# City of Key West | Wastewater Treatment Plant Resilience Plan

Submitted on
March 6, 2024

Solicitation No.
#24-006

Jacobs

Challenging today.
Reinventing tomorrow.

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SECTION 1

# Cover Letter

March 6, 2024
City of Key West
1300 White Street
Key West, Florida 33040
ATTN: City Clerk

Jacobs Engineering Group Inc.
3150 SW 38th Avenue, Suite 700
Miami, FL 33146

**RE: RFQ No. 24-006, Key West Wastewater Resilience Plan**

Dear Members of the Selection Committee,

The Jacobs team recognizes that the City of Key West is embarking on a significant initiative to enhance the resilience of its wastewater treatment capabilities through a comprehensive evaluation and subsequent upgrades to the Richard A. Heyman Environmental Protection Facility (RAHEPF). Given the city's geographic location at the southernmost point of the United States, it faces distinct challenges. These include susceptibility to hurricanes and flooding, compounded by the pressures of climate change, population growth enhanced by tourism, and an aging infrastructure that has reached a critical point requiring modernization to ensure the community's safety and well-being. This facility is not just a local utility but a critical component of the broader regional infrastructure, serving Key West, military operations, and allowing for the growth of housing stock in adjacent areas. Its significance is underscored by its role in supporting various federal agencies and military readiness, highlighting the need for a resilient approach to wastewater treatment that can withstand current and future challenges. The goal of this project is to determine the most cost-effective and sustainable options for meeting the community's wastewater treatment and energy needs in the most resilient way possible and consider potential stressors that could impact the plant's long-term performance.

We keenly understand the existing infrastructure, the environmental forces impacting it, and are experts in designing and implementing solutions. We are excited to support this meaningful effort, drawing on our 35-year partnership with you, to develop a new Key West Wastewater Resilience Plan. Our team brings you unique benefits:

- **A quick start with no learning curve:** Due to the OLDCC grant funding for this project, a quick start is imperative and adherence to scope, schedule and budget is critical. Jacobs thoroughly understands your existing facility, geology, environment, shoreline, roadways, as well as your organization, staff and work style. Project Manager Erik Jorgensen, PE, and our entire team have extensive experience working successfully with you.
- **Experience with resilience projects.** Jason Bird, CFM, Jacobs' Florida resilience leader, will be your resilience team leader. He has a unique ability to approach projects from both a technical engineering perspective and a broader citywide resilience perspective. In the last decade, Jason has been personally involved in more than 30 vulnerability assessments of assets, facilities, organizations, and public places. We will leverage our current work with Naval Air Station Key West (U.S. Army Corps of Engineers, Engineering with Nature program) and the South Florida Military Installation Resilience Review to inform the assessment. Jacobs also recently completed a planning study for Miami-Dade County Water and Sewer Department providing guidance on how to future proof its South District Water Treatment Plant and provide safe shelter for critical operators during storms or other catastrophic events.
- **Experience with wastewater treatment:** We are the only competitor who is a heavy hitter in wastewater. Wastewater technical lead Randy Boe, PE, is a leading national expert in wastewater treatment processes and has extensive experience delivering wastewater treatment facility resilience planning, process modeling, design, construction services, and startup assistance as well as process trouble shooting for conventional waste activates sludge plants and Advanced Wastewater Treatment (AWT) facilities like the RAHEPF. We are the original designer of this treatment plant. We bring innovative solutions not only for enhancing wastewater treatment and treatment plant resilience but also for biosolids-to-energy such as pyrolysis, and experience in overall assessment for potential risks and stressors that could affect the mission of the facility.

As a large multidisciplinary firm with more than 4000 engineers and consultants in the State of Florida alone, we are uniquely capable to assess existing conditions, develop a range of resilience options, and develop detailed cost estimates for each alternative. We are particularly dedicated to Key West, having been your trusted partner for more than 3 decades. We have a passion for and a corporate commitment to protecting vulnerable natural and built environments, your community, and the people we collectively serve. As your principal-in-charge, you have my personal and professional commitment to delivering this project for the benefit of you and your community. If you have any questions or need further information, please contact me at 786-298-0180 or John.Aleman@jacobs.com.

Sincerely,

John Elizabeth Aleman, Principal-in-Charge, Jacobs


SECTION 2

# Information Page

# INFORMATION PAGE

**Project Name:**
Wastewater Treatment Plant Resilience Plan
City of Key West RFQ #24-006

**Prime Firm:**
Jacobs Engineering Group, Inc.

**Address:**
3150 SW 38th Avenue, Suite 700
Miami, FL 33146

**Fax Number:**
954.772.2621

**Points of Contact:**

Designated Representative with Authority to Make Representations for the Firm.

## Principal in Charge:

### John Elizabeth Aleman

Phone: 786-298-0180 | Email: john.aleman@jacobs.com
Office Location: 3150 SW 38th Avenue, Suite 700, Miami, FL 33146

*"The unique location and circumstances of Key West gives rise to the urgency for incorporating resilience into critical infrastructure and public works. As the only wastewater treatment plant serving Key West and neighboring Navy, SouthCom and Coast Guard military operations, the importance of plant hardening cannot be overstated.*

*Key West has already initiated prudent steps, such as the undergrounding of utilities beneath the Fleming Channel, that will protect wastewater operations from storm events and vessel strikes. This project represents yet another firmly prudent step to protect the City's wastewater management system from future shocks such as cyber attack or severe storms, and ongoing stressors, such as population changes, changes in sea level / tidal variations, and aging infrastructure.*

*My job is to make sure that our project team has the most experienced, well-rounded resources available to ensure that this study is comprehensive. I am fully dedicated to the success of this project."*

## Project Manager:

### Erik Jorgensen, PE

Phone: 949-573-1685 | Email: erik.jorgensen@jacobs.com
Office Location: 5401 West Kennedy Boulevard, Suite 300, Tampa, FL 33609

*"Working with the City of Key West has been a privilege. The Richard A. Heyman Environmental Protection Facility was originally designed by CH2M Hill, now Jacobs. Combining our history at the plant with Jacobs' expertise in wastewater and engineering resilience makes us the best choice to support Key West's plan to modernize and extend the life of the facility.*

*My role is to ensure that Jacobs delivers a solution that goes beyond the technical and provides meaningful, creative and pragmatic solutions. My approach is based on active listening, consensus-building and collaborative innovation. I emphasize robust and frequent communication, and I understand the importance of staying true to the scope and budget dictated by the OLDCC grant funding this initiative."*


SECTION 3

# Organization Chart

## Wastewater Resilience Plan Team Organization

The Jacobs team recognizes that Key West is on a journey to transform community infrastructure, addressing Wastewater Treatment Resilience concerns as it prepares for and responds to evolving risks and stressors associated with climate change and sea level rise. As important as it is to understand and define an "end state" and optimal interim adaptation strategy, it is important to effectively tell the story to residents and other community stakeholders.

As shown in the Organization Chart below, our team is organized to deliver every aspect of this project with a range of experts that will be engaged as needed to meet project needs. The majority of our team has been supporting the City of Key West for years and has a strong understanding of the existing conditions and how to work with you effectively and efficiently with you, the City of Key West.

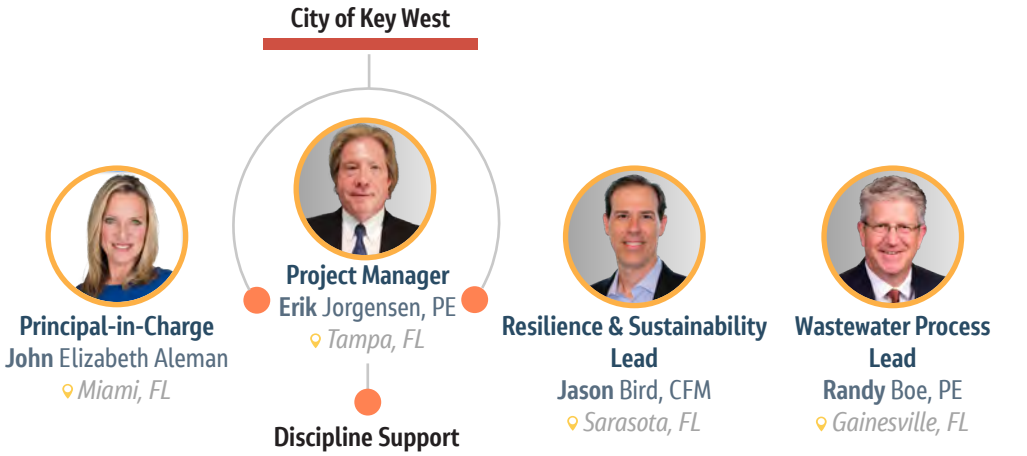



**Exhibit 1:** Wastewater Resilience Plan Team Organization Chart

We provide comprehensive resources for every discipline, system operation, and delivery method required under this contract. Having worked closely with you on key resilience planning initiatives, we also understand that evaluating projects holistically is important to supporting your short- and long-term objectives to deliver a successful project.

With our Design Center and our Excellence In Resiliency team based here in Florida, Jacobs is ready to continue providing the City with high-quality, responsive engineering services immediately upon notice to proceed. These staff members are already experienced in Key West designs to effectively meet your unique conditions of high ground water, intense storms, flat topography, and coastal structures.

As presented in this section, our methodology and approach for managing this contract include:

- **Proactive collaboration and communications** to maintain our strong partnership with the City, promote team continuity and streamline task order delivery.
- **Local, dedicated management and in-house delivery team** that shares your vision for the future and commits to exceptional client service, responsiveness, and delivering success.

## Designed for success

Our carefully selected team includes local technical experts dedicated to Key West's Wastewater Resilience Plan, backed by the ability to leverage Jacobs' national and global expertise for innovative, practical solutions. We've also enlisted specialized subconsultants with a track record of similar projects across the state, enhancing our team's proficiency. Our partnerships with **Brizaga** for expert public outreach and **Avirom & Associates, Inc.** for precise surveying further strengthen our project. Both firms are distinguished minority businesses, adding valuable diversity to our team.

## Local, dedicated in-house delivery team

Our management team will ensure our projects are aligned with the City's goals, drive our team's overall delivery performance, and ensure the responsiveness and quality of services you expect on this contract. This team includes:

- **Project Manager Erik Jorgensen, PE:** Erik is a senior project manager with over 30 years of experience delivering successful water, wastewater, and stormwater resiliency efforts for municipalities. He has worked with Jason and Randy to deliver successful projects. He will meet with the City on a regular basis to discuss your project needs, and the specific resources and expertise needed for this assignment.
- **Resilience & Sustainability Lead, Jason Bird, CFM:** Jason, with over 24 years in sustainability and resilience, has conducted over 30 vulnerability assessments across various assets and public spaces in the past decade. Collaborating closely with Erik and Randy, he'll play a key role in maintaining our delivery standards and fulfilling all commitments to the City on this project.
- **Wastewater Process Lead, Randy Boe, PE:** Randy, a senior process engineer with over 30 years of experience in wastewater treatment facilities, will collaborate closely with Erik and Jason to maintain our high delivery standards for this project. His focus will be on creative technical solutions to treatment plant related resilience issues and challenges providing solutions that are practical to implement.
- **Principal in Charge, John Elizabeth Aleman:** John will continue to ensure that our team is performing to your complete satisfaction, that the City has access to the expertise it needs.

### Florida is home to our national Resilience Center of Excellence

**Our core team**, solidly based in South Florida, is supported by handpicked technical professionals and our innovative Excellence in Resilience and Quality Advisors.

These Advisors are thought leaders, innovators and built environment experts in each discipline that supply continued guidance and quality assurance review to the core team. They verify that we can develop your solutions in a balanced and sustainable way your community can embrace.


Our team of experts available for this project boasts over:

**1,000+** Resilience related projects in our portfolio

**200+** Clients worldwide focused on planning and response in full range of climate hazards

**100+** Resiliency Experts in Florida

**50+** Years of integrated resilience solutions across markets

**Exhibit 2:** Resilience Centers of Excellence

SECTION 4

# Company Information

# COMPANY INFORMATION

Established in 1947, Jacobs helps clients protect their most valued assets—**people, infrastructure, and the environment**—and safeguard continuity of service in the face of human-made and natural hazards. As a global leader in architecture, engineering, planning, modeling, and design, we help you understand, manage, and disclose climate-related risks to stay resilient in the face of uncertainty.

With more than **4,000 employees** throughout the state, strong local connections, and a deep bench of expertise across your required disciplines, we have the resources you need to overcome today's challenges and build a better future for your community. We've provided multidiscipline engineering services for South Florida clients for more than 60 years—civil, structural, mechanical, transportation, stormwater, environmental, marine and coastal, and more. We're the largest solution provider in Florida and a top-ranked global planning, design, and environmental firm as ranked by Engineering New-Record (ENR) since 2003. In addition, Jacobs has been recognized by the American Society of Civil Engineers (ASCE) as one of the best-managed consulting engineering firms in the country. As our company has grown, so has our reputation for stability, trust, and management in providing full in-house capabilities to meet the demands of each project.

Engineering News-Record has ranked

**Jacobs No. 1**

in its list of **Top 500** Design Firms in the world.

**2023 ENR RANKINGS**

We've held a top five position in the Top 500 lists since ENR's rankings began in 2003, for a **fifth time we have been ranked No. 1**

**#1**

- ✓ Design Firm
- ✓ Sanitary & Storm Sewer
- ✓ Sewer & Waste
- ✓ Wastewater Treatment
- ✓ Water Transmission Lines & Aqueducts
- ✓ Industrial Processes

**#2**

- ✓ Construction Management Firm
- ✓ Marine & Ports Facilities
- ✓ Water and Water Supply
- ✓ Water Treatment, Desalination Plants
- ✓ Highways

## Vested in Key West

Our successful 35-year history delivering projects for the City of Key West provides us with a deep understanding of the challenges and opportunities of working in your unique ecological and geological landscape. In fact, since 2018, hundreds of Jacobs' staff have worked on Key West projects in one capacity or another across project types, including stormwater master planning and design, roadway and drainage engineering, wastewater plant improvements, solid waste and coastal facilities, post-disaster recovery planning, and Sea Level Rise policy development. With this experience, we've built trust with you and we understand how you expect your consultants to work and communicate with you.

We are an industry leader in developing place-based responses, optimizing environmental quality, social equity, and economic vitality; and we bring a long-standing commitment to environmental stewardship and a reputation for responsible, savvy solutions to develop climate change resilience and sustainable urban infrastructure.

**1987 1990** General Planning
WWTP Design, Construction Management, & Startup

**1988 1992** General Engineering & Design Services

**2002** Stormwater Pump Stations & Drainage Wells (North Duval and Patricia and Ashby) & Wastewater General Services

**2004 -2010** Stormwater & Wastewater General Services

**2010** Stormwater Well Rehab 5-year Contract Design, Permitting, & Bid Phase Services
Gravity Well Phase VI Design, Permitting, & Bid Phase Services
10-year Transit Development Plan

**2011** White Street Stormwater Pump Station Design, Permitting, Bid, & Construction Services

**2012** Stormwater Master Plan

**2014 -2024** Operations and Management Services

**2017 -2022** General Engineering & Design Services

**2021** Sea Level Rise Policy Guideline
Post Disaster Reconstruction & Resilience Plan
Pavement and ROW Improvements to Front, Whitehead, & Duval Streets
Flagler Interceptor Phase 2: Rehabilitation Design, Permitting, Bid & Award Phase Services

**2022** Stormwater Master Plan – Phase I & Phase II

**2023** Trenchless Installation of Utilities across Fleming Channel
Sewer Collection System Master Plan Development

Timeline of Jacobs Involvement in Key West based projects

## Our Partners

To complement our extensive in-house resources, we've partnered with two minority owned subconsultants—each offering unique and valuable experience benefiting you on this effort. Our partners are all local to South Florida with staff who live, work, and play in the area—bringing a personal commitment to Key West and the local community. Jacobs shares Key West's commitment to diversity and recognizes the importance of supporting local small businesses to grow and thrive.

## Brizaga | Public Outreach Services

An exclusive member of our team, Brizaga leads our public outreach effort. A minority-owned Small Business Enterprise , this multidisciplinary, civil and coastal engineering firm solves complex problems by strategically leveraging science, communications, and policy. Brizaga was founded by Dr. Alec Bogdanoff and Michael Antinelli, PE, CFM, friends who have spent more than two decades dedicated to helping individuals, businesses, and governments understand and address increasing flooding, rising tides, and a changing environment.

Brizaga has seen first-hand how critical communication is to driving widespread positive change, especially regarding complicated topics like resilience, flooding, and Sea Level Rise (SLR)—as such, communication is an essential part of their process. Having supported outreach efforts for the City of Miami Beach's Stormwater Master Plan, Bizaga successfully coordinated and planned tactical communication strategies for these topics, and solicited essential feedback from stakeholders for the Master Plan development. Brizaga has also supported developments for the business cases of stormwater resilience for Miami Beach and South East Florida; communicating the risks and effects on residential and commercial properties, comparing the effects and costs of stormwater infrastructure to guide the scope and timelines of future projects.

When exploring resilience, Brizaga examines risk and solutions through an adaptive-capacity framework, which means any action must improve the community's resilience and make financial sense to ultimately improve the community's adaptability. South Florida's unique SLR challenges—including storm surge, porous limestone, leaching septic tanks, ecosystem health, and an aging regional flood control system—create a complex web of interconnected systems the City must fully consider to effectively and responsibly implement any project.

## Avirom & Associates, Inc. | Surveying Services

Based in Key West, small-business Avirom is a land surveying firm dedicated solely to delivering land surveying services to clients. They are one of a few land surveying firms in the state with six licensed surveyors, nine fully equipped field crews, and seven CAD technicians on staff. The firm attributes much of its success to the tenure of its team, as many of its employees have been with Avirom for over 30 years.

Avirom's focus is on precision surveying and clear communication. Their quality control/quality assurance policy guarantees that the drawings produced by their team are an accurate reflection of the information collected by experienced crew in the field. They are on the cutting edge and current with technology with the advent of 3D laser scanning and drone capabilities.

During their 41 years in business, Avirom's team has worked on major projects throughout Florida and the Florida Keys, including a balance of assignments with public agencies and private development firms. Their diverse projects in Key West include streets, solid waste, buildings, and waterfront parks. We are confident that given the opportunity, they will continue to exceed the City of Key West's expectations and build upon their project history with Jacobs.

SECTION 5

# Methodology and Approach

# PROJECT UNDERSTANDING

Key West is an island vulnerable to flooding with groundwater and surface water elevations at or near sea level and a generally low-lying topography. Severe weather events such as hurricanes, storm surge induced flooding, and coastal erosion are areas of concern as well as the long-term trend of sea level rise (SLR). The City has adopted an SLR policy that can be used as guidance when assessing the effects of SLR. The City's Richard A. Heyman Environmental Protection Facility (RAHEPF ) is located on Fleming Key, which is owned and controlled by the Department of the Navy. Conveyance of wastewater from Key West to Fleming Key crosses the Fleming Key Cut, a navigable channel, along the Fleming Key Road causeway and bridge. Key West and Fleming Key are remote locations which rely upon electric energy and access from the mainland, nearly 100 miles to the north via the overseas highway A1A. Treatment supply chemicals and electric energy and solids disposal must be transported long distances to and from the southernmost wastewater treatment plant in the continental United States.

In addition, Key West is a destination location with a residential population of approximately 25,000, an average daily population of 56,000 and with peak populations of around 80,000 during special events, which must also be served by the RAHEPF. The adjacent US Navy and Coast Guard bases also discharge wastewater to the City's sewer collection system which further affects the volume of influent sewage conveyed to the RAHEPF. The RAHEPF must continue to be a reliable workhorse under a range of load conditions, meeting the varying seasonal flow rates. However, as the City seeks to add affordable housing; with the adjacent military bases continuing to expand their residential housing; and with adjacent agencies such as the Florida Key Aqueduct Authority (FKAA) seeking to convey sewerage from their service territory to the City's plant – the effect on wastewater influent volumes due to population growth are becoming a bigger stressor on the RAHEPF. Considering the variation between base load and peak loads to the plant, the project team will need to consider the need for plant expansion or at a minimum the construction of influent equalization tanks to maximize use of existing treatment capacity.

Due to Key West's low-lying topography and karst limestone surface geology, groundwater elevations across the City tend to be close to the ground surface. Much of the City's wastewater collection system is located below and near groundwater elevations. During and shortly after heavy rain events, the wastewater collection system experiences significant increases in flows because of high infiltration and inflow (I&I). The occurrence of I&I may be caused by the condition of wastewater collection system pipes and laterals and/or illicit connections which allow stormwater runoff to enter the wastewater collection system. The need for renewal of the wastewater collection system infrastructure and improvements in stormwater conveyances are important measures that may affectively reduce the volume of influent and chloride concentrations at the RAHEPF during and after significant storm events. Even during dry weather conditions, the City has observed high salinity levels in wastewater flows across Key West, suggesting that high chloride groundwater and/or sea water is entering the sewers via I&I. The effects of the high salinity can be observed as corrosion on exposed metal pipes and equipment. A marine environment is hard on equipment, reducing the effective service life and driving up operation and maintenance costs.

**Coastal erosion along the south shore of Fleming Key near the RAHEPF**

Discharge of treated wastewater from the RAHEPF is directed toward two onsite deep injection wells (DIWs). The RAHEPF provides Advanced Wastewater Treatment (AWT) and disinfection via ultraviolet disinfection system (UVDS). The UVDS meets the requirements for the current method of disposal; however, the UVDS does not meet the High Level Disinfection (HLD) standard for reuse of treated wastewater. Thus, the only permitted disposal method for treated wastewater is DIWs. If the RAHEPF's treatment process were to be overwhelmed, impaired, or otherwise compromised, there currently are no provisions to divert off-spec (partially treated, or untreated) wastewater to another approved point of discharge. Wastewater entering the RAHEPF must undergo successful biological treatment to reduce the presence of nutrients and pathogens, via clarification, filtration, and disinfection by the UVDS and disposal at the two DIWs. Enhancing the resilience of the wastewater treatment system and process is based on the ability to continuously maintain a full level of treatment 24 hours a day and 365 days a year without downtime. The plant is designed with redundancy of unit operations in mind; however, rigorous condition assessment and maintenance programs must be prioritized to keep the facility in operation.

Operation of a wastewater treatment plant produces biosolids that must be conveyed and disposed offsite at a landfill. The current practice is to dispose of biosolids at the Medley Landfill located in Hialeah in the Miami area. Under current conditions, the facility ships 6 to 10 truckloads of biosolids offsite roughly every week based on season and local events. Without regular disposal of biosolids, the plant would need to begin dumping biosolids in an uncontrolled fashion to keep the plant operating. There are developments occurring in biosolids-to-energy technology that can improve on this circumstance. Conventional anaerobic digestion and stabilization of biosolids along with biogas treatment and installation of engine driven generators is not always cost effective for intermediate size wastewater treatment facilities such as the RAHEPF, especially when primary clarifiers are not present. However, new technologies for biosolids-to-energy processing including pyrolysis are focusing on the needs of intermediate sized wastewater treatment plants and provide the benefit of energy recovery through steam generation to produce electricity and an extremely stabilized post processed solid residual that is significantly reduced in mass and volume that can be locally land applied. In addition, pyrolysis may be able to eliminate and/or reduce per- and poly fluoroalkyl compounds (PFAs) in residuals (an emerging area of regulatory concern). The new energy produced would offset some of the need to import energy on an ongoing basis and be able to support power needs during standby operations when a loss of utility power occurs.

Wastewater treatment plants are highly regulated operating entities. Their mission of treating wastewater, protecting the public, and being stewards of the environment are foremost in the minds of the regulating agencies. Concerns regarding emerging chemicals of concern such as PFAs, pharmaceuticals, endocrine disruptors, and others will drive changes in the industry regarding treatment and disposal of wastewater and biosolids.

**Jacobs has the expertise to review RAHEPF treatment processes and recommend resiliency improvements for the plant.**

Jacobs has the wastewater treatment plant and injection well expertise and experience to assist the City with fully understanding the risks and stressors on the RAHEPF (photo of surge vessel and deep injection well head at RAHEP)

Emerging regulatory issues are stressors for the future operation of a wastewater treatment plant and the need for conservation of potable water will drive the need for reuse. As mentioned previously, the RAHEPF does not meet the HLD standard for new injection wells. The DIWs are Class V municipal wells discharging into a zone where no identified underground safe drinking water source has been identified and no upward migration from the injection zone proven to occur. If these wells were to be abandoned and replaced, the future regulatory environment may require HLD to be added to continue the current disposal method. Currently, finding alternative methods of disposal such as beneficial reuse are challenging because of the high salinity of influent sewage. Work needs to be done to prepare for a future where reuse of treated water isn't just a prerogative, it will be a necessary and beneficial source of water improving the resiliency of Key West. Changes in regulations and requirements for wastewater treatment facilities will continue to be stressors for the long-term operation and success of the RAHEPF.

The OLDCC grant which is funding this study, supports the Naval station mission and the City's interest by improving resilience to withstand the effects of climate change including SLR, and population growth while also considering conventional operating issues such as the physical location and condition of the plant, future regulatory stressors, and I&I in the sewer collection system. The OLDCC grant goes further and asks the additional questions regarding impacts to the plant operations resulting from cyber and kinetic warfare. The mission of the RAHEPF includes supporting the operation of military bases; therefore, it is prudent to consider these and other possible threats or points of system failure to support operational continuity and resilience.

There are numerous shocks and stressors that could impact the assets or operation of the RAHEPF. While this effort will seek to identify as many as reasonably possible given time and effort constraints, it will be up to the project team and stakeholders to select and prioritize threats as part of this study. The best way to achieve the maximum value from a focused review of shocks and stressors will be for the consultant to conduct a workshop with stakeholders to brainstorm these threats and then organize the identified threats with input from the stakeholder team. The team will need to focus on adaptation actions in terms of the immediate needs, near-term actions, and longer-term strategies to support continued reliable operation of the RAHEPF.

# METHODOLOGY AND APPROACH

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Defining Existing Conditions and Goal Setting | Stakeholder Strategy Workshop to Identify Risks and Stressors | Prioritization of Risks and Stressors | Development of Mitigation Approaches | Presentation of Recommended Mitigation Measures |

This project will identify and evaluate threats and operational challenges and prioritize recommended corrective actions, plant improvements and adaptation strategies to mitigate risks and enhance service reliability and operational continuity of the City's Richard A. Heyman Environmental Protection Facility (RAHEPF) while improving its overall resilience.

This planning level review will identify and evaluate the key shocks and stressors selected by stakeholders with input from Jacobs. Land surveying, public outreach, environmental (NEPA) and regulatory compliance are included on this review. Hazard mitigation measures and climate adaptation actions and corresponding estimates of probable construction costs will be developed. The cost of the mitigation measures will be compared to the cost of building a new treatment plant to identify the most practicable and financially feasible action as required within the request for qualifications.

The following actions are intended to capture our team's approach to evaluating plant threats and developing guidance on the implementation of recommended hazard mitigation and climate adaptation actions. This approach is centered about providing required deliverables to meet OLDCC grant funding requirements and in providing an action-oriented roadmap to enhance facility reliability and resilience against current day and evolving threats. These actions include the following:

- Project Kickoff, Goal Setting
- Data Collection and Assessment of Existing Conditions
- Stakeholder Strategy Workshop
- Development of Mitigation and Climate Adaptation Strategies
- Refining the Mitigation Approaches with Cost Estimates and Alternatives Analysis
- Development of Recommendations and Presentation to s Stakeholder Team for Acceptance
- Finalizing a Facility Resilience Action Plan

The following is the general process we propose to follow in the development of the Facility Resilience Action Plan, which will be refined with City of Key West project team input to support OLDCC acceptance of grant deliverables and to provide a clear roadmap of adaptation actions to support the facility's continued successful operation for years to come in support of reliable military and community service.

## 1 | Defining Existing Conditions and Goal Setting

Jacobs will hold a kickoff meeting with the City to review the project objectives and goals, as well as the sequence of steps and schedule for project delivery. Special attention will be given to OLDCC grant deliverable schedule and expectations to position the City for follow on implementation funding via OLDCC and other funding entities.

Jacobs possesses much of the data needed for the study. However, during the kickoff meeting, the data needs for the project will be reviewed with the City's project manager to confirm the correct data is being used and to seek additional data Jacobs may need to complete their work. Examples of the sources and types of data needed are as follows:

- Historical tide, rainfall and flow data.
- Rainfall and sea level rise projections to establish bookends of possible climate scenarios.
- As-builts for the RAHEPF.
- Topographical surveys of Fleming Key.
- Fleming Key shoreline condition and erosion mitigation measures.
- Daily influent volumes and water quality for the past five years.
- Information on the City's sewer collection system.
- Treatment plant performance data.
- Key West population statistics and growth projections.
- Intentions or agreements to accept additional sources from other agencies and/or military bases.
- Weather data.
- Tidal and sea level data.
- City's Seal Level Rise Policy.
- Annual biosolids disposal data.
- Condition assessment data and information for the RAHEPF and sewer collection system.
- Information on the RAHEPF and sewer collection system SCADA system.
- Recent Capacity Analysis Report (CAR) prepared for the renewal of the RAHEPF operating permit.
- Identification and quantity of chemicals used by the RAHEPF.
- Facility permit information and monthly compliance reports.
- History of problems and/or regulatory compliance issues with the RAHEPF and sewer collection system.
- Known erosion to roads and shorelines along Fleming Key.
- Existing Conditions.

*Existing Conditions* - The initial stage of the study will involve an assessment of the existing wastewater treatment infrastructure, including connected and dependent infrastructure such as roads and electrical power sources, and current flow characterization. This assessment will examine the plant's current capacity, efficiency, reliability, vulnerabilities, and any potential limitations /possible points of failure that could affect its ability to maintain regulatory compliance and meet future demands.

### Deliverables:

- In person kickoff meeting attended by Consultants Project Manager, Resilience Lead, and Wastewater Treatment Plant Technology Lead.
- An index of data obtained and organized for use in this study.
- Draft and final Existing Conditions and Vulnerability Assessment Technical Memorandum (TM).
- Consultant will use a virtual project meeting with City staff to review and finalize the draft Existing Conditions TM as well as a draft presentation to prepare for a Stakeholder Strategy Workshop.
- Facilitation of a Stakeholders Strategy Workshop to identify a full range of stressors and risks for the RAHEPF.

## 2 | Stakeholder Strategy Workshop to Identify Risks and Stressors

Jacobs will facilitate a non-public workshop with key project stakeholders to identify additional operational vulnerabilities and system stressors. Jacobs will present a summary of existing conditions and vulnerabilities obtained under the prior task to this workshop. We will collect input from stakeholders on their identification of additional risks and stressors for consideration.

As part of the preparation for the workshop, Jacobs will perform a semi-quantitative high-level risk assessments of the potential impacts of human caused and natural threats, including but not limited to intentional kinetic, cyber, or electromagnetic attack, flooding, extreme weather events, and unanticipated changes in environmental conditions on the impairment of the continued operation of the RAHEPF and sewer collection system.

Jacobs will also assess on a high level the possible impact to military mission and public resulting from impairment of the RAHEPF and sewer collection system in the face of attack and/or natural disaster. As part of the workshop, Jacobs will facilitate a process to identify the shocks and stressors identified and documents the following in a workshop summary TM:

- Vulnerabilities and risks (shocks and stressors) identified.
- Preliminary findings regarding each risk and stress
- Criteria for prioritizing risks and stressors.
- Scoring of each risk and stressor to establish a selection criterion for advancement.
- A proposal for refining the list of risks and stressors for advancement for further evaluation and cost estimating.
- Facility permit information and monthly compliance reports.
- History of problems and/or regulatory compliance issues with the RAHEPF and sewer collection system.
- Known erosion to roads and shorelines along Fleming Key.

Once the key risks and stressors have been agreed upon, the Consultant will identify opportunities for future projects to preserve and enhance mission resilience and assurance.

**Deliverables:**

- Workshop agenda and facilitation.
- In-workshop facilitation of risks and stressors.
- Post workshop TM summarizing the workshop project findings and direction

## 3 | Prioritization of Risks and Stressors

There are several risks and stressors that will be identified and considered. However, the goal of this effort is to maximize the utility of grant funds and therefore, the focus of the remaining portion of the project will be on priority risks and stressors. Jacobs will develop a scoring and ranking system and apply it to the risks and stressors identified. Immediate needs, near-term needs, and the City's long-term strategy will be incorporated into the criteria ranking and scoring methodology.

We also understand the City will want to have input in the scoring approach and the resulting prioritization. Jacobs will hold a virtual meeting with City staff to finalize the prioritization effort and be available to present the results of the prioritization effort to the stakeholder team if needed.

**Deliverables:**

- Complete list of Risks and Stressors identified in the Stakeholder Strategy Workshop.
- A criteria-based scoring system to rank and prioritize risks and stressors.
- A virtual project meeting with City staff to review and finalize the criteria-based scoring and ranking approach for risks and stressors.
- An additional virtual or in-person meeting to present the risk and stressor prioritization recommendations for acceptance and finalization.

## 4 | Development of Mitigation Approaches

It is understood the Stakeholder Strategy Workshop will be a collaborative effort and will set the direction for study investigation. Once the priority risks and stressors have been agreed upon with the stakeholder team, Jacobs will develop mitigation approaches. The mitigation approaches will likely require input and data from third party sources such as specialists and vendors. The Consultant will develop a list of planned additional data needs and share it with the City. We will reach out to third parties obtain the needed information including identification of equipment or constructed components, operating information, and cost/price information.

At a minimum, Jacobs will review the available data on current and projected wastewater generation rates, population growth, and other relevant factors that may impact the RAHEPF's performance. Jacobs will also obtain/provide information on wastewater treatment technologies, equipment, and operating costs, including performance in relation to resilience constraints presented by the key risks and stressors identified as well as evaluate flood/surge mitigation efforts and coastline hardening approaches.

Under this effort, we will also refine the mitigation approaches and assess a range of resilience options, such as the implementation of a biosolids-to-energy facility, upgrades to the existing plant, shoreline hardening, roadway elevation, and potential collaborations with the Key West Naval Air Station. The goal of the task is to develop a project level approach and description of improvements that could be delivered to improve resilience.

For each of the proposed mitigation components, regulatory permitting with the Florida Department of Environmental Protection (FDEP) and other regulatory agencies will be considered and incorporated into a TM developed to document these considerations.

Jacobs will also develop conceptual level construction cost estimates for each proposed mitigation approaches. Jacobs will also develop conceptual level annual operating costs, environmental impact costs, and long-term maintenance costs. These costs are to be compared to the cost of constructing a new plant.

### Deliverables:

- TM outlining a range of resilience improvement projects developed and assessed by the Consultant, along with their respective advantages and disadvantages and regulatory considerations.
- A virtual review meeting with City staff to review of the proposed mitigation measure concepts for resilience improvement projects.
- Construction cost estimates along with conceptual operating, and environmental impacts costs identified and compared to construction of a new plant.

Jacobs has the expertise to address all processes at the RAHEPF including cloth filters and UVDS shown in profile above.

## 5 | Presentation of Recommended Mitigation Measures

Based on the previous effort, the Jacobs will conduct a virtual or in-person meeting with stakeholders to present the mitigation measures and projects to improve RAHEPF resilience associated cost information as well as comparison of this cost information to the cost of constructing a new plant. The goal will be to finalize and obtain concurrence from the stakeholder team a list of recommended mitigation measures and projects for the City of Key West to advance to improve the resiliency of the RAHEPF using cost-effective and sustainable methods for meeting the community's wastewater treatment and energy needs in the most resilient way possible.

***Final Planning Documents*** - Based on information from all previous Tasks and with staff input, a Final Wastewater Treatment Resilience Plan will be prepared and submitted by Jacobs. OLDCC tracks program performance information to gauge successes, deficiencies, lessons learned, and recommendations for improvement. Jacobs will complete an OLDCC Phase 2 Performance Measures Questionnaire and submit responses to the City's project manager.

### Deliverables:

- Virtual or in-person workshop to review the proposed resilience improvement projects with the stakeholder team.
- Final Key West Wastewater Treatment Resilience Plan and Executive Summary Report with pictures and graphics for public consumption.
- OLDCC Performance Measure Questionnaire completed and submitted to the City's project manager.

SECTION 6

# Personnel

# PERSONNEL

## Our South Florida-based Management Team Understands Key West

Our Project team and structure is shown in the Organizational Chart. We have demonstrated success in meeting Key West's project needs that matches this project's requirements. To further demonstrate our team's qualifications, we have summarized their experience and past projects their descriptions below.

### Erik Jorgensen, PE
**Project Manager**

Erik is a skilled project manager focused on wastewater treatment, sewer collection systems and stormwater system improvements. He has led multiple recent projects for the City. His background as both a consultant serving and working within a public agency provides him the keen insight for how the project team and client can work closely together to focus on truly value-plus collaboration. Erik's experience includes facility planning and design for wastewater treatment and stormwater systems making him ideally suited to lead the effort to improve the resiliency of the RAHEPF.

**Education:** BS, Chemical Engineering, University of Cincinnati; MS, Envir. Engineering, University of Arizona

**Professional Engineer:** FL No. 91857

**Years of Experience:** 30

Representative Experience:

- Renewal of the FDEP Facility Permit for the RAHEPF (No. FLA147222;1/24/2024), City of Key West
- Technical review and assessment of the UV disinfection system for the RAHEPF, City of Key West
- Phase 1 Sewer Master Plan (2023), City of Key West
- 10th Street and Harris Neighborhood Resiliency Improvements, City of Key West

### Jason Bird, CFM
**Resilience & Sustainability Lead**

Jason brings more than two decades of experience of national and international experience in sustainability and resilience for municipal facilities; focusing on resilience to severe weather and climate threats. Jason's experience ranges from evaluating vulnerabilities and identifying adaptation strategies for coastal and inland communities. His work for Key West includes analysis to develop minimum design criteria for critical infrastructure. Jason has been instrumental in the Resilient Redesign Initiative for Key West to mitigate flood risk; and helped City develop actions to guide investment and rebuilding of infrastructure.

**Education:** AA, with coursework in Civil Engineering and Construction Management, towards BS

**Years of Experience:** 24

Representative Experience:

- Resilience Lead, Post Disaster Recovery and Reconstruction Plan/Sea Level Rise Policy, City of Key West, FL
- Resilience Lead, Planning Level Study/Concept Design, Category 5 Storm Shelter and Advanced Control Center, South District WWTP, Miami-Dade Water and Sewer Department, FL
- Resilience Task Lead, Tyndall Air Force Base, Resilient 1391 Development, US Air Force, FL

### Randy Boe, PE
**Wastewater Process Lead**

Randy is a senior process engineer specializing in the planning, design, study, and operation of wastewater treatment facilities, including the process/hydraulic aspects of liquid train facilities. He is experienced in a variety of wastewater treatment processes, including grit removal, screening, aeration, "membrane bioreactors, biological nutrient removal, digestion, dewatering, filtration, disinfection, equalization, primary and secondary clarification, and tertiary treatment. He has served as design manager, lead process engineer, project engineer, and senior technical consultant for improvements at a variety of WWTP projects. including resilience assessment and planning for all three of Miami-Dade's WWTPs as part of the OOL Program.

**Education:** MS, Environmental Engineering, Virginia Polytechnic Institute and State University
BS, Civil Engineering, Virginia Polytechnic Institute and State University

**Professional Engineer:** FL No. 57330

**Years of Experience:** 30

Representative Experience:

- SDWWTP Renewal and Replacement Contract, Miami-Dade Water and Sewer Department, Miami, FL
- Ocean Outfall Legislation Program, Miami-Dade Water and Sewer Department, Miami-Dade County, FL
- General Wastewater Consultant Professional A/E and Civil Engineering Services, City of Fort Lauderdale, FL
- AFI Water/Wastewater Program and PRASA CIP Program, AFI and PRASA, Puerto Rico

| Name, Role, Experience, License | Relevant Experience to Key West |
|---|---|
| Rich Morrison, PE<br>Civil Engineer<br>20 years of exp.<br>Professional Engineer: FL #67713 | Lead Engineer Patricia and Ashby Stormwater Improvements (pipe), Key West, FL<br>Lead Civil Engineer George Street Pump Station, Key West, FL<br>Lead Civil Engineer Norwood Water Treatment Plant Phase II Expansion and Upgrades, City of North Miami Beach, FL<br>Lead Civil Engineer, JEA Greenland WRF (CMAR), JEA, Jacksonville, FL |
| Erika Smith<br>Cost Estimating<br>21 years of exp. | Water and Wastewater Capital Improvement Program, PRASA, PR. Lead Cost Estimator<br>Southwest WTP Rehabilitation Improvements, City of Sunrise, Davie, FL. Estimator<br>JEA Blacks Ford WRF, JEA, Jacksonville, FL. Lead Estimator<br>Turkey Creek WWTP Improvements, First Utility District of Knox County, Knoxville, TN. Lead Estimator |
| Clement Anson, PE<br>Structural Engineer<br>30 years of exp.<br>Professional Engineer: Florida, No. 75167 | Manatee County Wastewater Treatment Plant, FL<br>JEA Northwest Regional WTP, Jacksonville, Water Treatment Plant Expansion, FL<br>Design Engineer during Construction Services for Kanapaha WRF Dewatering Project, FL<br>COCOA Clearwell Expansion Project, FL<br>Design Engineer, Woodmere WTP Storage Tank Replacement, JEA Jacksonville, FL |
| Adrian Romero-Flores, PhD<br>Biosolids -to-Energy Recovery<br>10 years of exp. | Lead Project Engineer, Regional Biosolids Management Study, Louisville Metropolitan Sewer District (MSD), Louisville and Jefferson County, KY<br>Lead Project Engineer \| Encina Biosolids Management Plan Update Study, Encina Wastewater Authority, Carlsbad, CA<br>Lead Project Engineer \| Biochar Business Case Evaluation, City of Tacoma, Tacoma, WA<br>Lead Project Engineer, Biosolids Master Plan, City of Fayetteville, Fayetteville, AR |
| LaTeresa Shearill, PE<br>Process Mechanical<br>xx years of exp. | Project Manager, Permitting Services for Removal of Sediment in Stormwater Outfall Canals (16 Locations), Pinellas County, FL<br>Project Manager, Wetlands Hydrologic Monitoring, Bonita Springs Utility, Lee County, FL<br>Env Scientist, Coastal Resiliency/Evaluation of Nature-Based Solutions, Biscayne Bay, Miami, FL |
| Leigh Ann Cannon, ENV SP<br>Regulatory (NEPA) / Environmental<br>18 years of exp. | ISI Envision™ Sustainability Professional, and 7 years of experience implementing ISI's Envision sustainable rating system<br>Permitting Lead, Patricia/Ashby Street Underground Injection Well and Stormwater Retrofit, City of Key West, FL<br>Permitting Lead, Fleming Bridge Piling Repair, City of Key West, FL |
| Jacob Kaduthanathu, GISP<br>GIS<br>20 years of exp. | GIS Specialist, Seminole County Continuing Contract Utility Engineering Services, Seminole County Environmental Services Department, Seminole County, FL<br>GIS/Mapping Lead, JEA System Resilience Plan, JEA, Jacksonville, FL<br>GIS Manager, Orange County Utilities GIS, Orange County, Orlando, FL<br>GIS Lead, Water and Capital Program and System Resilience Program, JEA, Jacksonville, FL |
| David Nicholson, PE<br>Electrical Engineer<br>25 years of exp.<br>Professional Engineer: Florida, No. 60201 | Pump Station F, Key West , FL<br>George Street outfall pump station, Key West , FL<br>Patricia and Ashby outfall pump station, Key West , FL<br>Simonton outfall pump station, Key West , FL<br>VFD upgrades, Key West , FL |
| Tom Farkas, PG<br>Hydrogeology/Injection Wells<br>33 years of exp.<br>Professional Geologist: Florida #PG 2074 | Senior Hydrogeologist, Cudjoe Key Deep Injection Well Capacity Evaluation; FKAA; Monroe Count<br>Senior Hydrogeologist; Injection Wells Program: Design, Procurement, Construction, Commissioning; Miami-Dade County, Florida<br>Project Manager/Senior Hydrogeologist; Fort Myers Beach & Fiesta Village Class V Reclaimed Water ASR Well System; Lee County; Fort Myer |
| Josh Blume, GiCSP<br>Cybersecurity<br>16 years of exp.<br>Global Industrial Cyber Security Professional (GICSP)<br>Cisco Certified Network Professional (CCNP)<br>Cisco Certified Design Associate (CCDA) | ICS Systems/Network/Cyber Lead, SCADA Master Plan, The Villages, FL<br>ICS Systems/Network/Cyber Lead, Salmon Creek Treatment Plant OT/ICS Systems Segmentation; Clark Regional Wastewater District, Vancouver, WA<br>ICS Security Lead, Scottsdale Water Department Cybersecurity Policies and Procedures, City of Scottsdale, AZ<br>ICS/ Networking/Cybersecurity Specialist, Lahaina Wastewater Reclamation Facility Stage 1A Improvements; County of Maui; Lahaina, HI |

SECTION 7

# Qualifications

# QUALIFICATIONS

## Why is Jacobs the right firm?

Jacobs has been Key West's long-time trusted resilience advisor and leads the industry in climate response capabilities, tools, and solutions. We'll work closely with City staff, stakeholders, and the public to create a robust roadmap to adaptation and resilience—one that honors your past and prepares all aspects of your community for the future. Ours is the strategic, creative, and passionate team you seek!

As the City's planning and engineering consultant since 1987, Jacobs is very proud of the diverse projects we've helped you implement over the years. In particular, our recent post-disaster recovery planning, sea level rise (SLR) policy, and resilient infrastructure planning and design work—for stormwater, roadway, coastal, and wastewater projects—enables us to hit the ground running with virtually no learning curve. Like the City, we are deeply committed to creating inclusive, resilient communities and transformative solutions that advance livability, mobility, prosperity, and long-term sustainability. For us, that makes every project a climate response opportunity—bringing you the ideal blend of global best practices and local expertise in all facets of this project.

**Jacobs has already completed projects to address these challenges for Key West. Over the years we have developed a keen understanding of the issues facing the City and its preferences in dealing with them, while maintaining a perspective for new and innovative ideas and solutions.**

## Experience Delivering Stormwater and Resiliency Projects for the City of Key West

Sea Level Rise Policy Guide

Our team partnered with you to develop a new SLR policy, supporting your ongoing efforts to efficiently and equitably enhance its resilience to flooding. As a fundamental component in building community resilience, this guidance includes an overview of historical tidal, extreme water levels, and climate/SLR projections used to establish public infrastructure design criteria. We partnered with you to explore the potential implications of various future scenarios related to the City Infrastructure policy, enabling us to establish the project focus in terms of planning horizons and risk tolerance. We built this consensus through regular meetings with you throughout the project and through a virtual goal-setting and visioning meeting we hosted, including key City staff, and your engineering, planning, and sustainability and resilience departments.

Post Disaster Reconstruction and Resilience Plan (PDRRP)

We collaborated with you to develop a comprehensive PDRRP addressing city vulnerabilities and helping you develop a process for efficient, equitable, and resilient post-disaster recovery and rebuilding. As a foundation for your resilience planning, this plan is intended to be a living document able to evolve with conditions and your needs. The Post Disaster Response and Reconstruction Plan also considers community capacity, economics, health and social services, housing, infrastructure, and natural and cultural resources—to increase the city's overall resilience. Our collaborative efforts included a visioning webinar to solicit feedback from post-disaster recovery and reconstruction professionals, City staff, and Monroe County staff engaged in emergency management and adaptation, resilience, and sustainability activities.

## Coastal Erosion

Jacobs is passionate about delivering sustainable coastal projects and provides industry-leading expertise in coastal climate adaptation. For structural protection, we're experienced with seawalls, docks, near shore breakwaters, revetments, embankments, and many other forms of coastal and maritime structures. We also have extensive experience in creating artificial headlands, beach and sand dune nourishment, beach recycling, and wetland creation designs. Recent prominent projects include the City of Miami Beach Integrated Water Management Program, Tyndall AFB Rebuild and Coastal Resilience Programs, San Francisco Seawall Resilience Program, East Side Manhattan Coastal Resilience, and Singapore Coastal Reservoirs Resilience. Our expertise covers all aspects of work in the coastal zone, including:

- Flood and coastal erosion risk assessment
- Strategic coastal risk management planning
- Planning and design of shoreline protection solutions
- Coastal habitat and wetland restoration (inter-tidal, beaches, sand dunes)
- Living shoreline and nature-based solutions (reefs, mangrove, marshes)
- Coastal waterfront and offshore developments (marinas, outfalls, artificial islands)
- Dredging and reclamation
- Water quality assessment modeling and monitoring

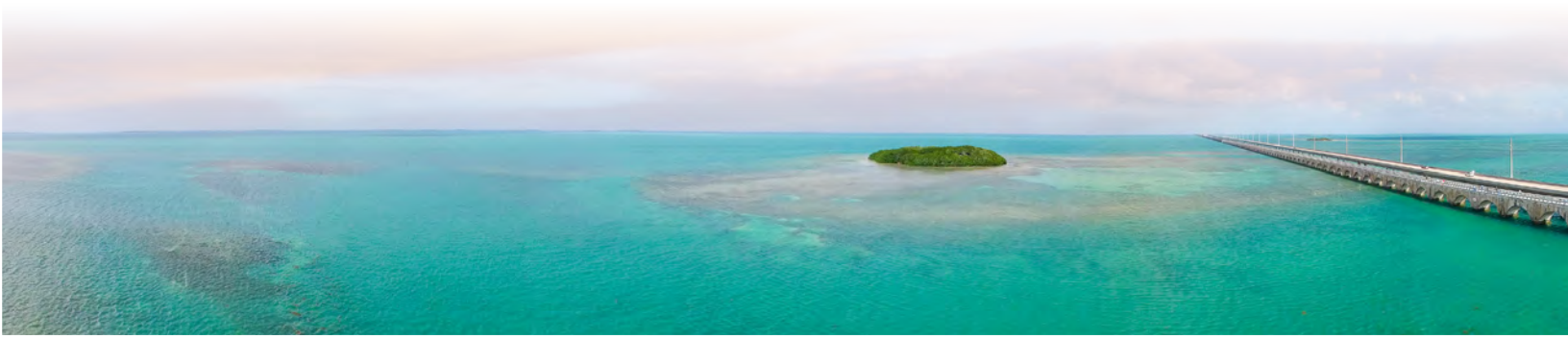
## Climate Change Adaptation and Mitigation

Climate response is a top priority at Jacobs, and our goal is to have 100 percent of our client projects contribute to environmental, social, and governance benefits and/or climate response solutions by 2025. Sustainability and climate resilience will remain a central focus for our Key West projects. Our infrastructure designs protect communities from extreme rainfall, sea level rise and storm surge, reduce carbon emissions, and promote sustainable water and waste management, while integrating with landscape design, urban planning, streetscapes, and blue/green stormwater management solutions as demonstrated on our projects for Miami Beach, Tyndall Air Force Base, Miami-Dade County, and St. Petersburg, to name a few. With our Resilience Center of Excellence located in Florida, our Sustainability and Resilience Advisors can engage throughout a project's lifecycle to provide:

- Early hazard definition and evaluation
- Strategy development
- Solution engineering, design, and implementation
- Securing and administering federal and state infrastructure grants and funds
- Aligning budgets and policies around resilience
- Knowledge transfer and staff training

We're on the leading edge of nature-positive solutions through strategic partnerships with:

- The Nature Conservancy to create nature-based coastal resilience solutions for sea level rise, shoreline erosion, flood risk, and ecosystem restoration
- USACE ERDC's Engineering with Nature® program to develop nature-based design guidelines for U.S. Department of Defense installations worldwide
- Biomimicry 3.8 to develop nature-based/nature- inspired designs that achieve next-level sustainability performance



## Vulnerability Assessments

Jacobs has performed regional vulnerability assessments and developed adaptation plans that brought together regional partners to work toward common goals of community and military resilience. As an example, the South Florida Military Installation Resilience Review (MIRR) spans three counties and four military installations, including Naval Air Station Key West, Homestead Air Reserve Base, US Southern Command, and the South Florida Ocean Measurement Facility. The project identified hazards, vulnerabilities and risks – outside the fence line of the installations - related to dependent infrastructure that support the military's ability to carry out its missions. The process identified adaptation actions and investments to reduce risk and increase service reliability to promote mission resilience. Consistent with state of Florida guidance, planning horizons of 2040 and 2070 were used for climate projections to identify future vulnerabilities, in addition to everyday stresses the installations and the communities they call home face. Some of the key threats evaluated in this project included sea level rise and flooding, extreme heat, shoreline erosion, energy and fuel supply stress and affordable housing.

## Wastewater Treatment Plant Expertise

Serving both municipal and industrial clients, Jacobs has designed hundreds of wastewater treatment plants (WWTPs) that collectively use almost all available treatment technologies. In the past 10 years, we have conducted more than 10,000 municipal wastewater projects, including the design of more than 400 WWTPs ranging in size from 1 mgd to nearly 400 mgd. Your RAHEPF is operated by Jacobs staff and we have recently been active assisting the City with engineering support including assessing the UVDS disinfection system and renewal of the FDEP Domestic Wastewater Facility permit. We're a company you can trust to provide daily wastewater system improvements while keeping you on the leading edge of technology and best practices.

Jacobs has conducted numerous Inflow and Infiltration (I/I) wet weather studies, which were critical to guide WWTP investment and actions, such as the recent Phase 1 Sewer Master Plan for the City of Key West that will continue to advance to identify solutions to reduce I/I. For St. Petersburg, Florida, our I/I team identified the most cost-effective solution to mitigate potential future wet weather overflows from the St Petersburg wastewater collection system and from the three Water Reclamation Facilities (WRFs). Under the Wet Weather Overflow Mitigation Program, Jacobs collected and used robust system performance and flow data to perform a comprehensive assessment of the City's wastewater infrastructure and flows, to develop and compare infrastructure alternatives to achieve overflow mitigation and identify the most-cost effective solution to enhance system performance. We recommend design solutions based on the nature of the wastewater to be treated, client needs, and the level of treatment required. Our design approach also includes innovative tools and techniques, including 3D design, advanced facilities predesign, and operability reviews to formalize the details of plant operations before proceeding with final design. This approach allows us to achieve cost certainty early in the project and complete designs with a minimum of last-minute changes while keeping clients fully informed. With these leading-edge tools and lessons learned from 75 years of wastewater experience, we can quickly evaluate feasible alternatives and concentrate on those that are most promising.

When client needs exceed conventional technologies, we develop alternative or innovative applications of proven technologies to provide solutions. As a result, some innovations, such as processes for tertiary treatment, have become industry standards. When evaluating the suitability of such applications, we give special consideration to simplicity and ease of operation, cost-effectiveness, and energy conservation. For example, our pioneering of the use of membranes for water reclamation resulted in the world's first dual membrane (ultrafiltration followed by reverse osmosis) indirect potable reuse system for the Republic of Singapore, branded as NEWater.

## Jacobs is a leader in delivering engineering solutions for coastal communities in South Florida, across the nation, and around the world

Drawing on 70+ years of experience providing multidiscipline engineering services, Jacobs has the capability and expertise to provide full-scale engineering, design, permitting, surveying, contract specifications, contractor bid and procurement support, environmental assessments, construction administration, and owner representation services for new construction, permit modifications, construction improvements, rehabilitation, and retrofit of all City facilities, utilities, and infrastructure.

Successful project implementation requires the integration and collaboration of multiple technical disciplines. Our local staff's expertise comes from managing infrastructure projects through their full life cycle, from planning and design through construction and operation.

Many of our construction services staff double as our designers and project managers. Time spent in the field with contractors and equipment has provided important learning opportunities, which continue to inform reasonable, realistic, and cost-effective civil, structural, and mechanical engineering solutions.

## Many of our team members have worked together on similar contracts, including most of our reference projects.

At Jacobs, we believe in the power of collaboration. We understand that harnessing the collective experience, talent, creativity, and ingenuity of all team members creates maximum value for our clients. Bringing the best minds to the table, we'll explore all opportunities, bring best practices and lessons learned from various vulnerability evaluations, and collaborate with you to develop and prioritize adaptation strategies that work for Key West.

The majority of our team has been supporting the City of Key West for years and has a strong understanding of the existing conditions and how to work with the City effectively and efficiently.

Our intimate understanding of the City, together with our regional, national, and international experience will enable us to prioritize projects which will seize the opportunities for change in the short term and provide a positive legacy in the long term. Our Project Team is committed to collaborating seamlessly, enabling productive relationships to form— built on trust. Our management team will ensure our projects are aligned with the City's goals, drive our team's overall delivery performance, and ensure the responsiveness and quality of services you expect on this contract.

- Our **Project Manager Erik Jorgensen, PE**, has more than 30 years of experience delivering successful task orders for different municipalities in all discipline areas.
- Our **Resilience & Sustainability Lead, Jason Bird, CFM**, has over 24 years of experience in sustainability and resilience, has conducted over 30 vulnerability assessments across various assets and public spaces in the past decade.
- Our **Wastewater Process Lead, Randy Boe, PE**, is a senior process engineer with over 30 years of experience in wastewater treatment facilities.

**Erik Jorgensen, PE**
**Project Manager**

*"I have enjoyed working with Jason Bird, our resiliency lead, to provide value added resiliency additions to water treatment plant facilities and with Randy Boe, our wastewater technology lead, in delivering wastewater treatment plant improvements. I look forward to bringing the talent and competence that Jacobs offers to improving the resiliency of the RAHEPF."*

SECTION 8

# Client References

# REFERENCES

We firmly believe past performance is a key indicator of future success. As such, our client references represent a valuable assessment of our capabilities, commitment, and reliability. As a firm, we foster cooperative and positive relationships with our clients, which is reflected in our track-record of repeat clients and long-term services agreements throughout South Florida and built on our commitment to providing quality work and timely delivery while meeting our clients' budgets. These references reflect our team's relevant work similar to the services requested in this RFQ and conducted within the last 5 years. We encourage you to contact any of these clients and would be happy to provide additional references on request.

| Project Name | Relevant Services | | | | |
|---|---|---|---|---|---|
| | Resilience Planning | Design | Environmental Assessment and Permitting | Stakeholder Engagement | Construction Services |
| **General Engineering Services Contract**<br>Key West, FL | ✓ | ✓ | ✓ | ✓ | ✓ |
| **JEA Wastewater/Water System Resilience Assessment Plan and Program**<br>Jacksonville, FL | ✓ | ✓ | ✓ | ✓ | ✓ |
| **WASD Ocean Outfall Legislation Hardening Guidelines**<br>Miami, FL | ✓ | ✓ | ✓ | ✓ | |
| **WASD SDWWTP Architectural Planning Level Study and Conceptual Design for a Storm Shelter and Primary Control Center**<br>Miami, FL | ✓ | ✓ | | ✓ | |
| **Military Installation Resilience Review**<br>South FL | ✓ | ✓ | ✓ | ✓ | |
| **Climate Change Vulnerability Assessment, Adaptation, and Mitigation Plan**<br>Laurel, MD | ✓ | | ✓ | ✓ | |
| **Hurricane Michael Recovery & Coastal Resilience Program**<br>Tyndall Airforce Base, Panama City, FL | ✓ | ✓ | ✓ | ✓ | ✓ |
| **10th and Harris Neighborhood Improvement**<br>Key West, FL | ✓ | ✓ | ✓ | | ✓ |

KEY WEST, FL

# GENERAL ENGINEERING SERVICES CONTRACT

**Client | City of Key West**

**Steven McAlearney**
**Director of Engineering**
**Office: (305) 809-3747**
**smcalearney@cityofkeywest-fl.gov**

**Year Completed | 1987-Ongoing**
**Project Cost | Varies by project**

Jacobs has supported the City under discipline specific and general engineering services contracts since 1987 providing unparalleled institutional knowledge of your critical infrastructure and the challenges associated severe weather events. Our services have included improvements to elevate and/or harden infrastructure such as streets/sidewalks, city utilities (sewer/stormwater), and coastal facilities. We have provided you with a full range of civil, structural, mechanical, and electrical engineering as well as environmental/permitting and construction support involving construction specifications, bid and proposal documents, and technical review that directly match the RFP requirements. Highlights of our project experience are provided below:

- **Climate Resilience.** Our team members have helped develop key strategic plans (Sea Level Rise Policy and the Post-Disaster Recovery and Reconstruction Plan) that will guide future improvements. Knowledge of these challenges and potential strategies will help the team develop solutions more quickly and efficiently for optimum long-term performance.
- **Roadway/Mobility.** We have supported a variety of projects including milling and resurfacing, pavement design, roadway raising, and pedestrian and ADA upgrades. These projects often include drainage and utility upgrades and require close coordination with our stormwater team. In addition, we were recently awarded a task order to help prepare the Pavement Management/Rehabilitation Pilot to provide recommendations for pavement rehabilitation island wide (2 methods' pilot testing are proceeding).
- **Stormwater.** Mitch Griffin has been involved in your stormwater program from the beginning. He and other members of our team helped develop the 2012 and 2022 Stormwater Master Plan Updates providing in-depth understanding of your system and its challenges. Other projects include design, permitting, and bid phase services for rehabilitation of pump stations and abandonment of stormwater gravity wells, including the recent stormwater piping project in the Patricia and Ashby neighborhood. Jacobs is currently working on resiliency improvements to stop sunny day flooding at Greene and Elizabeth and along 10th Street.
- **Wastewater.** Jacobs has assisted you with the design and rehabilitation of your sewer system since 1987. Our services include design, bid, and construction support for the AWT system, pump and lift stations, force mains, and interceptors. We are currently delivering the replacement of sewers, manholes, and laterals for the Flagler Interceptor Phase 2 project. We're also helping develop I/I solutions to mitigate peak flows and a plant permit renewal including capacity analysis and reuse report. Our work has included headworks modifications, generator replacement, concrete repairs, and UV system/UVA Lamps improvements at the plant.
- **Coastal.** Our team managed the Mallory Square Wharf Improvements including the Wharf Replacement, T-Street Pier fender and dolphin improvements, and Cruise Ship Mooring improvements among others. These projects involve engineering design and construction support for a variety of structures including docks, seawalls, and marinas. We have also helped support sea wall development for roadway work including the current 10th Street and Harris Avenue project involving a 530 LF high-tide barrier.

JACKSONVILLE, FL

# WASTEWATER/WATER SYSTEM RESILIENCE ASSESSMENT PLAN AND PROGRAM

**Client | JEA**

**Oliver C. Domingo,**
**Project Manager**
**Phone: (904) 665-6325**
**domioc@jea.com**

**Year Completed | 2023**
**Project Cost | $1.4M**

Jacobs developed a comprehensive Resilience Plan to serve as an **action-oriented guide** to position JEA for long-term reliability and resilience for potable water, wastewater, chilled water, and reclaimed water systems through identification of flood risk, **development and prioritization of mitigation strategies**, and the incorporation of aggressive design standards for future capital projects. We also provided program management, engineering, and design services to improve system reliability and resilience during extreme weather events.

We initially **reviewed and prioritized JEA facilities** based on highest vulnerability and criticality. We then determined the benefits of resilience investments for each facility based on monetized risk, calculated as the product of consequences of flooding times the probability of flooding. The probability of flooding was determined for each asset based on the flood modeling scenarios. We then developed applicable strategies that provide varying levels of protection based on asset criticality and anticipated service life. The adaptation strategies developed fall into three categories: elevation, hardening, and flood barriers. We used the risk and strategy cost data to drive a cost/benefit analysis and prioritize facility investments based on return on investment. **The plan was so well received by the water side of JEA that the power side of the house currently has us engaged for a similar and complementary energy resilience plan!**

MIAMI, FL

# OCEAN OUTFALL LEGISLATION (OOL) HARDENING GUIDELINES

**Client | Miami-Dade Water and Sewer Department**

**James B. Ferguson, PE**
**Assistant Director**
**Office: (786) 552-8756**

**Year Completed | 2021**
**Project Cost | $250K**

To assist Miami-Dade Water and Sewer Department (WASD) in addressing sea level rise, flooding, storm surge, and wind considerations, Jacobs was selected to incorporate climate risks and vulnerabilities into a robust facility hardening plan for future designs under the OOL program. Four key climate variables affected planning for WASD's OOL program: sea level rise (SLR), storm surge, rainfall and wind. Coastal facilities are potentially subject to flooding from sea level rise and surge, while inland facilities are potentially subject to flooding from increased rainfall intensity, especially if coupled with sea level rise impacting tailwater conditions in drainage canals.

Jacobs updated the current projections of key climate variables, and completed the following key tasks to define these variables based on the latest science.

- Defined risk tolerance for key design criteria and planning horizon, including range of climate model scenarios, as well as range of hurricane surge scenarios.
- Updated climate model projections for: sea level rise (SLR) and rainfall intensity
- Prepared estimates of storm surge elevations at key locations along the coast of the WASD service area for Category I, III and V hurricanes, with current and future sea level rise scenarios
- Prepared estimates of storm surge elevations inland.

Identification of Critical Infrastructure Assets followed conventional asset management principles to identify assets that are at risk. Risk is a function of both the frequency of flooding and the consequence of failure of those assets. By overlaying the asset inventory with the flood inundation maps and prioritizing assets based on consequence of failure, an overall risk score and prioritization scheme was developed to protect WASD's assets.

**Pump Station Criticality**

WASD requested Jacobs conduct a general analysis to develop hardening of pump stations against flooding, including sea level rise (SLR) and climate change. A review of the range of potential flood elevation based on surge, SLR, freeboard, and safety factor was performed, including refined modeling of flood depths for the service area. Based on this updated modeling, WASD's approximately 1200 pump stations were prioritized based on their location and risk of flooding from SLR alone, and SLR coupled with storm surge and increased rainfall, for two future planning horizons: 2040 and 2075. Within the subset of pump stations at risk of increased flooding from SLR and storm surge, these facilities will be further prioritized based on criticality.

MIAMI, FL

# SDWWTP ARCHITECTURAL PLANNING LEVEL STUDY AND CONCEPTUAL DESIGN FOR A STORM SHELTER AND PRIMARY CONTROL CENTER

**Client | Miami-Dade Water and Sewer Department**

**Jorge I. Perez**
**Senior Project Architect**
**Office: (786) 552-8354**
**Jorge.perez5@miamidade.gov**

**Year Completed | 2023**
**Project Cost | $604K**

Jacobs conducted a planning study for the Miami-Dade Water and Sewer Department (WASD) at the South District Wastewater Treatment Plant (SDWWTP) in Miami, Florida. This study aimed to enhance storm safety and create a new central operation center. It reviewed existing facilities, potential renovations, additional facilities, and construction projects to align with WASD's needs, particularly in response to major storm events. The study's objectives were to future-proof the plant through a connectivity assessment, provide safe shelter for operators during hurricanes, evaluate a state-of-the-art control room, and identify opportunities for landscaping, wayfinding, and aesthetic improvements.

A significant recommendation was the construction of an Emergency Operations Center (EOC), doubling as a primary control center to offer life safety protection against hurricanes up to Category 5. Designed to house 77 essential personnel, the EOC aims to replace the outdated administration building from the 1980s, integrating administrative spaces to reduce redundancy and support both daily and emergency operations. Additionally, it would facilitate collaboration with other disaster management agencies during crises.

The proposed EOC and Administration Building, a 56,900 square foot, three-story hurricane-hardened structure, would be strategically located at the plant's northeast end. The ground floor would feature parking and core items; the second floor, administrative functions; and the third floor, EOC operations and a Supervisory Control and Data Acquisition (SCADA) room, with an observation deck above. This setup ensures a seamless interface between the existing SCADA network and the new central operation center, allowing for uninterrupted monitoring and control during storms.

Designed to meet or exceed FEMA P-361 and ICC 500 standards for storm safety, the building's second-floor space is planned to be elevated 23 feet above ground to mitigate flood risks. Its construction involves cast-in-place and pre-cast concrete, with impact-resistant windows and storefront systems compliant with Florida Building Codes. Emergency power will be ensured by two new substations adjacent to the facility, guaranteeing full functionality and an uninterrupted power supply.

The study also assessed ten existing buildings critical to the plant's operations for their vulnerability to floods and high winds, recommending hardening measures for resilience. It evaluated the site's drainage system to manage increased storm runoff, proposing an exfiltration trench for water quality and adjustments to nearby pond berm heights for enhanced flood protection.

This strategic approach not only addresses immediate safety and operational efficiency but also positions the SDWWTP for long-term resilience against severe weather, ensuring continuous, reliable wastewater treatment services for the Miami area.

SOUTH FLORIDA

# MILITARY INSTALLATION RESILIENCE REVIEW

**Client | South Florida Regional Planning Council**

**Christina Miskis**

**Principal Planner**
**Office: (954) 924-3653**
**cmiskis@sfrpc.com**

**Year Completed | 2019**
**Project Cost | $595K**


The South Florida Military Installation Resilience Review (MIRR) spans three counties and four key installations, including Naval Air Station Key West, Homestead Air Reserve Base, US Southern Command, and the South Florida Ocean Measurement Facility. With funding from the Department of Defense Office of Local Defense Community Cooperation, the MIRR identified the risks, hazards, and vulnerabilities – outside the fence line of the installations - related to the ability of the military to carry out its missions. The process identified adaptation interventions and investments promote mission resilience.

A very well-attended project kickoff and visioning session took place in May 2022 at the U.S. Southern Command Headquarters. At that time stakeholder mapping, engagement and data collection began. Over the summer, the project team conducted four site visits with tours and work group meetings with installation planners, municipal leaders, and utility providers for fact finding and data collection.

Over the 16 months the Jacobs project team has successfully engaged many stakeholders including leadership from four installations, leadership (elected and appointed) from three counties (Broward, Miami-Dade and Monroe) the four home cities (Dania Beach, Doral, Homestead and Key West) and the local utility providers (water, energy and communications). State representatives, the state CRO and Congressional delegate staff participated in the Study Advisory Committee.

The vulnerability assessment completed in the fall of 2022 identified top shocks and stress affecting the region and the installations mission readiness. Consistent with state of Florida guidance, planning horizons of 2040 and 2070 for projections and forecasted vulnerabilities and shocks, in addition to everyday stresses the installations and the communities they call home face. These include sea level rise and flooding, extreme heat, shoreline erosion, energy and fuel supply stress and affordable housing; highlighted in this summary and detailed in the report.

To address these vulnerabilities recommendations, range from formalized cooperative planning to investments shoreline protection, stormwater management, roadway enhancements, resilient utilities, complete streets improvements, land management, resilience and affordable housing at an estimated rough order of magnitude value of approximately $90M. A funding strategy mapping grant opportunities is included in this plan. This strategy with actionable projects will ensure the military installations and surrounding communities survive, recover, adapt, and thrive. Building military assurance through community resilience is South Florida's roadmap.

**"A big Thank You to the military installation resilience review [team]- the relationship between military and community planners has been developed and is growing. Military readiness and mission assurance through community resilience is achieved through regional planning, cooperation and investments. Increasing resilience at these regional facilities better enables SOUTHCOM's component commands and mission reliance on these critical locations."**

***- General Laura Richardson, Commander, U.S. Southern Command***

LAUREL, MD

# CLIMATE CHANGE VULNERABILITY ASSESSMENT, ADAPTATION, AND MITIGATION PLAN

**Client | Washington Suburban Sanitary Commission, Inc.**

**Rob Taylor, PE, CEM**
**Energy Manager**
**Office: (301) 206-7122**
**Robert.Taylor@wsscwater.com**

**Year Completed | 2019**
**Project Cost | $1.5M**

MIKE 21 models of future 100- and 500-year storm surge were used to evaluate risks to individual assets at each WSSC facility, such as this model showing the 100-year flood boundary in 2065 at WSSC's Anacostia River complex.

This project focused on screening all facilities in the Washington Suburban Sanitary Commission (WSSC) service area in the Maryland suburbs of Washington DC for flood risk. Detailed climate impact assessments and flood mitigation strategies were developed for 11 wastewater, drinking water, and raw water facilities determined to be at risk due to flooding. The climate parameters used in the assessment were historical and projected changes in extreme precipitation, maximum temperatures and sea level rise. Facilities were evaluated for either or both riverine and coastal flood risk depending on their location, for current and projected conditions in 2040 and 2065. HEC-RAS was used to model the Potomac River and tributaries above Great Falls, while MIKE-21 was used to model the Potomac, Anacostia and Patuxent Rivers below the Fall Line. The models were calibrated to observed flood events.

Period of record precipitation and temperature data for 12 National Weather Service (NWS) climate stations were obtained from the National Climatic Data Center (NCDC) to assess the historical characteristics of precipitation Intensity-Duration-Frequency (IDF) and maximum temperatures. Observed sea levels were downloaded from National Oceanic and Atmospheric Administration (NOAA) Tides and Currents for the project area.

The SimCLIM (Urich, 2014) modeling environment provided estimates of projected changes in precipitation IDF for the years 2040, 2065, and 2100 using general circulation models (GCM) results available from the global GCM database located at the CMIP5 (Coupled Model Intercomparison Project). Two greenhouse gas emissions scenarios, medium and high, known as Representative Concentration Pathways (RCPs), were selected to provide a range of projected changes in precipitation IDF, maximum temperature frequencies and sea level rise. Results were used as input to flood models to develop a range of climate scenarios for vulnerability assessments and risk-based mitigation planning.

Monetized risk to WSSC facilities was calculated over the service life of assets given projected changes in flood risk. The risk was used for cost benefit analysis of flood mitigation alternatives and calculation of return on investment to prioritize capital investments.

In addition, Jacobs conducted greenhouse gas inventories and developed and updated WSSC's climate action plan on an annual basis throughout the 5 year project.

**Solutions/Outcome**

- Riverine (HEC-RAS) and Coastal (MIKE21) flood modeling tools developed and calibrated.
- Climate scenarios developed.
- Flood scenario maps developed.
- Evaluation of alternatives.
- Risk to WSSC Water facilities was clearly defined, allowing for screening of facilities not at risk and prioritization of interventions for at risk facilities.

TYNDALL AIRFORCE BASE

# HURRICANE MICHAEL RECOVERY & COASTAL RESILIENCE PROGRAM

**Client | U.S. Air Force**

**Traycee Verdun Chapman, MURP, EDFP**
**Installation Community Planner**

**Air Force Community Partnership Program (CPP) Liaison**
**Temp Location: 325 CES Trailer (behind BX/Commissary)**
**traycee.chapman@us.af.mil**
**Office: (850) 283-4206**
**Mobile: (314) 737-3088**

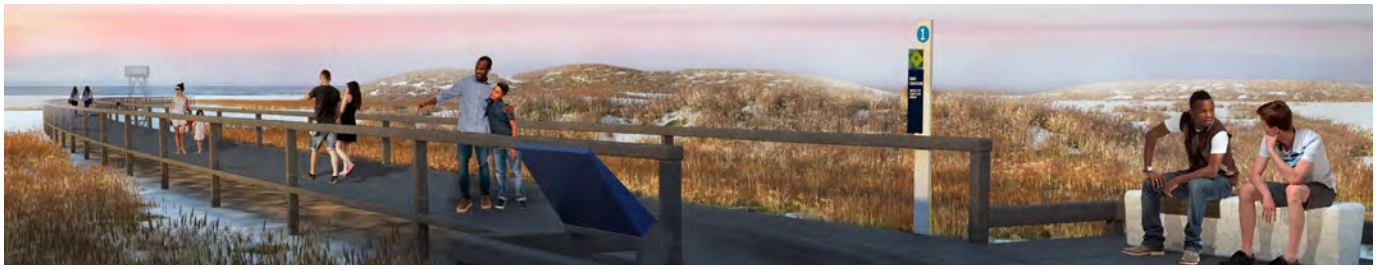
**Year Completed | 2020**
**Project Cost | $23.5M**

In October 2018, Tyndall Air Force Base (AFB) in the coastal region of Florida's panhandle was hit by Hurricane Michael, a Category 5 storm, resulting in damage to 100 percent of its assets. We joined the approximately 18-month emergency response team effort in March 2019, with the overarching intent to rebuild the base to be a more resilient and sustainable installation and to incorporate smart technologies into the reconstructed projects. Our team was tasked with updating military construction programming (DD 1391) and requirements documentation for 42 project zones, developing design guidelines for the rebuild program, and creating a master plan refinement and implementation strategy to reimagine Tyndall AFB as the Installation of the Future.

Our teaming solution was a truly integrated, interdisciplinary delivery approach. In the summer of 2020, as part of this strategy, the client developed the Tyndall Coastal Resilience Working Group, a robust partner platform comprising local, state, and federal governments and agencies; conservation organizations; academic groups; and the private sector. At the pandemic's height, we held three virtual stakeholder meetings with more than 120 people representing 30 organizations. Throughout 2021 and 2022, the work group has remained engaged, providing leadership to several grant pursuits to design and construct natural-environment based coastal projects. To date, these efforts have secured $10 million from federal and local governments and various foundations.

In summary, we are building resilience at Tyndall AFB through the built environment (e.g., higher wind and elevation standards) and natural environment (e.g., coastal lines of defense) to address storm, surge, and flooding risk. We're achieving layers of protection to build resilience through coordinated planning with the program's stakeholders. The selected projects protect, restore, and support off-base infrastructure, while natural infrastructure solutions contribute to preventing, preparing for, and recovering from extreme weather-related events or changes in environmental conditions—anticipated or not.

Our collaborative project approach opened the door for Tyndall AFB to provide integrated community and military resilience planning. In fact, our team is currently performing a vulnerability assessment as part of the south Florida Military Installation Resilience Review (MIRR) and providing nature-based pilot project development at the Key West Naval Air Station through the US Army Corps of Engineers (USACE) Engineering with Nature program.



KEY WEST, FL

# 10TH AND HARRIS NEIGHBORHOOD RESILIENCY IMPROVEMENTS

**Client | City of Key West**

**Kelly M. Crowe, PE**
**Utilities Director**
**Office: (305) 809-3967**
**Kcrowe@cityofkeywest-fl.gov**

**Sean McCoy, PE**
**Principle Engineer**
**Office: (305) 908-3968**
**Sean.mccoy@cityofkeywest-fl.gov**

**Year Completed | Ongoing**
**Project Cost | $300K**

The City of Key West (City) has historically relied on groundwater percolation and limited drainage infrastructure to provide stormwater management in residential areas. Many neighborhoods rely on the streets to convey runoff toward overflow points around the shoreline or to gravity-fed drainage wells at intersections, and to provide room to percolate along unpaved roadway shoulders. In some low-lying areas, the City has installed stormwater pump stations because of high groundwater and low ground elevations limit the performance of gravity-based solutions. Because of sea level rise (SLR), sunny day flooding has increased in frequency and severity, causing the commonly used gravity-fed drainage wells to become less effective in many areas.

The streets near the intersection of Harris Avenue and 10th Street flood frequently and dry weather tide levels exceed the existing elevation of 10th Street where the elevation is about elevation 1 ft North American Vertical Datum of 1988 (NAVD). This area is adjacent to Lake McKillip, a tidally influenced saltwater pond, which causes dry weather flooding in the low streets during seasonally high tides. Full implementation of the City's 2021 SLR Draft Policy (Jacobs 2021) will require a tidal barrier along Lake McKillip, raising roadway elevations and construction of stormwater conveyance infrastructure including a stormwater pump station and injection wells.

Jacobs completed a Conceptual Design Report (CDR) that outlined 5 objectives for the City:

1. Identify the ultimate stormwater improvements providing a Level of Service (LOS) for 30-years with consideration of SLR. It is anticipated this ultimate infrastructure plan will include sea walls and/or sheet piling around Lake McKillip, elevated roadways throughout the area, a network of stormwater collection pipelines with inlets, a stormwater pump station, and multiple groundwater injection wells.
2. Identify an interim lesser project incorporating sufficient improvements including partially elevated roadways and stormwater pipelines and inlets in accordance with the ultimate improvements but excluding the stormwater pump station and injection well system.
3. Define a monitoring program for the City to track performance of the interim drainage infrastructure and to determine when the ultimate drainage improvements should be constructed.
4. Provide a description of the remaining drainage infrastructure needed to support a 30-year LOS and provide an explanation for future needs to support grant funding.
5. Incorporate community interests into the interim project such as:
   a) Block sunny day flooding along the east side of Lake McKillip during seasonally high King Tides.
   b) Support access to Lake McKillip for recreational use, maintain access to the existing boardwalk and kayak launch.
   c) Maintain two-way streets to extent possible.
   d) Provide parking opportunities along road edges.

SECTION 9

# Sworn Statements and Affidavits

# SECRETARY CERTIFICATE

I, Justin Johnson, Secretary of Jacobs Engineering Group Inc. (the “Company”), hereby certify that:

Alberto Lazaro is Client Account Manager of the Company and has been granted authority, by the board of directors to execute documents on behalf of the Company.

Dated this 4th day of October 2023.

_____

Justin Johnson, Secretary

# ANTI-KICKBACK AFFIDAVIT

STATE OF Florida )
: SS
COUNTY OF Monroe )

I, the undersigned hereby duly sworn, depose and say that no portion of the sum herein bid will be paid to any employees of the City of Key West as a commission, kickback, reward or gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

By: _____

Alberto M. Lazaro

Sworn and subscribed before me this 6th day of March 2024 .

NOTARY PUBLIC, State of Florida , at Large

My Commission Expires: January 29, 2025

Notary Public State of Florida
Brandi Lee Murray
My Commission HH 050217
Expires 01/29/2025

* * * * * *

**NON-COLLUSION AFFIDAVIT**

STATE OF Florida )

: SS

COUNTY OF Monroe )

I, the undersigned hereby declares that the only persons or parties interested in this Proposal are those named herein, that this Proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Proposal is made without any connection or collusion with any person submitting another Proposal on this Contract.

By: _____

Alberto M. Lazaro

Sworn and subscribed before me this

6th day of March 20 24 .

_____

NOTARY PUBLIC, State of Florida at Large

My Commission Expires: January 29, 2025

Notary Public State of Florida
Brandi Lee Murray
My Commission HH 050217
Expires 01/29/2025

SWORN STATEMENT UNDER SECTION 287.133(3)(A)
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

**THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.**

1. This sworn statement is submitted with Bid or Proposal for City of Key West RFQ # 24-006 Key West Wastewater Treatment Plant Resilience Plan

2. This sworn statement is submitted by Jacobs Engineering Group Inc.
(Name of entity submitting sworn statement)
whose business address is 3150 SW 38th Avenue, Suite 700, Miami, FL 33146

_____ and (if applicable) its Federal Employer Identification Number (FEIN) is 95-481636

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement _____

3. My name is Alberto M. Lazaro
(Please print name of individual signing)
and my relationship to the entity named above is Vice President & Client Account Manager

4. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any bid or contract for goods or services to be provided to any public or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, material misrepresentation.

5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication guilt, in any federal or state trial court of record relating to charges brought by indictment information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

6. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means

    1. A predecessor or successor of a person convicted of a public entity crime; or

    2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(8), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies).

X Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND (Please indicate which additional statement applies.)

_____There has been a proceeding concerning the conviction before a hearing of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. (Please attach a copy of the final order.)

_____The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. (Please attach a copy of the final order.)

_____The person or affiliate has not been put on the convicted vendor list. (Please describe any action taken by or pending with the Department of General Services.)

(Signature)

March 6, 2024
(Date)

STATE OF Florida

COUNTY OF Monroe

PERSONALLY, APPEARED BEFORE ME, the undersigned authority,

Alberto M. Lazaro who, after first being sworn by me, affixed his/her
(Name of individual signing)

Signature in the space provided above on this 6th day of March, 20 24.

My commission expires: January 29, 2025

Notary Public State of Florida
Brandi Lee Murray
My Commission HH 050217
Expires 01/29/2025

NOTARY PUBLIC

RFQ #24-006
KEY WEST WASTEWATER TREATMENT PLANT RESILIENCE PLAN

## EQUAL BENEFITS FOR DOMESTIC PARTNERS AFFIDAVIT

STATE OF FLORIDA )
: SS
COUNTY OF MONROE )

I, the undersigned hereby duly sworn, depose and say that the firm of _____

_____
provides benefits to domestic partners of its employees on the same basis as it provides benefits to employees' spouses, per City of Key West Code of Ordinances Sec. 2-799.

By: _____
Alberto M. Lazaro

Sworn and subscribed before me this 6th day of March 2024 .

NOTARY PUBLIC, State of Florida , at Large

My Commission Expires: January 29, 2025

Notary Public State of Florida
Brandi Lee Murray
My Commission HH 050217
Expires 01/29/2025

# CONE OF SILENCE AFFIDAVIT

STATE OF Florida )

: SS

COUNTY OF Monroe )

I, the undersigned hereby duly sworn, depose and say that all owner(s), partners, officers, directors, employees and agents representing the firm of Jacobs Engineering Group Inc. have read and understand the limitations and procedures regarding communications concerning City of Key West Code of Ordinances Sec. 2-773 Cone of Silence.

By: _____
Alberto M. Lazaro

Sworn and subscribed before me this 6th day of March 20 24.

NOTARY PUBLIC, State of Florida , at Large

My Commission Expires: January 29, 2025

Notary Public State of Florida
Brandi Lee Murray
My Commission HH 050217
Expires 01/29/2025

Sec. 2-773. Cone of silence.

(a) *Definitions.* For purposes of this section, reference to one gender shall include the other, use of the following definitions apply unless the context in which the word or phrase is used requires a different definition:
  (1) *Competitive solicitation* means a formal process by the City of Key West relating to the acquisition of goods or services, which process is intended to provide an equal and open opportunity to qualified persons and entities to be selected to provide the goods or services. Competitive solicitation shall include request for proposals ("RFP"), request for qualifications ("RFQ"), request for letters of interest ("RFLI"), invitation to bid ("ITB") or any other advertised solicitation.
  (2) *Cone of silence* means a period of time during which there is a prohibition on communication regarding a particular competitive solicitation.
  (3) *Evaluation or selection committee* means a group of persons appointed or designated by the city to evaluate, rank, select, or make recommendation regarding a vendor or the vendor's response to the competitive solicitation. A member of such a committee shall be deemed a city official for the purposes of subsection (c) below.
  (4) *Vendor's representative* means an owner, individual, employee, partner, officer, or member of the board of directors of a vendor, or a consultant, lobbyist, or actual or potential subcontractor or sub-consultant who acts at the behest of a vendor in communicating regarding a competitive solicitation.

(b) *Prohibited communications.* A cone of silence shall be in effect during the course of a competitive solicitation and prohibit:
  (1) Any communication regarding a particular competitive solicitation between a potential vendor or vendor's representative and the city's administrative staff including, but not limited to, the city manager and his or her staff;
  (2) Any communication regarding a particular competitive solicitation between a potential vendor or vendor's representative and the mayor, city commissioners, or their respective staff;
  (3) Any communication regarding a particular competitive solicitation between a potential vendor or vendor's representative and any member of a city evaluation and/or selection committee therefore; and
  (4) Any communication regarding a particular competitive solicitation between the mayor, city commissioners, or their respective staff, and a member of a city evaluation and/or selection committee therefore.

(c) *Permitted communications.* Notwithstanding the foregoing, nothing contained herein shall prohibit:
  (1) Communication between members of the public who are not vendors or a vendor's representative and any city employee, official or member of the city commission;
  (2) Communications in writing at any time with any city employee, official or member of the city commission, unless specifically prohibited by the applicable competitive solicitation.
    (A) However, any written communication must be filed with the city clerk. Any city employee, official or member of the city commission receiving or making any written communication must immediately file it with the city clerk.
    (B) The city clerk shall include al written communication as part of the agenda item when publishing information related to a particular competitive solicitation.
  (3) Oral communication at duly noticed pre-bid conferences;
  (4) Oral presentations before publicly noticed evaluation and/or selection committees;
  (5) Contract discussions during any duly noticed public meeting;
  (6) Public presentations made to the city commission or advisory body thereof during any duly noticed public meeting;

(7) Contract negotiations with city staff following the award of a competitive solicitation by the city commission; or
(8) Purchases exempt from the competitive process pursuant to section 2-797 of these Code of Ordinances;

(d) *Procedure.*
(1) The cone of silence shall be imposed upon each competitive solicitation at the time of public notice of such solicitation as provided by section 2-826 of this Code. Public notice of the cone of silence shall be included in the notice of the competitive solicitation. The city manager shall issue a written notice of the release of each competitive solicitation to the affected departments, with a copy thereof to each commission member, and shall include in any public solicitation for goods and services a statement disclosing the requirements of this ordinance.
(2) The cone of silence shall terminate:
(A) At the time the city commission or other authorized body makes final award or gives final approval of a contract, rejects all bids or responses to the competitive solicitation, or takes other action which ends the competitive solicitation.
(B) At the deadline for submission of responses to the solicitation if only one vendor has responded.
(3) Any city employee, official or member of the city commission that is approached concerning a competitive solicitation while the cone of silence is in effect shall notify such individual of the prohibitions contained in this section. While the cone of silence is in effect, any city employee, official or member of the city commission who is the recipient of any oral communication by a potential vendor or vendor's representative in violation of this section shall create a written record of the event. The record shall include the date of such communication, the persons with whom such communication occurred, and a general summation of the communication.

(e) *Violations/penalties and procedures.*
(1) A sworn complaint alleging a violation of this ordinance may be filed with the city attorney's office. In each such instance, an initial investigation shall be performed to determine the existence of a violation. If a violation is found to exist, the penalties and process shall be a provided in section 1-15 of this Code.
(2) In addition to the penalties described herein and otherwise provided by law, a violation of this ordinance shall render the competitive solicitation void at the discretion of the city commission.
(3) Any person who violates a provision of this section shall be prohibited from serving on a City of Key West advisory board, evaluation and/or selection committee.
(4) In addition to any other penalty provided by law, violation of any provision of this ordinance by a City of Key West employee shall subject said employee to disciplinary action up to and including dismissal.
(5) If a vendor is determined to have violated the provisions of this section on two more occasions it shall constitute evidence under City Code section 2-834 that the vendor is not properly qualified to carry out the obligations or to complete the work contemplated by any new competitive solicitation. The city's purchasing agent shall also commence any available debarment from city work proceeding that may be available upon a finding of two or more violations by a vendor of this section.

## CITY OF KEY WEST INDEMNIFICATION FORM

PROPOSER agrees to protect, defend, indemnify, save and hold harmless The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, City's Consultant, agents, servants and employees, including volunteers, from and against any and all claims, debts, demands, expense and liability arising out of injury or death to any person or the damage, loss of destruction of any property which may occur or in any way grow out of any act or omission of the PROPOSER, its agents, servants, and employees, or any and all costs, expense and/or attorney fees incurred by the City as a result of any claim, demands, and/or causes of action except of those claims, demands, and/or causes of action arising out of the negligence of The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, agents, servants and employees. The PROPOSER agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit at its sole expense and agrees to bear all other costs and expenses related thereto, even if it (claims, etc.) is groundless, false or fraudulent. The City of Key West does not waive any of its sovereign immunity rights, including but not limited to, those expressed in Section 768.28, Florida Statutes. PROPOSER understands and agrees that any and all liabilities regarding the use of any subcontractor for services related to this agreement shall be borne solely by the PROPOSER. Ten dollars of the consideration paid by the City is acknowledged by PROPOSER as separate, good and sufficient consideration for this indemnification.

This indemnification shall be interpreted to comply with Section 725.06 and 725.08, Florida Statutes.

These indemnifications shall survive the term of this agreement. In the event that any action or proceeding is brought against the City of Key West by reason of such claim or demand, PROPOSER shall, upon written notice from the City of Key West, resist and defend such action or proceeding by counsel satisfactory to the City of Key West.

The indemnification provided above shall obligate PROPOSER to defend at its own expense to and through appellate, supplemental or bankruptcy proceeding, or to provide for such defense, at the City of Key West's option, any and all claims of liability and all suits and actions of every name and description covered above which may be brought against the City of Key West whether performed by PROPOSER, or persons employed or utilized by PROPOSER.

The PROPOSER's obligation under this provision shall not be limited in any way by the agreed upon Contract Price as shown in this agreement, or the PROPOSER's limit of or lack of sufficient insurance protection.

**[REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]**

COMPANY SEAL


PROPOSER: Jacobs Engineering Group Inc.

Address: 3150 SW 38th Avenue, Suite 700
Miami, FL 33146

Signature

Alberto M. Lazaro — Print Name

March 06, 20224 — Date

Vice President & Client Account Manager — Title

NOTARY FOR THE PROPOSER

STATE OF Florida

COUNTY OF Monroe

The foregoing instrument was acknowledged before me this 6th day of March, 20 24

By Alberto M. Lazaro, of Jacobs Engineering Group Inc.
(Name of officer or agent, title of officer or agent) (Name of corporation acknowledging)

or has produced Personally Known to Me as identification.

Signature of Notary

Notary Public State of Florida
Brandi Lee Murray
My Commission HH 050217
Expires 01/29/2025

Print, Type or Stamp Name of Notary

## SUSPENSION AND DEBARMENT CERTIFICATION

CERTIFICATION REGARDING DEBARMENTS, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION - LOWER TIER FEDERALLY FUNDED TRANSACTIONS

1. The undersigned hereby certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. The undersigned also certifies that it and its principals:
   a. Have not within a three-year period preceding this certification been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State anti-trust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
   b. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 2.(a.) of this Certification; and
   c. Have not within a three-year period preceding this certification had one or more public transactions (Federal, State or local) terminated for cause or default.

3. Where the undersigned is unable to certify to any of the statements in this certification, an explanation shall be attached to this certification.

Dated this 6th day of March, 20 24.

By: _____
Authorized Signature/Contractor

Alberto M. Lazaro, Vice President & Client Account Manager
Name/Title

Jacobs Engineering Group Inc.
Contractor's Firm Name

3150 SW 38th Avenue, Suite 700, Miami, FL 33146
Address

# DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

| 1. **Type of Federal Action:** | 2. **Status of Federal Action:** | 3. **Report Type:** |
|---|---|---|
| a. contract<br>b. grant<br>c. cooperative agreement<br>d. loan<br>e. loan guarantee<br>f. loan insurance | a. bid/offer/application<br>b. initial award<br>c. post-award | a. initial filing<br>b. material change<br>**For Material Change Only:**<br>year_____ quarter_____<br>date of last report_____ |

| 4. **Name and Address of Reporting Entity:** | 5. **If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:** |
|---|---|
| Prime Subawardee<br>Tier _____, *if known:*<br>Jacobs Engineering Group Inc.<br>3150 SW 38th Avenue, Suite 700<br>Miami, FL 33146<br>**Congressional District,** *if known:* | **Congressional District,** *if known:* |
| 6. **Federal Department/Agency:** | 7. **Federal Program Name/Description:**<br>CFDA Number, *if applicable:* _____ |
| 8. **Federal Action Number,** *if known:* | 9. **Award Amount,** *if known:*<br>**$** |
| 10. a. **Name and Address of Lobbying Entity** *(if individual, last name, first name, MI):* | b. **Individuals Performing Services** *(including address if different from No. 10a) (last name, first name, MI):* |

*(attach Continuation Sheet(s) SF-LLLA, if necessary)*

| | |
|---|---|
| 1. **Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.** | **Signature:** _____<br>**Print Name:** Alberto M. Lazaro<br>**Title:** Vice President & Client Account Manager<br>**Telephone No.:** 305.441.1864 **Date:** 03/06/2024 |
| **Federal Use Only:** | Authorized for Local Reproduction<br>Standard Form – LLL (Rev 7 – 97) |

RFQ #24-006
KEY WEST WASTEWATER TREATMENT PLANT RESILIENCE PLAN

Form DEP 55-221 (01/01)

INSTRUCTIONS FOR COMPLETION OF SELF-DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether sub-awardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a follow up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by the reporting entity for this covered Federal action.

4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks "Subawardee", then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.

    (b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).

11. The certifying official shall sign and date the form, print his/her name, title and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503.

Form DEP 55-221 (01/01)

**PROHIBITED INTERESTS FORM AND NOTICE**

I, Alberto M. Lazaro (Printed Name), Vice President & Client Account Manager (Title), certify that neither Jacobs Engineering Group Inc. (Company Name), 3150 SW 38th Avenue, Suite 700, Miami, FL 33146 (Company Address)

nor any of its subcontractors shall enter into any contract, subcontract or arrangement in connection with the project or any property included or planned to be included in the project in which any member, officer or employee of the agency or the locality during tenure or for 2 years thereafter has any interest, direct or indirect. If any such present or former member, officer or employee involuntarily acquires or had acquired prior to the beginning of tenure any such interest, and if such interests is immediately disclosed to the City of Key West, the City of Key West with prior approval of the Division of Emergency Management and the Department of Economic Opportunity, may waive the prohibition contained in this paragraph provided that any such present member, officer or employee shall not participate in any action by the City of Key West or the locality relating to such contract, subcontract or arrangement

NOTICE: The state requires the City of Key West to insert in all contracts entered into in connection with the project or any property included or planned to be included in any project, and shall require its contractors to insert in each of their subcontracts, the following provision:

> "No member, officer or employee of the Agency or of the locality during this tenure or for 2 years thereafter shall have any interest, direct or indirect, in this contract or the proceeds thereof."

The provisions of this paragraph shall not be applicable to any agreement between the Agency and its fiscal depositories or to any agreement for utility services the rates for which are fixed or controlled by a government agency.

Signature

## VENDOR CERTIFICATION REGARDING SCRUTINIZED COMPANIES LISTS

Respondent Vendor Name: Jacobs Engineering Group Inc.

Vendor FEIN: 95-481636

Vendor's Authorized Representative Name and Title: Alberto M. Lazaro, Vice President and Client Account Manager

Address: 3150 SW 38th Avenue, Suite 700

City: Miami State: Florida Zip: 33146

Phone Number: 305.441.1864

Email Address: alberto.lazaro@jacobs.com

Section 287.135(2)(a), Florida Statutes, prohibits a company from bidding on, submitting a proposal for, or entering into or renewing a contract for goods or services of any amount if, at the time of contracting or renewal, the company is on the Scrutinized Companies that Boycott Israel List, created pursuant to section 215.4725, Florida Statutes, or is engaged in a boycott of Israel. Section 287.135(2)(b), Florida Statutes, further prohibits a company from bidding on, submitting a proposal for, or entering into or renewing a contract for goods or services over one million dollars ($1,000,000) if, at the time of contracting or renewal, the company is on either the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, both created pursuant to section 215.473, Florida Statutes, or the company is engaged in business operations in Cuba or Syria.

As the person authorized to sign on behalf of Respondent, I hereby certify that the company identified above in the section entitled "Respondent Vendor Name" is not listed on either the Scrutinized Companies that Boycott Israel List, Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List I understand that pursuant to section 287.135, Florida Statutes, the submission of a false certification may subject such company to civil penalties, attorney's fees, and/or costs and termination of the contract at the option of the awarding governmental entity.

Certified By: Alberto M. Lazaro (*Print Name*) Vice President & Client Account Manager (*Print Title*),

who is authorized to sign on behalf of the above referenced company.

Authorized Signature:  .

**Jacobs has received and acknowledges Addenda No. 1**

CITY OF KEY WEST
1300 White Street, Key West, FL 33040 (305) 809-3700

**City of Key West RFQ # 24-006**
**Key West Wastewater Treatment Plant Resilience Plan**
**Addendum No. 1**

February 16, 2024

A mandatory pre-submittal meeting was held in person and online via Zoom on Wednesday February 14, 2024, at 10:00am.

The meeting Agenda, sign-in sheet, and minutes are included as part of this Addendum.

Addendum 1 attachments:

- Pre-bid Agenda / Minutes
- Pre-bid attendee list
- Grant application and completed agreement

The following questions have been received by the City and are answered below.

1. **Future Design or Implementation Work**: Should our firm be selected for this WWTP Resilience Plan Procurement, would there be any preclusions for future design or implementation work (tasks or projects) related to this initiative? <CKW> No. This is a standalone plan.

2. **Grant Application and Documents**: Please provide the grant application and related documents for the WWTP Resilience Plan. We would like to review them to ensure our proposal aligns with the project's goals and requirements. <CKW> Attached for your use.

3. **Proposal Submission Extension**: We respectfully request a three-week extension for the submission of the proposal for the WWTP Resilience Plan. This additional time will ensure that all necessary information is gathered, allowing for a submission that fully meets the City of Key West's expectations and requirements. We fully understand the constraints of the pre-existing grant timeline and are committed to adhering to all milestones and final dates dictated by the grant, regardless of any extension. <CKW> No. We cannot push the dates. Our ranking committee members have committed to March 20th and pushing three weeks would delay approval of the staff ranking until May. Also, if delayed, contract award would not be on the Commission agenda until August 2024 due to the July meeting being cancelled. The three-week delay for rankings would end up being a three month delay in project kick off.

4. **Scope of Waste-to-Energy Evaluation**: In response to the city's request for an evaluation of waste-to-energy options, could you clarify if the scope is limited to energy capture from the biosolids from the wastewater treatment plant, or does it also include considering other waste sources for energy conversion? <CKW> The City is interested in using anaerobic digestion as the

principal waste to energy option and only biosolids would be utilized. Access to the base limit the intake of other materials such as food waste.

**Jacobs Engineering Group Inc.**
3150 SW 38th Avenue, Suite 700
Miami, FL 33146

**John Aleman**
Phone: (786) 298-0180
Email: john.aleman@jacobs.com

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