expert in critical infrastructure risk identification and hazard mitigation including related grant funding (FHWA, FEMA, USACE and HUD) programs. He served as resilient infrastructure subject matter expert supporting The Rockefeller Foundation's U.S. nation-wide series of Resilience Academies and global 100 Resilient Cities (100RC) initiative, the Houston 2020 Vision competition, and a key contributor to the development and publishing of ADC's Defense Community Resilience Planning Framework. He provides executive coaching and guidance to maximizing opportunities and improve community resilience. John's knowledge and expertise stems from a 36-year career holding leadership positions in government and private consulting. He's serving as technical lead facilitating New York City's Health and Hospital Corporation response and recover to the devastating impacts of Hurricane Sandy and facilitated a solution including assisting the City secure nearly $900 million in recovery and $800 million in federal funding to rebuild with resilience in mind.

Relevant Project Experience

Grant Funding Advisor | FEMA BRIC: Tottenville Beach Recovery and Restoration | Staten Island, NY
Project advances community coastal risk reduction through layers of nature-based solutions starting off-shore utilizing living breakwaters, and then moving on shore utilizing a network of natural and reinforced dunes complemented by green infrastructure. Project included developing a grant funding strategy, drafting the grant application including completing required benefit-cost analyses and assisting the community through grant award negotiations. Total FEMA BRIC grant award was approximately $21,000,000. Award was 1 of 10 largest awarded in FEMA 2020 BRIC cycle.

Program Manager | FEMA BRIC: Alaska Native Tribes Resilient Grant Program and Project Services, Statewide, AK
Performing resilience grant program outreach and education, including providing grant strategy development and implementation executive coaching. Initial focus is helping qualified native villages secure $25M Tribal BRIC program set aside and position to compete in the $1B BRIC competitive grant funding pool. To date

have assisted in 24 FEMA BRIC grant applications in the categories of capability and capacity building as well as resilient infrastructure scoping. Grants funding requests to-date exceed $5.5 million.

Technical Advisor | NFWF / FEMA BRIC: Great Lakes Coastal Community Resilient Needs Assessment; GLSL Cities Initiative | Great Lakes Region

Assisted in developing three (3) grants, bundling regional smaller non-profit sponsored grants with larger National Fish and Wildlife Foundation (NFWF) grant. Key project deliverables are a series of project frameworks that document coastal community needs, vulnerabilities, risks, mitigation actions, potential funding partners and strategy to advance various projects towards implementation. Key target community resilient project funding source is FEMA's new $1B BRIC funding program. NFWF grant award is approximately $500K

Lead and Technical Advisor | HUD CDBG-DR: National Disaster Resilience Completion (NDRC) Phase 2, Multiple Jurisdictions, Nationwide

the development of seven (7) NDRC Phase 2 grant applications. Individual value of federal grant funding solicited ranged from $200,000 to $865,000,000. Awards secured by our clients approached $250 million. Clients included states, counties and districts. Hazards address ranged from sea-level rise, tornadoes, hurricane, riverine flooding, heat and subsidence. Today Stantec continues to support this initiative participating in program management and detailed project design

Resilience Advisor | FEMA HMGP: Critical Infrastructure Wastewater Facilities Coastal Flood Risk Vulnerability Assessment | Cape Coral, FL

Supported vulnerability assessment of City's two wastewater treatment facilities. Reviewed findings of vulnerability assessment of risks from 100-, 500-, hurricane category 1 through 5 in addition to including considerations for climate change and associated sea level rise. Deliverables included preliminary discussion of federal HMGP and PDM grant funding opportunities.

Resilience Advisor | Strategic Water Pathways – 100 Resilient Cities | New Orleans, Louisiana

As the City of New Orleans turned 300 years old, John and team, in partnership with the City and Rockefeller Foundation (100RC), plotted a resilient community-based strategy for the next 100-years. As a coastal city dealing with regular flooding and hurricane-driven disaster declarations, key elements of the plan included incorporating green and maximizing existing infrastructure to reduce flooding and enhance overall sustainability. Analysis will provide the basis for a new water system improvement bond issue.

Funding Advisor | Strategic Financial Pathways – 100 Resilient Cities | New Orleans, Louisiana

John and team, in partnership with the City and 100RC, completed analyses and facilitated workshops that evaluated the right mix of green and grey infrastructure and financial mechanisms to pay and maintain improvements. Analysis considered level of service, implementation period and included evaluation of a blend of millage, stormwater user fees, fee-in-lieu-of, tourism taxes and external grant funding to pay for selected plan.

Resilience QA/QC | Blue and Green Corridors Project | New Orleans, LA

QA/QC advisor for the largest Gentilly Residence District project that aims to reduce flood risk, slow land subsidence, and encourage neighborhood revitalization. Provided design review and suggested applications of resiliency techniques as part of the City's first Resilience District within the Gentilly neighborhood.

Critical Infrastructure and Funding Subject Matter Expert | Houston Vision 2020 | Houston, TX

Post the devastation of Hurricane Harvey, the City of Houston came to a consensus that they must change the way it plans and builds for the future. Houston 2020 Visions was a year-long visioning competition, seeking creative and innovative ideas for how to rebuild a better, more resilient community. Stantec's facilitated vision, framed around creating a Network of Lilly Pads was selected by a jury to be curated into an exhibit mounted at Architecture Center Houston in the spring of 2020, along with the release of a corresponding publication. Resilient Houston, a model for the world.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Caroline Cunningham, AICP, CFM, ABCP, RMP | Hazard Mitigation Services Lead

Project Assignment:

Urban Planning

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

21 (36 Total)

Education: Degree(s)/Year/Specialization:

Master of City and Regional Planning | 2009
BS, magna cum laude | 2007 | Environmental and Natural Resource Planning, Economic Policy Concentration

Active registration: Year first registered/discipline:

Certified Planner #218388, American Institute of Certified Planners (AICP)
Certified Floodplain Manager #NC-12-0448, Association of State Floodplain Managers
Associate Business Continuity Professional (ABCP) #35268, Disaster Recovery Institute International
Risk Management Professional (RMP), FEMA

Other experience and qualifications relevant to the proposed Project:

Caroline is Stantec's Lead for Hazard Mitigation Services and hasbsupported 250+ clients nationwide to deliver FEMA-approved hazard mitigation plans, FEMA HMA and HUD mitigation grant support, and FEMA Risk MAP and NFIP implementation. Her expertise in risk assessment, hazard mitigation strategy development and technical assistance, and resilient-centered public engagement and facilitation for state, local, territorial, tribal, university, and private clients is evidenced by her history of successful project management for $15M+ in projects and 50+ hazard mitigation plans. Caroline is a FEMA-authorized hazard mitigation planning and Hazus-MH instructor, exemplifying her knowledge in the field.

Relevant Project Experience

Project Manager/Application Support | National Disaster Resilience Competition (NDRC) Assistance | Nationwide

NDRC was a $1B, two-phase competition for eligible jurisdictions to compete for community resilience grants. Stantec provided NDRC application support to jurisdictions in multi-hazard risk assessment, project design, stakeholder outreach, project prioritization, benefit/cost analysis, and application writing. As part of the process, Stantec reviewed, catalogued existing resilience procedures, and interviewed stakeholders to identify new policies where feasible. All projects included a triple bottom line analysis (social, environmental, economic) which incorporated social vulnerability and environmental justice considerations tailored to each application. Both structure and policy-based projects were recommended to increase resilience in communities. Stantec provided assistance to eight jurisdictions in preparing Phase 2 applications including the Commonwealth of Virginia (storm surge and climate change). Our applicants were successful in securing nearly $250million in grants to reduce disaster impacts and increase resiliency in their communities. Caroline served as the project manager to support Puerto Rico's NDRC phase 2 application, as the technical lead on the City of Tuscaloosa, AL's application, and oversaw QA/QC of all client applications (as requested).

Project Manager | Mitigation Engagement Program and Technical Support, Multiple Task Orders

Developed an outreach strategy to engage more than 50 communities throughout 13 watersheds in FEMA Region VII over six months. Led a Core Team of Federal partners (e.g., FEMA, USACE, EPA), State

officials, and non-profit stakeholders to develop a consistent and scaleable mitigation engagement approach with consideration for local capability and mitigation need. Responsibilities include engaging community leaders, scheduling and facilitating meetings, and developing pre-meeting guidance to inform meeting discussion. Meeting outcomes included a set of priority actions and technical assistance activities for each community with cross-agency funding recommendations that were vetted and supported by the Core Team. Mitigation success included providing BCA support for critical facility retrofits and development of velocity grids to better inform land use decisions to prevent future losses.

Project Manager | City of Ann Arbor Hazard Mitigation Plan | Ann Arbor, MI
Oversaw this expeditious update for the City of Ann Arbor. The City needed a plan developed, approved and adopted in less than 4 months. Our team provided this, with no state/federal revisions necessary, keeping the city eligible for more than $2M in FEMA mitigation funding. Unique aspects of the plan included a complete overhaul of the mitigation strategy, integration of climate consideration in plan goals and action, linking strategies to existing plans, and identification of project co-benefits. This was also the first time the City received CRS 510 points for their hazard plan, earning more than 240 points and resulting in a lower CRS class (and community-wide insurance premiums) for the city

Project Manager | Automated Mitigation Project Identifier (AMPI)/Mitigation Benefit Estimator (MBE)
Led development of a structure-based risk assessment and mitigation solution model. Initially developed for FEMA Region II by the Strategic Alliance for Risk Reduction II, the MBE was used to assess the flood risk and mitigation need throughout the state of New Jersey. The analysis included 600,000 structures. The model was designed to mimic the FEMA Benefit-Cost Analysis Toolkit, using a simplified approach used in the Walnut Creek Watershed (IA) to assess 2,000 structures while also evaluating USACE future flood conditions. It was subsequently used in other areas under the AMPI name. The model's risk assessment results identify the number of structures at risk to flooding, dollar loss at standard recurrence intervals, and annualized dollar loss at a structure specific level. The model is innovative in that it identifies potential mitigation grant candidates, and estimates the financial benefits and costs (e.g., return on investment) necessary to implement elevation or acquisition projects with consideration to environmental benefits and social costs. This provides an understanding of cost-effective projects (estimated benefits-cost ratio > 1). Throughout the project, the team reported to a stakeholder group comprised on local, state, federal, non-governmental, and academic institutions. Also responsible for facilitating a public meeting to deliver tailored homeowner results inclusive of current/future risk flood risk, mitigation options and insurance estimates. Coordination on this effort included RMD, Insurance, and HMA Regional Branch staff.

Project Manager | Coachella Valley Water District Hazard Mitigation Plan | Coachella Valley, Palm Desert, CA
Oversaw the on-time delivery and first-pass compliance review from state and federal officials. The Coachella Valley Water District (CVWD) contracted with Stantec to expedite the development of a hazard mitigation plan in just six months. CVWD needed an efficient planning process and experience contractor to develop the plan to be eligible for pre- and post-disaster hazard mitigation funding. We assisted in all aspects of plan development, including public and stakeholder outreach, risk assessment, and mitigation strategy. The project includes multifaceted stakeholder collaboration with CVWD officials (engineering, GIS, domestic water, and sanitation), area jurisdictions, tribes, and other key partners. Critical facility site visits, including domestic water assets such as wells, treatment plants, reservoirs, and pump stations, were conducted to identify vulnerabilities and mitigation opportunities.

Risk Communication Task Leader | Somerville Climate Analysis and Risk Communication Plan | Somerville, MA
Served as risk communication task leader to assist city in developing a communication plan for climate risk including increased urban flooding. Developed graphics, facilitated stakeholder workshops, developed a series of graphics for website and social media use.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Bernadette Callahan, PE | Green Infrastructure Lead

Project Assignment:

Green Infrastructure

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

12 (17 Total)

Education: Degree(s)/Year/Specialization:

BS | 2005 | Civil Engineering

Active registration: Year first registered/discipline:

2019 | Civil Engineer LA No. 43214; Also PA, NC, NY, VA

Other experience and qualifications relevant to the proposed Project:

Bernadette is Stantec's Green Infrastructure Leader for the United States. With 17 years of experience, she has dedicated her career to the planning and design of green infrastructure and related practices that capitalize on triple bottom line benefits for the communities she serves. She has led on a variety of progressive green infrastructure programs including Philadelphia's "Green City, Clean Waters" initiative, community-focused Massachusetts' "Municipal Vulnerability Preparedness Program" and New Orleans' "Living with Water" initiative. She also serves as a design consultant for many of Stantec's offices for the planning and design of green infrastructure in all types of settings. Her career focus is working with green infrastructure to bring communities together and achieve a resilient dividend: better management of stormwater and environmental and open space enhancements to benefit the local residents.

Relevant Project Experience

Project Manager and Green Infrastructure Lead | Blue and Green Corridors Project | New Orleans, LA
Leading design for this project, born from a HUD National Disaster Resilience Competition proposal to create the City's first Resilience District within the Gentilly neighborhood. The Gentilly Resilience District represents a combination of projects and efforts that focus on innovative solutions to water management with the "living with water" theme and triple bottom line approach at the forefront. The Blue and Green Corridors is the largest of the Gentilly Residence District projects that aims to reduce flood risk, slow land subsidence, and encourage neighborhood revitalization. This will be done by creating a network of canals, recreational parks, and community spaces along eight linear miles of the public right-of-way. Along the streets slated as "blue corridors", the City will construct linear wetlands and canals within the wide neutral grounds between vehicle travel lanes to receive and manage runoff, and immediately relieve stress on the pumping system, allowing it to "catch up." Along the streets slated as "green corridors", the City will construct a variety of green infrastructure practices–such as bioswales, bumpouts, and permeable pavement–to allow stormwater runoff to be stored and seep slowly back into the ground. Wherever possible, the project proposes road diets to reduce impervious cover, beautify the neighborhood with plantings, calm traffic, and to build complete streets for safe walking and biking.

Green Infrastructure Lead | MOVEBR Infrastructure Enhancement and Traffic Mitigation Program Management, Baton Rouge, LA

Provided planning and design guidelines and details to support the development of the program design manual. MOVEBR is the largest and most significant transportation infrastructure investment in East Baton Rouge Parish, Louisiana history. The program includes comprehensive traffic improvements and community enhancements to revitalize infrastructure and enhance mobility. Stantec's scope of work is focused on relieving traffic congestion, enhancing corridors, and increasing multi-modal mobility and safety.

Green Infrastructure Lead | St. Bernard Campus, Gentilly Resilience District, New Orleans, LA

This $10 Million HUD CDBG-DR funded project addresses flood mitigation through innovative green infrastructure and stormwater chambers. The project aims at improving quality of life by addressing resilience, social, economic, and environmental goals through innovative solutions so that people, culture, and economy can thrive. Project includes programming, athletic fields including baseball / football / basketball / track and field facilities, neighborhood park, playground, boardwalk, kayak launch, walking and biking trails, community covered meeting and event space, safety lighting, landscaping and other amenities throughout the neighborhood. The project included an intensive public engagement to set the scope, design and construction management.

Green Infrastructure Lead | Municipal Vulnerability Preparedness (MVP) Stormwater System Modeling for Development of Green Infrastructure | Somerville, MA

Worked with the design team to identify and model green infrastructure opportunities within six flood-prone areas. The planning study was completed using a GIS analysis in which green infrastructure systems were ranked based on drainage area, available footprint area, roadway slope, and green infrastructure practice. Stantec modeled a full implementation scenario for each opportunity area using the built-in GI module within Infoworks ICM. Stantec quantified flood volumes, flood extent, and flood duration under the selected storm events to compare against the baseline conditions. In addition, Stantec quantified the water quality benefits (TSS and TP loading reductions) of the full implementation scenario. Finally, Bernadette prepared a green infrastructure planning document for use in future planning and design efforts.

Project Manager / Green Infrastructure Lead | Green City, Clean Waters Initiative | Philadelphia, PA

Directed the completion of design for hundreds of green infrastructure installations throughout the combined sewer area of Philadelphia. Green City, Clean Waters focuses on the implementation of green infrastructure into the public right-of-way, on public parks and recreation centers, and on schoolyards. Implementation of green infrastructure on this distributed scale helps to reduce the amount of stormwater runoff before it reaches the combined sewer system while providing secondary benefits such as improvements in pedestrian safety, air and water quality, and aesthetics. The project installations have included stormwater tree trenches, stormwater bumpouts and planters, rain gardens, and subsurface infiltration trenches.

Green Infrastructure Lead | Tucker Avenue Neighborhood Drainage and Green Infrastructure Improvements | Fairfax, VA

Green infrastructure lead and senior civil engineer for the conceptual design for improving stormwater management and conveyance in and around Tucker Avenue and the project drainage area. This neighborhood stormwater improvement project evaluated existing drainage and stormwater infrastructure throughout the neighborhoods within a 67-acre drainage area that leads to the local stream, Pimmit Run. Hydraulic and hydrologic modeling was performed within the watershed to identify where insufficiencies existed within the stormwater infrastructure, as well as where overland relief created unsafe and erosive conditions. Existing stormwater infrastructure includes systems managed by Fairfax County within easements on private residential lots and within the roadway right-of-way. The conceptual design included improved stormwater infrastructure conveyance and routing, as well as low-impact development and green infrastructure principles to improve water quality and neighborhood aesthetics. The goals of the project are to reduce localized flooding and erosion, address public safety concerns, improve stormwater drainage conditions and infrastructure, improve water quality and protect the local stream, use an innovative, sustainable and functional design, reduce runoff to predevelopment flows to the extent feasible by collecting runoff at the source, and partner with the community to develop sound, cost effective solutions that can be collaboratively implemented and maintained.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Ryan Waldron, PE, ENV SP | Coastal Engineer

Project Assignment:

Hydrologic/Hydraulic Modeling

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

3 (13 Total)

Education: Degree(s)/Year/Specialization:

MS | 2008 | Civil Engineering
BS | 2005 | Physics

Active registration: Year first registered/discipline:

2013 | Civil Engineering LA No. 37706; 2018 | Envision™ Sustainability Professional

Other experience and qualifications relevant to the proposed Project:

Ryan is a coastal engineer with 13 years of experience in water resources engineering, hydrodynamic/hydraulic modeling, coastal engineering, and drainage/flood risk reduction design. His experience includes master planning, design, analysis, and modeling. He performed various large-scale Water Resources Engineering analyses and designs including development of master plans, drainage and flood risk reduction design, and modeling for design, planning, and risk mapping for various public and private clients. His hydrodynamic, hydraulic, wave, sediment transport, morphologic, and hydrologic modeling experience encompasses use of such modeling and software platforms as Delft3D, HEC-RAS (1D and 2D), HEC-HMS, and SWMM.

Relevant Project Experience

Hydraulic QA/QC | Blue and Green Corridors Project, New Orleans, LA
Performed review of an interim hydraulic model to evaluate the design and prove the model met hydraulic and HUD BCA criteria. This HUD CDBG-DR funded project was centered on designing improvements for major boulevards in Gentilly to be re-envisioned as "blue" corridors, "green" corridors, and priority complete streets. These blue and green corridors are designed capture and store stormwater during storm events and slow infiltration providing flood mitigation and reducing subsidence. Project goals include resilience, social, economic, and environmental goals and included an intensive public engagement to set the scope.

Civil Engineer | St. Bernard Campus, Gentilly Resilience District, New Orleans, LA
Participated in the analysis and design of drainage, storage, and green infrastructure components of the project. In particular, he optimized the sizing of the underground storage to maximize benefit and ensure that the cost remained within the available project budget.

Engineer of Record | University Lakes Flood Risk Reduction Design | Baton Rouge, LA
As Engineer of Record, Ryan supervises all engineering design tasks and production of construction contract documents. The design includes dredging hundreds of acres of Lakes in Baton Rouge adjacent to Louisiana State University, Baton Rouge City Park, and several residential neighborhoods; also included in the design is the placement of dredge spoils to properly dispose of the sediment, while also beneficially

reusing it to create landscape feature to benefit the community. He coordinates with subconsultants to ensure quality work products are properly developed and incorporated in the Stantec design. Ryan also coordinates with the Master Designer to ensure the dredging and placement design is coordinated with their landscape and mobility design.

Coastal Engineering Technical Lead | Shoreline Protection at Jean Lafitte National Historical Park and Preserve | Jefferson Parish, LA

Led the design for Phases I and II of the project which involve the installation of the 12,000 feet of breakwater built to reduce wave energies along the shoreline of the Park to encourage re-establishment and growth of submerged aquatic vegetation. He led the preparation of plans and specifications for the breakwater, including segments that contain an encapsulated light-weight aggregate core. Reviewed marsh-edge erosion calculations to determine if the effect of increased velocities at a narrow location behind the breakwater would result in adverse erosion effects. He assisted with the methodology and cost estimation for shallow draft construction. He performed an Independent Technical Review of the hydrodynamic/wave modeling performed using Delft3D for Phase I of the wave, flow, and storm surge conditions in Lake Salvador and the Barataria Basin during the design storm and led the development of a coupled hydrodynamic+wave model of Lake Cataouatche for the evaluation of the wave and surge conditions for the Phase II design. He participated in alternatives evaluation and prioritization and permitting coordination.

Project Engineer | West Shore Lake Pontchartrain Pump Stations and Drainage Structures | St. Charles Parish, LA

Responsible for leading the independent technical review of USACE's 2-D HEC-RAS model of the entire project area to set design parameters for the pump stations, gates, and levees. Ryan lead the hydraulic design of drainage channels and armoring for bank stabilization and erosion protection for this storm risk reduction system. Also worked with the CFD and physical modeling teams to analyze results and incorporate data into the model; he then used the modeling results to design the drainage channels including the armoring for scour protection.

Project Technical Lead | Brownswitch Road Drainage Improvements | St. Tammany Parish, LA

Led creation of a 1-D model of the existing Brownswitch Rd. ditch and its tie-in to the W-14 Canal to determine the level of reduction that would occur from the construction of the proposed box culvert. He assembled data gathered from a questionnaire of residents and businesses in the area to determine historic flooding patterns. Used the model results & the questionnaire to prepare a Pre-Application on behalf of the parish for the Statewide Flood Control Program.

Engineer of Record, Coastal Task Manager | Bayfront Park Restoration & Improvements | Mobile County, AL

Responsibilities included developing a comprehensive restoration plan that entailed plans and specifications for project(s) that addressed bay shoreline erosion and wetland/marsh degradation. The project is approximately 20 acres with public access to Mobile Bay and other public amenities. Roughly 50 percent of the park is estuarine marine wetland. Performed computational modeling to characterize the wave processes in the Bay affecting the Park Project and vicinity. These analyses were performed using the Delft3D FM Model (D-Wave/SWAN); the results formed the basis for shoreline restoration/improvement and protection. Duties in the first phase also included development of conceptual coastal restoration plan alternatives and investigations into the project's suitability for beneficial use of dredged material from the enlargement of the Mobile Ship Channel.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Patrick Scott, EI | Coastal Engineer

Project Assignment:

Hydrologic/Hydraulic Modeling

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

2 (2 Total)

Education: Degree(s)/Year/Specialization:

MS | 2019 | Coastal and Ecological Engineering
BS | 2016 | Civil Engineering

Active registration: Year first registered/discipline:

2020 | Civil Engineer Intern LA No. 34524

Other experience and qualifications relevant to the proposed Project:

Patrick is a Civil Designer at Stantec, having recently earned his Master's degree in Coastal and Ecological Engineering from Louisiana State University. His has conducted undergraduate and graduate level geodetic research in regional subsidence rates along the Northern Gulf of Mexico, as well as graduate level research on a distorted hydraulic physical model of the Lower Mississippi River. His experience includes coastal restoration, water resources, as well as coastal and urban resilience and sustainability. Patrick provides hydrology and hydraulic (H&H) modeling, GIS, and AutoCAD services.

Relevant Project Experience

Designer | St. Bernard Campus, Gentilly Resilience District | New Orleans, LA
Aided with preliminary cost estimation, storm water storage and drainage design, and design document preparation. The goal of this project was to reduce storm water flooding in the St. Bernard neighborhood of New Orleans, Louisiana by designing an sub surface storm water collection system.

Civil Designer | Jean Lafitte National Historic Park and Preserve | Jefferson Parish, LA
Providing cost estimation, CAD, and wave and hydraulic model development. This project involves the engineering and design of an 11-mile breakwater structure along the Jean Lafitte National Park and Preserve shoreline to protect and enhance submerged aquatic vegetation (SAV) habitat that was lost during the 2010 Deepwater Horizon (DWH) oil spill. The project requires following the National Park Denver Service Center (DSC) Workflows and coordinating with various state and federal agencies to develop a design that will provide optimum SAV habitat and shoreline protection for decades.

Civil Designer | West Shore Lake Pontchartrain Pump Stations and Drainage Structures | St. Charles, St. John the Baptist, and St. James Parishes, LA
Provided hydrologic and hydraulic analysis, communication with physical modeling contractor, and CAD. This flood protection project includes levees, floodwalls, gates, and pump stations to protect coastal communities in three Louisiana parishes along the Mississippi River from storm surge and flooding. Stantec is providing hydraulic engineering design for four pump stations included in the project.

Civil Designer | USACE Orange County Coastal Storm Risk Management Project | Orange County, TX
Roles included document writing for task orders included in contracts for the project. This flood protection project includes levees, floodwalls, gates, and pump stations to protect coastal communities in Orange County, Texas from storm surge and coastal flooding.

Civil Designer | Mid-Breton Sediment Diversion | Plaquemines Parish, LA
Providing hydraulic engineering and cost estimation. He developed a 1D/2D coupled hydraulic model for an interior drainage study. A key project in the 2017 Coastal Master Plan, the Mid-Breton Sediment Diversion will strategically reintroduce sediment and freshwater inputs into the Breton Sound Basin. The first phase evaluates the existing forced drainage system of the Scarsdale Drainage District in Plaquemines Parish and review potential impacts to the existing system when construction of the Mid-Breton diversion complex is complete.

Hydraulic Modeler | Big Lake Fuels | Calcasieu Parish, LA
Patrick served as the hydraulic modeler on this project. Hydraulic modeling involved developing a HEC-RAS model for Industrial client to investigate site development and relocation of an existing canal. Hydraulic modeling was conducted to ensure that the surface water elevation on the site, and in areas upstream of the site were not increased from relocation of the canal. Patrick also conducted a hydrologic review performed by others.

Graduate Research Assistant | LSU Center for River Studies, Calibration and Validation of the Lower Mississippi River Physical Model | Baton Rouge, LA
Served as a graduate research assistant and performed operational and maintenance duties of the physical model. The purpose of this project was to calibrate and validate a distorted hydraulic physical model of the Lower Mississippi River.

Graduate Research Assistant and Undergraduate Student Worker | Geodetic Study on Regional Subsidence Rates in the Northern Gulf of Mexico, Center for GeoInformatics (C4G) at LSU | Baton Rouge, LA
Served as an undergraduate student worker and then as a graduate research assistant and performed duties such as GPS data processing from National Geodetic Survey Continuously Operating Reference Stations (NGS CORS) for precise point positioning and conducting relative gravity field surveys on the C4G CORS Network and the LSU campus benchmark network. The purpose of this project was to quantify subsidence rates in the Norther Gulf of Mexico. The goal of this project was to investigate a correlation GPS positioning data with relative gravity changes at CORS sites.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Kelly Westover, PMP, CFM | Senior Grants/Funding Specialist

Project Assignment:

Grant Services

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

3 (19 Total)

Education: Degree(s)/Year/Specialization:

MBA | 2010
BS | 2001 | Environmental Science

Active registration: Year first registered/discipline:

2016 | Certified Floodplain Manager

Other experience and qualifications relevant to the proposed Project:

Kelly is a financial and management consultant who creates innovative funding strategies to support the needs of our clients. She is skilled at identifying cross-sector opportunities to maximize community benefits. She has provided grant funding leadership by identifying opportunities, developing applications, presenting to Boards, negotiating contracts, and managing agency relationships. She brings a strong understanding of funding requirements and has been successful developing strategies around processes and procedures to streamline compliance. Kelly's experience includes working with municipal staff and management, concerned citizens, environmental boards and organizations, City Council, state and federal agencies..

Relevant Project Experience

Funding Services | Gulf Shores Waterway Village Scoping Project | Gulf Shores, AL
Identified funding sources and detailed funding strategy for waterway village improvements. The municipality used the funding strategy to submit a RESTORE Act grant application and receive $15 Million for design and construction of improvements.

Program Manager | Sarasota County Grant Program | Sarasota, FL
Kelly provided grant leadership for Sarasota County by identifying grant opportunities, developing applications, presenting to Boards, negotiating contracts and managing strategic relations with funding agencies. From the application phase through project reimbursement, Kelly was able to secure funding from federal, state and local sources such as EPA, FEMA, RESTORE Act, Section 319, and Water Management Districts. She secured over $10 million in grant funding for stormwater initiatives in Fiscal Year 2019.

Project Manager | City of Mobile Grant Management | Mobile, AL
Kelly worked closely with the City of Mobile to identify contractual requirements in infrastructure grant funding agreements to help the City develop a compliance strategy. The City had secured over $38 million in capital improvement grants through multiple programs including, TIGER/BUILD, National Fish and Wildlife Federation, Alabama Gulf Environmental Benefit Fund, and RESTORE Act all focused on stormwater, transportation and environmental restoration projects. After reviewing all applications and contracts, Kelly facilitated workshops with the City's project managers to align the requirements with their project plans. She

utilized schedule development specialists to develop detailed project schedules to ensure the projects would meet all federal and state grant conditions from design through construction.

Project Manager | Pasco County Stormwater Capital Program Cash Flow Analysis | Land O'Lakes, FL
Kelly is leading an effort to develop a robust cash flow model for Pasco County's Stormwater Capital Improvement Projects (CIP) Program. The County has a Stormwater Utility with a portion of the funds allocated to CIP program each year. Using her knowledge of stormwater programs, funding mechanisms, grant coordination and finance modeling, she is re-prioritizing the County's CIP program to align competing project needs with appropriate funding sources. The ultimate outcome from the project will be a cash flow model taking into account grant reimbursements, rate revenue and community needs to help the County build a sustainable 10-year CIP program.

Funding Project Manager | Picayune Watershed Water Quality Feasibility Study | Picayune Strand, FL
Kelly developed a funding strategy to provide options to fund the design, permitting and construction of a component of the Comprehensive Everglades Restoration Plan (CERP) in the Picayune Watershed. A summary table with the results of the funding strategy including the category (grant, loan or partnership), Program, and a rank of 0-5-10, with 10 having the best alignment with the current project characteristics was included to assist with securing funding to move the project into design.

Project Manager | Sarasota Bay Watershed Best Management Practices Analysis | Sarasota County, FL
Directing a high priority initiative for Sarasota County and the Southwest Florida Water Management District to identify projects that will address flooding and water quality issues in the Sarasota Bay Watershed. Leading Stantec's team of engineers, GIS specialists, financial analysts, and water quality and outreach subconsultants, she is leveraging our collective assets to bring together a great plan to protect and improve the watershed.

Project Manager | Stormwater Public Outreach Program | Sarasota , FL
Developed strategic community relations and collaborated with an array of organizations to achieve outreach goals established by the County, National Estuary Programs, Water Management District, the State and federal government. Most notable was an effort Kelly successfully led to engage the public around flood protection to adopt a new Floodprone Ordinance and Floodplain Management Plan.

Funding Manager | Stormwater Impact Fee and Rate Study | Lynn Haven, FL
Led the Stantec team to update the City of Lynn Haven's existing stormwater rate and impact fee. Hurricanes had caused significant flooding and damage to the small coastal town along the panhandle of Florida, resulting in increased costs to the stormwater program. Kelly managed the revenue sufficiency analysis, rate structure modifications including a new vacant parcel fee, and update to their existing impact fee. Stantec assisted the City with evaluating the benefits to move the fee from monthly bills to a non-ad valorem assessment beginning in October 2021 and provided implementation assistance with Public Hearings and Community Stakeholder meeting. The City was able to generate more revenue that provided match for capital improvement grants and much needed revenue to fund maintenance and operations.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Joseph Lefante, PE, PTOE | Senior Traffic Engineer

Project Assignment:

Transportation Planner/Engineering

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

13 (13 Total)

Education: Degree(s)/Year/Specialization:

BS | 2008 | Civil Engineering

Active registration: Year first registered/discipline:

2012 | Civil Engineer LA No. 37244; Also FL
2013 | Certified Professional Traffic Operations Engineer #3560

Other experience and qualifications relevant to the proposed Project:

Joey has over 13 years of experience working on major traffic and transportation projects in the New Orleans area. Responsibilities include preparing feasibility studies and interchange modification reports and leading improvements through plan design and signal construction. His experience using various analysis software packages, including TransCAD, Synchro, and VISSIM, allows him to determine innovative transportation solutions tailored to each individual situation.

Relevant Project Experience

Traffic Engineer | Blue and Green Corridors Project | New Orleans, LA
Designed traffic signal upgrades at four intersections within the project limits. Each intersection included the addition of pedestrian countdown signal heads. Joey performed a review of the existing signal equipment and determined improvements necessary to add the pedestrian heads. His review also included an inventory of existing signal timings to determine the potential impact of adding pedestrian signal phases. Joey reviewed the striping plans and ensured that the traffic signal equipment would work with the lane modifications and bike lane additions.

Traffic Engineer | Clearview Parkway at Airline Drive CFI Study | Jefferson Parish, LA
assisted on the team performing a Stage 1 Environmental Assessment for the Clearview Parkway Corridor to investigate and produce concept designs for potential improvements at the Airline Drive intersection. He built and modeled multiple intersection alternatives for the Airline Drive corridor using VISSIM micro-simulation software. The alternatives modeled included additional turn lanes, a Continuous Flow Intersection (CFI), and an overpass. The models were used to produce measures of effectiveness for comparing the alternatives such as delay, level of service, and throughput.

Traffic Engineer | Ernest N. Morial Convention Center (MCCNO) Boulevard Linear Park Traffic Study | New Orleans, LA
Performed traffic study for MCCNO to determine roadway improvements necessary to ease congestion created by a planned expansion of the convention center. These improvements include a road diet along Convention Center Boulevard, a new multimodal center, and traffic control improvements at several

intersections. Joey built a detailed VISSIM model showing traffic patterns during events held at MCCNO to determine potential problem areas. The VISSIM model was able to accurately portray bus and taxi operations which are important in the area.

Traffic Engineer | Capital Region Industry for Sustainable Infrastructure Solutions (CRISIS) | Baton Rouge, LA
Joey modeled several potential regional roadway projects in TransCAD using the CRPC base model. The scenarios were measured against each other using MOE's such as Vehicle Miles Travelled (VMT), and Vehicle Hours Travelled (VHT). Stantec prepared cost estimates for each project and included these in the analysis to produce comparisons based on the annual reduction in travel time against the amount of money spent on roadway improvements.

Lead Traffic Engineer | Government Street Road Diet Stage 0 through Final Plans | Baton Rouge, LA
Stantec examined improvements to increase safety, access management and throughput on Government Street between I-110 and Jefferson Highway. Joey collected traffic data and developed models in VISSIM, Synchro, and SIDRA to analyze different operational improvements alternatives, and prepared materials for and participated in public meetings.

Traffic Engineer | US 90Z New Orleans Hospitality Zone | New Orleans, LA
After completing a traffic plan for the Hospitality Zone, Joey then designed and detailed ramp meter signal plans for seven on-ramps in downtown New Orleans. He determined the location of ramp meter equipment, accounting for queue storage, processing speeds, and length requirements of on-ramps. He also detailed traffic control plans for frontage road lane closures. This project was unique in that all of the signal equipment was structure mounted.

Traffic Engineer | Tulane Avenue Traffic Study | New Orleans, LA
Collected traffic counts and signal timings at signalized intersections along the corridor. He inputted this data into the HCS program to determine potential impacts of implementing a road diet along the corridor. Consideration was given to the necessity of dedicated turn lanes as well as changes to timing and phasing plans.

Traffic Engineer | I-10 at Loyola Interchange Design-Build Project | Kenner, LA
performed VISSIM analyses of an Alternative Technical Concept consisting of two new flyover ramps leading to/from the Airport on the east side of the interchange and the first Diverging Diamond Interchange in Louisiana. Joey completed an IMR to meet FHWA access policy standards to move the project forward on the accelerated design-build schedule. Joey is also leading the traffic signal design effort, including specialized DDI operations and complete street accommodations such as sidewalks and a two-way cycle track.

Traffic Engineer | I-210 / Cove Lane Interchange and Roundabout | Lake Charles, LA
Developed an Interchange Justification Report (IJR) for I-210 between Cove Lane and Nelson Road interchanges on Port of Lake Charles property. He developed peak hour traffic volumes for 28 possible design alternatives, which took into account and accommodated for all future developments in the area, including the Nelson Road Bridge over Contraband Bayou and the Ameristar Casino and Hotel development north of I-210. Joey coordinated collection of traffic counts and performed field calibration of the traffic models by collecting data such as queues and travel times. Once the alternatives were narrowed down to the final 8, Joey performed HCS and SIDRA analyses on over 50 locations per alternative. The recommended alternative included innovative interchange configurations including roundabout ramp terminals at Cove Lane and a Diverging Diamond Interchange (DDI) at Nelson Road.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Melissa Braud, RA | Cultural Resources/Regulatory Specialist

Project Assignment:

Cultural Resource Specialist / Archaeologist

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

3 (23 Total)

Education: Degree(s)/Year/Specialization:

MA | 1996 | Anthropology
BA | 1991 | Anthropology

Active registration: Year first registered/discipline:

Certified Wetland Delineator, U.S. Army Corps of Engineers

Other experience and qualifications relevant to the proposed Project:

With more than 20 years of experience, Melissa supports clients across the Gulf Coast, specializing in cultural resources, NEPA document preparation/review, and federal and state permitting requirements (USACE, USCG, FERC, NPS, USFWS, TVA, LDWF, LDNR). She has served as liaison to state and federal agencies during environmental emergencies, providing NHPA Section 106, Natural Resources Damage Assessment, and NEPA compliance oversight. Melissa leads projects involving environmental field coordination and environmental inspection, environmental resource reports (ERs), environmental inspection management, NHPA/NEPA training for construction, cultural resource and biological surveys and delineations, preparing erosion and sedimentation plans, and the FERC 7(c) process. Melissa also has experience with NPDES state agency coordination, local stormwater, wetland, floodplain, and grading permits, and multi-disciplinary environmental permitting.

Relevant Project Experience

Cultural Resources Lead | Bayou La Batre Water Supply | Bayou La Batre, AL
Conducted Section 106 background research and coordination for this project located in Mobile County which includes the design and replacement of 86,200 linear feet of 2-inch water lines with larger lines.

Cultural Resources Lead | Mobile County Parks Initiative | Mobile County, AL
Conducted Section 106 background research and coordination as part of the feasibility studies and conceptual design phases for three separate sites, Africatown State Park, Lewis Landing and Juanita Crenshaw Park.

Project Manager/Lead Archaeologist | Williams Transco Happytown Abandonment | Pointe Coupee Parish, LA
Managed and prepared FERC 7(b) application for the removal of natural gas pipeline segments. Conducted Section 106 and Tribal consultations and consulted with numerous federal and state resource agencies.

Deputy Project Manager | Cameron System Abandonment Project | Cameron Parish, LA
Preparation of FERC 7(b) application for the removal and abandonment of the Enbridge Cameron System including natural gas pipeline, meter and appurtenant facilities, and offshore platforms onshore and offshore into Federal waters of the Gulf of Mexico.

Signatory Authority | Deepwater Horizon Oil Spill Response, Louisiana State Historic Preservation Office (LA SHPO) | Coastal Louisiana
Developed and maintained relationships with federal and tribal counterparts to expeditiously review, consulted and commented on complex issues pertaining to the protection of historic properties along the coast of Louisiana; conducted and assisted in generating training seminars for the National Park Service; drafted and updated secure documents and databases.

LA SHPO Liaison | Mississippi River Levee Abandonment Project, Tennessee Gas Pipeline Co, LA SHPO | Louisiana and Mississippi
Prepared Resource Report 4 (cultural resources) FERC 7(c) application for the abandonment by removal of three existing 24-inch-diameter natural gas pipeline segments.

Deputy Project Manager | BCR Holdings, LLC – Bully Camp Gas Storage Project | Lafourche Parish, LA
Served as project manager, client and agency liaison, prepared environmental permit documents for LA Office of Coastal Management and Lafourche Parish, environmental field coordination, prepared environmental resource reports for FERC 7 (c) application for new salt cavern natural gas storage facility, compressor station, leaching plant and 11 miles of multi-diameter pipeline.

Environmental Field Coordinator | Sempra Energy – Liberty Gas Storage | Calcasieu Parish, LA
SHPO consultations, and environmental resource report 4 (cultural resources) preparation on FERC 7 (c) application for new salt cavern natural gas storage facility.

Environmental Field Coordinator, Atmos Pipeline and Storage, LLC – Fort Necessity Gas Storage Project, LA
Environmental field coordinator, client liaison, agency consultations and environmental resource report preparation on FERC 7(c) Application for new salt cavern natural gas storage facility, compressor station, leaching plant and associated pipelines.

Deputy Project Manager/Lead Archaeologist, EnLink - Crossroads Dual 10-inch Pipeline Project, Iberville and Assumption Parishes, LA
Conducted Phase I cultural resource surveys and reporting; Section 106 and Section 404 consultation.

Project Manager, Waha Compressor Station Horsepower Replacement Project, Coyanosa, TX
Led cultural resources team for this project to conduct field surveys and provide findings for the preparation a FERC Prior Notice Application in compliance with Section 106 of the National Historic Preservation Act (NHPA).

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Colleen Moss | Environmental Scientist

Project Assignment:

Ecology

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

1 (6 Total)

Education: Degree(s)/Year/Specialization:

BS | 2014 | Wildlife and Fisheries Sciences

Active registration: Year first registered/discipline:

Other experience and qualifications relevant to the proposed Project:

Colleen is an Environmental Scientist in with six years of experience in environmental consulting. She has worked on projects in Louisiana, Texas, Oklahoma, New Mexico, Utah, Ohio, West Virginia, Pennsylvania, Virginia, Kentucky, Mississippi, Tennessee, and Kansas. She has experience performing and managing wetland delineations under Section 404 of the Clean Water Act; performing Phase I Environmental Site Assessments; conducting interim Hydrogeomorphic Modeling (iHGM) Assessments, Texas Rapid Assessment Methods (TxRAM), Ohio Rapid Assessment Methods (ORAM), and WET 2.0 Assessments for wetlands; conducting Level 1 and Level 2 Stream Condition Assessments for the United States Army Corps of Engineers - Galveston District; conducting environmental inspections during construction; and assisting with oyster surveys, seagrass surveys, freshwater fish surveys, and mussel surveys. Ms. Moss has performed permitting services for a variety of projects, including pipelines, wind and solar farms, commercial and residential developments, and mitigation banks.

Relevant Project Experience

Assistant Manager/Field Ecology Lead | Bushneck Bayou Mitigation Bank | DeSoto Parish, LA
Assistant manager and field lead for an iHGM assessment for the seventh growing season on Bushneck Bayou Mitigation Bank (BBMB), a 143.7-acre mitigation bank permitted and approved under SWF-2011-00036, for a non-disclosed client. In accordance with the approved Mitigation Banking Instrument prepared for BBMB, USACE -approved riverine forested iHGM assessments were performed within three primary wetland assessment areas at a total of 14 representative plot locations. Coordinated with the client and prepared a Request for Credit Release letter and submitted to the USACE Fort Worth District for approval.

Assistant Manager/Field Ecologist | Spellbottom Mitigation Bank | Huntsville, TX
Assistant manager and field lead for an iHGM assessment on Spellbottom Mitigation Bank, a 851-acre mitigation bank permitted and approved under SWG-2008-00887, for a non-disclosed client. USACE - Galveston-approved riverine forested iHGM assessments were performed within nine primary wetland assessment areas at a total of 10 representative plot locations. Coordinated with the client and prepared a Request for Credit Release letter and submitted to the USACE Galveston District for approval.

Assistant Manager/Field Ecologist | Daisetta Swamp iHGM Credit Release | Liberty County, TX
Assistant Manager and field ecologist for an iHGM assessment on the Daisetta Swamp Mitigation Bank, permitted and approved under SWG-2009-00340, for a non-disclosed client. Performed USACE - Galveston-approved riverine forested iHGM assessments on a total of 15 separate locations within three separate wetland assessment areas. Prepared a Request for Credit Release letter and submitted to USACE - Galveston District.

Assistant Manager/Field Ecology Lead | Brazos River Erosion Protection | Fort Bend County, TX
Assistant project manager and field lead for the Brazos River Erosion Protection Project, an NRCS EWP Progra-funded emergency bank stabilization project funded previously submitted to the USACE - Galveston District under Permit No. SWG-2020-00142 by a different environmental consulting firm. Performed a WOUS delineation and T&E species assessment along a 0.64-mile stretch of the Brazos River and its eastern bank in Fort Bend County, Texas. Attended meetings with and coordinated with the client, the NRCS, the contracted engineers, and the USACE - Galveston District on the proposed and USACE ERDC-approved longitudinal peaked stone toe protection design and plan. Prepared a WOUS report, a T&E species assessment report, completed an NRCS CPA-52 Worksheet, and prepared and submitted a PCN application to the USACE - Galveston District as a response to the additional information request.

Assistant Manager/Field Lead | Jones Creek Rehabilitation Project | Fort Bend County, TX
Assistant manager and field lead on the Jones Creek Rehabilitation Project, a 1-mile section of Jones Creek and its north bank. Conducted a waters of the U.S. delineation within the project and documented cubic yardage of existing rip-rap clusters within the creek below the ordinary high water mark. Prepared and submitted a Pre-Construction Notification Nationwide 13 Permit Application to the USACE - Galveston District to permit the existing rip-rap within the creek.

Assistant Manager/ Environmental Scientist | Chacon Reservoir Dam and Spillway Restoration Project | Medina County, TX
Assistant manager and environmental scientist for the Chacon Reservoir Dam and Spillway Restoration Project, a dam reconstruction project previously submitted by a different environmental consulting firm as a Standard IP (SWF-2016-00017). Attended meetings with and coordinated with the client, the contracted cultural firm, and the USACE - Fort Worth District to discuss project plan, design, permitting, and restoration/mitigation options. Conducted a WOUS delineation on the site. Attended an on-site field verification with a USACE - Fort Worth regulatory project manager. As requested by the USACE - Fort Worth District, a revised IP with an attached restoration plan were prepared and submitted as supplements to the existing USACE Standard Permit SWF-2016-00017 to provide additional and revised project information.

Staff Biologist/Field Technician | Louisiana Class Change Projects | Franklin Parish, LA, USA
Performed a waters of the U.S. delineation on approximately 26.79 acres of land encompassing an existing sections of a Federal Energy Regulatory Commission-regulated natural gas pipeline proposed for replacement in Franklin Parish, Louisiana. Assisted with processing and organizing data and preparing the waters of the U.S. delineation report.

Staff Biologist/Field Technician | Louisiana Class Change Project - Project | Lafayette Parish, LA
Performed a waters of the U.S. delineation on approximately 22.33 acres of land encompassing an existing section of a Federal Energy Regulatory Commission-regulated natural gas pipeline proposed for replacement in Lafayette Parish, Louisiana. Assisted in processing and organizing data and preparing the waters of the U.S. delineation.

Staff Biologist/Field Technician | Louisiana Class Change Project - | Franklin Parish, LA
Performed a waters of the U.S. delineation on approximately 35.63 acres of land encompassing existing sections of a Federal Energy Regulatory Commission-regulated natural gas pipeline proposed for replacement in Franklin Parish, Louisiana. Assisted in processing and organizing data and preparing the waters of the U.S. delineation.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

John Menninger, PE | Senior Water Resources Engineer

Project Assignment:

Water Resources Engineering

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

17 (17 Total)

Education: Degree(s)/Year/Specialization:

BS | 2004 | Civil Engineering

Active registration: Year first registered/discipline:

2014 | Civil Engineering LA No. 38271; Also OH, WV

Other experience and qualifications relevant to the proposed Project:

John has 17 years of experience leading the delivery of large heavy-civil design projects that spans the full life-cycle of projects from conceptualization and funding to design and construction. Design experience includes levees and floodwalls for protection of storm surge, erosion and scour protection in drainage canals and coastal settings, dredging, earthwork in highly compressible soil environments, dams, concrete hydraulic structures and gate systems. Leads the development of civil works construction documents (engineering design, plans and specifications) in accordance with USACE Design Guidelines and Engineering Manuals. Experience includes some of the largest flood mitigation projects in North America.

Relevant Project Experience

Technical Reviewer | Hagan-Lafitte Drainage Upgrades and Green Infrastructure | New Orleans, LA
Provided review and oversight for the modeling and risk assessment for this flood prone area of New Orleans. The project includes development of a detailed flood risk assessment using EPA SWMM to assess flood risk for "unmapped" neighborhoods within the New Orleans levee systems, identification of proposed improvements, calculation of benefit-cost ratios and recommendations for capital improvements. The hydraulic modeling team was instrumental in building the business case for FEMA funding of this project under the Hazard Mitigation Program post-Katrina.

Project Technical Lead | Strategic Water Pathways – 100 Resilient Cities | New Orleans, LA
Performed a review and assessment of the internal drainage system for the City of New Orleans and provided consultation services for development of a future system vision including level of service and funding strategies. Tasks included mining historical studies and hydrologic models across the City system; updating hydrologic models; adding runs; representing various storm events from 1.5 (67%) to 500 (0.2%) year; assessing consequences of various storm events; selecting level of service; identifying, screening and costing sub-basin and watershed mitigation alternatives and assessing long-term sustainable funding strategies. Guiding principles included flood risk reduction, reliability, adaptability, sustainability, resilience, cost-effectiveness and quality of life.

Water Resources Engineer Engineer | Cincinnatti MSD Sustainable Watershed - CSO 030 Stream Separation and Overflow Reduction Planning Project Cincinnati, OH
CSO 030 (Blair Basin) covers an approximate 0.3 square mile urban area incorporating steep hillsides and urban residential areas. During the first phase of the project, John developed design drawings to relocate the

existing regulator and 72-inch interceptor. In addition, he worked with MSD and ODOT to size a new culvert to be constructed under I-75. The proposed culvert size will allow for a direct connection of separate storm flows to the Mill Creek. The second phase of the project included planning and design for the separation of the upstream areas and restoration/enhancement of the existing wetland.

Water Resources Engineer Engineer | Cincinnatti MSD Sustainable Watershed - Hopple Street (CSO 012) Sustainable Infrastructure Improvements Project Cincinnati, OH
A historic Cincinnati neighborhood's sewer system frequently experienced combined sewer overflows (CSO). CSO 012's watershed covers 1.2 square miles of historic neighborhoods, including the University of Cincinnati. Phase I included the separation of 50 acres of CSO area using 3,000 feet of 12-foot storm box culvert and a bio-retention facility. In future phases, the 12-foot culvert will be extended from the bio-retention facility to the Mill Creek, separating nearly 75% of the sewer shed.

Civil Designer-of-Record/Hydraulic Engineer | Permanent Canal Closures and Pumps Project (PCCP) | New Orleans, LA
Directed the day-to-day activities for the 10-person engineering team developing the civil works design packages. Civil works design included grading, paving, erosion protection, and utilities (storm, sanitary, potable water, fire protection, electric, and telecommunication). In addition, John led the coordination of several inter-disciplinary delivery packages (geotechnical, civil, structural, and hydraulics) on the front-end of the design-build project including critical early flood control closure walls.

Civil Discipline Lead | USACE Orange County Coastal Storm Risk Management Project | Orange County, TX
Leading the Civil Design Discipline for the design of a new 21-mile long coastal storm protection system that includes levees, floodwalls and 5 pump stations. The project will mitigate the risk from coastal storms and sea level rise. As the Civil Lead, John is responsible for development of the design basis and standards for the Project and performance of technical reviews. In addition, John led the evaluation of the project siting study for the new floodwall and levee systems along the coastline. Key considerations included constructability, impacts to social and environmental effects, and construction costs.

H&H Engineer | Risk MAP Production and Technical Services Contract Nationawide | Various Locations, Nationwide
Has worked on the FEMA Map Modernization and Risk MAP programs for 17 years. He has served as project engineer performing hydrologic and hydraulic studies for communities across the United States. The hydrologic studies have included gage analyses, HEC-HMS and EPA SWMM. Hydraulic models have included HEC-RAS (1D and 2D), as well as Flo-2D. Recently, he has supported FEMA headquarters on strategic initiatives including large-scale flood risk and benefit cost analysis including development of tool to prioritize mitigation projects across the entire state of New Jersey.

Project Technical Lead | Hancock County Flood Risk Reduction Program | Hancock County, OH
Led the development of the hydrologic and hydraulic modeling approach and provided oversight for this flood risk reduction planning project. The hydrologic modeling included a calibrated HEC-HMS model to historic gridded rainfall, development of custom synthetic rainfall patterns that translate NOAA Atlas 14 point precipitation to a larger-scale watershed, and a stochastic approach to storm alignment and centering. Hydraulic modeling includes a combined 1D and 2D HEC-RAS unsteady model linked to the HEC-HMS model. Over 50 flood mitigation options were considered in the model including various sizes of flood diversion canals, river conveyance increases, and upstream flood storage in reservoirs. Benefit-cost analyses utilizing HEC-FDA were performed and informed the selection of preferred alternatives.

Project Engineer | Rathbone Area Stormwater Drainage Study | Marietta, OH
Responsible for the engineering study of drainage improvements for an area with chronic local flooding issues. Duties included developing and analyzing a GIS-based stormwater network model created in EPA SWMM. John conducted two local neighborhood meetings with residents in the flood prone area, where study results and flood reduction recommendations were presented to local residents.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Stuart Hart, PE | Roadway/Drainage Engineer

Project Assignment:

Roadway Engineering

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

3 (8 Total)

Education: Degree(s)/Year/Specialization:

BS | 2014 | Civil Engineering

Active registration: Year first registered/discipline:

2020 | Civil Engineering LA No. 44884

Other experience and qualifications relevant to the proposed Project:

Stuart has worked on a variety of green infrastructure and coastal restoration projects in his seven years an engineer. He has extensive experience with Civil 3D design software and Microstation design software. Stuart has created cost estimates and technical specifications for several projects as well. He helped design rain gardens, drainage, and ADA aspects of these projects. Stuart helped with the public presentations and community involvement events for green infrastructure also. These community events focused on working with members of the communities to determine the design priorities with the neighborhood residents.

Relevant Project Experience

Engineer / Designer | Blue and Green Corridors Project | New Orleans, LA
Responsible for designing drainage, rain gardens and ADA accessibility using Civil 3D design software. Also participated in community involvement events to hear feedback from the local residents. This HUD CDBG-DR funded project is centered on designing improvements in the right-of-way of six major street corridors in Gentilly neighborhood and seven adjacent city-owned park lots. These ma-jor boulevards in Gentilly will be re-envisioned as "blue" corridors, "green" corridors, and priority complete streets. These blue and green corridors are designed capture and store stormwater during storm events and slow infiltration providing flood mitigation and reducing subsidence. The design also provides recrea-tional facilities, exercise stations, aesthetic enhancements, roadway improvements, complete streets, bike and pedestrian facilities, landscaping water features, public education, security lighting, ADA improve-ments and other amenities. The project included an intensive public engagement to set the scope and in-cluded design and construction management.

Engineer / Designer | St. Bernard Campus, Gentilly Resilience District | New Orleans, LA
Responsible for creating plan drawings, designing rain gardens, designing athletic facilities, and creating cost estimates for the project. This $10 Million HUD CDBG-DR funded project addresses flood mitigation through innovative green infrastructure and stormwater chambers. The project aims at improving quality of life by addressing resilience, social, economic, and environmental goals through innovative solutions so that people, culture, and economy can thrive. Project includes programming, athletic fields including baseball / football / basketball / track and field facilities, neighborhood park, playground, boardwalk, kayak launch, walking and biking trails, community covered meeting and event space, safety lighting, landscaping and

other amenities throughout the neighborhood. The project included an intensive public engagement to set the scope, design and construction management.

Engineer / Designer | Mid-Breton Sediment Diversion Project, Coastal Protection & Restoration Authority, Plaquemines Parish, LA

Responsible for site and building design of the administration and operations and maintenance buildings. Also, coordinated the construction sequencing for the diversion structure and interstate detour of the project. This project is a 75,000 cfs sediment diversion of the Mississippi River through USACE MRL to rebuild land in SE Louisiana as part of a Coastal Restoration Program for hurricane protection. This project includes coordination with USACE for 408 permissions.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Mike Rutkowski, PE, AICP | Roadway/Drainage Engineer

Project Assignment:

Roadway Engineering

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

3 (8 Total)

Education: Degree(s)/Year/Specialization:

BS | 2014 | Civil Engineering

Active registration: Year first registered/discipline:

2020 | Civil Engineering LA No. 44884

Other experience and qualifications relevant to the proposed Project:

Mike has specialized experience in sustainable transportation solutions and Complete Streets integration. He is experienced in all aspects of transportation planning and engineering and he has led numerous comprehensive transportation, bicycle and pedestrian plans in the U.S. His expertise includes system-level bicycle and pedestrian plans, multimodal crash and safety studies, Complete Streets projects, multiuse trail design, and policy development. Mike is a Board Member on the National Complete Streets Coalition, a certified Complete Streets Trainer for the Smart Growth America, and a Certified Charrette Manager (NCI). He is also a certified Youth Bicycle Trainer (LAB) and an advocate of healthy active living. He has been responsible for implementing several non-motorized projects including the University Avenue CS Study (Morgantown), Old Durham Chapel Hill Bicycle and Pedestrian Improvements, Six Forks Complete Streets Corridor Study as well as the Western Boulevard Multimodal Project.

Relevant Project Experience

Complete Streets Technical Lead | Blue and Green Corridors Project | New Orleans, LA
serving as the Complete Streets Technical Lead for this project. The Blue and Green Corridors is a resiliency project that aims to reduce flood risk, slow land subsidence, enhance multimodal, and encourage neighborhood revitalization. This will be done by creating a network of canals, recreational parks, Complete Streets integration, and community spaces along eight linear miles of the public right-of-way. Along the streets slated as "green corridors", the City will construct a variety of green infrastructure practices–such as bioswales, bumpouts, and permeable pavement–to allow stormwater runoff to be stored and seep slowly back into the ground. All streets will include quality treatments for bicycle and pedestrian access and mobility. As a part of the outreach program, great strides were made to engage Communities of Concern or underserved populations. This included hosting Traveling Roadshow events at the local Community Center to allow participants to express their thoughts on problem areas and potential solutions. We also hosted a Walking/Riding Audit with local residents to better understand specific areas of concern and to start the dialog and meaningful discussion. These discussions included issues that they wanted to discuss, not necessarily items from the Project Teams agenda.

Complete Streets Lead | Re-Imagine Main Street—Complete Streets Project | Hartford, CT
Served on a team of transportation planners, urban designers, engineers and landscape architects to cast a new vision for Main Street as part of a vibrant Complete Streets plan between Pearl Street/Asylum Row and Wyllys Street. Our team used a context-sensitive, multimodal charrette approach to accommodate bicycle,

pedestrian, and transit treatments while managing traffic conditions. Extensive public engagement was essential in this process, using virtual COVID meeting capabilities and cloud-based collaboration platforms to conduct large public symposiums, stakeholder interviews, and a multi-day design charrette. The outcome is a reinvigorated Main Street with added pedestrian facilities, enhanced transit access with side-boarding island stops, a physically separated two-lane cycletrack, a gateway roundabout and streetscape amenities incorporating stormwater best management practices.

Project Manager | Six Forks Complete Streets Study | Raleigh, NC
Project Manager and Complete Streets Lead. Developed concept design plans for creating a Complete Streets and Streetscape Corridor Plan for Six Forks Road, Including strategies for improving pedestrian safety and movement; incorporated place-making opportunities, safety, sustainability, and multimodal transportation connectivity. Stantec worked with community leaders to integrate a market analysis with development and redevelopment opportunities along the corridor.

Project Manager | Western Boulevard Multi-Modal Complete Streets Study | Raleigh, NC
Working with local stakeholders to develop multi-modal conceptual designs for bicycle, pedestrian and transit facility improvements for Western Boulevard in Raleigh, NC. Gathered real time data using CycleTracks, a web application that traces pedestrian and bicyclist routes. Employed intercept surveys, public kiosks, a project website forum and news e-blasts to engage the community. Prepared engineering concepts, talked to students, reviewed accident patterns, and worked with stakeholders to develop a sustainable multi-modal conceptual design and implementation strategy that includes a major, new multi-modal tunnel facility.

Program Director | Calcasieu Parish Comprehensive Transportation Plan | Lake Charles, LA
Regional mobility is a continual process of coordination and integration of location planning needs. During this regional project Mike served as Program Director, helping to align goals for the region's future with evaluation criteria to measure success, and future targets to strive for in a data-driven evaluation process. Recommendations involved all mobility modes (roadways, freight, transit, bicycle, and pedestrian infrastructure), and policy investments that the region should undertake to align development with community needs. The final product is truly a comprehensive vision for transportation in Calcasieu Parish.

Program Director | Lake Charles MPO Metropolitan Transportation Plan and Comprehensive Transportation Plan | Lake Charles, LA
Mike served as Project Director, prioritizing long-range transportation needs through a data-driven evaluation process that scored, normalized, and ranked projects based on objective criteria. Goals, evaluation criteria, and targets to track success were all integrated to help the MPO connect community needs with $2.7B in strategic investments through 2045. Projects included more than 200 roadway improvements, local and regional transit system enhancements, as well as more than 425 pedestrian and bicycle facility improvements.

Project Manager | Old Durham-Chapel Hill Road Bicycle and Pedestrian Corridor Plan | Durham, NC
Led this project to connect the two communities of Chapel Hill and Durham. The project entailed a 4-day design charrette with planners, engineers, designers and landscape architects. The project included a collaborative dual-community outreach program and stakeholder interview process. Project recommendations included accommodations for bicycle and pedestrian as well as transit stops and amenities. It also included a CSS approach to minimizing the environmental aspects to the local residential development as well as to water bodies. This project had a high level of Complete Streets and streetscape (street trees, lighting, gateways, wayfinding, landscaping, etc.) improvements and included the implementation of two roundabouts to help facilitate safe bicycle and pedestrian movements with “built in” traffic calming features. To date this multimodal corridor has been partially implemented, with a portion of the funding coming from the private sector, local development community.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Jarred White, PE | Senior Water and Resilience Engineer

Project Assignment:

Benefit Cost Analysis

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

7 (7 Total)

Education: Degree(s)/Year/Specialization:

BS | 2014 | Civil Engineering

Active registration: Year first registered/discipline:

2018 | Civil Engineering OH No. 83999

Other experience and qualifications relevant to the proposed Project:

Jarred is a water resources engineer and Benefit Cost Analysis specialist with a passion for helping vulnerable communities protect themselves from natural disasters. With experience in flood risk assessment, hazard mitigation, benefit-cost analysis, emergency action planning, floodplain management, and flood control design, he has a broad understanding of how our surface water systems interact with the built environment. Jarred serves as a project engineer on a variety of site civil and water resources projects, is proficient in AutoCAD Civil 3D, Esri ArcMap, and HEC-RAS, and has experience spanning from conceptual community planning to detailed design and construction oversight.

Relevant Project Experience

BCA Engineer | Strategic Water Pathways – 100 Resilient Cities | New Orleans, LA
Served as a project engineer to support the City of New Orleans 100 Resilient Cities efforts. NOLA was reviewing drainage improvements for cost-effectiveness, so the project team was tasked with storm sewer modeling and flood risk assessments for the City. Modeling results were used to determine benefits and costs of drainage improvements by considering the impacts of varies flood scenarios. Jarred reviewed flooding impacts and computed benefits based on the proposed projects.

BCA Engineer | HUD National Disaster Resilience Competition | Various Locations, Nationwide
Helped coordinate the benefit-cost analysis (BCA) efforts for six applicants to a Community Development Block Grant program organized by the US Department of Housing and Urban Development (HUD). BCAs required identification and monetization, where feasible, of each applicant's proposed project costs and benefits. Proposed projects were tasked with making the target community more resilient to natural disasters as well as adding social, environmental, and economic benefits to the region. Jarred worked closely with each project team to understand client needs, gather necessary data and resources, and relay tasks to the BCA team. The BCA team used a variety of methods and software to analyze projects including, but not limited to, flood-prone property buyout programs, flood infrastructure enhancement, sanitary sewer rehab, stream restoration, park and trail creation, and storm shelters. Three of the applicants assisted by Stantec – Virginia, Tennessee, and Shelby County, TN –combined received over $225 million from HUD to assist their projects. The Stantec team served in various capacities to assist with grant development, administrative services, and conceptual design.

BCA Task Lead | Tottenville Shoreline Protection Project | Staten Island, NY
Led the benefit-cost analysis in support of a FEMA grant application to the Building Resilient Infrastructure and Communities (BRIC) program for FY 2020. The Tottenville shoreline was devastated by Hurricane Sandy in 2012, prompting strong local interest for mitigation solutions. Stantec designed an innovative mitigation solution using a layered approach comprised of a series of green and grey infrastructure that would reduce the impacts of coastal flooding and shoreline erosion while restoring and enhancing ecosystems and improving waterfront access. The team quantified more than $27M in project benefits, rendering the project cost-effective, and the project advanced for further review in the BRIC funding process.

Project Engineer | Permanent Canal Closures and Pump Stations (PCCP) | New Orleans, LA
Assisted the civil task force as part of the design/build team tasked with designing three new pump stations for the city of New Orleans. Jarred utilized AutoCAD Civil 3D to develop various design packages including proposed facility layout, utilities, grading, and various grade separation walls and flood walls for each of the three sites. Jarred also assisted the Civil Team Lead with organizing and responding to construction submittals as well as requests for information from the contractor. The project will provide long-term solution for reducing risk from the one percent-chance-annual storm event using pumps that have a combined capacity of over 24,000 cubic feet per second.

BCA Engineer | Risk Rating 2.0 Proof of Concept FEMA HQ | Missouri and Coastal Carolinas
Worked on a team comprised of members from STARR II and Milliman to assist FEMA HQ to compare, contrast, and converge the appropriate elements of catastrophic modeling and conventional multi-frequency structure-specific risk assessment for insurance rating purposes. The project seeks to further explore the capabilities of the MBE, a custom flood risk model developed and employed in New Jersey. Furthermore, the team collaborated with actuarial experts to compare the approach of flood risk mapping to insurance with the goal of bridging technical gaps and guiding improvements to the NFIP. Duties included aiding in the execution of data collection, risk modeling, and alternatives comparison.

Project Engineer | City of Fairfax FEMA Pre-Disaster Mitigation Grants | Cincinnati, OH
Assisted the project manager with administering a FEMA PDM grant application for the City of Fairfax. Many residential properties lie within the one percent-chance-annual storm flood limits of Little Duck Creek putting them at risk. It was deemed necessary to explore acquisition of nine properties for demolition. Duties included developing project cost estimates, compiling property information, updating ArcMaps drawings, and managing deliverables to FEMA.

BCA Task Lead | Tripps Run at Barrett Road Floodplain Feasibility | Falls Church, VA
Led the effort to conduct a FEMA BCA to determine eligibility and apply for funding. Stantec performed conceptual designs and alternatives analysis for Tripps Run to mitigate persistent flooding issues to residential properties. The planning study identified a preferred alternative involving the acquisition of nine residential properties and a 2,500-linear-foot stream restoration corridor. The County did not have the funds to cover the $13 million capital investment, so the team explored funding options through FEMA. The team determined that the project was a strong candidate for the Flood Mitigation Assistance (FMA) grant program – identifying $18 million in project benefits in the form of reduced flood damages to 125 homes, reduced street maintenance, and recreational and environmental enhancements to the surrounding area.

BCA Engineer | Platte River Restoration & Mitigation Grant Applications | Casper, WY
The City of Casper applied for grant funding for a resiliency-based stream restoration project. The study consisted of analyzing lifecycle costs and the various benefits associated with the proposed projects - both quantitative and qualitative. The team sought to monetize a project's benefits through damages avoided from erosion and wildfire. Jarred performed an ITR of the benefit-cost analysis work done by the project team.

Lead BCA Engineer | Benefit-Cost Analysis Support for Globeville Levee Improvement Project | Denver, CO
Led the BCA effort by employing automated GIS and spreadsheet-based techniques. The City and County of Denver discovered that the flood protection levee near Globeville was undersized after updated hydraulic modeling became available. Stantec was scoped to assess the cost estimate for levee improvements and conduct a benefit-cost analysis to support mitigation grant funding.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Austin Nall, PE | Geotechnical Engineer

Project Assignment:

Geotechnical Engineering

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

<1 (8 Total)

Education: Degree(s)/Year/Specialization:

MS | 2013 | Civil Engineering
BS | 2012 | Civil Engineering - Geosystems

Active registration: Year first registered/discipline:

2017 | Civil Engineering LA No. 41611

Other experience and qualifications relevant to the proposed Project:

Austin coordinates field investigations, compiles boring logs, conducts geotechnical engineering analyses, and prepares final reports. He is experienced in permit requirements for the US Army Corps of Engineers (USACE) and the Coastal Protection and Restoration Authority (CPRA). This includes the required knowledge of the Hurricane and Storm Damage Risk Reduction System Design Guidelines (HSDRRS-DG).

Relevant Project Experience

Geotechnical Engineer of Record | Houma Navigation Canal Lock Complex | Terrebonne Parish, LA
Performed detailed geotechnical analyses for the project that include pile capacity/settlement; down drag; global stability of levees, banks, T-Walls, and monoliths, including unbalanced load determination; seepage cut-off walls; lateral pile capacities; retaining walls; settlements. The Houma Navigation Canal Lock Complex consists of a new 800 ft. long lock system and upgrades to the existing 300 ft. wide barge-type floodgate. New construction will include braced floodwalls, barge gates, receiving structures, swing gate monoliths, sector gates, control buildings, I-Walls, nose piers, dredging, and mitigation. A pile load test was performed as a part of the design phase and included several axial compression and tension load tests as well as a lateral load test on 66- and 90-inch diameter steel pipe piles. Analyses for the project must adhere to the latest guidelines set forth by the HSDRRS-DG and applicable USACE Engineering Manuals. The results of analyses and recommendations made for the project were presented in a geotechnical report sealed by Austin.

Project Engineer | Mid-Breton Sediment Diversion | Plaquemines Parish, LA
The Mid-Breton Diversion project (BS-0030) is located on the east side of the Mississippi River in Plaquemines Parish, LA and is intended to divert sediment rich water from the Mississippi River to create new land in the Breton Sound Basin. Project features will include a gated diversion control structure in line with a realigned segment of Mississippi River Levee, diversion channel and conveyance levees, inlet and outfall channels, and new segments of state highway to connect a new bridge. Mr. Nall assists in managing the project as well as supporting the permitting process, planning the field investigations (soil boings, CPTs),

developing laboratory test programs, and performing engineering analyses (global stability, settlement, seepage, pile capacity, etc.). The project is currently moving into the 60% design phase.

Project Engineer | Marmande Canal Floodgate | Terrebonne Parish, LA
The Marmande Canal Floodgate Project consists of a new braced floodwall and steel swing gate structure located on Marmande Canal in Terrebonne Parish, LA. The project includes tying the new braced floodwall into two existing reaches of earthen levee. The project includes im-proving soils along the canal banks through use of wick drains to support the new levee tie-ins. Mr. Nall performed engineer-ing analyses (axial and lateral pile analyses, braced wall analyses, global stability and settlement analyses of levee tie-ins, and wick drain design).

Geotechnical Engineer of Record | Raccoon Bayou Levee Improvements | Richwood, LA
The proposed project consists of various drainage improvement features to reduce recurrent flooding associated with Raccoon Bayou within the project area. During heavy rain and flood events, water backs up into Raccoon Bayou and floods the project area. Mr. Nall managed the geotechnical investigation for the project which included soil borings and CPT soundings, laboratory testing, and performing engineering analyses (slope stability, settlement, seepage, road design). Improvements include a new earthen flood protection levee and adjacent drainage canal, a gravel service road, two new pump station control structures, new culverts, and the excavation and widening of an existing drainage channel.

Geotechnical Engineer of Record | Dechene Road and Embankment | Columbia, LA
The proposed project consists of constructing a new gravel road, approximately 3,400 ft in length, through mostly undeveloped land. The gravel road will be built on top of a new embankment, approximately 2,200 ft in length, that will be raised from the existing grade of approxi-mately El. +82 to +85 ft. up to El. +98 ft. The road and embankment are designed to LaDOTD standards. Mr. Nall managed the geotechnical investigation for the project which included soil borings, laboratory testing, and performing engineering anal-yses (slope stability, settlement, seepage, road design).

Project Engineer | Little Bayou Black Forced Drainage | Houma, LA
The Little Bayou Black Forced Drain-age project aimed to reduce recurrent flooding upstream of the new pump station by forcing drainage downstream using 2 pumps. The structure also included a tainter gate for use during non flood events. Mr. Nall managed the geotechnical investi-gation for the project which included soil borings, laboratory testing, and performing engineering analyses (slope stability, re-taining wall analysis, settlement, seepage, lightweight fill). Construction was recently completed and the pump station is in use.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Eric Coon, PE | Senior Structural Engineer

Project Assignment:

Structural Engineering

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

8 (13 Total)

Education: Degree(s)/Year/Specialization:

BS | 2009 | Civil Engineering

Active registration: Year first registered/discipline:

2014 | Civil Engineering LA No. 38983

Other experience and qualifications relevant to the proposed Project:

Eric has 12 years of experience in structural design, analysis, and inspection of steel, concrete, masonry, and wood structures. Prior to joining Stantec, he spent several years as a structural engineer in the civil works sector, primarily dealing with navigation and flood control projects. These projects included modification and rehabilitation of concrete gravity dams, analysis and rehabilitation of concrete navigation locks and steel gates, risk assessment of concrete gravity dams, existing levee inspection and certification, and design of concrete gravity and sheet pile retaining walls. Since joining the firm, he has served in a resident engineering role, providing on-site engineering and field observation support on a design-build project to construct three new permanent canal closures and pump station structures in New Orleans, LA.

Relevant Project Experience

Structural Engineer | West Shore Lake Pontchartrain Pump Stations and Drainage Structures | St. Charles, St. John the Baptist, and St. James Parishes, LA

This new 100-year storm risk reduction system features levees, pump stations, flood walls and gates, environmental and drainage canals, a FEMA 361 operations safe house, and bypass drainage gates. The pump stations are designed to pump stormwater over surge levees and floodwalls and conducted with a resiliency check for a 500-year storm event to confirm the system could withstand overtopping and wave loads. Eric is responsible for structural QC of several project structures including pump stations, drainage structures, and reviewing the design efforts for the project temporary retaining structures for the pump stations, drainage structures, and flood walls.

Structural Engineer | USACE Orange County Coastal Storm Risk Management Project | Orange County, TX

The Long-Term Disaster Recovery Investment Program identified a total current working estimate of $3.69 Billion for the Sabine Region (Orange County, Jefferson County, the Port Arthur vicinity, and Freeport vicinity). As part of the Sabine Pass to Galveston Bay Coastal Storm Risk Management and Ecosystem Restoration, the Orange Project includes adding a 26.7-mile-long levee and floodwall system along the edge of the Sabine and Neches River floodplains from Orange to the vicinity of Orangefield, Texas. The project will include 15.6 miles of new levees. 10.7 miles of new concrete floodwalls and gates, 7 new pump stations, and new navigable

sector gates to Adams and Cow Bayous. Eric is currently Stantec's project engineer for the design of concrete floodwalls.

Structural Engineer | Mid-Breton Sediment Diversion Project | Plaquemines Parish, LA
Serves as project structural engineer responsible for the design of project components associated with the gated intake diversion structure, conveyance channel, and interaction of structures with the existing levee system. Design includes pile founded reinforced concrete gated intake structure, concrete T-Walls, sheet pile retaining walls, and miscellaneous building structures to facilitate operations and storage on the project.

Structural Engineer | Mississippi River Re-introduction into Bayou Lafourche, Pumping Capacity Improvements Project | Donaldsonville, LA
Structural Engineer for design of outfall structure and river intake system, including pipeline design. This freshwater diversion project increases the flow from the river to the bayou, allowing the BLFWD to address the challenges of poor water quality during heavy rainfall, saltwater intrusion during times of drought, and channel instability due to fluctuating water levels. Stantec is also providing levee/Section 408 permitting, as well as civil/site design. Stantec is also leading the bidding and construction phase. The project will also include the design for the inlet and discharge pipe support systems for 7-78 inch diameter steel pipes and a 300 ft long access bridge to the pump station. Both the pipe discharge supports and bridge will cross the levee which requires coordination with USACE.

Resident Engineer | Permanent Canal Closures and Pumps Design-Build | New Orleans, LA
Served in a resident engineering role for the construction of a design-build contract to construct three new pump stations located on the city's three main outfall canals. Additionally, closure structures consisting of T-Walls, sheet pile I-Walls, and levees were constructed integral with the pump stations and tie into the city's existing flood protection. These structures were designed to protect the city from 100-year storm water levels while discharging water from the canals into Lake Pontchartrain at a combined rate up to 24,300 CFS. Responsibilities included providing construction observation, engineering field support, and administration services. Now complete, the three pump-stations have a total of ten 1,800 cfs pumps and 7 900 cfs pumps with a total capacity of 25,000 cfs.

Structural Engineer | Southeast Louisiana Flood Protection Authority-East Forty Arpent Levee Certification | Baton Rouge, LA
Served as structural team member on a project to assess the Forty Arpent Levee for FEMA certification. The scope of the project included levee inspection, surveys, soil borings and other geotechnical analysis, and structural analysis of the existing levee and sheet pile I-Wall. Personal responsibilities included levee inspection, interpreting survey results, and working closely with geotechnical engineers to perform analysis of the levee.

Structural Engineer | Bluestone Dam Safety Assurance Phase 3 | Hinton, WV
The project involved hydraulic and structural modifications to the existing dam in order to address deficiencies in passing the Probable Maximum Flood. Served as structural engineer providing design and analysis of a new reinforced concrete stilling basin, anchored to bedrock. Performed stability analyses as well as reinforced concrete design utilizing finite element analysis to model the concrete stilling basin under hydraulic loading.

Structural Engineer | Periodic Inspections of Ohio River Locks and Dams | Ohio, Kentucky, and West Virginia
Participated in several Periodic Inspections of lock and dam navigation projects on the Ohio River. These inspections are typically 5-year assessments of the overall condition of the project, and are used, in part, to allocate operation and maintenance funding. Responsibilities included inspection of monolithic concrete and hydraulic steel structures (miter gates, tainter gates, and bulkheads). Documented structural deficiencies and recommended remedial measures.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Chris Sanchez, PE | Drainage and Utility Engineer

Project Assignment:

Utility Engineering

Name of Firm with which associated:

Stantec

Years' experience with this Firm:

7 (21 Total)

Education: Degree(s)/Year/Specialization:

BS | 2001 | Civil Engineering

Active registration: Year first registered/discipline:

2006 | Civil Engineer LA No. 32878; Also MS

Other experience and qualifications relevant to the proposed Project:

Chris is a registered civil engineer with 21 years of experience in civil engineering and water resources with heavy emphasis on wastewater collection and pumping. This experience includes collection system modeling, collection system evaluations and rehabilitation, feasibility level design, design and engineering for construction plans, development of specifications, cost estimates at all stages of work and construction management. Chris is currently the supervisory engineer for the Sewerage and Water Board of New Orleans Sewer System Evaluation and Rehabilitation Program and has performed work on wastewater assets in Jefferson Parish, where he is a resident, City of Kenner and City of Gretna.

Relevant Project Experience

Project Engineer | Blue and Green Corridors Project | New Orleans, LA
This HUD CDBG-DR funded project is centered on designing improvements in the right-of-way of six major street corridors in Gentilly neighborhood and seven adjacent city-owned park lots. These major boulevards in Gentilly will be re-envisioned as "blue" corridors, "green" corridors, and priority complete streets. These blue and green corridors are designed capture and store stormwater during storm events and slow infiltration providing flood mitigation and reducing subsidence. The design also provides recreational facilities, exercise stations, aesthetic enhancements, roadway improvements, complete streets, bike and pedestrian facilities, landscaping water features, public education, security lighting, ADA improvements and other amenities. The project included an intensive public engagement to set the scope and included design and construction management.

Project Engineer | Hagan-Lafitte Drainage Upgrades and Green Infrastructure | New Orleans, LA
Provided design for drainage upgrades and green infrastructure improvements for the Hagan-Lafitte neighborhood to improve the residents' quality of life. The proposed stormwater management system includes a combination of grey and green infrastructure including rain gardens, pervious sidewalks, and underground storage to substantially reduce the risk of property loss and flooding within the neighborhood. Easton Park was utilized for underground storage and improved. The proposed system reduces peak flows into the drainage system for extreme weather events affording the overall pumping system additional capacity. The project increases aquifer recharge to minimize roadway and structure subsidence. Project

performed hydraulic modeling to establish BCA for $5.3 M FEMA HMGP funding. The project also included public outreach.

Site-Civil Design and Utility QC | Mississippi River Re-Introduction into Bayou Lafourche | Donaldsonville, LA
Served as one of the independent quality reviewers for the civil site design and utility relocation for the 1,500 cfs freshwater pump station diversion project for Bayou Lafourche. This project is being performed for the Bayou Lafourche Fresh Water District and coordinated through the USACE New Orleans District.

Design Manager | Sewer System Evaluation & Rehabilitation Program, New Orleans, LA
Design manager for Sewerage and Water Board of New Orleans Sewer System Evaluation & Rehabilitation Program (SSERP), an EPA consent decree program. Chris is the lead technical manager for the Stantec program management team and provides the technical review for contract and subcontract designers, is responsible for in-house technical production and assisting the client with bid phase and construction phase services. Current tasks include repackaging plans and specifications for contracts that were interrupted by Hurricane Katrina (2005), updating program quantities to reflect changes in local standards and coordinating the sewer program with the City of New Orleans roadway reconstruction program.

Design Manager | Waterline Replacement Program | New Orleans, LA
Design Manager for the design of water line replacements throughout New Orleans in select neighborhoods. Chris was responsible for meeting with the client to review site specific needs for approximately 120 blocks and supervised design for development of plans, profiles including utility conflicts and tie-in details. Chris currently oversees the repackaging of this work into twelve different construction contracts in coordination with the City of New Orleans Joint Infrastructure Roadway Recovery Program. Chris was additionally responsible for technical coordination on local, state, USACE and railroad permitting on several contracts.

Interior Drainage Task Lead Engineer | Mid Breton Sediment Diversion | New Orleans, LA
Leading hydrologic and hydraulic study to determine and mitigate drainage impacts the project may have on the local 10,000 acre interior drainage basin. He also served as the technical delivery task lead on for the development of the Opinion of Probable Construction Cost at the 5% design stage for several alternatives to test sensitivity of various project conveyance and structure options, also providing quality plan reviews for civil site, roadway and utility plan sheets. He will lead cost development through the 15% design stage..

Lead Civil Engineer | LA 434 885 Acre Development | St. Tammany Parish, LA
Project engineer for the conceptual utility sewer and drainage plans for a mixed use development of an 885-acre site. Major project feature included capturing 100% of the 100-yr runoff and diverting to a new regional detention pond and a five-barrel culvert crossing for LA 434.

Senior Project Engineer | Des Allemands Breakwater Bulkhead | Des Allemands, LA
Performed design and engineering during construction of 1200-ft of new steel sheet piling bulkhead along West Bayou Rd in Des Allemands. The project raised the level of flood protection to elevation +6.0 for the community and was CDBG eligible. Responsible for site plans, structural details, specifications and opinion of probable construction cost. Project included minor utility relocations and drainage.

Supervisory Engineer | Sewer Collection System Hydraulics Model Update, New Orleans, LA
Stantec was tasked with updating the existing model to current conditions due to shifts in the population post- Hurricane Katrina), observed reductions in dry weather production and anticipated reductions in wet weather inflows and infiltration. Responsibilities included the execution of a new flow monitoring and rainfall measurement program, adjusting the model populations and dry weather productions, adjustments to the model geometry based on redevelopment of several portions of the city, calibration of dry weather and wet weather events based on observed data and running future scenarios based on anticipated population growth and proposed changes in land use.

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

PROJECT NO. 1

Project Name, Location and Owner's contact information:

Bucktown Harbor Boardwalk and Marsh Overlook | Jefferson Parish, LA
Jefferson Parish Department of Coastal Management
834 S. Clearview Pkwy., Harahan, LA 70123

Lauren Averill, PE, Project Manager, Former Director | (504) 736-6653

Nature of Firm's Responsibility:

To further the goal of restoring and enhancing the shore of Lake Pontchartrain, Jefferson Parish's Bucktown Boardwalk makes new connections linking Bucktown Harbor Park to a 3.5- acre coastal marsh in an urban setting.

The environmental project area is in a constructed marsh just west of Bucktown Harbor, North of Old Hammond Highway, and along the shore of Lake Pontchartrain. The project will immerse and inform users of all ages of the value of coastal wetlands to wildlife, birds, fisheries, and water quality by providing safe, controlled access along the shoreline between the marsh and the open water of the Lake.

Not a typical boardwalk project, this new connection for residents and visitors alike was a challenge. Located on the unprotected side of the levee system, the boardwalk is susceptible to surge conditions in the Lake. Structural and geotechnical components of the 2,000-foot-long structure were designed to withstand wave loading and submergence. Permitting included USACE, CPRA and Flood Protection Authority - East. This $1.9 Million project was partially funded with grant funding from EPA and Stantec provided the necessary reporting and design to meet funding requirements.

In addition to the serving as a pedestrian way, the boardwalk is a linear park along Lake Pontchartrain with observation decks, benches, and a bird viewing blind. Bucktown residents and visitors can now take a stroll and experience the view of beautiful coastal marsh, coastal restoration, and wildlife habitat along Lake Pontchartrain.

Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2020	$1,900,000	$171,000

TEC Professional Services Questionnaire

PROJECT NO. 2

Project Name, Location and Owner's contact information:

Blue and Green Corridors | New Orleans, LA
City of New Orleans Project Delivery Unit
1300 Perdido St, Ste 6E15, New Orleans, LA 70112
Mary Kincaid | (504) 658-8048

Nature of Firm's Responsibility:

In 2015, the City of New Orleans participated in the US Department of Housing and Urban Development's (HUD) National Disaster Resilience Competition with a proposal to create the City's first Resilience District within the Gentilly neighborhood.

Blue and Green Corridors is the largest of the Gentilly Residence District projects that aims to reduce flood risk, slow land subsidence, and encourage neighborhood revitalization. This will be done by creating a network of canals, recreational parks, and community spaces along eight linear miles of the public right-of-way. Along the streets slated as "blue corridors", the City will construct linear wetlands and canals within the wide neutral grounds between vehicle travel lanes to receive and manage runoff, and immediately relieve stress on the pumping system, allowing it to "catch up" during high rainfall events. Along the streets slated as "green corridors", the City will construct a variety of green infrastructure practices–such as bioswales, bumpouts, and permeable pavement–to allow stormwater runoff to be stored and seep slowly back into the ground. Wherever possible, the project proposes road diets to reduce impervious cover, beautify the neighborhood with plantings, calm traffic, and to build complete streets for safe walking and biking.

Stantec re-envisioned the neighborhoods to use the large neutral grounds to store water during flood events and create beneficial water areas to enhance the community. Elysian Fields will have a beautifully planted canal with water features and play spaces to bring the community together. The other major avenues will have landscaped neutral grounds that reduce flooding and filter runoff. Green infrastructure interventions were designed to reintroduce water to the ground to reduce subsidence and reduce heat island effect. A network of biking and pedestrian facilities where designed to create new connections to the places where the residents work, play, and live. A "Complete Streets" approach prioritizes pedestrians, bicyclists, and public transit to create a safer multi-modal environment. Vacant lots have been repurposed to provide multiple uses for community spaces and stormwater management. Wooden walkways and piers traverse over stormwater ponds while pavilions and active playgrounds provide destinations for families.

Stantec advised the City of New Orleans through the Rockefeller Foundation's 100 Resilient Cities Initiative, ultimately contributing to the development of a HUD NDRC grant application and project approach. As a condition of the $141.3 million HUD CDBG0-DR grant award, we supported a series of benefit cost analyses demonstrating a positive return on the federal investment. We quantified the improvements via a triple bottom line analysis to capture the benefits improvements to flood reductions, healthier lifestyles, and improved economic activity. The team utilized a blend of AutoCASE Triple Bottom Line considerations and traditional FEMA/USACE flood risk methodology to accurately capture project impacts and refine project alternatives. The results showed that the project creates improvements in all three categories.

Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2023 (est)	$38,000,000	$4,100,000

TEC Professional Services Questionnaire

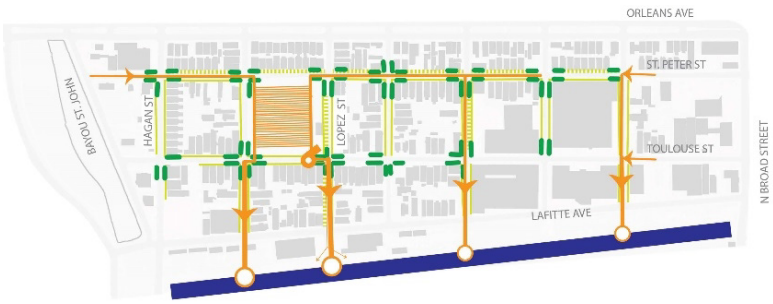
PROJECT NO. 3

Project Name, Location and Owner's contact information:

Hagan Lafitte Drainage and Green Infrastructure | New Orleans, LA

City of New Orleans Public Works
1300 Perdido St, Ste. 6W03, New Orleans, LA 70112
Jennifer Ruley, PE | (504) 658-8063

Nature of Firm's Responsibility:



Stantec was contracted by the City of New Orleans to develop a drainage improvements and green infrastructure plan for a portion of Bayou St. John. This low-lying mixed residential/commercial neighborhood in New Orleans suffers frequent flooding during larger events. Similar to most of New Orleans, as the marshlands were drained and developed, the natural waterways were channelized with earthen levees and a lock constructed adjacent to the Lafitte Greenway which forms the southwest portion of the project area. Stormwater is currently pumped into Lake Pontchartrain via drainage canals, but during larger storm events the system is overwhelmed with elevated canal levels and water ponds in the low-lying area causing repetitive property losses and flooded roads.

Hagan-Lafitte is huge success for the City that reduces flooding and improves resident's quality of life. It is as example for future projects in New Orleans and model for other communities. Green infrastructure and grey infrastructure techniques were implemented to reduce or delay the peak runoff and help to mitigate flooding in the area. By increasing the storage and pervious area, stormwater can naturally be reintroduced into the aquifer over time, limiting settlement and improving the quality of the water discharging from the drainage basin. The project is funded by Hazard Mitigation Grant from FEMA. A benefit cost analysis was conducted to show that the benefits of the improvements exceed the cost of the costs of the project and 1.76 ratio was achieved. The improvements were quantified via a hydraulic model, which simulated flood levels for different storm events using pre/post improvements within the basin. To help improve the quality of life in the communities near the greenway, this project included landscaping and park improvements, while still providing strategic storage in the system and reduce stormwater runoff to the drainage pumping systems. The overall design goal incorporates the right mix of green infrastructure and traditional grey infrastructure to reduce flooding, improve quality of life and increase the neighborhood's resiliency.

Project goals are to convey the 10-year 24-hour storm event as modeled in the City of New Orleans Master Drainage Plan while reducing ponding depths to 6-inches or less. Specific green infrastructure improvements that were implemented as part of this project include rain gardens, pervious sidewalks, undergrown stormwater basins to drain the park areas, re-routing large commercial building roof runoff to bio-swales and permeable paver grid systems for parking areas.

Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2021	$7,200,000	$1,000,000

PROJECT NO. 4

Project Name, Location and Owner's contact information:

St. Bernard Campus, Gentilly Resilience District | New Orleans, LA
City of New Orleans
1300 Perdido St, Ste. 6W03, New Orleans, LA 70112
Stephanie Dreher | (504) 941-0594

Nature of Firm's Responsibility:

Stantec is using innovative resilience strategies including green and grey infrastructure to reduce flood hazard risks and improve public health to enhance the urban condition.

The St. Bernard Neighborhood Campus Project is part of the Gentilly Resilience District – a combination of projects across Gentilly to reduce flood risk, slow land subsidence, and encourage neighborhood revitalization. The activity area provides a prime opportunity for joint green infrastructure and recreational interventions that will also connect the surrounding neighborhood with Bayou St. John as a critical recreational waterway. The project will benefit the surrounding institutions, the City's drainage system, and surrounding neighborhoods that suffer repetitive flood losses. The project also provides roadway repairs and green infrastructure to give the community a holistic solution that addresses the community's needs and their concerns.

This project will provide critical sports fields and recreational facilities, including the reinstitution of Willie Hall Playground, to serve nearby residents and McDonogh 35 High School students. The program also includes other neighborhood amenities including street beautification and landscaping, Intersection and connectivity improvements for pedestrian and bike access, kayak boat launch, water access to Bayou St. John and boardwalk, playground, 'Living with Water' educational signage and kiosk, neighborhood security street lighting, shade structure, benches and park amenities.

Stantec is engaging citizens and decision-makers regarding the opportunities for green infrastructure. Public meetings promoted innovative approaches by soliciting feedback from interested stakeholders early in the conceptual design process. The City's existing outreach and engagement avenues were utilized, including social media, City of New Orleans' website and booth sponsorship at community events.

Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2023 (est)	$10,000,000	$1,300,000

TEC Professional Services Questionnaire

PROJECT NO. 5

Project Name, Location and Owner's contact information:

Tottenville Shoreline Protection Project | Staten Island, NY
Governor's Office of Storm Recovery
64 Beaver Street, New York, NY 10004

Alex Zablosky (former Project Manager with Governor's Office of Storm Recovery, Current Director for Jamaica Bay Rockaway Parks Conservancy) | (347) 885-1200

Nature of Firm's Responsibility: Planning, Design and BRIC Grant Application Development

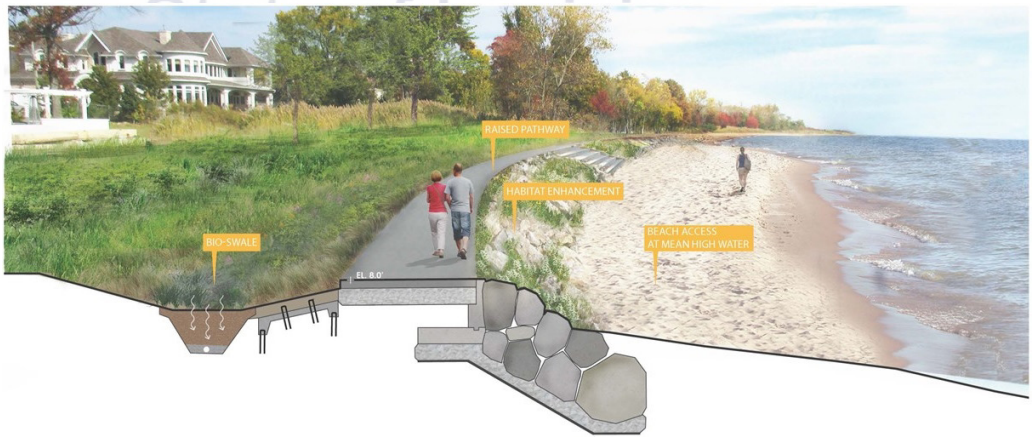
The Tottenville Shoreline Protection Project (TSPP) is located in the neighborhood of Tottenville in the southwestern portion of Staten Island NY, along the waterfront of Raritan Bay within New York Harbor. The TSPP is designed to reduce coastal risks related to property damage, safety, and security by specifically mitigating the impact related to wave action and coastal erosion along the Tottenville shoreline. Secondary benefits include enhancing ecosystems and shoreline access and public use. The project will accomplish these goals by using a layered system consisting of an Earthen Berm, Wetland Eco-Revetment with wetland enhancement, Hybrid Dune-Revetment, Eco-Revetment, and Raised Edge incorporating shoreline plantings, maritime forest restorations, and ADA pathways.

The Design Team completed the 90% design in December, 2021, and the estimated construction cost exceeds the budgets available from NYC parks. Stantec identified that the TSPP may qualify for FEMA's new Building Resilient Infrastructure and Communities (BRIC) grant program..

The team conducted a benefit-cost analysis (BCA) to capture project benefits in the form of reduced property and content damages, displacement and social damages, utility and lifeline disruptions, and historic maintenance and clean-up expenditures. The BCA also accounted for ecosystem service benefits given the green nfrastructure components of the project. The team was able to present a cost effective project BCA by accounting for over $27 million in project benefits. As a result of the Stantec's faciliatated approach to competing for FEMA BRIC funding, NYC's TSPP was selected for a FEMA BRIC grant award of nearly $21,000,0000. This award is one of the Top 10 largest BRIC grants awarded in 2020.

This project was featured in *ECO Magazine* in July, 2021: "How Creative Designs Can Further a Vision of Sustainability and Resilience."

Click here to read more.



Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2024 (estimated)	$39,500,000	$4,560,000

TEC Professional Services Questionnaire

PROJECT NO. 6

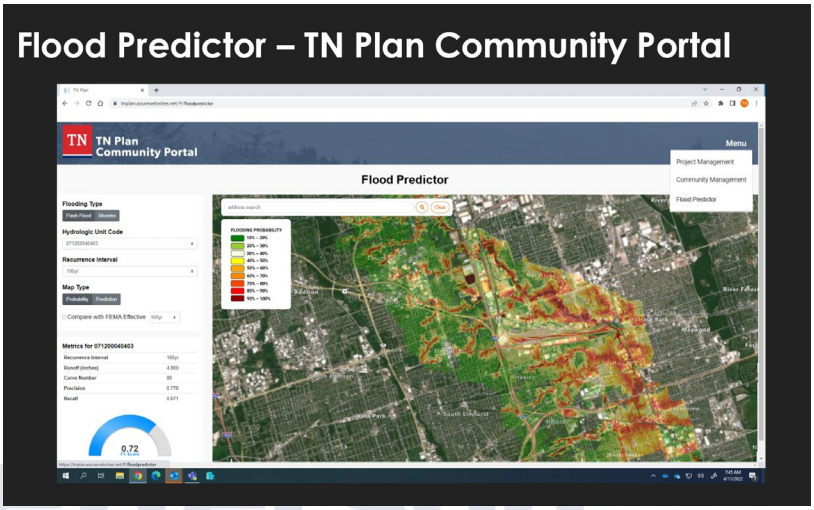
Project Name, Location and Owner's contact information:

"Rural by Nature" National Disaster Resiliency Competition (NDRC) Program Management | Statewide, TN

Tennessee Department of Economic and Community Development
312 Rosa L Parks Ave., 27th Floor, Nashville, TN 37243
Kent Archer | (615) 354-3591

Nature of Firm's Responsibility: Program Management, Grant Application Development and Administration

The State of Tennessee received a $44.5M National Disaster Resilience Competition (NDRC) grant award and turned to our team to provide the program management services to facilitate it. The grant funding supports the State's "Rural by Nature" Initiative and funds 10 resilience projects in rural Tennessee along the Mississippi River. The projects identified represent unmet needs from recent Presidentially-announced disaster declarations. Projects being advanced range from wastewater treatment system improvements to the restoration of two miles of degraded floodplain and the creation of dual-purpose wetlands/recreation areas along the banks of the Mississippi River.



With 10 projects spread over multiple geographies and many projects divided into multiple phases Stantec looked at the challenge of managing these projects. Knowing the projects would span a 5 year lifecycle Stantec developed TN Plan ((https://tnplan.azurewebsites.net/#/), a web-based portal, to support asset-based resiliency planning and grant project management. The portal is capable of storing data from HUD NDRC grantees. TN Plan includes Project Management features that help track grant documents and create reports. It makes information accessible and usable for future mitigation initiatives. TN PLAN also includes a module to facilitate monitoring grant progress, performance metrics and promote collaboration among public officials engaged in resilience planning. In addition to Project Management features TNPlan also includes a Community Management module that allows communities to capture Resilience Data and Asset Based Planning for critical infrastructure. Stantec's Flood Predictor product is part of the TN Plan portal that allows communities to access their flood risk for a specified area with an estimated amount of rainfall. This module also allows the community to assess their resilience readiness based on a set of common attributes.

TN Plan serves as an on-line repository of resilience data that allows government leaders and emergency management officials quick and efficient access when future disasters strike.

Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
9/2023 (est)	$44,502,000	$2,700,000

TEC Professional Services Questionnaire

PROJECT NO. 7

Project Name, Location and Owner's contact information:

Alaskan Tribal Resilience (BRIC) Program | Multiple Locations, AK
Alaska Native Village Corporation Association (ANVCA)
745 West 4th Avenue, Anchorage, Alaska 99501
Hallie L. Bissett | (907) 222-5258

Nature of Firm's Responsibility: Grant Application Assistance, Grant Project Implementation

Alaska's Tribes are exposed to a range of natural hazard threats like wildfire, earthquakes, floods, and hurricanes. Many of these are worsening with climate changes, making it more important than ever to protect their communities. When disasters strike, Alaskan natives' lives are disrupted, their culture resources threatened and it can take years to recover.

ANVCA is a member-based organization representing 177 Alaska Native Village Corporations created under the Alaska Native Claims Settlement Act (ANCSA). ANVCA has contracted with Stantec and their small business partner - Two Bear Environmental Consultant (TBEC) to assist ANVCA members to gain an understanding of their vulnerabilities to natural hazards, complete risk assessments, scope mitigation projects and implement resilient solutions.

A key focus of our effort is supporting ANVCA and their members understand, compete and secure grant funding associated with FEMA's new Building Resilient Infrastructure and Communities (BRIC) program. Assistance includes providing support across all grant categories including capability and capacity building, scoping and resilient solution implementation. Future anticipated services include resilient infrastructure design and regulatory permitting. The following is a summary of the BRIC application related services provided to-date:

2020 BRIC Capability and Capacity Building / Scoping Grants

- 6 ANVCA member Tribes
- 20 BRIC applications submitted
- $3,300,000 in funding requested
- 16 of 20 BRIC applications were selected by FEMA for further review
- Grant scopes: critical energy infrastructure scoping, building code assessments, mitigation planning and mitigation plan updates

2021 BRIC Capability and Capacity Building Grants

- 3 Tribes
- 7 BRIC applications submitted
- $2,100,000 in funding requested
- Grant scopes: critical energy infrastructure scoping, climate change cultural impact assessments, building code assessments, mitigation planning and mitigation plan updates

2022 BRIC Capability and Capacity Building / Critical Infrastructure (Lifeline0 Scoping Grants

- Up to 20 Tribes and 60 BRIC grant applications (initial tribal needs and letters of interest are currently being solicited)

Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2027	$5,400,000	$3,200,000

TEC Professional Services Questionnaire

PROJECT NO. 8

Project Name, Location and Owner's contact information:

$1B HUD National Disaster Resilience Competition (NDRC) Projects | States: Kansas, West Virginia and Tennessee; Commonwealths of Virginia and Kentucky; Cities: Tuscaloosa, AL and Memphis, TN; and District of Puerto Rico

Rockefeller Foundation / Multiple U.S. Governmental Agencies
420 Fifth Avenue, 19th Floor New York, NY 10018
Rebecca Laberenne, Senior Consultant, World Bank (previously Rockefeller Foundation 100RC) | (646) 612-7251

Nature of Firm's Responsibility:

Launched in 2014, the US Housing and Urban Development's (HUD) National Disaster Resilience Competition (NDRC) was a two-phased process that awarded $1 billion in support of advancing our Nation's resilience. The competition was designed to build our Nation's resilience capacity, focusing on helping communities identify vulnerabilities, explore future risks, evaluate alternatives that would advance a community's triple-bottom line. Key goals of the competition included promoting strategies that reduced the risks associated with natural disasters while revitalizing and enhancing community infrastructure, economies, environment and overall quality of life.

Stantec has been integrally engaged in the NDRC resilience competition from launch through today where our ongoing roles range from program management to detailed infrastructure design engineering. Initial roles included supporting the HUD's partner, The Rockefeller Foundation, participating as critical infrastructure subject matter experts at seven (7) national resiliency capacity building academies. This initial role included facilitating applicants through a process of risk education, stress identification, resiliency visioning, project planning and grant application development.

The initial role then transitioned into Stantec being contracted as technical lead for the development of seven (7) NDRC Phase 2 grant HUD CDBG-DR grant applications. Individual value of grant funding solicited ranged from $200,000 to $865,000,000. Clients included states, counties and districts. Hazards address ranged from sea-level rise, tornadoes, hurricane, riverine flooding, heat to subsidence.

Stantec's NDRC Phase 2 clients were awarded nearly $250 million in CDBG-DR grant funding to advance resilience in their communities. Key tasks included community stakeholder resilience challenge education, identification and screening of candidate projects, value engineering of select projects to maximize their "resilient dividend", triple-bottom line benefit cost analyses and grant application writing.

Commonwealth of Virginia: One of our key representative NDRC clients is the Commonwealth of Virginia and qualifying Hampton Roads region. Stantec's role supported through a contract with Old Dominion University (ODU) included assisting the Commonwealth assess vulnerabilities and evaluate resilient solutions to extreme weather events, recurrent flooding, and sea level rise. The approach applied to their application titled "THRIVE: Resilience in Virginia". The Commonwealth of Viginia was awarded a NDRC grant valued at $120,549,000 to address unmet recovery needs and advance region resilience to the impacts of climate change.

City of Bridgeport, CT: Another of our key representative NDRC clients is the City of Bridgeport. The City was awarded a NDRC grant valued at $54,277,000 to support a pilot project as part of Connecticut's greater Coastal Resilience Plan. The plan is focused on reconnecting and protecting economically-isolated coastal neighborhoods through investments in streets that protect against flooding while strengthening their connectivity to existing transportation nodes. Stantec provides program management services including facilitating project permitting, planning and design. Key roles include construction and HUD CDBG-DR grant administration.

Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2014 - Ongoing	$175,000,000	$7,000,000

TEC Professional Services Questionnaire

PROJECT NO. 9

Project Name, Location and Owner's contact information:

Cincinnati MSD Sustainable Watershed Planning | Cincinnati, OH
Metropolitan Sewer District of Greater Cincinnati
1081 Woodrow St, Cincinnati, OH 45204
Dave Russell | (513) 557-5937

Nature of Firm's Responsibility:

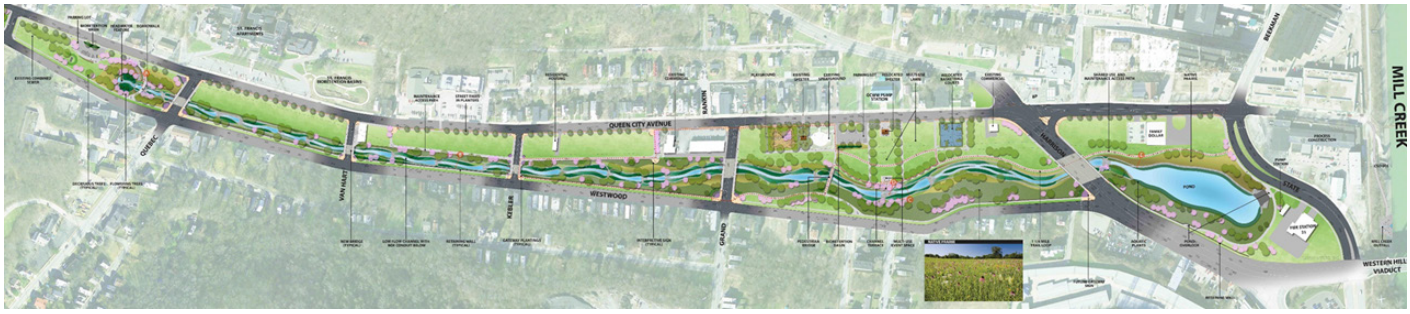
Our master plans resulted in a balanced CIP for each watershed. Planning, design, and implementation of green infrastructure improvements to reduce the frequency and magnitude of CSOs as outlined in the Metropolitan Sewer District of Greater Cincinnati's (MSDGC) revised CD.

We developed three integrated watershed master plans for CSOs 012 (Hopple Street), 030 (Blair Basin), and 419 (Bold Face Creek) to evaluate the existing networks and proposed capital improvements. Our primary focus was assessing the potential for green infrastructure to replace or complement a traditional grey infrastructure approach. The master plans used a Triple Bottom Line approach and resulted in a balanced CIP for each watershed. A custom designed planning tool allowed our team to work with community officials in real time to evaluate the impact of alternatives on the existing system and associated costs. To provide direct benefits to the community, we emphasized CSO reduction and storm water quality improvements. The solutions reduce the frequency and magnitude of overflows while creating a focal point for neighborhood revitalization.

The redevelopment of a historic neighborhood park with bio-retention wetland features is planned for Hopple Street, along with a 12-foot diameter storm sewer crossing of I-75 to Mill Creek. Our solution for Blair Basin restores one of Hamilton County's few remaining urban wetlands and includes a six-foot diameter crossing of I-75 to Mill Creek. For Bold Face Creek, our planned solution daylights and restores three miles of piped stream, realizes a 50% cost savings versus a previously planned high rate treatment facility, and separates the basin with 15 miles of storm sewer.

Triple Bottom Line sustainability was at the core of our planning services. To manage the risks of the largest capital improvement project in the City's history, all options were considered and evaluated, including economic, environmental, and social concerns. Economic risks were further evaluated to include future maintenance and operations in addition to up front capital costs.

Projects of the size and scope as MSD's Wet Weather Program have a unique opportunity to leave a lasting legacy for the community. Each decision should be weighed based on the positive and negative legacies for rate payers and residents. With this in mind, Stantec and MSDGC identified unique and transformative projects to meet CD requirements.



Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2021	$3,000,000	$3,000,000

PROJECT NO. 10

Project Name, Location and Owner's contact information:

Pennsylvania CTP BCA Support | Statewide, PA
Pennsylvania Emergency Management Agency
1310 Elmerton Avenue, Harrisburg, PA 17110
Thomas S. Hughes | (717) 651-2726

Nature of Firm's Responsibility:

As part of the Pennsylvania Emergency Management Agency's broader flood mitigation program, Stantec has supported the technical review of BCAs for more than 20 mitigation projects submitted to the Pennsylvania Emergency Management Agency (PEMA) for FEMA Hazard Mitigation Assistance (HMA) grant funding including HMGP, HMGP-Advanced Assistance, FMA, and BRIC.

Stantec reviewed BCA and sub-applicant supporting documentation to provide comments in the form of review letters and discussions with sub-applicants. BCAs and grant applications were reviewed in terms of quality of analyses, feasibility, alternatives, and competitiveness to improve overall chances of grant application success. Mitigation project types included stormwater retrofits, riverine restoration, flood storage, landslide stability, levee modifications, and backup power generators.

Additionally, Stantec staff have supported the CTP program by providing customized beginner and advanced NFIP training to more than 300 local flood and elected officials throughout the commonwealth. This training covered everything from the lifecycle of a typical Risk MAP study, FEMA guidelines and standards, use of flood risk products, and decision support ideas for prioritizing BLE studies.

Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
12/2023	$120,000	$120,000

TEC Professional Services Questionnaire

M. List all prior and/or on-going litigation between Firm and Jefferson Parish. Please attach additional pages if necessary

Parties:		Status/Result of Case:
Plaintiff:	**Defendant:**	
1.		
2.		
3.		
4.		

Over the last 37 years that we have been working with Jefferson Parish, Stantec has delivered projects on schedule and on budget without any adversarial legal proceedings.

N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.

Stantec Consulting Services Inc. (Stantec) is pleased to submit this response to provide planning, design, and funding assistance to Jefferson Parish. Securing funding is an important step to support your vision for the Bucktown Community to minimize flooding impacts. Our team of professionals are experienced providing grant application assistance as well as engineering design services both locally and nationally. With Stantec, you have an integrated team of resources at your fingertips - not only grant writers, but experienced local drainage engineers, urban planners, landscape architects, and floodplain managers to assist in future design and grant administration. Stantec is here to serve you as a trusted extension of your team, not just a consultant.

Much of our team lives in Jefferson Parish and the New Orleans area and have lived through flooding events that have affected our communities. We understand the stormwater challenges - we live in a bowl below sea level – protected by levees and floodwalls including pump stations to quickly pump water up and over the levees. Unfortunately, high intensity storm events are becoming more frequent in Southeast Louisiana overwhelm the pumping systems causing flooding and damages to homes and businesses.

The Bonnabel Pump Station, which serves this area, is often overwhelmed as a result of its undersized collection system causing 2 to 4 feet of flooding in many areas of Bucktown. The solution is a multilayered approach that considers a mix of grey and green infrastructure (natural based solutions) to optimize the system and create strategic storage which will allow the pumps to catch up during the peak of the storm event. By improving the existing system and utilizing opportunities for storage presented by the Bucktown neighborhood like bioswales, corner bump out raingardens, pervious parking, and other strategic storage solutions, we will reduce the risk of flooding for this community. We will model the system utilizing H&H modeling software to quickly evaluate the effectiveness of various solutions a develop the right combination of interventions. The modeling results will be graphical to be used as communication tool both for stakeholder and the funding application. Our proposed solutions will consider current conditions and evaluate future sea level rise, subsidence, and increased intensity of storm events. Local subsidence is made worse by drying out the soils by pumping out the stormwater and the large amounts of impervious areas. Nature based solutions help to slow, retain and infiltrate (though limited) to keep the soils wet and recharging the freshwater lens which prevents saltwater intrusion from Lake Pontchartrain. With a combination of sea level rise and artificially low groundwater due to pumping, subsidence and salt-water intrusion will be increased and damage our structures, roads, trees, and landscaping.

Bucktown Boardwalk, Jefferson Parish, LA. **Designed by Stantec and opened in 2021, this community amenity enhances the resiliency, quality of life, and natural environment for Bucktown residents and visitors.**

Our team has executed these exact types of projects locally in New Orleans and throughout the country. For instance, we prepared the Green Infrastructure program for Baton Rouge and are currently preparing a resiliency plan for Cameron and Calcasieu Parishes called ImagineSWLA to help conceptualize projects and obtain funding. Additionally, funding was secured for resilient projects for our clients including local examples like SWBNO, City of New Orleans and Bayou Lafourche through various programs. We also have proven experience with Building Resilient Infrastructure and Communities (BRIC) funding.

For the Fiscal Year 2020 application cycle, the inaugural year for BRIC funding awards, the eligible BRIC applications we supported achieved a 90% success rate in advancing to "Selected for Further Review."

In evaluating this proposal, it is important to consider how to best position Jefferson Parish to secure the BRIC funding. Stantec brings a wealth of experience in assisting our clients to position their projects and prepare FEMA grant applications for various federal funding sources like the BRIC program. For one of these projects, Tottenville Shoreline Protection Project, we conducted a BCA to capture project benefits to prove the worthiness of this transformative project for the Staten Island, NY, community. The BCA accounted for reduced property and content damages, displacement and social damages, and ecosystem service benefits given the green infrastructure components of the project. Our team was able to present a cost-effective project BCA by accounting for over $27 million in project benefits and the BRIC application was ultimately selected for funding, one of the nation's Top 10 largest awards for 2020 BRIC cycle.

Additionally, our team has helped the City of New Orleans with the NDRC Gentilly Resilience District which is a very similar competitive Benefit Cost Analysis (BCA) based resilience competition. More than $41M was secured for a low to middle income flood prone community with very similar conditions to Bucktown. Our partner Waggoner and Ball led this effort and Stantec participated in application process including preparing concept designs and BCAs for Blue Green Corridors, St. Bernard Drainage, as well as preparing the BCA for St. Anthony Green Streets for our partner Batture. The BCA is crucial for the BRIC application, and this team knows how to maximize project benefits with Social, Cultural, Health and Environmental benefits on top of the flooding and subsidence benefits. This triple bottom line approach that helps improve quality of life for a community is critical to scoring for the BRIC funding. Quantifying these quality-of-life benefits based on scientific studies and established methodologies allows us to analyze and calculate benefits like reduction of heat island effects and health benefits for residents.

Blue and Green Corridors, New Orleans, LA. **A raised neutral ground is transformed into a water feature that provides necessary flood storage and water quality benefits.**

Another aspect of the BRIC point system to maximize your score is including complete street design to improve biking and pedestrian facilities by making them a priority, providing safe and dedicated facilities for the residents. To accomplish this, it is important to tell a story about the community and the public needs. This includes Bucktown's history, impacts of flooding events, and the need for resilient infrastructure. This process starts with community engagement to assist in telling a story around the scope this project. We are highly experienced as public

communicators with federal and state/local agency specialists, and we work efficiently with a variety of stakeholders. We have partnered with Waggoner and Ball, who will lead the public engagement to get public buy-in and gain understanding of the community needs and preferences. We will use modeling results, renderings and science-based explanations of the drainage system and nature-based approaches to educate the public and help to develop the project scope.

As you review our qualifications, you will find that we offer you the local knowledge, responsive project management, and specialized expertise you will need to complete your project. We have many examples of Building Resilient infrastructure to Jefferson parish and Bucktown area. Specifically, we designed the Bucktown Boardwalk which is a resilient park that can withstand wave action during surge events in lake Pontchartrain and is Bucktown's crown jewel that will anchor the Bucktown neighborhood by providing amenities and a place to for the community to gather. We are also proud of the Permanent Canal Pumps and HSDRSS Levees on 17th Street that we built and designed as part of the USACE Hurricane protection system. We have also worked with the water department on treatment and pumping improvements at the East Bank Water treatment plant to secure drinking water and make the critical facilities for Bucktown and Jefferson Parish more resilient. This project is an important opportunity to increase resiliency for this community and allow it to thrive economically.

Our vision is to minimize flooding and provide quality of life amenities like parks, complete streets with safe access for pedestrians and bikers, increased property values and sense of community with placemaking and community gathering spaces. Flood risk reduction and protection of neighborhood assets is the basic building block to this vision which encourages investment that results in a thriving community. Our team is committed to the success of this project and making your vision of a resilient Bucktown a reality.

Blue and Green Corridors, New Orleans, LA. **Stormwater park concept with recreational site amenities and flexible storage for wet weather events.**

Evaluation Criteria 1a: Professional training and experience in relation to stormwater management including, but not limited to, planning, designing, and implementing green infrastructure and other stormwater BMPs

Maximizing Co-Benefits

We understand the complexity of working within the Jefferson Parish environment and the need for managing wet weather flows. Green infrastructure has become an increasingly attractive option for cities around the country due to the incremental nature by which it can be implemented, the reduced cost compared to mega projects like pump stations and massive underground storage, the opportunities for cost-sharing and strategic partnerships, and the multitude of co-benefits that can be realized. We consider co-benefits early in the design process in order to maximize their potential. We acknowledge that priorities are site-specific and work with our clients to identify and realize the entire set. We share a few examples of how we consider co-benefits in our design process below.

- To maximize street safety, we focus on stormwater planters with a curb wall to separate vehicular and pedestrian traffic, or stormwater bumpouts to physically reduce the width of the roadway which in turn slows vehicular speeds and reduces the pedestrian crossing distance.
- In compact spaces, we consider a subsurface infiltration trench with modular storage and tree pits, which can still achieve water quality and quantity goals with minimal space restrictions at the surface.
- To integrate education programs, we focus on implementing a variety of surface practices to allow for maximum exposure to the public, particularly around schools or public gathering spaces.

Our experience includes planning, design, and implementation of green infrastructure on private development, within the right of way, and public works projects. We have experience on a range of projects - from watershed-wide GI implementation to small-scale interventions, with many of our current projects across North America utilizing Low Impact Design techniques (LID).

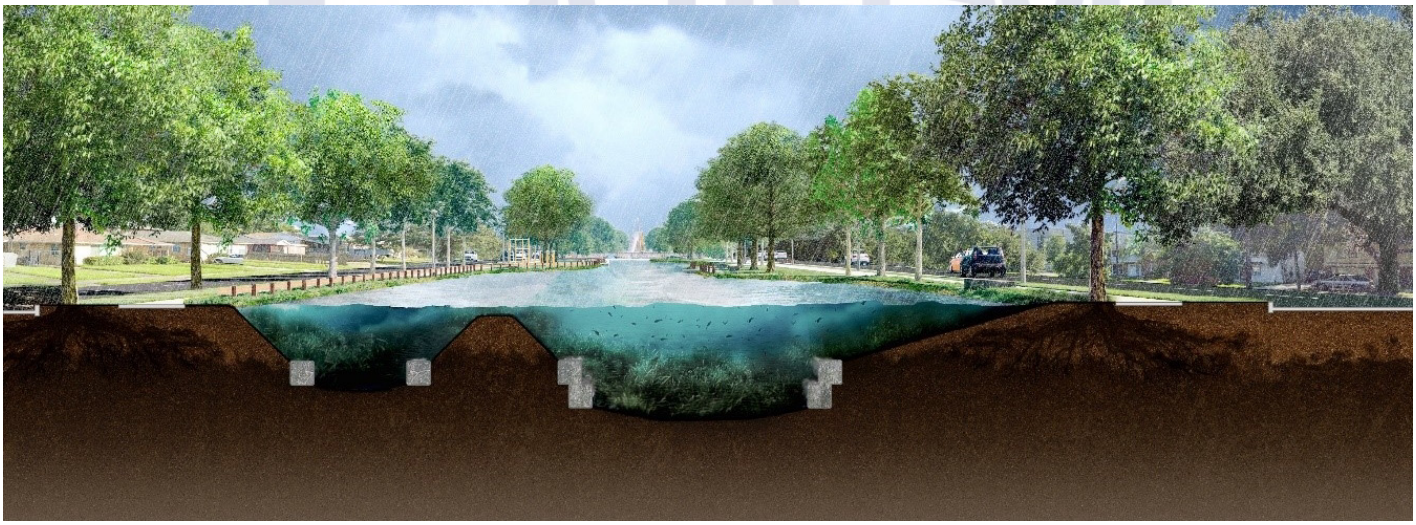
Blue and Green Corridors, New Orleans, LA. **Four vacant lots in Gentilly are transformed into stormwater parks with site amenities and flexible storage for wet weather events.**

Innovation in Green Infrastructure

For many cities, green infrastructure is still new, but the relative youth of large-scale GI programs does not preclude it from advancements and innovation. We are constantly monitoring the challenges that our clients and cities face in order to evolve green infrastructure design. On a recent project in New York City to build an elevated bikeway and pedestrian path on the east side of Manhattan, for example, our landscape architects and engineers worked together to design a robust structure capable of supporting trees and managing site runoff while reducing structure cost and profile. We also often work with horticulturists to select the right plants to achieve specific goals. For example, a palette of leafy plants will maximize evapo-transpiration processes, while xeric systems can achieve more bountiful, drought-tolerant blooms. Understanding the particular ecological conditions that allow certain plants to thrive can reduce weed growth and minimize maintenance requirements. And recent Stantec research has been exploring the many ways that green infrastructure can reduce urban heat-island effect and decrease heating loads in buildings. We are eager to work with the Parish to implement what we have learned about the specific challenges and opportunities for innovation that might emerge through this initiative.

Green City, Clean Waters, Philadelphia, PA. A roadway shoulder is transformed into a stormwater management facility providing water quality and water quantity treatment for the surrounding roadway and sidewalk areas.

And while innovation is always at the forefront of our design, we also rely on tried and true best management practices because we have years of experience and a wealth of projects to pull from. Our core team has managed and designed hundreds of individual installations, from planning and initiation phases through to construction for catchment areas that range from 0.15 to 2 acres.



Blue and Green Corridors, New Orleans, LA. Illustrative renderings are used to convey green infrastructure design standards.

Below are a few examples of the types of questions that we ask in the design process.

- Are there plans for future development on adjacent lots? What about utility work? If so, should we consider larger offsets or permanent sheeting and shoring to protect underground components of the design?
- What is the schedule for repaving of this street and how does that impact the topographical survey or installation? Is there a way to coordinate work so that the street is repaved immediately following installation?
- For off-street projects, how will the systems be maintained? Do we need to install access gates and maintenance paths, or can the cleanouts be strategically placed by the street? What type of equipment is available and how does that align with the inlet or cleanout openings? Are there any restrictions on the placement and angle of pipe bends?

TEC Professional Services Questionnaire

These questions and more allow us to maximize your investment, integrate innovation, get resident's buy-in, and deliver functional GI across the parish.

Our Green Infrastructure Lead, **Bernadette Callahan, PE**, is currently responsible for the design of 60 GI bumpouts as part of the Blue and Green Corridors project in the City of New Orleans. She is also supporting the development of green infrastructure guidelines and details as part of the MoveBR program in Baton Rouge. We will work with you to review and provide guidance on how to improve current green infrastructure design standards and practices.

Our team is well-versed in the design of green infrastructure and has worked on similar programs in New Orleans and all over the country. We are proud of the successful completion of Hagan-Lafitte –the largest constructed green infrastructure projects in New Orleans and have established Baton Rouge's Green Infrastructure program through MoveBR.

MoveBR, Baton Rouge, LA. **Illustrative renderings are used to convey green infrastructure design standards.**

Parks and Recreation Projects

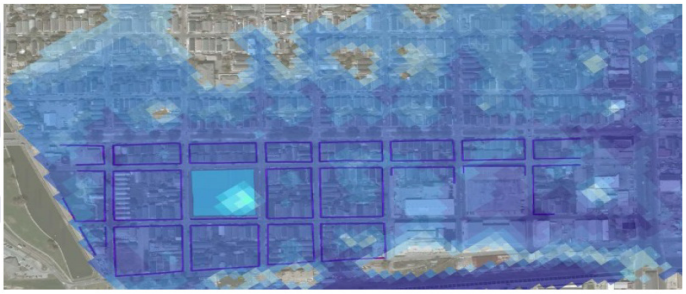
When designing a "successful place," there is not a one size fits all solution. Our designers approach every project with a careful balance of location and design, of user needs and clients' means. The design challenge for recreational spaces is to balance the needs of diverse ages, neighborhood desires, and seasonal realities. Therefore, community outreach is an essential element in our work. The result of this communication is that we create expressive spaces that are functional and visually spectacular and become a source of community pride.

St. Bernard Neighborhood Campus, New Orleans, LA. An artist's kayak launch design option rendering is used to convey design options for public input.

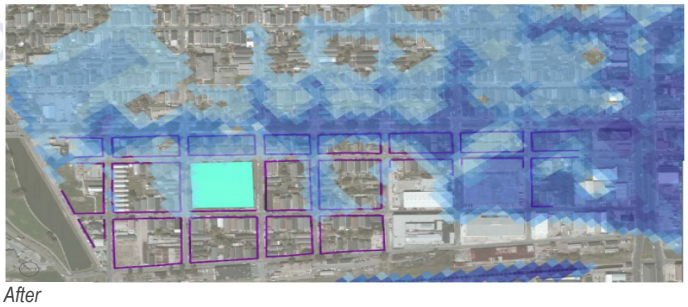
Our project manager, **Thomas Cancienne, PE**, brings experience leading the St. Bernard Neighborhood Campus Project, part of the Gentilly Resilience District, green infrastructure and recreational interventions to connect the surrounding neighborhood with Bayou St. John as a critical recreational waterway. The project provides sports fields and recreational facilities, including the reinstitution of Willie Hall Playground to serve nearby residents and McDonogh 35 High School students. The program also includes other neighborhood amenities including street beautification and landscaping, Intersection and connectivity improvements for pedestrian and bike access, kayak boat launch, water access to Bayou St. John and boardwalk, playground, living with water educational signage and kiosk, neighborhood security street lighting, shade structure, benches and park amenities.

Drainage/Stormwater Engineering Projects

Nationally, stormwater systems are evolving to include green infrastructure components such as bioswales, rain gardens, porous surfaces, and infiltration basins. The key to successful design is to know where and when to use these components and how they interact with gray infrastructure to optimize the benefits. Stantec's stormwater engineers are well-versed with the design of green, low-impact, Best Management Practices.



Before



After

Hagan-Lafitte Drainage Upgrades & Green Infrastructure, New Orleans, LA. Drainage and GI upgrades are used to provide significant improvements in flooding.

On the Hagan-Lafitte project, a low-lying, mixed residential/commercial neighborhood of Bayou St. John, Stantec developed drainage improvements and a green infrastructure plan to create a resilient neighborhood by increasing drainage capacity and providing storage for flooding during large rainfall event. The vision of this project was achieved through cooperation and discussion with the residents of the neighborhood by conducting a series of public meetings. The opportunities to speak directly allowed residents to offer their thoughts and concerns, and to offer ways to make the people living there part owners of the project. The project uses a combination of grey and green infrastructure. It utilizes the existing pumped system and optimizes it with green infrastructure and strategic storage.

Modeling shows a reduction of flooding in the neighborhood of over 4 feet in some areas. After the project was in operation, residents have not experienced flooding in the neighborhood even during heavy storms. One resident mentioned that every year they used to ride their canoes down the middle of the street and local news stations would always come down for footage of them canoeing but this year the system has worked so well that they have been forced to used their canoes in Bayou St. John. Residents are extremely surprised and happy about how effective the system is.

Transportation and Complete Streets Projects

At Stantec, we use every tool at our disposal to meet the transportation needs of our clients. Advanced modeling software allows us to forecast travel demand, traffic flow, and ridership, while creating a visual story for stakeholder communication. During conceptual design, we complete iterative studies of design and geometry, environmental constraints, risk, and constructability, which we can share with stakeholders for their input. This collaboration helps identify the alternative that best suits the project goals. Transportation is not limited to vehicular traffic and we value the additional opportunities that multimodal facilities offer.

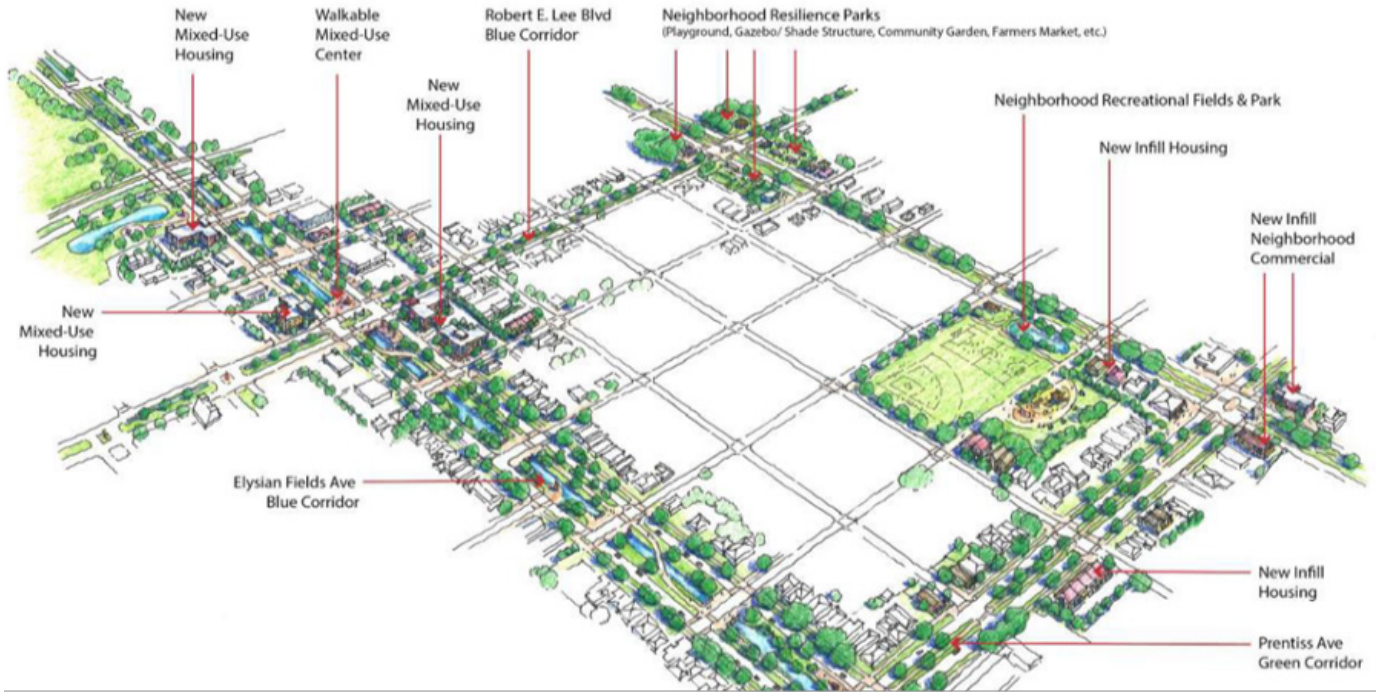
The pedestrian and bicyclist experience is prioritized on Blue and Green Corridors in New Orleans, LA.

Providing adequate and appealing options is part of creating a living community. Our multimodal experience includes the creation of bike and pedestrian facilities, appealing walking areas, and facilities to allow for these forms of transportation

Our design for the Government Street Road Diet in Baton Rouge, LA, involves the conversion of a 4-mile, 4-lane urban roadway to 3-lane facility. When complete, bike lane improvements and vegetative median islands will be added, with sidewalks brought up to ADA standards.

Urban Planning/Landscape Architecture Projects

Our goal is to enhance the welfare of people and the community by creating convenient, equitable, healthful, efficient, and attractive areas for present and future generations. We account for site conditions, public input, client needs, and project requirements to create places that inspire play and relaxation. We merge technical skill and creative vision to create value for our clients and community, like we did for the Hagan-Lafitte and Blue and Green Corridors projects. Our approach is to reach out to the residents before design begins and then throughout the design process to achieve a result that meets their needs and helps improve the built environment by creating places and spaces that unite the community.



Conceptual Plan for Blue and Green Corridors, New Orleans, LA. This conceptual plan was developed by Stantec to identify opportunities to integrate green infrastructure and other amenities into the overall community plan.

Evaluation Criteria 1b: Hydrologic and Hydraulic Modeling

Hydrologic/Hydraulic Engineering Projects

Stantec understands the natural functions of ground and surface water systems, how they are interrelated, and how they relate to the rest of the natural and built environment. This knowledge lets us solve complex hydrologic and hydraulic issues intelligently. We provide sustainable watershed and drainage design; hydrologic and hydraulic modeling; green infrastructure design; wet weather flow management; river and stream restoration; and flood protection. Across our organization, Stantec has hundreds of water resource specialists with expertise in hydrologic/hydraulic, water quality, and groundwater models of all types. But we also know that southern Louisiana has unique issues that require local knowledge and understanding. Our local, experienced modelers will draw upon our national resources to determine the most appropriate solutions.

Stantec was contracted through Rockefeller Foundation's 100 Resilient Cities to assess the existing drainage system and to identify strategic pathways to guide future investment in identifying viable solutions to reduce future flood risk. Analysis and associated workshop assessed level and cost of service applying sub basin hydrologic and hydraulic models.

Our analysis assessed various frequency storms, impact of flooding as measured by the number of structures impacted, and residential damages. Analysis also developed data points in support of facilitating the important community decision on what is the right mix of green-, grey-, storage, and pumping capacity to achieve stakeholder selected target level of service. Analysis included assessing magnitude of cost and funding options.

Evaluation Criteria 1c: Biological and Environmental Assessments

Stantec has unparalleled experience in FEMA's Environmental and Historical Preservation (EHP) compliance. For the Bucktown Resilience Project, Stantec's experience will help manage the compliance and permits effectively. Permitting for green infrastructure installations can vary greatly depending on the project size, location, and type of proposed improvements. In our experience, green infrastructure projects are generally exempt from zoning-related permitting requirements provided structures are not included in the project. For larger projects or projects within proximity to environmentally or archaeologically sensitive areas, Stantec will work with its local partners to identify and obtain all required permits, including, but not limited to a State Environmental Quality Review, State Pollutant Discharge Elimination System permitting for Construction Activities with more than 1 acre of disturbance, threatened and endangered species consultations, any impacted utility agencies, and consultations with the Louisiana State Historic Preservation Office, as needed.

Evaluation Criteria 1d: Design Analysis and Reports

Benefits Cost Analysis

Stantec understands the importance of moving forward with projects that meet funding requirements, especially when a Benefit Cost Analysis is required. An innovative project that does not realize the benefits reflective of the costs can cause future redesign and delays to the start of construction. This is why Stantec has a vast array of experts and experience in determining effects of Green Infrastructure projects. This includes detailed hydraulic modeling and flood reduction benefits as well as Social Economic and Environmental benefits that are increasingly being considered as part of the BCA calculation.

Stantec has partnered with Autocase in the development and utilization of Triple Bottom Line software which is specifically formulated to calculate various green infrastructure interventions and compares the benefits including:

- Reduction in Subsidence
- Improvements in Public Health Outcomes
- Increase in Property Values
- Reduction in Flood Damage
- Improvements in Recreational Value
- Improvements in Educational Outcomes
- Reduction in Heat Island Effects
- Carbon Emission Sequestration
- Air Pollution Sequestration
- Environmental Benefits of Additional Trees
- Improvements in Water Quality

Stantec will use our expertise to help shape projects with the Benefits and Costs considered to create projects that can make the biggest difference to the community.

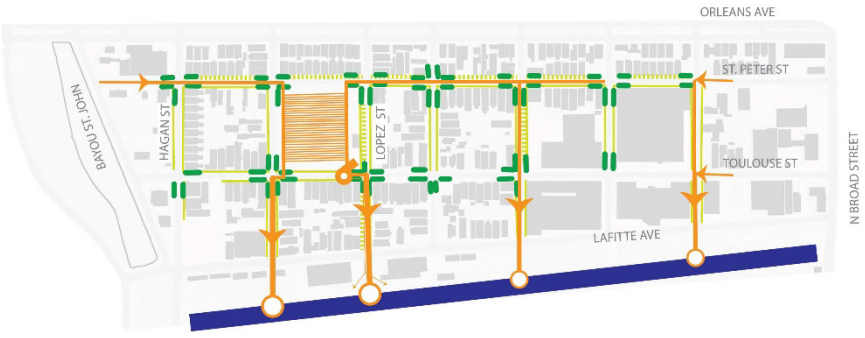
Benefit/Cost Type	Benefit/Cost	Lifetime Net Present Value
Financial	Residual Value of Assets	$387,500.00
Financial	Replacement Costs	-$2,163,000.00
Financial	Operations and Maintenance Costs	-$3,751,000.00
Financial	Upfront Capital Costs	-$34,531,950.40
Social	Avoided Subsidence (Property)	$31,571,000.00
Social	Avoided Flood Damage	$27,833,000.00
Social	Avoided Subsidence (Road)	$13,097,000.00
Social	Property Value Uplift	$9,408,000.00
Social	Community Recreation	$6,167,000.00
Social	Education	$3,585,000.00
Social	Public Health (Exercise)	$455,000.00
Social	Health – Heat Island	$411,900.00
Social	Public Health (Reduced Stress)	$89,000.00
Environmental	Improved Water Quality	$1,431,000.00
Environmental	Carbon Sequestration	$694,000.00
Environmental	Reduced Air Pollution Emissions	$14,300.00
Financial	Social	Environmental
-$40,058,450.40	$64,783,900.00	$2,139,300.00
Bottom Line Net Present Value		$26,864,749.60
Benefit Cost Ratio		1.67

Cost/Benefit Analysis: A Triple Bottom Line Benefit Cost Analysis was prepared to understand the financial, social, and environmental benefits (or disbenefits) for Blue and Green Corridors

Evaluation Criteria 1e: Technical Evaluations

In planning phases, a high-level GIS-based analysis is recommended to determine areas within the priority basins that are conducive to implementing green infrastructure. The selection and design of green infrastructure practices are dependent on site-specific conditions, such as underlying soil and water conditions, adjacent utility network and building infrastructure, contributing drainage area, and site programming. For this reason, it is critical to understand and document existing, current, and future land uses, site context, utility information, historical mapping, geotechnical information, structural analysis (for buildings), proximity to larger parcels (such as school yards, playground and recreation centers), and planning initiatives relevant to the area. A GIS analysis can also be used to prioritize projects within the Bucktown community based on non-technical factors, such as environmental justice, income and race equity, and other factors that local stakeholders find important.

Our analysis can be accomplished through both GIS/desktop analysis and site visits, which are critical to confirm information from the desktop analysis and to identify any other items that need to be considered. A successful site visit includes an assessment of drainage structures and conditions, building conditions, vegetation, utilities, proximity to driveways, gates, parking areas, buildings, and bus stops, and condition of site amenities such as curb and sidewalk.



Hagan Lafitte Green Infrastructure, New Orleans, LA: Proposed rain gardens, collection system, underground storage, and pervious sidewalks laid out in the project area.

Evaluation Criteria 1f: Cost Estimating

Stantec specializes in construction and engineering cost estimating. Our construction and engineering cost estimators provide detailed quantity takeoffs and pricing from a construction project's conception phase to close-out.

Stantec performs cost estimating at key points during project design and at any level of required detail. We apply current local construction cost data applicable to produce accurate estimates of cost and—given early planning data—are able to evaluate project budgets. Stantec maintains databases of historical and current local construction and engineering data, including labor, material, and equipment costs, and is equipped to prepare estimates and/or verify proposed construction costs at various stages throughout the construction process for projects around the world. Our recent execution and bidding of green infrastructure, drainage, and complete streets transportation projects allows us accurate estimates based on actual local bid items. We continuously update the cost information as new projects are bid. By identifying and analyzing the project's scope, time, cost, quality, and performance, we develop accurate assessments of how the construction process is unfolding. We will often vet out important costs by calling contractors directly during the design process.

Stantec's Successful History of Local Benefit Cost Ratio

Hagan-Lafitte:	1.7
Blue-Green Corridors:	1. 7
St. Bernard Campus – Gentilly Resilience District:	1.4
St. Anthony Green Streets:	1.1

We understand how to quantify and measure benefits to meet funding

Evaluation Criteria 1g: Field Investigations

After green infrastructure systems have been identified and vetted with project partners and stakeholders at a high level, a detailed topographical and utility survey, environmental site assessment, and geotechnical investigation should be conducted. This detailed information is used to confirm stormwater capture area, critical elevations, proximity to utilities and features, proximity to environmentally sensitive areas such as floodplains, wetlands, sensitive habitats, or archaeologic significant findings.

Field Survey

Hydrographic and conventional surveys for the proposed contract will be led by team member Batture. Led by Bob Mora, PE, PLS, Batture will manage all surveying services, including topographic, bathymetric and boundary surveying, right-of-way mapping, and provide other existing site data. Batture has a proven track record of accurate topographical and surveys which will be the very foundation for the entire project. We will use LIDAR survey and establish existing Finish Floor Elevations to establish damages based on Hydraulic Modeling results.

Geotechnical Testing, Evaluation, and Analysis

Stantec has extensive and recent knowledge of local subsurface conditions in Louisiana, CPRA and USACE design guidance interpretation and preferences, practical design solutions, and successful construction practices for similar projects in Louisiana. Our work on the Bucktown Boardwalk, PCCP, Blue Green Corridors and other projects in the area provide a distinct understanding of the soils in Bucktown and what intervention will work best.

Evaluation Criteria 1h: Grant Writing

Identifying a project is easy. Finding funding, especially securing grant funding is not. Our team understands how challenging and time consuming it can be We're experts in developing grant funding strategies and associated grant application as well as federal grant administration and reporting. Refer to following grant writing project highlights as well as project experience which further highlights our expertise and successes. We look forward to the opportunity to assist you achieve similar successes.

- **FEMA BRIC** – Stantec's Tottenville Project was selected for a **~$21 million** grant award, one of the FEMA's Top 10 awards in their 2020 inaugural year of their program.

- **FEMA Public Assistance (PA)** – NYC Health and Hospital Corporation, where Stantec acting as lead technical manager assisted the City secure **$1.6 billion** in FEMA PA grant funding to rebuild in a resilient manner their public network of public hospitals. Award represents FEMA's largest 428 program award in history. FEMA Commits $1.6 Billion | NYC Health + Hospitals

- **HUD CDBG-DR** – Supporting the Housing and Urban Development (HUD) National Disaster Recovery Competition – Stantec supported a nation-wide matrix of states, county, municipal and district governments build resilient capacity, develop competitive grant applications, securing nearly **$270 million** in grants

Stantec is especially excited about FEMA's new Building Resilient Infrastructure and Community (BRIC) program. As such, we are working closely with FEMA leadership as they work hard to build our national resilience capacity, partner and advance nature-based solutions to mitigating the increasing impacts of natural hazards on our community's economies, natural environments and quality of life.

Stantec's proven approach framed around securing grant funding to advance projects includes working closely with the community to 1) understand their vision and needs, 2) screen identified projects against grant funding qualifying and selection criteria, 3) assist in re-framing projects as necessary to make your project grant eligible, grant attractive and competitive, 4) assist in writing a winning applications followed by assisting with 5) grant award negotiations, 6) grant administration / compliance, and 7) close-out. With Stantec, from concept to construction, you have an integrated team of funding specialist at your fingertips - not only grant writers, but over 150 funding experts, experienced financial consultants, urban planners, engineers, landscape architects, and infrastructure designers. Over the last 10-years, Stantec has partnered with our clients to secure over $4 billion in funding. Our Funding Strategies Team helps our clients develop innovative strategies for funding projects. They work alongside the design team from the very beginning to create a funding sources matrix that includes federal, state and regional programs for green infrastructure projects. Our team can develop a funding strategy based on competitiveness, timelines and funding amounts, which would be an evolving document. The team would work across project phases, from conceptual planning and identification of sources to applying for and securing funding. Recent examples of getting local funding include securing WIFIA loan for SWBNO and State Revolving Loan Funding for Water Resources for Bayou Lafourche Freshwater District. We have the experts that understand how to help you get additional funding.

Evaluation Criteria 1i: Outreach and Educational Support

Green infrastructure is often poorly understood by the general public. An overly standardized approach often leads to lackluster and unmaintained installations that don't inspire community confidence. For this reason, outreach that informs, educates, and listens will be vital to creating a successful program. With a community well-versed about potential benefits and on board to experiment and learn, Stantec with Waggoner and Ball can develop a partnership with the Bucktown community around its GI projects, creating invested players who can help to evolve implementation.

Through outreach, we aim to identify and prioritize project opportunities as well as potential stakeholders – including adjacent property owners, community groups and organizations, utility companies, other local or state agencies, and private organizations. Our outreach plan will be tailored to meet the demands of each project, depending on factors such as implementation phase, location, funding, and type of project. During design, for instance, conversations with stakeholders can reveal a range of co-benefits to be prioritized, and presentations and community conversations will be structured to solicit those ideas.

Blue and Green Corridors, New Orleans, LA: **Public outreach meeting.**

TEC Professional Services Questionnaire

RELEVANT EXPERIENCE

DESIRED QUALIFICATIONS	SECTION L PROJECTS									
	1	2	3	4	5	6	7	8	9	10
1. Expertise and applicable credentials in federal program management, civil engineering, water resources engineering, landscape architecture and urban planning	●	●	●	●	●	●	●	●	●	●
2. Experience managing compliance for federal funding resources, including but not limited to: FEMA PA, HMGP, HMA, CDBG-DR, and CDBG-MIT		●	●	●	●	●	●	●	●	●
3. Experience with stormwater management planning at local, parish and regional scales in Louisiana ● - National Experience	●	●	●	●	●	●	●	●	●	●
4. Experience planning, designing, and implementing green infrastructure and other stormwater BMPs in South Louisiana ● - National Experience		●	●	●	●	●	●	● ●	●	
5. Experience assisting communities in the design and implementation of non-structural flood risk reduction measures	●	●	●	●	●	●	●	●	●	
6. Demonstrated history of understanding how to satisfy multiple community demands during the infrastructure planning and design process (ex: merging stormwater management with ecosystem services, recreational amenities, economic development and placemaking priorities)	●	●	●	●	●	●	●	●	●	●

PROJECTS KEY

NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION L)	NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION L)
1	**Bucktown Harbor Boardwalk and Marsh Overlook | Jefferson Parish, LA**	6	**"Rural by Nature" National Disaster Resiliency Competition (NDRC) Program Management | Statewide, TN**
2	**Blue and Green Corridors | New Orleans, LA**	7	**Alaskan Tribal Resilience (BRIC) Program | Multiple Locations, AK**
3	**Hagan Lafitte Drainage and Green Infrastructure | New Orleans, LA**	8	**$1B HUD National Disaster Resilience Competition (NDRC) Projects | Nationwide**
4	**St. Bernard Campus, Gentilly Resilience District | New Orleans, LA**	9	**Cincinnati MSD Sustainable Watershed Planning | Cincinnati, OH**
5	**Tottenville Shoreline Protection Project | Staten Island, NY**	10	**Pennsylvania CTP BCA Support | Statewide, PA**

Key Team Members

Daniel Grandal, PE, LEED AP, CFM, Program Manager

Dan has 28 years of experience in management of stormwater, resiliency and green infrastructure projects. He is a Tulane Graduate and New Orleans resident. He is a LEED accredited professional and Certified Floodplain Manager who understands the beneficial functions of managing a floodplain using innovative stormwater principles as an amenity to improve quality of life for the community while protecting their homes and neighborhoods. Dan is the Principal-in-Charge for this opportunity. He is experienced in managing large multidiscipline projects including design management of USACE/ SWBNO's PCCP Permanent Canal Closure and Pumps (Design/Build) and the Hagan Lafitte Green Infrastructure project. These multidisciplinary projects require the

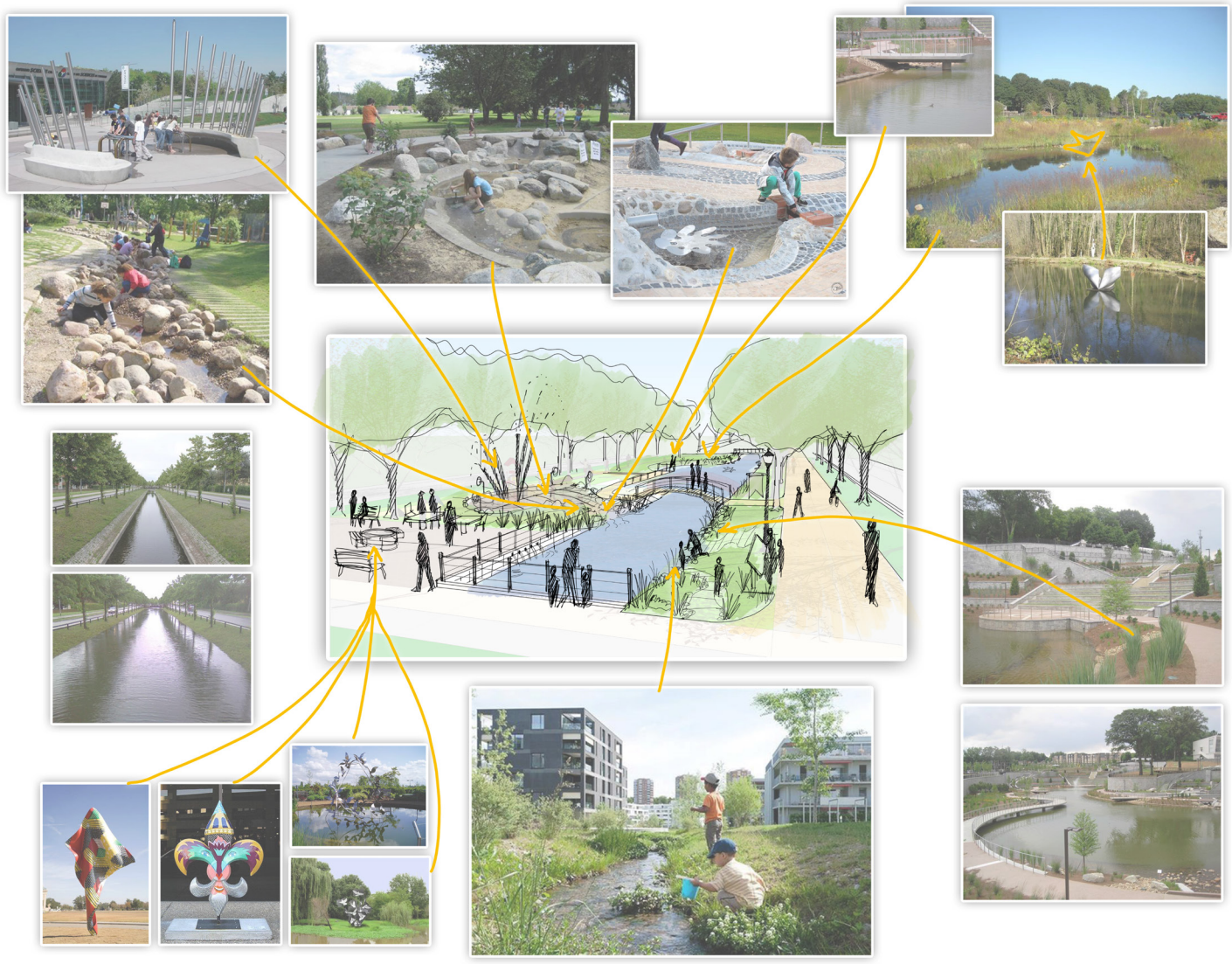
cooperation and coordination with multiple agencies and the departments with interests in the success of the outcome. His experience ranges from stormwater projects, neighborhood parks, site developments, urban design and bike/pedestrian sustainable balance. Dan has a long track record of delivering executing projects on time and within budget.

Tom Cancienne, PE, PMP, Project Manager
As a life-long resident of Jefferson Parish, Tom has 22 years of experience in all phases of water resource planning, design, and construction projects, including green infrastructure, recreational facilities, parks and parkways, open channel conveyance, hydrologic and hydraulic engineering, storm drainage analysis and design. He is skilled in managing large-scale projects and preparing bid-award contract documents, preparing federal and state environmental permits, hydrologic and hydraulic analysis engineering reports, and engineering and construction cost estimates.

John Malueg, PE, QA/QC / BRIC Specialist
As Stantec's program manager for resilience planning and design, John is an expert in critical infrastructure risk identification and hazard mitigation including related grant funding (HUD, FHWA, FEMA, and USACE) programs. He served as resilient infrastructure subject matter expert supporting The Rockefeller Foundation's U.S. nation-wide series of Resilience Academies and global 100 Resilient Cities initiative, the Houston 2020 Vision competition, and a key contributor to the development and publishing of ADC's Defense Community Resilience Planning Framework. He provides executive coaching and guidance to maximizing opportunities and improve community resilience. John's knowledge and expertise stems from a 36-year career holding leadership positions in government and private consulting. He's serving as technical lead facilitating New York City's Health and Hospital Corporation response and recover to the devastating impacts of Hurricane Sandy and facilitated a solution including assisting the City secure nearly $1.6 billion in FEMA public assistance, FEMA HMGP and HUD CDBG-DR funding to rebuild with resilience in mind.

Caroline Cunningham, AICP, CFM, ABCP, Hazard Mitigation Planning Lead
An expert in hazard-mitigation planning and risk assessment with 13 years of experience, Caroline's resilience expertise is informed by a broad understanding of grant funding, government policy, disaster planning, risk assessment and disaster-grant programs. She has worked on multiple resilience-focused projects, including hazard-mitigation planning, pre-disaster planning, post-disaster recovery planning, and risk assessment. Caroline has worked with all levels of plan development, including project management, action development, meeting facilitation, public outreach, risk assessment, and plan writing. She has completed risk assessments for hazard mitigation plans, preparedness exercises and pre-disaster catastrophic planning efforts. She uses Hazus-MH, ArcGIS, and other tools to complete risk assessments and aid in determining potential dollar loss, structure damage, resource provision needs, and areas of concern.

Bernadette Callahan, PE, Green Infrastructure Lead
Bernadette is a green infrastructure leader and subject matter expert with 15 years of experience. She has dedicated her career to the planning and design of green infrastructure and related practices that capitalize on triple bottom line benefits for the community she serves. Bernadette has designed and managed a variety of projects and has worked in a variety of environments where past engineering principals have resulted in complicated site conditions, such as Philadelphia's combined sewer system or New Orleans' pumped water management system. She is currently serving as the green infrastructure design lead on Stantec's Blue and Green Corridors and Saint Bernard Campus projects in New Orleans and our MoveBR project in Baton Rouge.



Blue and Green Corridors, New Orleans, LA: Stantec specialists with diverse backgrounds in urban planning, green infrastructure, stormwater engineering, hazard mitigation, landscape architecture, ecology, and more came together to provide input into conceptual planning for the project.

Teaming Partners

WAGGONNER & BALL

Waggonner & Ball Architecture / Environment (WBAE) is a broad-based architecture and environment design firm with 47 years of experience serving client in the Greater New Orleans area as well as the Gulf and East Coasts. WBAE is experienced in applying the 'Living With Water' approach for water-resilient projects locally, including the Greater New Orleans Urban Water Plan and Mirabeau Water Garden, and nationally for Resilient Hampton for the City of Hampton, Virginia, and the HUD-NDRC Norfolk Ohio Creek Watershed Resilience for the Commonwealth of Virginia. Their work includes designing award winning resilience planning, urban design, and architecture projects throughout Louisiana with a range of public sector clients at the federal, state, and municipal levels WBAE works to facilitate best practices and knowledge sharing through our planning process, from Louisiana to across the country and around the world.

WBAE is the right partner for the Bucktown BRIC Scoping Grant project, having completed resilience planning and design projects in Jefferson Parish including the Greater New Orleans Urban Water Plan, Louisiana's Strategic Adaptations for Future

Environments (LA SAFE), Bayou Metairie Park, Gretna City Park, and Jefferson Parish Smart Growth Planning.

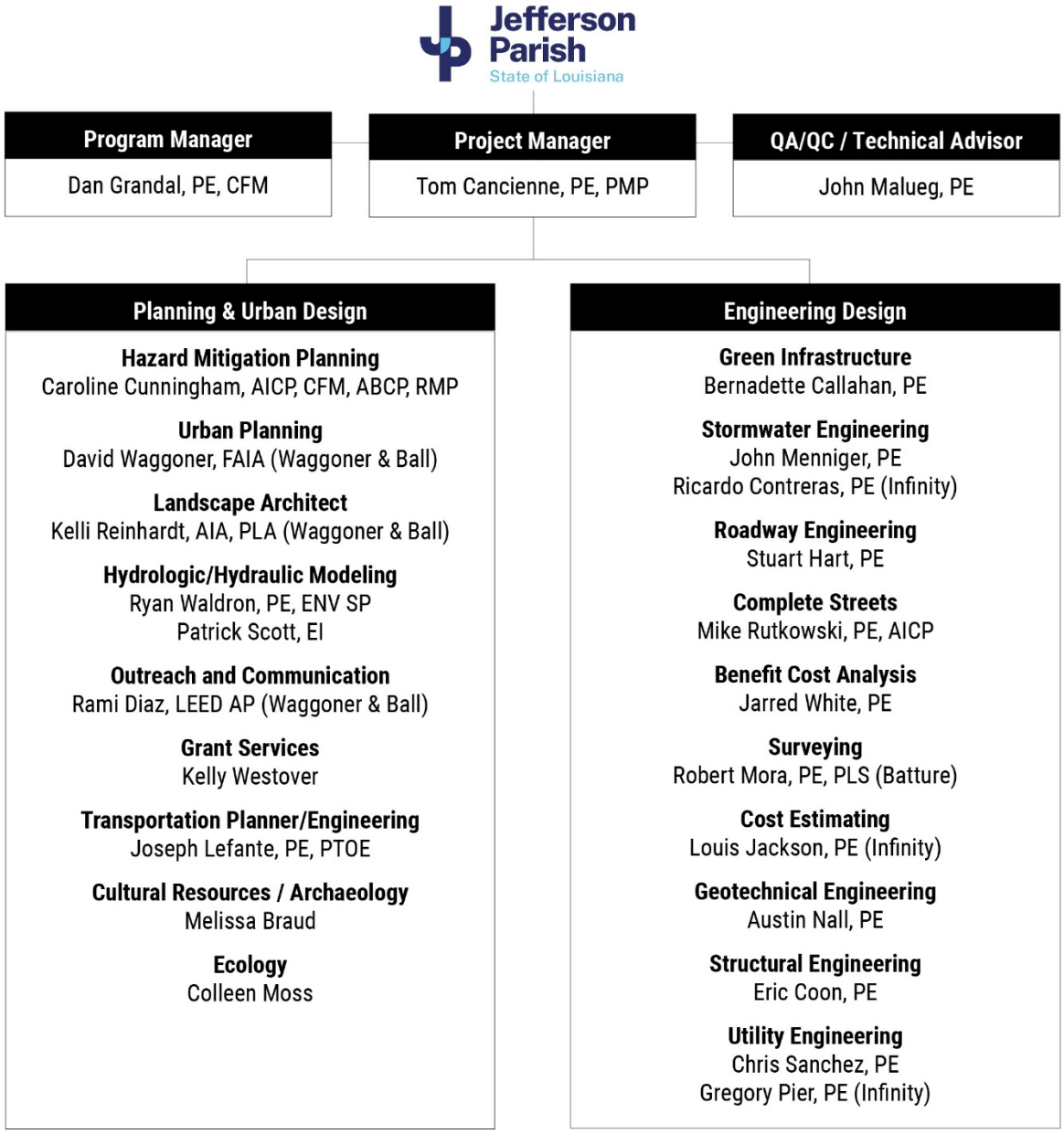
Serving Jefferson Parish for 18 years, **Infinity Engineering Consultants, LLC (Infinity)** is a multi-discipline engineering consulting firm located just minutes away from the Bucktown area in Metairie, Louisiana. Their services include civil, stormwater, structural, mechanical, marine and transportation, and electrical engineering as well as Construction Administration and Management. Having completed numerous drainage and infrastructure projects in the Parish, Infinity is uniquely knowledgeable in the Jefferson Parish drainage basin and will assist in identifying preferred solutions for stormwater management.

Established in 2014, **Batture, LLC (Batture)** is a Louisiana-based civil engineering and land surveying firm specializing in site development, engineering design (including structural and water resources engineering), landscape architecture, hydraulic/hydrodynamic modeling, land surveying, and construction management. They are a certified Disadvantaged Business Enterprise (DBE) and a Small Entrepreneurship (Hudson Initiative), dedicated to the progress and protection of Southeast Louisiana. The team at Batture prides itself on maintaining excellent communication with clients and delivering services that improve the livelihood of communities and the natural environment. They strive to incorporate elements of low impact design into each of our projects because we understand that even a small amount of intervention in the runoff of stormwater can make a difference in our city's ability to withstand storm events. Batture has provided surveying and design services on a number of interesting engineering projects in New Orleans, including St. Anthony Green Streets, City Park / Lakeview Drainage Improvements, Joseph Bartholomew Walking Path Drainage Upgrades, multiple park revitalization projects, green infrastructure and green space projects such as Lakeshore Landing and the Lafitte Greenway, and many multi- use (commercial, residential, health, and green space) developments. Batture's wealth of local experience provides unique perspective and abilities in the challenges and opportunities associated with green infrastructure design and installation in New Orleans. Batture understands that multiple stakeholders and interest groups can make these types of projects a challenge, logistically, but have proven their ability to bring these groups to the table and clearly explain the project goals and the overall benefits to our city, ecologically and financially.

Evaluation Criteria 2: Size of firm considering the number of professional and support personnel required to perform the type of engineering tasks, including project evaluation, project design, drafting of technical plans, development of technical specifications and construction administration

At Stantec, we value integrated design processes and collaboration, and we have curated a team that unifies design disciplines with sustainability and ecology. While the team makeup will vary depending on the project, we have a core team that will provide thought leadership, design direction, technical advisory, and project management for all projects. We have also assembled a team of advisors with decades of combined experience in stormwater management, landscape architecture, urban planning, and civil engineering. These advisors will provide oversight, guidance, and periodic reviews.

Our wider team has vast and varied experience with green infrastructure, from urban-scale programs to site-specific installations and sees green infrastructure as a tool to transform our cities to become water sensitive, ecologically rich, and climate responsive. Stantec has the capacity to lead, manage, plan, and design all varieties of green infrastructure projects – from planning to construction. As such, we present a comprehensive range of disciplines that will be used selectively depending on project specifics. The personnel provided in the organization chart on the next page are mid- to senior-level staff that will direct and oversee all work; we will adjust staffing for each project. Other support and production staff will be assigned on a project-level basis.



We have designed and implemented projects with this team for years and know how to work together. The project team, including subconsultants, have been designing green infrastructure improvements in New Orleans since 2016 on projects including Blue and Green Corridors, St. Bernard, and Hagan-Lafitte. Stantec's discipline experts and technical leads from other offices have been working on similar projects in Louisiana and have visited the sites and know the local team.

Evaluation Criteria 3: Capacity for timely completion of newly assigned work, considering the factors of type of engineering task, current unfinished workload, and person or firm's available professional and support personnel

As detailed throughout this submittal, the Stantec Team has strong experience planning, designing, and implementing green infrastructure and other stormwater BMPs in South Louisiana. Stantec brings 100+ Louisiana staff to support your critical program. This includes 40 Civil Engineers with current Louisiana PE, 3 additional Environmental Engineers with current Louisiana PE licensure. Because Stantec is one of the largest water focused consultants in the world, we can pull from a wide range of staff, and our team is committed to delivering all tasks within schedule and budget. Our team will fully commit the personnel and equipment resources required to meet project schedules during implementation.

Evaluation Criteria 4: Past Performance by person or firm on projects of or similar comparable size, scope, and scale.

The team for your project has been assembled based on those with specific experience in hydrologic/hydraulic modeling, as well as planners and engineers with experience in project identification to put forth green, gray, and blue creative, feasible and fundable solutions to reduce flood impacts to coastal communities. We understand many of the GI tools and construction techniques are new to the area and contractors may not be familiar with the intent and best ways to install and maintain them. We have the experience to write specifications with the needed level of detail and the personnel to monitor construction and ensure it is built correctly.
These same team members have a long and successful history supporting our clients to develop, compete, secure, and implement federally funded projects. Our history working with CDBG funding began by supporting and securing HUD CDBG grant funding for local community water and wastewater improvement projects. Our history includes supporting as Program Managers the State of Iowa's Floodplain Management Program since 2012. In this role, we have been responsible for overseeing and managing Iowa's HUD CDBG-DR $15 million program.

Since Hurricane Katrina and Super Storm Sandy, our support and participation in HUD CDBG-DR projects has Escalated significantly. We have worked on many federally funded disaster recovery projects since Katrina. We are proud to have worked on Permanent Canal Closures and Pumps funded with Federal Disaster appropriations through USACE. The massive $731 Million Hurricane Risk Reduction System project was an expedited design-build project and was delivered within budget and on schedule. The project was completed in 2018 and is currently in operation protecting the entire New Orleans area. We also delivered the City of New Orleans first HMGP green infrastructure and resiliency drainage project on budget and ahead of funding deadlines. The project is completed in design and currently under construction. These federally funded projects are both structural and non-structural approaches to flood mitigation in areas very similar to Bucktown.

Stantec is proud that we are associated with the 1st HUD NDRC-funded NYC Rebuild by Design project – Tottenville Beach – Staten Island Beach Shoreline Protection Project that has been granted contract to proceed into design. Other significant post Sandy CDBG-DR experience includes work for NYC's Health and Hospital Corporation related to completing the detailed design of flood barrier system for the Metropolitan Hospital campus; NYC's Housing Authority (NYCHA) supporting the design of resilient public housing on Coney Island and New Jersey Public Housing Authority completing and assisting in the implementation of a resiliency master plan for Booker T. Washington public housing facility in Jersey City, New Jersey. Unique experience includes administering the joint FEMA and CDBG-DR grant funding award to NYC's Northwell Hospital for the implementation of resiliency improvements. To our knowledge, Northwell Hospital is the first ever private hospital to be awarded HUD CDBG-DR funding to support capital improvements.

Stantec's role continues today supporting HUD's NDRC program with our role as lead designer of Gentilly Resilience District's Blue Green Corridors and St. Bernard Campus CDBG-DR projects, Program Manager for the State of Tennessee and State of Connecticut (City of Bridgeport) overseeing the administration of their respective $44- and $54 million CDBG-DR projects. For the State of Connecticut (City of Bridgeport) our scope includes administration of the grant and five activities: three infrastructure projects in the City of Bridgeport (University Avenue, the Earthen Berm, and the Community Resilience Center) and two planning projects in the City of Bridgeport (Floodplain Design Guidelines and District Energy Feasibility Study).

Stantec's understanding of resiliency principals and CDBG-DR requirements are indicated by the fact that Stantec's clients were awarded nearly $250 million in resiliency grant funding.

Evaluation Criteria 5: Location of the principal office.

Our team is experienced in all aspects of planning and design for the types of projects expected to be delivered in Jefferson Parish. The principal office Stantec will be working from is located in New Orleans. By virtue of our long history of working in and around Jefferson Parish, Stantec has proven experience, design practices, and knowledge of local geology, subsurface conditions, rainfall amounts and native plant species. Creating successful green infrastructure projects involves thinking sustainably and resiliently. Incorporation of living materials is an integral part of the process and if the end result is either installed incorrectly or for the wrong environment, the long-term result diminishes. Having local knowledge is critical to success and we are able to bring our experience and history to accomplish your goals.

Evaluation Criteria 6: Adversarial legal proceedings between the Parish and the person or firm performing professional services

Stantec does not have any adversarial legal proceedings with Jefferson Parish.

Evaluation Criteria 7: Prior successful completion of projects of the type and nature of the engineering services, as defined, for which firm has provided verifiable references

Stantec has an excellent performance record for providing coastal engineering services for Jefferson Parish, such as the Bucktown Boardwalk project and the Coastal Whitepaper. One reason we are consistently hired by our clients is our ability to plan and implement quality services and projects on time and within budget. We take a proactive position to understand your needs and consistently meet the expectations of Jefferson Parish.

Relevant project examples and references for the Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant are included in Section L - Projects.

LESSONS LEARNED

Having worked on multiple resilience programs and hundreds of individual installations, our design team brings a range of "lessons learned" to your projects. Some are significant and have changed the way we approach green infrastructure projects. Others seem small but can have a big impact on overall design and success of an individual installation. We highlight a few below.

- Cities' Standard Specifications are not geared towards green infrastructure and must be modified especially for measurement and payment to reduce construction change orders.
- In planning, public outreach is key to identifying partners for funding/design but more importantly to find the key stakeholders in the community that really care about the area and will see that it is maintained and looked after.
- In design, we have found it important to understand the types of maintenance equipment and procedures that you are already using. This may lead to modifications in design; for example, design decisions include the angle of piping that we can use, how/where to put cleanouts, width of inlets for vac truck maintenance, planting plans that are easy to maintain, and design of access roads that are easy to find and have the stability necessary for trucks.
- Right-of-way bioswales can be designed to virtually any dimension, but we have found that below a certain width and length the assets become difficult to grade efficiently and near impossible to maintain plantings. Rather than proposing assets that will be ineffective, we have revised the lower sizing limits in our designs.
- Depth to groundwater is one of the most challenging considerations during the design phase for green infrastructure that for which infiltration is a key goal. Conducting these investigations early in the design process allow us to rule out installations that will not be effective or consider different design solutions that may detain water rather than simply infiltrating it.
- Determining if soils in an urban environment have been identified as being contaminated or needing removal or amendment can create large cost overruns. Identifying these early in the project and determining a plan with mitigation and specific solutions can avoid problems later in construction. Developing specifications that address how to address the work with clear measurement and payment can avoid unforeseen change orders and cost.
- Having a clear understanding of the how familiar the pool of contractors are with installing green infrastructure is important in the level of detail included in the design and the amount of direction and guidance needed from a construction administration and inspection point of view. Using installations and methods which are uncommon in an area requires an extra level of involvement to create a successful project.
- Quality Assurance and Quality Control must be continually improved with a qualified Quality team that focuses on details of installation, quantities, bid items and constructability. Measurement and payment terms must be reviewed with a contractor's perspective.

In Closing…

Stantec is excited about the opportunity to continue our support of Jefferson Parish's Adaptation Strategy Program. We share your goal to provide residents with a healthy and resilient future for Bucktown.

We are available and ready to deliver. The Stantec team will make your vision for Jefferson Parish a reality.

TEC Professional Services Questionnaire

O. To the best of my knowledge, the foregoing is an accurate statement of facts.	
Signature: Thomas A. Cancienne	**Print Name:** Tom Cancienne, PE, PMP
Title: Senior Principal	**Date:** April 19, 2022

Louisiana Professional Engineering and Land Surveying Board

The Louisiana Professional Engineering and Land Surveying Board has the following information on file:

Name:	**Public Address:**
Stantec Consulting Services, Inc.	370 Interlocken Boulevard, Suite 200 Broomfield, Colorado 80021-8009

License/Certificate Information w/ Supervision

License	Status	First Issuance Date	Expiration Date	Supervisor(s)
EF.0003506	Active	06/29/2006	09/30/2022	Mr. Daniel Jorge Grandal # PE.0039361 - Active ; Mr. Keith Allen DeClerck # PE.0032954 - Active

Print Close

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Daniel Jorge Grandal

License/Certificate Type - Number
PE.0039361

Expiration Date
03/31/2023

Status: Active

LOUISIANA PROFESSIONAL
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(LAPELS)
9643 Brookline Avenue, Suite 121
Baton Rouge, LA 70809
Phone (225) 925-6291
www.lapels.com

Mr. Thomas Audrey Cancienne III

License/Certificate Type - Number
PE.0031527

Expiration Date
03/31/2023

Status: Active

Infinity Engineering
Consultants, LLC

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant
SOQ No. 22-106

B. Firm Name & Address where Project work will be performed:

Infinity Engineering Consultants, LLC
4001 Division St.
Metairie, LA 70002

C. Name, title and contact information of Principal, as defined in Section 2-926 of the Jefferson Parish Code of Ordinances, who is a registered, licensed architect, professional engineer, or surveyor in the State of Louisiana:

Raoul V. Chauvin, III, P.E.
Principal
504-304-0548
rchauvin@infinityec.com

D. Name and contact information of employee who is a registered and licensed architect, professional engineer, or surveyor in the State of Louisiana in the applicable discipline. A subcontractor may be substituted here only if the advertised Project requires more than one discipline.

William J. Thomassie, P.E.
Principal
504-304-0548
wthomassie@infinityec.com

E. Please provide the number of employees whose primary function corresponds with each category:

5	Administrative		Estimators		Specification Writers
	Architects (Licensed)		Geologists	4	Structural Engineers
	Chemical Engineers		Geotechnical Engineers		Graduate Engineers
9	Civil Engineers		Interior Designers		Project Managers
4	Construction Inspectors		Landscape Architects		Clerical
	Ecologists		Land Surveyor		Grant/Funding Specialist
3	Electrical Engineers	5	Mechanical Engineers		Sanitary Engineers
	Engineer Intern		Environmental Engineers	11	Drafting/Design
	Professional Land Surveyors			41	**TOTAL**

F. Is this submittal by a JOINT-VENTURE? Please check: YES ☐ NO ☑

If marked "No" skip to Section I. If marked "yes" complete Sections G-H.

TEC Professional Services Questionnaire

G. If submittal is by JOINT-VENTURE, list the firms participating and outline specific areas of responsibility (including administrative, technical and financial) for each firm. Please attach additional pages if necessary.
1.
2.

H. Has this JOINT-VENTURE previously worked together? Please check: **YES ☐ NO ☐**

I. List all subcontractors anticipated for this Project. Please note that all subcontractors must submit a fully completed copy of this questionnaire, applicable licenses, and any other information required by the advertisement. See Jefferson Parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.

Name & Address:	Specialty:	Worked with Firm Before (Yes or No):
1. N/A		
2.		
3.		
4.		
5.		
6.		
7.		

J. Please specify the total number of support personnel that may assist in the completion of this Project:

24 total Infinity personnel who could assist in the design of any drainage and roadway related projects

TEC Professional Services Questionnaire

K. List the professional in charge, key persons, specialists, and individual consultants anticipated for this Project and provide their relevant information below. If necessary, please attach additional documentation (i.e. resume) that demonstrates the employment history and experience of the Firm's key persons that may assist in the completion of this Project. Please attach additional pages if necessary.

PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

William J. Thomassie, P.E.
Principal

Project Assignment:

Principal-in-Charge;
Civil/Structural Engineering Advisor

Name of Firm with which Associated:

Infinity Engineering Consultants, LLC

Years' experience with this Firm:

18

Education: Degree(s)/Year/Specialization:

Bachelor of Science / 1992 / Civil/Structural Engineering

Active registration: Year first registered/discipline:

Professional Engineer – Civil Engineering

AL/2009/Civil	AR/2016/Civil	IA/2018/Civil	IL/2018/Civil
IN/2018/Civil	KY/2018/Civil	LA/1997/Civil	MI/2018/Civil
MN/2018/Civil	MS/2006/Civil	OH/2006/Civil	PA/2007/Civil
TN/2018/Civil	TX/2002/Civil	WV/2004/Civil	

Other experience and qualifications relevant to the proposed Project:

As Principal Partner of Infinity Engineering Consultants, William J. Thomassie, P.E. is one of the registered Supervising Professionals for the firm and is responsible for the management of all engineering production. Included in those responsibilities is the oversight of staff managers. Mr. Thomassie's 30+ year career has typically included supervision of multi-disciplinary projects. With many of these projects requiring up to $45,000,000 for installation or modifications, his guidance and shaping of project designs, along with construction support, enabled completion on schedule and with minimal adverse impact on commerce in the area. Mr. Thomassie's experience which would be relevant to Jefferson Parish's need for drainage conveyance and roadway rehabilitation includes:

<u>VA Medical Center Infrastructure Improvements – New Orleans, LA</u>
Project Manager for the design of 3,000 lf of streets and utilities to support new medical center. Designs included all roadway paving, including concrete and asphalt, curb and gutter, drainage improvements, and ADA ramps.

<u>Wedmore Drainage Improvements – Marrero, LA</u>
Project Manager for the engineering design for drainage improvement to prevent localized flooding in Jefferson Parish. Designs included upgrading subsurface drainage on four (4) out-falls of the drainage system in Wedmore Subdivision. The upgrade included miscellaneous improvements to lateral drainage connections and the replacement of disturbed portions of street, curbing, driveways, and sidewalks.

<u>Concession Street Reconstruction Plaquemines Parish Government – Belle Chasse, LA</u>
Project Manager for the reconstruction of Concession Street. Provided design of drainage improvements for existing drainage system, involved replacement of pipes, and catch basins. Infinity provided civil design and construction administration. Project required conflict resolution to design around an existing major natural gas transmission line.

<u>Bannerwood Drainage Improvements - Timberlane, LA</u>

Project Manager for the engineering design for drainage improvement the ¾ square mile neighborhood in Jefferson Parish. Designs consisted of upgrading subsurface drainage on four (4) outfalls from the Bannerwood Subdivision to the Oakwood Canal, and improvements to subsurface drainage along Willowbrook Drive, all in accordance with the Jefferson Parish Subsurface Drainage Improvement Program prepared by Parish Engineers. The upgrading included miscellaneous improvements to lateral drainage connections and replacement of disturbed street, driveways, sidewalks, and utilities.

Lake Park Drainage Improvements – Belle Chasse, LA

Project Engineer for the design of drainage improvements for Lake Park subdivision. The design was prefaced by Infinity's report provided to Plaquemines Parish with solutions for improving drainage.

Kostmayer Ave. Resurfacing and Drainage Improvements – Slidell, LA

The City of Slidell requested that Infinity Engineering Consultants present various options to improve Kostmayer Ave. Lead Project Manager in the drainage design, material quantities, and cost estimating.

N. Galvez Street Reconstruction – New Orleans, LA

Project Manager for the reconstruction of N. Galvez Street. Project included the civil design and construction administration of 5,000 feet of roadway on a major thoroughfare. Infinity designed the roadway, subsurface drainage, plans and profile, and sidewalk and driveway reconstruction.

City of New Orleans Mid-City Street Repairs – New Orleans, LA

Principal Engineer for the identification and quantification of Hurricane Katrina damages to roadways driveway aprons, sidewalks, curbs, and drainage structures. Infinity developed a scoping report including the locations and descriptions of eligible repairs, added repairs, and justification of additional repairs for DPW to obtain additional funding from FEMA.

Canal Street/City Park Avenue Transportation Hub Enhancements – New Orleans, LA

Project Manager for the redesign of transportation hub at the corner of Canal Street and City Park Ave. The project extended the streetcar tracks with a terminus in the first turnaround bay on the street. Final designs integrated the streetcar line, bus lanes, vehicular traffic, cycling lanes, and pedestrian walkways into one transportation hub.

City of New Orleans Dept. of Public Works VA Medical Center Street Reconstruction – New Orleans, LA

Project Manager for the VA Medical Center Street Reconstruction. The project includes the design of 3,000 lf of streets, major drainage improvements and utilities to correct deficiencies and support a new medical center.

LOUISIANA PROFESSIONAL
ENGINEERING & LAND SURVEYING BOARD
(LAPELS)
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Phone (225) 925-6291
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Mr. William John Thomassie

License/Certificate Type - Number
PE.0027421

Expiration Date
09/30/2023

Status: Active

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Louis Jackson, P.E. Operations and Quality Control Manager Civil Engineer
Project Assignment:
Project Manager Quality Control Manager
Name of Firm with which Associated:
Infinity Engineering Consultants, LLC
Years' experience with this Firm:
3
Education: Degree(s)/Year/Specialization:
Bachelor of Science / 1995 / Civil/Structural Engineering
Active registration: Year first registered/discipline:
Professional Engineer – Civil Engineering LA/2001/Civil
Other experience and qualifications relevant to the proposed Project:

Mr. Jackson holds substantial experience in disaster recovery planning and response. After Super Storm Sandy, Mr. Jackson provided 404 & 406 mitigation support services for a year and half in Nassau County, New York. With Mr. Jackson's extensive work in producing stormwater management planning and design, Mr. Jackson has become a credible resource to both governmental and non-governmental organizations seeking to further stormwater management across the Gulf Coast Region. Specific major project relevant to Jefferson Parish's need for drainage conveyance and roadway rehabilitation includes:

Ridgelake Drive Drainage Improvements – Metairie, LA

Operations and Quality Control Manager for the engineering and design services for drainage improvements on Ridgelake Drive, including subsurface drainage, new 54-inch outfall, and lateral drainage connections. Provided design oversight as well as acted as liaison between Infinity and Jefferson Parish to ensure designs effectively met the goals of the scope of design.

City-Wide Drainage Master Plan - New Orleans, LA

Served as the project manager for the $2M City of New Orleans Drainage Master Plan Project. Project Management responsibilities included development of a detailed budget for completion of the project along with development of a detailed project work plan which addressed a multitude of project aspects, including communications and coordination of efforts and quality management. Post project activities have involved becoming a noticeable and credible resource to both governmental and non-governmental organizations seeking to further stormwater management in the New Orleans Metropolitan Region.

Pontilly Stormwater HMGP Project - New Orleans, LA

Served as the senior project manager as well as task leader for the environmental assessment, permitting, cost estimating, and community outreach tasks for the Pontilly Stormwater HMGP Project. Responsibilities included development of initial and updated project budgets and schedules, completion of a preliminary and final Draft Environmental Assessment, participation in multiple formal and informal community meetings, and completion of required permit applications and cost estimates. Because of the nature of the project close coordination has been required across multiple agencies and departments who have a stake in the success of the project.

TEC Professional Services Questionnaire

Broadmoor Drainage Upgrades and Green Infrastructure Project - New Orleans, LA

Senior project manager and lead engineer to guide a multi-disciplined team through the development of a schematic design report and schematic design documents for a project aimed at improving stormwater management within multiple New Orleans Neighborhoods on a very aggressive schedule. Responsibilities included managing landscape architects and civil engineers through the development of a systematic approach to improving the stormwater management aspects of the existing system, effectively increasing the capacity of the system at a lower cost than traditional methods.

Drainage System Engineering Analysis Project - New Orleans, LA

As the project manager and engineer of record for the cleaning and CCTV inspection of over 550K LF of drain lines throughout the City of New Orleans, responsible for the development of an approach to determine appropriate pipe repair recommendations for pipes that were confirmed damaged by Hurricane Katrina. This included coordinating data collection and management efforts as well as working within a GIS environment to evaluate and create 60 reports with pipe repair recommendations.

DPS 01 Watershed Drainage Upgrades & Green Infrastructure - New Orleans, LA

As lead engineer led multi-disciplined team through development of schematic design report documents for improving stormwater management within multiple New Orleans Neighborhoods on a very aggressive schedule. Responsibilities included managing landscape architects and civil engineers through the development of a systematic approach to improving the stormwater management aspects of the existing system, effectively increasing the capacity of the system at a lower cost than traditional methods.

City-Wide Neighborhood Roadway Repairs - New Orleans, LA

Project manager and engineer of record responsible for the development of construction contracts and negotiations for repair of roadways across multiple New Orleans neighborhoods. Specific activities included inspecting damaged roadways to develop cost estimations, developing construction documents, and administering all elements of multimillion-dollar construction contracts.

Marigold Street Drainage Improvements - Mount Airy, LA

Served as project manager and lead engineer/designer for the evaluation and design of roadway drainage improvements along Marigold Street and Belette Street. The project included development of an H&H Model using EPA SWMM, calculating required pipe sizing, as well as designing new pipe invert elevations and grade.

Lakeshore Group C & D Street Reconstruction – New Orleans, LA

Operations and Quality Control Manager for the of designing of the complete street replacement in the St. Roch neighborhood. The project required replacement of roadways, sidewalks, and driveways with the addition of ADA compliant ramps. Oversaw detailed budget and contract negotiations with the City of New of New Orleans. Additionally, ensured timely delivery and effectiveness of engineering of designs.

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Mr. Louis Lamont Jackson

License/Certificate Type - Number: PE.0029314

Expiration Date: 03/31/2023

Status: Active

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Ricardo Contreras, P.E. Civil Engineering Manager
Project Assignment:
Civil Engineering Manager
Name of Firm with which Associated:
Infinity Engineering Consultants, LLC
Years' experience with this Firm:
5
Education: Degree(s)/Year/Specialization:
Bachelor of Science / 1994 / Civil Engineering
Active registration: Year first registered/discipline:
Professional Engineer – Civil Engineering LA / 1999 / Civil FL / 2006 / Civil
Other experience and qualifications relevant to the proposed Project:

Mr. Contreras holds more than 25 years of experience in civil engineering. He has been responsible for the development and implementation for project coping, schedules, budgets, and design review for a variety of civil engineering projects. Specific major project relevant to Jefferson Parish's need for drainage conveyance and roadway rehabilitation includes:

W. Metairie Ave. Rehabilitation – Metairie, LA

Roadway and drainage improvements for W. Metairie Avenue, work included the removal and replacement of concrete paving panels and the repair and adjustment of select drainage outfalls that cross beneath the avenue and enter the canal within the median, and implementation of stabilization measures to the embankments of the canal. Responsible for overall design, preparation of plans and specifications, provided cost estimation and coordinated all aspects of the project with the Owner and sub consultants.

Ridgelake Drive Drainage Improvements – Metairie, LA

Technical lead responsible for the designed roadway gradients to create positive cross-sectional and longitudinal drainage, identified concrete roadway pavement sections for replacement, replacement of all sewer and water lines, and upgrading the existing drainage system to improve drainage with installation of 54" RCPA drain lines, which included the addition of a new outfall discharge pipe installed in the existing drainage canal. The project included compete reconstruction of both lanes of concrete pavement.

Westgate Drainage Improvements – Metairie, LA

Responsible for the design and coordination of multi-discipline consultants for drainage improvements for sub-basin 1 thru 11 for Jefferson Parish. Scope of work included the design and construction of two pump stations, the addition of drainage check valves in canal, electrical requirements, structural design for generators and fuel tanks, and partial reconstruction of an existing roadway. Repairs include approximately 3,200 linear feet of 36" reinforced concrete pipe arch, 8,800 square yards of concrete roadway replacement, relocation of utilities, including, water and sewer house connections, and construction of a 30 cubic foot per second and 25 cubic foot per second pump stations.

Bannerwood Drainage Phase II – Timberlane, LA

Responsible for construction management of project. Duties included overseeing and managing construction progress and schedules, submittal reviews, review and approval of invoices, and project closeout, participating in progress meetings, resolving construction issues, and coordinating day to day operations for Resident Inspector.

TEC Professional Services Questionnaire

Louisiana Army National Guard Army Aviation Support Facility #1 – Hammond, LA

Responsible for the site design for a 69.58-acre site for the Hammond Airport including site clearing, grading, design of on-site retention ponds for over 95.93 acres, surface parking lots, domestic and fire water distribution systems, sewer system, gas system, taxiway, and apron pavements, and over 4,500 linear feet of concrete roadway and drainage in compliance with SPiRiT – gold.

Rivet Boulevard New Drainage and Roadway – Waggaman, LA

Responsible for design of a new roadway, which included design of a new water distribution system, drainage analysis and design, approximately 150 l.f. box culvert crossing, and construction of a new roadway approximately 8,180 l.f.

Azalea Drive Extension – Westwego, LA

Responsible for design of a new roadway extension, which included construction of a new water distribution system, drainage analysis and design, approximately 80 linear foot box culvert crossing, and extension of an existing street, approximately 3,010 linear feet.

11th Street Renovations – Metairie, LA

Responsible for roadway reconstruction, which included drainage analysis and design, a new water system, improvements to existing sewer system, and pavement design for approximately 3,800 linear feet.

Belle Point Drainage Pumping Station – Reserve, LA

Project Manager for the design of two new pump stations to improve the existing drainage of the Belle Point neighborhood. The pumping stations include submersible pumps and power systems located below grade in a wet well within the right-of-way of the street and will be capable of handling 70,000 GMP of storm water.

Hero Drainage Pumping Station – Jefferson Parish, LA

Project Manager responsible for the evaluation and design of new bar screens for the existing 12 bay bar screens and a new auto-rake system to be attached to the existing bridge and containment of collected debris.

Magnolia Street Bridge – Slidell, LA

Provided technical support for the design services for a box culvert. A visual inspection was performed to determine the existing conditions and location of trees, mailboxes, power poles, and other potential obstructions. Performed a drainage analysis for the existing and designed system. The existing deteriorated wooden bridge was replaced with an aluminum box culvert approximately 12' wide and 4' deep, including the addition of guardrails and regrading of the existing drainage canal.

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Mr. Ricardo Antonio Contreras

License/Certificate Type - Number
PE.0028533

Expiration Date
09/30/2023

Status: Active

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Karson Kall, P.E., PMP Senior Civil Project Engineer
Project Assignment:
Advanced Measurements Manager Civil/Structural Manager
Name of Firm with which Associated:
Infinity Engineering Consultants, LLC
Years' experience with this Firm:
9
Education: Degree(s)/Year/Specialization:
Bachelor of Science / 2007 / Civil Engineering
Active registration: Year first registered/discipline:
Professional Engineer – Civil Engineering CO/2016/Civil LA/2012/Civil MS/2014/CivilTX/2014/Civil
Other experience and qualifications relevant to the proposed Project:

Mr. Kall holds more than 14 years of experience with coordination, supervision, and time management for numerous multi-million dollar federal funded projects. As Senior Civil Engineer, Mr. Kall brings skills in productive interaction and constant coordination with the multiple disciplines; including architectural, civil, structural, and mechanical engineering firms. Additionally, Mr. Kall is quick to produce effective resolutions to day-to-day issues, either at the office or on-site. Specific major project relevant to Jefferson Parish's need for drainage conveyance and roadway rehabilitation includes:

Filmore Group B Complete Street Reconstruction - New Orleans, Louisiana

Complete street reconstruction for the City of New Orleans spanning just over 1000 LF. Responsible for designing new domestic sewer, water, and drainage. Establish new grade lines and tie into new systems. Drainage was completed utilizing HYDRA6000 for drain inlet spacing and HYDRA6020 for sizing. Establish proposed grade line (PGL), establish inverts, regrade ROW, joint layouts, bike lane striping, signage, and cross sections established.

Mid-City Street Repairs Group B - New Orleans, Louisiana

Complete street reconstruction for the City of New Orleans spanning just over 1000 LF. Project Engineer responsible for designing new domestic sewer, water, and drainage. Establish new grade lines and tie into new systems in to existing. Drainage was completed utilizing HYDRA6000 for drain inlet spacing and HYDRA6020 for sizing. Establish proposed grade line (PGL), establish inverts, regrade ROW, joint layouts, striping, signage, and cross sections established. Additional 64 blocks included identification and quantification of Hurricane Katrina damages to roadways, driveway aprons, sidewalks, curbs, and drainage structures. Create pavement only drawing package and a separate package containing repairs associated with waterline, sewer line repairs and drainage point repairs. Develop repairs and create construction documents.

North Galvez Street Project - New Orleans, Louisiana

Provided construction administrative services for a replacement of an existing waterline, sewer lines, and drainage including valves, fire hydrants, house connections, service connections, siphon lines, manholes and full street replacement for a mile-long section.

St. Roch Neighborhood Street Repairs – New Orleans, LA

Responsible for the identification and quantification of damages to roadways, driveway aprons, sidewalks, curbs, and drainage structures. Develop repairs and create construction documents.

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Mr. Karson Ashley Kall

License/Certificate Type - Number
PE.0037258

Expiration Date
09/30/2022

Status: Active

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Robert Haydel Civil Project Engineer
Project Assignment:
Civil Project Engineer Hydrologic and Hydraulic (H&H) Study
Name of Firm with which Associated:
Infinity Engineering Consultants, LLC
Years' experience with this Firm:
2
Education: Degree(s)/Year/Specialization:
Bachelor of Science / 2005 / Physics Master of Science / 2007 / Civil & Environmental Engineering
Active registration: Year first registered/discipline:
N/A
Other experience and qualifications relevant to the proposed Project:

With over 14 years of civil engineering experience, Robert Haydel is proficient in construction and project management with experience in managing grant proposals. Mr Haydel's specialties include infrastructure assessment, stormwater system design, and urban hydraulics/hydrology modeling. Specific major project relevant to Jefferson Parish's need for drainage conveyance and roadway rehabilitation includes:

New Orleans Drainage Master Plan – New Orleans, LA
Worked within a project team to develop a SWMM model to improve the conveyance of stormwater across the City of New Orleans. This master plan set out to covey the entire stormwater from a 10-year storm event.

DPS 01 Watershed Drainage Upgrades and Green Infrastructure – New Orleans, LA
Designed drainage conveyance and retention improvements, coordinated permitting design requirements, and designed bi-directional bike lanes. Completed multiple full roadway reconstruction designs (pavement, drainage, water, sewer) while introducing new stormwater management practices and enhanced pedestrian and cycle traffic.

New Orleans Redevelopment Authority HMGP Project - New Orleans, LA
Designed low impact stormwater development and best management practice strategies, developed green infrastructure calculation processes, and created multiple SWMMMs for design analysis. In addition, designed the neighborhood stormwater management strategy with existing local and state roadway guidelines and standards while introducing porous pavement technologies.

Ridgelake Drive Drainage Improvements - Metairie, LA
Designed roadway gradients to create positive cross-sectional and longitudinal drainage. Additionally, identified concrete roadway pavement sections for replacement.

St. Roch North Roadway Repair – New Orleans, Louisiana
Project Manager responsible for leading a team in designing the complete street replacement in the St. Roch neighborhood. The project required replacement of roadways, sidewalks, and driveways with the addition of ADA compliant ramps. Designs included roadway gradients to create positive cross-sectional and longitudinal drainage. Hydraulic design/analysis was also required for drainage system design.

Mid-City Street Repairs Group B – New Orleans, Louisiana

Designed roadway pavement and curbing, base for the roadway pavement, subsurface drainage, water and sanitary sewer installation, and adjustments as required to driveways and intersecting streets.

S. Dupre and S. Gayoso Street Improvements – New Orleans, Louisiana

Utilizing green infrastructure systems, responsible for developing new drainage conveyance and retention technologies to retain a ten-year storm event. Additionally, designed the pavement structures (asphalt roadway, porous concrete, sidewalks, driveways, ADA ramps) and managed the design of the sewer and water systems. This project is being used as a green infrastructure standard for new roadway improvements throughout the City of New Orleans.

Lakeview Roadway Restoration – New Orleans, Louisiana

Responsible for maintaining and organizing field construction activities for extensive roadway and utility repairs across the Lakeview area. As a field manager, proposed necessary construction changes and documented project progress.

Mead Westvaco Plant Stormwater Evaluation – Evadale, TX

Task leader of the drainage evaluation, calculations, and design for a 2,000 l.f. open channel design project. Responsibilities included completing a survey of the project site with hydraulics & hydrology, evaluating the existing drainage system, and developing a SWMM model. Additionally, developed multiple drainage options, developed flow process narrative and P&IDs, and designed channel riprap.

Calumet Processing Plant Stormwater Management Evaluation

Task leader responsible drainage evaluation and calculations. Surveyed the drainage system and designed multiple options with varying treatment options. To bring the plant's drainage system up to local standards, developed a HEC-HMS model. Developed a final detailed drainage report covering multiple drainage options along with cost estimates.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Gregory Pier, P.E. Senior Electrical Project Engineer
Project Assignment:
Electrical Project Engineer Electrical Utilities Engineer
Name of Firm with which Associated:
Infinity Engineering Consultants, LLC
Years' experience with this Firm:
10
Education: Degree(s)/Year/Specialization:
Bachelor of Science/2008/Electrical Engineering
Active registration: Year first registered/discipline:
Professional Engineer – Electrical Engineering LA/23878/2022
Other experience and qualifications relevant to the proposed Project:

Canal Street/City Park Ave. Transportation Hub – New Orleans, LA

Electrical Project Engineer responsible for coordination with Entergy, the Department of Public Works, and the Regional Transit Authority for the design of the additional DC power for the streetcars and the design of the streetcar traffic control system and lighting and power distribution for the new streetcar terminal and streetcar line extension from Canal Street to Canal Boulevard.

Traffic Operations Center Standby Generator – Jefferson Parish, LA

Project Manager and Electrical Engineer for the addition of a 150-kW natural gas stand-by generator to provide power to the entire facility should the loss of primary power occur. The project included the reconfiguration of existing electrical systems to comply with the new generator installation. Additionally, provided construction administration.

Bainbridge Canal Closure and Roadway Improvement – Kenner, LA

Project Electrical Engineer responsible for the drawing development of approximately one mile of new street lighting at Bainbridge Street in Kenner LA. Additionally, coordinated with the local utility to provide multiple new service feeds and distribution systems to provide power to the new streetlights. New conduit, wire and ground systems were also developed to provide a turnkey design for electrical portion of this project.

Glenwood New Street Lighting Design – Metairie, LA

Project Manager and the Project Electrical Engineer for the drawing development of 3,000 linear feet of new street lighting on Glenwood Street in Metairie, LA. New utility feeds were provided to provide the power to the new lights, which utilized a series of directionally bored conduits to route new power to the new loads.

Dillard University Campus Lighting Improvements – New Orleans, LA

Project Manager and the Project Electrical Engineer for the drawing development of the new improvements at Dillard University to include two new guard shacks, new landscape lighting for beautification of the campus, new park lighting for safety, new camera installations throughout the facility to include new license plate reader cameras connected to a new Honeywell backbone system to log cars visiting campus.

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Mr. Gregory A. Pier

License/Certificate Type - Number	Expiration Date
PE.0046378	09/30/2022

Status: Active

TEC Professional Services Questionnaire

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

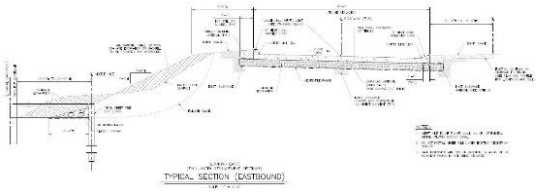
PROJECT NO. 1

Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Bannerwood Drainage Improvements Harvey, LA Jefferson Parish Government Neil Schneider 504-736-6833	Infinity provided engineering design and drainage improvement within the Bannerwood Subdivion totaling 3-quarter square mile of residential neighborhood. This two-phased project consisted of upgrading subsurface drainage on four (4) outfalls from the Bannerwood Subdivision to the Oakwood Canal, as well as improvements to the subsurface drainage systems along Willowbrook Drive.  The upgrading included miscellaneous improvements to lateral drainage connections and replacement of disturbed street, driveways, sidewalks, and utilities. The designs submitted by Infinity were all created in accordance with the Jefferson Parish West Bank Subsurface Drainage Improvement Program prepared by Parish Engineers. Careful consideration was given to the construction schedule to minimize the impact and traffic disturbance within the residential subdivision.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Phase I Completed: 2014 Phase II Completed: 2018	$4,102,000	$4,102,000

PROJECT NO. 2

Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Ridgelake Roadway and Drainage Improvements Metairie, Louisiana Jefferson Parish Government Neil Schneider 504-736-6833	Prime consultant for the engineering and design services for roadway, streetscaping and drainage improvements on ¾ mile of Ridgelake Drive, including subsurface drainage, new 54-inch outfall, lateral drainage connections, etc. The scope of the project included increasing the current drainage culvert size along Ridgelake from 6th Street to West Esplanade. A topographic survey was required to map the area affected by construction as well as identify the location of the existing culvert and other utilities which may be affected or conflicting. Additionally, Infinity's designs will include roadway, driveway, and sidewalk repair. The engineering consultant will prepare construction plans and specifications suitable for bidding. Infinity will administer the construction activities and provide resident inspection throughout to monitor the contractors' work. 	
Completion Date (Actual or estimated):	**Estimated Cost:**	
Designs Completed, Entering Construction Bidding Phase Completion: TBD	$2,000,000	$2,000,000

TEC Professional Services Questionnaire

PROJECT NO. 3		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
West Metairie Avenue Rehabilitation Metairie, LA Jefferson Parish Government Gene Gillen, P.E. 504-832-4878	Infinity is the prime consultant for the restoration of (2) miles of West Metairie Avenue between Roosevelt Boulevard and David Drive. The complete street replacement designs included coordinating work on both sides of the canal to minimize impact to the residential areas. The project required the replacement pavement as well as adjacent canal bank stabilization. Adjacent sidewalks were also reconstructed with side street turnout to meet ADA criteria. Infinity's designs included improvement to the drainage system along the streets that was based off hydraulic studies. The drainage improvements included the following: • Street outfall pipe replacement • Adjustments of longitudinal and transverse slopes • Adjustment of existing and addition of new drain inlets	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Designs Completed, Entering Construction Phase Completion: TBD	$7,000,000	$7,000,000

PROJECT NO. 4		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Wedmore Drainage Improvements Marrero, LA Jefferson Parish Government Neil Schneider 504-736-6833	Infinity provided designs for drainage improvement to prevent localized flooding within the Wedmore Subdivision. This project was funded by CDBG program. Infinity designed drainage improvements consisting of upgrading subsurface drainage on four (4) out-falls. Additionally, the drainage upgrades included improvements to lateral drainage connections and replacement of disturbed portions of street, curbing, driveways, and sidewalks. Careful consideration was given to the construction schedule to minimize the impact and traffic disturbance within the residential subdivision.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Completed: 2014	$4,000,000	$4,000,000

TEC Professional Services Questionnaire

PROJECT NO. 5		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Kostmayer Avenue Roadway Improvements Slidell, LA City of Slidell Tim Mathison 985-646-4330	As the prime consultant, Infinity provided roadway repair and replacement design and all utility improvements for the Kostmayer Avenue rehabilitation project. The project included the asphalt mill and overlay of 3,300 linear feet of street, including striping, drainage improvements, street alignment and handicap sidewalk ramps.  The design and construction of this project was carefully scheduled to avoid interfering with activities of a major school, Abney Elementary, on the stretch of repair. This project outlines Infinity's experience in street construction (repair and overlay), drainage construction, striping, and community engagement to plan construction to alleviate traffic congestion.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
May 2013	$700,000	$700,000

PROJECT NO. 6		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
VA Medical Center Infrastructure Improvements New Orleans, LA City of New Orleans Department of Public Works Nguyen Phan 504-658-8021	Infinity provided civil and electrical engineering design for the reconstruction of subsurface utilities and paving for 3,000 lf of major thoroughfare in support of the new VA Medical Complex. These designs corrected deficiencies in street conditions and utilities to support the new medical complex in Mid-City New Orleans.  Infinity designed subsurface drainage, sewer force main reroutes, water main reroutes, and underground electrical power distribution reroutes. Additionally, Infinity provided designs for all roadway paving, including concrete/asphalt curb and gutter, and drainage improvements. Utility conflict resolution involved weekly and daily coordination meetings with Sewerage and Water Board of New Orleans, City of New Orleans, Department of Public Works, Entergy, and other private utility companies, engineers, managers, and operations personnel.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
September 2011	$11,000,000	$3,000,000

TEC Professional Services Questionnaire

PROJECT NO. 7		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Filmore Avenue Complete Street Reconstruction New Orleans, LA City of New Orleans Department of Public Works Christopher Harris 504-658-8618	 Spanning over 1000 linear feet, the Filmore Avenue project was a complete street reconstruction requiring the replacement of concrete and asphalt pavements in patches and/or full blocks. As part of the complete street reconstruction, Infinity provided designs for new domestic sewer, water, and drainage. The roadway and drainage designs included the following: • Replacement of concrete, asphalt, and composite pavements in patches and/or full blocks • Replacement of existing 4 ft and 5 ft wide sidewalks and driveway aprons • Roadway lane striping and signage • Designs for full drainage line replacement with the addition of catch basins and drain inlets • Establishment of new grade lines to tie the new systems into the existing lines • Establishment of proposed grade line (PGL) and inverts	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	**Work for which Firm was Responsible:**
July 2020	$6,250,000	$2,200,000

PROJECT NO. 8		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Canal Street/City Park Avenue Transportation Hub & Intersection Improvements New Orleans, LA Regional Transit Authority Stephen Mitchell 504-400-6308	 Deemed the "worst" intersection in the city by the RTA and Department of Public Works, Infinity redesigned the terminal to improve vehicular and streetcar safety. The new alignment improved traffic flow by adding proper signalization along City Park Avenue and Canal Boulevard; serving over 50,000 cars, buses, trucks, streetcars, and pedestrians every day. Infinity's multi-discipline team collaborated on all components of the civil, mechanical, and electrical engineering needed for this project. Consequently, Infinity was able to provide in-house design for the complete roadway replacement, track power and support poles (catenary system), underground utility relocation design, terminal mechanical and lighting protection systems, and streetcar track foundations.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Jan. 2018	$9,900,950	$9,900,950

TEC Professional Services Questionnaire

PROJECT NO. 9		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Sgt. Alfred Drive and Third Street Intersection/Roadway Improvements Slidell, LA City of Slidell Blaine Clancy 985-646-4273	Infinity provided engineering services for the paving repairs of Sgt. Alfred Drive in Slidell from U.S. Hwy 11 to Fremaux Drive; including the heavily traveled intersection of Sgt. Alfred Drive and Third Street.  The project included approximately 6,000 linear feet of asphalt and concrete repairs and associated elevation adjustments of manhole covers and drop inlet grates. Infinity provided the inspection, engineering designs, and construction administration for the removal and replacement of approximately 85 damaged panels, mill and overlay of asphalt sections, and the elevation adjustment of manhole covers and drop inlets. During the construction phase, careful consideration was given to notifying and working with businesses and residential areas to minimize the impact of street closures on daily operation.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Jan. 2017	$750,000	$750,000

PROJECT NO. 10		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Pritchard Ditch Drainage Improvements Marrero, LA Jefferson Parish Government Neil Schneider 504-736-6833	The Pritchard Ditch drainage improvement project consists of designing a new pipeline to replace an existing 96-inch culvert. The drainage improvements consisted of evaluating the existing pipeline invert and surrounding elevation to determine the modifications to the culvert which are required to improve the flow of stormwater through the project site. As the prime consultant, Infinity evaluated the drainage system to determine the designs for this 1,000 linear foot open channel drainage design. The parish requested a box culvert design to be included. Using existing parameters, Infinity evaluated the discharge flow rate of the trapezoidal open channel ditch to properly determine the size of the proposed box culvert. The designs consist of a 4x12 foot pre-cast reinforced concrete box culvert. Additionally, Infinity analyzed the drainage system for proper conveyance rate of the existing outflow pipes and open channel. Infinity will be providing professional services through the construction phase, including construction administration.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Design Completed: 2022 Construction: TBD	$1,000,000	$1,000,000

TEC Professional Services Questionnaire

M. List all prior and/or on-going litigation between Firm and Jefferson Parish. Please attach additional pages if necessary.

Parties:		Status/Result of Case:
Plaintiff:	**Defendant:**	
1. Not Applicable	Not Applicable	Not Applicable
2.		
3.		
4.		

N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.

Project Understanding

Infinity Engineering Consultants, LLC is a broad-spectrum firm providing thoughtful civil, structural, mechanical, and electrical engineering design. Among the services Infinity offers, our engineers have the capabilities to produce a wide range of civil engineering designs, including all forms of earthwork, roadway, and drainage designs. We recognize that great civil design is the foundation for a successful project. Infinity is committed to providing civil solutions that will do more than just work. Our goal is to provide solutions that work effectively and efficiently. Civil engineering project types include:

- Site Planning, Earthwork & Foundations
- Drainage Systems and Roadway Design
- Water and Wastewater Facilities
- Parking Lot Layout & Design
- Highway Infrastructure Evaluation
- Asphalt and Concrete Paving Systems
- Traffic Marking Layout & Design
- Wetland Delineations

Our staff holds extensive experience with projects across the Gulf Coast relating to the design of drainage and flood mitigation systems. This experience satisfies each firm and personnel minimum requirement as outlined in the Request for Qualifications; including a principal registered as a professional engineer in the State of Louisiana, a professional in charge with a minimum of five years ex[eroemce, and an additional professional engineer familiar with drainage systems. With over (18) seventeen years of engineering design and construction administration experience, our team of mechanical, civil, structural, and electrical engineers have provided complete designs in the public and private sector, including: drainage systems, water catch basins, drainage pumping stations, flood walls, drainage for roadways, and Construction Management at Risk (CMAR) projects.

With a viable resource of engineering professionals, Infinity's team is well-suited to execute the design and construction tasks required for these important routine drainage projects. We appreciate this opportunity to submit our qualifications and vision for Jefferson Parish. Infinity Engineering Consultants, LLC is a registered Louisiana engineering firm (License No. 3109) and is in full compliance of Louisiana state law.

1. Professional Training and Experience in Relation to the Type of Work Required for the Engineering Services

Key Personnel Qualifications and Experience

Infinity has assembled a dynamic group of engineers to achieve all the required field investigation, testing, design, and construction administration needed for the successful completion of any proposed project. As a multi-disciplinary firm, Infinity has the in-house abilities to perform all engineering design work for roadway and drainage related projects.

We employ (9), full-time, licensed civil engineers, many with over twenty (20) years of experience. For this project, Infinity will assign Louis Jackson, P.E. as the Infinity Project Manager. Mr. Jackson has more than 25 years of experience in the field of civil engineering, including 20 years of responsible charge of paving and drainage design. His responsibilities

include project management, engineering design, preparation of plans and specifications, preparation of cost estimates, construction administration, and collaboration with owners for various construction projects. Examples of training and experience for Infinity's technical staff are contained in the TEC form.

William Thomassie, P.E.	Principal	Civil Engineer	Experience: 30 years
Raoul Chauvin, P.E.	Principal	Mechanical Engineer	Experience: 31 years
Louis Jackson, P.E.	Ops & QA/QC	Civil Engineer	Experience: 25 years
Ricardo Contreras, P.E.	Civil Engineering Manager	Civil Engineer	Experience: 25 years
Robert Haydel	Project Engineer	Civil Engineer	Experience: 15 years
Karson Kall, P.E.	Advanced Measurements	Civil Engineer	Experience: 13 years
Gregory Pier, P.E.	Project Engineer	Electrical Engineer	Experience: 14 years

Capacity for timely completion of newly assigned work, considering the factors of type engineering task, current unfinished workload, and person or firm's available professional and support personnel.

Infinity's current workload is well-suited to provide engineering support services to Jefferson Parish. Infinity has completed or is in the design completion stage of similar projects (Ridgelake Drainage and West Metairie Ave Rehabilitation) that will allow necessary personnel the uninterrupted ability to focus on the completion any assigned drainage project. Therefore, it is an ideal time for Infinity to take on additional work.

Location of the principal office where work will be performed.

Infinity's only office is located in the **Fat City area of Metairie, LA**, just minutes away from the Bucktown area. Therefore, distance will not hinder our ability to perform appropriately on any projects. We have executed multi-million-dollar projects throughout Louisiana, Texas and as far away as Pennsylvania, and the Bahamas. More importantly, the communication between our office, our teaming partners, and the Jefferson Parish will determine the project's success. Infinity has a history of building strong relationships with our teaming partners. If the scope of an assigned project dictates the need to work with other consulting firms, we welcome the opportunity to partner with other entities on the as-needed list.

Adversarial legal proceedings between the Parish and the person or firm performing professional services, in which the Parish prevailed or any ongoing adversarial legal procedures between the Parish and the person or firm performing professional services, excluding those instances or cases where the person or firm was added as an indispensable party, or where the person or firm participated in or assisted the public entity in prosecution of its claim.

Infinity is not involved in any adversarial legal proceedings with Jefferson Parish.

Prior successful completion of projects of the type and nature of the engineering services, as defined, for which firm has provided verifiable references.

As illustrated in Section L of Infinity's TEC Questionnaire, we have completed drainage, roadway and utility relocation/utility conflict resolution-related projects for Jefferson Parish and other local municipalities over the last 18 years of our operation. Included in these projects have been special designs for scheduling and/or phasing of construction to accommodate conditions. Example projects Infinity has completed for Jefferson Parish include:

- West Metairie Avenue Roadway and Drainage Rehabilitation
- Wedmore Subdivision Drainage Improvements
- Ridgelake Roadway and Drainage Improvements

- Pritchard Ditch Drainage Improvements
- Bannerwood Subdivision Drainage Improvements
- Hero Pumping Station Upgrades

Wedmore Drainage - West Culvert

The team proposed for this project is comprised of engineers and professionals well-suited for the scopes of work identified in the RFQ. Per Reda Youssef, P.E. former Jefferson Parish Director of Capital Projects, **"Infinity Engineering Consultants has successfully completed the designs for the Wedmore and Bannerwood Drainage projects, as well as the design of the parish's new EOC tower. Their team is competent, easy to work with, and communicate well. I would highly recommend Infinity for these types of projects."**

Closing Statement

Infinity's growth, resilience, and repeat business in the municipal and industrial sectors is proof of our reputation. We take great pride in that and expect to continue to build the same trust with Jefferson Parish.

Infinity Engineering recognizes the importance of this program and has assembled the most qualified team to handle all aspects of the projects. Thank you for taking the time to learn more about Infinity Engineering Consultants, LLC. We look forward to working with you to grow and enhance our communities together.

Infinity Engineering Consultants, LLC.
rchauvin@infinityec.com
(504) 304-0548

O. To the best of my knowledge, the foregoing is an accurate statement of facts.

Signature: Raoul V Chauvin III **Print Name:** Raoul V. Chauvin, III, P.E.

Title: Principal **Date:** April 11, 2022

The Louisiana Professional Engineering and Land Surveying Board has the following information on file:

Name:	Public Address:
Infinity Engineering Consultants, LLC	Mr. William Thomassie4001 Division Street Metairie, Louisiana 70002

License/Certificate Information w/ Supervision

License	Status	First Issuance Date	Expiration Date	Supervisor(s)
EF.0003109	Active	03/09/2004	09/30/2022	Mr. William John Thomassie # PE.0027421 - Active ; Mr. Raoul Vincent Chauvin III # PE.0028272 - Active

LOUISIANA ECONOMIC DEVELOPMENT

DIVISION OF SMALL BUSINESS SERVICES

This certification acknowledges that

Infinity Engineering Consultants, LLC

is Certified-Active as a Small Entrepreneurship with
Louisiana Economic Development's Hudson Initiative.

This certification is valid from 7/22/2021 to 7/22/2022 .

Certification No. 8402

Stephanie Hartman,
Director, Entrepreneurial Services

Waggonner & Ball
Architecture/Environment

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

SOQ 22-016 - Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant
Jefferson Parish Government

B. Firm Name & Address:

Waggonner & Ball Architecture/Environment
2200 Prytania St.
New Orleans, LA 70130

C. Name, title and contact information of Principal, as defined in Section 2-926 of the Jefferson Parish Code of Ordinances, who is a registered, licensed architect, professional engineer, or surveyor in the State of Louisiana:

J. David Waggonner, III, FAIA
President

Waggonner & Ball, LLC
2200 Prytania St.
New Orleans, LA 70130
504.524.5308
david@wbae.com

D. Name and contact information of employee who is a registered and licensed architect, professional engineer, or surveyor in the State of Louisiana in the applicable discipline. A subcontractor may be substituted here only if the advertised Project requires more than one discipline.

Andy Sternad, AICP, AIA, LEED AP BD+C
Vice President

Waggonner & Ball, LLC
2200 Prytania St.
New Orleans, LA 70130
504.524.5308
andy@wbae.com

E. Please provide the number of employees whose primary function corresponds with each category:

2 Administrative	___ Estimators	1 Specification Writers
13 Architects (Licensed)	___ Geologists	___ Structural Engineers
___ Chemical Engineers	___ Geotechnical Engineers	___ Graduate Engineers
___ Civil Engineers	___ Interior Designers	___ Project Managers
___ Construction Inspectors	1 Landscape Architects	___ Clerical
___ Ecologists	___ Land Surveyor	___ Grant/Funding Specialist
___ Electrical Engineers	___ Mechanical Engineers	___ Sanitary Engineers
6 Engineer Intern* Architectural Intern	___ Environmental Engineers	
___ Professional Land Surveyors		23 **TOTAL**

F. Is this submittal by a JOINT-VENTURE? Please check: YES _____ NO X

If marked "No" skip to Section I. If marked "yes" complete Sections G-H.

TEC Professional Services Questionnaire

G. If submittal is by JOINT-VENTURE, list the firms participating and outline specific areas of responsibility (including administrative, technical, and financial) for each firm. Please attach additional pages if necessary.

1. N/A

2.

H. Has this JOINT-VENTURE previously worked together? Please check:
YES _____ NO _____ N/A

I. List all subcontractors anticipated for this Project. Please note that all subcontractors must submit a fully completed copy of this questionnaire, applicable licenses, and any other information required by the advertisement. See Jefferson Parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.

Name & Address:	Specialty:	Worked with Firm Before (Yes or No):
1. N/A		
2.		
3.		

J. Please specify the total number of support personnel that may assist in the completion of this Project:

N/A

TEC Professional Services Questionnaire

K. List the professional in charge, key persons, specialists, and individual consultants anticipated for this Project and provide their relevant information below. If necessary, please attach additional documentation (i.e. resume) that demonstrates the employment history and experience of the Firm's key persons that may assist in the completion of this Project. Please attach additional pages if necessary.

PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

J. David Waggonner, III, FAIA

Principal

Project Assignment:

Principal of Architecture, Planning, Urban Design

Name of Firm with which associated:

Waggonner & Ball Architecture/Environment

Years' experience with this Firm:

40 (Including predecessor firm where David was a partner)

Education: Degree(s)/Year/Specialization:

M. Arch., Yale University, 1978
B.A., Duke University, 1975

Planning, Urban Design, Architecture

Active registration: Year first registered/discipline:

Architect:
- California, 1989
- Louisiana, 1980
- Mississippi, 2021

Other experience and qualifications relevant to the proposed Project:

In the aftermath of Hurricane Katrina, David saw an opportunity for New Orleans to reinvent itself as a sustainable city that embraces its lifeblood: water. He championed a process that examines history, soils, biodiversity, infrastructure networks, urban space and habitation, along with the forces of water. This combination serves as a holistic foundation for design, initiated during the Dutch Dialogues in New Orleans, developed through the regional scale Greater New Orleans Urban Water Plan, and now being implemented in multiple projects across the country, including the winning National Disaster Resilience Competition (NDRC) entries.

Related efforts have produced a Rebuild by Design award for Bridgeport, Connecticut, as well as NDRC awards for the City of New Orleans, and States of Louisiana, Connecticut, and Virginia. This resulted in multiple completed and ongoing resilience planning and pilot project design efforts that the firm led. The Dutch Dialogues workshop model has been successful in Charleston, South Carolina, Norfolk and Hampton, Virginia, and Houston, Texas. David was the Principal for Waggonner & Ball's work scope on three planning projects in Jefferson Parish: Jefferson Parish Smart Growth Plan, the Yenni Building Parking Lot Feasibility Study & Bayou Metairie Park.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Andy Sternad, AICP, AIA, LEED AP BD+C

Planner, Urban Designer, Architect

Project Assignment:

Project Manager, Architect, Planner, Urban Designer

Name of Firm with which associated:

Waggonner & Ball Architecture/Environment

Years' experience with this Firm:

8

Education: Degree(s)/Year/Specialization:

M. Arch., Yale University, 2016
B.A. Architecture, Washington University in St. Louis, 2009

Planning, Urban Design, Architecture

Active registration: Year first registered/discipline:

Architect:
- Florida, 2021
- South Carolina, 2021

Other experience and qualifications relevant to the proposed Project:

Andy was a key participant in the New Orleans Dutch Dialogues, a collaboration between Dutch and American engineers, designers, and planners to re-envision the city's relationship to water after Hurricane Katrina, and was a lead author of the ensuing Greater New Orleans Urban Water Plan, which includes the East Bank of Jefferson Parish. He helped refine the firm's Living With Water workshop-based planning model and led the firm's water planning efforts in Houston and Charleston.

Currently, Andy leads the firm's work on the construction administration of Gretna City Park in Jefferson Parish, which includes resilient retrofits to hold more water in the park and alleviate flooding, while providing additional recreational amenities. He also leads the Isle de Jean Charles Resettlement, a first-of-its-kind effort in the U.S. to relocate an entire coastal community in Terrebonne Parish. Both of these groundbreaking efforts in south Louisiana are pilot projects of LA SAFE, to which Andy contributed. Internationally, he also led the firm's engagement with the Water As Leverage program in Chennai, India. Andy is a planner certified by the American Institute of Certified Planners (AICP).

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Jaime Ramiro Diaz, LEED AP

Senior Project Designer

Project Assignment:

Creative Engagement/Outreach Lead, Planner, Urban Designer

Name of Firm with which associated:

Waggonner & Ball Architecture/Environment

Years' experience with this Firm:

18

Education: Degree(s)/Year/Specialization:

M. Arch., Tulane University, 2000

Planning, Urban Design

Active registration: Year first registered/discipline:

LEED AP, 2004

Other experience and qualifications relevant to the proposed Project:

Jaime Ramiro "Rami" Diaz is an architectural and urban design leader of Waggonner & Ball's resilience and Living With Water practice. Rami is a client liaison, senior project designer, and collaboration leader for climate adaptation projects across the country, including the Dutch Dialogues, Greater New Orleans Urban Water Plan, Gentilly Resilience District, Norfolk Ohio Creek NDR, Resilient Hampton, and Buffalo Bayou Lockwood South. A frequent lecturer and tour leader, they are expert at integrating architecture, landscape, and water system challenges into innovative solutions that capture the spirit of place.

Rami has expertise on a range of successfully completed planning work in Jefferson Parish, from a regional perspective while working on the Dutch Dialogues, the Greater New Orleans Urban Water Plan, and LA SAFE. Smaller scale and finer grained urban design and planning work includes multiple completed projects with Parish officials, including the Town of Jean Lafitte Resilience Plan and Jefferson Parish Smart Growth Plan in Old Metairie and Gretna, as well as assisting with the Yenni Building Parking Lot Feasibility Study and Bayou Metairie Park.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Lex Agnew

Landscape Designer, GIS Analyst

Project Assignment:

Planner, Urban Designer

Name of Firm with which associated:

Waggonner & Ball Architecture/Environment

Years' experience with this Firm:

4.5

Education: Degree(s)/Year/Specialization:

M. Landscape Architecture, Harvard Graduate School of Design, 2017
B.S. Architecture, Washington University in St. Louis, 2015

GIS Analysis & Mapping, Landscape Design

Active registration: Year first registered/discipline:

N/A

Other experience and qualifications relevant to the proposed Project:

Lex is a landscape designer and planner who provides expertise in mapping and data analytics, using GIS and parametric software like Grasshopper to visualize underlying patterns that might otherwise go unseen. Lex is involved in a variety of resiliency planning projects, and brings an analytical lens to issues related to flooding, heat, accessibility, health, and socio-economics. With a broad range of experience in landscape, site, and urban design projects at different scales, locally and across the country, Lex is skilled at using mapping to direct resilience planning toward strategies unique to scale, location, and local character.

At Waggonner and Ball, Lex has worked on site analysis and project design for stormwater management landscape projects in Norfolk and Hampton, Virginia, and has participated in design workshops with a variety of stakeholders and collaborators. He has also participated in other similar workshops and colloquium in Houston, Texas and Charleston, South Carolina. Lex led the firm's GIS analysis and mapping for planning and strategy reports in the LA SAFE resilience plan reports, and is performing similar work for the Gentilly Resilience District and Lakeview-City Park Drainage Improvements in New Orleans.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Kelli Reinhardt, AIA, PLA

Architect & Landscape Architect

Project Assignment:

Architect, Landscape Architect

Name of Firm with which associated:

Waggonner & Ball Architecture/Environment

Years' experience with this Firm:

5.5

Education: Degree(s)/Year/Specialization:

M. Arch., M. Landscape Arch., Louisiana State University, 2016
B. Economics, University of South Florida, 2012

Landscape Architecture, Architecture

Active registration: Year first registered/discipline:

Architect:
- Louisiana, 2019

Landscape Architect:
- Louisiana, 2021

Other experience and qualifications relevant to the proposed Project:

Kelli joined Waggonner & Ball after receiving Masters Degrees in both Architecture and Landscape Architecture, and is a licensed architect as well as licensed landscape architect. She uniquely interfaces between scales of the building, site, city, and region, and collaborates with experts across a range of disciplines. Kelli leads the firm's landscape and site design strategies, and is a key part of resilience planning and architecture projects from coastal Louisiana to Connecticut to China.

Kelli is a design team leader for the Beijing City International School (BCIS) Wangjing Campus, a 1,270,000 square foot K-12 grade campus in Beijing, China. This ambitious and complex urban design and architectural effort includes site analysis, programming, landscape design, and close collaboration with school staff. The massive project is currently in design development.

Kelli is also currently leading the firm's efforts for the Resilient Bridgeport Pilot Project, a stormwater park adjacent to redeveloped public housing, and National Disaster Resilience (NDR): Resilient Bridgeport, which features neighborhood scale coastal protection.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Thom Smith, LEED Green Assoc.

Architect & Urban Designer

Project Assignment:

Architect, Planner, Urban Designer

Name of Firm with which associated:

Waggonner & Ball Architecture/Environment

Years' experience with this Firm:

7

Education: Degree(s)/Year/Specialization:

B. Arch., Minor in American History, Syracuse University, 2007

Architecture, Planning, Urban Design

Active registration: Year first registered/discipline:

Architect:
- Louisiana, 2014

Other experience and qualifications relevant to the proposed Project:

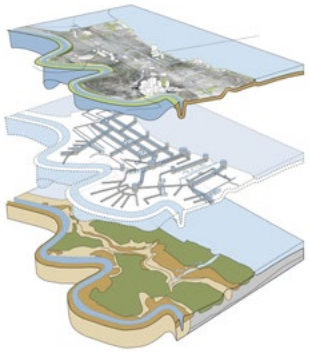
Thom is an architect and urban designer with over a decade of national and international experience in building and environment projects, including Jefferson Parish. At Waggonner & Ball he works at the intersection of architecture, urban design, and resilience planning across multiple scales and phases. Thom was a key team member for the National Disaster Resilience Competition submission for the City of New Orleans, and the states of Louisiana, Connecticut, and Virginia. For the resulting National Disaster Resilience projects, Thom worked at the neighborhood scale on planning and urban design in Norfolk, Virginia and Bridgeport, Connecticut.

Thom was a key team member on three completed planning projects in Jefferson Parish. He gained valuable expertise in existing conditions across different areas as well as insight into the review and development process while collaborating with Parish officials, including President Lee-Sheng and Councilmember Van Vrancken. Thom helped lead research and analysis, planning, and urban design of the Jefferson Parish Smart Growth Plan in Old Metairie and Gretna, the Yenni Building Parking Lot Feasibility Study in Elmwood, and Bayou Metairie Park.

TEC Professional Services Questionnaire

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

PROJECT NO. 1

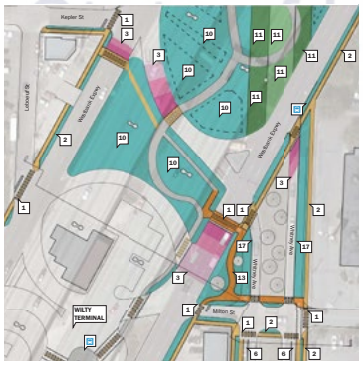
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Greater New Orleans Urban Water Plan Location: East Bank of Jefferson & Orleans Parishes, and St. Bernard Parish, Louisiana Owner's contact information: Angela Lawson State of Louisiana Office of Community Development, Disaster Recovery Unit 225.219.9600	 Waggonner & Ball Led a multidisciplinary, international team of experts to study and research layered systems of infrastructure and resilience to propose foundational, comprehensive, and sustainable stormwater management strategies and pilot projects for implementation at a range of scales across the New Orleans metro area, including the East Bank of Jefferson Parish, along with community engagement. This effort is the first regional plan of its kind in the United States, and has shifted the local approach to water management at all scales.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
2013	Total fee: $2,239,500	Waggonner & Ball fee: $1,001,400

PROJECT NO. 2

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
LA SAFE (Louisiana's Strategic Adaptations for Future Environments) Location: Jefferson, Lafourche, Plaquemines, Terrebonne, St. John the Baptist & St. Tammany Parishes, Louisiana Owner's contact information: Matthew Sanders Former Resilience Policy & Program Admin, State of Louisiana Office of Community Dev't. The Pew Charitable Trusts 202.540.6716	 Waggonner & Ball developed a successful HUD NDRC application with the State of Louisiana, awarded $92 million in 2016, to fund this regional planning effort. The firm served as lead resilience planner and urban designer for the strategy. Scope included regional GIS analysis and mapping of physical, economic, social and political layers, visualization of regional planning concepts, concept design of multiple pilot projects in all 6 parishes, development of parish-scale adaptation frameworks and 50 year resilient vision plans, participation in community engagement process, and production of 7 final reports.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
2018	Total fee unknown; Waggonner & Ball served as subconsultant	Waggonner & Ball fee: $961,165

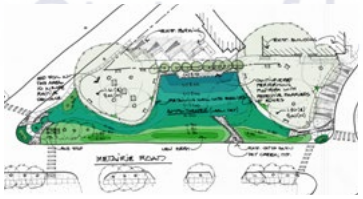
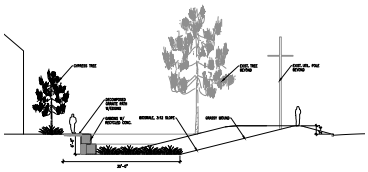
TEC Professional Services Questionnaire

PROJECT NO. 3		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility**	
Gretna City Park Location: Gretna, Louisiana Owner's contact information: Amelia Pellegrin, AICP Director of Planning and City Development City Of Gretna 504-363-1568	 Gretna City Park's appearance and function is defined by water, and upgrades are designed to celebrate this important asset. This project is the first pilot from LA SAFE to begin construction. The landscape design approach starts with stormwater and layers on improvements to access, passive recreational opportunities, and habitat & water quality. Space is created in the 80-acre park for stormwater storage now, with capacity that serves as an enabling project for future flood mitigation. The project is currently under construction.	
Completion Date (Actual or estimated)	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Ongoing; Summer 2022 anticipated	Estimated construction cost: Approximately $5.1M	Waggonner & Ball fee: $554,321

PROJECT NO. 4		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Jefferson Parish Smart Growth Planning Location: Metairie and Gretna, Louisiana Owner's contact information: Matt Rufo, AICP Former Planner, GCR, Inc. Principal, Asakura Robinson 504-300-0830 Waggonner & Ball served as a subconsultant to GCR, Inc., who contracted directly with the Regional Planning Commission.	 Smart Growth planning studies for two existing commercial districts include a portion of Metairie Road and the area around Oakwood Center in Gretna. The studies link improvements for increased pedestrian, cyclist, and driver safety along with cutting edge stormwater management that references local hydrology and geology. The process uncovers opportunities for resilient redevelopment and creating community identity by strengthening the existing character and sense of each place. Both project area studies included well-attended public meetings.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
2015	Total fee unknown; Waggonner & Ball served as subconsultant	Waggonner & Ball fee: $28,000

TEC Professional Services Questionnaire

PROJECT NO. 5		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Yenni Building Parking Lot Feasibility Study Location: Elmwood, Louisiana Owner's contact information: Joe Sensebe, PE Project Manager Arcadis 504-648-3601 joseph.sensebe@arcadis.com Waggonner & Ball served as a subconsultant to Arcadis, who contracted directly with Jefferson Parish.	  Waggonner & Ball led the urban design to study and provide a clear path for the redevelopment of the existing Jefferson Parish government offices site into a demonstration of innovative green infrastructure, symbolizing a commitment to rethinking public space and infrastructure. Options to reconstruct and renovate the parking lot show a range of approaches to site design, landscape, and water management. This effort builds upon a conceptual design to reimagine the Elmwood district, first proposed in Waggonner & Ball's Greater New Orleans Urban Water Plan.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
2016	Total fee unknown; Waggonner & Ball served as subconsultant	Waggonner & Ball fee: $27,000

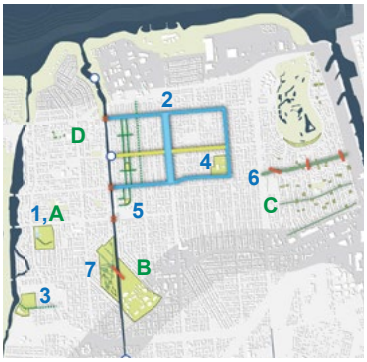
PROJECT NO. 6		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Bayou Metairie Park Location: Metairie, Louisiana Owner's contact information: Joe Sensebe, PE Project Manager Arcadis 504-648-3601 joseph.sensebe@arcadis.com Waggonner & Ball served as a subconsultant to Arcadis, who contracted directly with Jefferson Parish.	  Waggonner & Ball led urban design for this site, a publicly owned right of way where the former Bayou Metairie once flowed but was later filled in. The goal is to create a park that functions again as a piece of visible water infrastructure, and become a beautiful landscape when wet or dry. Stretching one block in a historic commercial district, the goal of the park is to slow down and temporarily hold onto stormwater that regularly floods a primary roadway next to the site. When dry, the park serves as a community gathering space. The project was put on hold after design.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
2017	Total fee unknown; Waggonner & Ball served as subconsultant	Waggonner & Ball fee: $33,000

TEC Professional Services Questionnaire

PROJECT NO. 7		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Greater New Orleans Foundation Center for Philanthropy Location: New Orleans, Louisiana Owner's contact information: Andy Kopplin CEO Greater New Orleans Foundation andy@gnof.org 504.598.4663	 The design of this headquarters for New Orleans' premier community foundation is a reflection of the institution's mission of creating a healthier, more vibrant community. Located on a small urban site, the courtyard is a case study in urban water management that is integrated with the architecture. This green infrastructure system captures the first 10 inches of rain that falls on the site before a drop enters the city drainage system. Water flows off the roof into a cistern, and pervious pavers and asphalt parking stalls slow down and infiltrate water, which also flows into rain gardens.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
2016	Construction cost: $9.1M	Waggonner & Ball fee: $727,000

PROJECT NO. 8		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Lafitte Greenway Sustainable Water Design Location: New Orleans, Louisiana Owner's contact information: Sophie Harris Vorhoff Executive Director Friends of Lafitte Greenway sophie@lafittegreenway.org	 Waggonner & Ball designed strategies for sustainable water management within the Lafitte Greenway, a 3 mile long trail with adjacent public space that runs through New Orleans. The approach of retaining and storing, then draining, storm water builds on the innovative Dutch Dialogues® workshops that the firm led. Public spaces are shaped around water zones that supplement existing drainage infrastructure while cleaning runoff and recharging groundwater. This network functions as part of a large scale, citywide circulating water system.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
2011	Total fee: $40,000	Waggonner & Ball fee: $40,000

TEC Professional Services Questionnaire

PROJECT NO. 9		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Gentilly Resilience District Location: New Orleans, Louisiana Owner's contact information: Mary Kincaid Sustainable Infrastructure Program Manager City of New Orleans 504.941.0048	 Waggonner & Ball is leading the Gentilly Resilience District planning, working with the City of New Orleans to guide implementation of multiple concurrent projects. This builds on the work the firm led with the City of New Orleans in 2015 on its National Disaster Resilience Competition application, awarded $141 million. The firm leads visioning, goal setting, and criteria development for a diverse coalition of public and private stakeholders, a creative engagement process, GIS analysis and mapping, and engaging technical experts for groundwater and H&H modeling.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Ongoing	Owner was awarded $141.0 M from the US Department of Housing and Urban Development for all project planning, design, and implementation.	Waggonner & Ball fee: $1,364,600

PROJECT NO. 10		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Mirabeau Water Garden Location: New Orleans, Louisiana Owner's contact information: Mary Kincaid Sustainable Infrastructure Program Manager City of New Orleans 504.941.0048	 Waggonner & Ball is leading the design and implementation of a campus that demonstrates best practices for water management in a low-lying, vulnerable neighborhood. The 25-acre project builds upon design work from the Greater New Orleans Urban Water Plan to add value by alleviating flooding and subsidence. Combining conventional engineering and nature-based features will divert stormwater from the city's drainage system and runoff, and store and clean the water as it flows through the landscape. The project is FEMA-funded with a BCA process.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Ongoing; Bidding anticipated Summer 2022	Funds available for construction: $12.5M	Waggonner & Ball fee: $1,315,800

TEC Professional Services Questionnaire

PROJECT NO. 11		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Lakeview-City Park Drainage Improvements Location: New Orleans, Louisiana Owner's contact information: Meg Adams Director of Environmental Stewardship New Orleans City Park madams@nocp.org 504.483.9362	 Waggonner & Ball leads the planning and design of this HMGP-funded effort in New Orleans City Park to alleviate flooding in adjacent neighborhoods and create improved recreational and ecological amenities within the park. A green infrastructure network enhances existing lagoons in the park to store stormwater, and relieves pressure on the existing drainage system. Community engagement includes well-attended public meetings. In 2014 the firm, with Deltares, developed a proposal submitted to FEMA that led to the funding of this current project.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Ongoing	Estimated construction cost: Approximately $20.0M	Waggonner & Ball fee: $342,600

PROJECT NO. 12		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Downtown Stormwater Opportunities Plan Location: New Orleans, Louisiana Owner's contact information: Andy Kopplin CEO Greater New Orleans Foundation andy@gnof.org 504.598.4663	 The study focuses on chronic flooding in the dense urban core, and is the next step towards a holistic and resilient model for improving water management and alleviating flooding in the economic heart of New Orleans. The team identified constraints and opportunities by looking at built form, land use, streets and network elements, to lessen flooding and improve urban conditions. Design process included H&H stormwater modeling to show the impacts of proposed urban design interventions on flood reduction in each of the two priority areas.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
2021	Total fee: $60,000	Waggonner & Ball fee: $45,000

TEC Professional Services Questionnaire

PROJECT NO. 13		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Resilient Hampton Location: Hampton, Virginia Owner's contact information: Terry O'Neill Director of Community Development City of Hampton 757.727.6140	 Waggonner & Ball is leading Resilient Hampton, which builds upon the earlier Dutch Dialogues Virginia workshop. This broad, comprehensive, and long term strategy values existing assets while planning for future adaptation. A framework of principles, goals, and values developed from place-driven analysis, including public workshops and community meetings. Pilot projects include transforming a ditch into a linear park, elevating a roadway in conjunction with green infrastructure, and retrofitting a detention pond. These projects are funded through an innovative environmental impact bond (EIB), and are advancing toward construction.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Ongoing	Funds available for construction: $12.0M	Total Waggonner & Ball fee, all phases: $599,000

PROJECT NO. 14		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
National Disaster Resilience: **Norfolk Ohio Creek Watershed Planning** Location: Norfolk, Virginia Owner's contact information: Kyle Spencer Deputy Chief Resiliency Officer City of Norfolk 757.441.2602	  Waggonner & Ball is leading the planning, urban design, and architecture, designed to reduce risk from nuisance flooding and coastal inundation for a historic neighborhood along a river. The 255-acre project is organized into three integrated strategies: coastal storm surge and sea level rise defense, stormwater management, and connectivity to downtown with recreational amenities. The plan includes a levee and living shoreline, a constructed wetland for stormwater storage, the redevelopment of a public park for amenities and stormwater, drainage conveyance upgrades, and two stormwater pumping stations. Construction is in progress.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Ongoing	Estimated construction cost: $112.0M	Waggonner & Ball fee: $2,313,000

TEC Professional Services Questionnaire

M. List all prior and/or on-going litigation between Firm and Jefferson Parish. Please attach additional pages if necessary.

Parties:		Status/Result of Case:
Plaintiff:	**Defendant:**	
1. N/A	N/A	N/A
2.		
3.		
4.		

N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.

Gretna City Park pavilion construction.

Norfolk National Disaster Resilience Ohio Creek Watershed Project construction.

Waggonner & Ball is a broad-based architecture and environment design firm with 47 years of continuous experience. We have designed award winning resilience planning, urban design, and architecture projects throughout Louisiana with a range of public sector clients at the federal, state, and municipal levels. We bring a unique ability to facilitate best practices and knowledge sharing through our planning process, from Louisiana to across the country and around the world. Our firm initiated and continues to maintain multidisciplinary Dutch Dialogues collaborations on resilience planning and water management, from the Gulf Coast to the East Coast.

Our staff have a wide range of planning and urban design expertise that uniquely qualify us to work across scales and disciplines, such as site design and green infrastructure, and creative community engagement. Waggonner & Ball stays up to date on cutting edge technology, using the best software programs to supplement our hand drawing and workshops.

We have over four decades of experience in working with government and institutional partners on a range of project scales, budgets, and timelines. We see ourselves as investment advisors for our clients to help steward resources to their best long term use. Our work for public sector clients includes collaborations with Jefferson and St. Bernard Parishes, the City of New Orleans, States of Louisiana, Virginia, and Connecticut, and the federal government, from planning to construction.

O. To the best of my knowledge, the foregoing is an accurate statement of facts.

Signature: _____ **Print Name:** J. David Waggonner, III

Title: Principal/Owner **Date:** 14 April 2022

Batture, LLC

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant
Resolution Number: 139147; SOQ 22-016

B. Firm Name & Address where Project work will be performed:

Batture, LLC
5110 Freret Street
New Orleans, LA 70115

C. Name, title and contact information of Principal, as defined in Section 2-926 of the Jefferson Parish Code of Ordinances, who is a registered, licensed architect, professional engineer, or surveyor in the State of Louisiana:

Robert Mora, PE, PLS
Managing Partner
Phone: 504-261-7143
Email: bmora@batture-eng.com

D. Name and contact information of employee who is a registered and licensed architect, professional engineer, or surveyor in the State of Louisiana in the applicable discipline. A subcontractor may be substituted here only if the advertised Project requires more than one discipline.

Robert Mora, PE, PLS
Managing Partner
Phone: 504-261-7143
Email: bmora@batture-eng.com

E. Please provide the number of employees whose primary function corresponds with each category:

4 Administrative	___ Estimators	___ Specification Writers
___ Architects (Licensed)	___ Geologists	2 Structural Engineers
___ Chemical Engineers	___ Geotechnical Engineers	___ Graduate Engineers
4 Civil Engineers	___ Interior Designers	___ Project Managers
2 Construction Inspectors	1 Landscape Architects	___ Clerical
1 Ecologists	4 Land Surveyor	___ Grant/Funding Specialist
___ Electrical Engineers	___ Mechanical Engineers	___ Sanitary Engineers
8 Engineer Intern	___ Environmental Engineers	
1 Professional Land Surveyors		27 **TOTAL**

F. Is this submittal by a JOINT-VENTURE? Please check: YES [ ] NO [✔]

If marked "No" skip to Section I. If marked "yes" complete Sections G-H.

TEC Professional Services Questionnaire

G. If submittal is by JOINT-VENTURE, list the firms participating and outline specific areas of responsibility (including administrative, technical, and financial) for each firm. Please attach additional pages if necessary.

1.

N/A

2.

N/A

H. Has this JOINT-VENTURE previously worked together? Please check:
YES ☐ **NO** ☐

I. List all subcontractors anticipated for this Project. Please note that all subcontractors must submit a fully completed copy of this questionnaire, applicable licenses, and any other information required by the advertisement. See Jefferson Parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.

Name & Address:	Specialty:	Worked with Firm Before (Yes or No):
1. N/A		
2. N/A		
3. N/A		

J. Please specify the total number of support personnel that may assist in the completion of this Project:

10

TEC Professional Services Questionnaire

K. List the professional in charge, key persons, specialists, and individual consultants anticipated for this Project and provide their relevant information below. If necessary, please attach additional documentation (i.e. resume) that demonstrates the employment history and experience of the Firm's key persons that may assist in the completion of this Project. Please attach additional pages if necessary.

PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

Robert Mora, PE, PLS
Managing Partner

Project Assignment:

Professional Land Surveyor/ Professional in Charge of Project

Name of Firm with which associated:

Batture LLC

Years' experience with this Firm:

6 years

Education: Degree(s)/Year/Specialization:

B.S./2003/Civil Engineering

Active registration: Year first registered/discipline:

2009/LA Civil Engineering PE/35109
2010/Land Surveying PLS/5042

Other experience and qualifications relevant to the proposed Project:

Mr. Mora has 19 years of experience providing professional land surveying and civil design services on projects for private developers and municipalities. He has successfully managed and completed projects for entities such as the Sewerage and Water Board of New Orleans, City of New Orleans Department of Public Works, Regional Planning Commission, LaDOTD, CPRA, Jefferson Parish, St. Bernard Parish, Orleans Levee Board, and Army Corps of Engineers. Additionally, Mr. Mora has extensive experience with construction management/administration and project management.

Mr. Mora has worked on a number of surveying jobs that require extensive title research and understanding of property deeds, including boundary surveys, ALTA surveys, and route surveys.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Roderick Richardson
Survey Operations Manager

Project Assignment:

Survey Operations Manager

Name of Firm with which associated:

Batture LLC

Years' experience with this Firm:

2 years

Education: Degree(s)/Year/Specialization:

B.S./2003/Architectural Engineering

Active registration: Year first registered/discipline:

Pursuing PLS License

Other experience and qualifications relevant to the proposed Project:

Roderick (Rod) Richardson is Survey Operations Manager at Batture LLC, overseeing project management, surveying, and drafting for land surveying projects. When he joined the team in 2020, he had 18 years of surveying and drafting experience at a New Orleans engineering, architecture, and land surveying firm. He has experience with a variety of programs, including AutoCAD, Carlson Survey, Leica GEO and Carlson Xport. His experience in rural, coastal, and urban settings has afforded Rod with an extensive knowledge of most surveying equipment and the skill of performing surveying tasks through the use of boats and ATV's. Mr. Richardson has completed surveying and drafting tasks for commercial and residential clients; organizations such as LaDOTD, the Orleans Levee Board, and USACE; and city/local municipalities.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Jennifer Snape, PE
Managing Partner

Project Assignment:

QAQC

Name of Firm with which associated:

Batture LLC

Years' experience with this Firm:

5 years

Education: Degree(s)/Year/Specialization:

Master's Certificate/2012/Coastal Engineering
B.S./2004/Civil Engineering

Active registration: Year first registered/discipline:

2010/LA Civil Engineering PE #35470

Other experience and qualifications relevant to the proposed Project:

Ms. Snape has 20 years of project experience including the design of municipal infrastructure, including water distribution systems and sanitary sewer systems; coastal erosion protection systems; structural design; civil site design for sites ranging from less than an acre to over 1000 acres; hydrologic and hydraulic modeling; stormwater management plans for urban, rural, and coastal systems; environmental consulting and due diligence studies; and permitting through federal, state, and local agencies. She has successfully managed and delivered projects for private and public clients, including the City of New Orleans, Sewerage & Water Board of New Orleans, Plaquemines Parish, St. Bernard Parish, St. Tammany Parish, and others. At Batture LLC she manages civil and structural engineering projects.

TEC Professional Services Questionnaire

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

PROJECT NO. 1

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
City of New Orleans / DPW Streets Projects New Orleans, Louisiana City of New Orleans DPW Louis Haywood louis.haywood@nola.gov 504-658-8000 1300 Perdido Street Suite 6W03 New Orleans, LA 70112	Batture has been successfully providing land surveying and civil engineering services on City of New Orleans/Department of Public Works projects since 2016. Surveying work is completed in accordance with the DPW standards for street surveys. Drawings include vertical and horizontal project control points, plan & profile drawings, and cross sections. Batture utilized contacts with local utility agencies to plot underground utilities located within the street right-of-way. The majority of these projects are Recovery Roads and Hazard Mitigation projects. They were performed as a subconsultant to firms such as: Greenpoint Engineering, CDM Smith, Design Engineering Inc, Stantec, and Digital Engineering.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
On-going	N/A	$300,000 - $500,000 (annually)

PROJECT NO. 2

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Lakeview City Park Drainage New Orleans, Orleans Parish, LA City of New Orleans Mary Kincaid 1300 Perdido St New Orleans, LA 70112 (504) 658-8048 mkincaid@nola.gov	As prime consultant, Batture is overseeing all professional design and construction administration services for the FEMA HMGP-eligible project site. The project is located in City Park north of the I-610 and explores how the park might be used to manage stormwater and mitigate flooding in the surrounding neighborhoods. Batture performed an extensive topographic and utility survey of the park including surveys of the water bodies and lagoons, water bottoms, and utility conditions. In addition to project management and surveying, Batture is providing engineering design, H&H modeling, water quality monitoring, habitat assessments, tree identification, and construction administration services. Plans and specifications for the project site may include the following design features: large retention/detention basins, street basins, streetside bioswales, streetscapes, green alleyways, and green infrastructure improvements.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Design - Estimated February 2022 Construction - Estimated April 2023	$15,828,879 (Construction) $1,606,245 (Consulting)	$890,000 (Estimated)

TEC Professional Services Questionnaire

PROJECT NO. 3		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility**	
LA SAFE Gretna Resilience District Kickstart Ph. I Gretna, Louisiana City of Gretna Matthew Martinec PO Box 404 Gretna, LA 70054 (504) 363-1568 mmartinec@gretnala.com	This phase of the project focused on Gretna City Park, an existing public space that occupies nearly 100 acres in the center of the City of Gretna. The existing amenities are focused primarily on passive use with lots of open space, an existing retention pond, forested areas, and some pathways connection to limited parking areas. The primary goals of the project were to address localized flooding and repetitive loss in the district, provide additional parking, repair existing structure on site, designate pedestrian routes, expand and enhance the existing pond system, and improve water quality. Batture was responsible for topographic and utility surveying of the property, all H&H modeling (and surveying of lagoons associated with the modeling); structural engineering; civil site design and grading; stormwater management design; habitat assessments; sedimentation and erosion control; and some cost estimation for the project.	
Completion Date (Actual or estimated)	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
September 2020	$5,605,000	$20,397.00 (Programming Phase) $165,100.00 (Design Phase)

PROJECT NO. 4		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Fleming Construction Surveying Services Jefferson Parish, Louisiana Fleming Construction Joe Malley 23 E. Airline Hwy Kenner, LA 70062 504.641.3967 jmalley@flemco.net	Batture LLC has provided land surveying and engineering support (including construction surveying and drafting) to Fleming Construction on infrastructure projects including water, sewer, drainage, and roadway work since our founding. Our role is to verify existing survey data and construction drawings prior to Fleming mobilizing to the site. During construction, Batture provides layouts of the features to be built. Project deliverables consist of field notes, survey data, and drawings. Projects in Jefferson Parish have included Lynette and Shirley Sewer Lift Station, Improvements to N. Lester Ave. at Canal No. 5, Improvements of Existing Alexis Drive Lift Station, Willowbrook Drive Drainage Improvements Phase II, River Road Waterline Replacement - Ph. II, Improvements to Sewage Lift Station M-12-1A, Maplewood Drive/Pailet Street Drainage Improvements, and Sibley & W. Napoleon Upgrades.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Ongoing	N/A	Varies by project

TEC Professional Services Questionnaire

PROJECT NO. 5		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Stage 0/Stage 1 Feasibility Study: Causeway Boulevard at US 90/Jefferson Highway Jefferson, Jefferson Parish, LA Regional Planning Commission Jeffrey W. Roesel, Executive Director 10 Veterans Boulevard New Orleans, LA 70124 (504) 483-8500 rpc@norpc.org	Batture, LLC is assisting Design Engineering, Inc. in generating the Stage 0/Stage 1 report for the improvement of the Causeway Boulevard/Jefferson Highway interchange to accommodate additional traffic from the Ochsner Hospital expansion. The Stage 0 identified various alternatives and potential utilities, environmental constraints, or other issues that could influence the concept's feasibility, timing, and impact on the physical, natural, and human environment. Batture produced the "Environmental Impacts" report section, including DOTD's Stage 0 Environmental Checklist. Batture will provide environmental and surveying services including right-of-way surveying and identify any conflicting issues present for the revised Stage 0 and Stage 1. The project began in January of 2018.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
December 2020	N/A	$152,875

PROJECT NO. 6		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
St. Anthony Green Streets - Programming and Design New Orleans, Louisiana City of New Orleans DPW Stephanie Dreher stephanie.dreher@nola.gov 504-658-8000 1300 Perdido Street Suite 6W03 New Orleans, LA 70112	Batture, LLC is leading the design team for this project , part of the Gentilly Resilience District. The goal is to create a network of small green infrastructure improvements that will capture water where it falls, reduce runoff flowing into the city's drainage system, infiltrate stormwater, and reduce flooding. We are working to improve stormwater management and reduce flood risk and subsidence, empower residents to participate in adapting their block and neighborhood parks to manage water and build resilience, enhance social cohesion and community well-being, and develop a replicable model for block-by-block strategies for stormwater management and community resilience across the city. Batture is the prime consultant for this project, overseeing all street design and performing all surveying tasks within the project.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Ongoing	$13,400,000	$1,640,000

TEC Professional Services Questionnaire

PROJECT NO. 7		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Blue & Green Corridors City of New Orleans New Orleans, Louisiana Dan Grandal Stantec Consulting Services, Inc. 1340 Poydras Street, Suite 1420 (504) 654-1758 dan.grandal@stantec.com	The Blue & Green Corridors project is part of the Gentilly Resilience District. Batture was a sub on this groundbreaking resilience and drainage/water management project that aims to transform major boulevards in Gentilly. The large neutral grounds on the major streets in Gentilly present a unique opportunity to construct a network of stormwater management features and multimodal connections. Batture is providing topographic and right-of-way surveys, civil design and landscape architecture on this project. Additionally, this project served to deepen our knowledge of complete street design principles by working side by side with industry experts.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
2022	$45,000,000	$374,053

PROJECT NO. 8		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
District 5 Project Development Jefferson Parish, Louisiana Jefferson Parish Michelle Gonzales (504)736-6653 mgonzales@jeffparish.net	Batture was chosen by Jefferson Parish to provide coastal engineering and consulting services on an as-needed basis to identify projects located throughout the parish that would benefit Jefferson Parish and District 5. Our senior biologist is working alongside the Coastal Management Director and District 5 staff to pursue potential funding mechanisms in support of the Parish's coastal interests. The project scope includes coastal planning & design, mapping, CAD support, and bidding. We will provide cost benefit analyses, meeting support and collaboration, design drawings, and cost estimates. Additional responsibilities include project start up, project coordination, reporting, and invoicing. The project manager submits monthly project reports and attends all pertinent project and grant meetings	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Estimated August 2022	$30,000	$30,000

TEC Professional Services Questionnaire

PROJECT NO. 9		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Hoey's Basin Jefferson Parish, Louisiana Aquaterra-CAYO Doug Bryan 1400 Everman Pkwy, Ste 127 Fort Worth, TX 76140 (309) 303-4964	Batture's scope of work for this surveying project included elevations of house and building slabs, driveway pavement, sidewalks, golf courses, and paving elements in street sections within 500' of the project site. Services included pre-construction and post-construction cross sections, verification of project control and setting off on-site control, As-Built drafting support, and preparation of drawings for RFIs. Total stations, GPS, and differential leveling were used to perform field work. Project deliverables consisted of field notes, survey data, and drawings.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Fall 2017	$4,000,000	$30,000

PROJECT NO. 10		
Project Name, Location and Owner's contact information:	**Nature of Firm's Responsibility:**	
Dillard Wetlands New Orleans, Louisiana Freese & Nichols Nina Reins 900 Camp Street, Suite 354 504-478-1065 nina.reins@freese.com	The Dillard Wetland is a 27-acre parcel of forested low-lying land on the west side of the London Canal opposite of Dillard University and is one of the last remaining parcels of forest within city limits. The Greater New Orleans Water Plan envisaged the Dillard Wetlands as providing a retreat from urban life. The existing low-lying area would be nourished by an influx of stormwater from the surrounding neighborhoods, supporting a healthy wetland ecosystem. Batture is sub-consultant to Freese and Nichols. We provided surveying services for Phase I of the project, including boundary survey, topographic survey, and tree identification/assessments. In Phase II, we are providing landscape architecture services, design analysis and reports, civil engineering, H&H modeling, and structural engineering.	
Completion Date (Actual or estimated):	**Estimated Cost:**	
	Entire Project:	**Work for which Firm was Responsible:**
Estimated August 2022	N/A	$236,676

TEC Professional Services Questionnaire

M. List all prior and/or on-going litigation between Firm and Jefferson Parish. Please attach additional pages if necessary.

Parties:		Status/Result of Case:
Plaintiff:	**Defendant:**	
1. N/A		
2. N/A		
3. N/A		
4. N/A		

N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.

Established in 2014, Batture LLC is a Louisiana-based land surveying firm and civil engineering firm specializing in drainage & utility design, hydraulic/hydrodynamic modeling, land surveying, site development, environmental research, civil site design, and construction management. Our company is a certified Disadvantaged Business Enterprise (DBE) and a Small Entrepreneurship (Hudson Initiative), dedicated to the progress and protection of Southeast Louisiana. The highly-diversified team of Batture LLC possesses a wide range of professional knowledge. Most of the work that we do is centered around infrastructure, open space development, and housing, with projects ranging from residential jobs to large neighborhood-wide green infrastructure projects. Batture LLC has successfully completed projects for many local and government agencies, including Jefferson Parish, Lakefront Management Authority, City of New Orleans, Sewerage & Water Board of New Orleans, City of N.O. Department of Public Works, City of N.O. Network for Economic Opportunity, Port of N.O., St. Bernard Parish, and others. The team at Batture prides itself on maintaining excellent communication with clients and delivering projects that improve the livelihood of communities.

O. To the best of my knowledge, the foregoing is an accurate statement of facts.

Signature: _____ **Print Name:** Robert Mora

Title: Managing Partner **Date:** 04/13/2022

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Office of the Secretary
PO Box 94245 | Baton Rouge, LA 70804-9245
PH: 225-379-1200 | FX: 225-379-1851

John Bel Edwards, Governor
Shawn D. Wilson, Ph.D., Secretary

February 2, 2022

Batture, LLC.
Attn: Jennifer Snape
5110 Freret Street
New Orleans, LA 70115

Dear Jennifer Snape:

The Louisiana Department of Transportation and Development (LADOTD) have received your firm's Disadvantaged Business Enterprise (**DBE**) and Small Business Element **(SBE)** annual affidavit. Based on the information, which you provided, it has been confirmed that your firm continues to meet the eligibility requirements of our program and remains certified for **only** the following **specific** work categories **that fall under the listed NAICS and/or DOTD Work codes**:

NC541330- Engineering Services
C05- Structural Engineering
C06- Land Surveying
C09- Civil Engineering
C74- Construction Management

Please note that per the federal regulations, suppliers only receive 60% goal credit towards the materials they provide. Also, note that any contractor performing work in excess of $50,000 with the exception of electrical, mechanical and plumbing requires A Louisiana Contractor's License, which are required to have a license if work is in excess of $10,000. You may contact the State Licensing Board for Contractors at (225) 765-2301 for more information. All participants of the Louisiana Unified Certification Program will recognize your firm's certification. This includes all entities receiving federal transportation funding within the boundaries of our state.

You will be required to submit an annual affidavit with all supporting documents (**Business taxes with all attachments, such as 1098, 1099, K-1's and/or W-2's**) stating your firm continues to meet the eligibility requirements of the program. An email informing you to submit the necessary documentation will be forwarded to you approximately six (6) weeks prior to your anniversary date of **January 31, 2023.** However, should you not receive notification from this office for your annual affidavit; it is your responsibility to contact us. Additionally, you must notify our office immediately regarding any changes, which affect the social and economic disadvantage, size, ownership or control of your firm.

The LADOTD has contracted with Urban League of Louisiana Center for Entrepreneurship & Innovation to provide DBE Supportive Services to all certified DBEs, in the LAUCP, at no cost to you. This consultant can offer your firm assistance and guidance on areas such as marketing, estimating, bidding, financial preparations, etc. Contact Klassi Duncan with Urban League of Louisiana Center for Entrepreneurship and Innovation at (504) 620-9647 for any assistance needed to grow your organization.

We reserve the right to withdraw this certification, if at any time, it is determined that **DBE and SBE** certifications was knowingly obtained by the submission of false, misleading or incorrect data. We further reserve the right to request additional information and/or conduct an on-site visit at any time during your certification period.

We are pleased to have you as a participant in the LAUCP and wish you much success.

If you have any questions regarding the content of this letter, contact the LADOTD DBE Certification Unit at (225) 379-1382.

Respectfully,

Rhonda Wallace

Rhonda Wallace

DBE/SBE Programs Manager

LOUISIANA UNIFIED CERTIFICATION PROGRAM

Disadvantaged Business Enterprise Program (DBE)

Small Business Element (SBE)

This is to certify that under Title 49, Part 26 of the Code of Federal Regulations & under the State of Louisiana United Certification Program (LAUCP)

Batture, LLC.

Is a Certified Disadvantaged Business Enterprise (DBE) & Small Business Element (SBE) in the following specialties:

NC541330

NOTE: There may be other approved NAICS Codes. The online DBE Directory includes a complete list of approved codes.

Certificate Eligibility: January 2022 to January 2023

This certificate is valid through the above date provided. This firm meets the on-going programmatic standard and fulfills the annual update requirement to remain in good standing as a DBE. This certification is subject to annual verification and suspension or revocation based upon reasonable cause to believe that the firm is ineligible.

Rhonda Wallace

Rhonda Wallace, DBE/SBE Programs Manager

Louisiana Department of Transportation & Development


Stantec