

Request for Qualifications to Provide

**PROFESSIONAL DESIGN SERVICES FOR
CITYWIDE VULNERABILITY ASSESSMENT
AND ADAPTATION PLAN**

CM 18-013

Atkins, Member of the SNC Lavalin Group
3250 W. Commercial Blvd. Suite 120
Fort Lauderdale, Florida 33309
(954) 733 7233

Jack Hampson, CFM, MSc
David Bannett, PE, LEED AP

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Letter of Transmittal



June 7, 2018

**Atkins, A member of the
SNC Lavalin Group**
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Mr. Terrence Comiskey, A.I.A.

Department of Development Services
Architectural & Urban Design Division
2600 Hollywood Boulevard – Room 308
Hollywood, FL 33022

**Re: CM 18-013, Professional Design Services for Citywide Vulnerability Assessment
and Adaptation Plan**

Dear Mr. Comiskey and Selection Committee Members:

Atkins is pleased to submit the attached proposal, where we draw on both our strength as the largest A&E firm in Florida and our global strengths as a top ten A&E firm. Atkins has been a leader in integrated, adaptive approaches to climate resilience since the release of our Future Proofing Cities report in 2012.

Our full range of disciplines and expertise is combined here with the expertise of our strong local knowledge – much of the team is out of Fort Lauderdale -- and the local knowledge of our subconsultants: Brizaga (Climate Adaptation Outreach) and Collective Water Resources (Climate Adaptation Engineering). Our offering is further augmented by the national reputation of The Nature Conservancy and their Community Resilience Building (CRB) outreach template. This template has been successfully applied in 100's of cities to build consensus on resilience actions, and will be facilitated by its designer Adam Whelchel, PhD. Our team of experienced professionals, with education credentials from MIT, Georgia Tech, Princeton and University of Florida, to name a few, have worked together before and are excited to have this opportunity to bring a fresh and innovative approach to help Hollywood plan for climate adaptation in harmony with a clearly informed community.

As a local firm, we have participated in and followed the ongoing efforts of the City, its communities, and the region to address the issues of climate change. We expect to bring this work to bear along with our unique experience and tool set to ensure innovative and workable strategies with convincing community-approved metrics that help clearly define the right choices for everyone to understand.

Atkins has assembled a multi-discipline team of women and men from across a wide array of disciplines inside Atkins as well as our trusted-partner subconsultants. We offer the City a combination of high-level advisors; plus, a team of expert engineers, scientists, planners, life-cycle value analysts, GIS analysts, and communicators. Our leadership team offers uniquely broad experience and background for cross-discipline thinking and organization, combined with a local presence. Critically, Atkins offering also incorporates our proven geospatial tool, City Simulator© that will serve as the platform to organize, evaluate, and present the combined interactions and cross-system impacts, both positive and negative, of basin-specific adaptation scenarios on economic health, and the tax base.

This team offers the City exactly that extension to their staff needed to build an adaptation plan that is another model for the world; tailored not just to the City; but to individual basins, environments, political realities, tax bases, and the expectations of the insurance and financial industries -- "A strategy that is uninsurable is not really a strategy and won't attract capital investment".

But in the end, the Atkins team only becomes complete when combined with the experience, insights and collaborative spirit of the City staff, with whom we would greatly enjoy working.

Sincerely,



Jack Hampson, Project Director

813.785.5898

email
jack.hampson@ATKINSGLOBAL.COM

INSURANCE REQUIREMENTS

The insurance policy shall not contain any exceptions that would exclude coverage for risks that can be directly or reasonably related to the scope of goods or services in this bid/proposal. A violation of this requirement at any time during the term, or any extension thereof shall be grounds for the immediate termination of any contract entered in to pursuant to this bid/proposal. In order to show that this requirement has been met, along with an insurance declaration sheet demonstrating the existence of a valid policy of insurance meeting the requirements of this bid/proposal, the successful proposer must submit a signed statement from insurance agency of record that the full policy contains no such exception.

The City reserves the right to require additional insurance in order to meet the full value of the contract.

The City reserves the right to require any other insurance coverage it deems necessary depending upon the exposures.

HOLD HARMLESS AND INDEMNITY CLAUSE:

Atkins North America, Inc.  Charlotte Maddox, Vice President
(Company Name and Authorized Signature, Print Name),

the contractor shall indemnify, defend and hold harmless the City of Hollywood, its elected and appointed officials, employees and agents for any and all suits, actions, legal or administrative proceedings, claims, damage, liabilities, interest, attorney's fees, costs of any kind whether arising prior to the start of activities or following the completion or acceptance and in any manner directly or indirectly caused, occasioned or contributed to in whole or in part by reason of any act, error or omission, fault or negligence whether active or passive by the contractor, or anyone acting under its direction, control, or on its behalf in connection with or incident to its performance of the contract.

Atkins North America Inc.  Charlotte Maddox, Vice President
(Company Name and Authorized Signature, Print Name),

further certifies that it will meet all insurance requirements of the City of Hollywood and agrees to produce valid, timely certificates of coverage.

OTHER CONSIDERATIONS

Copies submitted may not be viewed until thirty (30) days after opening date or notice of intent to award is posted.

Standard Forms 330

Part I

| | | | |
|---|---|----------------------|----------------------------|
| 12. NAME John C. "Jack" Hampson, CFM, MSc | 13. ROLE IN THIS CONTRACT Project Manager | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 26 | b. WITH CURRENT FIRM 18 |

15. FIRM NAME AND LOCATION (City and State)
Atkins, a Member of SNC Lavalin Group; Tampa, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)
AB Geology and Geophysics (Princeton); MSc Marine
Geology and Geophysics (Univ of Rhode Island GSO)

17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
Jack Hampson has 26 years of experience applying infrastructure and transportation design experience, geology, water resources, FEMA flood risk program management, coastal resilience, life cycle asset management and GIS to decision support for infrastructure and water resources. He is an Atkins certified Project Director. Mr. Hampson has a broad background in physical sciences, engineering, modeling, public outreach and integrative approaches to complex systems. His recent work includes engagements with City of Bonita Springs, SFWMD, FEMA, USGS, NOAA, USACE, and SRWMD. He has been working with SFWMD since 2003 when he was the project manager for collaborative design of the SFWMD AHED infrastructure geodatabase and SCADA integration applications; which won the Florida ACEC Grand Award in 2004. He recently completed a life cycle assessment project for SFWMD canals, levees and water control structures, including data mining, integration of condition data, consequence of failure analysis. Mr. Hampson was Atkins 2014 representative to the US Netherlands Connection coastal resilience program.

19. RELEVANT PROJECTS

| a. | (1) TITLE AND LOCATION (City and State) Flood Risk Mitigation Study City of Bonita Springs, FL | (2) YEAR COMPLETED | |
|----|--|--|-------------------------------------|
| | | PROFESSIONAL SERVICES 2018 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Role. Acted as primary liaison for Atkins consulting role providing high-level engineering cost estimates for a wide range of green and gray flood risk mitigation actions identified by the Southwest Florida Regional Planning Council for the City of Bonita Springs. Cost: \$35,000 | | |
| b. | (1) TITLE AND LOCATION (City and State) South Florida Water Management District Infrastructure Life Cycle Cost Forecasting West Palm Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Role. Project Manager for an onsite project mining infrastructure data across the District and compiling a complete list of control structures, pump stations, canals, and levees with construction dates, historic maintenance costs, and structure replacement costs. Developed major and minor refurbishment cost models, including SLR contingencies. Developed application to forecast condition, maintenance costs, and replacement costs with an unconstrained cost forecast and a budget-constrained forecast. The budget constrained forecast used a prioritization algorithm based on forecast condition and consequence of failure, then provided a condition forecast so that budgets could be tested. Cost: \$500,000 | | |
| c. | (1) TITLE AND LOCATION (City and State) Suwannee River Water Management District FEMA Program Manager; Live Oak, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2018 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input type="checkbox"/> Check if project performed with current firm | |
| | Role. Program manager for FEMA Cooperating Technical Partner (CTP) program at SRWMD since 2010. Responsibilities include developing grant proposals, conducting Discovery meetings, QA/QC, ensuring all FEMA reporting requirements are met and CTP remains in compliance with all regulations, conducting public outreach, tracking flood mitigation actions, Coordinated Needs Management Strategy, maintenance and enhancement of the popular srwmdfloodreport.com public outreach website. Cost: \$1.4M over 7 years | | |
| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |

| | | | |
|---|--|---|-------------------------------------|
| d. | Pinellas County Department of Emergency Management, Storm Surge Protector-Outreach website Clearwater, FL | PROFESSIONAL SERVICES 2014 | CONSTRUCTION (If Applicable) N/A |
| (3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE | | <input type="checkbox"/> Check if project performed with current firm | |
| <p>Role. Project manager for design and implementation of a popular outreach website allowing any user to show a 3-D representation of the storm surge impacts on their property based on hurricane evacuation levels A-E. Cost: \$79,000</p> | | | |
| e. | (1) TITLE AND LOCATION (<i>City and State</i>) Stormwater BMP Assessment Tool City of Bonita Springs, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2014 | CONSTRUCTION (If Applicable) N/A |
| (3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE | | <input type="checkbox"/> Check if project performed with current firm | |
| <p>Role. Project manager for implementation of a system that integrates the Bonita Springs water quality model into a GIS environment and provides tools to place stormwater water quality improvements into the system then easily test which improvements provide the greatest return on investment. The City is pleased with the tool and used it to select and site a bioswale installation last year. Cost: \$65,000</p> | | | |

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|--|--|--|--|
| 12. NAME David A. Barnett, PE, LEED AP | 13. ROLE IN THIS CONTRACT Deputy Project Manager, Liaison, Local Knowledge, Infrastructure Engineering Subject Matter Expert | 14. YEARS EXPERIENCE a. TOTAL: 25 b. WITH CURRENT FIRM: >1 | |
| 15. FIRM NAME AND LOCATION (City and State) Atkins, Ft. Lauderdale, FL | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) M.S., Civil Engineering, University of Miami B.S., Architectural Engineering, University of Miami | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Professional Engineer: Florida 51865, 1997 | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) David Barnett has over 25 years of experience serving municipal government, education, and private clients. He has extensive hands-on experience in project management and civil engineering, including paving, grading, drainage, water and sewer design as well as construction services. | | | |

| 19. RELEVANT PROJECTS | | | |
|--|---|---|---|
| a. | (1) TITLE AND LOCATION (City and State) City of Hollywood: Charnow Park, Hollywood, FL | (2) YEAR COMPLETED | |
| | | | PROFESSIONAL SERVICES 2004 – 2006 |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Senior project manager and engineer of record. Provided civil engineering, environmental permitting and construction observation services to the RMPK Group for this one-acre active park in the City of Hollywood. Was responsible for the paving, grading, drainage, water and sewer elements as well as environmental permits required for the renovations to the features of this active park including a water playground, regular playground, four picnic pavilions, torch lighting, and a decorative berm with hardscaping. Cost: ±\$1,500,000 | | <input type="checkbox"/> Check if project performed with current firm | |
| b. | (1) TITLE AND LOCATION (City and State) City of Oakland Park: Floranda Business Development Storm Water Pump Station Improvements, Oakland Park, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2010 - 2012 | CONSTRUCTION (If Applicable) 2012 |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Senior project manager and engineer of record. Oversaw the preparation of construction documents and associated permits for the design and construction of the 40-acre Floranada Business Development Storm Water Improvements Project in the City of Oakland Park, Florida. The project included the installation of three 150-foot deep storm water drainage wells with associated pump stations, new drainage piping, pavement renovations, signing and pavement markings, select water main replacements, utility adjustments and maintenance of traffic for the site. Cost: ±\$2,500,000 | | <input type="checkbox"/> Check if project performed with current firm | |
| c. | (1) TITLE AND LOCATION (City and State) City of Oakland Park: Lloyd Estates Neighborhood Improvements, Oakland Park, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2010 - 2012 | CONSTRUCTION (If Applicable) 2012 - 2013 |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Senior project manager and engineer of record. Oversaw the design and construction of the 64-acre Lloyd Estates Residential and Industrial Area Drainage Project. The project involved phased drainage and water distribution system improvements consisting of the construction of a storm water collection system with water quality treatment measures and upgraded outfalls, as well as replacement of select existing water mains within the project area. The professional services included surveying, stormwater analysis, civil engineering design, landscaping and irrigation, permitting, coordination with utility providers for adjustments and or relocations, preparing quantity calculations, and engineers estimates of probable costs. Cost: ±\$6,000,000 | | <input type="checkbox"/> Check if project performed with current firm | |
| d. | (1) TITLE AND LOCATION (City and State) Delray Medical Center Storm Water Management Due Diligence, Delray Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2013 | CONSTRUCTION (If Applicable) N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project engineer. Conducted a due diligence investigation of the existing ±45 acre Delray Medical Center storm water management system including modeling of the existing campus drainage system to verify flooding concerns expressed by the Owner and to provide recommendations with respect to corrective measures taken for problems identified. Work involved conducting a field investigation of the existing drainage system for possible causes of flooding including an assessment of potential drainage improvements to courtyards, parking lots, helipad and perimeter building areas. | | <input type="checkbox"/> Check if project performed with current firm | |

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|---|--|---|--|
| 12. NAME Stephen Bourne, PE | 13. ROLE IN THIS CONTRACT Integrated Vulnerability and Adaptation Analysis Task Leader | 14. YEARS EXPERIENCE a. TOTAL 20 b. WITH CURRENT FIRM 20 | |
| 15. FIRM NAME AND LOCATION (City and State) Atkins North America, Tampa, FL | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) Received M.S., Civil Engineering and B.C.E., Civil Engineering from Georgia Institute of Technology | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Professional Engineer (GA), Water Resources Engineering Georgia 033160 | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Stephen Bourne has 20 years of water resources research, engineering, and software development experience involving geographic information systems (GIS), climate research, decision support system design, and software development and training. His current responsibilities at Atkins include project direction, management, research and development in resilience decision support and Atkins Future Proofing Cities initiative. | | | |

19. RELEVANT PROJECTS

| a. | (1) TITLE AND LOCATION (City and State) NOAA Office for Coastal Management Coastal Stormwater Decision Support Tool | (2) YEAR COMPLETED | |
|--|--|--|-------------------------------------|
| | | PROFESSIONAL SERVICES 2019 | CONSTRUCTION (If Applicable) N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| <p>Role. Steve Bourne is project manager on this effort to synthesize the best approaches to managing stormwater in coastal communities under the threats of increasingly extreme weather and sea level rise. Through broad-based national case study research, interviews with communities large and small, and development of novel methods for evaluating total water elevation in current and future years, Atkins is providing much of the key content that will make up the DST. The interviews will include 9 communities including Boston, Ocean City MD, and Bonita Springs Florida, among others. These communities are showing that there is more than one way to solve the problem, and that ultimately innovation is the best asset. In addition to interviews and case studies, Steve is leading the development of the total water level methodology, one that pragmatically and concisely identifies the sources of water that make up potential flood threat – sea level rise, multi-year patterns like ENSO, tides, wave action, and inland pluvial flooding – and then shows communities how those sources might change in the future and increase risk Cost: \$158,000</p> | | | |
| b. | (1) TITLE AND LOCATION (City and State) Future Proofing Cities Application to Coastal Municipalities in the Dominican Republic Dominican Republic | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (If Applicable) N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| <p>Role. Atkins is a resource partner in this on-going U.S. Association for International Development -funded project. Mr. Bourne is leading the development of report cards for each city that focus on pain points such as drought, changes in frequency and intensity of tropical storms, and sea level rise's affect on beach tourism. He is also developing an FPC simulation for each city that models economic and residential growth on a building by building basis under both business as usual as well as disaster conditions such as tropical storms. The model is driven by cutting edge climate change and sea level rise forecasts, to get a realistic picture of how well the city will handle these threats. Using this model results, we can measure realistic economic, environmental, and social costs and benefits of each master plan alternative; stakeholders use these metrics to decide which master plan is best for them. Cost: \$25,000</p> | | | |
| c. | (1) TITLE AND LOCATION (City and State) Project Name Future Proofing Cities Application, City of Miami Beach, FL. City of Miami Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2015 | CONSTRUCTION (If Applicable) N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| <p>Role. Led this Atkins-sponsored assessment of the City of Miami Beach, ground zero for sea level rise in the United States. This report encapsulates the City's advantages and challenges in an info-graphic form, showing population and economic projections, carbon footprint, number of LEED buildings compared to other cities in the nation, city infrastructure inventory, number of acres of residential land to be lost to sea level rise, number of large hurricanes to expect in the next century, potential loss from those hurricanes. This report card is the first step in the FPC process for a city. It sets a common stage for discussion among stakeholders Cost: \$N/A</p> | | | |
| d. | (1) TITLE AND LOCATION (City and State) Project Name Infrastructure Lifecycle Costing Tool, South Florida Water Management District, FL. West Palm Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (If Applicable) N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | | <input checked="" type="checkbox"/> Check if project performed with current firm | |

| | | |
|----|---|---|
| | <p>Role. Leading this project for identifying the modeling process necessary for system-wide cost and risk forecasting, and then selecting and customizing software that District managers will use on a daily basis to conduct this analysis. The South Florida Water Management District manages stormwater to control floods in the hurricane-prone south Florida peninsula. With a \$1.8B asset system of canals and pump stations, the District must have a clear understanding of the best way to spend its annual capital improvement and operation and maintenance budget. Cost: \$500,000</p> | |
| e. | (1) TITLE AND LOCATION (<i>City and State</i>) Project Name StormCaster, An Atkins Product Atlanta, GA | (2) YEAR COMPLETED PROFESSIONAL SERVICES 2014 CONSTRUCTION (If Applicable) #### |
| | (3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm |
| | <p>Role. Principal investigator of the StormCaster research and development project. Led development of the forecasting methodology and resulting tool with a group of colleagues from Texas A&M University and Atkins. This project has created a web-based tool that produces 2010-2100 forecasts for any city or town in the country at 15-minute time steps. The forecasts use General Circulation Model outputs to reflect state-of-the-science climate knowledge on future trends in precipitation. To include local micro-climatic conditions, the forecasts use historic data as a basis for synthesizing virtual storms over the forecast time horizon. The latest phase of the StormCaster project is the StormCaster Network, which will allow researchers from around the country to contribute their own storm forecasting methods to the online tool. Cost: \$N/A</p> | |

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|-----------------------------------|---|----------------------|---------------------------|
| 12. NAME Lawrence Frank | 13. ROLE IN THIS CONTRACT Adaptation Planning | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 24 | b. WITH CURRENT FIRM 3 |

15. FIRM NAME AND LOCATION (City and State)
Atkins North America, Atlanta, GA

16. EDUCATION (DEGREE AND SPECIALIZATION)
Master's Regional Planning / Land Use & Envr. Planning

17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
US / Certified Floodplain Manager

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
Lawrence Frank is a principal planner with a master's degree in land use planning and 24 years of experience in hazard mitigation and community resiliency. He has extensive experience assisting communities in addressing multi-hazard risk and vulnerability through various mitigation/resiliency grant and planning programs including FEMA and HUD. He also has extensive experience in South Florida preparing mitigation plans for Broward and Monroe Counties, and Broward College; provided resiliency services to Miami Beach, and helped Broward cities develop mitigation grant applications for FEMA.

19. RELEVANT PROJECTS

| a. | (1) TITLE AND LOCATION (City and State) Hurricane Matthew Multiple Counties Resiliency Redevelopment Plans Preparation Services Raleigh, NC | (2) YEAR COMPLETED | |
|----|---|--|--------------------------------------|
| | | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If Applicable) #### |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Team Lead. Served as planning team lead for three counties that were impacted by Hurricane Matthew, including the hard-hit Fayetteville area. Mr. Frank and his team coordinated with local officials and members of the public to hold a series of six meetings in each county for recovery and redevelopment after Matthew. Mr. Frank's team evaluated the areas of flood impact and future flood risk and identified several actions to address the risk. Cost: \$965,000 | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| b. | (1) TITLE AND LOCATION (City and State) Miami Beach Comprehensive Resiliency Program Miami Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2015 | CONSTRUCTION (If Applicable) #### |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Lead Planner. Lead planner in the revision of building and zoning codes in Miami Beach address sea level rise and increase resiliency. Proposed revisions included setbacks, on-site retention, and land elevation. The project considered the use of Adaptation Action Areas in the Comprehensive Plan and evaluated future risk. Led the presentation of code review results at City's Blue Ribbon Panel for Sea Level Rise meeting. Cost: total contract cost not known | <input type="checkbox"/> Check if project performed with current firm | |
| c. | (1) TITLE AND LOCATION (City and State) Resilience Meetings for Flood Risk Conversion Project for FEMA Region V under Risk MAP Allegan Co., MI; St. Clair, Madison & Monroe Co., IL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If Applicable) #### |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Lead Planner. Responsible for community engagement to address flood risk as part of the mapping project. Duties include detailed analysis of flood risk in a complex, urbanized environment; development of outreach materials and conducting meetings; evaluation of a range of flood mitigation actions with non-profits, state and local officials to address the risk. Led organization and facilitation of Resilience Meetings in the communities. Cost: \$880,000 | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| d. | (1) TITLE AND LOCATION (City and State) New York Rising Community Reconstruction Program Post-Superstorm Sandy Long Beach, NY | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2014 | CONSTRUCTION (If Applicable) #### |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Lead Planner/Deputy PM. Led a team that developed a long-term recovery and resiliency plan for Long Beach, NY, a highly developed city on a barrier island, after Sandy. Mr. Frank led a team of planner and engineers to assess risk, including increased future risk due to sea level rise; identify resiliency gaps; and develop strategies, actions and projects to reduce vulnerability from storm surge, high wind, and stormwater flooding. Cost: \$3.2 Million for 6 plans | <input type="checkbox"/> Check if project performed with current firm | |
| e. | (1) TITLE AND LOCATION (City and State) Broward Co. Enhanced Local Mitigation Strategy Plantation, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2012 | CONSTRUCTION (If Applicable) #### |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Lead Planner. Led effort to develop the Enhanced LMS which was combined with the NFIP Community Rating System (CRS) Activity 510 Plan. It included a new Economic Vulnerability section evaluating the impacts of flood and sea level rise on key economic resources. This plan also included a new Climate Change/Sea Level Rise section. Cost: \$435,000 | <input type="checkbox"/> Check if project performed with current firm | |

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|---|--|--|---------------------------|
| 12. NAME Ruben A. Hernandez Gregorat | 13. ROLE IN THIS CONTRACT QC and Project Oversight | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 28 | b. WITH CURRENT FIRM 3 |
| 15. FIRM NAME AND LOCATION (City and State) SNC-Lavalin – Atkins, Miami, FL | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) B.S.E.E. and Master's Degree in Engineering Management | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) FL/Registered Engineer | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member of the following: a. Project Management Institute b. Construction Industry Institute c. American Water Works Association d. Institute of Electrical and Electronics Engineers | | | |

19. RELEVANT PROJECTS

| a. | (1) TITLE AND LOCATION (City and State) Program Management and Project Controls, Miami Dade Water & Sewer Department, Miami, FL | (2) YEAR COMPLETED | |
|----|---|--|--------------------------------------|
| | | PROFESSIONAL SERVICES Present | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Role. Program Manager to support the Water and Sewer Department's PMO Office. Lead and manage the staff to develop processes and procedures and manage the staff supporting the project controls efforts related to the WASD managed CIP. Cost: \$ 5 Billion capital program | | |
| b. | (1) TITLE AND LOCATION (City and State) Capital Program Support Services, City of Miami, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES Present | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Role. Program Manager overseeing the City's CPSS 2017 contract, supporting the management of the \$300MM capital improvement program. Manage the staff supporting project controls, vertical and horizontal projects, cost estimating and claims analysis. Cost: \$ 300MM capital program | | |
| c. | (1) TITLE AND LOCATION (City and State) Program Management and Project Delivery System Implementation, PR Department of Transportation, San Juan, PR | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2012 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input type="checkbox"/> Check if project performed with current firm | |
| | Role. As secretary and Executive Director, oversaw implementing a program management office (PMO) and a project delivery system to manage efficiently a budget of over \$1.5 Billion through the planning, promotion, and coordination of the government activities related to the mass. Cost: \$1.5 Billion capital program | | |
| d. | (1) TITLE AND LOCATION (City and State) Capital Improvement Program Management, Aqueduct and Sewer Authority, San Juan, PR | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2006 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input type="checkbox"/> Check if project performed with current firm | |
| | Role. Auxiliary Director for the Program Management Office, oversaw implementing and leading the PMO for the management of the Capital Improvement Program (CIP) Plan for the Eastern Region of Puerto Rico. Projects included the construction of new facilities, earthen dams, pump stations, process buildings, roads, sidewalks, parking lots and green areas of water / wastewater facilities, alterations and remodeling of existing facilities, and the conservation of potable water, wastewater, and mechanical transmission and distribution systems and utilities. Cost: \$ 1 Billion capital program | | |
| e. | (1) TITLE AND LOCATION (City and State) Rio Blanco Off-Stream Reservoir and Intake Facilities, Aguabo, PR | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2005 | CONSTRUCTION (If Applicable) 2005 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input type="checkbox"/> Check if project performed with current firm | |
| | Role. Regional program manager, oversaw the design, construction and inspection services for the Río Blanco off-stream reservoir and intake facilities. The project increased the raw water intake to accommodate the existing 18-mgd Río Blanco Water Treatment Plant. The project major components directly managed included the earthen dam embankment, an off-stream earthen dam on the East side of the Río Blanco floodplain with a normal pool (full reservoir), with approximately 4,4,000,000 cubic meters of active storage. Ancillary work inspected included pipelines from 42 inch to 66 inch diameter and pump stations. Cost: \$150 MM | | |

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| 12. NAME Richard Tenn | 13. ROLE IN THIS CONTRACT Local Knowledge, Infrastructure Engineering Subject Matter Expert | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 22 | b. WITH CURRENT FIRM >1 |

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| 15. FIRM NAME AND LOCATION (City and State) Atkins, Ft. Lauderdale, FL |
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| 16. EDUCATION (DEGREE AND SPECIALIZATION) B.S., Civil Engineering, Florida International University | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) |
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
Richard Tenn has 22 years of experience in civil engineering planning, design, permitting, and construction management/inspection services. He has been responsible for all phases of planning, design and drafting, including roadway, drainage, water distribution/transmission and wastewater collection and transmission facilities from the planning/conceptual stages, design, permitting; preparation of construction documents and construction related services. He has excellent working relationships and contacts with Palm Beach County, Miami-Dade County, Florida Department of Transportation, Districts Four and Six, and most of the various drainage districts throughout South Florida.

19. RELEVANT PROJECTS

| a. | (1) TITLE AND LOCATION (City and State) Broadmoor and Arch Creek Substations Stormwater Management Plan Review Services, Florida Power & Light Company, Miami, FL | (2) YEAR COMPLETED | |
|----|---|--|--------------------------------------|
| | | PROFESSIONAL SERVICES 2017-2018 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Senior designer. Responsible for paving, grading and drainage design. This project involves providing civil review of stormwater management plan for Broadmoor and Arch Creek substations to change the use from a substation pad to a battery storage facility. Cost: N/A | | |
| b. | (1) TITLE AND LOCATION (City and State) Hard Rock Hollywood Oasis Lot Planning Services, Seminole Hard Rock Hotel and Casino, Hollywood, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2017-2019 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Senior designer. Responsible for paving grading, drainage design and permitting. This project involves planning, environmental, and survey services developing the lot across US 441 from the Hard Rock Hotel and Casino property, in support of Seminole gaming development. The property is historically known as the Oasis Lot or Miro Corners. Atkins services include civil engineering, master planning, surveying, and environmental surveying. Cost: \$102,600 | | |
| c. | (1) TITLE AND LOCATION (City and State) Publix at Venetian Isle Redevelopment Site Engineering Services, Brixmor Venetian Isle LLC, Lighthouse Point, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2016-2018 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Senior designer. Responsible for drainage due diligence. This project consists of tearing down the existing Publix, some retail spaces, and modifying the existing parking lot. Cost: N/A | | |
| d. | (1) TITLE AND LOCATION (City and State) Ramey Unit School Civil Engineering and Landscape Architecture Support Services USACE, Norfolk, Aquadilla, Puerto Rico | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2017-2019 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Senior designer. Responsible for drainage design. This project involves providing civil engineering and landscape architecture design services support to prepare complete construction documents for the replacement of Ramey Unit School located in Aquadilla, Puerto Rico. Cost: N/A | | |
| e. | (1) TITLE AND LOCATION (City and State) Saint Mary Coptic Orthodox Church, Palm Beach County, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2005-2006 | CONSTRUCTION (If Applicable) 2006 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input type="checkbox"/> Check if project performed with current firm | |
| | Project engineer. Responsible for developing construction documents from the planning stage through construction for a 10-acre church site in unincorporated Palm Beach County, Florida. The scope of work included site plan approval, watermain extension design and permits, lift station design and permits and paving, grading and drainage design and permits. Permitting agencies that were involved: Palm Beach County Water Utilities; Palm Beach County Land Development; Palm Beach County Health Department; South Florida Water Management District; and Lake Worth Drainage District. Additionally, responsible for construction inspection on the project. Cost: \$175,000 | | |

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| 12. NAME Richard Passarelli | 13. ROLE IN THIS CONTRACT Adaptation Planning/Policy | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 5 | b. WITH CURRENT FIRM 3 |

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| 15. FIRM NAME AND LOCATION (City and State) Atkins North America, Alexandria, VA |
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| 16. EDUCATION (DEGREE AND SPECIALIZATION) B.S. Civil Engineering/Master's in Urban & Env. Planning | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) N/A |
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
Richard Passarelli has 5 years of experience. He is a technical and policy professional with experience in urban resilience planning, climate adaptation strategies, environmental policy formulation, risk analysis, and national resource governance for international, federal, and non-profit clients. In the sustainable development sector, Mr. Passarelli has been published extensively on concerns regarding urban resilience, environmental policy decision-making, and disaster mitigation planning in numerous international media outlets, including the SAIS Journal of International Affairs, Foreign Policy magazine, and through the Austrian Embassy to the United States. His work has been presented to the White House National Security Council, the UN in NYC, and at the Peace Palace in the Hague.

19. RELEVANT PROJECTS

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| a. | (1) TITLE AND LOCATION (City and State) Metro East Flood Mitigation Engagement Study St. Louis, MO (Metro Area) | (2) YEAR COMPLETED: 2017 | |
| | | PROFESSIONAL SERVICES Engineering and Planning Analysis | CONSTRUCTION (If Applicable) |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Analyst. Drafted one of the first FEMA reports ever completed on community engagement for flood mitigation activities, for St. Clair, Monroe, and Madison counties along the Mississippi River in the St. Louis Metropolitan Area. Involvement included analysis of community surveys, geographic and demographic trends, local emergency management plans, and political histories in the region. Cost: N/A | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| b. | (1) TITLE AND LOCATION (City and State) Climate Study for Commission on Global Security, Justice, and Governance Washington, D.C. | (2) YEAR COMPLETED: 2015 | |
| | | PROFESSIONAL SERVICES Policy Development | CONSTRUCTION (If Applicable) |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Associate. Advised the Commission on Global Security, Justice, and Governance—a group of current and former senior government and UN officials—on urban resilience strategies, energy regulatory policies, climate finance methods, and inter-governmental diplomatic cooperation for climate adaptation efforts. Contributed and authored original recommendations to the final report presented at UN Headquarters to various policy stakeholders and UN representatives. Cost: N/A | <input type="checkbox"/> Check if project performed with current firm | |
| c. | (1) TITLE AND LOCATION (City and State) FEMA USVI Mitigation Assessment Team (MAT) St. Croix, U.S. Virgin Islands | (2) YEAR COMPLETED: 2018 | |
| | | PROFESSIONAL SERVICES Engineering and Planning Analysis | CONSTRUCTION (If Applicable) |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE MAT Team Member. Conducted site investigations and policy assessments of the impacts of hurricanes Maria and Irma on buildings in the U.S. Virgin Islands for FEMA's Building Sciences division. Developed technical and policy guidance based on the observed implications for improvements to building codes, development guidelines, and design criteria for future events and resilience capabilities across the islands. Authored and coordinated components of the final report regarding flood and wind impacts, residential housing, and solar PV arrays. Cost: N/A | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| d. | (1) TITLE AND LOCATION (City and State) FEMA National Flood Risk Factor Study Washington, D.C. | (2) YEAR COMPLETED: Ongoing | |
| | | PROFESSIONAL SERVICES Engineering and Planning Analysis | CONSTRUCTION (If Applicable) |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Analyst. Led a risk study using machine learning and advanced analytics to determine the relative contributions of physical, social, and economic factors to flood losses in the United States. Conducted analysis on big-data sets of floodplain, demographic, occupancy, and financial data from throughout the United States to determine statistical correlations between damage claims and risk factors and prioritize considerations for future policy and investment decision-making. Cost: N/A | <input checked="" type="checkbox"/> Check if project performed with current firm | |
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| 12. NAME Clark Siler, PhD | 13. ROLE IN THIS CONTRACT GIS Analysis/Data Mining/Data Management | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 12 | b. WITH CURRENT FIRM 7 |
| 15. FIRM NAME AND LOCATION (<i>City and State</i>) Atkins, Fort Lauderdale, FL | | | |
| 16. EDUCATION (<i>DEGREE AND SPECIALIZATION</i>) PhD, University of Texas at Austin (2011), Civil Engineering MS, University of Texas at Austin (2008), Environmental Water Resources Engineering BS, Brigham Young University (2005), Civil Engineering | | 17. CURRENT PROFESSIONAL REGISTRATION (<i>STATE AND DISCIPLINE</i>) GIS Professional (GISP), FL Engineer in Training (EIT) | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (<i>Publications, Organizations, Training, Awards, etc.</i>) American Society of Civil Engineers (ASCE) American Water Resources Association (AWRA) | | | |

19. RELEVANT PROJECTS

| a. | (1) TITLE AND LOCATION (<i>City and State</i>) SFWMD Online Map File Room West Palm Beach, FL | (2) YEAR COMPLETED | |
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| | | PROFESSIONAL SERVICES 2016-2017 | CONSTRUCTION (If Applicable) n/a |
| | (3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Role. Lead data developer for building online database of all SFWMD infrastructure and facilities asbuilts, cross-linked by asset name, asset type, project name, project type, designer, constructor, and location. Project involved data mining throughout the agency to locate asbuilts for the agency asset inventory of record, ranging from scans of hand-drafted plans from the 1950's to modern CAD submittals. Included conversion of all plans to a common searchable PDF format linked to the online database. Missing plans were noted and a placeholder with asset description provided as the document link. | | |
| b. | (1) TITLE AND LOCATION (<i>City and State</i>) Lifecycle Cost Assessment, SFWMD West Palm Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2015-2016 | CONSTRUCTION (If Applicable) n/a |
| | (3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Role. Assessment of a multi-billion water resources infrastructure and the development of processes and tools to project lifecycle costs—including construction, refurbishment, and replacement. Work included design, agile implementation, extensive data mining and data integration for life-cycle cost forecasting comprising all primary drainage, canals, levees, water control structures and pump stations in the SFWMD. Included likelihood-of-failure (condition) and consequence-of-failure forecasting in the prioritization scheme. The results of this project were influential in determining if the annual budget of the South Florida Water Management District was sufficient. | | |
| c. | (1) TITLE AND LOCATION (<i>City and State</i>) GIS Developer, Florida Department of Transportation Fort Lauderdale, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2014-Present | CONSTRUCTION (If Applicable) n/a |
| | (3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Role. Maintenance of complex GIS system; creation and support of python scripts for database management, updates, and transformations; development of custom tools for analysis and report-generation. | | |
| d. | (1) TITLE AND LOCATION (<i>City and State</i>) Coconut Creek Utility Master Plan Coconut Creek, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2014 | CONSTRUCTION (If Applicable) |
| | (3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Role. Serving as GIS analyst to develop a stormwater management plan as part of a larger utility master plan. This project involves inventory of City GIS data as well as physical structures in an asset and data management framework. The end result will be a series of recommendations on how the City can best manage its GIS data, stormwater models, and associated data, and how to best operate and maintain its water control structures such as pumps and water networks. | | |
| | (1) TITLE AND LOCATION (<i>City and State</i>) | (2) YEAR COMPLETED | |

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| e. | National HAZUS Model Input Data Development, FEMA Atlanta, GA | PROFESSIONAL SERVICES 2014 | CONSTRUCTION (If Applicable) #### |
| (3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE | | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| Role. Helping to create updated HAZUS model input data to incorporate the latest Census data. This work involves extensive GIS and database management of national large- and small-scale data systems. | | | |

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| 12. NAME Alec S. Bogdanoff, Ph.D. | 13. ROLE IN THIS CONTRACT Outreach, SLR Analysis | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 2 | b. WITH CURRENT FIRM 1 |

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| 15. FIRM NAME AND LOCATION (City and State) Brizaga, Inc. Fort Lauderdale, FL |
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| 16. EDUCATION (DEGREE AND SPECIALIZATION) Ph.D., Physical Oceanography, Massachusetts Institute of Technology (MIT)/Woods Hole Oceanographic Institute (WHOI), 2016 | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) |
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
Alec Bogdanoff, Ph.D. is a policy-trained oceanographer and meteorologist with nearly two decades of political experience, including managing campaigns. He has extensive experience in simplifying and effectively communicating complex scientific processes with private citizens and other interested parties. Dr. Bogdanoff has been a key member of various panel discussions dealing directly with resiliency planning for sea level rise hosted by many public and private entities across the United States, including the Greater Miami Chamber of Commerce, the Urban Land Institute, and the American Institute of Architects. He recently addressed members of the Florida State Legislature and the United States Congress to discuss effects that sea level rise will have on infrastructure, insurance, and the economy.

19. RELEVANT PROJECTS

| a. | (1) TITLE AND LOCATION (City and State) Community Outreach for Rising Above (Miami Beach, FL) | (2) YEAR COMPLETED | |
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| | | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input type="checkbox"/> Check if project performed with current firm | |
| | Role. Authored a supplemental report to the City of Miami Beach providing specific elevations, sea level rise projections and illustrations to visualize the effects of sea level rise on a property level. Led the science communication element of a community outreach program hosted by the City as part of its "Rising Above" campaign for sea level rise adaptation. Developed handouts and take-home documents for homeowners to understand the expected effects of sea level rise specific to their community, as well as to learn the actions that could be taken on an individual basis to become a resilient community. Cost: \$12,500 | | |
| b. | (1) TITLE AND LOCATION (City and State) Vulnerability Assessment & Adaptation Strategies (Village of Key Biscayne) | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input type="checkbox"/> Check if project performed with current firm | |
| | Role. Authored the final sea level rise vulnerability assessment and adaptation strategy report for the Village of Key Biscayne. Specific input detailed extent of roadway flooding due to sea level rise and possible adaptation measures to mitigate vulnerabilities. Cost: \$28,000 | | |
| c. | (1) TITLE AND LOCATION (City and State) John A. Knauss Sea Grant Fellow, Office of Senator Edward J. Markey (Washington, D.C.) | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input type="checkbox"/> Check if project performed with current firm | |
| | Role. Coordinated relevant policy with senior staff; Drafted speeches, legislation, amendments, policy briefs, oversight letters, and press releases on issues pertaining to the environment, oceans, fisheries, water, and wildlife. Drafted and introduced legislation to improve federal water infrastructure statutes, identified promotional opportunities, and negotiated modified provision of the bill into the Water Resources Development Act of 2016. Prepared statements, memos and questions, and handled relevant legislation in the Senate Committee on Environment and Public Works (EPW), and the Senate Committee on Commerce, Science, and Transportation. Drafted hearing memos and helped facilitate witnesses in Ranking Member Markey's EPW subcommittee. Cost: N/A | | |

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| 12. NAME Michael A. Antinelli, PE, CFM | 13. ROLE IN THIS CONTRACT Outreach, Vulnerability Assessments and Adaptation Strategies | 14. YEARS EXPERIENCE | |
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| 15. FIRM NAME AND LOCATION (City and State) Brizaga, Inc. Fort Lauderdale, FL |
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| 16. EDUCATION (DEGREE AND SPECIALIZATION) M. SC., Coastal and Oceanographic Engineering, University of Florida, 2011 | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Professional Engineer, State of Florida (#78513) Certified Floodplain Manager |
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
 Michael A. Antinelli, PE, CFM is the Vice President of Brizaga, responsible for the oversight and management of all projects and engineering practices. He has extensive experience in the practices of coastal, waterfront, and site civil engineering. He has played a critical role in many public infrastructure and capital improvements projects as well as outreach programs directly related to coastal development and resiliency for clients including the City of Miami and the City of Miami Beach.

19. RELEVANT PROJECTS

| a. | (1) TITLE AND LOCATION (City and State) Community Outreach for Rising Above (Miami Beach, FL) | (2) YEAR COMPLETED | |
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| | | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If Applicable) N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | | <input type="checkbox"/> Check if project performed with current firm | |
| <p>Role. Authored a supplemental report to the City of Miami Beach providing specific elevations, sea level rise projections and illustrations to visualize the effects of sea level rise on a property level. Participated in the science communication element of a community outreach program hosted by the City as part of its "Rising Above" campaign for sea level rise adaptation. Developed handouts and take-home documents for homeowners to understand the expected effects of sea level rise specific to their community, as well as to learn the actions that could be taken on an individual basis to become a resilient community. Cost: \$12,500</p> | | | |
| b. | (1) TITLE AND LOCATION (City and State) Vulnerability Assessment & Adaptation Strategies (Village of Key Biscayne) | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If Applicable) N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | | <input type="checkbox"/> Check if project performed with current firm | |
| <p>Role. Consulted the author for the final sea level rise vulnerability assessment and adaptation strategy report for the Village of Key Biscayne. Specific input detailed extent of roadway flooding due to sea level rise and possible adaptation measures to mitigate vulnerabilities. Cost: \$28,000</p> | | | |
| c. | (1) TITLE AND LOCATION (City and State) Waterfront Facilities Maintenance Management System (New York, NY) | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (If Applicable) N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | | <input type="checkbox"/> Check if project performed with current firm | |
| <p>Role. Provided computer modeling services to develop an asset management tool for the New York City Economic Development Corporation. The management system consisted of a geographic information system (GIS) detailing the type, condition and owner of all waterfront facilities along the 520-mile shoreline of the five boroughs of New York City. Cost: \$1.1M</p> | | | |
| d. | (1) TITLE AND LOCATION (City and State) Beach Nourishment Projects (City of Hollywood, Village of Key Biscayne, City of Sunny Isles Beach) | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2011-2014 | CONSTRUCTION (If Applicable) 2012-2014 |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | | <input type="checkbox"/> Check if project performed with current firm | |
| <p>Role. Performed coastal engineering analysis and design and assisted in the processing of permit applications for three separate maintenance beach nourishment projects in Hollywood, FL, the Village of Key Biscayne and Sunny Isles Beach. Assembled contract documents including bid forms, reviewed bids and provided recommendations to the Owner for contractor selection. Performed post-construction analysis and monitoring reports to document beach transformation and evaluated overall success of the projects. Cost: est. \$150,000</p> | | | |

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| 12. NAME Adam Whelchel, PhD | 13. ROLE IN THIS CONTRACT Outreach Facilitator | 14. YEARS EXPERIENCE a. TOTAL 26 b. WITH CURRENT FIRM 12 | |
| 15. FIRM NAME AND LOCATION (City and State) The Nature Conservancy, New Haven, Connecticut | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) Ph.D. | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Professional Wetland Scientist | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Dr. Adam Whelchel's twenty-six-year career in leadership positions has catalyzed partnerships with strategic direction while with government agencies, private firms, academic institutions, and non-profits in the United States, China, Southeast Asia, Caribbean, and Africa. Adam Whelchel is a dynamic communicator called upon to assist diverse groups from around the world with team building, strategic planning, and community resilience. Adam is the creator of the Community Resilience Building Workshop process that has helping over 100 municipalities across six states since 2007. Other recent accomplishments include serving as principal facilitator on the Puerto Rico Climate Adaptation Plan and lead author for the U.S. National Climate Assessment. Dr. Whelchel has published extensively and conducts trainings and workshop on community resilience on a routine basis. Adam has completed the National Charrette Institute's Certification in Design Charrette Management. More information at www.AdamWhelchel.com. | | | |

19. RELEVANT PROJECTS

| (1) TITLE AND LOCATION (City and State) | | (2) YEAR COMPLETED | |
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| | | PROFESSIONAL SERVICES | CONSTRUCTION (If Applicable) |
| a. | Commonwealth of Massachusetts Municipal Vulnerability Preparedness Program (148 municipalities across Massachusetts) | Community Resilience Building Trainer | N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Role. Served as the lead facilitator and service provider trainer for the Commonwealth of Massachusetts on the Community Resilience Building (CRB) workshop process. Trained over 250 service providers on CRB which has been deployed across 66 municipalities in 2017-2018 with an additional 82 municipalities conducting CRB workshop in 2018-2019. The total number of 148 municipalities represents 40% of all municipalities in Massachusetts having conducted a CRB workshop. | | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| b. | Milwaukee Regional Resilience Plan (24 municipalities in the greater Milwaukee Wisconsin region) | Lead Facilitator and Community Outreach Manager | N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Role. Served as lead facilitator and community outreach manager for a larger regional resilience planning effort for the greater Milwaukee Wisconsin region. Contracted by Milwaukee Metropolitan Sewer District to manage community and municipal workshops to identify hazards and risks and to generate solutions to enhance resilience for the region. | | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| c. | Community Resilience Building (over 100 municipalities across 6 states and D.C.) | Creator and Lead Facilitator | N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Role. Development and implementation of Community Resilience Building (www.communityresiliencebuilding.org) with over 100 municipalities and academic institutions from urban to rural settings with communities as large as 150,000 people (similar size as Hollywood, Florida). | | <input checked="" type="checkbox"/> Check if project performed with current firm | |

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| 12. NAME Elizabeth Perez | 13. ROLE IN THIS CONTRACT Outreach, Engineering Analysis and Adaptation Strategies | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 19 | b. WITH CURRENT FIRM 6 |
| 15. FIRM NAME AND LOCATION (City and State) Collective Water Resources, LLC - Lake Worth, Florida | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) B.S. Environmental Engineering M.S. Civil Engineering, Water Resources/Statistics | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) 61023- Florida, PE | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Certified floodplain manager and member of the American Academy of Water Resources Engineers. Five books and numerous technical publications including the 8 th and upcoming 9 th Edition of the undergraduate textbook <i>Water Supply and Pollution Control</i> . Board member and committee chair for the Florida Stormwater Association. 2016 Associate Member of the Year – Palm Beach County League of Cities and 2011 Integrated Water Resources Award (Florida Water Environment Association). | | | |

| 19. RELEVANT PROJECTS | | | |
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| a. | (1) TITLE AND LOCATION (City and State) Stormwater Master Plan West Palm Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Project Manager. Holistic and futuristic stormwater master plan with numerous project elements. Led team through hydrologic/hydraulic analysis and modeling, pollutant load analyses, GIS creation and refinement, stormwater atlas enhancements, outreach, grant funding, climate change/sea-level rise analyses, water quality analysis/advocacy, and CIP development. Primary engineer for prioritization and creation and costing of hundreds of stormwater CIPs – which includes both traditional civil engineering and green infrastructure elements. Cost: \$939,635.13 | | |
| b. | (1) TITLE AND LOCATION (City and State) Comprehensive Stormwater Management Plan City of Aventura, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Quality Control. Prepared a technical summary of how climate change may impact stormwater management; current science and climate models appropriate for local and regional projections of impacts to sea level, precipitation, and tropical cyclone frequency and intensity. Cost: \$29,840 | | |
| c. | (1) TITLE AND LOCATION (City and State) Model Review & FEMA Data Advocacy City of West Palm Beach & Palm Beach County, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Project Manager and Lead Modeler. Personally coordinated the response to the proposed preliminary Digital Flood Insurance Rate Maps on behalf of the City and Palm Beach County. Project Manager, primary modeler, and data/floodplain advocate. Worked closely with County engineering office, Mayor's office, Palm Beach League of Cities, and others to technically advocate for accurate models and maps. Cost: \$56,441 | | |
| d. | (1) TITLE AND LOCATION (City and State) SWMM and ICPR Modeling Central Broward Water Control District, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Quality Control. Creation of district-wide, detailed SWMM and ICPR models using GIS-based information, including LIDAR, operational rules from SFWMD, and survey data. Worked with the team to refine model parameters, tighten calibration, and coordinate various boundary conditions. Led QA/QC effort. Cost: \$30,000 | | |
| e. | (1) TITLE AND LOCATION (City and State) Marine Way Modeling and Feasibility Study Delray Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |

Quality Control and Assurance. As a subconsultant, Collective Water modeled and consulted on the leading area of concern for the City of Delray Beach. The area is subject to both rainfall-induced flooding and sea level rise concerns. Collective created a 2-D ICPR4 model to investigate potential solutions to flooding in the area. **Cost:** \$30,000

| | | | |
|--|---|--|---------------------------|
| 12. NAME Stephanie Dunham | 13. ROLE IN THIS CONTRACT Data Collection, Engineering Analysis and Adaptation Strategies | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 20 | b. WITH CURRENT FIRM 3 |
| 15. FIRM NAME AND LOCATION (City and State) Collective Water Resources, LLC - Lake Worth, Florida | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) M.S. & B.S. in Civil Engineering | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) 59782- Florida, PE | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Ms. Dunham has devoted most of her career to water resource management with specific emphasis on stormwater modeling coupled with sea level rise/climate change, sustainability, GIS, flood hazard identification, risk assessment and communication, and hazard mitigation planning. Her affiliations include the Florida Stormwater Association, Florida Floodplain Managers Association, and the American Water Resources Association. | | | |

19. RELEVANT PROJECTS

| a. | (1) TITLE AND LOCATION (City and State) Stormwater Master Plan West Palm Beach, FL | (2) YEAR COMPLETED | |
|----|---|--|-------------------------------------|
| | | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Task Manager. Facilitated the data collection of stormwater infrastructure and hydrologic characteristics, water quality investigations and modeling, sea-level rise vulnerability assessment, preparation of the FEM -prescribed Repetitive Loss Area Analysis, and identification of key opportunities to increase the use of green and sustainable stormwater best management practices and low-impact development. Cost: \$939,635.13 | | |
| b. | (1) TITLE AND LOCATION (City and State) Marine Way Modeling and Feasibility Study Delray Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2018 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Project Manager. As a subconsultant, Collective Water modeled and consulted on the leading area of concern for the City of Delray Beach. The area is subject to both rainfall-induced flooding and sea level rise concerns. Collective created a 2-D ICPR4 model to investigate potential solutions to flooding in the area. Cost: \$30,000 | | |
| c. | (1) TITLE AND LOCATION (City and State) Stormwater Master Plan Modeling and Design Implementation Fort Lauderdale, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Project Manager. Developed the conceptual modeling approach and standards that will be applied city-wide, performed hydraulic and hydrologic modeling for three city watersheds, and conducted a modeling results workshop, and developed and implemented training to City staff on the model. Cost: \$537,230 | | |
| d. | (1) TITLE AND LOCATION (City and State) Comprehensive Stormwater Management Plan City of Aventura, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Project manager. Prepared a climate change and sea-level rise plan specific to the city with recommendations on sea level rise projections and their application in evaluating future flood protection level of service as well as analysis of stormwater adaptation alternatives. Cost: \$29,840 | | |
| e. | (1) TITLE AND LOCATION (City and State) Stormwater Master Plan Dunedin, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2019 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Lead Modeler & Engineer – Vulnerability Assessment. As a subconsultant, Collective Water was selected to complete the vulnerability assessment for Dunedin’s holistic and data-driven Stormwater Master Plan. Analysis will evaluate various sea level rise and hazard scenarios throughout the City. Cost: \$30,000 (Vulnerability Assessment Only) | | |

| | | | |
|-----------------------------------|--|----------------------|---------------------------|
| 12. NAME Anna Leitschuh | 13. ROLE IN THIS CONTRACT GIS Analysis/Data Management | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 5 | b. WITH CURRENT FIRM 2 |

| |
|--|
| 15. FIRM NAME AND LOCATION (City and State) Collective Water Resources, LLC – Lake Worth, Florida |
|--|

| | |
|--|---|
| 16. EDUCATION (DEGREE AND SPECIALIZATION) B.S. Ecological Engineering | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) 84415 Florida- PE |
|--|---|

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
Ms. Leitschuh is a professional engineer experienced in managing and maintaining large datasets using GIS. Her career has been built on readily combining her technical skills in GIS and hydrologic and hydraulic modeling - and her ability to create impactful maps and graphics for public outreach on a wide variety of topics. She has proven experience in analyzing sea level rise impacts and performing data driven vulnerability analyses throughout Florida.

19. RELEVANT PROJECTS

| a. | (1) TITLE AND LOCATION (City and State) Stormwater Master Plan West Palm Beach, FL | (2) YEAR COMPLETED | |
|----|--|--|--------------------------------------|
| | | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Task Manager. Analyzed areas for future infrastructure replacement and with analyzing the added impact of sea level rise on coastal infrastructure using a detailed hydrologic model. Constructed future (30-year) model scenarios for sea level rise and groundwater for five areas of interest to the City. Summarized results in a series of sustainability maps. Cost: \$939,653.13 | | |
| b. | (1) TITLE AND LOCATION (City and State) Marine Way Stormwater Analyses Delray Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Project Manager. Detailed analysis for an area vulnerable to sea level rise and flooding. Gathered and reviewed existing GIS data; developing catchments and connectivity; developing an existing conditions ICPR4 (1D, 2D) model; model stabilization; modeling and analyzing added impact of sea level rise on existing conditions; producing a technical memorandum. Cost: \$30,000 | | |
| c. | (1) TITLE AND LOCATION (City and State) Stormwater Master Plan Modeling and Design Implementation Fort Lauderdale, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Project Modeler. Compiled topographic and feature model input data; evaluating and refining topographic data using ArcGIS and ArcHydro to process the digital elevation model; Developed existing conditions and future sea level rise conditions models. The project involves a city-wide watershed level stormwater model to analyze level of service for existing and future sea level rise conditions in the City. Cost: \$537,230 | | |
| d. | (1) TITLE AND LOCATION (City and State) Datura Green Streets Improvements West Palm Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If Applicable) 2018 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Project Modeler/Hydrologist. Reviewed and summarized existing data for the project area and utilized route survey data to better define the areas contributing to the stormwater management system in GIS. The project will act as a demonstration green street project for the City of West Palm Beach. Cost: 70,000 (Phase 2 Design Only) | | |
| e. | (1) TITLE AND LOCATION (City and State) Baseline Water Quality – Phase I West Palm Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE | <input checked="" type="checkbox"/> Check if project performed with current firm | |
| | Project Engineer. Summarized existing water quality data. Presenting existing data in a series of user-friendly maps. The project aims to assist the City in compiling and reviewing existing water quality data to ensure compliance and facilitate easy access to data. Cost: \$62,700 | | |

21. TITLE AND LOCATION (City and State)

Hurricane Matthew Multiple Counties Resiliency Redevelopment Plans Preparation Services, Raleigh, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES
2017

CONSTRUCTION (if Applicable)
N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER
North Carolina Division of Emergency Management

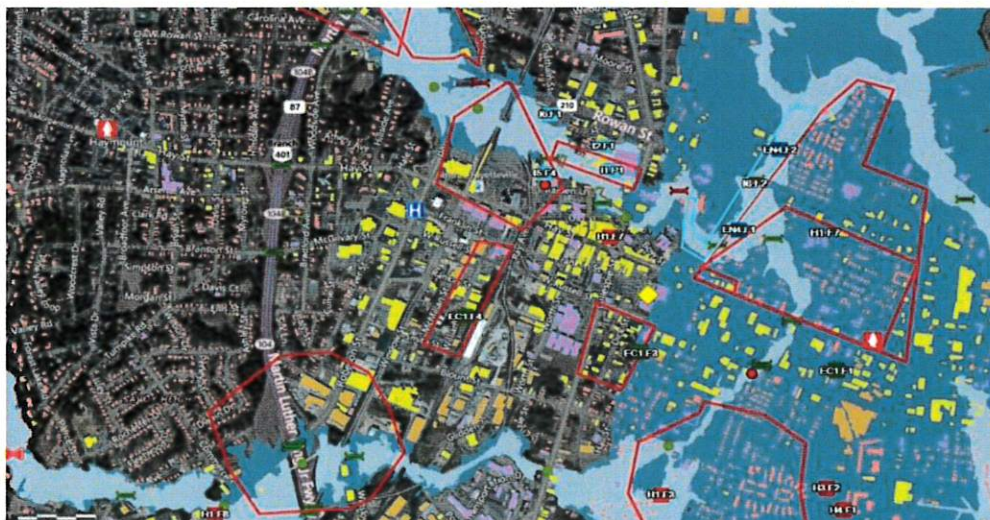
b. POINT OF CONTACT NAME
Ryan Cox

c. POC TELEPHONE NUMBER
919.825.2311

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

In October 2016, Hurricane Matthew caused widespread damage across eastern North Carolina estimated at \$1.5 billion. The State established the North Carolina Resilient Redevelopment Planning (NCRRP) program to help the 50 impacted counties develop a roadmap for community rebuilding, resiliency, and revitalization. Atkins was integral in the development of resilient redevelopment action plans in nine of the disaster-declared counties, including several of the hardest hit ones. Atkins planners worked directly with local officials at the county and municipal level, as well as the public to identify strategies and projects to help the communities rebuild in a safer, more resilient way. In each county, the Atkins team led a series of six meetings (three with local officials and three with the public) to determine major impacts from the storm, identify any unmet needs that still existed several months after the event, and develop a set of projects to implement that would create a more resilient community. Atkins used an online ArcGIS portal to work with communities and the public to identify specific locations where impacts had occurred and to discuss details of what occurred during the storm. Atkins introduced City Simulator as a tool that could evaluate a range of resilience options. Atkins City Simulator was demonstrated and used to show the resilience advantages of dam hardening and rebuilding versus relocation in one of the hard hit counties.

| |
|---|
| Project summary |
| Size: N/A |
| Construction value: N/A |
| Contract information |
| Contract/TO number: Delivery Order 2 |
| Project fee: \$965,000 |
| Relevant facilities: |
| Key project elements |
| <ul style="list-style-type: none"> Detailed evaluation of flood impacts and flood risk Mitigation action scoping in four areas (Housing, Infrastructure, Environment, and Economic Development) Intensive engagement with locals and state |



Clockwise from top left: (1) Proposed Park/Recreational Area Developed During Planning Process (2) Reviewing Final Maps (3) Previously Completed Culvert Project (4) Project Locations Mapped in ArcGIS Online with Impact Areas

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| | (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> | (3) ROLE |
|----|-----------------------------|---|--|
| a. | Atkins North America | Raleigh, NC | Subconsultant that led the development of nine plans and assisted with prime with other duties like cost estimation of projects and development of project entry database. |

21. TITLE AND LOCATION (City and State)
**SFWMD Infrastructure Life Cycle Cost Forecasting,
 West Palm Beach, FL**

22. YEAR COMPLETED

PROFESSIONAL SERVICES
 2016

CONSTRUCTION (if Applicable)
 N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER
 South Florida Water Management District

b. POINT OF CONTACT NAME
 Mr. Richard Virgil, PE

c. POC TELEPHONE NUMBER
 561.682.6759

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

The South Florida Water Management District (SFWM) is the largest of the State of Florida's five regional agencies that oversees the management of water resources. SFWMD is responsible for managing and protecting the water resources in 16 counties in Central and Southern Florida by balancing and improving water quality, flood control, natural systems, and water supply. The district manages the water needs for about 8 million people including the cities of Miami and Orlando and the Everglades. With a \$13 billion asset infrastructure system comprising 800 pump stations, culverts, weirs, spillways, and locks, and hundreds of miles of canals and levees, SFWMD must have a clear understanding of the best way to spend its annual capital investment and operation and maintenance budget.

Project summary
Size: Entire South Florida Water Management District.
Construction value: N/A

Contract information
Contract/TO number: XXX
Project fee: \$525,000
Relevant facilities: Control Structures, Pump Stations, Canals, Levees

Key project elements

- Clearly demonstrated need for 20% increase in annual capital investment to avoid long-term deterioration of overall system condition.
- "Live" reporting system designed for annual updates to asset list and asset condition based on enterprise CMMS
- Two interfaces to the database provide a familiar Excel interface to the analytic database for staff updating, testing and publishing new scenarios; a web interface for viewing, comparing and presenting stored scenarios



- Developed a Life Cycle Cost Forecasting Application (LCA) that allows the district to forecast total asset system costs for the entire life cycle of the infrastructure (out beyond 2100), or zoom in to the next 10 years.
- Allows SFWMD to create what-if scenarios that vary the total budget, number and size of capital improvement projects, and refurbish and replacement scheduling.
- Phased implementation providing initial results within 4 months to support capital budget increase.
- Includes an analytical database, excel-based calculation engine, and web-based reporting tool for modeling and comparing scenarios.
- Reviewed, assessed and integrated client-furnished data on historic and planned capital outlays for installation, refurbishment, and replacement of 800 major water control structures, and all major canals and levees.
- Reviewed, assessed and integrated prioritization criteria and condition assessments

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
|--|---|---|
| a. Atkins; Collective Water Resources | Fort Lauderdale, Tampa; Lake Worth, FL | Prime Consultant, All services; Subconsultant, Data Mining and Cost Models |

| | | |
|---|-------------------------------|-------------------------------------|
| 21. TITLE AND LOCATION (<i>City and State</i>) Stormwater BMP Assessment Tool, City of Bonita Springs, FL | 22. YEAR COMPLETED | |
| | PROFESSIONAL SERVICES 2014 | CONSTRUCTION (if Applicable) N/A |

23. PROJECT OWNER'S INFORMATION

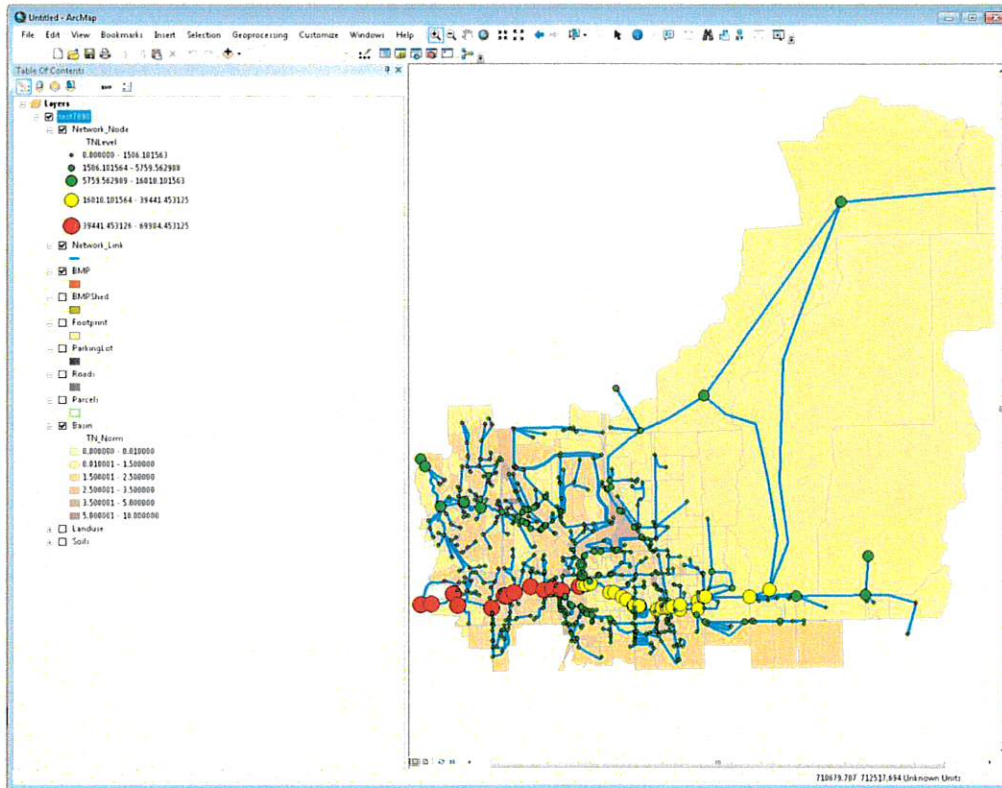
| | | |
|--|--|---|
| a. PROJECT OWNER City of Bonita Springs | b. POINT OF CONTACT NAME Mr. Matt Feeny | c. POC TELEPHONE NUMBER (239) 949-6246 |
|--|--|---|

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (*Include scope, size, and cost*)

The City of Bonita Springs lies on the west coast of Florida, south of Tampa. The BMP Assessment Tool (BAT) was used to estimate pollutants at the city's stormwater basins and through a link node network, representing the stormwater conveyances. The figure below shows total nitrogen levels (lbs/acre/year) in the basins and at the nodes (lbs/year).

The darker basins indicate locations within the city that have high DCIA, impervious area, and resulting high pollutant loadings. The model shows these basins are key areas for adding BMPs. The City has used the tool to identify the most effective first BMP improvement, which was to install a bioswale for reducing Nitrogen from upstream basins.

| |
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| Project summary |
| Size: City of Bonita Springs City Limits |
| Construction value: N/A |
| Contract information |
| Contract/TO number: |
| Project fee: \$79,000 |
| Relevant facilities: Control Structures, Pipes, Swales, Retention Ponds |
| Key project elements |
| <ul style="list-style-type: none"> • BMP testing • Data collection and analysis • ICPR Model Integration • Software development |



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| (1) FIRM NAME | (2) FIRM LOCATION (<i>City and State</i>) | (3) ROLE |
|---------------|---|----------|
|---------------|---|----------|

| | | | |
|----|---------------|------------------|---------------------------------|
| a. | Atkins | Miami, Tampa, FL | Prime Consultant, All services; |
|----|---------------|------------------|---------------------------------|

21. TITLE AND LOCATION (City and State)

**Comprehensive Stormwater Management Plan (including Sea Level Rise and Vulnerability Adaptation Planning)
Aventura, FL**

22. YEAR COMPLETED

PROFESSIONAL SERVICES
2016

CONSTRUCTION (if Applicable)
N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER
City of Aventura, Miami-Dade County

b. POINT OF CONTACT NAME
Mr. Joseph Kroll

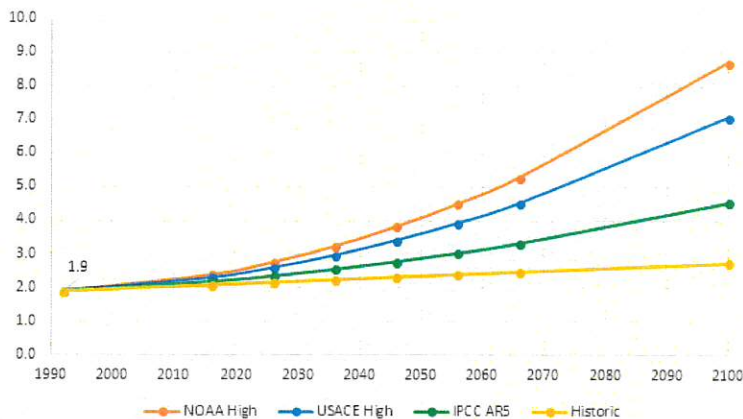
c. POC TELEPHONE NUMBER
(305)466-8970

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Collective Water Resources is the resiliency lead that supported the City of Aventura's Comprehensive Stormwater Management Plan and was responsible for preparing a Climate Change and Sea Level Rise Plan and associated model input parameters to support evaluation of future flood protection level of service and adaptation strategies. Specifically, Collective Water prepared a technical summary of how climate change may impact its stormwater management; current science and climate models appropriate for local and regional projections of impacts to sea level, precipitation, and tropical cyclone frequency and intensity; and how climate change projections have been applied by other public entities within South Florida to stormwater planning and design. Additionally, Collective Water prepared a Climate Change and Sea Level Rise Plan specific to the City with recommendations on sea level rise projections and their application in evaluating future flood protection level of service as well as analysis of stormwater adaptation alternatives. The project involved ICPR modeling and development of CIPs based on the information and guidance provided by Collective Water Resources.

| |
|--|
| Project summary |
| Size: 3.5 square miles |
| Construction value: N/A |
| Contract information |
| Contract/TO number: 01-0103-225 |
| Project fee: \$29,840 |
| Relevant facilities: N/A |
| Key project elements |
| <ul style="list-style-type: none"> • One of the first Stormwater Master Plans that included a comprehensive sea level rise element. • Thorough review of existing literature and data for the City relevant to the vulnerability analyses. |

City of Aventura Projected MHHW with SLR NGVD29 (feet)



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| | (1) FIRM NAME | (2) FIRM LOCATION (<i>City and State</i>) | (3) ROLE |
|----|--|---|----------|
| a. | Collective Water Resources, LLC | Lake Worth, Florida | Prime |

| | | | |
|---|--|----------------------------------|-------------------------------------|
| 21. TITLE AND LOCATION (City and State) Stormwater Master Plan, West Palm Beach, FL | | 22. YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (if Applicable) N/A |

23. PROJECT OWNER'S INFORMATION

| | | |
|---|---|---|
| a. PROJECT OWNER City of West Palm Beach | b. POINT OF CONTACT NAME Dr. Poonam Kalkat | c. POC TELEPHONE NUMBER (561) 644-9323 |
|---|---|---|

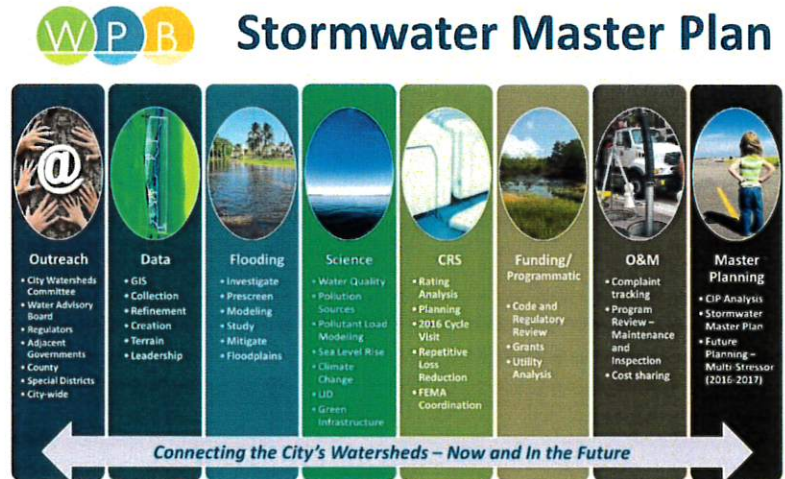
BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT
(Include scope, size, and cost)

Collective Water Resources is currently facilitating the completion of the City of West Palm Beach's Stormwater Master Plan (SWMP). The goal of the project is to develop a clear, comprehensive and forward-looking framework that encompasses the City's existing stormwater management program and furthers the overall goals and objectives of the City. The SWMP is a futuristic master plan that integrates extensive data review/development, stormwater modeling, ordinance revisions, water quality and pollutant load analyses, operations and maintenance refinements, community rating system improvements, sea level rise/climate change assessment, and capital improvement project analyses and development. On behalf of the City, Collective Water facilitated a new geodatabase format, improvements to flood insurance rates, an ongoing "City Watersheds Committee" comprising citizen leaders, cooperative peer review with SFWMD, and active management of water quality data – among other unique features. Two CIPs created from the project also recently qualified for cooperative funding from SFWMD and the State of Florida.

The team was dedicated to creating recommendations that are helpful in terms of both public education and regional planning – but also very practical and applicable in terms of the day-to-day decisions made by the City of West Palm Beach. A significant effort was undertaken to review and vet the data sources and methodology that were used – a sound hydrologic basis was of paramount importance.

Mayor Jeri Muoio was invited to Paris in 2015 as part of the United Nation's COP-21 Climate Summit to present on the City's many sustainability efforts, including their leadership in creating this unique approach to stormwater master planning. Most recently, the City was informed that this project received a second-place finish in United States Conference of Mayors in the large City Category for their Climate Awards. This is a prestigious award that included competition from some of the largest Cities in the United States – New York, Chicago, etc.

| |
|--|
| Project summary |
| Size: 57 square miles Construction value: N/A |
| Contract information |
| Contract/TO number: 13515 Project fee: \$1,000,000 Relevant facilities: N/A |
| Key project elements |
| <ul style="list-style-type: none"> • One of the first vulnerability assessments completed as part of a Stormwater Master Plan in the State of Florida. • Integrated use of GIS and H&H models as part of a resiliency study. • Vulnerability analysis over 5 major areas of interest to the City – including all major infrastructure types and the built environment. • Provided a hydrologic baseline for subsequent studies in multiple City departments on various topics related to resiliency. |



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
|---|------------------------------------|----------|
| a. Collective Water Resources, LLC | Lake Worth, Florida | Prime |

| | | |
|--|-------------------------------|-------------------------------------|
| 21. TITLE AND LOCATION <i>(City and State)</i> Natural Hazard Mitigation Plan - Update | 22. Year | |
| | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (if Applicable) N/A |

23. PROJECT OWNER'S INFORMATION

| | | |
|---|--|---|
| a. PROJECT OWNER Metropolitan Connecticut Council of Governments | b. POINT OF CONTACT NAME Mr. Matt Fulda | c. POC TELEPHONE NUMBER 203-366-5405 |
|---|--|---|

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Dr. Adam Whelchel was contracted to provide facilitation services for six coastal municipalities in south central Connecticut including Fairfield, Stratford, Easton, Trumbull, Monroe, and Connecticut's largest city – Bridgeport (147,000 people). The six municipalities all went through a Community Resilience Building (www.communityresiliencebuilding.org) workshop process to satisfy FEMA's requirement for community engagement as part of a regional Natural Hazard Mitigation Plan update. All six towns successfully enhanced their own respective NHMPs via the Community Resilience Building process which included a central focus on municipal coastal infrastructure vulnerabilities (transportation – bridges, roads, culverts, bus/train service; social services – sheltering, health care; environment – dunes/beaches, coastal wetlands; emergency management – reverse 911, fire/police/ambulance services) as well as strengthens within each municipality. FEMA Region 1 remarked that this particular NHMP was the most developed they had reviewed as it relates to mitigation as well as response and recovery due in large part to the community engagement provided by the Community Resilience Building process.

| |
|---|
| Project summary |
| Size: 250,000 people across 6 municipalities |
| Construction value: N/A |
| Contract information |
| Contract/TO number: |
| Project fee: 15,000 |
| Relevant facilities: |
| Key project elements |
| <ul style="list-style-type: none"> • Community Resilience Building • Regional Natural Hazard Mitigation Plan • Municipal Coastal Infrastructure Mitigation |

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> | (3) ROLE |
|---------------|---|----------|
|---------------|---|----------|

| | | | |
|----|--|---------------|---|
| a. | The Nature Conservancy in Connecticut | New Haven, CT | Lead Facilitator – Project Manager for Community Engagement |
|----|--|---------------|---|

| | | |
|---|-------------------------------|-------------------------------------|
| 21. TITLE AND LOCATION <i>(City and State)</i> Community Resilience Building Workshop Development | 22. Year | |
| | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (if Applicable) N/A |

23. PROJECT OWNER'S INFORMATION

| | | |
|--|---|---|
| a. PROJECT OWNER The Nature Conservancy | b. POINT OF CONTACT NAME Dr. Adam Whelchel | c. POC TELEPHONE NUMBER 860-970-8442 |
|--|---|---|

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

The development of the Community Resilience Building (CRB) process began in 2007 and resulted in formal launch of the process via www.communityresiliencebuilding.org in 2016. The CRB was developed through repeat engagements with many coastal and inland municipalities over the last decade. Currently, the CRB has or is being used with over 148 municipalities across the Commonwealth of Massachusetts as part of a state-wide program to get all 361 municipalities moving on community resilience. In addition, CRB has been or is being used in municipalities and/or academic institutions in California, Wisconsin, Minnesota, New York, Connecticut, Virginia, and the District of Columbia. An estimate of the number of municipalities utilizing CRB is approximately 225 across these 7 states and 1 district. The CRB process has been used successfully with municipalities that are coastal and have the same number of residents as Hollywood, Florida.

| |
|--|
| Project summary |
| Size: 200 plus municipalities |
| Construction value: N/A |
| Contract information |
| Contract/TO number: N/A |
| Project fee: N/A |
| Relevant facilities: N/A |
| Key project elements |
| <ul style="list-style-type: none"> • Development of CRB • 200+ municipalities • Local/Regional Natural Hazard Mitigation Planning/Comprehensive + Master Plan updates |

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> | (3) ROLE |
|----------------------------------|---|--|
| a. The Nature Conservancy | New Haven, Connecticut | Creator of Community Resilience Building |

21. TITLE AND LOCATION *(City and State)*
**Vulnerability Assessment & Adaptation Strategies
(Village of Key Biscayne)**

22. YEAR COMPLETED

PROFESSIONAL SERVICES
2017

CONSTRUCTION (if Applicable)
N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER
Village of Key Biscayne

b. POINT OF CONTACT NAME
Eugene M. Santiago

c. POC TELEPHONE NUMBER
(305) 365-8902

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Authored the final sea level rise vulnerability assessment and adaptation strategy report for the Village of Key Biscayne. Specific input detailed extent of roadway flooding due to sea level rise and possible adaptation measures to mitigate vulnerabilities.

| |
|---|
| .Project summary |
| Size: 3.5 square miles |
| Construction value: N/A |
| Contract information |
| Contract/TO number: |
| Project fee: \$28,000 |
| Relevant facilities: N/A |
| Key project elements |
| <ul style="list-style-type: none"> Specific input detailed extent of roadway flooding due to sea level rise and possible adaptation measures to mitigate vulnerabilities |

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| | (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> | (3) ROLE |
|----|----------------|---|----------|
| a. | Brizaga | Fort Lauderdale, FL | Prime |

| | | |
|--|-------------------------------|-------------------------------------|
| 21. TITLE AND LOCATION <i>(City and State)</i> Climate Study for Commission on Global Security, Justice, and Governance Washington, D.C. | 22. YEAR COMPLETED | |
| | PROFESSIONAL SERVICES 2015 | CONSTRUCTION (if Applicable) N/A |

23. PROJECT OWNER'S INFORMATION

| | | |
|---|--------------------------|-------------------------|
| a. PROJECT OWNER Commission on Global Security, Justice, and Governance | b. POINT OF CONTACT NAME | c. POC TELEPHONE NUMBER |
|---|--------------------------|-------------------------|

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Advised the Commission on Global Security, Justice, and Governance—a group of current and former senior government and UN officials—on urban resilience strategies, energy regulatory policies, climate finance methods, and inter-governmental diplomatic cooperation for climate adaptation efforts. Contributed and authored original recommendations to the final report presented at UN Headquarters to various policy stakeholders and UN representatives.

| |
|--|
| Project summary |
| Size: Global |
| Construction value: N/A |
| Contract information |
| Contract/TO number: |
| Project fee: N/A |
| Relevant facilities: N/A |
| Key project elements |
| <ul style="list-style-type: none"> • climate adaptation policy • urban resilience strategies, energy regulatory policies, climate finance methods, and inter-governmental diplomatic cooperation |

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| | (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> | (3) ROLE |
|----|--------------------------|---|----------|
| a. | Atkins (employee) | Alexandria, VA | |

G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

| 26. NAMES OF KEY PERSONNEL (From Section E, Block 12) | 27. ROLE IN THIS CONTRACT (From Section E, Block 13) | 28. EXAMPLE PROJECTS LISTED IN SECTION F (Fill in "Example Projects Key" section below before completing table. Place "X" under project key number for participation in same or similar role.) | | | | | | | | | |
|--|---|--|---|---|---|---|---|---|---|---|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Jack Hampson | Project Manager | ■ | ■ | ■ | | | | | | | |
| David Gannett (new employee) | Deputy Project Manager, Liaison, Local Knowledge, Infrastructure SME | | | | | | | | | | |
| Stephen Bourne | Vulnerability and Adaptation Analysis Task Leader | ■ | ■ | ■ | | | | | | | |
| Clark Siler | GIS Analysis/Data Mining/Data Management | | ■ | | | | | | | | |
| Frank Lawrence | Adaptation Planning | ■ | | | | | | | | | |
| Richard Passarelli | Adaptation Planning and Policy | | | | | | | | | | ■ |
| Alec Bogdanoff | Outreach, SLR Analysis, Vulnerability Assessments and Adaptation Strategies | | | | | | | | | | ■ |
| Michael Antinelli | Outreach, Vulnerability Assessments and Adaptation Strategies | | | | | | | | | | ■ |
| Adam Whelchel | Outreach Facilitator | | | | | | | | ■ | | |
| Elizabeth Perez | Outreach, Engineering Analysis, Adaptation Strategies | | ■ | | ■ | ■ | | | | | |
| Stephanie Dunham | Data Collection, Engineering Analysis, Adaptation Strategies | | ■ | | ■ | ■ | | | | | |
| Anna Leitschuh | GIS Analysis/Data Management | | | | | ■ | | | | | |
| Richard Tenn (new employee) | Local Knowledge, Infrastructure SME | | | | | | | | | | |
| Ruben Hernandez | QC and Project Oversight | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

29. EXAMPLE PROJECTS KEY

| NO. | TITLE OF EXAMPLE PROJECT (FROM SECTION F) | NO. | TITLE OF EXAMPLE PROJECT (FROM SECTION F) |
|-----|---|-----|--|
| 1 | North Carolina Resilient Redevelopment Planning | 6 | Natural Hazard Mitigation Plan (with Community Resilience Building for 6 coastal municipalities) |
| 2 | South Florida Water Management District Life Cycle Cost Forecasting (w/ prioritization and optimizer) | 7 | Community Resilience Building Workshop Development |
| 3 | NOAA Coastal Resilience Decision Support System | 8 | Vulnerability Assessment & Adaptation Strategies (Village of Key Biscayne) |
| 4 | City of Aventura Vulnerability and Adaptation Planning | 9 | Climate Study for Commission on Global Security, Justice, and Governance, Washington, DC |
| 5 | West Palm Beach Stormwater Master Plan (with SLR and Climate Change assessment and adaptation plan) | 10 | |

Founded in 1938, Atkins is consistently recognized as a leading project-delivery firm. We maintain an industry- low professional staff turnover rate that ensures our clients of qualified personnel with long-term project familiarity and commitment. In addition to a full range of engineering, environmental and planning services, we offer innovative technologies to solve problems. We have documented experience in regulatory negotiations including risk-based actions and competitive costs and highly responsive service. Recently acquired by SNC Lavalin, Atkins is now a member of the

Our team is effectively positioned to meet the needs of the City of Hollywood in terms of experience, expertise, and proximity. Our broad range of skills, depth of resources, and geographic distribution of qualified personnel afford us great flexibility in assigning the right personnel— both in terms of expertise and availability—to expedite project work and meet accelerated schedules. The majority of the proposed team is conveniently located in Southeast Florida. We are prepared to assist the City with any time-critical needs that may arise throughout the contract.

Corporate quality. Atkins project managers use our structured project delivery process that forms the road map for each project, regardless of size or complexity. This process ensures successful achievement of project objectives and manages potential project issues. Our program organization and management approach ensures quality, cost-effective, and timely performance. Project-specific quality standards are established as part of the overall QA/QC program.

Our responsibility. No matter what the scope of projects may be—from data collection and analysis, stakeholder engagement, public outreach, software and web customization, and database updates through submittal of final documentation—Atkins will be responsible for the comprehensive services that will help the City meet its goals while staying within a set schedule and budget. We will meet challenges with innovation and excellence, while remaining sensitive to the constraints imposed by today's economic conditions.

Our technology. In this changing and demanding environment, Atkins has emerged as a leading provider of quality consulting and information technology management services that support our project management and construction management professionals. Our surveyors, business analysts, system architects, GIS professionals, and software and database developers are continually evaluating new solutions to keep pace with these growing needs. Atkins' work on cutting-edge technology development in the areas of data collection, design and implementation, testing, management, program control and monitoring, risk assessment, asset management and simulation enables us to provide informative advice to clients in this ever-changing industry.

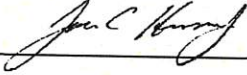
Client satisfaction. Atkins has set up a team with one goal in mind: to provide the personnel and systems resources necessary to assist the City of Hollywood in the successful and timely completion of the Citywide vulnerability assessment and adaptation plan. The resulting products will be a living document with branches that can be updated and revisited as future uncertainties resolve through time and critical milestones are triggered. To achieve this goal, we have structured our approach and project team to be responsive and flexible, to include technical experts who are familiar with infrastructure engineering in the City of Hollywood, to work alongside the climate adaptation team and provide the reality checks to identify and address vulnerabilities with strategies that are realistic for Hollywood. We offer resources that are close to the City of Hollywood so that they can work directly with City staff, and provide a team that will be committed to meeting the City's needs.

Key personnel. Atkins has assembled a team of proven professionals who have experience in providing similar solutions for clients throughout south Florida. Our team is committed to continuing our relationship with the City of Hollywood, and developing appropriate, creative, and sustainable solutions. More in-depth information on our team and approach is provided in the following section.

I. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts

31. SIGNATURE



32. DATE

June 6, 2018

33. NAME AND TITLE

John C. "Jack" Hampson, Project Director

Standard Forms 330

Part II

ARCHITECT – ENGINEER QUALIFICATIONS1. SOLICITATION NUMBER (If any)
CM 18-013**PART II – GENERAL QUALIFICATIONS**

(If a firm has branch offices, complete for each specific branch office seeking work.)

| | | | | |
|---|-----------------|-----------------------|--|--------------------------|
| 2a. FIRM (OR BRANCH OFFICE) NAME Atkins North America, Inc. | | | 3. YEAR ESTABLISHED 1972 | DUNS NUMBER 001488055 |
| 2b. STREET 4030 West Boy Scout Boulevard, Suite 700 | | | 5. OWNERSHIP | |
| 2c. CITY Tampa | 2d. STATE FL | 2e. ZIP CODE 33607 | | |
| 6a. POINT OF CONTACT NAME AND TITLE Jack Hampson, Project Director | | | | |
| 6b. TELEPHONE NUMBER 954.733.7233 | | | 6c. E-MAIL ADDRESS david.bannett@atkinsglobal.com | |
| 8a. FORMER FIRM NAME(S) (If any) | | | 8b. YR. ESTABLISHED | 8c. DUNS NUMBER |

| a. Function Code | b. Discipline | c. No. of Employees (1) FIRM (2) BRANCH | |
|------------------|--------------------------|--|------------|
| 02 | Administrative | 331 | 38 |
| 60 | Transportation Engineer | 259 | 24 |
| 12 | Civil Engineer | 260 | 15 |
| UD10 | Finance Specialist | 30 | 16 |
| UD27 | Technician/Designer | 109 | 11 |
| 62 | Water Resources Engineer | 78 | 9 |
| 57 | Structural Engineer | 63 | 9 |
| 38 | Land Surveyor | 45 | 2 |
| UD28 | Transportation Planner | 42 | 6 |
| 58 | Technician/Analyst | 31 | 3 |
| 08 | CADD Technician | 65 | 5 |
| UD1 | Airfield Engineer | 29 | 4 |
| 06 | Architect | 46 | 3 |
| UD23 | Right-of-Way Agent | 29 | 2 |
| 16 | Construction Manager | 120 | 3 |
| UD9 | Environmental Planner | 10 | 3 |
| | Other Employees | 850 | 34 |
| | Total | 2,397 | 187 |

| a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
|-----------------|---|--|
| H07 | Highways, Streets, Airfield Paving, Parking | 9 |
| UD26 | Management, Program Management, GEC | 9 |
| A06 | Airports, Terminals, Hangars, Freight | 8 |
| B02 | Bridges | 7 |
| UD11 | Design-Build | 7 |
| T03 | Traffic & Transportation Engineering | 7 |
| W02 | Water Resources, Hydrology, Groundwater | 7 |
| C15 | Construction Management | 6 |
| UD13 | Emergency Response | 6 |
| UD34 | Permitting | 7 |
| UD42 | Right-of-Way | 6 |
| S13 | Stormwater Handling & Facilities | 7 |
| S09 | Structural Design, Special Structures | 7 |
| UD49 | Transportation Planning, PD&E, Corridors | 6 |
| W03 | Water Supply, Treatment & Distribution | 6 |
| A05 | Airports, Navajds, Airport Lighting | 5 |
| D04 | Design-Build: Preparation of RFPs | 6 |
| E09 | Env. Impact Studies/Assessments/Statements | 5 |
| UD44 | Site/Civil Engineering | 5 |
| S10 | Surveying, Platting, Mapping | 6 |
| T02 | Testing & Inspection Services | 6 |
| UD4 | Architecture | 4 |

| | | | |
|--|----|--|---|
| 11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (Insert revenue index number shown at right) | | PROFESSIONAL SERVICES REVENUE INDEX NUMBER | |
| a. Federal Work | 10 | 1. Less than \$100,000 | 6. \$2 million to less than \$5 million |
| b. Non-Federal Work | 10 | 2. \$100,000 to less than \$250,000 | 7. \$5 million to less than \$10 million |
| c. Total Work | 10 | 3. \$250,000 to less than \$500,000 | 8. \$10 million to less than \$25 million |
| | | 4. \$500,000 to less than \$1 million | 9. \$25 million to less than \$50 million |
| | | 5. \$1 million to less than \$2 million | 10. \$50 million or greater |

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

| | |
|-------------------|----------|
| a. SIGNATURE | DATE |
| | 6/6/2018 |
| c. NAME AND TITLE | |

Charlotte Maddox, PE, D.WRE, CFM, PMP, Vice President/Sr. Sector Manager

Profile of Consultant

Profile of Consultant

National organization

Atkins is a leading provider of engineering, planning, architecture, construction management, environmental sciences, energy, and program management services. With nearly 2,400 employees and 77 offices nationwide, Atkins offers a tremendous depth and breadth of experience and staff capacity. Our technical expertise enables us to provide practical solutions to the most complex challenges in a number of sectors.

Office Location

With a local office and a regional presence since 1960, Atkins offers strong familiarity with the project area. Atkins' Fort Lauderdale office staffs 35 professionals and the Miami office staffs 153 professionals who offer full-service, multidisciplinary support to local clients. All proposed team members for this project will provide services through our Ft. Lauderdale office. Our subconsulting team are all located within an hour of Hollywood, with the exception of our Community Resilience Building outreach facilitator from The Nature Conservancy. Should additional support be required, Atkins also has 13 offices across Florida. Together, these offices staff an additional 839 multidisciplinary professionals affording our project manager access to a significant depth of resources, if required.

About Atkins

Atkins has provided comprehensive engineering, environmental, planning and architecture services to public and private clients for more than 78 years. From small-scale assignments to large, complex projects crossing multiple geographic areas, we provide client-focused service and cost-effective solutions, using a proven approach that meets established budget and schedule parameters. As an infrastructure design firm, Atkins recognized over 7 years ago the importance of climate adaptation to address adequately the life cycle of the infrastructure we help to design, build and operate around the world. Atkins Future Proofing Cities initiative began in 2011 and has helped to fund the development of our City Simulator®, described in the Approach section. City Simulator® combines growth and climate forecasts with an integrated ArcGIS data model of Hollywood infrastructure and demographics to simulate the impact of different adaptation actions on long term resilience and productivity. Our broad experience across the range of infrastructure planning and engineering design enables us to address all project needs—regardless of size, location, complexity, or time.

Similar Projects

Our similar projects section reflects the fact that the core team from Atkins is a combination of engineers with strong local knowledge of Hollywood infrastructure (David Bannett, PE and Richard Tenn, PE) who will be working with our Florida-based Future Proofing Cities team (Jack Hampson, CFM and Stephen Bourne, PE). We have also teamed with three leading climate adaptation powerhouses – Collective Water Resources out of Lake Worth for adaptation strategies; Brizaga out of Fort Lauderdale for the full range of climate adaptation planning and stakeholder engagement; and The Nature Conservancy, who will provide the facilitator, Adam Whelchel, who designed their outreach template for *Community Resilience Building* (CRB). The CRB process has been proven in over 100 communities. Its development and application was led by Mr. Whelchel, with examples described here.

Project References

1. Atkins Hurricane Matthew Resiliency Redevelopment Plan Preparation Services for multiple North Carolina Counties
 - a. Owner: North Carolina Division of Emergency Management
 - b. Contact: Ryan Cox 919.825.2311
 - c. Description: North Carolina established the North Carolina Resilient Redevelopment Planning (NCRRP) program to help the 50 counties impacted by Hurricane Mathew develop a roadmap for community rebuilding, resiliency, and revitalization. Atkins was integral in the development of resilient redevelopment action plans in nine of the disaster-declared counties, including several of the hardest hit ones. Atkins planners worked directly with local officials at the county and municipal level, as well as the public to identify strategies and projects to help the communities rebuild in a safer, more resilient way. In each county, the Atkins team led a series of six meetings (three with local officials and three with the public) to determine major impacts from the storm, identify any unmet needs that still existed several months after the event, and develop a set of projects to implement that would create a more resilient community. Atkins used an online ArcGIS portal to work with communities and the public to identify specific locations where impacts had occurred and to discuss details of what occurred during the storm. Atkins introduced City Simulator as a tool that could evaluate a range of resilience options for the greatest return on investment.

2. Atkins Life Cycle Cost Analysis of South Florida Water Management District Infrastructure
 - a. Owner: South Florida Water Management District
 - b. Contact: Mr. Richard Virgil, PE 561.682.6759
 - c. Description: With a \$13 billion asset infrastructure system comprising 800 pump stations, culverts, weirs, spillways, and locks, and hundreds of miles of canals and levees, SFWMD must have a clear understanding of the best way to spend its annual capital investment and operation and maintenance budget. Atkins staff Jack Hampson, Stephen Bourne, Clark Siler and Collective Water Resources' Liz Perez teamed to develop a Life Cycle Cost Forecasting database and tool. The project results:
 - Developed a Life Cycle Cost Forecasting Application (LCA) that allows the district to forecast total asset system costs for the entire life cycle of the infrastructure or zoom in to the next 10 years.
 - Allows SFWMD to create what-if scenarios that vary the total budget, number and size of capital improvement projects, and refurbish and replacement scheduling.
 - Phased implementation provided initial results within 4 months to support capital budget increase requests to the governing board.
 - Included an analytical database, excel-based calculation engine, and web-based reporting tool for modeling and comparing scenarios.

- Reviewed, assessed and integrated client-furnished data on historic and planned capital outlays for installation, refurbishment, and replacement of 800 major water control structures, and all major canals and levees.
 - Reviewed, assessed and integrated prioritization criteria based on consequence of failure and condition assessments
3. Collective Water Resources SLR Vulnerability and Adaptation Plan as part of the City of Aventura Comprehensive Stormwater Management Plan
 - a. Owner: City of Aventura, Miami-Dade County
 - b. Contact: Mr. Joseph Kroll 305.466.8970
 - c. Description: Collective Water Resources is the resiliency lead that supported the City of Aventura's Comprehensive Stormwater Management Plan and was responsible for preparing a Climate Change and Sea Level Rise Plan and associated model input parameters to support evaluation of future flood protection level of service and adaptation strategies. Specifically, Collective Water prepared a technical summary of how climate change may impact its stormwater management; current science and climate models appropriate for local and regional projections of impacts to sea level, precipitation, and tropical cyclone frequency and intensity; and how climate change projections have been applied by other public entities within South Florida to stormwater planning and design.

 4. The Nature Conservancy Community Resilience Building for six coastal communities in Connecticut, MA
 - a. Owner: Metropolitan Connecticut Council of Governments
 - b. Contact: Mr. Matt Fulda 203.366.5405
 - c. Description: Dr. Adam Whelchel was contracted to provide facilitation services for six coastal municipalities in south central Connecticut including Fairfield, Stratford, Easton, Trumbull, Monroe, and Connecticut's largest city – Bridgeport (147,000 people). The six municipalities all went through a Community Resilience Building (www.communityresiliencebuilding.org) workshop process to satisfy FEMA's requirement for community engagement as part of a regional Natural Hazard Mitigation Plan update. All six towns successfully enhanced their own respective NHMPs via the Community Resilience Building process which included a central focus on municipal coastal infrastructure vulnerabilities (transportation – bridges, roads, culverts, bus/train service; social services – sheltering, health care; environment – dunes/beaches, coastal wetlands; emergency management – reverse 911, fire/police/ambulance services) as well as strengthens within each municipality. FEMA Region 1 remarked that this particular NHMP was the most developed they had reviewed as it relates to mitigation as well as response and recovery due in large part to the community engagement provided by the Community Resilience Building process.

 5. Collective Water Resources West Palm Beach Vulnerability Analysis under the Stormwater Master Plan.
 - a. Owner: City of West Palm Beach
 - b. Contact: Dr. Poonam Kalkat 561.644.9323

- c. Description: Collective Water Resources is currently facilitating the completion of the City of West Palm Beach’s Stormwater Master Plan (SWMP). The goal of the project is to develop a clear, comprehensive and forward-looking framework that encompasses the City’s existing stormwater management program and furthers the overall goals and objectives of the City. The SWMP is a futuristic master plan that integrates extensive data review/development, stormwater modeling, ordinance revisions, water quality and pollutant load analyses, operations and maintenance refinements, community rating system improvements, sea level rise/climate change assessment, and capital improvement project analyses and development. On behalf of the City, Collective Water facilitated a new geodatabase format, improvements to flood insurance rates, an ongoing “City Watersheds Committee” comprising citizen leaders, cooperative peer review with SFWMD, and active management of water quality data – among other unique features. Two CIPs created from the project also recently qualified for cooperative funding from SFWMD and the State of Florida.

The team was dedicated to creating recommendations that are helpful in terms of both public education and regional planning – but also very practical and applicable in terms of the day-to-day decisions made by the City of West Palm Beach. A significant effort was undertaken to review and vet the data sources and methodology that were used – a sound hydrologic basis was of paramount importance



Litigation in Last 5 Years

Like all professionals in this litigious society, Atkins, a nationwide consultancy firm, has been involved in several claims and suits over the years. Attached is a listing of litigation matters that have occurred in the last 5 years. None of the ongoing suits, if decided against Atkins, would impair its ability to meet its financial obligations. Atkins considers any further details of settled matters to be confidential/privileged and disclosable only under carefully controlled circumstances as the settlement agreements mandate. If you would like to discuss these matters, please contact the General Counsel of Atkins, Ernie Edgar, at 813.281.3626.

Updated: APRIL 16, 2018

ATKINS

BLUE = 3 YEARS

GREEN = 5 YEARS

5-YEAR LITIGATION HISTORY

| Case Title and Number | Court | Filing Date | Date Closed | Current Status | Disposition | Government Entity | Key Nature of Suit |
|--|--------------------------------------|---|-------------|----------------|---|-------------------|----------------------------|
| COOPER, SYDNEY & NOVELETTE COOPER, HIS WIFE, VS. C.H. PEREZ & ASSOCIATES CONSULTING ENGINEERS, INC., FLA DEPT. OF TRANSPORTATION AND ATKINS NORTH AMERICA, INC., CASE NO. 2017-024404 CA01 | CIRCUIT COURT, MIAMI-DADE COUNTY, FL | 3/30/2018 | | Open | | Yes | NEGLIGENCE/PERSONAL INJURY |
| ZAIDI, AZHAR S. INDIVIDUALLY AND AS REP OF EST. OF AMMAR AZHAR ZAIDI, DECEASED, VS. TAIION RAHAAD TOLBERT, ATKINS NORTH AMERICA, INC. AND VRX, INC., CASE #DC-16-14038 | DISTRICT COURT, DALLAS CO., TX | 1/24/2018 | | Active | | No | NEGLIGENCE/AUTO ACCIDENT |
| SPOON, SANDRA VS. PAUL B. CARTER AND ATKINS NORTH AMERICA, INC. SWA GROUP AND JOHN L. GERMAN, CASE NO. 2016CI01808 (6TH AMENDED PETITION FILED 1/11/2018) | DISTRICT COURT OF BEXAR CO., TX | 12/6/2017 | | Open | | No | NEGLIGENCE/PERSONAL INJURY |
| ROMERO, THALIA VS. ATKINS NORTH AMERICA, INC., CASE NO. 49 2017 CA.001791 AN | CIRCUIT COURT OSCEOLA CO., FL | 11/15/2017 | 2/19/2018 | Closed | Settled | No | NEGLIGENCE/PERSONAL INJURY |
| RODRIGUEZ, YALIX AS P/R OF EST OF JEANLIX NIEVES-RODRIGUEZ, ET AL. VS. PRINCE CONTRACTING, LLC, OSCEOLA COUNTY BOARD OF COUNTY COMMISSIONERS AND ATKINS NORTH AMERICA, INC., DEFENDANTS, CASE NO. 2016-CA-00385 AN | CIRCUIT COURT, OSCEOLA CO., FL | 9/15/2017 (2ND AMENDED COMPLAINT ADDING ATKINS) | 1/25/2018 | Closed | Order Granting Motion to Dismiss with Prejudice | Yes | NEGLIGENCE/WRONGFUL DEATH |

Updated: APRIL 16, 2018

ATKINS
 BLUE = 3 YEARS
 GREEN = 5 YEARS

5-YEAR LITIGATION HISTORY

| Case Title and Number | Court | Filing Date | Date Closed | Current Status | Disposition | Government Entity | Key Nature of Suit |
|--|--|-------------|--------------|----------------|-------------|-------------------|----------------------------|
| RAYL ENGINEERING AND SURVEYING, LLC VS. ATKINS NORTH AMERICA, INC. F/K/A PBS&J, CASE NO. _____ | CIRCUIT COURT, POLK CO., FL | 9/6/2017 | | Open | | No | BREACH OF CONTRACT |
| WALKER, JO ANN, INDIVIDUALLY, AND AS ADMINISTRATRIX OF EST. OF GRADY WALKER, DEC., VS. ATKINS NORTH AMERICA, INC., COBB COUNTY GOVERNMENT, AND CSX TRANSPORTATION, INC., CIVIL ACTION #17-A-2063-1 | STATE COURT, COBB COUNTY, GA | 8/3/2017 | | Open | | Yes | NEGLIGENCE/WRONGFUL DEATH |
| IVY, MAKAYLA LYNN VS. ATKINS NORTH AMERICA, INC. AND COURTNEY HARRIS, CASE NO. 15-14062-012-01 | 12th JUDICIAL DISTRICT, DISTRICT COURT OF MADISON COUNTY, TX | 7/13/2015 | August, 2016 | Closed | Settled | No | NEGLIGENCE/PERSONAL INJURY |
| JETVIK, CHAD AS PERSONAL REP. OF EST. OF CAMILLE JETVIG VS. ATKINS NORTH AMERICA, INC., fka POST BUCKLEY SCHUH & JERNIGAN, INC., ETAL., CASE NO. 2016CA8164 | CIRCUIT COURT, 9TH JUDICIAL CIRCUIT, ORANGE COUNTY, FL | 10/20/2016 | 7/15/2017 | Closed | Settled | No | NEGLIGENCE; AUTO ACCIDENT |
| SANCHEZ, CESAR VS. ATKINS NORTH AMERICA, INC. AND JAMES MARION KNIGHT, JR., CASE NO. (INDEX NO. 612307/2017) | SUPREME COURT OF NEW YORK, SUFFOLK COUNTY | 8/8/2017 | | Open | | No | NEGLIGENCE/PERSONAL INJURY |
| ANDERSON COMMONS, LLC VS. CITY OF TAMPA AND ATKINS NORTH AMERICA, INC., CASE #16-CA-001057 | CIRCUIT COURT, HILLSBOROUGH CO., FL | 2/3/2016 | 5/2/2017 | Closed | Settled | No | EJECTMENT |

ATKINS NORTH AMERICA, INC. (FORMERLY POST BUCKLEY SCHUH & JERNIGAN, INC. D/B/A PBS&J) PROPRIETARY CONFIDENTIAL INFORMATION - NOT TO BE DISTRIBUTED

Updated: APRIL 16, 2018

BLUE = 3 YEARS
GREEN = 5 YEARS

ATKINS
5-YEAR LITIGATION HISTORY

| Case Title and Number | Court | Filing Date | Date Closed | Current Status | Disposition | Government Entity | Key Nature of Suit |
|---|---------------------------------------|-------------|-------------|----------------|---------------------|-------------------|--------------------------------|
| HERMAN, ROCHELLE VS. CHRISTOPHER MC GRATH, AN INDIVIDUAL, AND ATKINS NORTH AMERICA, INC., CASE NO. 2015-CA-004836 | CIRCUIT COURT, SARASOTA, FL | 9/4/2015 | 3/20/2017 | Closed | Voluntary Dismissal | No | NEGLIGENCE/PERSONAL INJURY |
| DARRIN TURNER VS. MARK JAHNKE AND ATKINS NORTH AMERICA, INC., (NO CASE NUMBER SHOWN ON PLEADINGS) | DISTRICT COURT, DENVER COUNTY, CO | 4/18/2016 | 3/15/2017 | Closed | Settled | No | PERSONAL INJURY |
| VALENTINO CASTRO VS. CHEN MOORE & ASSOCIATES; CITY OF MIAMI BEACH, FL AND ATKINS NORTH AMERICA, INC., CASE NO. 16-011970 CA 01 | MIAMI DADE CIRCUIT COURT, FL | 6/9/2016 | 3/14/2017 | Closed | Settled | Yes | NEGLIGENCE |
| NAZARIO, LUIS A., AS PERSONAL REP. OF THE EST. OF MIRIAM CABRERA, DEC. VS. M. VILA & ASSOCIATES, INC., METRO EXPRESS, INC., CITY OF MIAMI BEACH AND CHEN MOORE AND ASSOCIATES, INC., AND CITY OF MIAMI BEACH, AS 3RD PARTY PLAINTIFF VS. ATKINS NORTH AMERICA, INC., 3RD PARTY DEFENDANT, CASE NO. 13-025280 CA05 | CIRCUIT COURT, MIAMI-DADE COUNTY, FL | 5/13/2016 | 3/1/2017 | Closed | Settled | Yes | CONTRACTUAL INDEMNITY |
| MARTIN, CHRISTOPHER, ETUX, VS. EASTWOOD CONSTRUCTION CO, INC., ETAL, CASE NO 2014-CP-29-01686 | COMMON PLEAS COURT, LANCASTER CO., SC | 10/6/2015 | 12/5/2016 | Closed | Settled | No | CONSTRUCTION DEFECT/NEGLIGENCE |
| ALICE WEBER VS. CITY OF MINNEOLA CASE NO. 2013CA000394 FL | CIRCUIT CT. LAKE CO., FL | 2/4/2013 | 12/1/2016 | Closed | Settled | Yes | PROPERTY DAMAGE |

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5-YEAR LITIGATION HISTORY

| Case Title and Number | Court | Filing Date | Date Closed | Current Status | Disposition | Government Entity | Key Nature of Suit |
|---|---|-------------|-------------|----------------|-------------|-------------------|--------------------------------------|
| BRIAN BARLOW & CRYSTAL BARLOW VS. DAVID A. TANT; DAVID A. TANT DBA DAVID A. TANT SURVEYING & MAPPING; LEIDOS ENGINEERING, LLC; MARY ACHEE; ATKINS NORTH AMERICA, INC. AND ATKINS, P.A., CASE NO. 2016-CV-0086-G | CHANCERY COURT, LAMAR COUNTY, MS | 3/7/2016 | 11/30/2016 | Closed | Settled | No | NEGLIGENCE |
| CCE VS. PBS&J CONSTRUCTION SERVICES, INC. AND POST BUCKLEY SCHUH & JERNIGAN, INC., ETAL, CASE NO. 200646041 | 270TH JUDICIAL CIRCUIT OF HARRIS COUNTY, TX | 12/6/2006 | 11/21/2016 | Closed | Settled | No | NEGLIGENCE |
| HASTY, ORVILLE, ETUX VS. EASTWOOD CONSTRUCTION CO., INC., ETAL, CASE NO. 2014-CP-29-01688 | COMMON PLEAS COURT, LANCASTER CO., SC | 10/6/2015 | 10/29/2016 | Closed | Settled | No | CONSTRUCTION DEFECT/NEGLIGENCE |
| SILVIA REYNA DE LUNA, ETAL VS. CITY OF AURORA, CO., COLORADO DOT, ATKINS NORTH AMERICA, INC., ETAL, CASE NO. 2015CV031490 | DISTRICT COURT, DENVER COUNTY, CO | 4/27/2015 | 10/3/2016 | Closed | Settled | Yes | NEGLIGENCE/PERSONAL INJURY |
| MENA, SANDY VS. CITY OF AURORA, CO., COLORADO DEPT. OF TRANSPORTATION, ATKINS NORTH AMERICA, INC., ETAL, CASE NO. 2015CV31874 | DISTRICT COURT, DENVER COUNTY, CO | 5/27/2015 | 10/3/2016 | Closed | Dismissed | Yes | NEGLIGENCE/PERSONAL INJURY |
| GAITAN, WALTER (PERSONAL REP) VS. GIBALTAR CABLE BARRIER SYSTEMS L.P. GEORGIA DOT, ET AL, -2009-029561-CA-01 | FL MIAMI-DADE 11TH JUDICIAL CIR. | 4/10/2009 | 8/1/2016 | Closed | Settled | Yes | TORTS/NEGLIGENCE - PRODUCT LIABILITY |

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|---|--|-------------|-------------|----------------|------------------------------|-------------------|------------------------------|
| CHANDLER, JOEL VS. ATKINS NORTH AMERICA, INC., CASE NO. 53-2015-CA-002045-0004-1, moved to Hillsborough, Co., Case #15-CA-010244, Div. I | 10TH JUDICIAL CIRCUIT, POLK COUNTY, FL. MOVED TO CIRCUIT COURT, HILLSBOROUGH CO., FL | 7/29/2015 | 7/7/2016 | Closed | Dismissed | No | BREACH OF PUBLIC RECORDS ACT |
| CARRILLO, MARTHA, ETAL VS. PBS&J CONSTRUCTION SERVICES, INC.; CASE NO. A-11-642932-D; 2ND AMENDED COMPLAINT | DISTRICT COURT, CLARK CO., NV | 10/8/2013 | 7/5/2016 | Closed | Dismissed | No | CONSTRUCTION DEFECT |
| MILLION, SCOTT AND RUTH VS. COLEJENEST, P.A., POST BUCKLEY SCHUH & JERNIGAN, INC. (PBS&J), ATKINS NORTH AMERICA, INC., ETAL, CASE NO. CA 2015-CP-46-02711 | COURT OF COMMON PLEAS, SIXTEENTH JUDICIAL CIRCUIT, YORK COUNTY, SOUTH CAROLINA | 9/8/2015 | 6/7/2016 | Closed | Dismissed | No | NEGLIGENCE/PERSONAL INJURY |
| RHOADES, KAREN A. VS. CITY OF DAYTON, ATKINS NORTH AMERICA, INC., ETAL, CASE NO. 2015 CV 02069 | COMMON PLEAS COURT, MONTGOMERY CO, OHIO CIVIL DIV. | 5/7/2015 | 5/31/2016 | Closed | Dismissed | Yes | NEGLIGENCE/PERSONAL INJURY |
| RITA GENOVESE, INDIVIDUALLY AS PERSONAL REPRESENTATIVE OF EST. OF MICHAEL A. GENOVESE VS. THE ATKINS NORTH AMERICA HOLDINGS CORPORATION, FLORIDA DEPT. OF TRANSPORTATION, ETAL, CASE NO. 2013-CA-002467 | CIRCUIT COURT, SAINT LUCIE COUNTY, FL | 8/19/2014 | 5/31/2016 | Closed | Summary Judgment (Dismissal) | Yes | NEGLIGENCE/PERSONAL INJURY |

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|---|--|-------------|-------------|----------------|-------------|-------------------|----------------------------------|
| NORTH DRUID DEVELOPMENT LLC VS. NORTH DRUID DEVELOPMENT II LLC - 10102036 | GA COBB SUPER. CT. | 3/3/2010 | 5/31/2016 | Closed | Dismissed | No | CIVIL PROCEDURE - PLEADING |
| ALDO BERETTA AS PR OF EST. OF ROSSANA FACCIUTO VS. ATKINS NORTH AMERICA, INC. fka PBS&J, FDOT, ETAL, CASE NO. 14-005478-CA-1 | 11TH JUDICIAL CIRCUIT, MIAMI-DADE COUNTY, FL | 2/8/2014 | 5/13/2016 | Closed | Settled | Yes | NEGLIGENCE/PERSONAL INJURY |
| REP. OF EST. OF BRITTANY A. RHYMAUN, DECEASED AND MARK RHYMAUN, INDIVIDUALLY, VS. ATKINS NORTH AMERICA, INC., FLORIDA DEPT. OF | CIRCUIT COURT, MIAMI-DADE COUNTY, FL | 2/21/2014 | 5/13/2016 | Closed | Settled | Yes | TORTS/NEGLIGENCE-PERSONAL INJURY |
| MASSEY, PRAME DAYE L. VS. PBS&J CONSTRUCTION, CASE #12-49728CA27 | 11TH JUDICIAL CIRCUIT CT, MIAMI-DADE CO., FL | 12/21/2012 | 5/13/2016 | Closed | Settled | No | TORTS/NEGLIGENCE-PERSONAL INJURY |
| JACQUELINE R. LLOYD VS. REYNOLDS, SMITH AND HILLS, INC., ATKINS NORTH AMERICA, INC. FKA POST BUCKLEY SCHUH & JERNIGAN, INC., FLORIDA DEPARTMENT OF TRANSPORTATION, ET AL, CASE NO. 2015-020095-CA24 | 11TH JUDICIAL CIRCUIT, MIAMI-DADE COUNTY, FL | 8/31/2015 | 2/9/2016 | Closed | Settled | Yes | NEGLIGENCE/PERSONAL INJURY |

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|---|--|-------------|-------------|----------------|---|-------------------|----------------------------------|
| GUERRERO, PRICILLA VS. ATKINS NORTH AMERICA, INC., ETAL CASE NO. 2013-CA-6344 | CIRCUIT COURT, ORANGE CO., FL | 6/3/2014 | 10/16/2015 | Closed | Settled | No | NEGLIGENCE/PERSONAL INJURY |
| JESSICA IMHOLZ, ETAL VS. FDOT DIST. 3, ATKINS NORTH AMERICA, INC., ETAL, CASE #2011-CA-000714 | CIRCUIT CT., DIVISION E, ESCAMBIA CO., FL | 11/2/2012 | 9/11/2015 | Closed | Settled and Dismissed | Yes | TORTS/NEGLIGENCE-PERSONAL INJURY |
| ATKINS ENGINEERS, INC. VS. ATKINS NORTH AMERICA, INC., CASE NO. 14-CV-24904-FAM | US DISTRICT COURT, SOUTHERN DISTRICT OF FLORIDA, MIAMI DIV. | 12/30/2014 | 7/30/2015 | Closed | Settlement/Dismissal | No | TRADEMARK INFRINGEMENT |
| SANCHEZ, JUAN V. FLOYD'S CONSTRUCTION, INC.; ATKINS NORTH AMERICA, INC., ETAL; AMENDED COMPLAINT; CASE NO. CV33671, DEPT. I | DISTRICT COURT, NYES CO., NV | 7/1/2013 | 7/16/2015 | Closed | Settled/Dismissed | No | NEGLIGENCE/PERSONAL INJURY |
| WHITING-TURNER CONTRACTING COMPANY, INC. VS. ATKINS NORTH AMERICA, INC.; CASE NO. 14-CA-10755-0 | CIRCUIT COURT, ORANGE CO., FL | 10/16/2014 | 6/29/2015 | Closed | Order of Dismissal with Prejudice entered 6/29/15 | No | NEGLIGENCE/BREACH OF CONTRACT |
| CITY OF CLEARWATER VS. PBS&J | PINELLAS CO., FL CIRCUIT COURT, CIVIL DIV. #09-21391C1-15 | 1/6/2010 | 6/17/2015 | Closed | Voluntary Dismissal with Prejudice | Yes | CITY SEEKING INDEMNITY |
| HENDERSON, TIFFANY R. VS. ATKINS NORTH AMERICA, INC., CASE NO. 3-14-0824 | US DISTRICT COURT, MIDDLE DISTRICT, TENNESSEE | 3/24/2014 | 5/11/2015 | Closed | Dismissed 5/11/15 | No | EMPLOYMENT MATTERS |

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|--|-------------------------------------|-------------|-------------|----------------|---|-------------------|---|
| BENINATI, HEATHER; BENINATI, KATHERINE AS PERSONAL REPRESENTATIVE OF COURTNEY ELIZABETH HENDRIX, DEC., AND ROSIER, KELLIE MARIE AS NATURAL GUARDIAN OF BRIANA BURNSED, A MINOR VS. ATKINS NORTH AMERICA, INC. #12CA391; Case Consolidated to 45-2012-CA-000306 as of 1-10-13 | CIRCUIT CT, NASSAU COUNTY, FL | 5/18/2012 | 4/7/2015 | Closed | Voluntary dismissal. | No | TORTS/NEGLIGENCE - PERSONAL INJURY |
| NYE COUNTY, NV. VS. UTILITIES, INC., ATKINS NORTH AMERICA, INC., ETAL., CASE #cv34371 | DISTRICT COURT, NYES CO., NV | 12/19/2012 | 2/27/2015 | Closed | Order of Dismissal with Prejudice | Yes | REMEDIES-DAMAGES-BREACH OF CONTRACT |
| UTILITIES, INC. OF CENTRAL NEVADA V. ATKINS NORTH AMERICA, INC., ETAL., : A-11-6466674-C DEPT XXX1 | CLARK CO., NV DIST. CT. | 8/6/2012 | 2/27/2015 | Closed | Order of Dismissal with Prejudice | No | CONSTRUCTION DEFECT- BREACH OF CONTRACT |
| ENGEL, JOSEPH VS. E.E. HOOD & SONS, INC. ATKINS NORTH AMERICA, INC., ETAL; CASE NO. 2013CI19581 | BEXAR COUNTY, TX DISTRICT COURT | 11/27/2013 | 1/20/2015 | Closed | Settled and Dismissed | No | NEGLIGENCE/PERSONAL INJURY |
| VRANA, DONALD J. VS. THE ATKINS NORTH AMERICA HOLDINGS CORPORATION, CASE NO. 12-015546 DIV. H. | CIVIL DIV., HILLSBOROUGH COUNTY, FL | 10/2/2012 | 12/19/2014 | Closed | Jury Verdict in favor of Atkins North America | No | BREACH OF CONTRACT |
| CITIZENS AWARENESS FOUNDATION, INC. VS. ATKINS NORTH AMERICA, INC. CASE NO. 14-CA-007736 | CIRCUIT COURT, HILLSBOROUGH CO., FL | 7/30/2014 | 10/1/2014 | Closed | Voluntary dismissal. | No | VIOLATION OF PUBLIC RECORDS ACT |
| BETANCOURT CASTELLON ASSOCIATES, INC. V. EASTERN PLASTERING CORP; PBS&J AS THIRD-PARTY DEFENDANT CASE #12-42662-CA-25 | MIAMI-DADE COUNTY, FL | 5/29/2014 | 9/26/2014 | Closed | Voluntary dismissal. | No | CONSTRUCTION DEFECT |

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|---|-------------------------------|-------------|-------------|----------------|--------------------------|-------------------|---|
| SUNRISE RIDGE MASTER HOMEOWNERS ASSOC., ETAL VS. PBS&J, CASE NO. A-10-619800-D DEPT. XIX | DISTRICT COURT, CLARK CO., NV | 12/29/2010 | 7/18/2014 | Closed | Dismissed | No | TORTS/NEGLIGENCE |
| WILLIS V. CITY OF LAS VEGAS ET AL - 2:12CV01214 | NV U.S. DIST. CT. | 7/10/2012 | 7/16/2014 | Closed | Atkins dismissed | No | TORTS/NEGLIGENCE - PERSONAL INJURY |
| BOYLES, SEAN, ETUX VS. ORLANDO-ORANGE CO. EXPRESSWAY AUTHORITY, FLORIDA DEPT. OF TRANSPORTATION, CITY OF ORLANDO, ATKINS NORTH AMERICA, INC., ETAL, CASE NO. 2011-CA-008268-0 | CIRCUIT COURT, ORANGE CO., FL | 7/15/2011 | 7/16/2014 | Closed | Settled | Yes | PERSONAL INJURY |
| HEATH CAMPBELL, ETAL VS. FLOYD'S CONSTRUCTION, ATKINS NORTH AMERICA, INC., ETAL, CASE #CV34369, DEPT 1 | DISTRICT COURT, NYES CO., NV | 12/21/2012 | 7/2/2014 | Closed | Dismissed with Prejudice | No | REMEDIES-DAMAGES |
| WELLINGTON REALTY CO., LLC VS. BROWARD CO., F. AND CITY OF POMPANO BEACH, FL, CASE #11-009434.08 | CIRCUIT COURT BROWARD CO., FL | 2/6/2013 | 5/30/2014 | Closed | Settled | Yes | TORTS/NEGLIGENCE-PERSONAL INJURY-BREACH OF CONTRACT |
| TURNER, JEANIE (INDIVIDUALLY AND AS REPRESENTATIVE VS. CONTINENTAL AIRLINES INC - 201104217 | TX HARRIS DIST. CT. | 1/21/2011 | 5/22/2014 | Closed | Dismissed | No | REMEDIES - DAMAGES |
| RANJEL, MARIA ZUNIGA (ANF JUAN MANUEL CORDERO) VS. POST BUCKLEY SCHUH & JERNIGAN INC - 201073599 | TX HARRIS DIST. CT. | 11/5/2010 | 4/29/2014 | Closed | Dismissal of PBS&J | No | TORTS/NEGLIGENCE - PERSONAL INJURY |

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|--|---------------------------------------|-------------|-------------|----------------|-------------|-------------------|---|
| CAPRIATI CONSTRUCTION CORP. VS. LAKE HAVASU CITY & ATKINS NORTH AMERICA, INC., ETAL, #CV2012-00764 | SUPERIOR CT., MOHAVE COUNTY, AZ | 6/12/2012 | 3/31/2014 | Closed | Dismissed | Yes | CONSTRUCTION DEFECT-BREACH OF CONTRACT |
| ATKINS NORTH AMERICA, INC. VS. PRAD GROUP, INC., CASE NO. 2013CV234776 | SUPERIOR CT., FULTON COUNTY, GA | 8/7/2013 | 3/26/2014 | Closed | Settled | No | COLLECTION |
| BANOS, RAQUEL VS. ATKINS NORTH AMERICA, INC., CASE NO. 2017-012091-CA01 | CIRCUIT COURT MIAMI - DADE COUNTY, FL | 6/7/2017 | | Open | | No | DISCRIMINATION |
| DENVER TRANSIT CONSTRUCTORS, INC. VS. FLUOR/HRD GLOGAL DESIGN CONSULTANTS, LLC, VS. POST BUCKLEY SCHUH & JERNIGAN, INC. DBA PBS&J, ETAL, AS 3RD PARTY DEFENDANTS, CASE NO. 2016CV30742, DIV. 376 | DISTRICT COURT, DENVER COUNTY, CO. | 11/15/2016 | 11/15/2017 | Closed | Settled | No | BREACH OF CONTRACT |
| SHAW FARMS & LAND COMPANY OF FLORIDA, LLC AND DANIA PLACE, LLC VS. BROWARD COUNTY, ATKINS NORTH AMERICA, INC., ETAL, CASE NO. CA01-15-011648(09) | CIRCUIT COURT, BROWARD COUNTY, FL | 3/25/2016 | | Active | Open | Yes | TRESPASSING, PRIVATE NUISANCE, NEGLIGENCE |
| ECOSYSTEM TECHNOLOGIES, INC. VS. SARASOTA COUNTY AND ATKINS NORTH AMERICA, INC., CASE #2016CA000183NC | CIRCUIT COURT, SARASOTA, FL | 1/14/2016 | | Active | | Yes | BREACH OF CONTRACT, NEGLIGENCE |
| GRAY, ARTIE LEE AND PATRICIA PHELPS-GRAY VS. JUCIUS J. GEORGE AND ATKINS NORTH AMERICA, INC., CASE NO. 16-CA-3227 | CIRCUIT COURT HILLSBOROUGH CO., FL | 4/6/2016 | 11/13/2017 | Closed | Settled | | |

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|---|-----------------------------------|-------------|-------------|----------------|-------------|-------------------|-----------------------------------|
| LONDON, FANTASIA AND MATTHEW AND LAURA HESS, VS. CITY OF AUSTIN, TX, ATKINS NORTH AMERICA, INC. AND M.A. SMITH CONTRACTING CO., CASE NO. D-1-16-002408 | DISTRICT COURT, TRAVIS CO., TX | 6/9/2016 | | Active | | Yes | PERSONAL PROPERTY DAMAGE |
| PHENICIE, DALE KENT, INDIVIDUALLY AND AS EXEC OF EST. OF BARBARA JEAN PHENICIE, DECEASED, ETAL VS. GEORGIA DOT, ATKINS NORTH AMERICA, INC., ETAL, CASE #15A-1670-5 | STATE COURT, COBB COUNTY, GA | 7/1/2015 | 11/16/2017 | Closed | | Yes | NEGLIGENCE/PERSONAL INJURY |
| MILLSAPS, ELAINE VS. LEWALLEN COMPANY, INC., KENNEDY ENGINEERING & ASSOCIATES GROUP, LLC, ATKINS NORTH AMERICA, INC., SAFETY SIGNAL COMPANY, INC. AND GEORGIA DEPT. OF TRANSPORTATION, CIVIL ACTION FILE #15A-841-1 | STATE COURT OF COBB COUNTY, GA | 4/13/2015 | 11/14/2017 | Closed | | Yes | NEGLIGENCE/PERSONAL INJURY |
| ENNIS, JAMES VS. ATKINS NORTH AMERICA HOLDINGS CORPORATION; CASE NO. 05-2013-CA-42345 | CIRCUIT COURT, BREVARD COUNTY, FL | 12/30/2013 | | Open | | No | CIVIL RIGHTS - EMPLOYMENT |
| AUTO-OWNERS INSURANCE CO. VS. PBS&J CONSTRUCTION SERVICES, INC., CASE #13-102314-53 | SUPERIOR COURT, COBB COUNTY, GA | 3/15/2013 | 10/10/2017 | Closed | Settled | No | SURETY DAMAGES-BREACH OF CONTRACT |
| PEREZ, JORGE J VS. BORAN CRAIG BARBER ENGEL ETC. - 2012-016955-CA-01 | FL MIAMI-DADE 11TH JUDICIAL CIR. | 4/30/2012 | | Open | | No | CONSTRUCTION DEFECT |

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|--|---|-------------|-------------|----------------|---|-------------------|---|
| POST, BUCKLEY, SCHUH & JERNIGAN, INC. VS. UNITED STATES OF AMERICA CASE NO 09-112C (Ten Mile Ck) | UNITED STATES COURT OF FEDERAL CLAIMS, WASHINGTON, DC | 2/23/2009 | 8/13/2015 | Closed | Settled and Dismissed | Yes | APPEAL |
| POST, BUCKLEY, SCHUH & JERNIGAN, INC. VS. UNITED STATES DEPT. OF THE ARMY AND ITS COMPONENT UNITED STATES ARMY CORP OF ENGINEERS, CASE NO. 3:8 CV 1239-J-34HTS | US DISTRICT COURT, JACKSONVILLE, FL | 12/24/2008 | 11/25/2013 | Closed | Dismissed | Yes | VIOLATION OF FREEDOM OF INFORMATION ACT |
| LYNN FORMAN vs. GEORGIA DEPT. OF TRANSPORTATION., POST, BUCKLEY, SCHUH & JERNIGAN, INC., ETAL CIVIL #207 CV 2991 C | GA STATE COURT OF FULTON CO. | 8/8/2008 | 7/18/2013 | Closed | Dismissed. | Yes | TORTS/NEGLIGENCE; MOTOR VEHICLE |
| CORREA WENDY vs. HUBBARD CONSTRUCTION COMPANY, FLORIDA DEPT. OF TRANSPORTATION, ET AL. - 07-CA-008611 | FL HILLSBOROUGH 13TH CIR, CT. | 7/13/2007 | 5/28/2013 | Closed | Settled; Voluntary Dismissal | Yes | TORTS/NEGLIGENCE-MOTOR VEHICLE |
| CDM SMITH, INC. VS. ATKINS NORTH AMERICA, INC., CASE #12-80428-CV-HURLEY/HOPKINS | US DIST COURT SO DISTRICT FLA; CIVIL ACTION | 4/23/2012 | 2/20/2013 | Closed | Settled/Dismissed | No | BREACH OF CONTRACT |
| H. GIRAY KAYA VS. ATKINS NORTH AMERICA, INC.; KBR, INC.; KIEWIT TEXAS CONSTRUCTION L.P.; AND ZACHRY INDUSTRIAL, INC., D-1-GN-11-002649 | DIST. CT, TRAVIS CO., TX 419TH JUDICIAL DIST. | 8/30/2011 | 8/29/2013 | Closed | Order Granting Motion to Dismiss with Prejudice | No | TORTS/NEGLIGENCE-MOTOR VEHICLE ACCIDENT |

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| KOVALCIK, EDWARD & BERNADETTE VS. GEORGIA DOT AND POST BUCKLEY SCHUH & JERNIGAN, INC. - CASE 10EV009673A | STATE COURT OF FULTON CO., GA | 3/23/2010 | 1/2/2013 | Closed | Settled | Yes | TORTS/NEGLIGENCE-PERSONAL INJURY |
| ELIZABETH REQUEJO GARCIA VS. BRIAN ROBERTSON AND ATKINS NORTH AMERICA, INC.; CASE NO. 30-2012-00598530-CU-PA-CJC | ORANGE COUNTY SUPERIOR COURT, CA | 6/6/2013 | 7/30/2013 | Closed | Dismissed Atkins North America, Inc. | No | PERSONAL INJURY |
| BOBBY BLACK AS ADM OF EST. OF CLAUDE McINTOSH, DECEASED, ETAL, VS. ATKINS NORTH AMERICA, INC., CASE NO. 12CV32,165, 2ND AMENDED PETITION | 123rd/273rd DIST. COURT, SHELBY CO., TX | 10/8/2012 | 9/17/2013 | Closed | Final Judgment and Discharge of Defendants | No | REMEDIES - DAMAGES |
| FDOT V. DYER, RIDDLE, MILLS & PRECOURT, INC. - PBS&J THIRD-PARTY DEFENDANTS, CASE #37-2008-CA-004158 | 2ND JUDICIAL CIRCUIT, LEON CO., FL | 12/17/2012 | 12/4/2013 | Closed | Final Judgment in favor of Atkins and Dismissal | Yes | REMEDIES-DAMAGES |
| GENERAL CONTRACTING SERVICES, INC. VS. POST, BUCKLEY, SCHUH & JERNIGAN, INC. | DESOTO CO., FL CIRCUIT COURT #2010CA654 | 7/24/2010 | 12/5/2013 | Closed | Settled | No | BREACH OF CONTRACT |
| KOVALCIK, EDWARD & BERNADETTE VS. GEORGIA DOT AND POST BUCKLEY SCHUH & JERNIGAN, INC. - CASE 10EV009673A | STATE COURT OF FULTON CO., GA | 3/23/2010 | 1/2/2013 | Closed | Settled | Yes | TORTS/NEGLIGENCE-PERSONAL INJURY |

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| KERMIT PRIME ON BEHALF OF THE UNITED STATES OF AMERICA ET AL VS. POST, BUCKLEY, SCHUH & JERNIGAN, INC. ET AL - 6:10CV01950 | FL U.S. DIST. CT., MID. | 12/30/2010 | 11/25/2013 | Closed | Final Judgment in favor of Atkins/PBS&J and Parsons Corporation | Yes | CONTRACTS |
| CRUZ vs C V. HUBBARD CONSTRUCTION CO - 09-CA-022284 | FL HILLSBOROUGH 13TH JUDICIAL CIR. | 9/2/2009 | 5/28/2013 | Closed | Settled; Voluntary Dismissal | No | TORTS/NEGLIGENCE |
| WARREN SHULMAN VS. ARCADIS U.S. INC., GEORGIA DEPT. OF TRANSPORTATION, ETAL - 09A09663 | GA DEKALB STATE CT. | 7/1/2009 | 5/29/2013 | Closed | Summary Judgment in favor of ATKINS. | Yes | TORTS/NEGLIGENCE - PERSONAL INJURY |
| TRAVERSE POINT CONDOMINIUMS UNIT-OWNERS ASSOCIATION INC V. SUNVEST RESORT COMMUNITIES LC AND ATKINS NORTH AMERICA, INC. UNDER SECOND AMENDED COMPLAINT - A-09-600069-D | NV CLARK 8TH JUDICIAL DIST. | 12/16/2011 | 3/25/2013 | Closed | Order Dismissing Atkins North America, Inc. with Prejudice | No | CONSTRUCTION DEFECT |
| ROSSER, JOHN R. AND VIRGINIA L. VS. VILLAGE OF KEY BISCAYNE, PBS&J, ET AL, CASE NO. 09-36103CA11 | FL MIAMI-DADE CO 11TH JUDICIAL CT | 10/9/2009 | 11/26/2013 | Closed | Dismissed | No | REMEDIES-DAMAGES |
| CITY OF LOS ANGELES V. POST BUCKLEY SCHUH & JERNIGAN INC - BC436238 | CA LOS ANGELES SUPER. CT. | 4/20/2010 | 2/28/2012 | Closed | Settled | Yes | REAL PROPERTY - EMINENT DOMAIN |
| EFRAIN GAMARRA VS. GIBRALTAR CABLE, FLORIDA DOT, ETAL - 2008CA027405 | FL PALM BEACH 15TH JUDICIAL CIR | 9/12/2008 | 12/3/2012 | Closed | Atkins dismissed | Yes | TORTS/NEGLIGENCE - PRODUCT LIABILITY |

ATKINS NORTH AMERICA, INC. (FORMERLY POST BUCKLEY SCHUH & JERNIGAN, INC. D/B/A PBS&J) PROPRIETARY CONFIDENTIAL INFORMATION - NOT TO BE DISTRIBUTED

Updated: APRIL 16, 2018

ATKINS

BLUE = 3 YEARS

GREEN = 5 YEARS

5-YEAR LITIGATION HISTORY

| Case Title and Number | Court | Filing Date | Date Closed | Current Status | Disposition | Government Entity | Key Nature of Suit |
|--|---------------------------|-------------|-------------|----------------|-----------------------------------|-------------------|---------------------------|
| PHOENIX CONSTRUCTION SERVICES INC VS. PANAMA CITY BAY COUNTY AIRPORT AND INDUSTRIAL DISTRICT - 10002839CA CIR. | FL BAY 14TH JUDICIAL CIR. | 11/24/2010 | 5/12/2012 | Closed | Settled | No | BREACH OF CONTRACT |
| SUTTON VS. POST, BUCKLEY, SCHUH & JERNIGAN, INC. - 6:12CV00192 | FL U.S. DIST. CT., MID. | 5/10/2011 | 10/5/2012 | Closed | Order of Dismissal with Prejudice | No | CIVIL RIGHTS - EMPLOYMENT |

Staff Experience on Similar Projects

Staffing for this proposal comprises the people who worked on the reference projects and the projects listed under SF330 Section F. From Atkins, Stephen Bourne, Jack Hampson, Clark Siler, Lawrence Frank, and Richard Passarelli have all been working together in different groupings on Resilience-related projects for the last 3 years; while Stephen, Jack and Clark have been working on projects together for the last 10 years, starting with the original R&D that led to both the City Simulator tool and the SFWMD Life Cycle Analysis tool.

We are pleased to add two newer Atkins engineers to the team—David Bannett and Richard Tenn. They bring a strong component of local knowledge regarding City Infrastructure and engineering subject matter expertise. They will provide liaison to counterparts at the City, reality checks based on local knowledge, and solid input to adaptation planning.

Atkins and Collective Water Resources have teamed before, on the SFWMD life cycle forecasting project described in the reference projects. The SFWMD Infrastructure Life Cycle Forecasting has a direct correlation to Atkins' approach to vulnerability and adaptation planning, including consequence of failure analysis and cost modeling for different adaptation alternatives. Additionally, the CWR staff assigned to this project are the ones who completed the CWR vulnerability and adaptation projects listed in SF330 Part I F.

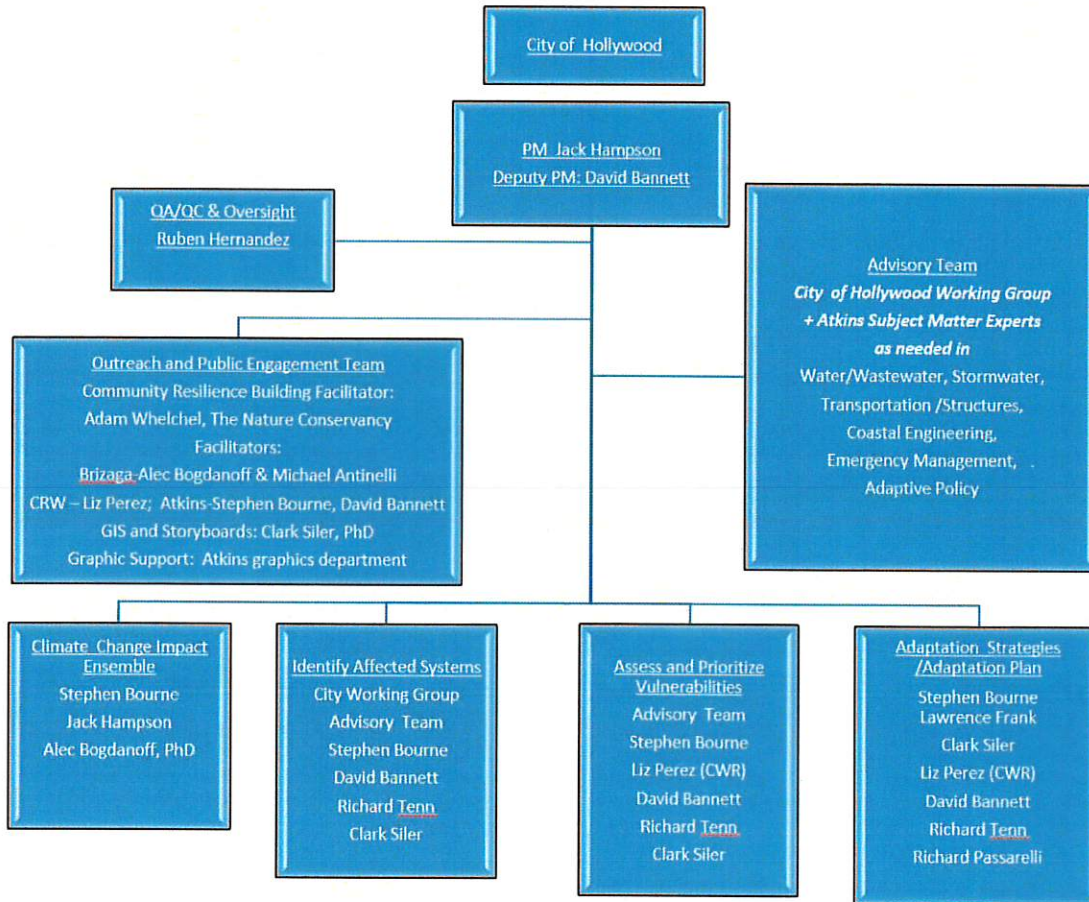
In order to ensure that the integrated infrastructure analysis and resilience metrics are translated to a strong public communication and outreach component, the team also includes the Nature Conservancy's Adam Whelchel, PhD, along with Alec Bogdanoff and Michael Antinelli from Brizaga. Adam Whelchel has a wealth of experience implementing Community Resilience Building on the ground in dozens of communities as well as consulting on implementations that use the Nature Conservancy outreach framework. The Brizaga team have both been actively involved in South Florida Sea Level Rise and Resilience activities; and, as shown in their resumes, have personally led Sea Level Rise vulnerability analyses and adaptation strategies. If you have attended any conferences where Alec Bogdanoff was a panelist or participant, you will have seen demonstrated his clear vision and compelling manner, which is ideal for leading public outreach.

The educational background of this team is impeccable, 3 PhDs and multiple Masters of Science or Engineering. A strong contingent from Georgia Tech includes Stephen Bourne-- Atkins City Simulator design lead-- and Liz Perez, the President of Collective Water Resources. They have been friends since getting their Masters Degrees together. Jack Hampson, the PM, has his degree in Geology and Geophysics from Princeton University and his Masters in Oceanography from the University of Rhode Island Graduate School of Oceanography. Jack Hampson has also obtained certificates for floodplain management, GIS, and recently completed the training for ISO55000 Asset Management certification. He attended the 2014 summer course in Coastal Resilience held in the Netherlands and has good contacts at University of Florida and Rand Institute as a result. Clark Siler is an applied GIS expert due to the work he did in Water Resources Engineering while obtaining his PhD at University of Texas and Brigham Young. Clark is also a certified trainer in Excel and can make spreadsheets do highly advanced analysis and reporting quickly and efficiently. Rick Passarelli, our Adaptive Policy expert has his Masters in Urban and Environmental Engineering from University of Virginia.

Our outreach team is equally impressive -- Alec Bogdanoff from Brizaga has a PhD in Physical Oceanography from the MIT/Woods Hole Joint Program. Alec will also be assisting with the first task, which is to establish a well-documented SLR and climate forecast. Brizaga's Michael Antinelli has his Masters in Coastal Engineering from University of Florida. And not to be outdone, Adam Whelchel from The Nature Conservancy has his PhD in Soil Science and Hydrology from University of Delaware.

Organization of Project Team

The project team will be organized according to the Organization Chart shown in SF330 Part D and repeated below.



The level of planned involvement for primary team member are shown in their anticipated percentage participation for each task in the Task Table below. The addition of early outreach and community resilience building is recommended in the approach below; and is reflected in the additional hours for the outreach team during Vulnerability Assessment.

| Task | Hampson | Bannett/ Tenn | Bourne | Perez | Brizaga* | Whelchel | GIS team** | Passarelli | Frank |
|----------------------|---------|------------------|--------|-------|----------|----------|---------------|------------|-------|
| SLR | 33% | 0% | 33% | 0% | 33% | 0% | 0% | 0% | 0% |
| Affected Systems | 4% | 2% | 36% | 0% | 4% | 0% | 55% | 0% | 0% |
| Vulner- abilities | 5% | 1% | 13% | 13% | 16% | 13% | 39% | 0% | 0% |
| Prioritize | 7% | 4% | 30% | 4% | 19% | 0% | 37% | 0% | 0% |
| Strategies | 3% | 3% | 22% | 14% | 14% | 14% | 27% | 3% | 3% |
| Adaptation Plan | 16% | 2% | 16% | 10% | 16% | 0% | 33% | 3% | 3% |

*Brizaga representing the team of Bogdanoff and Antinelli

** GIS team comprises Siler, Leitschuh, Dunham

Municipal Staff Support Needed

The Atkins team envisions establishing a City of Hollywood working group comprising infrastructure stakeholders to be identified by the City of Hollywood during the initial phase of the project. The working group would meet for 90 minutes prior to each milestone for a group presentation and discussion of relevant issues, opportunities, and potential roadblocks. Individual follow-ups would be on an as-needed basis to continue dialogues or collect data for integration into the analysis.

Approach to Performing the Work

The City of Hollywood has seen spectacular growth in the past 10 years, and is poised to continue that trend as corporations like Heico Corp, Memorial Health System, Quantum, Diplomat Resort & Spa, and Margaritaville demonstrate Hollywood's desirability to the business community. With over \$1.65B in real estate planned or under construction, it's critical that the city make its infrastructure resilient to impacts from climate change and sea level rise to ensure return on investment and continued new investment (City of Hollywood Economic Activity Report, 2017).

Data gathering, Data analysis, and Recommendation Process

The City's plan to set vulnerability priorities and design adaptation strategies is a critical step in getting the City ready for the future. The six-step plan (see diagram below) will take the City from understanding the climate drivers (rain, temperature, and sea level) to their impact on the City down to the scale of individual assets. Further, the plan will seek out citizen stakeholder input and achieve buy-in on which assets are of highest priority to make robust and resilient; as well as identify potential solutions that will maximize return on investment (ROI) from the triple bottom line perspectives of economy, society, and ecology.



The Atkins team proposes to work with you to bring this plan to fruition. Along the way we will bring proven and innovative resilience science, local expertise, and inclusive community outreach to give the City an unprecedented understanding of their hard infrastructure and how it interacts with and supports the City's economy, society, and ecosystems.

Our approach is anchored by three elements:

- Integrating the analysis of hard and soft aspects of the city to expose the true value of city infrastructure,
- Doubling down on outreach, to ensure the plan is product of consensus and collaboration and enjoys the support of Hollywood's citizens,
- Leveraging our local expertise and connections to both inform our analysis and make outreach more effective.



Blending Hard and Soft in One Analysis

Many current approaches don't quantify the true value of city infrastructure to help make decisions.

Community stakeholders need detailed, trustworthy, and above-all relevant analysis to make decisions on how to spend resources. A decision like embarking on a project to raise City streets to counter sea level rise needs to be backed by quantified estimates of the impact. To feel secure in their decisions, stakeholders need metrics about the difference the project will make; metrics like the increase in city productivity, the number of days that citizens will avoid the inconvenience of street flooding, or the increase in flooding that building owners may experience until they too raise their establishments.

Many approaches to understanding vulnerability and adaptation fall short in providing this information. Often, they provide engineering analysis whose goal is to forecast metrics like water surface elevation without examining what those metrics mean in terms of economic and social impacts. Other times, the analysis is focused on softer economics and social impacts, but provides qualitative results and is only loosely tied to the detailed and concrete forecasts that engineering models can provide.

Further, most analyses focus on a single system – stormwater, or transportation, or telecommunications, and so on. Without blending the systems into a single holistic analysis, it is not possible to spot many problems, or more importantly, spot indirect solutions that are most cost-effective.

Simulating the whole city as it grows and is hit by disasters provides eye-opening answers.

With **Steve Bourne** as the task leader, the Atkins team proposes to use our City Simulator© tool, which gives us the ability to model each asset within the city working together to provide resilience to

As an Outstanding Community, Hollywood Deserves a Stand-Out Adaptation Plan.

The Atkins Team will offer Hollywood a powerful combination of data/engineer driven tools as well as holistic and approachable public-focused expertise with an eye on socio-economic impacts. A fully integrated adaptation strategy of this type has never been completed in Florida. The hard and soft aspects of our team will counterbalance and test each other. For example, outreach and sound use of data will prevent issues we've seen in other communities where decisions were made primarily by engineers and issues of ecology and water quality were overlooked. The data/model driven aspects will ensure that the strategy can and will withstand practical considerations related to the public, regulatory agencies, and insurance concerns – among others.

citizens. "Asset" here means culverts, road segments, sea walls, cell phone towers, power stations, police stations, and so on. As designer of the City Simulator, Steve ensured it was built to put all of these assets in context, to help communities like Hollywood understand how each one makes a contribution, and what happens when the asset is made non-operational by heat waves, hurricanes, and rising seas. Modeling within the tool extends from traditional engineering to economics, social impacts, carbon footprint, and ecosystem health. By integrating all of these subjects into one analysis we can forecast both direct impacts to the infrastructure, and indirect impacts resulting from losing use of the infrastructure.

To optimize how we configure our analysis, we plan to utilize the Nature Conservancy's Community Resilience Building workshop. **Adam Whelchel**, designer of the workshop and its most effective practitioner, will lead our team in the application in Hollywood. Our goal will be to tune the workshop to Hollywood and collaboratively develop clear evaluation criteria that city staff and citizen stakeholders agree on. We'll configure the City Simulator with these criteria to ensure the results are relevant and useful.

Outreach to Build Consensus and Support

Outreach will be critical to making the Adaptation Plan a success. To that end, the Atkins team will establish a strong channel of communication with both City Staff and citizen stakeholders.

Establishing a web presence with Hollywood Climate Change Central (HC3)

Our outreach will begin with the roll out of **Hollywood Climate Change Central (HC3)**. This will be a website that conveys selected findings from our analysis throughout the project. It will also be used to solicit feedback from citizens on the evaluation criteria, the vulnerability assessment results and prioritization, and on proposed adaptation strategies. Our focus will be on making the site informative and interactive, so that the target audience of citizen stakeholders can track vulnerability findings and what they mean on a citizen-by-citizen basis. We will provide ample examples of adaptation strategy possibilities on the site to stoke imagination and encourage as many ideas as possible. Finally, in addition to the public meeting to present the draft adaption plan, we will post the plan to the site to solicit feedback.

An Initial Public Meeting to Socialize the Project and Define Evaluation Criteria

To refine the evaluation criteria that we will use for vulnerability assessment and prioritization and for measuring the efficacy of

Community Resilience Building.

CRB is The Nature Conservancy's workshop-based process that enables communities to focus on resilience, identify their weaknesses, strengths, and priorities, and prepare to adapt.

Over the last decade, the program has been applied in over 225 municipalities and academic institutions across 7 states and the District of Columbia.

The Nature Conservancy has partnered with NOAA and multiple state governments as the program has grown.

Key components of the program include identifying:

- **Top Priority Hazards**
- **Vulnerabilities**
- **Strengths**
- **Prioritizing Actions to reach resilience for infrastructure, social, and environment.**

Within this project the Nature Conservancy's Adam Whelchel – who created the program – will work with the Atkins team to tailor the program to Hollywood and facilitate sessions throughout.



proposed strategies, we propose to hold a public meeting during the Vulnerability Assessment stage of the project. This meeting will be a venue for us to introduce the project and its objectives, begin building community support, and introduce the website as a mechanism for ongoing feedback. We'll use the map-based City Simulator model to showcase virtual Hollywood, and present the various asset systems that will be included in the assessment.

This initial public meeting will be our opportunity to apply the very successful Community Resilience Building exercise from The Nature Conservancy (applied in over 100 communities across the country as of June 2018). Aimed at helping community stakeholders establish a clear understanding of their objectives for building resilience, the CRB workshop is a perfect fit for our objective of establishing clear and detailed criteria for prioritizing how the city should prioritize approaching vulnerabilities and achieve community buy-in to the long-term process of defining, funding and implementing the adaptation plan. The Nature Conservancy will work with the Atkins team and Brizaga to modify the CRB workshop to produce a Hollywood-focused workshop, that incorporates the City Simulator results and is focused on Hollywood's needs.

Continual Feedback and Collaboration

Armed with a consensus-based set of evaluation criteria, the Atkins team will then refine the vulnerability prioritization and selection of adaptation strategies tuned to the highest priority vulnerabilities. We will leverage the Hollywood Climate Change Central website to communicate our results to citizen stakeholders throughout, seeking feedback on prioritization and soliciting new ideas for adaptation strategies.

Building Momentum for a Stand-out Adaptation Plan with a Final Public Meeting

Finally, we propose to host a final citizen stakeholder workshop as per the existing scope in which we present the draft Adaptation plan. Again, we will present the results through a highly visual and map-based medium, leveraging the power of City Simulator for showing 2D- and 3D-based depictions of both vulnerable areas and adaptation strategies in place. City Simulator has been developed to roll up the evaluation results into info-graphic based diagrams, which get at the heart of the impact of proposed strategies. See the diagram below for an example. We propose to leverage and refine these infographics to good effect in communicating the complex results succinctly to support discussion and decision making.

Focus on Coastal and Cultural Resources, and Strategies Hollywood Already Has in Place

An important aspect of this exercise is the complexity and depth of stakeholders and coastal resources. Even within South Florida - Hollywood stands out. The City includes the leading cruise port in Florida – with some of the largest commercial cruise ships in the world. A diversity of complex developments and infrastructure are located near the coast that must be considered. Further, cultural resources like the Boardwalk must take a special place in adapting.

The Atkins team will bring these interests together. Our local experts have first-hand knowledge of your infrastructure planning goals – like complete streets, and neighbourhood-focused planning. We will include these elements in the adaptation planning process, addressing threats like sea level rise, which is routinely not included in complete street planning.

Our unique integrated and holistic assessment approach means we can forecast the risks, and answer the question of how much integration makes sense for the City in terms of complete streets planning and sea level rise.

Leveraging Local Expertise to Optimize Strategies

Hollywood has unique needs that will drive vulnerability prioritization and the development of adaptation strategies.

A global database of options from Cities around the World, Atkins experts, and the Nature Conservancy's CRB Database

The Atkins team will bring a slew of available and innovative solutions as options – strategies that come from our partnership with The Nature Conservancy and its CRB database, as well as strategies the come from our sponsorship of the Atlas Marketplace, a global database of resilience solutions.

But, we understand that it is only through local knowledge that we will find the right set of solutions for Hollywood. Moreover, it is only through outreach from local and trusted resilience leaders, that we can reach consensus with city staff and citizen stakeholders.

Tuning the Solutions to Hollywood through Local and Proven Expertise.

To that end – and in addition to our team members from Atkins who regularly support the city with infrastructure planning and operation - we have included experts from Brizaga and from Collective Water on our team. Led by **Alec Bogdanoff** and **Michael Antinelli** from Brizaga and **Liz Perez** from Collective Water, our local team will be on the ground from day one.

Brizaga will lead the outreach task:

- Rolling out and mediating Hollywood Climate Change Central,
- Organizing the workshops to ensure the relevant audience is there and engaged,
- Facilitating the workshops with the assistance of the Nature Conservancy's Adam Whelchel, who created the CRB workshop,
- Collaborating with the Atkins City Simulator team to ensure the vulnerability prioritization reflects Hollywood preferences
- Moderating Hollywood Climate Change Central to solicit feedback and suggestions for adaptation strategies
- Facilitating the final citizen stakeholder meeting as we present the findings and the draft plan.

Collective water will bring their local knowledge to the analytics process:

Award-Winning Plans through Sound Data.

Staff at Collective has worked with the City of West Palm Beach for 10 years. We've worked on all the City's recent master plans for utilities and stormwater – and on many of their resiliency and vulnerability studies. Most recently, the City was awarded an Honourable Mention by the National Conference of Mayors in the Climate Category for a project led by Collective Water (The City's recent Stormwater Master Plan). This was a competitive category that included notable cities like New York City and Chicago. Mayor Muoio will receive the award at an upcoming conference. She was also invited to be a participant at the COP-21 Summit in Paris where she discussed several of these studies as a local government representative. The City recently asked Collective to provide peer review services as another vulnerability effort kicked off to ensure sound usage of hydrologic and modeling data. Collective is a regular participant as part of technical teams and at outreach workshops throughout the City and greater South Florida.

- Ensuring the assets systems represented in the model are reflecting of a comprehensive and city-wide view of Hollywood
- Exercising their engineering expertise and judgement in the extraction of asset response functions from existing Hollywood models
- Overseeing the calibration process to ensure the model is performing as expected and results are valid
- Guiding the development of adaptation strategies that conform to acceptable engineering practice.

Throughout the process input and feedback from both Hollywood staff and Atkins engineers with extensive local knowledge of the Hollywood infrastructure will ensure that the products and strategies are well grounded and incorporate Hollywood's on-the-ground experience.

Our Analysis Process

Atkins' City Simulator will be used throughout the project, to help identify and prioritize both vulnerabilities and strengths, as well as test the effectiveness of different adaptation strategies under different climate forecasts. It is a map-based software tool that is anchored on a virtual version of the city.

Using Existing Data and Models to Speed Analysis

Leveraging Hollywood's GIS data and existing engineering models as well as a long list of data from national, state, regional, and other local sources, we will build a virtual Hollywood that includes stormwater, power, transportation, telecommunications, parcels, buildings, zoning, and ecosystem information. Within this virtual city, we will create a virtual population of "Agents" that mirror Hollywood's demographic distributions (population size, gender balance, education, age, employment type, salary, and so on).

A Nested Loop Simulating Both Urbanization and Disasters

We will then use City Simulator to simulate the growing city from present to 2050. The simulation operates as a nested loop model, where an outer loop runs once per year and simulates urbanization, while an inner loop is run once per day and simulations activities like commuting, recreation, and commerce.

The inner loop also simulates acute disasters, like storms and heat waves. Using a daily forecast of rainfall and temperature based on the latest CMIP5 models, we "drive" the City Simulator day-to-day. In business as usual times, when only small storms are hitting, the city experiences year-to-year growth. Measures put in place for preparedness and general efficiency such as improved stormwater

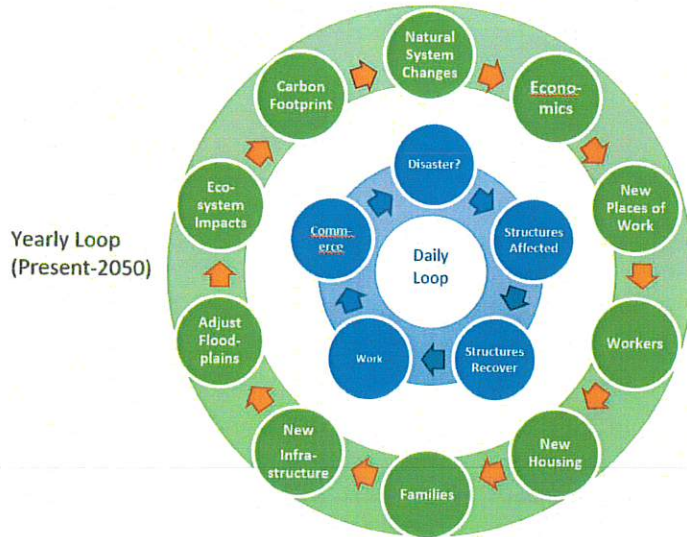
City Simulator a 2017 Finalist at UK Environment Agency Awards for helping NC Counties Prioritize Hurricane Resilience Measures

Hurricane Matthew in 2016 resulted in severe damage in nearly half of North Carolina's counties. In the city of Fayetteville alone, nearly 30 dams were breached. Immediate impacts were devastating, with habitats wiped out, power out for weeks, and traffic disruptions causing a major drop in city productivity. Long term, the result was hundreds of homes losing their coveted lake-front status, and millions of dollars in reduced real estate value.

Atkins used City Simulator to help the citizens of Fayetteville explore their options for building resilience. They found that the cost for rebuilding the dams, even at a higher cost for hardened concrete construction came nowhere close to the cost of losing real estate value and city taxes if they left the dams breached.

This project resulted in a much better-informed group of stakeholders, with confidence in the list of projects they sought funding for. The project was also made a finalist in the UK Environment Agency's 2017 project excellence awards.

systems, green infrastructure, improved teleworking opportunities through better telecommunications, reduced power consumption, and so on are reflected in higher growth rates.



When large events hit like extended heat waves and hurricanes, the model evaluates which buildings and infrastructure are impacted and reduces their level of service proportional to the size of the event. For example, a cat 5 hurricane may render many buildings uninhabitable and destroy road ways, bring down power lines, and close recreation facilities. Based on severity, the model enrolls each structure in a recovery process, the duration of which can extend for months to years depending on the condition of the assets impacted and the availability of funds to repair them. As those buildings and infrastructure recover, they come back online and start to accommodate citizens in their work, travel, and residence. Measures put in place to increase resilience to large events like sea walls, evacuation plans, raising streets and buildings, adding redundancy for power systems, and improving critical facility robustness, are reflected in reductions in recovery times and lower impacts to level of services.

Understanding Broad Impacts of Individual Infrastructure Assets

Using the City Simulator, we can estimate the impact a wide variety of assets have on the community in unprecedented detail. Culverts, emergency care centers, cell phone towers, road segments. They each play a part in the system of systems that makes up the community. In the case of the culvert, for example, by understanding the commute patterns in the city, we can determine which agents' work days will be disrupted if the road over which the culvert lies is overtopped. We can further estimate the impact on city productivity, as those agents'

Including Climate Change and Sea Level Rise in our Analysis

The impact of bigger storms, longer droughts, and higher sea levels is complex. Simple assumption like linear response to sea level rise (1 feet of sea level rise = 1 feet higher floodplains) may be leaving us open for unexpected risk.

Our approach is to emulate the entire city system of systems, including water- and non-water based assets. We also emulate how these systems interact, in an integrated and holistic way.

To understand how changing climate will impact the city, we include the changing climate's effect in the rainfall and temperature forecasts we use, and evaluate how these changing drivers impact the dynamic city system. Further, we stress-test the city with thousands of plausible future climate conditions. One scenario might have a 30-year gap until the next major hurricane, while another might have two category 5 hurricanes in successive years in the early 2020s.

The result is a much better understanding of how the city will perform under stress, where it strengths are, and where there is room for improvement.

workdays are cut short or don't even occur. The other side of the coin is that we can determine the value of making the culvert more robust and capable of handling larger storms, a value that extends beyond the cost of culvert and road damage to estimates of increase in city productivity, improved access for emergency vehicles, and general improvement in congestion levels.

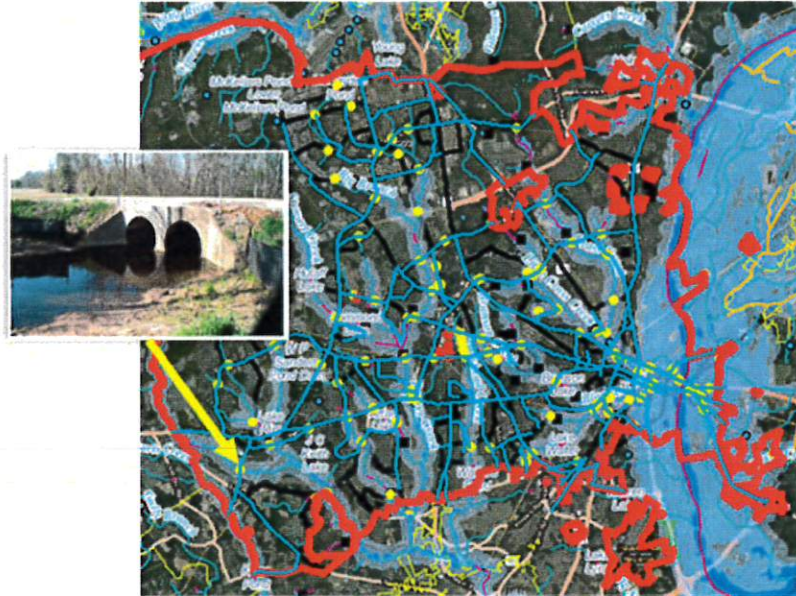


Figure 1. Fayetteville, NC. The yellow dots are stormwater infrastructure (culverts). The highlighted road network (cyan) is the set of roads impacted when the culvert (pictured) is overtopped and citizens can't take their normal commute. Using these City Simulator results, the City can prioritize maintenance and improvement of the stormwater infrastructure asset by asset.

Atkins is currently pioneering this integrated analysis in several of our projects for FEMA and NOAA and we propose to bring those capabilities to the City to leap frog them into a data rich decision-making experience.

Making Better Choices with More Information

When rolled up over a city-wide analysis, it is metrics like city productivity that become the basis for making shrewd choices for adaptation strategies. With the wealth of data available in the model, a menu of metrics is also available. Working with your staff, and through the CRB workshop with stakeholder citizens, we propose to choose the evaluation criteria from this menu. We will also solicit ideas for new metrics and add them to our analysis as part of our criteria evaluation process.

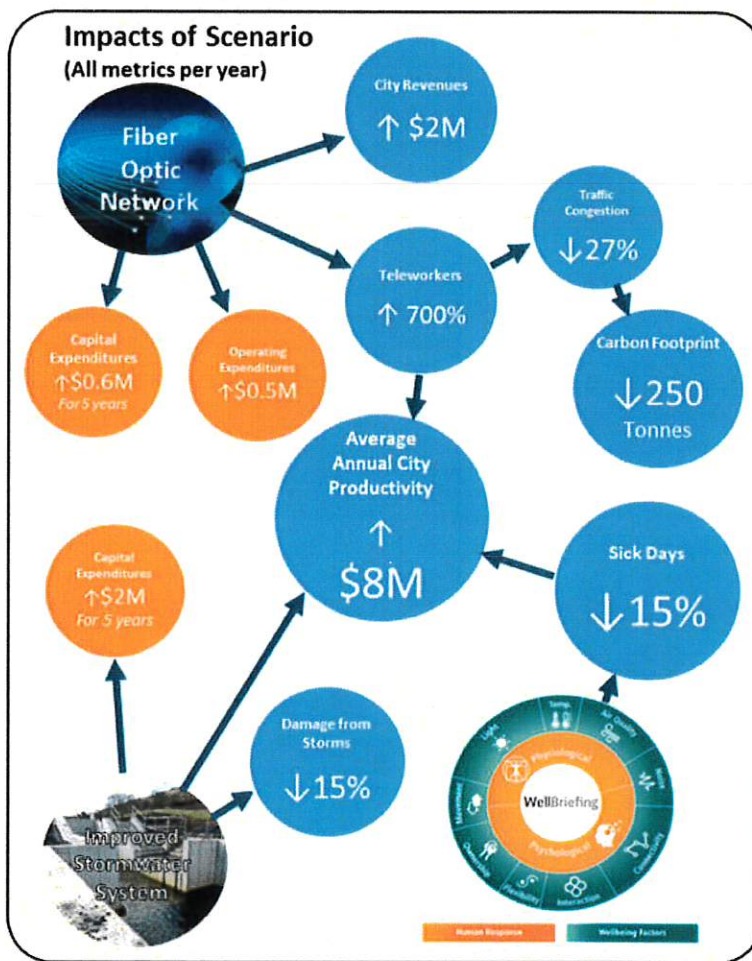
The figure below shows an example of an analysis result that comes out of City Simulator. This example was focused the resort town of Las Terrenas in the Dominican Republic, part of a grant from U.S.A.I.D. focused on building resilience in Dominican Republic Cities. The town is booming with tourism, having doubled in size in 20 years. But it also suffers from heavy flooding, high poverty, and poor citizen health.

The scenario tested looked at improving the stormwater system to handle up to the 50year storm, adding a fiber optic network to encourage teleworking among those whose professions were suitable for it, and introducing Well-Briefing, an architectural style focused on designing buildings for inhabitant user experience.

The net result was certainly costly for the town (orange circles) for the capital improvements. But, much higher benefits were seen. Improving the stormwater system resulting in a 15% reduction in flood damages per year as direct benefit. But, because people could get to work much more frequently, it resulted in an \$8M per year increase in city productivity (total salary earned per year).

Further, measures that don't seem to have much to do with flood also brought flood-related benefits. Because more people could telework, fewer ended up caught in floods, or unable to travel to their workplace. The reduced commuting also resulted in reduced 27% reduced congestion in the central business district, and a 250 tons per year drop in carbon footprint.

Well briefing had a similar impact, resulting in higher productivity as citizen health improved and more people made it to work each day.



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Figure 2: Often, indirect solutions get much better results. In this analysis, City Simulator was used to test concurrently improving the stormwater system, adding fiber optic networks to encourage teleworking, and introducing Well-Briefing, an architectural design style focused on building inhabitant user experience. The end results are reduced congestion, increased city budgets without new taxes, and improved public health.

We proposed to conduct many analyses like this for Hollywood’s Adaptation Planning exercise. Driven by the criteria established during the Vulnerability Assessment, the results will provide clear evidence of the path to take for adaptation.

The final products will include a completed multi-faceted Adaptation Plan and ancillary data products created during the analyses. We recognize that the investments planned for infrastructure adaptation are being made in the face of climate uncertainty. As such, an important element of the adaptation plan will be to incorporate key triggers or decision points based on elements specific to the Hollywood system. For instance, prioritization is based not only on where (and why); but, when specific infrastructure becomes vulnerable. As such, the implementation timeline includes decision points and triggers such as when sea level reaches a specific threshold. The object is to avoid unnecessary expenditures while assuring that there is a clear understanding of future investment needs. Additionally, we recognize that in a well-designed adaptation plan, some adaptation actions can be integrated within routine capital improvements that would be required anyway, minimizing additional expenditures for a higher return on investment.

Finally, the adaptation plan provides two main components: specific adaptation actions for the city and a component for the community to understand what is coming and why. The larger community to whom the second component speaks includes investors and insurers who can be re-assured by a clearly defined path. The plan provides a foundation on which to plan for long term growth and the continued prosperity of the City and its inhabitants.

Major Tasks and Responsibilities, Project Timeline and Task Staffing

The approximate division of labor by task among team members is as follows:

| Task | Hampson | Bannett/ Tenn | Bourne | Perez | Brizaga* | Whelchel | GIS team** | Passarelli | Frank |
|----------------------|---------|------------------|--------|-------|----------|----------|---------------|------------|-------|
| SLR | 33% | 0% | 33% | 0% | 33% | 0% | 0% | 0% | 0% |
| Affected Systems | 4% | 2% | 36% | 0% | 4% | 0% | 55% | 0% | 0% |
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| Strategies | 3% | 3% | 22% | 14% | 14% | 14% | 27% | 3% | 3% |
| Adaptation Plan | 16% | 2% | 16% | 10% | 16% | 0% | 33% | 3% | 3% |

The timeline proposed for the project is a total of 11 months. Divided as follows:



The proposed timeline would be refined based on a more detailed task and subtask list, addressing dependencies, parallel tasks, and overlap between the vulnerability assessment, prioritization and adaptation strategies, as additional input and refinements are incorporated.

The project schedule will be maintained using Atkins Project Management tools and procedures, described below:

Our key management practices include:

- Control of concurrent project work assignments by internal communication and meetings
- Documented quality procedures including independent QC and independent project reviews.
- Internet portals and shared drives for easy document maintenance
- Proactive agendas and meeting notes with action items from every meeting
- At the project kickoff meeting, Atkins will lead a candid discussion of the project goals and objectives and define clear and achievable milestones.
- Progress toward meeting project milestones will be continuously monitored, and critical issues of concern that could impact the schedule will be presented to the City as soon as they are discovered.

Should any issues arise, the City already has a relationship with the Project QC and Oversight lead, Ruben Hernandez, who will be checking in on progress and client satisfaction.

Atkins is excited by this opportunity to expand our relationship with City of Hollywood and we look forward to working with you and introducing you to a wider cross-section of our high-quality staff, as we build consensus on how best to strengthen the foundation for the next 50 years of growth in the face of an uncertain climate.



SAMPLE

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
10/24/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| PRODUCER MARSH USA, INC. TWO ALLIANCE CENTER 3560 LENOX ROAD, SUITE 2400 ATLANTA, GA 30326 000000-Atkin-GAWU-17-18 | CONTACT NAME: _____ PHONE (A/C, No, Ext): _____ FAX (A/C, No): _____ E-MAIL ADDRESS: _____ | | | | | | | | | | | | | |
|--|---|-------------------------------|--------|---|-------|---|-------|-------------|--|-------------|--|-------------|--|-------------|
| | <table border="1"> <thead> <tr> <th>INSURER(S) AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> </thead> <tbody> <tr> <td>INSURER A : Zurich American Insurance Company</td> <td>16535</td> </tr> <tr> <td>INSURER B : American Guarantee & Liability Ins Co</td> <td>26247</td> </tr> <tr> <td>INSURER C :</td> <td></td> </tr> <tr> <td>INSURER D :</td> <td></td> </tr> <tr> <td>INSURER E :</td> <td></td> </tr> <tr> <td>INSURER F :</td> <td></td> </tr> </tbody> </table> | INSURER(S) AFFORDING COVERAGE | NAIC # | INSURER A : Zurich American Insurance Company | 16535 | INSURER B : American Guarantee & Liability Ins Co | 26247 | INSURER C : | | INSURER D : | | INSURER E : | | INSURER F : |
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| INSURER F : | | | | | | | | | | | | | | |

COVERAGES **CERTIFICATE NUMBER:** ATL-004758118-02 **REVISION NUMBER:** 4

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|----------|---|-----------|----------|----------------|-------------------------|-------------------------|---|
| A | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER: _____ | | | GLO 137576-03 | 10/15/2017 | 10/15/2018 | EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 50,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000 \$ |
| A | <input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY <input type="checkbox"/> AUTOS ONLY | | | BAP 0137575-03 | 10/15/2017 | 10/15/2018 | COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$ |
| B | <input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED \$ RETENTION \$ | | | AUC 9304209-15 | 10/15/2017 | 10/15/2018 | EACH OCCURRENCE \$ 3,000,000 AGGREGATE \$ 3,000,000 \$ |
| A | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below | Y/N | N/A | WC 0137577-03 | 10/15/2017 | 10/15/2018 | <input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000 |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Evidence of Coverage/Specimen

| | |
|---|---|
| CERTIFICATE HOLDER Atkins North America, Inc. 4030 West Boy Scout Blvd. Ste. 700 Tampa, FL 33607-5713 | CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE of Marsh USA Inc. Manashi Mukherjee <i>Manashi Mukherjee</i> |
|---|---|