Exhibit "B"

ARCADIS

Contact:
Leah Richter, PE
150 S. Pine Island Rd., Suite 315
Plantation, FL 33324
Tel: 954.525.2499

Letter of Interest

City of Pompano Beach, Florida

Continuing Contract for Civil Engineering Services (CCNA)

RLI 26-003

December 2025

Table of Contents

SECTION 01.
Letter of Transmittal

SECTION 02.
Technical Approach

SECTION 03.
References

SECTION 04.
Project Team Form

SECTION 05.
Organizational Chart

SECTION 06.
Statement of Skills and Experience of Project Team

SECTION 07.
Resumes of Key Personnel

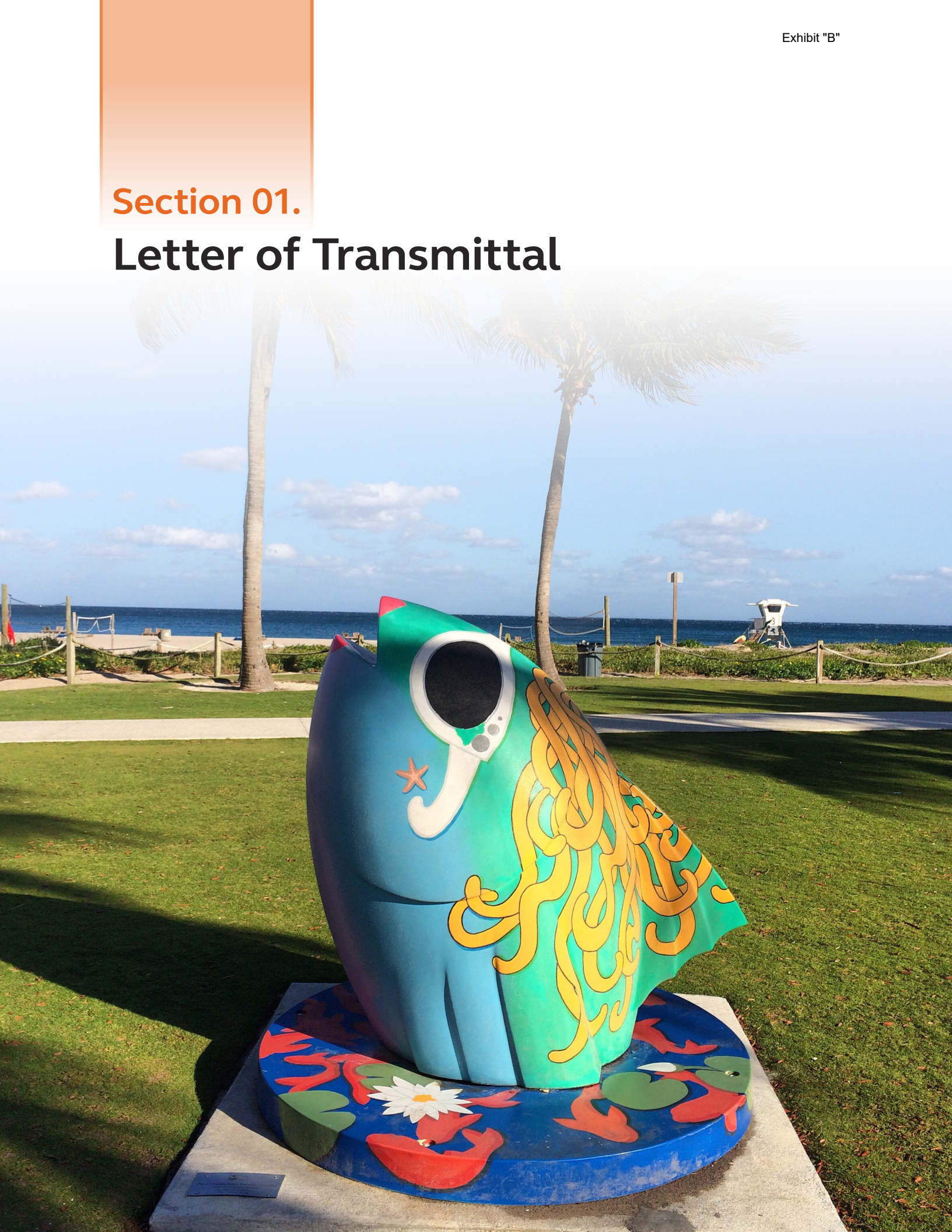
SECTION 08.
Office Locations

SECTION 09.
Litigation

SECTION 10.
City Forms & Other Required Information

Section 01.

Letter of Transmittal



Arcadis U.S., Inc.
150 S. Pine Island Road, Suite 315
Plantation, FL 33324
Tel 954 761 3460
www.arcadis.com

December 18, 2025

City of Pompano Beach, FL
Mr. Eric Seifer, Purchasing
1010 NE 3 Avenue
Pompano Beach, FL 33060
eric.seifer@copbfl.com

Re: Continuing Contract for Civil Engineering Services (CCNA) / RLI 26-003

Dear Mr. Seiferand Evaluation Committee Members:

Arcadis U.S., Inc (Arcadis) is pleased to submit this proposal to continue our partnership with the City of Pompano Beach (City). Our extensive local and national experience in planning, design, and consulting services for civil engineering projects positions us as the ideal partner to support the City's ongoing engineering needs.

As your professional engineering consultant of choice through this contract, Arcadis brings 135+ years of expertise, 30+ years of Florida experience, and a local team you know and trust. Our task leaders and support team are extremely responsive and include multiple disciplines and expertise. They are experienced in delivering high-quality, stormwater, water, wastewater and general civil engineering projects on time and on budget.

Our team offers the following key benefits, showcasing our distinct qualifications, experience, and capabilities to best serve the City under this contract:

A long-standing and successful relationship with the City. Through our legacy firms Malcolm Pirnie and IBI Group (now Arcadis), we possess a rich history of successful project delivery in the City. Our professional services have consistently supported the City and the Pompano Beach CRA, alongside private sector clients. This extensive local experience spans critical utility projects delivered under a water/reclaimed water treatment plant engineering services contract, and more recent contributions to landscape, urbanism, and architecture, such as Mitchell Moore Park, Briny Avenue Streetscape, Exchange Club Park, the Copans Transit Operations Facility, the City's Public Art Master Plan, and Martin Luther King Boulevard.

A local project office coupled with multiple area offices offers rapid responses to all task needs. Arcadis maintains a dedicated project office in Plantation, supported by additional area offices in Boca Raton, Coral Gables, Orlando, and Tampa. This network enables us to provide rapid, agile responses to all task requirements, particularly for emergency on-call assignments that demand immediate personnel availability without additional procurement processes. Across these Florida offices, our team comprises over 440 experienced industry professionals with a proven track record of delivering successful projects statewide. In addition, our clients benefit from accessing Arcadis' global network of more than 36,000 experts, ensuring both local knowledge and world-class resources are available for every project need.

A talented, local and experienced leadership team. The City can be confident that your projects will be led by dedicated professionals with a proven track record of success. Our Florida-based leadership team, including principal-in-charge Leah Richter, PE and project manager Paul Walansky, PE, along with our subject matter experts and bench of technical resources, are specialized in their respective roles and possess diverse experience to ensure seamless project delivery and exceptional results. Our team is committed to providing rapid response, efficient project management, and successful outcomes that meet the City's specific needs and budget goals.

Innovative approaches and forward-thinking solutions. A fundamental knowledge of utilities' core services is the foundation of Arcadis' approach to providing high-value solutions - from strategy and planning to optimization, implementation and measurable results. Our team has partnered with hundreds of municipalities/utilities across the U.S and Florida including City of Fort Lauderdale, City of Hollywood, City of Miramar, City of Hallandale Beach, Hillsborough County, City of Tampa, Miami-Dade County Water and Sewer Department, Toho Water Authority, JEA, and Tampa Bay Water. We develop solutions that support key utility innovation drivers like capital planning and prioritization, operational efficiency, regulatory compliance, affordability, and customer expectation. We also provide specialized construction management,

inspection, and business advisory services, including asset management, funding and grant management, and digital consulting. Arcadis commits to being a knowledgeable and collaborative partner at every step, ensuring the City's challenges are met with tailored, practical, and sustainable solutions.

Best-in-class asset management (AM), condition assessment, and risk-based prioritization capabilities. Our team of certified AM practitioners draws on extensive experience, having developed more than 60 AM programs nationwide. Over the past decade alone, Arcadis has assessed the condition of more than 500,000 vertical assets and thousands of linear feet of stormwater, water, and sewer pipelines. We have partnered with a range of Florida utilities, including JEA, Toho Water Authority, City of Plant City, City of Dunedin, Miami-Dade Water and Sewer Department, City of Hollywood, Indian River County, Indian River Shores, and Sarasota County. Leveraging our long-standing history of providing AM services to utilities of all sizes across the U.S., we have developed and refined a suite of asset management tools grounded in robust international standards. Our capabilities extend beyond basic condition assessment to include predictive analytics, data validation, risk-based planning, advanced data visualization, and capital optimization solutions. These advanced solutions empower municipal organizations, such as the City, to achieve strategic objectives and drive asset management excellence.

Resilience is in our DNA; sustainability is our commitment. The City recognizes the importance of integrating resilient and sustainable design and construction to improve the quality of life of its residents. Arcadis, a global leader in resilience planning and execution, will help drive the City's initiatives forward to help the City succeed. We understand Florida's unique conditions and have led a variety of marquee vulnerability assessments, risk mitigation, resilience planning and engineering projects throughout the state, while simultaneously creating value for Florida and its people. We offer an unmatched ability to integrate resilience and sustainability principles into all the services we provide, thereby promoting sustainable and cost-effective approaches to infrastructure development.

Should you have any questions about our proposal or require additional information from us, please do not hesitate to contact us. Thank you for your time in considering Arcadis.

Sincerely,
Arcadis U.S., Inc.

Leah K. Richter, PE
Principal-in-Charge
leah.richter@arcadis.com | ☎ 954.525.2499

Paul Walansky, PE
Project Manager
paul.walansky@arcadis.com | ☎ 561.702.4370

Section 02.

Technical Approach

02. Technical Approach

Project Understanding

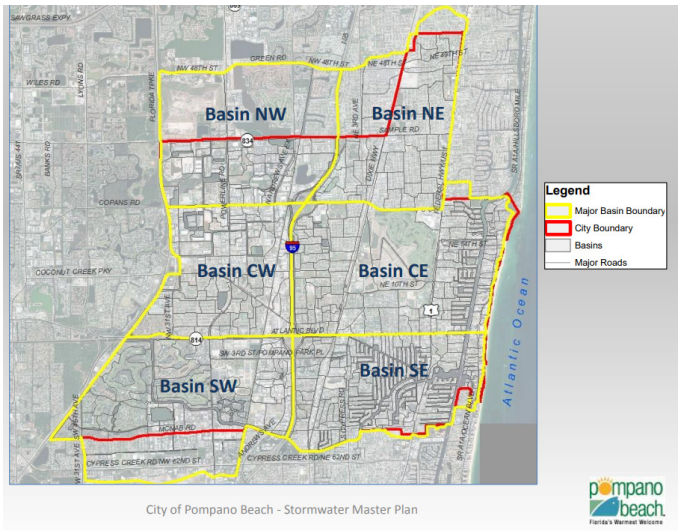
Arcadis (through our legacy firms Malcolm Pirnie and IBI Group) has worked closely with the City of Pompano Beach (City) for about 30 years. We have developed excellent relationships with City staff and are familiar with your methods of operation. Arcadis is a recognized leader in providing the full scope of civil engineering service needs identified in your Request for Letter of Interest (RLI). Our extensive experience in Florida, especially with other Broward County municipalities, makes us uniquely qualified to address the City's future planning and project needs for your civil engineering projects.

The City is a dynamic coastal community in South Florida, characterized by its unique blend of historic residential neighborhoods, the new Downtown Innovation District that will be anchored by the new City Hall and the thriving businesses close to the beach.

New Downtown Innovation District - Concept- City of Pompano Beach

As every other coastal community in South Florida, the City faces ongoing challenges related to climate resilience, including frequent heavy rainfall events, tidal influences, and the risk of property loss because of flooding. We understand the City is taking a proactive approach to stormwater management. This demonstrates a strong commitment to safeguarding residents, infrastructure, and local ecosystems.

For example, two current projects on the Capital Improvements Plan (CIP) are the updating of the stormwater master plan to incorporate new regulations and requirements for new construction projects. The previous master plan was completed in 2013. Also the City plans to address flooding problems in specific locations like the commercial properties along SW 8th Street between Pompano Park Place and Andrews Avenue, due to the excessive amount of impervious areas



Drainage Basins – From 2013 Stormwater Master Plan

We also understand that typically for large municipalities like the City, with an extensive network of buried infrastructure, including water mains, force mains, gravity sewer lines and stormwater assets, there is an opportunity to improve efficiencies in terms of capital improvement planning of these assets.

A key concern in capital improvement planning is ensuring that infrastructure upgrades are strategically sequenced, avoiding costly and disruptive situations where newly resurfaced roads are excavated shortly after for underground utility repairs or replacements.

Recent advances in Artificial Intelligence (AI) offer transformative opportunities for the City to optimize asset management and condition assessment. AI powered platforms can integrate and analyze large volumes of historical and real-time data from diverse sources, such as GIS records, maintenance logs, sensor data, and inspection imagery to predict asset deterioration rates, identify high-risk segments, and prioritize interventions based on lifecycle cost and risk profiles. Our team proposes collaborating closely with the City staff to deploy AI solutions tailored to your data landscape and strategic priorities, facilitating alignment of CIP projects and maximizing value across transportation and utility infrastructure.

Our approach is grounded in a thorough appreciation of the City's vision for sustainable growth, community well-being, and environmental stewardship. We are committed to collaborating with City stakeholders, leveraging the latest civil engineering practices and digital innovations, and delivering solutions that contribute to a safer, more resilient, and thriving Pompano Beach.

Condition Assessment performed by Arcadis staff.

Technical Approach for Planning and Design Services

Storm Water/Drainage Improvements Projects

Stormwater Master Planning

Arcadis employs a stepwise approach to stormwater/ wastershed master planning that includes the following project stages:

- Establish objectives and Level of Service requirements
- Data collection (H&H model data, GIS map layers, etc.)
- NPDES MS4 compliance
- BMAP/TMDL compliance, as required
- Stormwater system condition assessment
- Water quantity and quality modeling
- CIP project identification and prioritization
- Operations and maintenance evaluation
- Public outreach and coordination
- Funding analysis and strategy

Relevant Project Example

Stormwater Master Plan for City of Sebastian
Sebastian, FL

Arcadis conducted a comprehensive analysis of the City's stormwater system infrastructure, operations and maintenance (O&M) resources and practices, planned capital projects, and other information to develop a master plan that is practical and feasible to implement, and complies with all regulatory requirements and local mitigation strategies in the sensitive Indian River Lagoon watershed.

Arcadis developed a detailed Stormwater Asset Inventory in ArcGIS of over 5,039 inlets, canals, ditches, outfalls, pipes, weirs, orifices, and BMPs including asset photos, condition assessments and hydraulic attributes.

A 10-year financial model of the Stormwater Department was created and used in the development of the O&M Plan, 10-year prioritized Capital Improvements Plan, and Grant funding analyses.

Drainage Design and Retrofits

Arcadis has performed evaluations of countless drainage designs and stormwater retrofits for several municipalities in Florida. Our project's approach typically involves a technical memorandum of alternatives and providing recommendations for final design and implementation to resolve drainage issues or meet MS4 permit-required water quality improvements.

For the City, Arcadis can design and/or retrofit drainage systems, including the following:

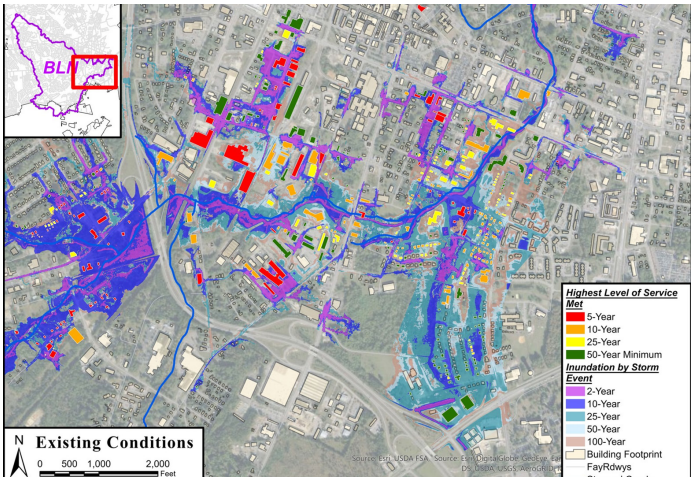
- Stormwater Pump Stations
- Drainage Wells
- Open Channel and Inlet pipe collection and conveyance systems, French drains, and others
- Culvert systems
- Treatment systems including retention and detention pond design
- Baffle box and control structures
- Swales
- Energy dissipators

Flooding near Andrews Avenue - Pompano Beach

Our design projects vary from site plans designs to full neighborhood drainage improvements to major CIPs. Our design team will capitalize on our knowledge of the Broward County and City standards for specific stormwater management facility types, while considering operations and maintenance limitations.

Relevant Project Example

Stormwater On-Call Services
Fayetteville, NC



Fayetteville, NC

Arcadis performed detailed design for various projects that were prioritized in the watershed master plan work. The Ramsay Street Pump Station project is upgrading the existing stormwater pump station to improve resiliency and replacing the undersized and antiquated facilities with new pumps and electrical equipment. The highest priority project from the watershed studies, also currently in detailed design, will replace existing bridges on Russell and Person Street and provide stream enhancements and restoration along Blounts Creek to alleviate hydraulic constrictions, increase conveyance/ storage within the flood plan and improve resiliency within Downtown Fayetteville.

Water, Reuse, Gravity Sewer and Force Main Projects

Our approach for water, reuse, gravity sewer, and force main design prioritizes materials, installation methods, value engineering, and constructability for efficient and reliable infrastructure delivery. Selecting the right materials is essential for ensuring pipeline durability and compatibility with City's specific conditions. Materials such as HDPE, PVC and ductile iron will be evaluated based on factors such as soil corrosivity, hydraulic performance, pressure ratings and lifecycle costs. For areas with high groundwater or corrosive soils, protective measures such as coatings, linings, or cathodic protection may be incorporated to extend the infrastructure lifespan. Material selection will align with City's constructability goals, such as using flexible or lightweight materials in constrained or heavily populated areas to simplify installation.

Installation methods will be tailored to site conditions and project constraints to optimize constructability and minimize community disruption. While open-cut methods may be suitable for accessible areas, trenchless technologies such as HDD, pipe bursting, or CIPP lining will be evaluated for areas with limited access or environmental sensitivity. Each installation method will be analyzed for cost-effectiveness, feasibility, and regulatory compliance, ensuring a customized approach for each project segment. For the replacement of aging or an undersized small water distribution system in a neighborhood, the trenchless installation method of pre-chlorinated pipe bursting is used to reduce impacts to the residents, reducing open excavations, dust problems, and expediting the schedule of construction. Another construction method that we have extensive experience with is Horizontal Directional Drilling (HDD). We recommend the use of HDD when crossing major roadways and in highly dense downtown areas where an open excavation will impact the business owners. This method has some specific requirements in terms of depth depending on the jurisdiction (FDOT), entry and exit angles, frac-out monitoring, among others. HDD is typically performed with HDPE or fusible PVC pipe due to the flexibility of the material but can also be performed with ductile iron pipe with special considerations. Jack-and-bore and micro tunneling are other technologies that our team has extensive experience with. We recommend these in major crossings like FDOT, and railroad crossings, where space is limited on one of the ends. This method typically involves structural design given the depth of the excavations. PVC pipe due to the flexibility of the material can also be performed with ductile iron pipe with special considerations.

Relevant Project Example

Riverland Roads Water Mains Replacement
Fort Lauderdale, FL

The water distribution system in the Riverland neighborhood in Fort Lauderdale consisted of approximately 13,000 LF of 2-inch, 4-inch, 6-inch water mains that exceeded their useful life, most of them installed between 1964 and 1968. The City hired Arcadis to provide design services for the development of a Design Criteria Package for the replacement of approximately 13,000 LF of water mains. The streets on the north side will be looped to allow continuous flow of water. The new water lines will be 6-inch and 8-inch to eliminate unnecessary water pressure losses to private properties, improve fire protection for the neighbors, and looped mains to improve flow rates, water quality and reduce maintenance costs. The scope included 30% design plans, cost estimates, schedule development for design and construction, identified all required permits and permitting agencies.

Riverland Roads - Fort Lauderdale

Lift Station/Pump Station Rehabilitation Projects

Arcadis takes a comprehensive and proactive approach to the rehabilitation of pump stations, recognizing their critical role in maintaining reliability for the City. We begin each project with a thorough condition assessment, leveraging both traditional inspection techniques and advanced technologies such as 3D scanning, non destructive testing, and real-time monitoring. This allows us to accurately diagnose structural, mechanical, and electrical deficiencies, and to prioritize rehabilitation efforts based on asset criticality and risk of failure.

We emphasize resilient and sustainable design solutions tailored to South Florida's unique environmental conditions, including high groundwater, corrosive soils, and the increasing impacts of sea level rise. Our rehabilitation strategies focus on upgrading pumps, controls, and backup power systems for enhanced reliability and energy efficiency. Where feasible, we integrate smart monitoring and SCADA enhancements to provide operators with real-time data for predictive maintenance and operational optimization.

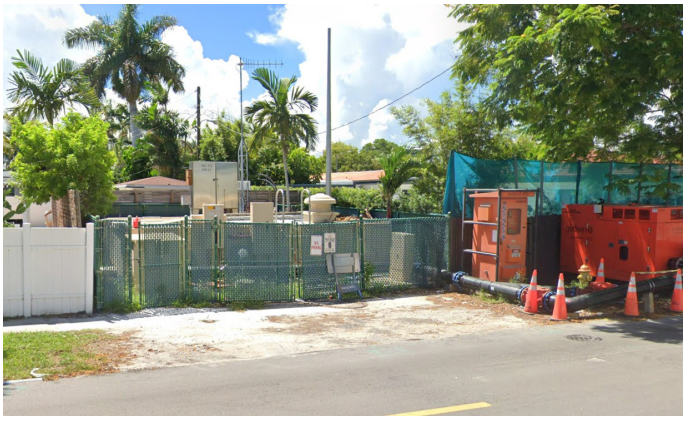
Throughout each project, we coordinate closely with City staff and stakeholders to minimize service disruptions and maintain system integrity. Our phased construction sequencing, temporary bypass planning, and proactive communication ensure that essential services are maintained throughout the rehabilitation process. With a proven track record of delivering lift station and pump station upgrades for municipal clients across Florida, our team is committed to providing cost-effective, future-ready solutions that extend asset life and protect public health and the environment.

Relevant Project Example

Lift Station #6 Rehabilitation
Hallandale Beach, FL

The Lift Station #6 is located on NE 12th Avenue in the City of Hallandale Beach. The pump station was identified as under capacity for current demands. The existing pumps are being replaced with three (3) new submersible pumps (1,930 gallons per minute each). The work includes replacement of all piping, electrical and mechanical equipment and also structural repairs/ modifications in the structure affected by corrosion.

Arcadis was responsible for developing a Preliminary Engineering Report (PER) with the alternatives and developed a 60%, 90% and 100% design. We also provided bidding support and engineering services during construction.



Lift Station #6 - City of Hallandale Beach

Studies and Planning

Arcadis brings extensive expertise in water and sewer utility systems studies and master planning for municipal clients across South Florida and the entire state. Our

team develops and updates comprehensive planning documents and master plans that assess the condition, capacity, and future requirements of critical infrastructure — including wellfields, treatment and reuse plants, storage facilities, and distribution and collection systems. These studies provide municipalities with the insights needed to make informed decisions on asset expansion, rehabilitation, and replacement, ensuring alignment with their long-term goals and strategic priorities.

Our approach begins with a detailed analysis of growth needs and hydraulic modeling, including a review of current water reuse and conservation efforts, per-capita consumption trends, and population projections. This informs us of both current and future capacity service levels required over the planning horizon. We apply an asset management framework that considers physical condition, performance reliability, redundancy, capacity changes, and evolving regulations in our planning efforts and asset assessments. These assessments combine desktop evaluations with on-site inspections by multidisciplinary teams to ensure a complete understanding of asset status and improvement needs.

Our team also provides rigorous performance evaluations of the treatment facilities, distribution and collection systems, leveraging engineering analyses, document reviews, and stakeholder interviews. This process identifies potential failure modes and supports accurate assessment of remaining life, while also highlighting opportunities to introduce new technologies or equipment.

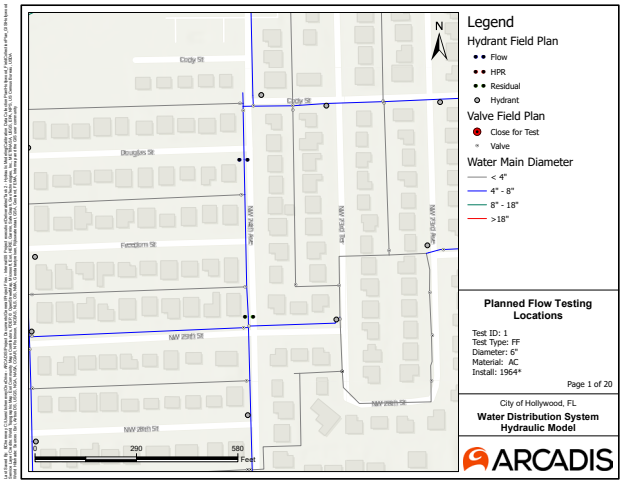
We apply risk-based prioritization, asset criticality scoring, and business case analysis — along with triple bottom line criteria — to confirm that projects are justified, feasible, and aligned with client objectives. Our planning is supported by digital tools that enable seamless updates and integration with asset management and hydraulic modeling platforms.

This proven methodology demonstrates Arcadis' ability to deliver data-driven, transparent, and forward-looking planning solutions that help utilities prioritize investments, optimize operations, and maintain compliance with regulatory requirements.

Relevant Project Example

City of Hollywood Water Master Plan
Hollywood, FL

Arcadis recently completed the water master plan for the City of Hollywood, Florida, providing a 20-year planning horizon and risk-based capital plan for the City's water distribution system. A cornerstone of our success on the City of Hollywood's Master Plan was the leadership of Sean Chaparro, PE. Sean's expertise was instrumental in guiding multidisciplinary teams through complex technical challenges, engaging effectively with municipal stakeholders, and ensuring that every task of the master plan, from initial assessments to final recommendations, met the highest standards of quality and rigor. His commitment and leadership were indispensable to delivering a comprehensive, actionable, and high-quality master plan for the City of Hollywood.



Permitting and Regulatory Compliance

At Arcadis, our permitting approach is guided by proactive collaboration, regulatory expertise, and streamlined project management. We engage early with local, state, and federal agencies to identify permitting requirements, anticipate potential challenges, and establish clear timelines. Our multidisciplinary team leverages our extensive experience to prepare comprehensive permit applications that meet compliance and thus minimize delays. By maintaining open communication with all stakeholders and adapting to evolving regulations, we facilitate a smooth permitting process that supports timely project delivery and aligns with our clients' goals for sustainability, safety, and operational excellence.

In recent years, most of the municipalities and Counties Building Departments and State Regulatory Agencies like the Florida Department of Environmental Protection (FDEP) have shifted to digital permit applications. This allows the agencies to improve efficiency and transparency in terms of document control and responses to applicants. For the applicants, this shortens the time from project start to project bid durations. Arcadis is well experienced in obtaining permitting approvals from all levels of government and multiple jurisdictions in Broward County and South Florida. To expedite the permitting process, we start the pre-application processes early in the design and submit dry-run sets once the City has approved a 60%+ (Advanced Design) milestone. Based on our experience, using this approach along with meeting with the agency early will result in an expedited permit process with minimum to no Requests for Additional Information (RAIs).

Amanda Berger (Arcadis) presenting on Corrosion Control Strategies in Pompano Beach Utilities Department as part of a SEFLUC Meeting.

Relevant Project Example

Woodley Road WRF NDPES Renewal
City of Tavares, FL

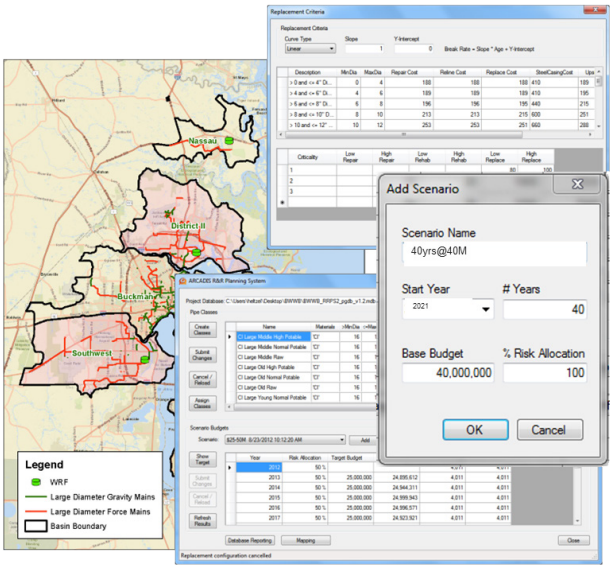
Arcadis assisted the City of Tavares in obtaining their most recent NDPES permit renewal for the Woodley Road WRF. Our team engaged FDEP early in the process and conducted a pre-application meeting in which we discussed facility changes, permit changes, timeframes of data analysis, re-confirmed submittal requirements and fees, among others. The City of Tavares obtained a 10-year permit, with no RAIs required.

Condition Assessments

As discussed in the project understanding section, an important aspect and priority for every City is the condition of their existing infrastructure. As part of our approach for every condition assessment project, Arcadis has developed a 7-Step approach to deliver condition assessments for different utilities in Florida and nationwide. This 7-Step approach helps us to deliver condition assessment programs, CIP development and long-term financial needs. This 7-Step approach is shown in the table below.

Program Step	Description
1	Evaluate availability and quality of existing pipeline data
2	Cleanup data to fill gaps necessary for Desktop Risk Assessment
3	Perform Desktop Risk Assessment
4	Create draft CIP project list
5	Conduct condition assessment via non-destructive testing (NDT) to refine draft CIP
6	Develop final prioritized 5-Year CIP
7	Estimate long-term 30-year funding needs for each pipeline service

As part of our approach, we use the Arcadis Rehabilitation and Replacement Planning System (RRPS) model, which is a software tool which applies risk calculations, degradation patterns and replacement cost criteria in conjunction with budget alternatives to plan for the long-term rehabilitation and replacement (R&R) of linear assets. The Figure below shows examples of our RRPS model input.



Hydraulic Modeling and Analysis, Including Computation Fluid Dynamics (CFD)

Smart use of computer models in the planning and design of water systems is a typical part of the Arcadis approach. Our staff members have provided hydraulic modeling for systems such as pressurized and open-channel flows; transient pressures/surge analyses; and CFD for treatment process basins and reservoirs, distribution and collection systems. We maintain an extensive library of applications and a staff of programmers to develop new programs or adapt existing programs for specific project needs. As the need arises, we will meet with you to collaboratively assess CFD needs to find solutions to your project concerns.

Utility Optimization

Water and reuse utilities today face the dual challenge of delivering superior service and achieving operational excellence, all while managing limited resources and increasing regulatory demands. Arcadis brings a unique blend of technical expertise, industry insight, and business acumen to assist utilities in optimizing plant performance across every facet of their operations.

Maximizing efficiency and reliability in water and reuse requires a holistic approach — one that addresses everything from process performance and energy management to asset reliability and workforce productivity. Arcadis leverages best-in-class practices and advanced digital tools to help utilities unlock opportunities for optimization at every stage of the asset lifecycle, including:

- **Strategic Planning and Asset Management:** Developing data-driven strategies for capital investment, maintenance, and lifecycle asset renewal to extend asset life, reduce risk, and control costs.
- **Process Optimization:** Assessing and enhancing treatment processes to improve energy efficiency, biosolids management, chemical use, and resource recovery, while maintaining compliance and reliability.
- **Digital Transformation:** Implementing integrated data platforms, real-time monitoring, and predictive analytics to enable proactive decision-making and continuous improvement.
- **Workforce and Operational Excellence:** Streamlining workflows, enhancing staff training, and adopting best practices in operations and maintenance to maximize productivity and safety.
- **Financial Sustainability:** Identifying cost-saving measures and innovative revenue streams, such as energy recovery and resource reuse, to ensure long-term financial stability.

Funding and Grant Management

At Arcadis, we recognize that securing external funding is a critical component in advancing infrastructure projects. Our approach is designed to help the City maximize their access to grants and low interest loans like the State Revolving Fund (SRF) by combining technical expertise, strategic planning, and comprehensive support throughout the funding lifecycle.

- **Strategic Funding Assessment.** We begin by conducting a thorough assessment of your project's eligibility and alignment with available local, state, and federal grant programs, including SRF opportunities. Our team leverages deep knowledge of funding landscapes and regulatory requirements to identify the most relevant and promising sources of financial support for your specific needs.
- **Grant Application and Process Management.** Arcadis provides end-to-end support in the application process, starting with the development of compelling proposals and supporting documentation. We will help the City articulate project benefits, address technical requirements, and ensure compliance with all funding agency guidelines. For SRF programs, we will guide the City through the unique requirements — such as environmental reviews, engineering reports, and public engagement — streamlining the process to reduce risk and optimize funding outcomes.
- **Program Implementation and Compliance.** Once funding is secured, our team will continue to support the City through project delivery. We offer project management services to keep projects on schedule and within budget, while ensuring ongoing compliance with grant and SRF stipulations. Our approach emphasizes transparency, proactive communication, and detailed reporting to maintain positive relationships with funding agencies.
- L**ong Term Value and Capacity Building.** Beyond individual projects, Arcadis will help the City establish internal capacity for future funding opportunities. We can provide training, tools, and templates for ongoing grant writing and SRF management, enabling the City to sustain and scale their funding strategies over time.

By partnering with Arcadis, the City will gain a trusted advisor and advocate — reducing administrative burden and increasing the likelihood of successful funding outcomes for vital infrastructure and environmental initiatives.

Roadway and Streetscape

Our approach to roadway and streetscape improvements in the City of Pompano Beach is rooted in context sensitive solutions that balance mobility, safety, sustainability, and community character. We recognize that streets are not only corridors for vehicles, but vital public spaces that shape urban life, support economic activity, and promote multimodal transportation.

Key elements of our approach include:

- **Complete Streets Principles.** The Design should accommodate all users, including pedestrians, cyclists, transit riders and motorists.
- **Resilient Infrastructure.** Our designs address South Florida's unique environmental challenges, incorporating sustainable drainage solutions, stormwater management, and climate resilient materials.
- **Streetscape Enhancements.** We collaborate with City stakeholders to create welcoming streetscapes, integrating lighting, wayfinding, and native landscaping to enhance aesthetics and support placemaking.
- **Community & Stakeholder Engagement**. Our approach includes robust outreach to ensure the proposed improvements reflect the City's priorities and address safety concerns.

Relevant Project Example

Briny Avenue Streetscape and Urban Design
City of Pompano Beach, FL

For this project within the City of Pompano Beach on Briny Avenue, Arcadis prepared an inventory and analysis to illustrate the potential opportunities and constraints within the project area. The concepts considered the interaction of pedestrians, bicyclists, and motorists with smart growth and urban design concepts, creating a safe and enjoyable environment for the community. Briny Avenue will be the first "shared street" project in the community. Arcadis also prepared construction documents that included full engineering and landscape architecture plans which addressed the local flooding concerns, off-site parking improvements, signage, permitting and coordination with the "undergrounding" of all utilities within the right-of-way.

Parks and Recreational Facilities

At Arcadis, our approach to designing parks and recreational facilities is rooted in creating resilient, inclusive, and sustainable spaces that enhance community well-being and environmental health. For South Florida communities like Pompano Beach, we prioritize green infrastructure and nature-based solutions to address unique regional challenges such as flooding, sea level rise, and extreme weather. Our team integrates native landscaping, permeable surfaces, and innovative stormwater management systems that not only mitigate environmental risks but also create vibrant recreational experiences and improve local biodiversity.

We believe successful parks and recreational facilities design begins with community engagement and a deep understanding of local needs. Our process involves collaborating with residents, city officials, and stakeholders to ensure that every project reflects the character and aspirations of Pompano Beach. Parks are envisioned as flexible, accessible spaces that foster social interaction, promote health and wellness, and provide safe havens during adverse weather events. By applying best practices in sustainable urban design and leveraging the latest digital technologies, Arcadis delivers future-ready solutions that support Pompano Beach's growth and long-term resilience.

Relevant Project Example

Ultimate Sports Park – Apollo Park
City of Pompano Beach, FL

Arcadis is providing professional services for the design of a public park serving the passive and active recreational needs of the community. This project provided for the conversion of the existing vacant field with a synthetic turf athletic field. Project tasks also include adding a new parking area and walkways, concession building, bleachers, sports and site lighting and amenities. Arcadis also provided site evaluation and tree management, extensive landscaping and irrigation designs, and enhanced water management and drainage improvements. Our team members **Patricia Ramudo, PE** and **Debra Hernandez, RLA** were involved in this project.

Construction Management (CM)/ Construction Engineering and Inspection (CEI) Services

The Construction Phase is typically the most fast-paced and stressful part of any project, particularly for projects involving improvements in a neighborhood and upgrades to operational treatment plants. Arcadis provides third-party construction administration, management and CEI services to augment our team's services during construction. The services we propose are efficient and cost-effective to ensure that the City is aware of the status of the project on a current basis, thus enabling the City to make timely and accurate decisions. For operating facilities coordination with the operating staff is vital. Planning for operations, startup and commissioning will save costs and change orders later.

Our approach to management during construction is to stay informed, act expeditiously, anticipate problems, develop cost-effective solutions and move ahead.

Arcadis will staff each project authorized by a work authorization with our professionals who have experience to successfully execute the work identified in each respective work authorization. The day-to-day supervision of our on-site staff will be performed by our Construction Administrators. Our Project Managers will be responsible for assigning the proper staff to accomplish successfully all the requirements of each Task Order. The Project Manager will be available to the City at any time to provide the proper assistance regarding project status, project staff, issue resolution, contractor claims resolution, or to simply consult with City staff.

Construction Management Plan (CMP)

Arcadis typically develops a Construction Management Plan as part of our normal approach to a project. The CMP includes procedures for the following management and decision-making tasks:

- Identify team members, their roles & responsibilities (including the EOR and contractor), the lines of communication, and authority
- Emergency Procedures
- Forms to be utilized
- Document control
- Web-based project controls system procedures
- Cost control/accounting (cash flow analysis/ projections)
- Time control (schedule reviews/monitoring/updating)
- Meetings (purpose, frequency, minutes, and sign-in sheet)
- Contractor payment requests
- Clarifications/requests for information procedures
- Change order procedures
- Claims mitigation/management procedures (risk avoidance)
- Quality assurance/inspection
- Safety and quality
- Shop drawing review submittal/approval procedures
- Non-conformance notifications (issuing, tracking, and reporting)
- Punch listing procedures
- Project commissioning (Start-up and Testing)
- Project closeout requirements/responsibilities

The objective of the CMP is to review and make recommendations on specific project and contract procedures for administering the projects. The key elements are to organize, monitor, and manage City's projects. Your projects must operate as planned and this takes a team effort. The CMP also serves as a checklist to organize and expedite your construction projects. It schedules, reminds and holds the project team accountable for information to be obtained, recorded and acted upon.

Construction Contract Administration and Inspection

Arcadis will provide construction administration and inspection services as described and act as the liaison between City's project management staff and the contractors for each project. Arcadis will prepare routine letters, memoranda, reports, change orders and other required documentation as necessary for signature by the City. Such items will be shared at weekly coordination meetings and shutdown notice procedures, and work hours will be identified and coordinated by our staff.

Arcadis will provide on-site observation, monitoring and inspection services as requested by the City for each project assigned. All our inspectors have significant water and wastewater construction experience.

The inspection staff will report and coordinate their daily duties with Arcadis' assigned construction administrator. Depending on the size of the project and the City's CEI support needs, we can support the City's project managers with inspectors, CPM schedulers, cost estimators, document managers, claims specialists and engineering support at any given time.

We believe a total project team effort is essential for a successful project. Poor quality and work installed incorrectly result in unnecessary conflicts, disputes and lost time/delays. Full-time observation, close monitoring and proactive involvement greatly minimizes the possibility of incorrectly installed work.

As an example, our checklists and required signoffs before concrete placement help assure quality and minimize the need for rework.

The inspection staff will maintain comprehensive daily construction reports and assist our Resident Project Representatives in monitoring and recording progress. Normal duties of our CEI staff include:

- Daily Inspection Support
- Constructability Reviews
- Review of Work, Rejection of Defective Work, Inspection and Tests
- Document Management
- Daily Inspection Reports
- Monthly Progress Reports
- Contractor Monthly Payment Applications Review
- Project Cost Control
- Progress Meetings
- Review of RFI's and Shop Drawings
- Change Management
- Schedule Monitoring and Analysis
- Record Drawings Review
- Start-Up Plan coordination
- Substantial Completion Inspection and Operational Tests
- Commissioning
- Coordination of Project Closeout
- Support during Project Performance Period

Relevant Project Example

Construction Engineering Inspection (CEI) Services
City of Fort Lauderdale, FL

Arcadis provided construction engineering and inspection Services (CEI) to the City of Fort Lauderdale Public Works Department on several Utility Projects. Some of these are:

- 48-inch Finished Water Line to Fiveash WTP – This project entails the installation of 17,500 LF of pipe to connect the new Prospect Lake Clean Water Center with a new High Service Pump Station located in the Fiveash WTP. Extensive coordination with Plant staff was needed to ensure continuous operation of the clear wells.
- 48-inch/54-inch Redundant Force Main to GTL WWTP – This project includes the installation of approximately 14,000 LF of pipe installation and rehabilitation through the City's downtown area.
- A-16 Sanitary Sewer Pump Station – The existing A-16 Pump Station had to be relocated to accommodate the new Federal Courthouse on SE 3rd Street. The work also included a new 10-inch force main and a 30-inch water main along SE 3rd Avenue.

Arcadis served as the City's representative, including providing on-site inspection for all construction activities. Responsibilities also included conducting bi-weekly progress meetings with City staff and the contractor to discuss project status, issues during construction, and scheduling to make sure the work was completed on-time without significant delays. Arcadis also reviewed the contractor's pay applications to ensure all City requirements are completed prior to issuance of payments.

Our Work Authorization Management Process

We follow a consistent project management and work authorization development process that is further detailed in the graphic below.

Scoping Meeting

A scoping meeting will be held with the staff from the various City departments that will be involved with the work. The goal of this meeting is to achieve consensus on the purpose, goals, and scope of the project. Consensus among all team members on the project goals at the earliest phase of the work is critical to the long-term success of the project. Our **Project Manager Paul Walansky, PE,** will be present and supported with corresponding Task Leads and Subject Matter Experts as needed, to confirm that the scoping items are adequately defined and that the delivered services will meet the project goals.

Effective Initiation, Team Assembly and Execution of Multiple Assignments

Effective engagement of Task Leads under the overall oversight by the Project Manager is one of the key success factors in managing multiple projects within a work authorization contract. As illustrated in the graphic on the next page, our Project Manager will assign a Task Leader for each work authorization based on their expertise as well as identify required resources and assemble the team (including subconsultants). The Project Manager with support from the Task Leaders will assume day-to-day responsibilities for delivering their WA on time and on budget. The project manager will provide overall oversight and ensure day-to-day management using our state-of-the-art Project Management tools to track and maintain the budget and schedule. Our approaches to project schedule, budget and quality management, and environmental health and safety commitment will be documented in the Project Management Plan developed at the outset of the project and are briefly described in this section.

Work Authorization Development and Award

Information gathered at the scoping meeting and through the Team Assembly will allow the project team to create a draft scope of work, fee estimate, a Work Breakdown Structure (WBS), and preliminary project schedule for review by the City's team. After review and acceptance by the City, the scope, fee, and schedule will be finalized, and a Purchase Order will be provided by the City.

Kickoff Meeting

We always begin all of our projects with a kickoff meeting with all stakeholders and the project team members, including the project manager to confirm project goals and review the project scope, schedule, budget, and administrative procedures. This is also where we discuss identified project risks and possible mitigation actions. We understand that each project is unique and can quickly mobilize and have staff in the field and engaged as quickly as possible.

Data Collection and Review

Data will be collected from the City including existing reports, as-builts, existing permits, etc. Field data to be collected may include record drawings, GIS Data, topographic survey, SUE, and geotechnical, past reports, CCTV data, condition assessment data, operation, and maintenance data. This data will be collected and reviewed for use in a study or design. We have Tablets and Digital Tools and capabilities to securely and efficiently receive and transmit data through controlled information sharing platforms, such as SharePoint and others. The privacy of our Clients' data is paramount to us.

For field condition assessments, Arcadis utilizes the latest software and digital tools to efficiently and comprehensively collect and evaluate water and wastewater system assets. Our leading industry approach allows for quick (less than one week) field data acquisition and quality control.

Design/Study Phase

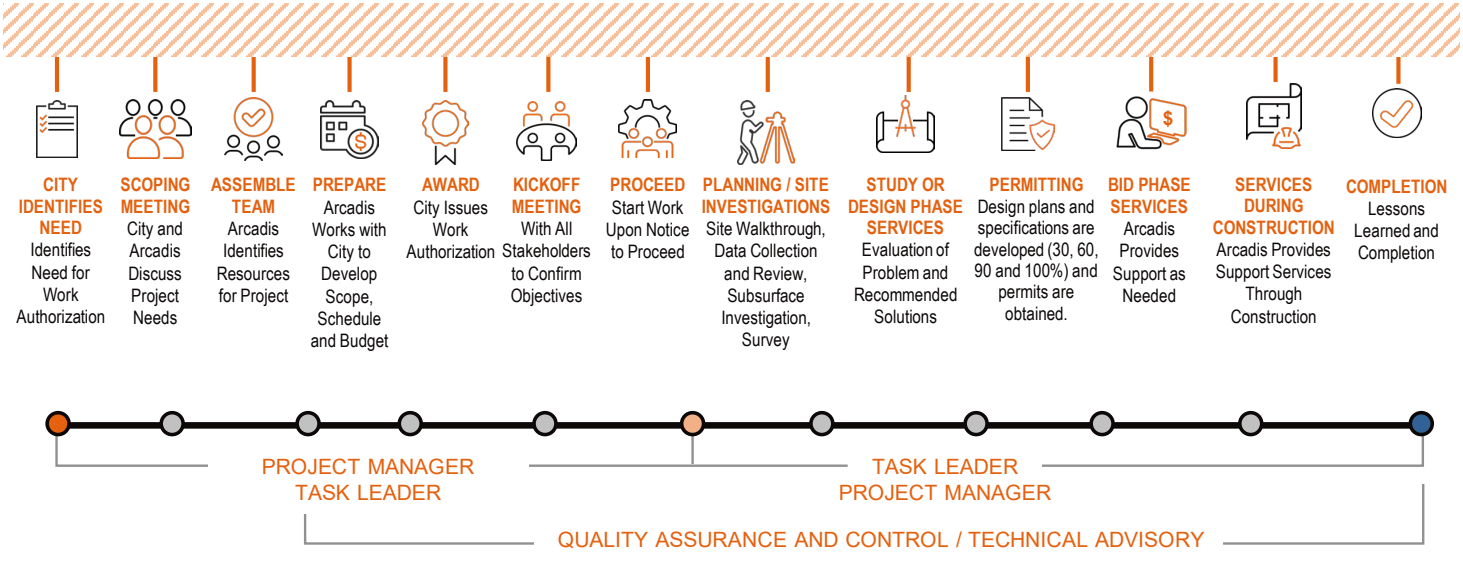
Depending on the project type, the project will progress to a design or study phase. This phase will include the preparation of a Preliminary Engineering Report and contract documents (plans and specifications) for a design project or a technical memorandum, feasibility study, or evaluation for a study. We meet regularly with stakeholders to discuss the project and to get buy-in on the different elements of the project. In design, plans and specifications will be developed following a typical 30% (conceptual), 60%, 90% (advanced) and 100% (bid) milestones (unless otherwise requested by the City.) Engineering opinions of probable costs will also developed at each milestone. Our team will leverage collaborative workshops during each design milestone to discuss design, resolve issues, and gain multi-stakeholder consensus prior to moving forward with next delivery milestone.

Permitting

For a design project, Arcadis will work with the City and the regulatory agencies to identify and prepare the necessary permit applications. We will identify potential permits and permitting agencies early and have preapplication meetings to introduce them to the project and agree on the permit(s) required and the requirements for approval. As part of the permitting process, Arcadis will also respond to request for additional information (RAIs) from corresponding jurisdictional authorities in order to secure permits for the projects.

Bidding Support

Our team will provide a full suite of bidding and procurement assistance services designed to facilitate a transparent, competitive, and efficient



selection process. Leveraging our experience with similar municipal infrastructure projects, we will work closely with City staff to assist throughout the bidding phase and see that all required procedures are followed from initial advertisement through contract award. The following outlines our proposed approach and key responsibilities during the bidding and procurement phase of the project:

- **Attend Pre-Bid Meeting.** Our team will attend the pre-bid meeting to present project details, address procedural questions, and clarify the scope of work for prospective bidders. This meeting is a critical opportunity for all bidders to have a thorough understanding of the project requirements and to foster open communication, thereby minimizing misunderstandings and promoting fair competition.
- **Review and Respond to Bidder Questions.** Throughout the bidding period, we will review bidder questions. Clear, concise, and timely responses will be provided to allow bidders to have the information needed to prepare accurate and competitive bids. Our team will coordinate closely with the City to verify responses are consistent with project objectives and the City's requirements.
- **Prepare and Issue Addenda.** If clarifications, modifications, or additional information become necessary during the bidding phase, we will prepare and issue formal addenda to all plan holders. Each addendum will be clearly documented and distributed in accordance with procurement procedures. This process makes certain that all bidders are working from the most current information and that the integrity of the bidding process is maintained.
- **Review and Respond to Bidder Requests for Material Substitution.** We will review any bidder requests for material or product substitutions during the bidding period. Our team will evaluate these requests for compliance with project specifications, performance criteria, and equivalency to the originally specified products. Written responses will be provided to the bidders and, if warranted, addenda will be issued to notify all potential bidders of approved substitutions.
- **Support City in Evaluating Bids.** Upon receipt of bids, we will support the City in evaluating the submittals for completeness, compliance with bid requirements, and overall value. Our evaluation will include a detailed review of bid forms, alternates, unit prices, and supporting documentation to identify the most responsive and responsible bidders.
- **Provide Bid Award Recommendation.** Based on our detailed evaluation of the bids received, we will prepare and submit a formal bid award recommendation to the City. This recommendation will be accompanied by a summary of the evaluation process and rationale for the recommended award, ensuring transparency and supporting the City in making an informed decision.
- **Prepare Conformed Set.** Following the contract award, we will prepare a conformed set of contract documents. This set will incorporate all addenda, clarifications, and approved substitutions issued during the bidding phase, providing a single, authoritative reference for use during construction. The conformed set will allow all parties to be aligned on the final project scope and requirements.

Engineering Services During Construction

To provide the successful delivery of projects, our team will provide comprehensive construction-phase engineering support services. Our approach emphasizes proactive communication, diligent oversight, and responsive technical support, all aimed at maintaining quality, budget, and schedule objectives. The following outlines our proposed services during construction, each tailored to facilitate effective project execution, mitigate risks, and achieve the intended project outcomes.

- **Attend construction kickoff meeting.** Our team will lead the construction kickoff meeting to review project objectives, establish communication protocols, and clarify roles and responsibilities among all stakeholders. This meeting is essential for aligning expectations, discussing the project schedule, and proactively addressing any initial concerns to set the stage for a successful construction phase.
- **Provide periodic observation to determine compliance with contract documents.** We will perform periodic site visits to observe construction activities and assess compliance with the contract documents. Our observations will focus on verifying that materials, workmanship, and methods conform to specified requirements and that the project is progressing according to the approved plans and specifications. Observation reports and photos will be provided to the City after each visit.
- **Provide general consultation and advice during construction.** Throughout the construction phase, our team will be available to provide general consultation and technical advice to the City. We will assist in interpreting contract documents, resolving unforeseen issues, and ensuring that construction activities align with the project's design intent and regulatory requirements.
- **Attend progress meetings.** We will attend progress meetings with the City, contractor(s), and other key stakeholders. During these meetings, we will discuss project status, review schedules, address ongoing issues, and coordinate upcoming activities. Our participation will help promote clear communication and prompt resolution of any challenges that arise.
- **Review shop drawings and submittals.** Our team will review all shop drawings and submittals provided by the contractor for compliance with the project specifications and design intent. Timely and

thorough reviews will facilitate the approval process and minimize delays, ensuring that only approved materials and equipment are incorporated into the project. We will also maintain a submittal log.

- **Respond to Requests for Information.** We will respond to Requests for Information (RFIs) from the contractor in a prompt and efficient manner. Our responses will clarify design intent, resolve ambiguities, and provide direction as needed to support uninterrupted project progress.
- **Review material test reports and field test reports.** Material and field test reports will be reviewed to verify compliance with project requirements. Our team will identify and address any deviations or nonconformities, ensuring that installed materials and systems meet specified standards and quality expectations.
- **Review pay applications.** If requested, we will review contractor pay applications for accuracy and alignment with work completed to date. Our review will include verification of quantities, progress, and compliance with the contract documents, supporting the City in authorizing appropriate payments.
- **Review and assist the City in negotiating change orders.** Should changes to the contract scope arise, we will support the City in the review of proposed change orders for validity, cost reasonableness, and schedule impacts. Our team will assist the City in negotiating these changes for fair and equitable resolutions that align with project objectives and budget constraints.
- **Facilitate startup and generate a punch list during substantial completion.** We will coordinate, facilitate and witness startup process, verifying that all systems are operating as intended. During substantial completion, we will conduct a detailed walkthrough to generate a comprehensive punch list of outstanding items to confirm work is completed to the City's satisfaction before final acceptance.
- **Prepare record drawings reflecting all changes made during construction.** Upon project completion, we will prepare detailed record drawings that accurately reflect all changes, modifications, and as-built conditions encountered during construction. These drawings will provide the City with a reliable reference for future maintenance and operations.

Approach to Maintain Schedules and Cost Controls

Delivering design services on time and within budget is a cornerstone of our project management philosophy. At the outset of each project, we develop a detailed project execution plan that includes a realistic, resource-loaded schedule and a comprehensive budget. Our team leverages industry-standard project management tools, such as Primavera P6 and Microsoft Project, to map out critical milestones, deliverable deadlines, and review periods. Early identification of long-lead activities and potential bottlenecks enables us to proactively allocate resources and keep the project on track from initiation through completion.

To ensure cost control, we implement robust processes for budget management and financial tracking. This includes establishing a clear work breakdown structure, regularly monitoring expenditures against planned budgets, and performing earned value analysis to assess progress. We provide transparent, timely cost reporting to clients, highlighting any variances and recommending corrective actions as needed. Value engineering is incorporated at key design phases to evaluate alternative solutions that optimize performance while reducing capital and lifecycle costs.

Continuous communication and agile decision-making are central to our approach. We conduct regular progress meetings with both internal teams and client stakeholders to review schedule and budget status, address emerging issues, and refine project priorities. Any changes to scope, schedule, or budget are managed through a formal change control process to maintain alignment and avoid surprises. Our disciplined approach, combined with a commitment to proactive collaboration, ensures that design services are delivered efficiently, cost-effectively, and in accordance with client expectations.

Use of Technology to Enhance Delivery

Innovative Solutions

Arcadis uses many digital tools and innovative solutions that can assist or enhance the services provided in the scope of services. These industry-leading digital platforms enable seamless collaboration and data compilation efficiencies along with visual, interactive and easily accessible solutions for our clients. Many tools also increase project efficiency, such as digital data gathering with our FieldNow tool, virtual conflict resolution using our BIM capabilities and drone capabilities to gather information and data that would otherwise be more difficult to obtain. These various tools are identified and briefly described below and are available for use on a wide variety of projects or services the City has identified.

Unmanned Aerial Systems / Drones

Unmanned aerial systems (UASs), commonly called drones, are extremely useful in collecting data remotely. Potential applications include incident/emergency response; surveying/digital terrain monitoring and evaluation of large areas of land or industrial sites; inspection and monitoring of rail, transmission line, oil and gas, mining, agriculture, and other infrastructure; asset inventory and management; risk assessment; construction management; thermal infrared inspection; land use/land cover studies; vegetation monitoring; emissions and plume monitoring; volumetric calculations; and many other types of projects. The use of drones can be the first step in more efficient, cost-effective and thorough data collection. Combining this improved data collection with innovative digital approaches to managing and visualizing data connects all stakeholders with a comprehensive and definitive understanding of the project at a lower cost than traditional methods.

Construction Site Progress Monitoring

Using specific VR capture cameras and software that originally was developed for use on cell phones, we can capture the construction progress of a project site in VR and immediately share the results with clients and stakeholders on controlled and secure websites. This system allows for viewing of work progress on multiple project sites without the need for site visits. Arcadis currently uses this technology to support weekly progress updates among our clients, contractors and multiple consultants. Progress is viewed and verified, and problems or potential issues can be addressed quickly.

Within the VR images of construction sites, we can include additional information to the VR model by attaching certification and completion documents to the assets themselves. Asset information such as seismic data, environmental hazards information or asset management documentation also can be incorporated into the images.

As site images are captured on a frequent basis (weekly/monthly), stakeholders can go "back in time" to view the site at numerous points over the course of the project. The VR model incorporates date menus to allow for easy access to prior images. This capability is especially helpful in viewing assets or elements that are hidden from the current view behind walls, under floors, in ceiling tiles or in the ground.

Traditional vs Drone Surveys

	Traditional Survey	Drone Survey
Time	180 minutes	20 minutes
Data Points	~200	1.5 million
Points per Minute	1	77,000
Equivalent Cost per Point	$3	$0.0004

HoloBuilder

Arcadis is experienced in using HoloBuilder software in conjunction with 360° cameras to enhance the documentation of construction work as it progresses through the schedule. Immersive 360° photos are tagged, annotated, and placed relationally on a site plan. This documentation method offers significant benefits:

Remote viewing of project sites. Off-site team members can view and provide solutions to issues as they arise.

Virtual site tours. Nearby scenes or views can be connected to create a virtual walk-through of the site.

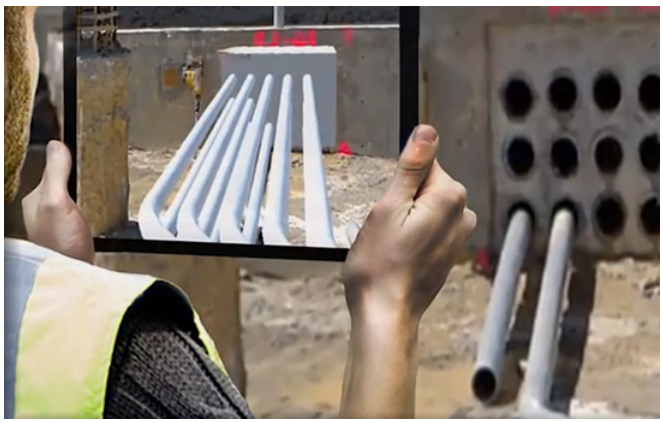
Choice of display. Images can be viewed in browsers or on a virtual reality (VR) headset for an immersive experience.

Comprehensive mark-ups. Comprehensive documentation of conditions and installation progress is performed on a periodic basis.

"Time travel." Team members can review the historical details of installation day to day to identify when a problem may have occurred and how to avoid it moving forward.

Easy collaboration. All team members, not only those on-site, can collaborate on the project in real time. Documentation is performed directly in the HoloBuilder JobWalk application, facilitating fieldwork.

Multiple inputs. HoloBuilder software is capable of integrating with other software such as Autodesk BIM 360, Autodesk Revit, Autodesk Navisworks and Google Maps.



HoloLens

Using Microsoft's HoloLens mixed reality technology in combination with VisualLive 3D software, a model can be directly overlaid on top of active construction images, merging physical and digital worlds together into one view. This quality assurance tool allows us to detect and resolve issues quickly, minimizing rework and associated costs.

No drawing sets, no on-site internet connection, minimal design familiarity, and no measuring is required to compare construction or existing facilities to the model. Screen captures can be saved and uploaded to a variety of cloud-based platforms for easy sharing.

In addition to the HoloLens version, a version for mobile devices can toggle between AR and VR, giving flexibility to the technology and allowing it to be shared with others or used during internal and external meetings.

One of the advantages Arcadis brings to our clients is we share the best new and vetted technologies with our project managers to determine if they have any projects that would benefit and bring value to our clients.

Remote Expert

Our teams can collaborate using the hands-free Remote Expert AR technology to edit and mark up site representations virtually through a real-time visual link between office staff and remote field sites. Office and field staff members interact to make timely adjustments that improve documentation, asset evaluation, site safety, and adherence to project designs. We have used Remote Expert with hands-free headsets such as the Microsoft HoloLens on several environmental and water project sites.

FieldNow

FieldNow™ is Arcadis' 100 percent electronic data collection system. The FieldNow™ program is the first step in a comprehensive approach toward data collection, management and visualization, enabling faster, safer and simpler management of entire projects and portfolios. Using FieldNow™, Arcadis can provide digital field inspections, surveys and data acquisition, giving teams rapid and even real-time accessibility to field and other data to inform project decisions and integrate with the data reporting and analytic systems that are being developed as part of our digital program. This technology increases data accuracy and quality, reduces time and cost for data collection, and minimizes rework and associated delays.

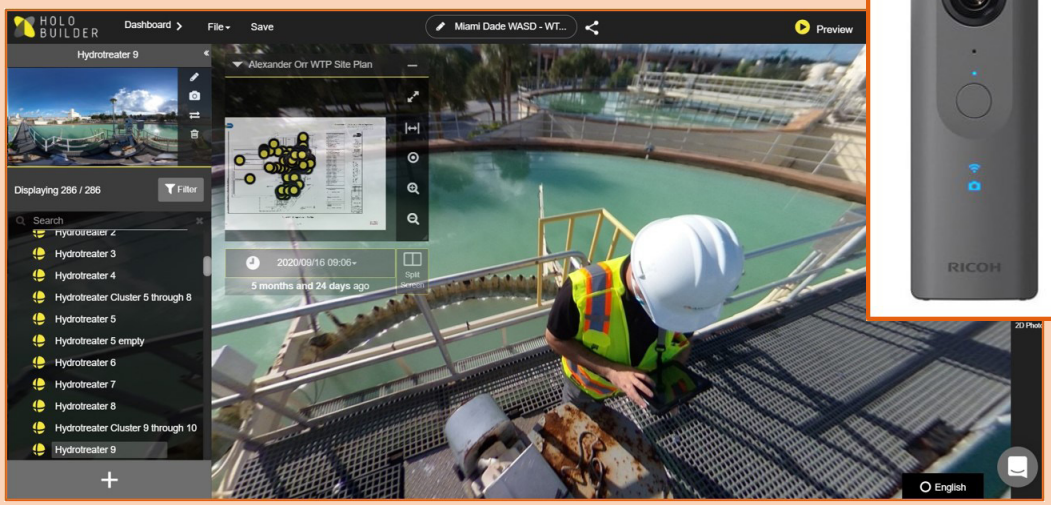
Reality Capture

Using 360° or 3D cameras, Arcadis collects images that can be experienced as a virtual site walk or a time lapse view. Teams can use editing capabilities to remotely create interactive floor plans with embedded additional information, documents and notations. This interactive imagery enables clients to more efficiently and compliantly manage safety inspections, built assets and more. Visual asset models store information about assets, sites and potential risks. Clickable icons within the models provide supplemental built data, maintenance history and operational health and safety information.

Via360

Via360 is a digital platform for a virtual, interactive and anytime-anywhere experience for public meetings, stakeholder engagements, training and conferences – all inclusively and sustainably. The Via360 platform integrates our subject matter expertise, consulting skillset and technology capabilities to offer appropriate and enhanced client experience tailored for our clients' communication needs.

Reality Capture with 360-degree Camera & Holobuilder



Section 03.
References

03. References

Arcadis has earned an outstanding reputation in the industry for providing exceptional services to our clients throughout Florida. Through the services of our experienced and talented staff, we have a track record of delivering complex engineering and resilience projects resulting in a high percentage of repeat business and a long list of satisfied clients.

As requested, we have provided references for past projects in the tri-county area for comparable services recently completed. We encourage the City to contact any of our following clients to inquire about our capabilities and performance record.

Project: Riverland Road Water Mains Improvements
Construction Cost: $3,000,000 **Engineering Fee:** $350,000
Client/Location: City of Fort Lauderdale, FL

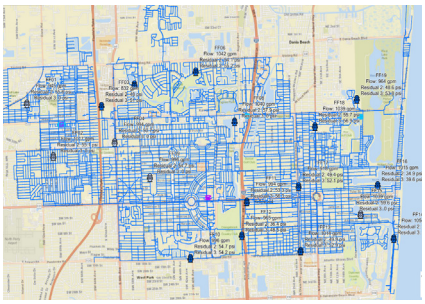
Project Scope and Arcadis' Responsibilities: Arcadis provided design services for the development of a Design Criteria Package for the replacement of approximately 13,000 linear feet of water mains. The streets on the north side will be looped to allow continuous flow of water. The new water lines will be 6-inch and 8-inch to eliminate unnecessary water pressure losses to private properties, improve fire protection for the neighbors, and looped mains to improve flow rates, water quality and reduce maintenance costs. The scope included:

- Design Criteria Package
- 30% Design Plans
- Opinion of Probable Construction Cost
- Schedule Development for Design and Construction
- Identification of All Required Permits and Permitting Agencies

Reference:
Monica Spitery, Project Manager II
City of Fort Lauderdale
954-828-6891
mspitery@fortlauderdale.gov

Contract Term:
2023-Ongoing

Project: City of Hollywood Water Master Plan
Construction Cost: N/A **Engineering Fee:** $1,265,000
Client: City of Hollywood, FL



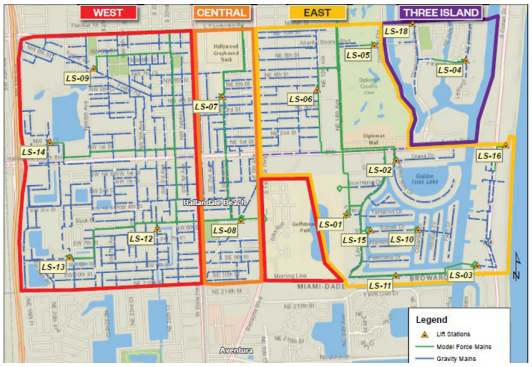
Project Scope and Arcadis' Responsibilities: Most recently, As part of a comprehensive Water System Master Plan, Arcadis conducted condition assessment of the City's water treatment and distribution system assets as well as developed a hydraulic model to evaluate and prioritize capital improvement needs for the next 20 years.

- Asset Management
- Condition Assessment of Entire Water System and Facilities
- Risk-Based CIP Prioritization
- Stakeholder Engagement
- Hydraulic Modeling
- Cost Estimating
- Dynamic Living Master Planning

Reference:
Kassandra Myers, Assistant Director, Public Utilities/ Operations
City of Hollywood
954-921-3414
kmyers@hollywoodfl.org

Contract Term:
2022-2025

Project: Lift Station No. 6 Rehabilitation
Construction Cost: $6,000,000
Engineering Fee: $384,000
Client: City of Hallandale Beach, FL



Project Scope and Arcadis' Responsibilities: Under our ongoing Engineering Services CCNA contract with the City of Hallandale Beach, Arcadis completed permitting and design for the Lift Station No. 6 Rehabilitation project. Wastewater is collected throughout the City and pumped by wastewater lift stations to the City of Hollywood's sanitary sewer system. The condition of the wastewater transmission and collection system was recently assessed to identify areas of deficiency and/or infrastructure that is approaching the end of its useful life. With the existing lift station structure past the end of its service life, it was recommended that the station be rebuilt to meet current and future demand per client requirements. This project includes furnishing design, permitting coordination, bidding support, and services during construction (SDC) for the rehabilitation of Lift Station No. 6. This project was extremely critical and time sensitive for the City because the lift station's capacity was instrumental to the approval of a new high profile residential development within the service area. In order to expedite the development's approval and certificate of occupancy, Arcadis fast tracked the design of a temporary bypass solution as an interim step within the design. Arcadis has completed the full permitting, design and bidding support services. The bid was recently awarded in late 2025 and design services during construction will commence in 2026. Key relevant services include:

- Wastewater Collection and Pumping
- Planning Services
- Feasibility Studies
- Condition Assessment
- Design Services
- Routing Analysis
- Permitting Services
- Consulting Services

Reference:
Manga Ebbe
Construction Program Manager
Hallandale Beach
954-457-3043
mebbe@hallandalebeachfl.gov

Contract Term:
2020 - Ongoing

Experience with the City of Pompano Beach

Arcadis possesses a rich history of successful project delivery in the City. Our professional services have consistently supported the City and the Pompano Beach Community Redevelopment Agency, alongside private sector clients. This extensive local experience spans critical utility projects delivered under a water/reclaimed water treatment plant engineering services contract, and more recent contributions to landscape, urbanism, and architecture. Below we have listed a sample of past projects completed for the City.

Emergency Response Plan

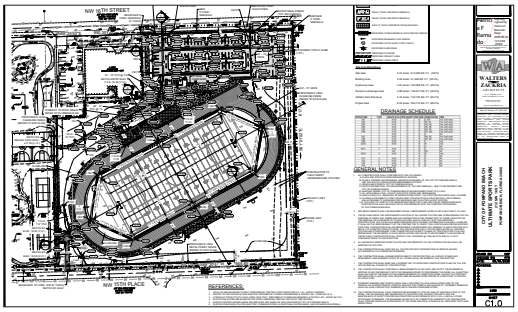
Vulnerability assessment based emergency response plan in accordance with the requirements of the Bioterrorism Act.

Mitchell Moore Park

Design services for a recreation center.

Ultimate Sports Park

Design services for sports complex.



Briny Avenue Streetscape and Urban Design

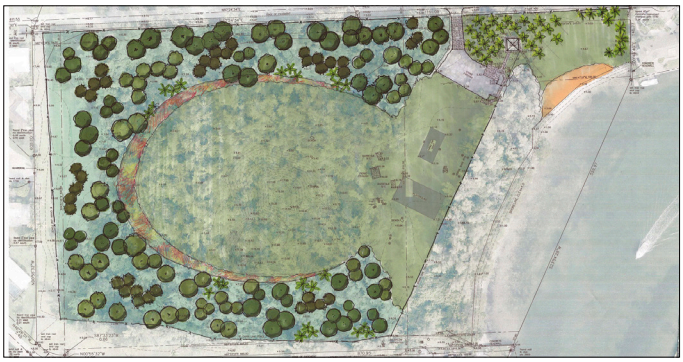
A coastal road, with resilience design for flood protection and shared use.

Copans Transit Operations Facility

Redevelopment of a fuel-based bus facility to an electrical bus facility, incorporating sustainability features.

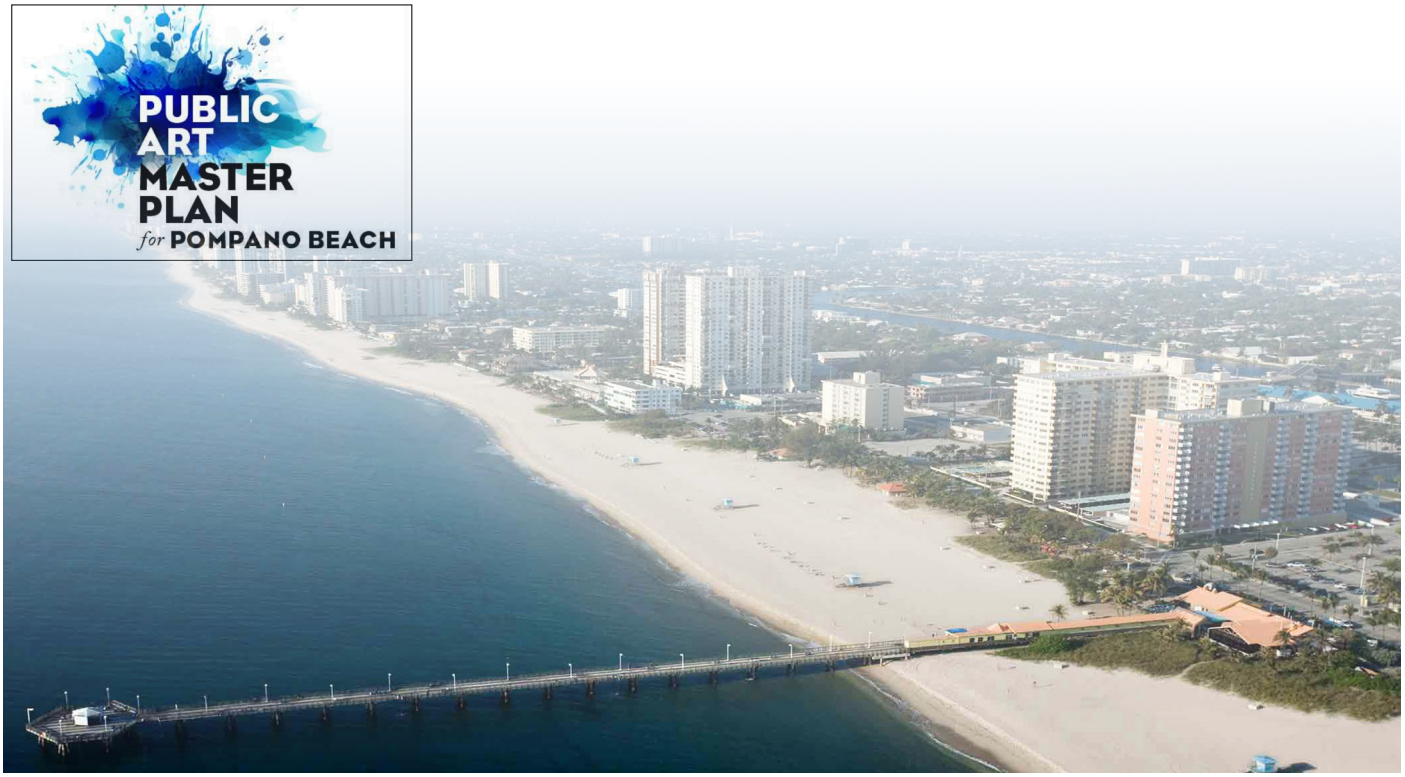
Exchange Club Park

Phase 1 services included clearing and grubbing for the eradication of extensive prohibited vegetation while ensuring the preservation of the sensitive wetlands and mangrove areas. Phase 2 services included landscape design and vegetation restoration utilizing 100% Florida native plant species and incorporation of the existing tree inventory.



Public Art Master Plan

Prepare a Public Art Master Plan that will include 10-year budgeted implementation schedule with recommendations/guidelines for incorporating art in private developments.



Section 04.

Project Team Form

04. Project Team Form

PROJECT TEAM

COMPLETE THE PROJECT TEAM FORM ON THE ATTACHMENTS TAB IN THE EBID SYSTEM. PROPOSERS ARE TO COMPLETE THE FORM IN ITS ENTIRETY AND INCLUDE THE FORM IN THEIR PROPOSAL, WHICH MUST BE UPLOADED TO THE RESPONSE ATTACHMENTS TAB IN THE EBID SYSTEM.

RFQ #_26-003_ Name:_Continuing Contract for Civil Engineering Services (CCNA) RLI 26-003_
Federal I.D. #__57-0373224__

PRIME

Role	Name of Individual Assigned to Project	Number of Years Experience	Education, Degrees
PIC	Leah Richter, PE	29	MS, Civil Engineering, Florida Atlantic University, 2002 / BS, Environmental Engineering,University of Florida, 1997
Project Manager	Paul Walansky, PE	26	BS, Ocean Engineering, Florida Atlantic University, 1998
QA/QC	Jim Shelton, PE	40	BS, Chemical Engineering, University of Pennsylvania, 1984
QA/QC	Michael DeVuono, PE, CPESC, LEED AP	30	MS, Civil Engineering, New Jersey Institute of Technology MBA, The Power Business School BA, Geographic Information Systems, West Chester University of PA
Civil/Site Design	Patricia Ramudo, PE, LEED AP	40	MS, Hydraulics & Hydrology, Cornell University, 1983 / BS, Civil Engineering, University of Miami, 1979
Park Improvements	Debra Hernandez, RLA	29	Certificate of Landscape Architecture, University of California - Irvine, 1996
Road & Street Design	Roman Blanco, PE	25	BS, Civil Engineering, University of Florida, 2000
Coastal Engineering	John Atkinson, PhD	21	PhD, Civil Engineering, University of Notre Dame, 2002 MS, Civil Engineering, West Virginia University, 1995 BS, Civil Engineering, West Virginia University, 1992
Hydraulic Modeling	Chris Adams, PE	25	BS, Civil Engineering, Georgia Institute of Technology, 2000
Architecture	Errol Dawkins, RA, LEED AP BD+C	37	Bachelor of Architecture, CUNY City College, 1989 / BS Architecture, CUNY City College, 1988
Pumping Systems	Brian Duane, PE	43	BS, Mechanical Engineering, Georgia Institute of Technology, 1981
Electrical	Eric Battle, PE	17	BS, Electrical Engineering, Virginia Commonwealth University, 2004
I & C / SCADA	Inna Hely, PE	21	BS, Electrical Engineering, Boston University, 2004
Structural	Donnell Duncan, PE	22	MS, Civil Engineering, Georgia Institute of Technology, 2003 / BS, Applied Physics, Morehouse College, 2002 / BS, Civil Engineering, Georgia Institute of Technology, 2002
Pipeline	Jose Custodio, PE	16	ME, Construction Engineering, Polytechnic University of PR, 2013 / BS, Civil Engineering, Polytechnic University of PR, 2010
Pipeline	David Wilson, PE	41	BS, Civil Engineering, Tennessee Technological University, 1984
Asset Management	Celine Hyer, PE, IAM	35	MS, Engineering Management, Florida Institute of Technology, 1989 / BS, Chemical Engineering, Florida Institute of Technology, 1988

04. Project Team Form

PROJECT TEAM

COMPLETE THE PROJECT TEAM FORM ON THE ATTACHMENTS TAB IN THE EBID SYSTEM. PROPOSERS ARE TO COMPLETE THE FORM IN ITS ENTIRETY AND INCLUDE THE FORM IN THEIR PROPOSAL, WHICH MUST BE UPLOADED TO THE RESPONSE ATTACHMENTS TAB IN THE EBID SYSTEM.

RFQ #_26-003_ Name:_Continuing Contract for Civil Engineering Services (CCNA) RLI 26-003___
Federal I.D. #__57-0373224__

PRIME

Role	Name of Individual Assigned to Project	No. of Years Experience	Education, Degrees
Stormwater Design	Chris Tilman, PE, BCEE	26	BS, Civil Engineering, Auburn University Main Campus, 2000 MS, Engineering Management, Troy University, 1997 BS, Environmental Science, Auburn University Main Campus, 1994
HVAC/Plumbing	Sopeark Chhea, PE, LEED	17	MS, Mechanical Engineer, Union College, 2007 / BS, Mechanical Engineer, Union College, 2006
Condition Assessment	Greg Osthues, PE	36	MS, Environmental Engineering, Manhattan College, 1994 / BS, Civil Engineering, University of Massachusetts, 1987
Construction Management	Darryl Dunn, PE	49	Engineering Coursework, West Georgia College and DeKalb Community College, 1977
Onsite Inspections	Garth White, EI, NASSCO	23	BS, Mechanical Engineer, California State University
Scheduling/Project Controls	Bhadrash Patel, PMI-SP	48	BS, Civil Engineering, Sardar Patel University, 1977
Cost Estimating	Meghan Naumick, CEP, LEED GA	17	BS, Civil Engineering, San Diego State University, 2008
Constructability Reviews	Chris Matthews, PE, CGC	55	BSME Nuclear Engineering, University of Alabama, 1973

Subconsultants

Role	Company/Firm Name & Address of Office Handling the Project	Name of Individual Assigned to the Project
Public Outreach	Garth Solutions 5595 Orange Drive, Suite 202 Davie, FL 33314	Yvonne Garth Brent Campbell
Topographic Surveying	Javier E Bidot & Associates, Corp. 1775 Blount Rd #403 Pompano Beach, FL 33069	Javier E. Bidot Cruz, PSM Daniel E. Bidot Betancourt, PSM Carlos Lebron, PSM
Geotechnical Engineering Services	WIRX Engineering, LLC: 515 E Las Olas Boulevard, Suite 120 Fort Lauderdale, FL 33301	Andrew Nixon, PE Gregory J. Stelmack, PE
Subsurface Utility Exploration	Miller Legg 13680 NW 5th Street, Suite 200 Sunrise, FL 33325	Martin Rossi, PSM Sandro Elvir, CST I
Arborist	Sutton Consulting Arborist, Inc. Lake Worth, FL 33462	John Sutton

Section 05.

Organizational Chart

Exhibit "B"

pompano beach
Florida's Warmest Welcome

Legend:
* **Key Staff**
[1] **PE Outside of FL**

Principal In Charge
Leah Richter, PE*

Project Manager
Paul Walansky, PE*

QA/QC
Jim Shelton, PE*
Michael DeVuono, PE[1], CPESC, LEED AP

Civil Engineering Services

Civil/Site Design
Patricia Ramudo, PE, LEED AP*
Nhi Ngo, PE*

Road & Street Design
Roman Blanco, PE*
Juan Gonzalez

Pumping Systems
Brian Duane, PE *
Alex Spektor, PE

Structural
Donnell Duncan, PE, SE*
Shantanu Dandane, EI

HVAC/Plumbing
Sopeark Chhea, PE, LEED*
Suha Slim

Park Improvements
Debra Hernandez, RLA*
Tyler Carson, PE [1]

Coastal Engineering
John Atkinson, PhD*
Kevin Clinch, PE [1]

Electrical
Eric Battle, PE *
Van Nguyen, EI

Pipeline
Jose Custodio, PE*
David Wilson, PE*

Hydrogeology
Martha Wulftange, PG

Stormwater Treatment
Ashley Kent, PE [1]
Chris Waters, PE, BCEE, PMP [1]

Hydraulic Modeling
Chris Adams, PE * [1]
Lauren DaCunha, PE

I & C / SCADA
Inna Hely, PE *
Thomas Powell, PE

Asset Management
Celine Hyer, PE, IAM *
Kushala Gouda, PE

Condition Assessment
Greg Osthues, PE, IAM [1]*
Viktor Cieslik, PE

Architecture
Errol Dawkins, RA, LEED AP *
Manuel Gonzalez-Maya, AIA

Floodplain Management
Shandor Szalay
Fernando Pasquel

Stormwater Design
Chris Tilman, PE, BCEE*
Mark Van Auken, PE [1], ENV SP

Permitting & Environmental
Brian Dugan
David Trujillo, EI

Construction Management and Inspection Services

Construction Management
Darryl Dunn, PE [1]*
Len Sheptock, CGC

Cost Estimating
Meghan Naumick, CEP, LEED GA *
Chris Remme, PE [1]

Onsite Inspections
Garth White, EI, NASSCO *
Huascar Burgos

Constructability Reviews
Chris Matthews, PE, CGC *
Len Sheptock, CGC

Scheduling/Project Controls
Bhadrash Patel, PSP*
Bheemreddy, Bharath Reddy

Contract Solutions
Roy Cooper, PE [1]

Support Services

Funding/Grants
Melissa Hew, CFM
James Tanner

Resilient Utility Planning
Corie Sapp
Sarah Moore, CEM

Intelligent Water and Innovation
Prabhu Chandrasekeran, PE
Jason Diamond

Utility Budget and Capital Planning
Melissa Pomales, PE[1], ENV SP*
Robert Ryall, PE[1]

GIS/BIM/CADD
Katie Kasperek
Angela Dottl

Additional Subconsultants

Topographic Survey
Javier E. Bidot & Associates

Geotechnical Engineering
WIRX Engineering, LLC

Public Outreach
Garth Solutions, Inc

Subsurface Utility Exploration
Miller Legg

Arborist
Sutton Consulting Arborist, Inc.

Section 06.

Statement of Skills and Experience of Project Team

06. Statement of Skills & Experience of Project Team

Background

Arcadis is a global design, engineering, and consultancy firm that has been operating for over 135 years. With sustainability at the heart of everything we do, our focus is on maximizing our impact aimed at improving quality of life. The solutions we develop, address important societal challenges around our four core business areas – resilience, places, mobility, and intelligence.

Leveraging data and technology, we have the capabilities and services to meet client demands driven by global trends such as urbanization, climate change, digitalization, evolving stakeholder expectations, and unforeseeable events.

Arcadis in Florida

We are inherently Floridian. For more than 30 years, Arcadis has delivered municipal civil engineering infrastructure, inland and coastal flood projects across Florida.

As shown in the Figure on the next page, in the last five years, we have worked with more than 35 utilities/municipalities on similar continuing professional engineering services contracts. We have an excellent track record, strong qualifications, and a proven approach to delivering under these types of contracts.

Resilience in southeast Florida has living with water at its core and necessitates a thorough and local understanding of the water-related interdependence of built and natural systems and the cumulative compounding risks they face. Arcadis' local and regional experience in civil engineering including water and wastewater, stormwater, resilience, water management and water quality are integrated with a long history of delivering solutions for many southeast Florida communities since our first office opened in Broward County more than 30 years ago. This provides an unmatched whole system understanding and approach for addressing the water resilience paradigm for the unique conditions in southeast Florida.

Arcadis at a Glance

7,000 +
U.S.Staff

130 +
Offices

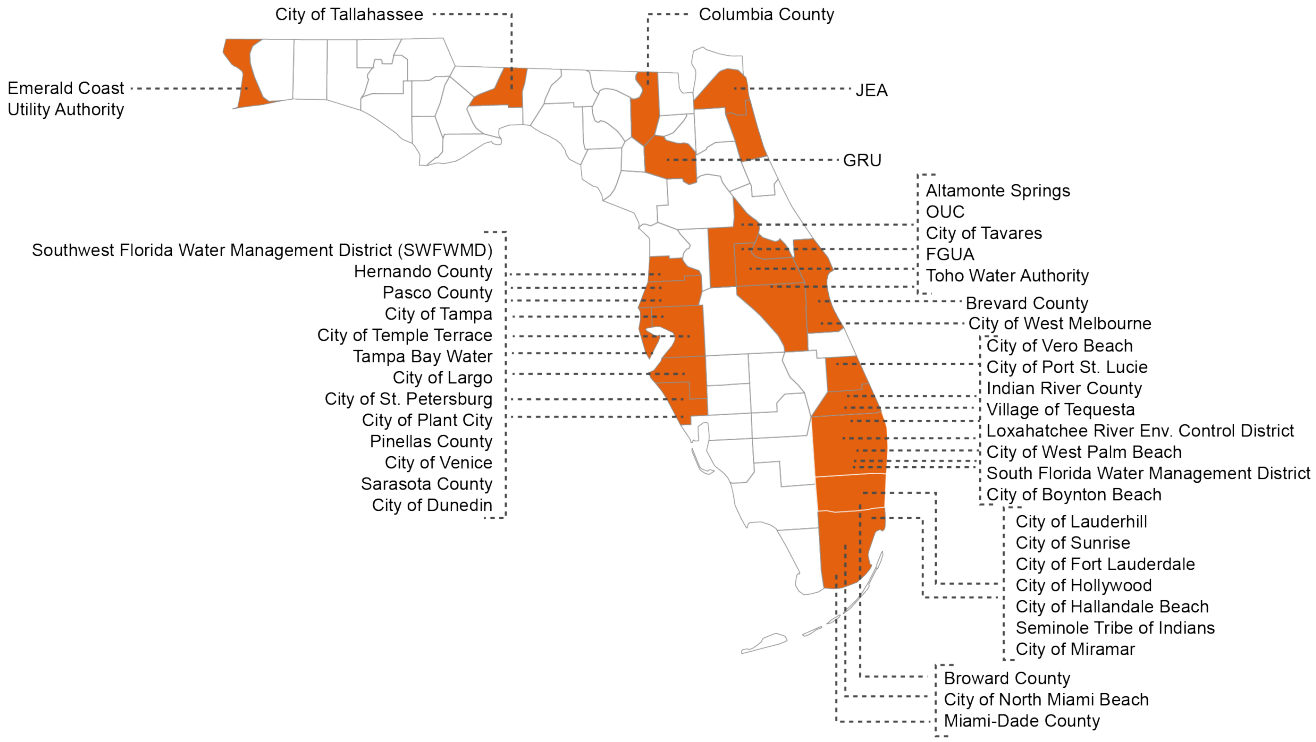
36,000 +
Worldwide Staff

30 +
Countries

135+ YEARS EXPERIENCE

ENGINEERING · UTILITY · WATER/ WASTEWATER · STORMWATER · PLANNING AND DESIGN · CONSTRUCTION · ENVIRONMENTAL · ADVISORY & MANAGEMENT · RESILIENCE · ARCHITECTURE & URBANISM

Master Service Contracts Across Florida Over the Past 5 Years



Our Experience

Water Transmission and Distribution Pipelines

Arcadis engineers have evaluated, designed, and provided construction administration services for a variety of pipelines for the transmission of water from supply sources to treatment plants and the distribution of water to consumers. We perform pipeline repair/ rehabilitation as well as design and installation of new pipelines based on each community's existing systems and specific needs.

Types of transmission lines that our engineers have designed include open channels; covered conduits; and cast iron, ductile iron, steel, reinforced concrete, asbestos cement, polyvinyl chloride (PVC), and polyethylene pipe.

Pipelines ranging in length from a few hundred feet to over 40 miles and in diameters ranging from 4 to 98 inches have been designed and installed under our direction.

We have designed distribution systems of various sizes to serve diverse community water supply customers. Our pipeline design studies have included detailed consideration of delivered capacity required, working pressure, required surge protection, air release and vacuum, allowable loss of head, pipe grade, location, soil conditions, trench bedding, depth of cover, characteristics of water, and material of construction. We perform water distribution analysis using programs that produce solutions to hydraulic equations for head losses in any system of connected pipes with or without source pumps (parallel and series operation), reservoirs or tanks, minor loss devices, pressure regulators (pressure reducing valves), nozzles and check valves.

Arcadis is currently working hand in hand with Orlando Utilities Commission (OUC) staff to identify projects that could be performed jointly by various stakeholders including the City of Orlando, Orange County and FDOT in order to spread costs and realize savings. To accomplish this, OUC and Arcadis are in constant communication, collaborating and working together as a unified team. We are an extended family to OUC. We are their trusted partners.

Tapping Sleeve and Valve Project

Wastewater Collection

Arcadis and its predecessor organizations have been involved in the evaluation, planning, design, and construction of collection and conveyance systems for over 100 years. Our engineers have provided these services to a wide range of municipal, industrial, and private clients, developing new or replacement systems as well as evaluating and upgrading existing systems. The firm's range of services related to wastewater collection systems includes:

- ✓ Condition assessments and analysis; risk-based renewal and replacement (R&R) prioritization
- ✓ Studies of separate sanitary sewer overflows (SSOs) and their impacts on water quality
- ✓ Capacity, condition, and operation and maintenance (O&M) assessments to achieve efficient and effective collection system performance
- ✓ Facility planning for the rehabilitation, upgrading, and expansion of wastewater collection systems in urban areas, or for the construction of new systems in unsewered areas
- ✓ Development and implementation of asset management programs
- ✓ Studies of sewer systems to quantity infiltration and inflow (I/I), eliminate bypasses and increase hydraulic capacity
- ✓ Odor investigations and design of odor abatement programs for wastewater collection systems
- ✓ Pipeline routing studies and environmental assessments for new sewer systems
- ✓ Design, environmental monitoring, and construction phase services for new and rehabilitated trunk sewers, force mains, interceptors, and pump stations

Pump Stations in Collection Systems

Arcadis has a long history of experience in the design of new wastewater pump stations and the upgrade of existing pump stations ranging in capacity from less than 0.5 mgd to over one billion gallons per day. Our projects have encompassed stormwater and sludge pumping facilities, lift stations, and influent and effluent pump stations. Our pump discharge scenarios including common headers, multiple headers, rivers of varying elevation, and ocean outfalls. Through our value engineering approach, we are able to provide our clients with designs that meet their needs while achieving the goal of minimizing construction and O&M costs.

Upgrading existing pump stations requires a special design approach because of the need to work within existing building/site constraints and to maintain continuous operation of the station during construction. We have developed the necessary skills to complete this type of work with minimal disruption to normal operations.

City of Hollywood, High Service Pump Station

In both new and upgraded facilities, our involvement continues beyond the planning, design, and construction stages to include configuration of computerized monitoring and control systems, startup guidance, assistance with operations, and staff training.

In designing the layout of pump stations and in configuring piping systems, trunk lines, force mains, and support systems, our engineers give consideration to the need for future expansion. Durability and reliability also are major considerations. We give particular attention to specifying materials and equipment that will give long life and require low maintenance.

Stormwater and Green Infrastructure

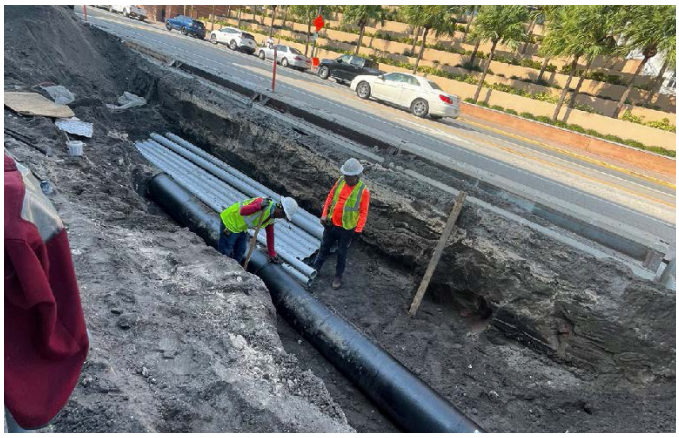
Arcadis is one of the most experienced and qualified firms in stormwater and green infrastructure (GI) planning, design, permitting, bidding, and construction management. Arcadis provides GI services for sustainable resilient solutions using an integrated approach to link stormwater improvement alternatives through green stormwater infrastructure paired with traditional gray store and convey options, all while demonstrating multiple environmental and community benefits. We are currently delivering GI planning, design, and construction projects in many urban and coastal areas similar to the City of Pompano Beach.

Our projects range from small site/ neighborhood scale bioretention planters to large scale watershed stormwater treatment and bioretention designs that incorporate constructed wetlands, enhanced planting and infiltration concepts. With increasing emphasis on stormwater resiliency, water quality, and reduction of stormwater runoff quantity, we deliver innovative practical designs that are easy to construct and that reduce long term maintenance costs.

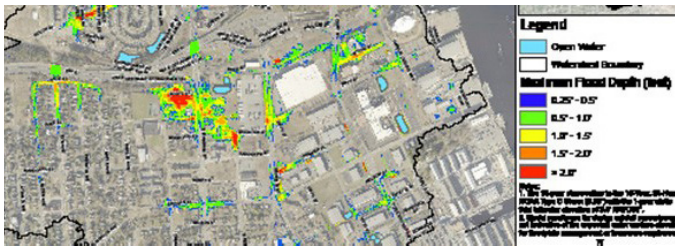
Arcadis specializes in providing resiliency planning and design to proactively counteract flooding and sea level rise associated with climate change. We can perform vulnerability assessments, identify improvements necessary to protect critical infrastructure, and develop long-term flood risk reduction, adaptation strategies, and funding options.

Stormwater Planning & Compliance. Arcadis also provides stormwater master planning and permitting services including implementation of monitoring programs, pollutant load modeling, PPGH, scheduling systems, and stormwater designs that result in reduced compliance costs. Arcadis offers a full range of stormwater engineering and landscape architecture services to help clients address issues such as stormwater permit compliance, site investigations, infrastructure maintenance, stormwater fee implementation, and development of resiliency plans.

Stormwater and GI Modeling. Arcadis specializes in performing detailed modeling of GI to improve the prediction of stormwater volume capture. The approach includes use of a detailed storm inlet-centered hydrologic model with defined surface features within each inlet catchment. Our detailed modeling approach allows for the quantification of flow attributed to different surface features and provides an ideal mechanism for incorporating explicit representations of GI units to predict benefits in terms of flow reduction and overflow measures.



Our Actionable Stormwater Platform(ASP) is a tool that would help the City in areas like Flood Management and Emergency and Management. This is an Arcadis decision support system for weather and climate resilient environment. This tool receives updated data and weather forecasts from NOAA and other sources. Our team is available to provide a demo of the software to the City Staff.



Arcadis developed an ASP Pilot Project using Nexus Live technology for the City of Portsmouth, VA for their Stormwater On-Call Engineering Services.

Our modeling tools and results also facilitate watershed-wide project prioritization and the development of practical design solutions.

Stormwater Design. Our team understands the complex stormwater management challenges facing Florida municipalities, such as increasingly intense storm events (like the April 2023 and June 2024 Flash Flood Events), aging and undersized collection systems, complex stormwater regulations, sea level rise issues, wetlands impacts, and public demands for improved water quality. Arcadis offers a full range of stormwater engineering and landscape architecture services to help clients address stormwater issues. Our engineers, architects, and scientists work together with clients and regulatory agencies to develop comprehensive yet environmentally friendly stormwater management plans that meet all regulatory and operational requirements. We have developed excellent working relationships with the United States Environmental Protection Agency (USEPA), Florida Department of Environmental Protection (FDEP), South Florida Water Management District (SFWMD), U.S. Army Corps of Engineers (USACE), and many other local, state, and federal agencies.

Our stormwater planning, design, and construction projects range from small systems to large stormwater facilities and site restoration projects. Arcadis' local teams are supported by regional and national experts in developing innovative solutions to solve water quality problems and to help our clients in many aspects of stormwater management, including the following:

- ✓ Stormwater Permitting and Compliance
- ✓ Stormwater Pollution Prevention Plan (SWPPP) development
- ✓ Water quality monitoring and modeling
- ✓ Regulation and policy development
- ✓ Pump Station design
- ✓ Climate change, adaptation strategies and mitigation
- ✓ Stormwater system retrofits, including constructed and floating wetlands
- ✓ Flood walls, dams and erosion protection
- ✓ Municipal Separate Storm Sewer System
- ✓ Stormwater Management Plan Review and Analysis
- ✓ Funding, fee analysis and rate studies
- ✓ Stormwater collection and treatment system design, construction, inspection, and performance analysis
- ✓ Hydraulic and hydrologic modeling
- ✓ Wetlands investigations, delineation, permitting and mitigation
- ✓ Stream restoration and shoreline stabilization design
- ✓ Development of regional and watershed best management practices

Stormwater Asset Management and GI Tracking. We have developed and implemented stormwater/GI asset management systems for clients across the nation. These state-of the-art digital systems can be used to track planning, design, construction, performance, and O&M requirements of all stormwater/GI projects. The tools and dashboards can also be used for regulatory reporting and public outreach. Arcadis is also in the forefront of implementing stormwater asset management programs in GA, NY, PA, and VA, as well as implementing a Stormwater Asset Management project to develop national protocols and guidance with the Water Research Foundation and WEF's Stormwater Institute.

Our experienced multi-disciplinary team has worked on successful stormwater and GI design projects in the U.S. and around the world. We develop stormwater/GI solutions that not only meet the regulatory requirements, but can also facilitate economic development, while enhancing sustainability by reducing pollution and runoff volumes. Our solutions also include on-site and end-of pipe facilities such as regenerative stormwater conveyance systems, stream restoration, and natural systems. We are a leader in the use of digital design technology.

Program and Construction Management. Arcadis is one of the leading Owner's Representative consultants in the nation. Our program and construction management experts can manage projects and entire capital improvement programs or provide as-needed services at any phase of the construction process. We have supported clients with the implementation of stormwater programs and incorporating GI into existing programs.

The Arcadis Team brings to the City a network of national and local experts that have 1) knowledge of stormwater management and green infrastructure implementation, 2) first-hand experience in adhering to and delivering GI projects under local, state, and federal regulations, and 3) an understanding of the intricacies of working in the urban/coastal

environment.The caliber of Arcadis' technical thought leadership is reflected in our staff's participation in national activities. We co-authored chapters in recent national publications such as Green Infrastructure Implementation and User-Fee-Funded Stormwater Programs. In addition, our staff is currently working on a new ASCE/WEF Manuals of Practice – Design & Construction of Stormwater Systems and is leading the development of a new manual on Operations & Maintenance of Stormwater Controls to be published in 2022. Their collective experience with lessons learned and case studies featured in these publications will help provide our clients with a strong foundation for effective stormwater and GI planning, design, and construction. Arcadis is also a founding member of WEF's Stormwater Institute (SWI) and our staff has leadership position in SWI's Advisory Committee.

Asset Management/Condition Assessment

Our local team offers the leadership, availability, and integrated resources necessary to deliver the professional Asset Management (AM) and Condition Assessment Planning services for the City if requested. Arcadis' team includes specialists with extensive experience in AM programs and a strong track record of delivering successful projects for the City. We will work in close collaboration with City staff to identify long-term and more importantly sustainable solutions. Our efforts will include assessing existing and new infrastructure, supporting the prioritization of repair and replacement projects, and assisting in the planning and prioritization of new initiatives.

Arcadis leads the implementation of comprehensive asset management programs across the globe leveraging frameworks such as ISO 55000. We have extensive expertise applying asset management techniques and strategies for well over 50 municipal clients across the U.S., including some of the largest water utilities and seven utilities right here in Florida.

We address all aspects of asset management, aligning business strategy with asset performance, implementing a total expenditure approach, leveraging the most advanced tools throughout the asset lifecycle, and paying strong attention to organizational change management and organizational adoption.

Business Advisory and Utility Management

Forbes | 2024
AMERICA'S BEST MANAGEMENT CONSULTING FIRMS

Our Global Management Consulting Practice , which leads Arcadis' Business Advisory practice, is a dedicated global team of over 2,000+ consultants that provide management and advisory services globally, across multiple industries. We bring a business mindset to the asset intensive industries we serve and craft effective and sustainable solutions to improve business performance. We deliver hundreds of projects annually in Florida, for clients that include: Miami-Dade Water and Sewer Department, City of Hollywood, Tampa Bay Water, Toho Water Authority, GRU, JEA, water and sewer authorities and utilities, counties and local governments, and private industries. Arcadis is one of preeminent Water Management Consulting firms in the country. We bring a range of consulting and technology experience to help our clients meet their strategic planning and management goals.

In addition to our financial services team members, we bring a deep bench of business advisory professionals that can help the City of Pompano Beach better manage its business.

This expertise includes professionals that focus on:

Data and Business Visualization

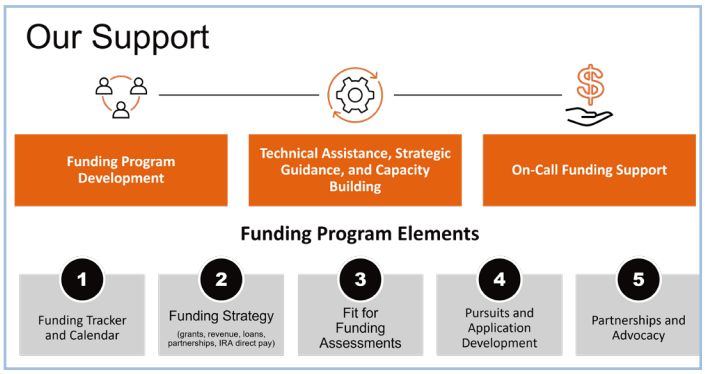
Customer Information and Billing Systems

Strategy and Innovation

Asset Management

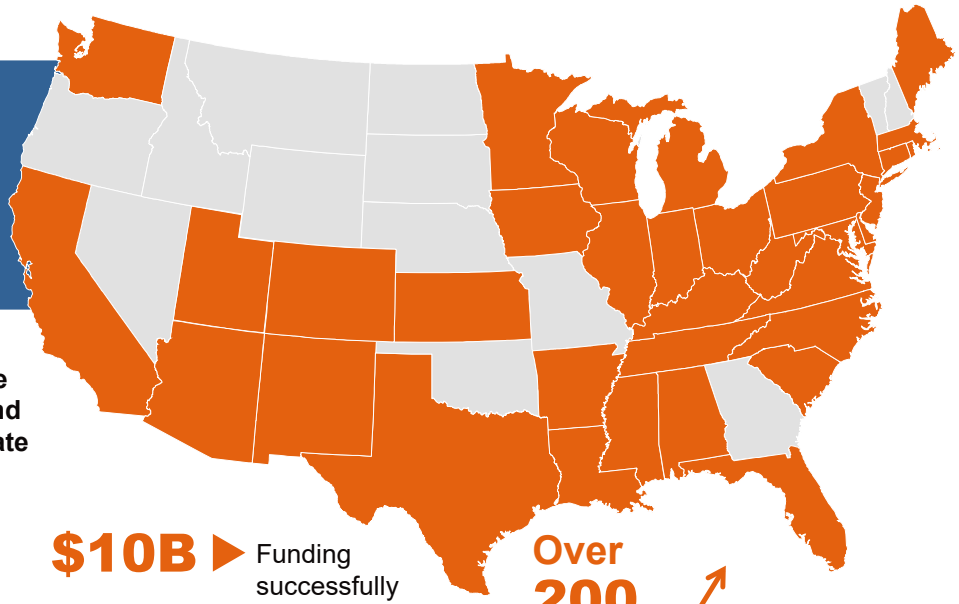
Funding and Grant Management

We offer a proactive and innovative approach to funding and grant management that ensures proper expenditure of funding. Arcadis assists our state-level clients with the management of both state and federal pass-through grant funding, as well as with the application, management, and reporting of State Revolving Fund (SRF) loans. Grant management activities include technical assistance, eligibility reviews, project reporting and monitoring, processing agreements, requests for reimbursements, maintenance of records, and project/program closeouts. Arcadis is committed to helping our clients continually improve programs and processes. We offer methods to improve efficiency and effectiveness of state-level grant programs through the development of standard operating procedures. Over the past 10 years we have secured more than $5 billion in federal grant and programmatic funding for stormwater, water, and wastewater projects.



Our success lies in the talent of our team and the ability to strategically identify compelling projects with our clients.

Arcadis' grant writing and funding support experience spans the United States, and includes local, regional, state and federal clients.



$10B ▶ Funding successfully obtained for our clients

Over 200 Successful applications submitted on our client's behalf

Subconsultants

Arcadis will serve as the prime consultant for this contract. We have assembled a team, including the following subconsultants, to bring to the City extensive knowledge about your project, as well as our expertise from our national subject matter experts.

Role: Topographic Survey

Javier E. Bidot & Associates, PSC (JEBA) a certified SBE and MBE, is a land surveying, hydrographic, and utility mapping company. JEBA will provide topgraphic surveys for this contract.

JEBA's survey crews are certified or trained in OSHA 10/30hrs courses, Level I Anti-terrorism Awareness, HAZWOPER, CPR, Substations Safety Training, NASSCO's Pipeline and Manhole Assessment Certification and Subsurface Utility Certified by the Staking University. Most important of their qualifications is the individual and cumulative experience of their staff, which routinely perform on large high-profile projects that could be the highlight of any professional career.

Role: Public Outreach

Garth Solutions, Inc. (GSI) is a management consulting firm that delivers targeted and strategic business solutions to a diverse portfolio of clients in both the public and private sectors. The GSI team is made up of talented and proven professionals who immerse themselves in our clients' missions to deliver the most effective Economic Development, Project Management & Administration, Marketing & Communications and Business & Project Development solutions to secure the best possible client outcomes.

Role:
Subsurface Utility Exploration

Miller Legg is a statewide award-winning consulting firm that brings together the elements of engineering, planning, landscape architecture and urban design, surveying, environmental wetlands consulting, and geographic information systems services. Miller Legg works successfully to improve communities and create environments for a variety of clients. Client sectors include transportation, municipal and county government, healthcare, education, federal and international. This offers our clients a firm of seasoned professionals who are leaders in the Florida consulting industry. Established in 1965, Miller Legg has locations in Ft. Lauderdale, Miami, Port St. Lucie and Tampa.

Role: Geotechnical Engineering

WIRX Engineering, LLC (WIRX) is a Professional Engineering Firm with offices in Broward and Palm Beach Counties. Our services include Geotechnical Engineering, Environmental Engineering, Water Resource Engineering, Geotechnical Drilling, Construction Management, and Construction Materials Testing and Inspections. Our 3 Principals have decades of combined engineering experience, covering all aspects of a project including Design, Construction Engineering Inspection, Material Testing, Project Management, and Heavy Civil Construction. Our experience includes working on 100's of high-profile projects with federal and local government agencies, including South Florida Water Management District (SFWMD), United States Army Corps of Engineers (USACE), Florida Department of Transportation (FDOT), and numerous City and County Agencies. We incorporate our experience and insight into the Contractor's means and methods during the project design phase. This ultimately improves the constructability and the quality of the project, reducing unwanted change orders, facilitating communication and conflict negotiations, and providing the owner with the most cost-effective end-product.

Role: Arborist

Sutton Consulting Arborist, Inc. is an ISA certified arborist and consultant, backed by extensive credentials and decades of hands-on experience. Their arboricultural expertise and professional experience has been earned while working in different environments, from New York, to California and Puerto Rico. John has won numerous awards. He is an invaluable member of landscaping projects, from golf course construction, industrial park development, to college campuses. In addition, he works with many historical and champion trees such as The Champion Green Buttonwood tree located in Palm Beach, Florida which is the oldest and largest of its kind in the United States.

Full resumes of our team can be found in Section 7 of this submittal.

Our project experience follows.

1 Toho Continuing Engineering Services

Toho Water Authority, Kissimmee, FL

Toho provides water, wastewater and reclaimed water services in Osceola County. Toho currently serves more than 160,000 customers in St. Cloud, Kissimmee, Poinciana and unincorporated areas of Osceola Polk and Orange counties. Arcadis currently holds a continuing services contract with Toho for water, wastewater and reclaimed water pipeline on-call services.

Lavon Avenue Water Main Replacement

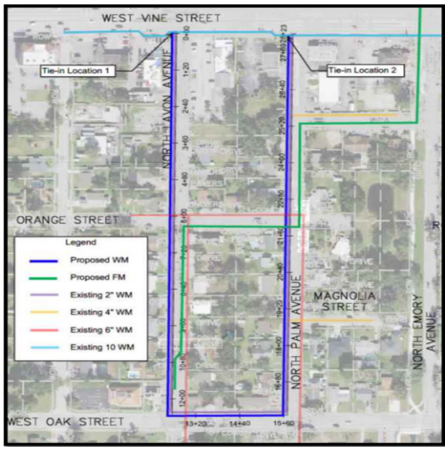
Upsizing and Modernization
Arcadis designed the replacement of approximately 2,900 LF of an existing 2-inch water main, upgrading it to a 6-inch polyvinyl chloride (PVC) pipe to improve water distribution capacity. The project also included service connections up to existing water meters for both residential and commercial customers, along with the installation of new fire hydrants to meet fire protection requirements. The installation used standard open trench methodology with MOT to ensure at least one travel lane is open to allow access to all adjacent properties throughout construction.

Comprehensive Scope of Services
Arcadis provided a full range of services, including preliminary and detailed design, permit coordination with agencies such as FDEP, FDOT, and the City of Kissimmee, as well as bidding assistance. Arcadis is also delivering design services during construction as part of its ongoing collaboration with Toho.

Coordination with Parallel Projects
The design was carefully developed to align with the Toho LS 30 Force Main Replacement project, which runs parallel to the Lavon Avenue water main. This coordination ensured efficient construction planning and minimized potential disruptions.

Existing Residential Neighborhood
The Lavon Avenue Watermain Replacement Project is located within an existing residential area, necessitating careful consideration for maintaining residents' access and potable water service during construction. A Maintenance of Traffic (MOT) plan was implemented to ensure safe and continuous access for residents and minimize disruptions to their daily activities while construction activities were underway.

Contract Value: $283,000



LS 30 Force Main Replacement

Capacity Upgrade for Future Development
Arcadis designed the replacement of approximately 3,100 LF of existing 8-inch cast iron sanitary sewer force main with 12-inch PVC and HDPE pipe to increase the capacity of the system and support the fully developed LS 30 service area.

Innovative Installation Methods
The project used both open-cut and HDD installation techniques to efficiently replace the force main while minimizing impacts to the surrounding area.

Comprehensive Design and Permitting Services
Arcadis provided preliminary and detailed design, permitting assistance to secure approvals from FDEP, FDOT, and the City of Kissimmee, and bid assistance services. Design services during construction are ongoing to ensure successful project execution.

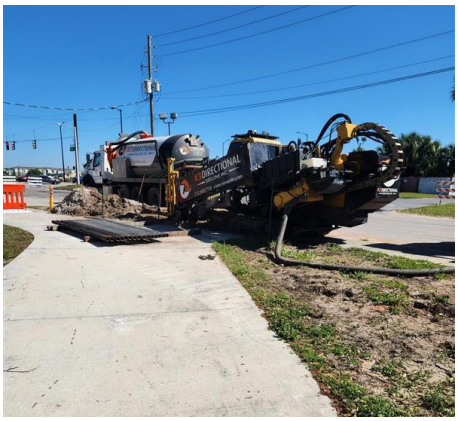
Client Contact
Mario F. Chavez, PE, Principal Engineer & Engineering Programs Director
951 Martin Luther King Blvd.
Kissimmee, FL, 34741
407.944.5024
mchavez@tohowater.com

Date
2024 — Ongoing

Key Personnel
Jose Custodio
David Wilson
Melissa Pomales

Relevant Services
- ☑ Work within Existing, Established and In-Service Communities
- ☑ Small and Large Pipeline Design
- ☑ Services During Construction
- ☑ Congested and active rights-of-way
- ☑ Constructability Reviews
- ☑ Permitting through Multiple Agencies
- ☑ Design of Trenchless Technologies
- ☑ Construction Management of Trenchless Technologies
- ☑ Bid Assistance
- ☑ Project Management

Design Services during Construction
The project was initially designed and permitted to use the jack and bore method for installation through FDOT right-of-way. However, due to unforeseen field conditions, the installation method was revised to HDD. Arcadis swiftly coordinated the redesign and successfully re-permitted the revised construction method with FDOT promptly keeping the project on schedule and within budget.



Contract Value: $293,000

Westside Boulevard Force Main Replacement

Critical Infrastructure Replacement
Arcadis was engaged to design the replacement of approximately 3,400 LF of deteriorated 24-inch ductile iron pipe (DIP) sanitary sewer force main, which had reached a critical condition following multiple recent breaks.

Temporary Bypass Installation
To keep the service area operational, a 16-inch temporary bypass was installed to discharge to a downstream manhole, ensuring continued service while the replacement project is being designed, permitted and constructed.

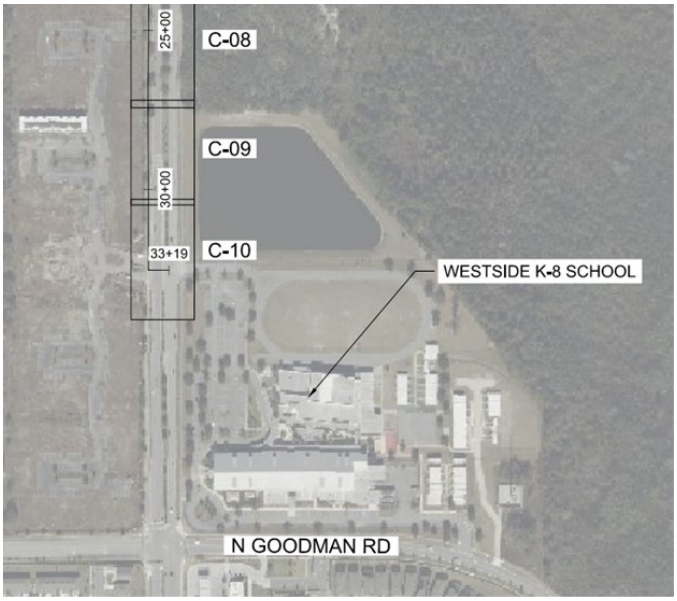
Collaborative Design Approach
Arcadis is currently providing detailed design and permitting services in coordination with Toho's selected Construction Manager at Risk (CMAR) to replace the DIP force main with a more durable 20-inch PVC pipe, ensuring a robust and sustainable solution.

Existing Public School
The project discharges to a manhole located at the entrance of a K-8 public school, making timing a critical factor to avoid interference with school traffic. Construction activities were carefully planned and coordinated to minimize disruptions during school hours and ensure the safety and accessibility of students, parents and staff.

Coordination with Adjacent Projects
A county fire station is under construction adjacent to the force main replacement project, necessitating close coordination between both projects to prevent delays and ensure seamless progress. Arcadis worked collaboratively with all stakeholders to align schedules and mitigate potential conflicts, supporting timely completion of both projects.

Trenchless Technologies
An HDD method was used to navigate under an existing stormwater box culvert located within the route of the force main. This approach ensured the protection of existing infrastructure while maintaining the efficiency and integrity of the new installation.

Contract Value: $470,000



2 General Water and Wastewater Engineering and CEI Consulting Services

City of Fort Lauderdale, Florida

Arcadis has been serving the City of Fort Lauderdale's Utilities Division of Public Works as part of the Water and Wastewater and CEI Consulting Services contract. Under these continuing services contracts, Arcadis provides studies, design, permitting, bid support, and construction management and inspection services for planned and emergent needs.

48-inch Water Line Finished from new Prospect Clean Water Center to Fiveash Water Treatment Plant (WTP)

Project Overview

The City of Fort Lauderdale is currently constructing a new 50-mgd water treatment plant, the Prospect Clean Water Center. As part of the enabling works for the new WTP, a new 48-inch finished water pipeline was required to connect the new WTP to the existing Fiveash WTP. This pipeline spans approximately 17,500 LF along Prospect Road. In 2023, the City engaged Arcadis to develop a design criteria package (DCP) for selecting a design-build firm, as well as to provide detailed plan review, full-time construction management, and onsite inspection for the construction work.

Project Phases and Challenges

Given the extensive length of the pipeline, the project was divided into nine phases, some of which were located within densely populated areas, near the Fort Lauderdale Executive Airport, and included crossing under a railroad via jack and bore. Various pipe installation methods were recommended to accommodate these challenges, including open cut, horizontal directional drilling (HDD), and jack and bore techniques. The materials used for the open cut sections included Prestressed Concrete Cylinder Pipe (PCCP), High-Density Polyethylene (HDPE) DR-13.5, and ductile iron pipe within the WTP. Coordination with the FAA was critical for work near the Executive Airport, as access to the FAA tower was impacted. The Arcadis team proactively engaged with FAA contacts to expedite the review and approval process to avoid delays.

Technical Assistance and Construction Oversight

Once the City selected a Design Builder, Arcadis transitioned to provide technical assistance and owner's representation services, reviewing the design package produced by the Design Builder. During the construction phase, Arcadis ensured compliance with the City's standards and permitting agencies by providing a full-time construction manager and 24/7 onsite inspections. These efforts ensured the successful execution of the project, meeting the highest standards of quality and regulatory requirements.

Contract Value: $1,500,000

A-16 Relocation

Project Overview

Arcadis provided construction engineering and inspection (CEI)

Client Contact
Monica Spitery,
Project Manager II
City of Fort Lauderdale
101 NE 3rd Ave, 21st Floor
Fort Lauderdale, FL 33301
954.828.6891
mspitery@fortlauderdale.gov

Date
2023 — Ongoing

Key Personnel
Jose Custodio
David Wilson
Chris Matthews
Melissa Pomales
Lauren DaCunha
Darryl Dunn
Leah Richter
Bhadresh Patel
Len Sheptock

Relevant Services

- ☑ Work within Existing, Established and In-Service Communities
- ☑ Small and Large Pipeline Design
- ☑ Services During Construction
- ☑ Congested and active rights-of-way
- ☑ Constructability Reviews
- ☑ Permitting through Multiple Agencies
- ☑ Design of Trenchless Technologies
- ☑ Construction Management of Trenchless Technologies
- ☑ Bid Assistance
- ☑ Project Management

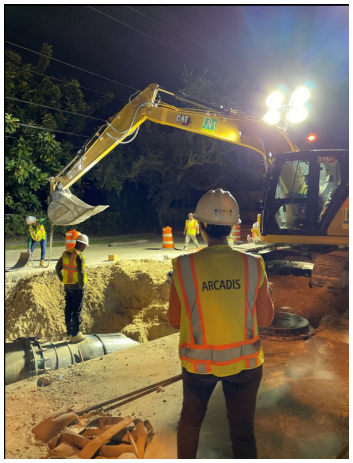
services to the City of Fort Lauderdale Public Works Department for the A-16 Pump Station Relocation project through its CEI On-Call Services contract. The relocation was necessary to accommodate the new Federal Courthouse Building at the site near SE 11th Street and SE 3rd Avenue. The project involved installing a 30-inch potable water main and a 10-inch sanitary sewer force main along SE 3rd Avenue (County Road) and nearby side streets (SE 11th Street and SE 9th Street). A key component of the project was the crossing under the Tarpon River, which was executed using horizontal directional drilling (HDD).

Dolphin Isles Sewer Basin Rehabilitation

Project Overview

The Dolphin Isles neighborhood basin is part of the City's aggressive Infiltration & Inflow program directed to reduce stormwater flows getting to the GTL Wastewater Treatment Plant. The City hired a Contractor to perform a condition assessment and CCTV of the entire gravity collection system in the Dolphin Isles neighborhood. The diameter of the gravity lines is 8-inches. Arcadis, provided Construction Engineering and Inspection (CEI) and served as the owner's representative on the project. Our scope included onsite inspections, developing of Progress Meetings Agendas and Minutes, review of change orders and Request for Information. In addition, our team provided support to the Contractor and the City in obtaining some of the permits needed to perform the project like FDOT Lane Closure permit for the work performed along A1A.

Construction Oversight



As the City's representative, Arcadis' full-time onsite inspector ensured that all construction activities complied with the construction documents and the requirements of the City and County, particularly for work under their right-of-way and adherence to Maintenance of Traffic (MOT) plans. Arcadis also coordinated with third-party utilities, the Federal Courthouse Contractor, and local residents to minimize disruptions. Due to the project's proximity to the Tarpon River, stormwater pollution prevention controls were crucial to prevent contamination. The CEI team conducted daily inspections of all stormwater outfalls around the project site and ensured that stormwater best management practices (BMPs) were implemented. Dewatering activities were another critical aspect, and the CEI team evaluated the Contractor's methods daily, holding stop work authority if dewatering operations did not meet regulatory requirements.

Project Management Services

Arcadis supported the City by conducting bi-weekly progress meetings with City staff and the Contractor, discussing project status, resolving construction issues, and ensuring the schedule was maintained to avoid delays. The team also reviewed the Contractor's pay applications, verifying that all City requirements were met before payments were issued. These project management services ensured the work was completed on time, adhered to regulatory standards, and met the City's expectations for quality and compliance.

Contract Value: $250,000

3 General Water and Wastewater Engineering Consulting Services (Event 50)

City of Fort Lauderdale, Fort Lauderdale, FL

Client Contact

Mark Roads, P.E.
Project Manager II
City of Fort Lauderdale
100 N. Andrews Ave
Fort Lauderdale, FL 33301
954.828.5859
mroads@fortlauderdale.gov

Date

2023 — 2028

Key Personnel

Jose Custodio
David Wilson
Chris Matthews
Melissa Pomales
Audreen Robinson
Diego Barrios
Jose Custodio
Leah Richter
Guy Le Patourel
Sean Chaparro
Melissa Pomales

Relevant Services

- ☑ **Design Services**
- ☑ **Planning Services**
- ☑ **Feasibility Studies**
- ☑ **Condition Assessment**
- ☑ **Permitting Services**
- ☑ **Construction Management and Inspection**
- ☑ **Consulting Services**
- ☑ **Conveyance System Design**

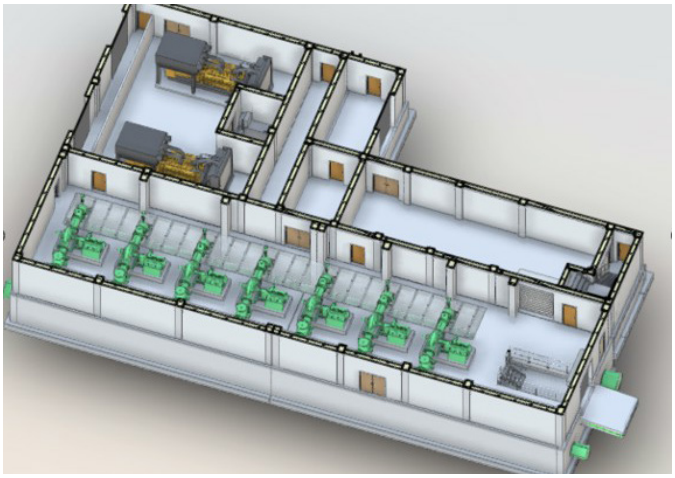
Arcadis has been serving the City of Fort Lauderdale's Utilities Division of Public Works as part of the Event 50 Water and Wastewater Consulting Services. Under this Continuing Services Contract, Arcadis provides design, evaluation, and construction support for planned and emergent needs. A few recent projects include the following:

Fiveash WTP - High Service Pump Station Basis of Design Report

As part of the Enabling Works for the new Fort Lauderdale Clean Water Center, Arcadis developed a Basis of Design Report to provide the City with options to either rehabilitate or replace the existing high service pump station and add a new 4MG ground storage tank at the Fiveash WTP. The selected alternative was the design of a new 50 MGD high service pump station with six (6) similar size pumps, Variable Frequency Drives, new Generators inside a new structure. Arcadis developed the Basis of Design Report and a Level 5 Engineer's Opinion of Probable Cost.

New High Service Pump Station Detailed Design

Arcadis is currently designing a new 50 MGD high service pump station with six (6) similar size pumps, Variable Frequency Drives, new Generators inside a new structure. The work also includes new 48" DIP suction and discharge lines inside the Fiveash WTP. A 5.0 MG ground storage tank is included to provide more storage capacity to the City. Arcadis provided planning, and is providing detailed design and permitting, Class 1 Engineer's Opinion of Probable Cost.



Lime Softening Ponds Evaluation

Fiveash WTP produces lime residuals as part of the treatment process. The solid precipitated from the treatment process is pumped to the lime sludge ponds located 3.5 miles northwest of the Fiveash WTP. The City tasked Arcadis with identifying and evaluating potential options for handling and disposing of the lime softening residuals. Given the limited remaining operational period, the City sought to explore alternative, cost effective methods for managing and disposing of the accumulated lime residuals. The evaluation included an analysis of the residuals handling, removal, disposal alternatives, focusing on minimal capital cost. Findings from the evaluation, including estimated costs, feasibility, permitting considerations were presented in the Residual Management Plan.

48” Finished Water Line from Prospect CWC to Fiveash WTP

The City of Fort Lauderdale is currently building a new 50 MGD new water treatment plant (Prospect Clean Water Center). As part of the Enabling Works for the new WTP, a new 48” finished water line, approximately 17,500 linear feet of new pipeline along Prospect Road, connecting the new WTP to the existing Fiveash WTP was required.

In 2023, the City hired Arcadis to develop a Design Criteria Package for the selection of a Design Build Firm, in addition to providing Detailed Plan Review, Construction Management and Onsite Inspection for construction work.

Riverland Roads Water Mains Improvements

The water distribution system in the Riverland neighborhood in Fort Lauderdale consisted of approximately 13,000 linear feet of 8-inch, 6-inch, 4-inch and 2-inch water mains that exceeded their useful life, most of these installed between 1964 and 1968. In addition, the water lines on the side streets are dead ends and not looped, which resulted in water quality problems at these locations. There is also lack of fire protection coverage and pressure problems. The City hired Arcadis to provide design services for the development of a Design Criteria Package for the replacement of approximately 13,000 linear feet of water mains. The streets on the north side will be looped to allow continuous flow of water. The new water lines will be 6-inch and 8-inch to eliminate unnecessary water pressure losses to private properties, improve fire protection for the neighbors, and looped mains to improve flow rates, water quality and reduce maintenance costs. The scope included 30% design plans, cost estimates, schedule development for design and construction, identified all required permits and permitting agencies.

A-28 Triplex Pump Station Rehabilitation

In 2017, the City’s Master Plan evaluated the capacity of all wastewater pump stations in the City and divided them into different groups based on capacity needs and priority for upgrades. Pump Station A-28 was identified as “Upgrade Priority 2” with limited capacity and limited redundancy.

Pump Station A-28 is a triplex sewage pumping station located on the north side of the right-of-way (ROW) on NW 12th Street, just east of NW 1st Avenue. The A-28 pumping station was built in 1974, close to the end of its useful life, and needed rehabilitation and upgrades to improve system performance, increase system efficiency, and reduce system maintenance costs associated with operations. Arcadis is responsible for the detailed design, for the removal and replacement of mechanical, electrical, and ventilation equipment, replacement of pumps, pipes, valves, suction and discharge piping, wet well/dry pit repairs and protective coatings, replacement and relocation of controls to above ground, and structural repairs.

4 OUC Water Continuing Engineering Services

Orlando Utilities Commission (OUC), Orlando, FL

OUC provides water and electric services to citizens of Orlando, Florida and portions of adjacent unincorporated areas of Orange County, as well as St. Cloud, Florida, in Osceola County, serving more than 240,000 customers. Arcadis currently holds a continuing services contract with OUC for potable water pipeline on-call services.

SR 527 UWHCA (Orange Ave.) 16-in. Water Main Relocation

Water Main Replacement in an Area with Multiple Stakeholders

Arcadis provided engineering design services and full-time construction management and inspection services for the replacement of approximately 4,350 LF of a 16-inch cast iron, universal joint, water main along State Road 527 (Orange Ave.) from Grant Street to Annie Street. The project was executed under a Utility Work by Highway Contractor Agreement with FDOT, and required extensive coordination with FDOT, City of Orlando, FDEP, OUC electrical distribution team, and other stakeholders along the project route. Arcadis prepared full construction documents (plans and specifications), engineer's opinion of probable cost, permit applications and coordinated with permitting agencies, supported OUC during the bid phase addressing RFIs and RFCs from bidders and in the tabulation of bids. Arcadis prepared conformed drawings and, during the construction phase, provided engineering services during construction as well as full-time third-party construction management and inspection services.

Parallel Utility Coordination

During the execution of the project, OUC Electrical Distribution determined that additional electrical improvements were required along the shared corridor. The additional electrical improvements were designed by others but required additional coordination to allow for parallel construction of an electrical distribution duct bank along the east right-of-way of Orange Ave. In addition to accommodating the construction of these parallel utilities and to avoid having to perform the entire project with a night-time only requirement and daily restorations, a comprehensive maintenance of traffic (MOT) plan was prepared by Arcadis.

Construction Management Support

Engineering services during construction included review of shop drawings, project progress site visits, responses to RFIs and RFCs, processing of FDEP clearances, and other engineering technical support. Construction management activities included: owner's representation services, support in the review and negotiations (as applicable) of pay applications and change order requests, schedule and progress analysis, contract oversight management, stakeholder engagement (e.g., preparation and distribution of OUC Neighborly Newsletter and meetings with businesses and HOAs), management of inspection team and other subcontractors (e.g., compaction tests), and support in project closeout activities. Full-time inspection was provided for all working shifts which included day and night work at times as planned by the Contractor. Inspectors provided daily reports on all field activities.

Contract Fee:$1,800,000

Client Contact

Natalie A. Urick, PE, Sr. Engineer,
Water Distribution Engineering
6003 Pershing Ave.
Orlando, FL 32822
321.230.6694
nurick@ouc.com

Date

2013 — Ongoing

Key Personnel

Jose Custodio
David Wilson
Chris Matthews
Melissa Pomales
Viktor Cieslik

Relevant Services

- ☑ Electrical Improvements
- ☑ Shop Drawing Review
- ☑ Jurisdictional Acceptance
- ☑ Small and Large Pipeline Design
- ☑ Work within Existing, Established and In-Service Communities
- ☑ Construction, Engineering and Inspection (CEI) Services
- ☑ Congested and Active Rights-of-Way
- ☑ Constructability Reviews
- ☑ Permitting through Multiple Agencies
- ☑ Permitting Services
- ☑ MOT Plan Development
- ☑ Bid Support Services
- ☑ Project and Program Management
- ☑ Stakeholder Engagement

College Park Neighborhood Potable Water Rehabilitation and Renewal

Watermain Replacement in an Existing Residential Neighborhood

Arcadis provided engineering design services for the replacement of approximately 5,750 LF of water mains and necessary appurtenances (e.g. valves, tees and hydrants) in the College Park residential neighborhood. Diameters ranged from ≤8-inch to 20-inch of PVC or DI pipes, respectively. Replacements were designed within roadways or rights-of-way and included replacement of existing customer services from the new mains to existing individual water meter boxes. Arcadis provided a phased sequence of construction to allow for partial FDEP clearances. For the 20-inch water main, a trenchless crossing of Princeton Ave was specified. Services included management of project team including Survey, SUE and MOT subconsultants, preparation of bid documents (plans and specifications) and engineer's opinion of probable cost, and permit application and coordination support.

Contract Fee: $200,000

Water Main and Sanitary Sewer Replacements Along City of Orlando Brick Streets (Brick Streets Restoration Program)

Arcadis provided professional services associated with development, coordination, management, and support for the replacement of OUC water pipes along the City of Orlando's (City) Brick Streets Restoration Program. Additionally, under specific joint project agreements (JPA) with OUC, the City requested support for the replacement of sanitary sewers.

Hyer Avenue Improvements

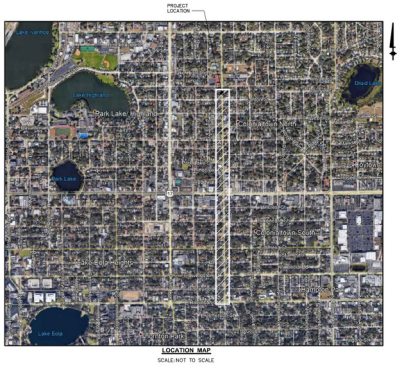
Arcadis provided design engineering services, permitting and bid support, and engineering services during construction for the installation of 2,461 LF of 6-inch DIP and 67 LF of 2-inch PVC water main and removal and replacement of 1,869 LF of 8-inch PVC and DI sanitary sewer and installation of sanitary laterals and associated manholes by open cut construction along Harwood St. between Highland Ave. and N. Hyer Ave. Additionally, new water services and fire hydrants were specified. Arcadis has been providing services during construction, supporting review of shop drawings and submittals, progress meetings, and preparation and processing of partial FDEP clearances during the construction of the project which is currently expected to be completed in Q3 of 2025.

Thornton Avenue Improvements

Additionally, Arcadis provided design engineering services for the preparation of a 60% design package (plans and specifications) for Thornton Ave. water main and sanitary sewer replacements which consists of the installation of approximately 2,855 LF of 6-inch DI water main, 750 of 2-inch PVC pipe, as well as approximately 980 LF of 10-inch SDR 26 PVC sanitary sewer pipe, 780 LF of 12-inch SDR 26 PVC sanitary sewer pipe and 1,365 LF of 15-inch SDR PVC sanitary sewer pipe. The project was placed on hold by OUC and the City.

Contract Fee: $400,000

Fern Creek Ave. Water Main Replacement Project



Agency Coordination

Arcadis worked closely with multiple agencies to advance the project along Fern Creek Ave. Through a joint project agreement (JPA) with the City of Orlando, Arcadis collaborated with OUC's Power group to ensure alignment with OUC's new 230kV electric transmission line, designed by others, that will be installed along the corridor. Permitting support and stakeholder engagement were integral components of the effort, including coordination with public utilities and regulatory agencies to streamline approvals and maintain compliance.

Utility Integration

In addition to the water main replacement, Arcadis originally designed the removal and replacement of approximately 5,118 LF of 8-inch sanitary sewer with SDR 26 PVC pipe, including sanitary laterals and manholes, by open cut construction. However, the sanitary sewer portion of the project was later removed by the City. The redesign effort for the water main now includes updated alignment and pipe size adjustments, requiring further coordination with OUC's Power group to integrate with other utilities effectively. Construction is expected to proceed following final design completion, with bidding anticipated in fall 2025.

Contract Fee: $660,000

5 City of Hollywood Water Master Plan

City of Hollywood, Hollywood, FL

The City of Hollywood, FL (City) selected Arcadis to furnish professional engineering services to develop an integrated and comprehensive Water Master Plan that included all supply, treatment and distribution system assets. The City's Department of Public Utilities operates or has service agreements for approximately 22 raw water wells (e.g., 14 Biscayne Aquifer wells and eight Floridan aquifer wells).

At the WTP, the City currently treats an average 24.5 mgd through the lime softening, membrane softening, or reverse osmosis processes prior to blending, storage and pumping into the distribution system. The distribution system includes approximately 700 miles of water main piping with diameters ranging from 2-inch to 30-inch diameter that is connected to two 1.0 mg elevated tanks and a booster station, the West Hollywood Pumping and Storage Facility (WHPS).

The Water Master Plan included assessing the current condition and remaining useful life of the water system assets, the growth and needs for new assets, water quality performance with respect to current and project future regulatory requirements, and then identifying and prioritizing projects that address aging infrastructure, water quality/regulatory compliance needs, consider climate change and sea level rise, improve reliability of service, enhance operational efficiencies, and provide for process optimization.

Arcadis' water quality compliance assessment detailed the current status of treatment performance at the WTP and, more importantly, helped the City identify key treatment infrastructure improvements necessary to maintain and improve current water quality performance and make certain of compliance with recent regulations such as the PFAS Rule and Lead and Copper Rule Revisions (LCRR). The project team conducted facility tours and reviewed water quality and operational data to identify water treatment process deficiencies and recommend capital and operational improvements.

A risk-based condition assessment approach was completed to identify rehabilitation renewal needs, which led to the development of a comprehensive CIP program. This program grouped improvements into projects and ordered them according to priority for completion.

The results of the evaluations and conceptual designs were compiled into a comprehensive 20-year, "living" Water Master Plan that allows for seamless integration into City's Assets Management system and GIS allowing the City to routinely and dynamically revisit CIP projects risks and drivers into the future.

Client Contact

Kassandra Myers, Assistant Director, Public Utilities/ Operations
2600 Hollywood Boulevard
Hollywood, FL 33020
954-921-3414
kmyers@hollywoodfl.org

Date

2019 — Ongoing

Key Personnel

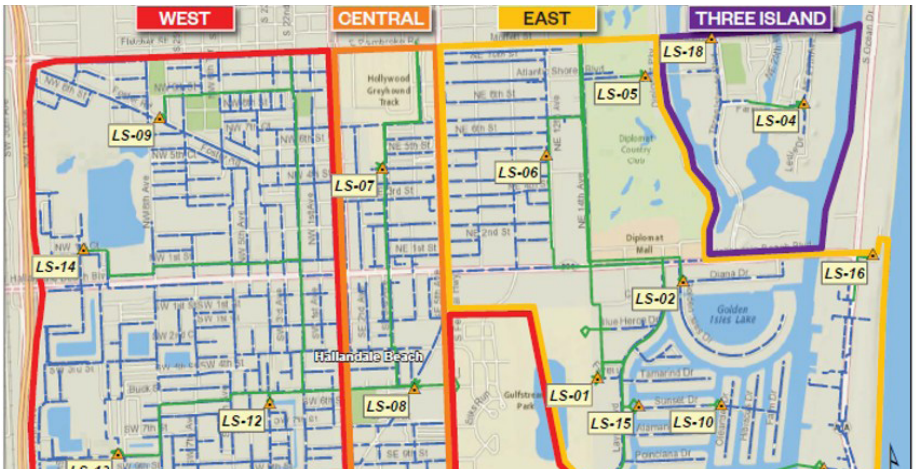
Leah Richter
Lauren DaCunha
Celine Hyer
Jose Custodio
Melissa Pomales

Relevant Services

- ☑ **Master Planning**
- ☑ **Water Distribution Modeling**
- ☑ **Asset Management**
- ☑ **Lead and Copper Rule Revision**
- ☑ **Drinking Water Compliance**
- ☑ **Stakeholder Engagement**
- ☑ **Capital Planning**

6 Continuing Professional Architectural and Engineering Services

City of Hallandale Beach, Hallandale Beach FL



Client Contact
Manga Ebbe
Construction Program Manager
City of Hallandale Beach – Public Works
630 NW 2nd Street
Hallandale Beach, FL 33009
954.457.3043
mebbe@hallandalebeachfl.gov

Date
2020 — Ongoing

Key Personnel
Jose Custodio
Leah Richter
Sean Chaparro
Melissa Pomales
Eric Battle

Relevant Services
- ☑ Pump Station Design Services
- ☑ Hydraulic Modeling
- ☑ SCADA Programming
- ☑ Conveyance Design
- ☑ Condition Assessment
- ☑ Services During Construction
- ☑ Permitting Services

Arcadis has been serving Hallandale Beach Public Works since 2020 and we were selected for the new 2025 contracts. Task Order that Arcadis has completed include:

Lift Station No. 6 Rehabilitation Engineering, Services During Construction and Post Construction Services

Wastewater is collected throughout the City and pumped by wastewater lift stations to the City of Hollywood's collection system. The condition of the system was assessed, and deficiencies were identified at lift station No. 6. With the existing lift station structure past the end of its service life, it was recommended that the station be rebuilt to meet current and future demands per client requirements. The work included planning, detailed design, permitting, bidding support and engineering services during construction for the rehabilitation work.

Telemetry System Engineering Services

The City owns and operates 26 remote sites that comprise water, wastewater, and storm water facilities. These are unmanned facilities monitored and controlled remotely from the CITY's water treatment plant, using radio telemetry system. The existing controls at the remote sits, except recently upgraded sites are old and do not provide all monitoring and control functions of a modern system. With aging infrastructure, tighter operating budgets, more stringent environmental regulations, and natural resources that are increasingly stressed, the additional monitoring and control functions offered by the modern systems are vital for treating, conveying, and then collecting water safely and reliably while staying within the limited operating and maintenance budgets. This goal in mind, the CITY had created Instrumentation, Controls, and Telemetry System Replacement Project to modernize, upgrade, and improve the reliability and functionality of the CITY's water, stormwater, and wastewater controls and telemetry systems at their remote sites.Arcadis as part of this project developed a standardized design for the CITY's remote sites that allow the city to upgrade the monitoring, control, automation of the sites and remote control of the sites from the water treatment plant. Also, we developed bid documents for upgrading the existing monitoring, controls, and telemetry at three of the 26 remote sites. Arcadis also provided PLC programing and HMI configuration services along with configuring and implementing a cellular network to convert the existing SCADA system at the remote sites to a new and modern system.

Bridge Condition Assessment

The City has water crossings that are critical infrastructure for transportation throughout the City. The City's proximity to the Florida coastline exposes this infrastructure to corrosive forces that can cause accelerated rates of deterioration. To determine the current condition of City-owned water crossings so the City can schedule proper maintenance, the City has asked Arcadis to prepare a proposal to conduct inspections of these assets and provide recommendations for repair. Arcadis performed the requested services in coordination with our designated specialty marine structural engineering subconsultant, Marlin Engineering, Inc.

7 General Water, Wastewater and Stormwater Services

City of Tavares, Tavares, FL

Arcadis provided engineering services for a variety of stormwater projects for the City of Tavares' Downtown Community Redevelopment Area (CRA) Program. Some of the project under this contract include:

Constructed Wetlands Design.

The City has taken a proactive, collaborative approach to improving the water quality of Lake Dora as part of its CRA Program. Lake Dora is a manmade treatment pond from the 1960s that provides little treatment, was overgrown and unmaintainable. The City decided to incorporate improvements to Lake Dora into the CRA plan to improve the quality of life for its citizens. Through a collaborative effort with City Planners, Arcadis developed a comprehensive plan to redirect stormwater away from Lake Dora toward a multicell stormwater treatment wetland. The first phase of the stormwater improvements included a stormwater interceptor to divert the first 1-inch of stormwater from seven existing Lake Dora outfalls into a wet detention pond. Arcadis developed hybrid wetland systems with enhanced nutrient removal capabilities, stormwater detention and a park-like setting.

The system incorporates managed aquatic plant systems (MAPS), which are a floating treatment wetland and are an emerging variant of constructed wetland technology. The project reduces the FDEP-implemented TMDL for total phosphorus (TP), total nitrogen (TN), and Total Suspended Solids (TSS). This load reduction will help maintain designated uses established by FDEP for recreation and for the propagation and maintenance of a healthy, well-balanced population of fish and wildlife, which is key to the economic success of the City of Tavares' Downtown CRA Plan.

Funding Administration & Compliance for Downtown Community Redevelopment Area (CRA) Stormwater improvement Project.

Tavares was able to successfully garner regulatory support for the project by showing how the CRA plan would benefit Lake Dora and the City. Arcadis provided compliance for the various programs funding the projects and helped secure over $6 million in grant funding in water quality related grants, including FDEP, TMDL legislative appropriations, 319 grant, St. John's River Water Management District (SJRWMD), Community Budget Issue Request (CIBR), and Lake County Water Authority (LCWA). This grant money, combined with low interest SRF loans, enabled the City of Tavares to see its vision become a reality.

Fees: $413,419

Client Contact
Phillip Clark
Director of Utilities
201 E. Main Street
Tavares, FL 32778
352.742.6485

Date
2013 — Ongoing

Key Personnel
Melissa Pomales
Nhi Ngo
Sean Chaparro
Eric Battle
Van Nguyen
Mark VanAuken
Chris Tilman

Relevant Services
- ☑ Permitting
- ☑ Facilities Planning for Water
- ☑ Hydraulic Modeling
- ☑ Optimization, Analysis and Process Design
- ☑ General Project Design Permitting
- ☑ Evaluation of Historical Consumption Demand Characteristics
- ☑ Analysis of Future Consumption Demand Characteristics

Lake Hermosa Potable Water and Sewer Design. Detailed design, bidding and construction administration services to extend water systems to serve new and existing developments near Lake Hermosa. Water system developments include a new booster pump station/ground storage tank and the installation of about 5,000 LF of new water main.

Fees: $241,751

Lake Hermosa Region Potable Water System SRF Funding Assistance. Arcadis prepared the Facility Plan required to apply for a low-interest design loan under the State Revolving Funds program to implement the potable water system improvements needed to supply water to the Lake Hermosa Region. Potable water system improvements include a new packaged booster pump station, ground storage tanks, and water main to improve distribution system pressures and provide the necessary fire protection storage and pressure to the Lake Hermosa Region. Arcadis prepared the application package for the DWSRF that was submitted to FDEP in June 2023. Arcadis is providing funding administration and compliance services for the construction phase of the project.

Fees: $207,662

Lift Station 49 improvements. Services provided by Arcadis included hydraulic modeling/ calculations, facility planning, preliminary engineering, final design, permitting, funding assistance and administration, services during construction and startup assistance. The upgrades included relocating the wastewater from LS-49 from a 10-inch gravity sewer to an existing 12-inch force main and extending 1,200 LF of 12-inch water main.

Fees $182,888

Downtown CRA Stormwater improvements Design and CA Services. Arcadis provided detailed design and construction administration services for the CRA AREA A Stormwater Treatment Improvements (AREA A SWTI). AREA A SWTI included converting wetland areas into a stormwater treatment pond, interceptor piping to the stormwater treatment pond along Ruby Street, and stormwater control structures with overflow outfall piping from Ruby Street to Lake Dora.

Fees: $769,885

Wastewater Permit Renewal. Arcadis assisted the city with the renewal of an operational permit for the Woodlea Road water reclamation facility. Arcadis prepared population, flow and demand projections and determined the needs for facility expansion, which were documented in the capacity analysis report (CAR). Arcadis also prepared the updated operations and maintenance performance report and the operational protocol. Arcadis prepared the renewal application package. The permit renewal was issued by FDEP without any RAI.

Fees: $89,206

American Rescue Plan Act Davis-Bacon Compliance Monitoring Support. Arcadis is assisting the city with monitoring and reporting for contractors' compliance with the Davis-Bacon Act for 16 city projects funded through the ARPA. The scope of work includes monitoring and verifying, on a weekly basis, the contractor's report to confirm compliance with reporting requirements under the Davis-Bacon Act, as amended, including but not limited to prevailing wage requirements.

Fees: $113,300

8 Stormwater Master Planning and Professional Engineering Services

City of Sebastian, Sebastian, FL

Arcadis conducted a comprehensive analysis of the City's stormwater system infrastructure, O&M resources and practices, planned capital projects, and other information to develop a Stormwater Master Plan that is practical and feasible to implement, and complies with all regulatory requirements and local mitigation strategies in the sensitive Indian River Lagoon watershed.

Arcadis conducted a comprehensive analysis of the City's stormwater system infrastructure, O&M resources and practices, planned capital projects, and other information to develop a Stormwater Master Plan that is practical and feasible to implement, and complies with all regulatory requirements and local mitigation strategies in the sensitive Indian River Lagoon watershed.

Several Arcadis teams worked in parallel with City staff on discrete project elements, including documentation review, field survey, GIS, hydrologic and hydraulic modeling, water quality analysis, operations and maintenance, capital projects, financial analysis, sea level rise, regulatory and permitting, and grant funding.

Arcadis developed a detailed Stormwater Asset Inventory in ArcGIS of over 5,039 inlets, canals, ditches, outfalls, pipes, weirs, orifices, and BMPs including asset photos, condition assessments, and hydraulic attributes.

A dynamic 1D Hydrologic and Hydraulic (H&H) computer model of the City of Sebastian stormwater network was developed to evaluate the system performance in response to various wet weather conditions and identify system capacity limitations. CIP projects that improve stormwater management were identified in coordination with the City based on field investigations, model results, and future sea level rise. A 10-year financial model of the Stormwater Department was created and used in the development of the Operations and Maintenance (O&M) Plan, 10-year prioritized Capital Improvement Plan, and grant funding analyses.

The final Master Plan was presented to and accepted by the City Council, and the City is now preparing for implementation.

Client Contact
Karen Miller
City Engineer
1225 Main Street
Sebastian, FL 32958
772.228.7056

Date
2021 — 2023

Key Personnel
Melissa Pomales
Christopher Tilman
Melissa Hew
Mark Van Auken
Fernando Pasquel
Viktor Cieslik

Relevant Services
- ☑ **Stormwater Master Planning**
- ☑ **GIS Mapping**
- ☑ **H&H Model Development & Calibration**
- ☑ **O&M Plan Development**
- ☑ **Funding Analysis and Grant Management**
- ☑ **Condition Assessments**
- ☑ **Capital Planning**
- ☑ **Financial and Funding Analysis**

9 As-Needed Asset Management Implementation

Toho Water Authority, Kissimmee, FL

Arcadis was selected to be the on-call asset management consultant for Toho Water Authority. The Authority provides water and sewer services for a variety of areas in Central Florida. Some of the tasks completed as a part of this contract include:

Development of a Strategic Asset Management Plan (SAMP): The SAMP included a gap analysis for Toho Water Authority to be in compliance with ISO 55000 for development of an asset management program and a roadmap for improvement. A high level review of current IT systems was included and a long term plan was put in place for the asset management program.

Collection System Asset Management Plan: Complete a comprehensive asset management plan for the existing gravity collection system including current condition, expected useful life and long term CIP.

Generator Replacement Evaluation: Developed a series of criteria to evaluate permanent and portable generators and determine when they should be rehabilitated or replace.

Asset Registry Updates: Several capital improvement projects had been completed within the Toho service area but the assets had not been updated within the CMMS system. Arcadis was hired to gather the asset information, verify asset attributes and then deliver the information to Toho for upload into their CMMS system.

Overflow Response Plan: A Sanitary Sewer Overflow (SSO) response plan was developed for Toho staff with the steps required to effectively respond to an SSO and ensure compliance with all reporting requirements at both the local as state level and define reporting assignments within the organization.

Water Main Break Response Plan: A water main break response plan was developed to help define roles and responsibilities during an after a water main break. It also defined when a boil water notice would be required and who's responsibility each task was.

Pump Station Asset Management Plan: Developed an asset management program centered on the sanitary lift stations that serve the authority. A high level evaluation of each station was completed based on condition assessment data provided by the Authority and a long term CIP was developed.

Client Contact
Tim Noyes, PE
951 Martin Luther King Blvd.
Kissimmee, FL, 34741
tnoyes@tohowater.com

Date
Ongoing

Key Personnel
Melissa Pomales
Greg Osthues
Viktor Cieslik
Celine Hyer
Lauren DaCunha

Relevant Services
- ☑ Asset Management
- ☑ Strategic Asset Management Plans
- ☑ Standard Operating Procedures
- ☑ CMMS Consulting
- ☑ AMI Integration

10 C-139 Flow Equalization Basin Impoundment Design

South Florida Water Management District

Arcadis was the designer of record for the C-139 Flow Equalization Basin Impoundment project. The Florida Department of Environmental Protection (FDEP) issued Everglades Forever Act (EFA) permits, National Pollutant Discharge Elimination System (NPDES) Permits and associated consent orders to the South Florida Water Management District (SFWMD) for the O&M of the Everglades Storm Water Treatment Areas (STAs). SFWMD is required to implement water quality improvement projects to assist existing Everglades STAs to achieve the Water Quality Based Effluent Limit (WQBEL) for total phosphorus concentrations in discharges. These projects are referred to as Restoration Strategies projects. One of these projects is the C-139 Flow Equalization Basin (FEB) impoundment and is intended to assist STA-5/6 to achieve the WQBEL and support Everglades ecosystem restoration.

The C-139 FEB impoundment project consists of 11,000 acre-ft of water storage including perimeter embankments, interior berms, a 690-cfs inflow pump station, internal inflow and outflow canals, outflow structure, access roadway, and a gravity seepage management system. The C-139 FEB is intended to assist in managing source basin runoff by attenuating peak flows and temporarily storing a portion of stormwater runoff prior to its being conveyed to STA-5/6.

Project Details

Arcadis analyzed alternative site layout options and was responsible for the civil site selection/layout, which included a roadway relocation, demolition of existing structures, utility relocation, and erosion protection measures.

Arcadis oversaw topographic surveys to identify site features that needed to be moved or removed from the site. These features then were included in our demolition plan sheets.

Arcadis oversaw the geotechnical investigations and prepared boring logs, performed logging in gINT, and coordinated lab testing. The soil borings included field standard penetration testing. Samples were collected for laboratory analysis. Piezometers were installed for monitoring the groundwater elevations at the site. These geotechnical data were utilized in our analysis of seepage, stability, settlement, and shear strength.

Groundwater tests were performed to determine the hydraulic conductivity of the soil. Groundwater testing included slug tests in newly installed piezometers, shallow borehole constant-head tests, and a well pump test. Geophysical data also were collected from one deep boring/well to support groundwater modeling efforts undertaken by SFWMD.

Client Contact

Vijay Mishra, PE
3301 Gun Club Road
West Palm Beach, FL 33406
561.682.2810
vimishra@sfwmd.gov

Date

Design completed December 2020.
Scheduled construction completion December 2025.

Key Personnel

Paul Walansky
Melissa Pomales
Brian Bandy
Darryl Dunn
Errol Dawkins
Brian Duane
Sopeark Chhea
Bhadresh Patel

Relevant Services

- ☑ **H&H Modeling**
- ☑ **Pump Station Design**
- ☑ **Flood Management**
- ☑ **Civil & Site Engineering**

Canal cross sections were prepared for use in hydraulic modeling. Hydrology and hydraulics studies included the preparation of hydraulic design calculations and performance of hydraulic modeling associated with the Deer Fence Canal and L-3 Canal and sizing and design of the impoundment internal works, inflow and outflow canals, pump station, and control structures. Hydrologic and hydraulic modeling included HEC-RAS modeling, ICPR4 modeling of the internal works and dam breach analysis, ACES and STWAVE modeling for Probable Maximum Precipitation and Probable Maximum Flood, and computational fluid dynamics modeling of the inflow pump station.

Arcadis used dam breach analysis to verify the assumed hazard classification of Low Hazard which was identified and utilized the recommended design embankment height discussed in the wind and wave analysis. After waves break, some of the energy not dissipated by breaking would cause water to run up and overtop. If the overtopping rates exceed erosional thresholds of the embankments, then a dam failure could be possible. Another failure mode could be caused by piping through the earthen dam.

Arcadis developed multiple breach scenarios to capture the most significant impact from a dam failure. The breach scenarios were selected to identify a worst-case scenario on each face of the FEB. For each scenario, an overland flow region surrounding the FEB was defined to model the inundation of the surrounding area. Since the wave propagation within the FEB did not have to be simulated for the breach analysis, the FEB was represented as a stage-area node to increase model efficiency. The stage-area relationship was developed in ICPR4 using automated calculation based on the presence of the internal embankments.

Arcadis designed the impoundment embankment, which includes an internal baffle to maximize residence time and prevent short-circuiting.

Arcadis performed engineering studies, calculations, and technical analyses; developed designs and design reports; and prepared construction plans and specifications. We prepared the bid schedule, construction cost estimate, and construction schedule. The drawings were prepared using AutoCad Civil 3D and REVIT. SFWMD standard specifications were utilized by the design team. We used BIM for the coordination and integration of plan development.

Arcadis performed civil, structural, and mechanical design, of a 690-cfs inflow pump station including scour protection measures such as riprap and hard armoring and outflow (discharge) structure.

Arcadis designed a replacement for the G-711 structure in the Deer Fence Canal to add remotely operated slide gates, an intake bay, discharge bay, and dewatering capabilities. In addition, a temporary bypass for construction was also designed.

Arcadis supported SFWMD in the permit application process to USACE and the Florida Department of Environmental Protection by filling out applications and preparing responses to requests for additional information.

Arcadis currently is providing engineering services during construction services to assist SFWMD in keeping the project on a three-year construction schedule in accordance with the court-enforced consent decree.

11 As-Needed Engineering Services Contract - Water Resources Engineering

City of Tallahassee, Tallahassee, FL

Arcadis has maintained an engineering and professional consulting services contract with the City of Tallahassee (City) for more than 15 years, under which it has successfully completed a number of services for both their potable and wastewater treatment systems.

Some tasks completed under our as-needed contract include:.

Some tasks completed under our as-needed contract include:

Water Master Plan Update and Hydraulic Modeling. Completed the City's Water Master Plan. Developed an all-pipes model (InfoWater) for the City, updated demand projections, developed and evaluated expansion alternatives to meet future growth, prepared a downtown infrastructure replacement program, and prepared a 20-year capital improvement plan to meet the City's future water needs.

Biogas Utilization and Energy Optimization Assessment. Completed a detailed evaluation of the solids handling systems at the TPS WRF to develop a Biogas Utilization and Resource Recovery Optimization Plan for the facility. The goal of the plan was to optimize imports of organic wastes to digesters and maximize digester gas use in a way that is operationally and economically beneficial and promotes sustainability.

TPS WRF Biogas Blower System Replacement. Design and construction administration services for a new biogas blower and moisture accumulator system at the Thomas P. Smith WRF to feed anaerobic digester methane gas to the plant's existing boiler and thermal dryer systems. Construction was successfully completed in December 2024.

BNR Blower Replacement and Blower Improvements. Detailed design of new BNR blowers and associated building improvements at the TPS WRF. The project includes structural, electrical and HVAC system upgrades for the facility.

Well 23 Rehabilitation and Treatment Alternatives Evaluation. Well 23 is a 4-mgd well that has been losing production capacity. Arcadis developed a well rehabilitation strategy (combination of mechanical and chemical cleaning) to restore well production capacity and evaluated treatment alternatives to address iron and manganese in the local groundwater. Arcadis also provided oversight of the well rehabilitation contractor.

Testing of Iron and Manganese Sequestration Alternatives at Well 23. Arcadis developed a bench-testing plan, assisted with the development of a demonstration testing plan, and prepared a household flushing protocol to help address persistent color-related water quality issues in the northwest service area serviced by Well 23 of its distribution system resulting from premise plumbing. The testing plan evaluated a number of iron and manganese sequestration products.

Client Contact
Lina Payne, PE
Civil Engineer III, UU&PI Engineering
850.891.6132
lina.polo@talgov.com

Date
2009 — Ongoing

Key Personnel
Sean Chaparro
Melissa Pomales
Lauren DaCunha
Eric Battle
Van Nguyen
Thomas Powell

Relevant Services
- ☑ **Preliminary Design and Planning**
- ☑ **Permitting**
- ☑ **Services During Construction**
- ☑ **Project Management**
- ☑ **Facilities Planning for Water**
- ☑ **Hydraulic Modeling**
- ☑ **Optimization, Analysis and Process Design**
- ☑ **Creating and Prioritizing CIPs**
- ☑ **Compliance and Regulations**

12 Jefferson, Pennsylvania Dock Replacement

Synthomer Jefferson Hills LLC, Jefferson, PA

Arcadis U.S. Inc. was retained to support Synthomer Jefferson Hills LLC (Synthomer) for a dock replacement project. The existing dock and piping support infrastructure are aging and in need of modernization, and therefore replacement or rehabilitation of the existing dock structure is necessary.

Marine Design consists of accommodating all aspects of barge berthing, fendering, mooring that allows operational smoothness, simplicity as well as safety for the intended vessel traffic during vessel loading and unloading operations.

Arcadis evaluated the existing operational setup and proposed improvements in the design by:

- Set up that allows two independent barge operations,
- Access to berthing cells from land without the help of in water boat crew
- Mooring lines management with the boat crew,
- Berthing energy absorption
- Installation of industry standard mooring cleats to moor at large angle range
- Jib crane installation

Civil Design includes incorporation of the topographic and bathymetric survey of the existing dock into the design for the new dock. Demolition of the existing dock will be performed following construction of the new dock to maintain operations. Demolition will include the existing steel grate platforms, stairs, handrails, monorail, structural steel, concrete ramps, concrete piers and main concrete pier, and portions of the 6” and 10” piping and supports. An erosion and sediment control plan has been developed for construction of the new dock and demolition of the existing dock.

Structural Design handles all loading needs arising out of platform space live loading, hoses, piping, jib crane, fender energy absorption and resulting lateral force, mooring lines loading, the environmental loading (water current, wave, wind and water pressure) as well as its self-weight.

The design has been completed using STAAD Pro model/manual calculations for analysis based on AISC steel design methodology. We are using wide flange sections for steel framing and grated floor for the platform. 36” pipe piles have been incorporated to provide sufficient vertical capacity without deep socketing into the bedrock.

Additional mooring/berthing cell uses H-Piles as they provide the most economical as well as efficient solution, transferring lateral forces to the bedrock sockets.

Geotechnical Design analyses have been performed to support the design of the proposed

dock replacement. Preliminary geotechnical analysis of proposed pile foundations included axial and lateral capacity of vertical pipe piles and drilled shafts. Evaluated alternatives were pipe piles driven to refusal on shale bedrock and drilled shafts socketed into bedrock at various depths.

Client Contact

Pete Huwe, Project Engineer
Synthomer Jefferson Hills LLC
2200 State Route 837
Jefferson Hills, PA 15025
412. 813.2287
peter.huwe@synthomer.com

Date

2023 — 2024

Key Personnel

Paul Walansky

Relevant Services

- ☑ Marine Design
- ☑ Structural Design
- ☑ Geotechnical Design
- ☑ Site/Civil Design

13 Large Diameter Pipe Evaluation and Replacement Program

JEA, Jacksonville, FL

Program Objectives

JEA initiated the LDPP to conduct cost-effective and sustainable management of critical pipelines. The Program supported JEA's overall commitment to provide reliable water and sewer services while protecting the environment from unplanned discharges.

The Program's scope was large diameter pipelines, and other pipelines determined critical by JEA, and generally consisted of:

- Large diameter mains ≥ 16-inch diameter
- Water and sewer mains servicing critical customers (all diameters)
- Water reclamation facility effluent mains
- Ductile iron (DI) sludge transfer mains

As summarized in **Table 1**, the Program evaluated over 950 miles of pipelines, including desktop and field condition assessment using non-destructive technology (NDT) methods.

the most cost-effective action for rehabilitation or replacement.

The risk-based framework considered both the likelihood of failure (LOF) and consequence of failure (COF) to prioritize pipelines within the CIP. The COF evaluation used a triple bottom line approach to rank the social, environmental, and economic impacts of pipeline failure. The LOF was determined via a combination of NDT condition assessment and desktop GIS analysis. Each pipeline received a risk score of 1 to 25 (Risk = LOF X COF) and was assigned to a risk group for CIP planning.

Table 1. LDPP Pipeline Scope

Age (years)	Water Mains (miles)			Sewer Force Mains (miles)			Gravity Sewer Mains (miles)			Plant Effluent and Sludge Mains (miles)		
	<16"	≥16"	Total	<16"	≥16"	Total	<16"	≥16"	Total	<16"	≥16"	Total
<10	1	29	**30**	1	36	**37**	0	0	**0**	1	0	**1**
10-25	5	287	**292**	10	151	**161**	3	11	**14**	0	4	**4**
26-50	9	186	**195**	36	87	**123**	4	36	**40**	14	7	**21**
>50	6	11	**17**	1	2	**3**	3	19	**22**	1	2	**3**
Totals	**21**	**513**	**534**	**48**	**276**	**324**	**10**	**66**	**76**	**16**	**13**	**29**
Total Pipeline Infrastructure (miles) In Program												**963**

Program Results

The Program addressed the challenge of aging pipeline infrastructure by establishing a proactive risk-based framework for pipeline management to ensure reliable service. The Program accomplished this goal by systematically identifying, analyzing and inspecting high-risk pipelines prior to failure and implementing

Program Years (2016-21)	Key Program Activities							
	Analyze Pipeline Data & Fill Gaps	Desktop Risk Assessment	Condition Assessment (NDT)	5 Year CIP Updates	Long Term Funding Needs	Design of Priority Projects	Design & Construction Oversight	Operational Support
Year 1	x	x	x	x				x
Year 2	x	x	x	x		x		x
Year 3			x	x	x	x	x	x
Year 4			x	x	x	x	x	x
Year 5			x	x	x	x	x	x

Table 2. LDPP Key Activities by Year

Table 2 outlines the key activities by Program year in addition to condition assessment and risk evaluation on large diameter pipelines.

Client Contact

Susan West
Planning Manager
225 N. Pearl St.
Jacksonville, FL 32202
904.665.7980
westsr@jea.com

Date

2016 — 2021

Key Personnel

Greg Osthues
Celine Hyer
Melissa Pomales
Viktor Cieslik

Relevant Services

- ☑ **CCTV Condition Assessment for over 32 Miles of Gravity Sewers Using PACP Standards**
- ☑ **Sampling for ARVs and Gravity Sewer Structures**
- ☑ **Survey and Geotechnical Services**
- ☑ **Working with JEA's Asset Data**
- ☑ **Risk-based Framework for Prioritizing Assets**
- ☑ **Interactive Risk Model**
- ☑ **Assessment Reports**
- ☑ **Dashboards and Workshops**

14 Whitcomb Bayou: Vulnerability Assessment, Shoreline Protection & Flood Mitigation

City of Tarpon Springs, Tarpon Springs, FL

Arcadis performed a feasibility analysis and conceptual design of several shoreline and flood mitigation alternatives for Whitcomb Bayou

JEA initiated the LDPP to conduct Hydrologically connected to the Gulf of Mexico, Whitcomb Bayou is experiencing increasing risk from tidal, storm surge and heavy precipitation flood hazards. For each alternative, Arcadis analyzed technical and engineering feasibility, levels of protection, cost, cost-effectiveness, regulatory considerations, living shoreline opportunities, and community feedback and preferences to assist the City in prioritizing and selecting a preferred alternative for further design and application for funding under appropriate state and/or federal hazard mitigation grant programs. Arcadis performed a comprehensive funding analysis and developed a funding strategy to align and maximize opportunities for funding under these grant programs.

ARCADIS Design & Consult for natural and built assets

Scope of Services

- **Technical Feasibility Assessment.** This task entailed the development of a range of feasible large- and small-scale green infrastructure alternatives, which would provide the required level of protection.
- **Outreach and Engagement.** This task involved the development and presentation of materials for various community outreach meetings and City board committee meetings. The Arcadis team gathered and incorporated community feedback into the project design. The goal of this task was include the community in the process from the outset, so that they can provide preferences and feel ownership for the alternative the project.
- **Project Management and Project Kickoff.** This task ensured that the project was delivered in a quality manner by our certified project manager. This task included the steps required to initiate, plan, execute and control the project scope, schedule and budget to deliver the project.
- **Alternatives Analysis.** The alternatives analysis included flood protection levels; environmental impacts ; opportunities for phased construction ; probable design and construction costs ; cost effectiveness; and estimates of operations and maintenance costs.
- **Coordination with state and local agencies**.

Client Contact

Robert Robertson, PE
Project Administration Department Director
727.942.5638
rrobertson@ctsfl.us

Date

2021 — 2023

Key Personnel

Paul Walansky
Melissa Hew
Brian Bandy
Melissa Pomales

Relevant Services

- ☑ **Flood Vulnerability**
- ☑ **Mitigation Assessment**
- ☑ **Technical Feasibility Assessment.**
- ☑ **Outreach and Engagement**
- ☑ **Project Management**
- ☑ **Alternatives Analysis**
- ☑ **Coordination with State and Local Agencies**

Section 07.

Resumes of Key Personnel

Leah Richter, PE

Principal-in-Charge

Ms. Richter currently serves as Arcadis' Southeast Florida Operations Leader and is located in the Plantation office, just minutes from the City to provide rapid response to any request. She has a diverse background in civil engineering, program management, business advisory and financial consulting services. Also, she specializes in assisting municipal clients in South Florida with managing their planning, operational and capital program needs. Her experience includes project management and delivery, vendor procurement, contract compliance, regulatory permitting, public outreach, annual reporting to bondholders/trustees, litigation support services, environmental compliance and operation and maintenance evaluation. She serves as the contract manager or Principal-in-Charge for similar contracts and projects in South Florida.

Education/Qualifications

- MS, Civil Engineering, Florida Atlantic University, 2002
- BS, Environmental Engineering, University of Florida, 1997
- Program Management, Academy – Leading Complexity University of Oxford – Said Business School

Years of Experience

Total – 29
With Arcadis – 29

Professional Registration/ Certifications

- Professional Engineer – FL
- TRUE Advisor

Relevant Experience

Water Treatment Plant and Water System Engineering Services Contract
City of Hollywood, FL

Project officer and contract manager responsible for the full breadth of services Arcadis provides as the City's Engineer of Record for the City's water treatment plant and water distribution system. Activities and projects include numerous capital improvement design and construction projects, feasibility studies, condition assessments, asset management and master planning activities.

General Water and Wastewater Professional Engineering Services Continuing Contract
City of Fort Lauderdale, FL

Serves as contract manager for the full breadth of services Arcadis provides as the City's Professional Engineer for water and wastewater services throughout the City. Activities and projects to date have include Fiveash WTP High Service Pump Station Design, 48/54-inch Finished Water Pipeline from Prospect to Fiveash Design/ Construction Management Services, Redundant Force Main Construction Management Services, and Lime Softening Residuals Evaluation.

Miramar West Water Treatment Plant Nanofiltration Replacement
City of Miramar, FL

Project Officer for the upgrade and expansion of the existing West Water Treatment Plant. The treatment process consists of nanofiltration membrane softening for softening of Biscayne Aquifer raw water, and reverse osmosis membrane treatment for TDS removal with Floridan Aquifer as the feed water. Project elements include the removal and replacement of the cartridge filtration system, removal and replacement of the existing Nanofiltration (NF) trains with new 2.5-mgd NF trains, rehabilitation of the existing degasifiers, installation of a new degasifier, new transfer pumps, and chemical system upgrades. Because the plant is required to maintain full production during construction, novel thinking around construction sequencing and maintenance of plant operations

was required and it was decided to temporarily convert a new Reverse Osmosis (RO) train from treating Floridan raw water to treat Biscayne raw water using NF membranes.

Construction Engineering Inspection Services Contract
City of Fort Lauderdale, FL

Serves as Principal-in-Charge for the full breadth of services Arcadis provides under Construction Engineering and Inspection (CEI) Services Contract for the City, including the A-16 Pump Station (PS) replacement project. Arcadis provided full time CEI services throughout the project which consisted of replacement of the A-16 PS, as well as construction of new gravity sanitary sewer, force main, and watermain, implemented through a design-build delivery method.

Lead and Copper Rule Revision (LCRR) Compliance Program
City of Fort Lauderdale, FL

Served as project officer supporting the City through the development of a Compliance Program making sure that all requirements are met in accordance with the LCRR. Activities include the development of the initial lead service line inventory and the development of the necessary work plans for the LCRR Compliance Program that will capture the City's strategy for improved data management, public education and outreach, customer tap sampling, school/childcare facility sampling, corrosion control evaluation, and lead service line replacement.

Utilities Engineering Continuing Services Contract
City of Miramar, FL

Serves as contract manager for all our services for the City as part of our Utilities Engineering continuing services contract. Recent activities have included annual reporting for their Water Reclamation Facility deep injection wells, as required by the FDEP.

Palm Beach Renewable Energy Facility - Owner's Representative and Design Criteria
Professional Solid Waste Authority of Palm Beach County, West Palm Beach, FL

Principal-in-Charge and project manager responsible for the planning, permitting, procurement, financing, public outreach, and conceptual design for the overall implementation of the new 3,000 ton per day (tpd) mass burn waste-to-energy facility adjacent to the Authority's existing 2,000-tpd waste-to-energy facility. Key activities included development of procurement documents for the design-build-operator, development of application documents required under the Power Plant Siting Act and Prevention of Significant Deterioration program, development of a design criteria package to be used during the procurement process, development and implementation of an extensive public outreach program, negotiation of Power Purchase Agreement, detailed design review, construction and acceptance testing monitoring, and overall program management activities to support the development of this $672 million capital project. Construction was completed in 2015 and Arcadis served as Consulting Engineer overseeing the operations and contractual performance.

Water and Sewer Department Bond Engineering Services
Miami-Dade County, Miami, FL

Project manager responsible for WASD's rates, fee analysis and bond engineering contract. Responsible for overseeing and delivering all assignments and task orders under the multi-year contract serving WASD's executive leadership team. Projects and activities conducted to date include Asset Management Framework Development, Retail Rate Study, Mixed Use Customer Rate Analysis, Annual Review of the Adequacy of Rates and Fees, Annual Review of Wholesale Customer Rate Impacts and True Up, Annual Condition Assessment of all WASD Facilities, Development of Consulting Engineer's Reports in support of more than $2 billion in revenue bond issuances, and miscellaneous other assignments for the varying divisions of the department.

Lift Station No. 6 Rehabilitation Engineering, Services During Construction and Post Construction Services
City of Hallandale Beach, FL

With the existing lift station structure past the end of its service life, Arcadis recommended that the station be rebuilt to meet current and future demand per client requirements. This project work included design, permitting coordination, bidding, support, and services during construction (SDC) for the rehabilitation of Lift Station No. 6.

Paul Walansky, PE

Project Manager

Mr. Walansky is an Arcadis Certified Project Manager with over 26+ years of experience managing the scope schedule and budget for design and construction of civil works and water resource projects. Mr. Walansky's engineering background includes inspection and condition assessment of marinas and water control structures, cost estimating, flood studies, pump station design, bridge scour analysis, economic analysis, port feasibility studies, port reconstruction, fishing pier design, retaining wall design, wetland restoration, reservoirs, stormwater treatment areas, flow equalization basins, public recreation area design and specifications. Niche expertise in water resources planning and design, and familiarity with relevant regulatory and environmental requirements.

Education/Qualifications

- BS, Ocean Engineering, Florida Atlantic University, 1998

Years of Experience

Total – 26
With Arcadis – 8

Professional Registration/ Certifications

- Professional Engineer – FL (#67151); LA (#PE.0039802); MD (#36316); MI (#6201054612); TX (#150520); PR (#24369); USVI (#0-19469-2B)

Office Location

Boca Raton, FL

Relevant Experience

C-139 Flow Equalization Basin Design
South Florida Water Management District, Hendry County, FL

Project manager responsible for coordination of the design of a Flow Equalization Basin from the Conceptual Design through Ready to Advertise plans and specifications. The C-139 FEB project consists of an 11,000 acre-foot of water storage including perimeter embankments, interior berms, 690 cfs inflow pump station, internal inflow and outflow canals, out-flow structure, access roadway, canal dredging, land leveling and a gravity seepage structure. ICPR4 was used to model the flow around the FEB. The design included the site civil layout which includes a roadway relocation, demolition of existing structures, utility relocation, and erosion protection measures. The C-139 FEB is intended to assist in managing source basin runoff by attenuating peak flows and temporarily storing a portion of stormwater runoff prior to it being conveyed to STA-5/6. This project included permitting with the FDEP and USACE.

Barge Dock Replacement
Synthomer Chemicals, Jefferson Hills, Pennsylvania

Project Manager for the design, specifications and permitting of a replacement steel dock structure. The Synthomer Jefferson Hills site is on the Monongahela River and had an existing dock that was utilized for the offloading and transferring of various chemical resins used for operations at the site. Barges up to 220 feet long moor at the dock to offload chemical liquids that are pumped to the plant storage and operations. The existing dock and offloading infrastructure were aging and in need of modernization, and therefore replacement of the existing dock structure was necessary. Construction sequencing allowed the existing dock to remain in operation while the new dock was constructed in order to minimize down time for site operations.

Whitcomb Bayou Flood Protection Assessment
City of Tarpon Springs, Florida

Project Manager responsible for coordination of flood protection alternatives for the areas surrounding Whitcomb Bayou. Living shoreline elements were included to reduce flooding/erosion, enhance water quality/habitat, and provide other environmental and social benefits. Conceptual renderings of the flood protection alternatives were presented at a public meeting and comments were gathered. Cost estimates were prepared, and the findings were presented to the Sustainability Committee and City Board of Commissioners. Potential funding opportunities were also investigated, and preliminary grant applications were prepared for NOAA Climate Resilience Regional Challenge, Resilient Florida Program, and Community Development Block Grant Programs.

L-31E Levee Storm Surge Modelling
South Florida Water Management District, Miami, FL

Project manager responsible for development of a modeling system and methodical approach to evaluate the level of protection provided by the L-31E levee near Biscayne Bay in Miami. Of particular interest was the level of protection against overtopping by hurricane-generated storm surge provided by the existing levee and the levee crest requirements needed to provide protection under future sea level conditions. Providing this information required analysis of existing data supplemented by computer simulation to estimate future storm surge levels. The project consisted of a two-phase approach. Phase 1 consisted of compiling existing information, identifying data gaps, and developing a modeling plan. Phase 2 comprised implementation of the modeling plan to compute future storm surge potential in Biscayne Bay and to estimate the L-31E crest elevation requirements needed to provide future protection for a range of return periods and a range of potential future sea levels.

OSDLF Pump Station Inspection and Design
Miami Dade County, Miami, FL

Project manager responsible for coordination of pump station inspection including removal and inspection of both pumps. Prepared a report detailing the pump station condition and performed an analysis to determine if the surrounding swales could hold the 100-year design storm event. Prepared draft and final plans to implement the pump station modifications and permitting.

Retaining Wall Design
City of Vero Beach, Vero Beach, FL

Project manager responsible for design of rip rap revetment along the Indian River to protect an electrical substation. Team was responsible for wetland delineation, environmental resource permitting, field investigations assessment, and design of a retaining wall to protect Substation 11, located on the environmentally sensitive Indian River Lagoon. Scope of this project included the preparation of drawings and specifications for the construction of the rock revetment and associated site work. Additionally, developed plan and section views to define all works including bedding layer, filter fabric, armor rocks, toe support for armor rocks and transition details from rock revetment to existing sea wall at south end of property. Provided specifications for bedding layer, armor rock, filter fabric, and fill material. Scope also included the preparation of the permit applications required for construction including Indian River County administrative approval, Indian River County tree removal exemption, Indian River County land clearing, and Federal, State, and Local dredging and fill permits, as required.

Multiple Marina Inspections
Miami Dade County, Miami, FL

Marine inspector for five Miami Dade County Marinas. Reported deficiencies including photos, dimensions, location, and cost estimates for repairs. Prepared a memo for fixed versus floating docks, construction materials and the long-term effects of sea level rise. Miami Dade will use this information to apply for grants in order to fund the repairs.

Bridge Inspection, Design of Repairs and Construction Management
City of Margate, Margate, Florida

Project manager responsible for ADA compliance report, preparation of inspection reports, and developing plans for the design of repairs for deficiencies. Team performed topside and underwater inspection of seven secondary bridges and two pedestrian bridges for the City of Margate. For these bridges and seven additional bridges, prepared plans, specifications, and cost estimates to repair deficiencies which included recommendations for Americans with Disabilities Act (ADA) compliance. These bridge repairs were a part of the city's road bond referendum project which includes repairs to various bridges, sidewalks, curbs, drainage, and handicap ramps in the city.

Jim Shelton, PE

QA/QC

Mr. Shelton is Arcadis' National Technical Director for buried infrastructure, specializing in condition assessment and rehabilitation using trenchless technologies. He has been Program Manager for five large programs encompassing investigation, regulatory negotiation, condition assessment, engineering and capital planning, design, inspection, and construction for capacity assurance and/or rehabilitation of water and sanitary, combined, and storm sewer infrastructure in urban, suburban, and industrial systems. Mr. Shelton is a licensed Water and Sewer Contractor and leads Arcadis' Pipeline Construction and Rehabilitation Practice. He specializes in the delivery of turnkey Pipeline Rehabilitation Projects focused on Leakage Reduction (Water and Sewer) using alternative project delivery approaches such as Construction Manager at Risk and Collaborative Design-Build.

Education/Qualifications

- BS, Chemical Engineering, University of Pennsylvania, 1984

Years of Experience

Total – 40
With Arcadis — 28

Professional Registration/ Certifications

- Professional Engineer – DE, FL, ID, MD, NJ, OH, OK, PA, VA, AR

Office Location

Philadelphia, PA

Relevant Experience

Large Diameter Pipe Evaluation and Replacement Program
JEA, Jacksonville, FL

Served as technical advisor for the rehabilitation of more than 900 miles of large-diameter water, gravity, and force main pipelines for risk assessment, capital program development, conceptual design, and management of final design and construction over a
5-year period.

Sewer System Rehabilitation
Emerald Coast Utilities Authority, Pensacola, FL

Program manager for a rehabilitation and I&I reduction program for 857 miles of leaking sanitary sewer system. Managed engineering services for multiple projects to identify, prioritize, design, construct and implement cost-effective sewer rehabilitation solutions. The program involved hydraulic and physical condition assessment to prioritize areas for rehabilitation. The entire service area was prioritized for rehabilitation by CIP lining, grouting and open-cut based on contribution of I&I, anticipated failure period, and other criteria. Identified projects requiring R&R were prioritized, scoped, budgeted, designed and constructed.

Ensley, Mulberry, and Pinson Tunnel Inspection and Recommendations
Central Alabama Water (formerly Birmingham Water Works Board), AL

Project lead which conducted off-tether manned entry into four tunnels using available entry points and inspected the entire length of each tunnel to document its physical condition, conduct visual inspection of vault and tunnel lining for condition assessment, identify any deterioration, and recommend any additional testing or corrective or prophylactic rehabilitation measures.

Additionally, conducted ultrasonic tests for pipe thickness of the metallic pipes at locations identified inside the tunnel. Prepared an individual technical memorandum of findings, including recommendations for additional testing/inspection, if appropriate, and recommendations for corrective or prophylactic rehabilitation measures, if appropriate, for each tunnel. Prepared a checklist for future tunnel inspection efforts.

Red Mountain Tunnel (RMT) Inspection and Recommendations
Central Alabama Water (formerly Birmingham Water Works Board), AL

Project lead to inspect two pipelines to provide an assessment condition and probability of failure. Work included manned entry inspection with visual observations of tunnel, tunnel liners, and tunnel braces/supports. In preparation for the manned entry inspection, Arcadis reviewed existing reports and pictures relevant to the RMT's tunnel construction. A RMT access, inspection, and safety plan was developed in concert with BWW staff with institutional knowledge related to the tunnel. Arcadis then completed an off-tether manned entry into the RMT from north entrance to inspect and document both pipes' exteriors along their entire length.

Little Cuyahoga Interceptor Rehabilitation
Akron, OH

Technical Design Lead for the evaluation and rehabilitation of a 3000 lf section of an 63" and 87" brick combined sewer interceptor. The selected approach included hard pipe segmental sliplining with 78" Hobas of the majority of the pipe, and same trench replacement of the sag. All work was designed to be constructed "in the wet", with bypass pumping limited to dry weather work for making connections. The work was evaluated for alternative project delivery methods although the owner elected to use traditional Design-Bid-Build to exert the highest level of control over the works

Brandywine Hundred Sewer Rehabilitation and Capacity Assurance Program
New Castle County, DE

Program manager for the development and implementation of a multi-year comprehensive investigation and design program to determine the nature, extent, and location of I&I in the 420-mile Brandywine Hundred Sewer System, with the goal of eliminating reducing I&I and SSOs. The program has progressed through I&I and SSES evaluations (including smoke testing and nighttime weiring), hydraulic capacity modeling, rehabilitation and replacement designs, bidding and construction services, and I&I reduction evaluations.

Sewer Program Management
DC Water, Washington, DC

Program Manager overseeing the development and implementation of DC Water's $1.6B sewer collection system capital improvement program. Program was operated as multiple sub-programs focused on condition assessment, planning, engineering, rehabilitation, and upgrade of its separate sanitary sewer, storm sewer and combined sewer systems. Primary role was management of the inspection, planning, and design activities required for assessing, rehabilitating, upgrading and otherwise improving DC Water's sewer conveyance systems inclusive of pipelines, pumping stations, and related infrastructure.

Little Rock Large Diameter Sewer Assessment and Rehabilitation Program
Little Rock Water Reclamation Authority, Little Rock, AR

Technical director for the planning, prioritization, inspection and rehabilitation of the entire 130 large diameter (18-60-in) sanitary sewer inventory. Arcadis conducted emergency and expedited rehabilitation work. Serving as technical advisor during design and construction phase. Seven expedited and high priority projects have been designed and inspected by Arcadis to date.

Sewer Capacity Assurance and Rehabilitation Program
Lehigh County Authority, Allentown, PA

Program manager for the implementation of a comprehensive program to eliminate I&I-induced wet-weather overflows in Lehigh County Authority's (LCA's) sanitary sewer interceptor system as required by a USEPA consent order. The program includes flow metering, I&I studies, SSES, hydraulic capacity modeling, physical condition assessment, alternatives evaluation, regulatory progress reporting, and capital planning and budgeting.

Transformation to Expedited Sewer Rehabilitation
WSSC Water, MD

Project principal responsible for evaluation to improve effectiveness of the sewer rehabilitation program, especially with regard to I&I reduction. Reviewed the current overall costs of delivering sewer rehab programs and provided recommendations for cost reductions and improved efficacy for sewer rehab.

Michael DeVuono, PE, CPESC, LEED AP

QA/QC

Mr. DeVuono is National Practice Lead for Stormwater Design and Engineering at Arcadis. A licensed Professional Engineer with 30 years of experience in water resources and stormwater engineering, he specializes in assisting public and private sector clients with stormwater conveyance and control measure design, right-of-way utility design, interior drainage engineering, flood mitigation design, erosion and sediment control design, public policy development, and capital planning. Among other projects, Mr. DeVuono has recently led large scale flood relief culvert designs for the Cities of Alexandria, VA and Dalton, GA.

Education/Qualifications

- MS, Civil Engineering, New Jersey Institute of Technology
- MBA, The Power Business School
- BA, Geographic Information Systems, West Chester University of PA
- Executive Certificate, Business Strategy, Cornell University

Years of Experience

Total – 30
With Arcadis – 8

Professional Registration/ Certifications

- Professional Engineer – CO, HI, MD, PA, VT, WA
- Certified Professional in Erosion and Sediment Control
- LEED AP BD+C

Relevant Experience

Commonwealth Avenue and Glebe Road and Ashby Street & Glebe Road Flood Mitigation and Stormwater Conveyance Design
City of Alexandria, VA

Stormwater technical lead for a major stormwater conveyance flood relief project within the City. The project focuses on targeted flood relief for flood prone neighborhoods near the intersections of Commonwealth Avenue and East Glebe Road, and Ashby Street and East Glebe Road. The proposed stormwater conveyance improvements, designed to account for 2070 rainfall and tide patterns) include new parallel box flood relief culverts along Commonwealth Avenue and East Glebe Road, which will increase the capacity of the storm sewer system, and lower hydraulic grade line within the system. Additionally, a new stormwater outfall will be installed to discharge flood flows to Four Mile Run before its confluence with the Potomac River.

Windsor Woods, Princess Anne Plaza & The Lakes Drainage Improvement Engineering Design
City of Virginia Beach, Department of Public Works, VA

Technical advisor and QA/QC lead for civil engineering and drainage design for a comprehensive flood protection program for the City. The Windsor Woods, Princess Anne Plaza, and The Lakes Drainage Improvements Project focuses on safeguarding the city and its residents from the adverse impacts of flooding through enhanced stormwater management infrastructure. The design-build project highlights include the design and construction of tidal gates to control water flow and reduce flooding during storm surges, stormwater pump systems to manage stormwater and prevent localized flooding and flood barriers structures to shield vulnerable neighborhoods from rising water levels.

North/West Battery Park City Resiliency Project Interior Drainage and Stormwater Design
New York Battery Park City Authority, New York, NY

Technical advisor and QA/QC lead for civil engineering and drainage design for a flood barrier system along portions of Lower Manhattan. The barrier system will provide protection for current and future storm surges and rising sea levels caused by climate change. This comprehensive solution requires extensive modifications to interior drainage systems to account for the placement of coastal protection measures, including the installation of interior raingardens, upgraded conveyance piping, and tide gates.

Green Stormwater Infrastructure Engineering Design
Philadelphia Water Department, Philadelphia, PA

Technical advisor to the Arcadis GSI team. Provides technical oversight, quality assurance, and mentoring for a team of water resources engineers tasked with designing urban green stormwater infrastructure practices within the public right-of-way throughout the City of Philadelphia. This work includes extensive coordination to accommodate existing utilities in the ROW, as well as providing overflow and underdrain connections to existing sewer conveyance systems.

Professional Stormwater Engineering Services
City of Dalton, GA

Technical oversight and direction for several watershed-scale flood mitigation studies and stormwater infrastructure projects, including conveyance projects, regional detention solutions, and asset criticality studies designed to guide the capital program and shape long term stormwater strategy and policy. Through a Master Services Agreement with The City of Dalton Public Works Department, Arcadis provides engineering analysis and support services to address known flooding issues, capacity constraints, and stormwater planning services.

Richmond Green Infrastructure Master Plan
City of Richmond, VA

Technical adviser and QA/QC lead for data collection, green infrastructure siting and sizing, and the development of conceptual designs for bioretention areas and permeable pavements within the public right-of-way throughout the city. Provided quality oversight and validation of field data, GIS analyses, and planning deliverables to ensure accuracy and reliability for location decisions. Reviewed and guided the selection of candidate sites based on drainage patterns, utility conflicts, and site constraints. Oversaw the quality of conceptual layouts and preliminary sizing, ensuring compliance with regulatory, hydraulic, and constructability requirements. Led coordination across disciplines and facilitated stakeholder input, identifying technical risks and opportunities early to support seamless integration into detailed design.

Virginia Stormwater Handbook Development Services
Commonwealth of Virginia Department of Environmental Quality, VA

As a task manager and technical author for the Virginia Stormwater Handbook, version 1.0, overseeing the consolidation and update of DEQ's stormwater and erosion and sediment control handbooks, technical memorandums, and BMP specifications into one online manual. Led coordination with DEQ staff and a Stakeholder Advisory Group to develop enhanced content, including guidance for stormwater design in karst and coastal plain environments and updated recommendations addressing climate change impacts. Responsible for updating and adding over 50 erosion and sediment control and stormwater BMPs, and served as lead and contributing author for chapters on erosion and sediment control, stormwater management, and hydrologic and hydraulic methods.

Blueprint Columbus - New Bedford GI and I&I Improvements Project
City of Columbus, Columbus, OH

Technical advisor for the Blueprint Columbus – New Bedford GI and I&I Improvements project, guiding the effort from planning through detailed drainage design and implementation within the public right-of-way. Oversaw the design of stormwater conveyance systems and green infrastructure practices, including bioretention, permeable pavement, and infiltration trenches, integrated within complex urban and residential ROW environments.

Rahway NJ Storm Water Management
Confidential Pharmaceutical Client,
Whitehouse Station, NJ

As technical lead, directed the engineering design and state permitting for a regional flood-control basin with a storage capacity exceeding 40 acre-feet. Managed all aspects of stormwater modeling, site grading, and hydraulic design, ensuring the facility met rate and volume control requirements established by a regional watershed study. The project included the integration of real-time controls and pumping operations to optimize basin performance and mitigate downstream impacts on an existing stream channel. Provided technical oversight through permitting and design, coordinating closely with regulatory agencies to secure necessary approvals.

Patricia Ramudo, PE, LEED AP

Civil / Site Design

Ms. Ramudo brings over 40 years of expertise in the Civil Engineering field, with extensive experience in the design and implementation of hydraulic systems. Her work spans a wide range of projects, including site development, water distribution systems, flood mitigation initiatives, and computer simulation of steady-state and transient flow for fluid transmission systems.

Ms. Ramudo's project involvement encompasses the full lifecycle, beginning with conceptual design and modeling, and continuing through construction and monitoring phases. As a seasoned Project Manager, she has successfully led numerous projects for both public and private sector clients. Ms. Ramudo has demonstrated expertise in hydraulic analysis, construction administration, and the design and analysis of water, sewer, and stormwater systems, as well as navigating permit acquisition processes at federal, state, and local levels.

Ms. Ramudo is particularly experienced in the design and rehabilitation of existing systems that are either in violation of jurisdictional codes or require modifications for upgrading. Her deep knowledge and commitment to compliance and innovation make her a valuable asset to any project involving complex hydraulic challenges.

Education/Qualifications

- MS, Hydraulics & Hydrology, Cornell University, 1983
- BS, Civil Engineering, University of Miami, 1979

Years of Experience

Total – 40
With Arcadis – 11

Professional Registration/ Certifications

- Professional Engineer – FL, CO
- LEED AP

Relevant Experience

Pompano Beach Ten Year Public Art Master Plan and Public Art Guidelines
Pompano Beach, FL

Project Manager responsible for coordination with design team and client to produce and implement public art master plan. Coordination efforts were undertaken between the City's Public Art Committee and local residents to develop a comprehensive working document outlining General Public Art Program Guidelines. This process included collaboration with the City of Pompano Beach Community Redevelopment Agency to ensure alignment and support throughout the approval process.

Briny Avenue Streetscape and Urban Design
Pompano Beach, FL

Project Manager and Civil Lead Engineer. Responsibilities included: engineering design and coordination with design team and client, including coordination of coastal road redevelopment, from Final Engineering through Construction Documents, Construction Administration services and permitting through jurisdictional agencies. Land Use and Urban Planning services were provided for a streetscape project in Pompano Beach. The initial phase involved collaboration with the project team to develop a comprehensive inventory and analysis, identifying potential opportunities and constraints within the project area. A "shared street" concept was selected, pedestrians, bicyclists, and motorists

while incorporating smart growth and urban design principles to create a safe, functional, and enjoyable environment for the community. The scope of work also included the coordination of underground utilities, encompassing water, sewer, drainage, gas, electric, telephone, and cable systems, ensuring seamless utility integration to support the streetscape's overall design and functionality.

Mizner Park Visionary Project

The Center for Arts and Innovation, Boca Raton, FL

Civil Lead Engineer responsible for conceptual engineering and coordination with design team and client. The Boca Raton Center for Arts and Innovation is a visionary project aimed at fulfilling Mizner Park's original promise by establishing a dynamic hub for creativity, innovation, business, and community engagement. The project plans to feature six adaptable performance and event spaces—both indoor and outdoor—with seating capacities ranging from 99 to 3,500, accommodating up to 6,000 attendees.

Hallandale Beach Redevelopment Plan Modification 2020

Hallandale Beach, FL

Project Manager and Civil Lead Engineer responsible for conceptual engineering and coordination with design team and client, including processing for approval and adoption. The Urban Planning and Engineering Assessment centered on the four quadrants of the Community Redevelopment Agency, complemented by a citywide visioning initiative. Guided by community engagement and prior studies, the 2020 Plan identified four catalytic projects aimed at driving transformative development, including Harlem Village in the northwest quadrant and Downtown Hallandale/City Campus. The assessment outlined necessary infrastructure improvements, accompanied by detailed cost estimates, to support the successful implementation of the identified projects and enhance overall community growth and functionality.

COPANS Transit Operations Facility

Pompano Beach, FL

Civil Lead Engineering responsible for design and coordination of site redevelopment, from Conceptual through Construction Documents, including entitlements and permitting through jurisdictional agencies. Encompassing 25.5 acres, the facility is the main fleet maintenance and storage site for Broward County Transit’s bus service and has been in operation since 1985 and comprised of four separate buildings used to house bus maintenance bays, storage areas, wash bays, detailing booths, parking, fueling bays, and an administration and operations center. With aims to condense and modernize the facility, the existing outdated maintenance buildings were demolished to make way for an upgraded, efficient, state-of-the-art space. The new facility will be a modern multi-story facility to support a fleet of 341 fully zero-emission buses including battery-electric and provisions for potential use of hydrogen fuel cell vehicles. Additionally new training facility and emergency control center was added to the campus. This facility is second such facility in the USA and includes rooftop parking, charging stations, and a solar array, which assists with reducing operating costs and overall energy usage.

The West Atlantic (The Set) Redevelopment Plan

Delray Beach, FL

Project Manager and Civil Lead Engineer. Responsibilities included: conceptual engineering and coordination with design team and client, including processing for approval and adoption. Urban Planning services were delivered for the unified W. Atlantic and Southwest Neighborhood Redevelopment Plans. The scope of work included a comprehensive assessment of the community's needs, market demands, redevelopment opportunities, and emerging development trends. Community outreach and stakeholder interviews were conducted to gather public input and ensure the redevelopment plans reflected the community's vision and aspirations

North Miami Train Station & Major Corridor Master Plan

North Miami, FL

Project Manager and Civil Lead Engineer. Responsibilities included: conceptual engineering and coordination with design team and client, including processing for approval and adoption. Urban Planning services were provided for a Transit-Oriented Development (TOD) project aimed at establishing a progressive and cohesive vision for the station area and its surrounding neighborhoods. The scope of work includes team coordination and civil engineering support for various key components, including public outreach, community workshops, development of a detailed station area concept plan, corridor analysis, design guidelines, a parking management plan, and the creation of Geographic Information System (GIS) maps. These efforts are designed to ensure a comprehensive approach to fostering sustainable growth and enhancing connectivity within the community.

Debra Hernandez, RLA

Park Improvements

Ms. Hernandez has over 29 years in the field of landscape architecture. Her experience encompasses landscape designs for major land development projects including City, County and regional utilities, industrial and business parks, as well as infrastructure facilities, retail plazas, mixed-use commercial developments, high-end estates and multi-unit residential projects. Services provided include complete landscape designs, planting plans, hardscape elements and site amenities, public spaces and circulation, signage and entry features. Work history also includes field research and documentation of existing site conditions, preparation of tree inventory and relocation plans and document preparation for tree mitigation and/or regulatory compliance.

Education/Qualifications

- Certificate of Landscape Architecture, University of California - Irvine, 1996
- Advanced Courses in Business Administration, California State University, 1982-1983
- Associate of Arts Degree, Orange Coast College, 1976

Years of Experience

Total – 29
With Arcadis – 11

Professional Registration/ Certifications

- Landscape Architect – FL

Relevant Experience

Copans Transit Operations and Maintenance Facility
Pompano Beach, FL

Arcadis is the Prime Consultant for Broward County Transportation Department, providing full architectural, engineering and landscape architectural services for the complete reconstruction of the existing County Transit Operation and Maintenance Facility on Copans Road in Pompano Beach. The new campus will serve as the operating and maintaining facility of a fleet of 250 battery electric buses.

Briny Avenue Streetscape
Pompano Beach, FL

Served as landscape architect for final design, project permitting, implementation and construction administration of this ‘shared street’ roadway revitalization project. Consider was given to the interaction between pedestrians, bicyclists and motorists, including smart growth and urban design concepts, to create a safe and enjoyable environment for the community. Project specifics include evaluation and preservation of existing mature vegetation, compliance with local codes and ADA requirements, and the logistical coordination to blend the new and existing paving, landscaping, lighting, site amenities and utilities.

MLK Boulevard / Hammodville Road
Pompano Beach, FL

Known as the “Education Corridor” this L.A.P. funded project included the design and implementation of roadway improvements and upgrades along a ¾ mile long portion of roadway. Specifics to the Landscape Architecture requirements of this project included evaluation and preservation recommendations for existing trees, design and implementation of new median-strip landscaping, compliance with local landscape and F.D.O.T. design parameters and creating a high-end visual impact statement within the roadway.

Ultimate Sports Park
Apollo Park Improvements – Pompano Beach, FL

Provided landscape architectural services for the construction of a new synthetic turf athletic field on a vacant portion of an existing City park. New site features include a parking area, concession building, bleachers. walkways, lighting and site amenities. Landscape Architectural tasks include extensive tree evaluation and preservations efforts of the existing site trees and development of a Tree Disposition plan, design and development of an upscale but code compliant landscape plan and a corresponding irrigation plan design. Additional tasks included construction document development and permit assistance.

MSA-726 / Exchange Club Park
Pompano Beach, FL

Provided landscape architectural services to design and implement this 2-phased Vegetation Removal and Landscape / Facility Restoration plan on a 7.7 acre dual-use site adjacent to the Intracoastal Waterway. While working under the directive of the Florida Inland Navigation District (F.I.N.D.) the project design parameters consist of developing and restoring an interim passive public park while maintaining the function for the future intended use as a Maintenance Spoils Area (MSA) for potential intra-coastal dredging operations. Scope of work for Phase 1 consists of the evaluation of the existing conditions, on-site assessment of vegetation to identify, tag and document candidates for preservation or relocation, and the design and development of the proposed landscape / vegetation restoration and passive park plans, details and specifications. Phase 1 services also included bid assistance, construction monitoring and documenting of the clearing and grubbing activities, tree identification and preservation activities, progress reports and resolutions, onsite construction meetings, RFI responses and project addenda. Phase 2 scope of work consists of pre-bid assistance for the landscape / vegetation restoration aspect of the project, landscape installation assistance, construction administration and project close-out documentation.

Plan Review and Permitting Services for Community Planning and Development
City of North Miami, North Miami, FL

Provided permit application assistance, plan review, applicable zoning and code compliance services for all residential and commercial development applications. Tasks include major and minor site plan amendments and/or applications for new and existing developments, code compliance for new structures or features including signage, fencing, parking, driveways, pools and landscaping. Additional tasks include assistance with the preparation and coordination of monthly Development Review Committee and Administrative Variance meetings, and application and code compliance and zoning verification assistance to City residents and business owners.

Lynn Financial Center Drainage and Parking Area Expansion
Boca Raton, FL

Provided landscape architectural services for the parking area expansion and drainage improvement project for this Gold LEED Certified office building. Landscape architectural services included the evaluation and preservation of the existing parking area, foundation and perimeter vegetation; tree and vegetation preservation services, new landscape, irrigation and hardscape design, City review coordination, permitting assistance and construction administration. Additional tasks included the design of a new 4’ high raised privacy planter around a private patio, and the selection of nine (9) 45’ tall specimen Royal Palms for relocation candidates, which also consisted of providing on-site temporary storage during construction, and coordination for final relocation into the new raised planter or parking islands. Construction administration services included synchronization of project phasing, vegetation inspections and tree protection management during construction.

Woodfield Country Club
Boca Raton, FL

Served as landscape architect for this 2.5 million dollar main entry re-design, gated entry and guard house, and roadway alignment for a high-end residential and country club community. Project included conceptual and final design of a 45-foot wide tiered fountain and plaza area, streetscape design including extensive high-end landscaping, signage, lighting and site amenities.

Roman Blanco, PE

Road & Street Design

Roman is a professional civil engineer specializing in design and project management of roadway projects. He brings the right combination of project management tools, and technical and local knowledge to deliver the I-75 at Fruitville Road Reconstruction. His responsibilities include roadway design, interchange layout, maintenance of traffic plans, drainage design, pavement design, pedestrian facility design, parking facility design, permitting, project coordination and quality control. His engineering proficiency has been demonstrated on projects ranging from complex limited access roadway design to pedestrian facilities and intersection improvements and Roman is the roadway engineer of record on two DB projects. Having spent his entire career supporting FDOT, Roman blends strong technical competency with a thorough understanding of FDOT processes and stakeholder coordination. He is an effective team leader who will work closely with Sacyr, District 1, discipline leads, and project stakeholders to meet objectives and define priorities to deliver this project on schedule and within budget. Roman has a proven record of successfully delivering projects through open communication and proactive identification and mitigation of project challenges. He will effectively tailor his approach to best serve the needs to this project and District 1.

Education/Qualifications

- BS, Civil Engineering, University of Florida, 2000

Years of Experience

Total – 25
With Arcadis – 25

Professional Registration/ Certifications

- Professional Engineer – FL (60806)
- Advanced Maintenance of Traffic Certification

Office Location

Jacksonville, FL

Relevant Experience

SR 527 (Orange Avenue) Corridor Improvements
Florida Department of Transportation, District 5, Orange County, FL

MOT Engineer/Project Manager for milling and resurfacing as well as corridor improvements to SR 527 in downtown Orlando. The improvements included drainage, enhanced pedestrian features, new signing and marking and signalization enhancements. Engineer of Record for roadway design and MOT. MOT was critical due to the high traffic volumes and pedestrians. This project also included extensive coordination with the One Pulse Foundation for the memorial and Survivors Walk.

SR 535 (S. Apopka Vineland Road) Milling and Resurfacing
Florida Department of Transportation, District 5, Orange County, FL

Project Manager/Engineer for designing improvements to SR 535 (Kissimmee-Vineland Road) from South of International Drive to South of Hotel Plaza Boulevard. Improvements included new sidewalk, ADA compliance upgrades, signal design, lighting improvement and ITS improvements. MOT design accounted for the large numbers of pedestrians in the area.

SR 25 (US 27) Milling and Resurfacing

Florida Department of Transportation, District 5, Lake County, FL

MOT Engineer/Project Manager for designing the mill and resurfacing of SR 25 from just south of Arlington Ridge Road to south of SR 33. The project included cross slope correction, turn lane widening to accommodate bicycle keyholes and extending turn lanes. Engineer of Record for roadway design and MOT.

SR 5/US 1 Roundabout

Florida Department of Transportation, District 5, Flagler County, FL

Project Manager and Engineer of Record for the design of a roundabout. This intersection had been the site of four deadly crashes. Arcadis was able to fast track the design as no additional right-of-way was required and accelerate the schedule by two years. The facility was designed using Bentley OpenRoads 3D technology. MOT was critical as the roundabout did not meet driver expectations.

CR 210 Widening from Greenbriar Road to Cimarrone Boulevard Concept Design

St. Johns County Public Works, St. Johns County, FL

Project Manager/Engineer for widening and reconstruction of CR 210 for 2.3 miles from two to four lanes with curb and gutter and pedestrian access meeting all current FDOT standards. Additional design services provided by Arcadis include drainage collection and treatment, permitting, erosion control, signalization including one signal warrant analysis, lighting, two parallel bridges, public involvement, utility coordination, and construction documents. The proposed design minimizes rework for the County's planned expansion to six lanes. The project was completed through the design-build process.

I-95 Concrete Pavement Rehabilitation

Florida Department of Transportation, District 2, Jacksonville, FL

Project Manager/Engineer for preparation of plans and crack maps based on aerial photos and topos used by the contractor to rehabilitate concrete pavement along 12.5 miles of I-95 from J. Turner Butler (SR 202) to Atlantic Boulevard. Projects involved the use of low altitude, high resolution aerials to develop topo and survey of existing roadway damage and coordination with FDOT maintenance to obtain emergency detour plans. Services included field investigation and data collection, upgrading existing signing and pavement markings to the most recent standards, developing MOT plans, utility coordination, quality control, control surveys and setting targets for aerial photogrammetry.

SR 520 Widening (CR 532 to St. Johns River)

Florida Department of Transportation, District 5, Orange County, FL

Design Engineer for widening and permitting of a 2.2-mile, two-lane rural section to a four-lane rural section. Design responsibilities included roadway design, signing and marking, MOT, and quantity computation manual preparation.

First Coast Expressway

Florida Department of Transportation, District 2, Clay and St. Johns Counties, FL

Project Manager and Engineer of Record for design of 3.9 miles of the First Coast Expressway, a new alignment, four-lane toll facility extending for a total of 22 miles. As a strategic partner, Arcadis was responsible for roadway, drainage and permitting, including the major interchange as US 17. Special erosion control measures were designed at the water crossings. Responsibilities included project management, roadway alignment development and design, MOT plans, team management and coordination, and plans production supervision.

SR 482 (Sand Lake Road) Improvements

Florida Department of Transportation, District 5, Orlando, FL

Project Manager and Roadway Engineer of Record for widening and reconstruction of a 2.9-mile segment from a four-lane (urban and rural) to a six-lane (urban, rural, and suburban) section from Turkey Lake Road to Shingle Creek. The project also included improvements at the SR 435 (Kirkman Road) interchange and widening of 0.4 miles of International Drive. Design responsibilities included roadway design, utility coordination and MOT plans on a heavy traffic road with a lot of pedestrian traffic from tourists.

SR 105/A1A Ft. George Inlet (Huguenot Park to Little Talbot Island State Park)

Florida Department of Transportation, District 2, Duval County, FL

Project Engineer for the realignment of a 1.4-mile, two-lane roadway with future expansion of a bike facility and replacement of the bridge over the Ft. George Inlet. Design responsibilities included roadway, ramps, erosion protection, parking facility, sidewalks, MOT plans and utility coordination.

John Atkinson, PhD

Coastal Engineering

Dr. Atkinson's expertise is in the areas of hydrodynamics, scour and erosion, storm impacts, and the impact of sea level rise and urban development on coastal flooding. He provides numerical modeling in support of flood protection and restoration projects and provides scientific services for the Oil & Gas industry, federal and state agencies, municipalities, and academic institutions. He specializes in sophisticated analysis of riverine scour, coastal dynamics, waves, storm impacts, and erosion along continental margins from the Gulf to the arctic.

Education/Qualifications

- PhD, Civil Engineering, University of Notre Dame, 2002
- MS, Civil Engineering, West Virginia University, 1995
- BS, Civil Engineering, West Virginia University, 1992

Years of Experience

Total – 21
With Arcadis – 14

Relevant Experience

Projection of Future Storm Surge Near Coastal Structures in Miami Dade
South Florida Water Management, West Palm Beach, FL

Arcadis is in the process of developing a high-resolution hydrodynamic model to simulate hurricane induced storm surge near the coastal structures operated by SFWMD. The model resolution ranges between 5 meters and 500 meters, depending on the size of the topographic features in the area. Hurricane Andrew and Hurricane Wilma were used as calibration events by comparing model output to observation data at each structure as well as post storm high water marks. The model will be used to predict the time series of hurricane storm surge throughout Biscayne Bay and at each structure for a series of synthetic hurricanes that represent the 25-year event. Additionally, the model will be used to predict the synthetic events with various sea level rise estimates included.

Estimation of Future Storm Surge Response in Biscayne Bay
South Florida Water Management District, FL

Arcadis developed a storm surge modeling system using several well-known coastal modeling tools including ADCIRC, SWAN, and D-Flow (the flexible mesh version of Delft3D). The coupled models are used to compute present-day and future storm surge water levels within Biscayne Bay and within the canals leading up to SFWMD structures for a variety of hurricane scenarios. The intention of the modeling is to understand to what degree the tailwater conditions at SFWMD water control structures might change under hypothetical future sea levels.

Hydrodynamic and Wave Assessment for New Bridge Design in Tampa Bay
Florida Department of Transportation, FL

Developed coupled hydrodynamic and wave modeling of Tampa Bay to guide the design of a proposed replacement of an obsolete section of the Howard Franklin Bridge across Tampa Bay. The models calculated storm surge, wave heights, and water velocities for a range of return periods. Results were used to provide low-chord elevations and wave loads. Potential for scour and erosion was computed for all

proposed bridge piers and along the approach causeway following FHWA and FDOT procedures.

Research of Surge and Wave Attenuation by Landscape Features
Coastal Protection and Restoration Authority (CPRA), Baton Rouge, LA

Performed new research for CPRA in effort to improve understanding of the potential surge suppression and wave attenuation benefits that geomorphic features may provide. The initial phase of the research was to perform a thorough review of the existing scientific literature regarding attenuation and to compile an inventory of available data. The second phase of the research was to construct a novel set of numerical experiments to methodically evaluate the surge/wave attenuation potential for a wide variety of habitat and landscape types. The resulting experimental data provided a new level of understanding for the interaction between storm surge/waves and regionally variable topographic and vegetative landscapes across the Louisiana coast.

Flooding and Sea Level Rise in Norfolk
City of Norfolk, VA

The City of Norfolk is experiencing increased flooding as a result of subsidence and sea level rise. In some neighborhoods, storm water systems no longer function at high tide, resulting in rainwater ponding on roadways and in residential properties during relatively minor rain events. Arcadis has been awarded an IDIQ contract to assist Norfolk with evaluating options and regional strategies to deal with a variety of flooding issues and to improve the City's resilience to future precipitation and storm surge events. To date, several task orders have been issued; to support hosting the Hampton Roads Dutch Dialogues, to review and critique previous work performed to date by others, and to support the City's efforts to develop an application to the National Disaster Resilience Competition. Arcadis is working with the City to integrate Urban Planning, Storm Water Management, Flood Modeling, and Coastal Engineering for a holistic response to flooding issues.

Modeling of Inner Harbor Navigation Canal Storm Surge Barrier
United States Army Corps of Engineers (USACE) - New Orleans District, New Orleans, LA

Participated on the storm surge and wave modeling team for the largest civil works design-build contract in USACE history. Utilized the Advanced Circulation Model (ADCIRC) hydrodynamic model and STWAVE model, investigated the effects of storm surge and nearshore waves on the Louisiana and Mississippi coasts caused by the proposed IHNC closure structures from various design-build firms. Analysis included the creation of a high-speed, area- specific ADCIRC mesh in order to produce accurate results quickly for multiple design alternatives. A second phase of the project included the reanalysis of the awarded design in order to engineer a more proficient and cost-effective design of the closures.

East Land Bridge Hurricane Protection Project
Southeast Louisiana Flood Protection Authority, New Orleans, LA

Developed a coupled ADCIRC and SWAN model to explore the potential impact of a proposed levee along the East Land Bridge (ELB). A subset of storms from the original FEMA/LACPR JSS suite of synthetic storms were selected to approximate the 100-year surge and the 400-year surge in the ELB region. Performed modeling for several proposed levee configurations. Simulations were also performed with a degraded ELB and with a maintained ELB to explore the impact of the ELB in contributing to surge suppression. All of the project simulations will be compared to future 2060 no-action simulations to establish the efficacy of the proposed levee. Evaluation of the levee included computing maximum surge and wave differences in Lake Pontchartrain, in Lake Borgne, at the IHNC Barrier, within the areas of Slidell, St Bernard Parish, and New Orleans East, in the Pearl River Basin, and along the Mississippi coastline.

Sea Level Rise Impact Analysis
The Nature Conservancy, Gulf Coast of Texas and Eastern Shore of VA

To better understand resiliency to sea level rise and the increased risk to coastal communities, hydrodynamic and near shore wave models were developed to account for three scenarios of sea level rise, subsidence and land loss via marsh degradation. The nonlinear spatial impacts on storm surge and waves were mapped to critical infrastructure, population centers and threatened ecosystems.

Chris Adams, PE

Hydraulic Modeling

Mr. Adams is a Professional Engineer with 25 years of experience specializing in hydraulic analysis using computer-aided modeling platforms. His experience includes developing and operating water system hydraulic models, pump station design, transient analysis, water quality modeling, master planning, unidirectional flushing programs, and performing quality control and project management for hydraulic and modeling-related projects.

Education/Qualifications

- BS, Civil Engineering, Georgia Institute of Technology, 2000

Years of Experience

Total – 25
With Arcadis – 3

Professional Registration/ Certifications

- Professional Engineer – GA

Relevant Experience

Hydraulic Analysis for Central, North, and South Wastewater Treatment Facilities*
Miami-Dade Water and Sewer District, FL
Technical Lead for evaluating existing and proposed hydraulic and throughput capacities for each of the WWTF serving WASD under multiple criterion, and operational procedures

Transient Analysis for 18 Miles of 36-inch Transmission Main*
Palm Beach County Water Utilities, FL
Project engineer responsible for developing a hydraulic model for 18 miles of 36-inch transmission main that delivers approximately 29 MGD of reused water to the Florida Power and Light Facility.

Water Model Development, Calibration, and Analysis*
City of West Palm Beach, FL
Modeling & hydraulics lead responsible for updating the City's water model to include new infrastructure and operations.

Hydraulic & Transient Analysis for Lake Lanier Bypass*
Gwinnett County, GA
Hydraulics modeling lead for developing a hydraulic model and performing a transient analysis of the Wayne Mason and Shoal Creek raw water transmission mains.

City of Portsmouth Water System Deficiency Analysis*
City of Portsmouth, VA
Modeling lead for updating criticality analysis using the City's existing water system model.

Central Arkansas Water Calibration and Optimization Program
Central Arkansas Water, Little Rock, AR
Technical advisor, QA/QC, for model development and calibration; hydraulics lead for pump station analysis.

Birmingham Water Works Board
Birmingham Water Works Board, Birmingham, AL
Technical lead for model development and calibration for the northern service area and secondary gradient.

Western High Service Pump Station Transient Analysis
City of Laredo, TX
Project manager and technical lead for analysis of transient impacts for the proposed upgrade to the West High Service Pump Station.

Big Alamance and Liberty Road Lift Station Transient Analysis
City of Greensboro, NC
Technical lead for analysis of transient impacts for the proposed upgrade to the Big Alamance lift station and the proposed new Liberty Road Lift station.

Water System Model and 20-Year CIP
City of Marysville, OH
Technical advisor and QA/QC for the model development, calibration, and development of a 20-year CIP.

Unidirectional Flushing Program
Greene County, OH
Technical advisor and QA/QC responsible for developing a Unidirectional Flushing Program for the County.

Water Utility Planning and Support
Fayette County, GA
Technical lead for maintaining the County hydraulic model, providing on-call engineering support for its distribution system.

Water Model Development, Calibration, and Analysis*
Forsyth County, GA
Technical lead for updating, calibrating, existing system analysis, and developing 30-yr CIP and optimized system flushing routines for improved water quality.

Reclaimed Water Hydraulic System Model
Alexandra Renew Enterprises, Alexandra, VA
Hydraulic modeling lead responsible for updating a hydraulic model of Alexandra reclaimed water system.

DoD Facility Master Plan*
Futenma Base, Okinawa, JPN
Hydraulic modeling lead for developing a hydraulic model of the base, a custom field data collection plan, calibrating the model, evaluating the system, and identifying recommendations

Water Facilities Master Plan & Raw Water Transmission Main Analysis*
Central Arkansas Water, Little Rock, AK
Project engineer responsible for developing a hydraulic model and transient analysis for approximately 8 miles of 72-inch and 48-inch transmission mains that deliver approximately 150-mgd of raw water to the Jack Wilson water treatment plant.

Tailings Reduction Operations Water Pipeline Hydraulic & Transient Analysis*
Suncor, Calgary, Alberta, CAN
Modeling lead for developing a hydraulic model for pumping and pipeline systems to reduce total placed tailings volumes and increase water recycling to the process operation.

River Water System Transient Analysis*
Carmon Creek Facility, Alberta, CAN
Project engineer responsible for developing a hydraulic model and transient analysis for 1900 miles of 18-inch transmission main delivering 3 MGD of raw water to the Peace River and Carmon Creek Facility.

Water Model Master Plan and UDF Pilot Study*
Clayton County Water Authority, Clayton, GA
Modeling lead for field data collection, updating, calibrating, analysis, and developing a 30-year CIP. Developed a pilot unidirectional flushing program in areas of the water system, indicating high customer complaints and successful results.

Water Model Development and Calibration*
Hallsdale Powell Utility District, Knoxville,TN
Modeling and hydraulic lead responsible for developing a detailed hydraulic model using HPUD's available GIS.

Water System Model and Recommendations
Suwon Air Force Base, Gyeonggi Province, KOR
Project manager and technical Lead for the field data collection, development, calibration, evaluations, and recommendations under UFC guidelines.

Apeadero WTP Elimination Project
Puerto Rico Aqueduct and Sewer Authority, Padillas, PRI
Hydraulic modeling lead, supporting the design for sizing in-line booster pump stations to support supply to the barrio from a nearby supply and eliminate the need for the existing WTP.

Errol Dawkins, RA, LEED AP BD+C

Architecture

Mr. Dawkins establishes the Arcadis water division's architectural design approach and technical direction and coordination of the architectural group. He is experienced in industrial, institutional, commercial, and municipal design and construction projects throughout the tri-state area of metropolitan New York. He is a member of award-winning design teams for schools, libraries, recreational facilities, and other municipal buildings. As an Architectural Project Leader and Manager, he has worked on various projects including recreation centers, public and private schools, water and wastewater treatment facilities, pools, laboratories and offices.

As a LEED accredited professional, he incorporates sustainable building strategies into his design projects. He has a broad knowledge of the various building codes and standards, such as International Code Council, National Fire Protection Association, Occupational Safety and Health Administration and American National Standard Institute, to conduct building code reviews for various types of projects and confers with both local and state code officials to resolve unique code conditions.

Education/Qualifications

- Bachelor of Architecture, CUNY City College, 1989
- BS Architecture, CUNY City College, 1988

Years of Experience

Total – 37
With Arcadis – 19

Professional Registration/ Certifications

- Registered Architect – NY, CT, NJ, DC, FL, GA, MA
- Leadership in Energy and Environmental Design (LEED)

Relevant Experience

Prospect Lake WTP Enabling Works, Replacement of Existing High Service Pumps at Fiveash Water Treatment Plant (WTP)
City of Fort Lauderdale, FL

Lead Architect, This project includes the detailed design of the new High Service Pump Station (HSPS) and new Ground Above Grade Storage Tank (AGST). The scope includes 6 new horizontal split case pumps (70 MGD in total), 2 new generators, 2 new 20,000 gallons fuel tanks, and second story offices inside the new pump station building. The work also includes a 5 MG ground storage tank.

Drainage Investigation & Assessment for St. James Recreation Center and Park
New York City Office of Management and Budget, Bronx, NY

Serving as the lead architect, Errol is using his broad knowledge of the various building codes and standards to support in the successful project completion. In response to Hurricane Ida, Arcadis was contracted to conduct a comprehensive site investigation to assess flood risks at the site and to prepare recommendations that mitigate these risks for the purpose of developing cost estimates to inform capital planning.

Consolidation of Four Staten Island Courts
New York City Office of Management and Budget, Staten Island, NY

Principal architect on condition assessment team, reviewed courthouse for compliance with building code, and accessibility as well as review zoning requirements for potential building expansion. Performed site view and recorded visual observations of the state of means of egress, emergency lighting, fire protection and accessibility features. Confirmed as constructed building code compliance and current code status. Analyzed accessibility features in the context of previous ADA regulations and building code requirements.

Harper Street Yard Maintenance Yard Master Plan
New York City Dept of Transportation (NYCDOT), New York, NY

Lead architect for the Master Planning of the Harper Street Yard Maintenance facility. The facility sits on Flushing Bay and has been in continued use since 1930's with very few upgrades. The master plan focused on personnel space and infrastructure which required major upgrades due to soil conditions and storm impact. Presented several master plan options varying in scope and cost to the NYCDOT. The selected option was refined and includes both building resiliency as well as site resiliency features.

Four Bus Depots Flood Mitigation and Resiliency
Metropolitan Transit Authority, New York, New York, NY

Served as senior project architect for the design of flood doors and penetrations mitigation at four New York City Transit Authority bus depots located in Manhattan, Queens and Staten Island. Project included surveying existing opening conditions and potential water leakage through penetration below the design flood elevation. Provided designs replacing existing hollow metal doors with flood resistant doors and replacement of penetration sealants below the design flood elevation.

Barry Park Field House Re-Imagined Pro Bono
City of Syracuse, NY

Project architect for the renovation of the Barry Park Field House. The field house is situated in Barry Park and is not configured to meet future growth and uses. The field house renovation design plans provided the City of Syracuse with a road map to expand the use of the facility as funds become available. The renovation plans included a new exterior façade with insulation to allow for use of the facility during the winter months, upgrading restrooms with better accessibility and functionality, improved storage and common space utilization, and new outdoor pavilions for recreational events which include music events and arts and crafts.

Bellevue Hospital Flood Resiliency
New York City Health and Hospitals Corp, New York, NY

Architect on design team reviewing options for short term flood mitigation as long-term plans are being developed. Review options are possible conflicts with egress and circulation and aesthetic concerns. Developed wall enhancement options for permanent flood barrier walls. Developed conceptual design for relocated electrical equipment to study impact on street and surrounding services.

Jersey City Medical Center (JCMC) Flood Protection
RWJ Barnabas Health, Jersey City, NJ

Lead architect on the JCMC flood protection design. Responsible for the integration of the flood protection measures into the urban fabric and public way. Reviewed flood protection design for constructability including hospital's ability to maintain functions. Flood mitigation measures used on the project included deployable barriers, flood doors and feature flood walls. Establishing architectural language that complements the existing building architecture and blends into the public way streetscape.

Activation of City Tunnel No. 3 Stage 2
NYCDEP, New York, NY

Served as principal architect, provided technical expertise during the New York City Tunnel No. 3 Activation project. Reviewed and helped with the waterproofing and various other architectural components of the below grade shafts. Met with waterproofing manufacturers and contractor to resolve waterproofing seepage issues and other work. Observed and documented contractor's corrective work including installation of waterproofing membrane on buried structures.

In City Dam Facility Plan Central Park
NYCDEP, New York, NY

Project architect for the assessment and renovation of Jackie Onassis Kennedy Reservoir Gate House structures which are landmarked. The reservoir structures consist of three gate houses with valve and piping chambers below. The architectural scope included the evaluation and assessment of the architectural components and the design of approved recommended repairs to the gate houses. Recommended architectural work included replacement of original metal entry doors, provide entry landing meeting environmental health and safety standards, re-establishment of window glazing and masonry refurbishment of interior brick and masonry walls.

Brian Duane, PE

Pumping Systems

Mr. Duane's experience includes the design of more than 50 water and wastewater pumping facilities with capacities of more than 1-million gallon per day (mgd). He is a technical expert in hydraulics, pumping systems and the design of mechanical process systems, and he routinely assists with start-up and troubleshooting of mechanical systems. Throughout his career, he has partnered with clients to provide cost-effective solutions that are functional, practical, maintainable, and constructible. He offers exceptional value to clients based on his proven track record of practical design, history of successful project execution and completion, and understanding of the client's needs during the construction, start-up and post-construction project phases.

Education/Qualifications

- BS, Mechanical Engineering, Georgia Institute of Technology, 1981

Years of Experience

Total – 43
With Arcadis – 9

Professional Registration/ Certifications

- Professional Engineer – FL, GA, NY, TX

Relevant Experience

Hollywood Water Treatment Plant (WTP) High Service Pump Station
City of Hollywood, FL

Design Engineer for the preliminary design and technical advisor for the final design of 57.6-mgd firm capacity pump station that included six 8,000-gallons per minute, 400-hp horizontal split case pumps with variable frequency drives (VFDs). Project included scale hydraulic modeling of the clear wells at Clemson Engineering Hydraulics to verify suction intake conditions.

C-139 Flow Equalization Basin and G-550 Pump Station
South Florida Water Management District, Clewiston, FL

Pump Station Lead during preliminary design and technical advisor during final design and construction of a 450-mgd (690-CFS) pump station utilized during high flow events to convey wet weather flows to a flow equalization basin preventing the discharge of untreated water into the Florida Everglades. The pump station included a HI 9.8 compliant intake channels and pump intakes, six flex rake screens, six vertical line shaft axial flow pumps (74-mgd) and an emergency generator.

Elm Fork Water Treatment Plant (WTP) Pump Station 1
Dallas Water Utilities, Dallas, TX

Technical Advisor for the 160-mgd high-service pump station (four 40-mgd horizontal split case pumps with 2,750-hp motors) and 220-mgd raw water pump station. Project included scale hydraulic modeling of suction piping at Clemson Engineering Hydraulics.

Richland Creek River Intake and Reservoir Pump Stations
Paulding County, Dallas, GA

Technical Advisor during the construction of a 64-mgd raw water intake and pump station on the Etowah River and 36-mgd reservoir intake and pump station. The raw water intake consisted of half-barrel intake screens with air-

burst cleaning system and four 16-mgd, 1,500-hp, wet well mounted vertical turbine pumps. The reservoir pump station consisted of a tower style intake structure with three 9-mgd, 400-hp, wet well mounted vertical turbine pumps.

Cornish Creek WTP Upgrade
Newton County Water Resources, Newton County, GA

Performed preliminary engineering review of the raw water pumping system and quality assurance review of the high service pumping system for the $130 million WTP upgrade.

Southeast Louisiana Pump Station #13
United States Army Corps of Engineers, Algiers, LA

Technical Advisor/Mechanical Quality Control Reviewer for the pump station with three axial flow pumps, six mechanical bar screens, and three standby emergency generators for pump operation during power outages. Each pump was rated for 388-mgd (600-cubic feet per second [CFS]) at a Total Dynamic Head (TDH) of 23.5 feet and powered by 3,000-hp motors driving the pumps through an in-line planetary gearbox. The pumps take suction from a hydraulic institute 9.8 compliant intake through formed suction intakes (type 10). The intake was hydraulically proven in a Froude-scale hydraulic model at Clemson Engineering Hydraulics.

Lake Huron WTP Low Lift & Wash Water Pump
Great Lakes Water Authority, Detroit, MI

Technical Advisor/Quality Control Reviewer for the evaluation/replacement of two 1,250-hp, 100-mgd low lift vertical turbine pumps, and two 2,250-hp, 200-mgd low lift vertical turbine pumps and four 900-hp, 50-mgd vertical turbine wash water pumps. All pumps were driven by synchronous motors.

Potomac Raw Water Pump Station
Loudoun Water, Leesburg, VA

Technical Advisor during the construction, start-up, and commissioning of a 40-mgd raw water pump station and intake on the Potomac River. The intake consisted of 16 half-barrel, 1-millimeter intake screens with flushing and air burst support systems. The pumping station sits on top of a 100-foot deep, 29-foot finished diameter shaft connected to the river via a 12-foot diameter tunnel. Four 900-hp vertical turbines lift water from the Potomac River and convey it to Loudoun Water's Trap Rock Water Treatment Facility.

Henry F. Sliwinski WTP
Frederick Water, Frederick County, VA

Technical Advisor/Mechanical Quality Control Reviewer for the design of the new 8-mgd direct membrane filtration with chlorine disinfection WTP. The high service pumps were three vertical turbine pumps in suction barrels/cans. The six stage pumps were rated at 4-mgd with a TDH of 565-foot and powered by 600-hp motors.

Holmes Run Pump Station Rehabilitation Design
Fairfax County, Fairfax, VA

Quality Assurance/Quality Control/Technical Advisor for the project including the generation of a BIM 3D facility and asset model. Major upgrades included the addition of four VFDs with passive harmonic filters for the 150-hp pump motors, automatic transfer switch, generator docking station, temporary load bank connection and standby generator.

Geist Reservoir Quarry Pump Station
Citizens Energy Group, Indianapolis, IN

Technical Advisor/Quality Control Reviewer for the design of a 100-mgd intake structure with coarse bar screens and a 230-foot deep 7-foot. diameter vertical drop shaft that connects to an 8-foot diameter horizontal tunnel to convey raw water from the Geist Reservoir to the bottom of the converted quarry. The pump station consisted of four 48-inch diameter vertical drop shafts from the top of the quarry wall 230 feet. down to the bottom of the quarry to tying into an 8-foot diameter horizontal tunnel to withdraw water from the bottom of the quarry. Each vertical drop shaft is equipped with a 600-hp vertical turbine pump operated on VFDs and a pressure regulating valve to deliver a minimum of 10-mgd each across the entire 230-foot range of static head conditions.

Eric Battle, PE

Electrical

Mr. Battle is a senior electrical engineer with extensive and varied experience in the analysis, design and services during construction of power distribution systems, facility systems, power system analysis calculations, as well as I&C systems and SCADA. He has gained skills through the design, bidding, procurement, and construction management of many water and wastewater facility projects and upgrades. He demonstrates strong relationship management and communication skills with the ability to network and team with project managers, peers, clients, vendors and contractors. Mr. Battle is resourceful, analytical, and detail driven on every project, no matter the scale, with a goal to provide his clients with the best possible service and products.

Education/Qualifications

- BS, Electrical Engineering, Virginia Commonwealth University, 2004

Years of Experience

Total – 17
With Arcadis – 9

Professional Registrations/ Certifications

- Professional Engineer – FL, GA, PR

Relevant Experience

Miramar West Water Treatment Plant – Nanofiltration Upgrades
City of Miramar, FL

Lead Electrical Engineer for the upgrade and expansion of the existing West Water Treatment Plant. The treatment process consists of nanofiltration membrane softening for softening of Biscayne Aquifer raw water, and reverse osmosis membrane treatment for TDS removal with Floridan Aquifer as the feed water. Post treatment includes permeate degasification, chemical injection (fluoride, sodium hypochlorite, sodium hydroxide, and corrosion inhibitor), transfer pumping, and clearwell storage. A detailed evaluation of the whole electrical system of the plant was performed to confirm the equipment that needed to be replaced, and/or upsized to accommodate demands of the new equipment.

Lift Station No. 6 Rehabilitation Engineering, Services During Construction and Post Construction Services
City of Hallandale Beach, FL

With the existing lift station structure past the end of its service life, Arcadis recommended that the station be rebuilt to meet current and future demand per client requirements. This project work included design, permitting coordination, bidding, support, and services during construction (SDC) for the rehabilitation of Lift Station No. 6. Provided project electrical/I&C engineer support.

Picayune Strand Restoration Project
South Florida Water Management District, Naples, FL

The Picayune Strand Restoration Project scope included the development of plans and specifications and engineering services during construction for three flood control pump stations totaling 4,780 cubic feet per second capacity as part of the SFWMD Acceler8 program. Mr. Battle's scope of work included producing both electrical and I&C detailed contract drawings, schematics, project specifications and construction cost estimate documentation. During construction, Mr. Battle conducted walkdowns of facility systems with contractor staff to observe progress

and conformity to the contract documents. Systems designed and inspected include: Electrical distribution system including Diesel Generators, Brackett Green Traveling Bridge Screens, Duperon Screens, Diesel Pumps, Cooling Water Systems, Lubricating Water Systems, Exhaust and Supply Fans, Lube Oil Systems, Lightning Protection Systems, Fire Detection and Alarm Systems and Access Control Systems, SCADA.

As-Needed Engineering Contract
Tampa Bay Water, FL

Electrical/I&C Design Engineer for numerous utility engineering improvement projects for Tampa Bay Water under the existing as needed/ master service agreement. Projects include: Tampa Bypass Canal Transmission Main Cathodic Protection Improvements and Advanced Decision Intelligence Program.

Tallahassee Engineering Services, Water Resources Engineering, Water/Wastewater Services
City of Tallahassee, FL

Electrical/I&C design engineer for professional services relating to permitting services, design services, construction-related services, specific projects, and engineering studies.

William E. Dunn Water Reclamation Facility Headworks
Pinellas County, Palm Harbor, FL

Project electrical/I&C engineer for the design and construction to replace the existing screens and implement improvements to the headworks for better inorganic solids removal. The system included power distribution modifications, variable frequency drive (VFD) driven influent mechanical bar screens, automated compactors, new programmable logic controllers (PLCs) and integration into the facility's existing SCADA system. Construction administration services included both electrical and I&C support for RFI's, submittal reviews, performance testing and documentation, etc.

Airport WRF Expansion Modifications
Hernando County, FL

Scope of work included making modifications to electrical design, including coordination with two other consulting firms and development of electrical plans, schematics, diagrams, detailed drawings, project specifications and construction cost estimate documentation. Conducted walkdowns of facility systems with contractor staff to observe status of punch list items and verify completion including electrical distribution system including diesel generator and paralleling switchgear, electrical buildings, headworks, oxidation ditches, dewatering building, clarifiers, RAS/WAS, plant water, chlorine injection building, etc.

Pump Station Electrical/SCADA Upgrades Phase II
Hillsborough County, Tampa, FL

Electrical/I&C design engineer for the $18-million rehabilitation and installation of the new SCADA control systems for 326 existing and new pump stations. The project included the installation of new control panels, underground raceway systems and power systems for the pump stations upgrades. Duties included general construction phase engineering services, inspections, as well as startup and testing.

Oberly PS Chemical Addition
City of St. Petersburg, FL

Responsible for the modifications to existing structures including demolition of remaining chlorine gas equipment, preparation of the space for the new sodium hypochlorite, ammonia, and sodium hydroxide equipment, routing of new conduit and piping, and installation and start-up of new chemical injection equipment.

Hamlin Water Reclamation Facility
Orange County, FL

Electrical/I&C Design Engineer — For the 5-mgd Hamlin Water Reclamation Facility. This is a brand-new facility that started operation in September 2022 and is treating water to reclaimed water standards. Responsibilities include troubleshooting commissioning issues and coordination with owner, contractor and equipment suppliers.

Hemphill Pump Station Upgrades
City of Atlanta, GA

Senior electrical engineer who produced both electrical and I&C detailed contract drawings, schematics, project specifications and construction cost estimate documentation. During construction, conducted walkdowns of client facility systems with construction contractor staff to observe progress and conformity to the contract documents.

Albert Whitted Water Reclamation Facility Influent Pump Station
City of St. Petersburg, FL

Associate Electrical Engineer. Duties include electrical design of 30 mgd submersible pumping capability, new 30 mgd coarse bar screen equipment with conveyor system, and fine screenings compactor units at existing headworks.

Inna Hely, PE

I&C / SCADA

Ms. Hely is experienced in designing and specifying instrumentation and control systems for water and wastewater treatment facilities. Her experience includes automation strategy design as well as network design for Supervisory Control and Data Acquisition (SCADA) systems. She has worked on extensive assessments of existing instrumentation systems and established plans, specifications, and designs for upgrades. She has extensive experience in programming and configuration of SCADA systems, as well as experience in start-up and construction administration.

Education/Qualifications

- BS, Electrical Engineering, Boston University, 2004

Years of Experience

Total – 21
With Arcadis – 21

Professional Registration/ Certifications

- Professional Engineer – FL, DC, GA, MN, NY, PA, SC, VA,
- CDT (Construction Document Technologist)

Relevant Experience

Miramar West Water Treatment Plant – Nanofiltration Upgrades
City of Miramar, FL

Lead Instrumentation and Controls Engineer responsible for the upgrade and expansion of the existing West Water Treatment Plant. The treatment process consists of nanofiltration membrane softening for softening of Biscayne Aquifer raw water, and reverse osmosis membrane treatment for TDS removal with Floridan Aquifer as the feed water. Post treatment includes permeate degasification, chemical injection (fluoride, sodium hypochlorite, sodium hydroxide, and corrosion inhibitor), transfer pumping, and clearwell storage. A detailed evaluation of the whole instrumentation and SCADA system of the plant was performed, several panels are being replaced as part of the integration process.

Wastewater Treatment Consolidation Project
Chemung County Sewer District, NY

Performing design and all Programming Control Logic (PLC) programming and Human Machine Interface (HMI) configuration for the complete replacement of the SCADA system at two wastewater plants. The new SCADA system design includes the installation of 14 new PLC panels, three with redundant PLC processors, integration of seven other PLC panels, installation of redundant SCADA servers, a plant wide fiber optic network, and a cellular network for communication to remote sites. Process control includes preliminary treatment, trickling filters, secondary treatment including moving bed biofilm reactors, methanol feed system, UV disinfection, gravity belt thickeners, belt filter presses, and digestors. Auxiliary systems include polymer, chlorine gas, non-potable water, and odor and corrosion control systems.

Central Plant BNR Upgrades and CSO Long Term Control Plan Implementation
Williamsport Sewer Authority, PA

Designed and completed all Programming Control Logic (PLC) programming and Human Machine Interface (HMI) configuration for the SCADA upgrade of the 21-mgd Central Plant, as well as the setup of a new plant-wide Ethernet TCP/IP

network. SCADA system included ten PLCs, redundant HMI servers and remote client workstations, a Historian server, and alarm notification software. Control strategies implemented included preliminary treatment, CSO, aeration tanks and blowers, secondary clarifiers and RAS, denitrification filters, methanol, NPW system, and various chemical systems. Coordinated the startup of all plant control panels and workstations for a complete SCADA system.

Falling Creek Treatment Plant BNR Upgrade
Chesterfield County, Richmond, VA.

Designed control upgrades for new fine screens, methanol storage and feed system and an integrated fixed film activated sludge system.

Loudon Water Raw Water Intake and Potomac Raw Water Pumping Station
Loudon Water, Ashburn, VA

PLC programming and HMI configuration for the raw water intake and pump station. Control strategies included raw water pump control, raw water intake and air burst system, intake screen flush system, chemical system, surge tank system, and auxiliary systems.

Cobbs Creek Regional Water Supply Reservoir
Henrico County, Columbia, VA

Instrumentation & controls for the150-mgd raw water pump station. Station included six 25-mgd vertical turbine pumps, two wet wells to comply with HI standards, and innovative piping to allow 72-inch discharge header to accommodate return flow to the river.

Holmes Run Pump Station Rehabilitation Design
Fairfax County, Fairfax, VA

Instrumentation & Controls: The project includes the generation of a Building Information Modeling 3-Dimensional (3D) facility and asset model. Major upgrades include the addition of four variable frequency drives (VFDs) with passive harmonic filters for the 150-hp pump motors, automatic transfer switch, generator docking station, temporary load bank connection, and standby generator.

Turner Road Pump Station Rehabilitation Design and Construction
Chesterfield County, VA

Instrumentation & controls for the rehabilitation design of a 35-year-old wastewater pump station in Chesterfield County, Virginia, doubling the firm pumping capacity of the pump station to 35.7 mgd.

Noman M Cole Jr. Pollution Control Plant Filter Rehabilitation Project
Fairfax County, Fairfax, VA

Designed and implemented a pilot SCADA system to collect, store and transmit required compliance data. Performed programming and configuration of pilot SCADA system as well as operator and system maintenance training of the new system.

SCADA Systems Replacement Project
Henrico County, Henrico, VA

Performed design for the complete replacement of the SCADA systems at water and wastewater facilities, including the water reclamation facility, water treatment facility, and over 30 remote pump stations. The design includes the installation of 21 new PLC panels and the modification of over 60 others.

Huntington Levee Project Phase II
Fairfax County, Fairfax, VA

Performed design of a 155-mgd pumping station for flood protection. Design included all status monitoring, remote control, and automation. Engineering services will include programming and configuration of all new process control hardware.

West Plant Headworks and Secondary Digester Cover Replacement
Williamsport Sewer Authority, Williamsport, PA

Designed and completed all PLC programming and Human Machine Interface (HMI) configuration for the Headworks replacement of the West Plant. Interface with the existing system included modifications to several plant PLCs as well as a reconfiguration of the plant-wide PLC Ethernet network. Control strategies implemented included coarse bar screens, influent pumping, fine screens, and grit system. Interfaced new headworks control system with the existing plant wide system. Coordinated the startup to provide a completely integrated SCADA system.

Filtration Plant Control System Upgrades
Williamsport Municipal Water Authority, Williamsport, PA

Designed and completed all PLC programming and HMI configuration for the SCADA upgrade of the WTP. Project included the installation of a brand-new SCADA system, the replacement and/or modification of all PLC control panels in the plant and two remote pump stations, as well as installation of associated electrical conduit and wiring, and fiber optic cable. Simultaneously, performed construction administration for this project.

Donnell Duncan, PE, SE

Structural

Mr. Duncan is the South Regional Structural Engineer in the Resilience (Water) Business Area serving as the Structural Engineer of Record on projects ranging from a $100+ million wastewater treatment plant design in California to condition assessments and forensic investigations of existing sanitary structures throughout the Southeastern United States.

Education/Qualifications

- MS, Civil Engineering, Georgia Institute of Technology, 2003
- BS, Applied Physics, Morehouse College, 2002
- BS, Civil Engineering, Georgia Institute of Technology, 2002

Years of Experience

Total – 22
With Arcadis – 8

Professional Registration/ Certifications

- Professional Engineer – FL, GA, TN, LA, MI, PA, TX, NC, AR, MN, KS, IA, OH, MD, AL, VA, CA, SD, KY, SC, ND, MS, IN, DC, UT, HI, PR, WA
- Structural Engineer/ SE – GA, IL, NE, AZ

Relevant Experience

Miramar West Water Treatment Plant – Nanofiltration Upgrades
City of Miramar, FL

Lead Structural Engineer for the upgrade and expansion of the existing West Water Treatment Plant. The treatment process consists of nanofiltration membrane softening for softening of Biscayne Aquifer raw water, and reverse osmosis membrane treatment for TDS removal with Floridan Aquifer as the feed water. Post treatment includes permeate degasification, chemical injection (fluoride, sodium hypochlorite, sodium hydroxide, and corrosion inhibitor), transfer pumping, and clearwell storage.

Hollywood WTP – Aeration Building Pump Station
City of Hollywood, FL

Lead Structural Engineer, for the rehabilitation of the existing Aeration Building Pump Station (Secondary Pump Station). The work included the replacement of two (2) 4,500 gpm pumps with one (1) 5,000 gpm pumps with variable frequency drives, new valves and piping. The work also includes a new electrical room.

Prospect Lake WTP Enabling Works, Replacement of Existing High Service Pumps at Fiveash Water Treatment Plant (WTP)
City of Fort Lauderdale, FL

Lead Structural Engineer, this project includes the detailed design of the new High Service Pump Station (HSPS) and new Ground Above Grade Storage Tank (AGST). The scope includes 6 new horizontal split case pumps (70 MGD in total), 2 new generators, 2 new 20,000 gallons fuel tanks, and second story offices inside the new pump station building. The work also includes a 5 MG ground storage tank.

Design of Southwest Water Reclamation Facility
Orange County Government, Orange County, FL

Technical advisor and QA/QC. Reviewed structural design, drawings, and specifications for this new 5 MGD Water Reclamation Facility (with provision for future expansion to 15 MGD). Structures include headworks, Activated Sludge treatment structure, blower building, secondary clarifiers, RAS-WAS pumping Stations, CCT, Disc Filtration, Effluent Transfer Station, water Storage, Sludge Holding Tank, Operation Building, Belt Filter Press canopy, Maintenance Building, Electrical Buildings.

Opequon Water Supply Project
Frederick Water, Frederick County, VA

Structural Engineer of Record. Frederick Water undertook the Opequon Water Supply Plan (OWSP) to provide a reliable, sustainable water source. The goal of the OWSP is to construct a new 8 MGD water treatment plant that takes water from Opequon Creek and provides treated water for the existing distribution system. It also includes upgrades to an existing groundwater well that will provide raw water to Frederick Water's Diehl WFP while the new water treatment plant is under construction.

Sterling Natural Resource Center Design-Build Project
East Valley Water District, Highland, CA

Structural Engineer of Record. Balfour Beatty and Arcadis have teamed together to deliver a state-of-the-art wastewater treatment facility which will produce water to recharge the natural groundwater aquifer, with a design focused on reliability, efficiency, and flexibility to initially treat 8 million gallons of water per day. Structures include the Aeration tank and equipment building, Headworks, Influent Pump Station, Grit Tanks, Electrical Building, Plant Drain Pump Station, Membrane Bio Reactor and Chemical Storage.

Sustainable Water Instructure Design-Build Project
Department of Public Works, City of Santa Monica, CA

Structural Engineer of Record. Kiewit Infrastructure West, Arcadis and Perc Water have teamed together to construct the Sustainable Water Infrastructure Program (SWIP) consisting of three elements. Element 1: a modular reverse osmosis (RO) unit at the Santa Monica Urban Runoff Recycling Facility (SMURRF), a new shallow brackish and saline groundwater extraction well at the beach, and new solar panels for energy offset. Element 2: a below grade stormwater and sewer treatment facility at the Civic Center Lot with 1 million gallons per day (MGD) capacity. Element 3: two new stormwater harvesting tanks at Memorial Park and the Civic Center Lot, with 4.5 million gallons (MG) capacity. He leads the Arcadis structural team responsible for Elements 1 and 3.

Noman Cole PCP – Tertiary Filtration Rehabilitation
Fairfax County, Fairfax, VA

Structural Engineer of Record. responsible for study and design rehabilitation of the 30 mgd tertiary filters. Project included replacement of all sluice gates, valves, and associated actuators, demolition of waste backwash pump station and replacement with new pump station, extensive site piping, and extensive coordination of maintenance of plant operation. Project included Construction Administration Services.

Alcovy River Pump Station Improvements
Gwinnett County Department of Water Resources, Lawrenceville, GA

Structural Investigator and QA/QC: Led structural engineering team for rehabilitation of the wet well and grinder channel at the Alcovy River Pump Station. Performed confined space entry inspections in the below-grade concrete wet well to determine condition of the existing concrete and steel beams, performed QA/QC on the recommendations for rehabilitation methods.

Turner Road Pump Station
Chesterfield County, Chesterfield, VA

Structural Engineer of Record. The Turner Road Pumping Station (TRPS) is a 14.4-mgd wastewater pump station constructed in 1988. Structural modifications included the repair of cracks in the lower-level pump room slab and walls; new concrete pump bases; extension of the mid-level platform to provide access to the relocated Magmeter; support for a new bridge crane in the upper-level motor room; analysis of the upper-level motor room floor to accommodate the increased loads; support pads for the new generator and the new transformer.

Pump Station No. 93 Pump Improvements
Norfolk Department of Public Utilities, Norfolk, VA

Structural Engineer of Record. Improvements to the station's pumps and controls, the wet well and existing pump site was utilized, resulting in significant time and cost savings. During the design phase of the proposed pump and site improvements, the Arcadis design team performed the design of the new pump station control building and associated site improvements. This design effort will be followed by construction administration.

Holmes Run Pump Station Rehabilitation Project
Fairfax County, Fairfax, VA

Structural Engineer of Record. Project included site improvements, including drainage upgrades, a new driveway, and other miscellaneous site work, equipment replacement or rehabilitation, including analysis of all process mechanical, instrumentation and control, electrical, HVAC, plumbing, fire protection, structural, and architectural design elements. Structural modifications included replacement of metal stairs, steel beams, wet well concrete repair, etc.

Jose Custodio, PE

Pipelines Design

Mr. Custodio is a professional engineer with experience in designing small and large diameter pipeline projects, including different trenchless technologies like pre-chlorinated pipe bursting, horizontal directional drilling, jack-and-bore, compression fit lining and cured-in-place pipe (CIPP) rehabilitation. Work experience includes planning, design and permitting. In addition, Mr. Custodio has experience in the public sector being previously a project manager for the City of Fort Lauderdale and Public Works Director/Town Engineer for the Town of Bay Harbor Islands in Florida, where he was responsible of developing and managing the City's Capital Improvement Plan (CIP) projects.

Education/Qualifications

- ME, Construction Engineering, Polytechnic University of PR, 2013
- BS, Civil Engineering, Polytechnic University of PR, 2010

Years of Experience

Total – 16
With Arcadis – 4.5

Professional Registrations/ Certifications

- Professional Engineer – FL (#81080), PR
- OSHA – 30 Hrs. Construction Industry
- Florida Department of Environmental Protection Agency (FDEP) – Qualified Stormwater Management Inspector
- American Water Works Association

Relevant Experience

Lift Station 30 Force Main Replacement
Toho Water Authority, Kissimmee, FL

EOR for the replacement of approximately 3,100 LF of 8-inch cast iron force main with a new 12-inch PVC and HDPE sanitary sewer force main. Design included horizonal directional drill under FDOT right-of-way and open cut installation within residential streets. Obtained permits with FDEP, FDOT, and City of Kissimmee. Provided design services, permitting services, bid assistance and design services during construction.

Lavon Avenue Water Main Replacement
Toho Water Authority, Kissimmee, FL

EOR for the replacement of 2,900 LF of undersized and aging 2-inch water main to 6-inch PVC water main. Design included new fire hydrants to meet fire protection requirements and service connections up to the meter for residential and commercial customers. Coordinated permitting with FDEP, FDOT, and the City of Kissimmee. Provided design services, permitting services, and bid assistance services. Design services during construction are ongoing.

FDEP Consent Order Project - 30-inch Force Main A-Repump Station to GTL Wastewater Treatment Plant
City of Fort Lauderdale, FL

Design-build project – responsible of managing the design and performed construction management of the project through final completion and close-out to comply with the FDEP Consent Order deadline and avoiding penalty fees to the City. Project consisted of the trenchless repair/rehabilitation of approximately 20,000 LF of 30-inch-diameter force main located along the Fort Lauderdale Downtown area. In addition to the typical open-cut installation, various trenchless methods were used like horizontal directional drilling and compression fit. The construction cost of the project was $15,500,000.

Westside Boulevard Force Main Emergency Replacement
Toho Water Authority, Kissimmee, FL

EOR for the replacement of approximately 3,400 LF of 20-inch cast iron force main with a 20-inch PVC and HDPE sanitary sewer force main. Design included horizonal directional drill and open cut installation within Osceola County right-of-way. Design and permitting services are ongoing. Close coordination with the Westside k-8 School was key on this project.

OUC Fern Creek
Orlando Utility Commission (OUC), Orlando, FL

QAQC. Designed the replacement of approximately 5,000 LF of OUC's water mains located within the portion of Fern Creek Avenue replacing existing pipes resulting in improving water supply reliability and quality, thereby reducing service interruptions from water main breaks, along with improved fire flow capability. At the same time, OUC constructed an underground 230 kV electric transmission line (designed by others) within the same corridor that was coordinated with the water project. Provided professional engineering services including coordination between OUC's water and electrical distribution departments and consultants design documents for water main replacement, technical specification, and construction support including bid support, shop drawing review, project site visits, jurisdictional acceptance, and project close out.

54-Inch Finished Water Line from New Prospect CWC to Fiveash WTP
City of Fort Lauderdale, FL

Design manager, responsible to develop a design criteria package for 17,500 LF of 54-inch finished water line that will convey finished water from the new Prospect Lake Clean Water Center to the Fiveash WTP Storage Tanks. The work included a combination of open cut and trenchless installation, including horizontal directional drilling and a Jack and Bore under the CSX railroad. The pipe materials were HDPE for the horizontal directional drilling phases and PCCP for the open cut areas. Close coordination with Fort Lauderdale Executive Airport was key for the success of the project. Arcadis also provided 24/7 onsite inspections and construction management services.

FDEP Consent Order Project - 30-inch Force Main A-Repump Station to GTL Wastewater Treatment Plant
City of Fort Lauderdale, FL

Design-build project – responsible of managing the design and performed construction management of the project through final completion and close-out to comply with the FDEP Consent Order deadline and avoiding penalty fees to the City. Project consisted of the trenchless repair/rehabilitation of approximately 20,000 LF of 30-inch-diameter force main located along the Fort Lauderdale Downtown area. In addition to the typical open-cut installation, various trenchless methods were used like horizontal directional drilling and compression fit.

PRWC Southeast Wellfield and Water Production Transmission Main (Segment 3)
Polk County, FL

CMAR project - responsible for the 60% design of approximately 6 miles of a DIP/HDPE water transmission line near Lake Hamilton. The diameter of the new main is 30-inch and is part of the program to identify new water sources for the Water Cooperative.

Central New River Water Main Crossing
City of Fort Lauderdale, FL

Design-build project – responsible for the design of approximately 600 LF of a 20-inch subaqueous water main crossing under the New River Canal in Downtown Fort Lauderdale using Horizontal Directional Drilling. The project required permits from USACE, FDEP and Broward County.

Coral Shores Small Water Mains Improvements
City of Fort Lauderdale, FL

Design-build project – responsible for the design of approximately 6,000 LF of new 8-inch HDPE water mains and more than 100 service connections in the Coral Shores Neighborhood in Fort Lauderdale.

Croissant Park Small Water Mains Improvements
City of Fort Lauderdale, FL

Responsible of managing the design, bidding and construction phase of the project through final completion and close-out. Project consisted of the replacement of aging and undersized infrastructure (approximately 16,000 LF of 2, 4 and 6-inch-diameter cast iron water mains) with an 8-inch-diameter HDPE water main, replacement of fire hydrants, 375 service connections and relocation of water meters located in private property within the neighborhood. The installation methods used were open-cut trench for the tie-ins to existing system, and a combination of pre-chlorinated pipe bursting and horizontal directional drilling for the new water main. The construction cost of the project is $2,600,000.

David Wilson, PE

Pipelines Design

Mr. Wilson has civil and environmental engineering experience in all aspects of pipeline project design and management including supervision, engineer of record responsibilities, plans & specification QA/QC, estimating, permitting and construction support. He is a licensed professional engineer in Georgia, Tennessee and Florida. His areas of expertise include sanitary sewer and stormwater conveyance, wastewater treatment, detention/retention ponds, site grading, roadways, and sedimentation and erosion controls. He has participated in projects involving owner's engineer services, permitting and construction support, wastewater treatment plant design, water reuse, and wastewater treatment plant start-up. His knowledge encompasses industrial, commercial and residential development; and infrastructure rehabilitation. He is particularly adept at innovative problem solving to deliver practical and efficient solutions.

Education/Qualifications

- BS, Civil Engineering, Tennessee Technological University, 1984

Years of Experience

Total – 41

With Arcadis – 8

Professional Registrations/ Certifications

- Professional Engineer – FL (#65319), GA, TN
- Level II Certified Design Professional - GA
- Wastewater Treatment Plant Operator - Class IV - TN
- Erosion Prevention and Sediment Control 2 - TN

Relevant Experience

Orlando Water Main Replacement Projects Along City's Brick Streets (Under Construction)

Orlando Utilities commission, Orlando, FL

Senior Engineer for the design of replacement approximately 14,500 LF of 2-inch through 20-inch-diameter potable water mains and for the replacement of associated parallel sanitary sewers (with laterals) located within the City's existing Brick Streets which are to be restored. Work includes the development of design plans and specifications, Client meetings, EOPCC development, permitting & bidding services, and professionals engineering services during construction.

OUC Fern Creek

Orlando Utility Commission (OUC), Orlando, FL

Engineer of Record. Designed the replacement of approximately 5,000 LF of OUC's water mains located within the portion of Fern Creek Avenue replacing existing pipes resulting in improving water supply reliability and quality, thereby reducing service interruptions from water main breaks, along with improved fire flow capability. At the same time, OUC constructed an underground 230 kV electric transmission line (designed by others) within the same corridor that was coordinated with the water project. Provided professional engineering services including coordination between OUC's water and electrical distribution departments and consultants, design documents for water main replacement, technical specification, and construction support including bid support, shop drawing review, project site visits,

Lift Station 30 Force Main Replacement

Toho Water Authority, Kissimmee, FL

QA/QC for the replacement of approximately 3,100 LF of 8-inch cast iron force main with a new 12-inch PVC and HDPE sanitary sewer force main. Design included horizonal directional drill under FDOT right-of-way and open cut installation within residential streets. Obtained permits with FDEP, FDOT and

City of Kissimmee. Provided design services, permitting services, bid assistance and design services during construction.

Lavon Avenue Water Main Replacement

Toho Water Authority, Kissimmee, FL

QA/QC for the replacement of 2,900 LF of undersized and aging 2-inch water main to 6-inch PVC water main. Design included new fire hydrants to meet fire protection requirements and service connections up to the meter for residential and commercial customers. Coordinated permitting with FDEP, FDOT, and the City of Kissimmee. Provided design services, permitting services and bid assistance services. Design services during construction are ongoing.

Westside Boulevard Force Main Emergency Replacement

Toho Water Authority, Kissimmee, FL

QA/QC for the replacement of approximately 3,400 LF of 20-inch cast iron force main with a 20-inch PVC and HDPE sanitary sewer force main. Design included horizonal directional drill and open cut installation within Osceola County right-of-way. Design and permitting services are ongoing. Close coordination with the Westside k-8 School was key on this project.

Florida State Route 5 (US 1) Water & Sewer Utility Relocation (2024)

St. Johns County Public Utilities, St. Johns County, FL

Engineer of Record for relocation of a potable water main and sanitary sewer force main in conflict with new roadway drainage structures. Project work includes providing engineering services for the design and development of construction plans for the relocation approximately 750 LF of 8-inch sanitary sewer force main and approximately 600 LF of 12-inch potable water main by HDD and conventional excavation, 100% Technical Special Provisions package, permitting, bidding and construction phase services for the County project.

Southern Hillsborough County Water Supply Expansion Pipeline CIP # 01610 (2023)

Tampa Bay Water, Tampa, FL

Senior Engineer providing engineering support services to perform a preliminary routing study for approximately 84,000 LF of 66-inch-diameter potable water line. Work includes the development and analysis of five (5) alternative routes with weighted criteria including Utility Impacts, Right of Way Impacts, Public Inconvenience, Safety and Environmental impacts, to support planning and preliminary engineering design associated with the project.

Home Depot Master Force Main and Pump Station

Sarasota County Public Utilities Sarasota, FL

Engineer of Record for a new 16” sanitary sewer force main crossing I-75 and 12” FM beneath a major public street. Project work includes development of construction plans and specifications for the construction of over 4,000 LF of 16-inch sewer force main using conventional excavation, Jack-and-Boring and Horizonal Directional Drilling methods, and 45 LF of 12” FM by conventional excavation. Additional work includes the development of Erosion and sediment control plans and participating in stakeholder meetings to address questions regarding the system design and operations.

Priority Area Sewer Assessment and Rehabilitation Program Package 7 (Ongoing)

DeKalb County Dept of Watershed Mgmt., Decatur, GA

Engineering Manager and Engineer of Record for the Gravity Sewer System Upsize and Replacement Project. Work includes reviewing sanitary sewer data to development of construction and permitting drawings for the replacement of approximately 31,376 LF of 12-through 18-inch gravity sanitary sewer line by jack-and-bore and conventional excavation.

Gravity Sewer Rehab and Replace Package 2 (2024)

DeKalb County Dept of Watershed Mgmt., Decatur, GA

Engineering Manager and Engineer-of-record for the Gravity Sanitary Sewer System Rehabilitation and Replacement Design-Build Project. Work includes sanitary sewer design, permitting, erosion and sedimentation control documents and construction support for approximately 46,290 LF of active sewer pipe including, 20,500 LF of CIPP lining, 11,251 LF of pipe bursting, 890 LF of jack-and- bore, 549 LF of 30-inch-diameter horizontal directional drilling and 13,100 LF of excavation for the replacement and upsizing or rehab of gravity sewers.

Celine Hyer, PE, IAM

Asset Management

Ms. Hyer has previously worked on the WASD Asset Management Framework project and is currently engaged in the Integrated Master Plan project to support the renewal and replacement planning of all assets including lift stations, sewer mains and wastewater treatment facilities. This gives her unique qualifications, insights and institutional information that can be immediately applied to the CMOM project. Celine has over 35 years of combined experience working as a utility and as a consultant on implementing asset management programs. She has supported the planning, prioritization and implementation of numerous risk-based capital plans across the country, including large utilities such as NYCDEP, San Diego Water, DC Water, and San Antonio Water with a combined value of over $7 billion dollars. These projects have included condition and risk assessments for wastewater treatment plants, pumping stations and pipe assets. Her comprehensive programs have included strategic planning, service level development, risk assessment, capital planning prioritization using business cases and life-cycle costs to select the best project alternatives and prioritize the right projects to spend dollars on at the right time, and long-term funding needs analysis. Ms. Hyer currently serves as the AWWA Asset Management Committee Chair where she collaborates to share national best practices. She also is a member of the ASCE Committee on America's Infrastructure producing the water and sewer national reports cards for 2025 and leads their asset management division.

Education/Qualifications

- MS, Engineering Management, Florida Institute of Technology, 1989
- BS, Chemical Engineering, Florida Institute of Technology, 1988

Years of Experience

Total – 35
With Arcadis - 18

Professional Registration/ Certifications

- Professional Engineer – FL
- IAM Certificate – Institute of Asset Management

Relevant Experience

Asset Management Framework Design
Miami Dade Water and Sewer Department, Miami, FL
Technical Lead to conduct a gap analysis of asset management practices across the organization compared to industry standard frameworks such as the Water Environment Research Foundation (WERF) and ISO 55000 Frameworks. The gap analysis included significant staff interviews, data and procedure documents review as well as an in depth look at the IT systems supporting asset management such as GIS and CMMS. Once the gap analysis was completed the team created the "to be processes" and prioritized roadmap over time to meet best practices within the next 5 to 7 years. SOP's for key asset management practices were also outlined for future implementation. Phase II of the project is anticipated to close the high priority gaps.

Integrated Master Plan
Miami Dade Water and Sewer Department, Miami, FL
Technical Support for developing project prioritization criteria and condition and risk scores for the water, sewer and recycled water assets to determine the

renewal and replacement needs over the next 20 years. Evaluations will be made through desktop evaluations leveraging existing data sources.

Asset Management Implementation Phase I and II
Toho Water Authority, Kissimmee, FL

Program manager for asset management program implementation work for the overall asset management program since 2009. Tasks included establishing asset hierarchy and definitions, performance measures, performing inventory, condition, and risk assessments of 15 water and wastewater treatment plant and 300 lift station assets, creating procedures for prioritizing capital projects, analyzing asset criticality and consequence of failure and modifications to Infor EAM CMMS to produce capital planning reports and Service Level KPIs. Phase II task activities included writing a strategic asset management plan (SAMP) that included a gap analysis using the IAM SAM+ tool, prepared a detailed roadmap for improvements and defined program governance. Phase II also included preparing individual asset management plans (AMPs) with AMPs completed for gravity sewer and force mains, and wastewater pumping stations which were submitted to FDEP as part of a consent decree requirement. These AMPs evaluate condition and risk and define strategies to address high risk and poor condition assets through maintenance and capital programs as well as define tactical key performance measures to assist in meeting level of service goals defined in the SAMP.

Sewer Management Program
ECUA, Pensacola FL

Technical Advisor. Force main condition and risk assessment and capital planning portion of the ECUA Sewer Program. Work included desktop assessments based on pipeline age, attributes and failure history, and field condition assessments including Xylem SmartBall for gas pocket identification, Broadband Electromagnetic pipe wall thickness measurements for metallic pipe, and transient pressure monitoring to understand PVC pipeline fatigue and probability of failure. The proposed capital improvement program identified about $35-$40M in projects that needed to be completed in the next 5 years.

Project Prioritization and Asset Management
New York City Department of Environmental Protection, New York, NY

Technical Advisor for the condition and risk assessment of assets covering water, wastewater, stormwater, and all facilities owned and operated by NYCDEP, including over 80,000 equipment assets at treatment and pumping facilities and 200,000 pipe assets, including water, sewer and stormwater mains. The outcome of the data collection and evaluation was a 4- and 10-year capital plan for renewal and replacement of assets based on risk and remaining life. Business case templates and prioritization using a custom Arcadis-designed tool facilitated the CIP creation. Guidelines documents, tools and staff training have allowed NYCDEP staff to make this an ongoing program. Tools included a custom asset management information system that stored all risk data and created business cases and CMMS. Phase III was recently completed and included updates the CIP through new risk assessment and business cases for treatment plant and pumping assets, an update to the condition and risk assessment methodology to align with the recently published New York State Asset Management Guidance Document and leverage CMMS maintenance data, maintenance program effectiveness reviews, life cycle cost evaluation SOP, and ongoing training for staff. Phase IV is about to be underway to develop SOPs for Asset Configuration Management and provide staff training to support CMMS enhancements.

Large Diameter Pipeline Evaluation Program
JEA, Jacksonville FL

Program manager to manage all aspects of over 900 miles of large diameter water, gravity, and force main pipelines for risk assessment, capital program development, conceptual design, and management of final design and construction over a five-year period. The risk assessment includes GIS analysis of existing data and field condition assessment services including CCTV, sonar, Smartball acoustic gas pocket analysis, Echologics e-Pulse acoustic pipe wall thickness testing, Hydromax p-CAT pressure wave pipe wall thickness testing, Broadband Electromagnetic wall thickness assessment, UT testing and soil corrosivity surveys. Additional studies included I&I evaluations, air release valve inspection and replacement program development, force main redundancy evaluations, and CMMS improvements support. The initial risk based Five-Year Capital Plan included the identification of over 40 projects at a value of approximately $120M for the pipeline renewals.

Christopher Tilman, PE, BCEE

Stormwater Design

Mr. Tilman provides professional engineering and consulting services in several civil engineering disciplines. He specializes in assisting municipal and industrial clients in Central and South Florida with various stormwater, site/civil infrastructure and permitting projects. His 26 years of experience includes project management and delivery, stormwater design services, mathematical modeling, regulatory permitting and compliance, and operation and maintenance evaluations. Mr. Tilman currently serves as Project Manager for the City of Sebastian Stormwater Master Plan project and is also a project team member on other stormwater projects.

Education/Qualifications

- BS, Civil Engineering, Auburn University Main Campus, 2000
- MS, Engineering Management, Troy University, 1997
- BS, Environmental Science, Auburn University Main Campus, 1994

Years of Experience

Total – 26
With Arcadis – 24

Professional Registration/ Certifications

- Professional Engineer – FL, AL, GA
- Board Certified Environment Engineer - US

Relevant Experience

Stormwater Master Plan
City of Sebastian, Sebastian, FL

Project Manager, responsible for the development of a stormwater master plan for the entire City area to address long-standing drainage issues. Project work included analysis of historical City files, preparing a GIS map for the entire City stormwater system, conducting field inspections and surveys of more than 800 seawalls and more than 4,200 stormwater culverts, inlets and associated structures, Hydraulic/Hydrologic modeling of stormwater runoff flows and pollutant loading, identifying and prioritizing capital projects, grant funding analysis and application preparation, and preparation of a master plan, including a comprehensive operations plan for the City's system.

Hamlin Wastewater Treatment Plant Design
Orange County Utilities Department, Orlando, FL

Site/Civil Design Engineer, responsible for the site civil and stormwater system design and ERP permitting for a new $113 million 5.0 mgd wastewater treatment plant on a 50-ac site. The stormwater design included three retention ponds designed to hold the runoff from a 100-year, 24-hour storm event, and had to account for the groundwater effects resulting from operations of adjacent Rapid Infiltration Basins (RIBs). Project work included analysis of historical site data, coordination with FDEP, SFWMD, and OCU, preparation of engineering calculations and drawings, groundwater studies using Green-Ampt groundwater infiltration calculations, 2-D and 3-D modeling for hydraulic/hydrologic flow routing and recovery analysis, permitting, and supporting documentation.

Florida CDBG-MIT Program Management
Carr, Riggs, and Ingram (CRI), Florida Department of Economic Opportunity (DEO), Tallahassee, FL

Technical Review Team Leader, responsible for completing the technical reviews for 61 Critical Facility Hardening Program and more than 80 General Infrastructure Program applications under the CDBG-MIT Program administered by DEO. Arcadis works as a subcontractor to Carl, Riggs, and Ingram (CRI) and provides program management consulting services. In conjunction with CRI, Arcadis provides program management consulting services to the Florida DEO as part of the agency's ongoing CDBG-MIT program. Arcadis functions as a subject matter expert and supports DEO grant managers in the development, approval, and implementation of eligible projects.

Omni-Vest Landfill Closure
Florida Dept. of Environmental Protection, Tallahassee, FL

Project Engineer, responsible for the design analysis of site stormwater controls in support of the approved Remedial Action Plan (RAP) to effect the closure of a 5.74-acre un-permitted commercial landfill dating back prior to 1972. The RAP addressed longstanding groundwater pollution issues related to metals, volatile organic compounds, and polynuclear aromatic hydrocarbons at the site. The landfill ceased operations in 1977, prior to the adoption of stormwater rules in the State, and was never properly closed. Project work included reviewing historical records, coordinating with FDEP staff, and preparing stormwater calculations, ICPR modelling, and detailed analysis reports to demonstrate that the proposed design necessary for closure of the Landfill was in accordance with the design requirements at the time of closure and exempt from the Environmental Resource Permit Program under Section 373.406(6) of the Florida Statutes.

Dimick Road and Potter Road Improvements
City of Boynton Beach, Boynton Beach, FL

Engineer of Record, responsible for the preparation of the engineering drawings, specifications, and SFWMD ERP permitting and FDOT ROW permitting for flood damage reduction improvements in an older 10-ac neighborhood on the Lake Worth Lagoon in the City of Boynton Beach. Project work includes analysis of historical rainfall and tidal elevation data, widening three existing residential streets (from 8-foot to 10-foot travel lanes), adding curbing, modifying driveways, relocating and modifying water, wastewater, gas, power, and CATV utility services, retrofitting and redesigning an inlet-and-pipe collection system to optimize flow through three existing outfalls, analysis and design of coastal structures, performing an alternatives analysis for various design options, and 2-D hydraulic and hydrologic modeling to simulate inline valve operations in all outfalls and tidal influences from the Lake Worth Lagoon.

Drainage System Recertification
Collins Aerospace, Miramar, FL

Project Manager, responsible for recertification of the Collins Aerospace stormwater management system (SWMS). Coordinated field evaluation of SWMS, reviewed SWMS as-built plans, prepared inspection memo with recommendations to qualify for re-certification, oversaw clean-up of catch basins and control structure, and issued a final memo. Prepared and submitted 5-Year Drainage Re-Certification Permit application to SBDD, scheduled final inspection of the SWMS with SBDD for approval of re-certification and renewal of Operations and Maintenance Permit.

Pinellas County Resource Recovery Facility National Pollutant Discharge Elimination System (NPDES) Permitting Support Services
Pinellas County Department of Solid Waste, St. Petersburg, FL

Project Manager and Engineer of Record responsible for the preparation of a year-long surface and groundwater predictive mathematical model to analyze the surface water levels, gradient controls and other issues contributing to NPDES discharge events at the 705-acre site. The model includes hourly calculations of surface inflow, horizontal and vertical infiltration in ponds, open channel flows, circular and box culvert flows, weir flows, pump operations and groundwater flows in 14 sub-basins. In addition, the model also includes a user interface that can be used to test proposed changes to the site through manipulation of pump operations, water treatment plant and WTE facility operational parameters, 17 years of daily rainfall data, and four years of gradient control data from 18 monitoring well and piezometer pairs throughout the site.

Sopeark Chhea, PE, LEED AP

HVAC / Plumbing Design

Mr. Chhea specializes in the design and engineering of heating, ventilating, and air conditioning (HVAC) systems for commercial and industrial applications. He is responsible for designs in packaged central station air handling systems, including constant and variable volume, split systems, industrial ventilation, exhaust and supply systems, laboratory systems, computer room systems, odor control systems and clean room air systems.

Education/Qualifications

- MS, Mechanical Engineer, Union College, 2007
- BS, Mechanical Engineer, Union College, 2006

Years of Experience

Total – 17
With Arcadis – 17

Professional Registration/ Certifications

- Professional Engineer – NY
- Leadership in Energy and Environment – NY

Relevant Experience

Prospect Lake WTP Enabling Works, Replacement of Existing High Service Pumps at Fiveash Water Treatment Plant (WTP)
City of Fort Lauderdale, FL

Lead Building Mechanical Engineer, This project includes the detailed design of the new High Service Pump Station (HSPS) and new Ground Above Grade Storage Tank (AGST). The scope includes 6 new horizontal split case pumps (70 MGD in total), 2 new generators, 2 new 20,000 gallons fuel tanks, and second story offices inside the new pump station building. The work also includes a 5 MG ground storage tank.

Hollywood WTP – Aeration Building Pump Station
City of Hollywood, FL

Lead Building Mechanical Engineer, for the rehabilitation of the existing Aeration Building Pump Station (Secondary Pump Station). The work included the replacement of two (2) 4,500 gpm pumps with one (1) 5,000 gpm pumps with variable frequency drives, new valves and piping. The work also includes a new electrical room.

Edgewater Pump Station Design
Bergen County Utilities Authority, Hoboken, NJ

Responsible for the design of HVAC systems and an odor control system serving the Edgewater Pump Station (PS). The PS is being constructed to eliminate the existing Water Pollution Control Facility (WPCF). HVAC systems include intake/exhaust ventilation system, ductless split systems, and electric heating systems. The odor control system consists of a dual bed carbon adsorber, grease filter mist eliminator and fiberglass exhaust fan and ductwork to treat exhaust air pulled from the bar screening and dumpster area. Perform design service during construction by reviewing shop drawing submittals and responding to request for information (RFIs).

Chelsea Headworks Facility Upgrade and Odor Control System Evaluation and Design
Massachusetts Water Resources Authority, Boston, MA

Assisted with the design of a new odor control system by determining the required exhaust air flow rate of the headworks' process emission sources.

Assisted with sizing the treatment equipment, developing mechanical layout and detailed drawings in AutoCAD MEP. Assisted with developing a high-capacity odor control system design within site constraints. Performed design service during construction by reviewing shop drawing submittals and responding to RFIs.

Hartford Water Pollution Control Facility Wet Weather Expansion

The Metropolitan District, Hartford, CT

Assisted with the design of an odor control system by determining the required exhaust air flow rate of odor sources in the plant. Developed mechanical layout and detailed drawings. Performed design service during construction by reviewing shop drawing submittals and responding to RFIs.

Cobbs Creek Reservoir Dam and Facilities Construction

County of Henrico, VA

Responsible for the design of HVAC systems serving a newly designed pump station comprised of three levels, a single-story operations building, and a fuel oil transfer system for a standby generator. HVAC systems include intake/exhaust ventilation system, ductless split systems, electric heating system, and ducted computer room air conditioning (CRAC) systems. Designed ductwork, piping and equipment layout for HVAC systems serving administrative, control equipment, mechanical, process and electrical areas based on code requirements, design criteria and calculations. Designed piping and equipment layout for a fuel oil transfer system based on code requirements, design criteria and calculations. Used Carrier Hourly Analysis Program to model and calculate the building's heat gains/ losses based on geographic location, material construction and features, orientation, and internal latent/sensible loads to size HVAC equipment. Perform design during construction services by reviewing submittals and responding to RFIs.

Raw Water Intake and Potomac Raw Water Pumping Station Project

Loudoun Water, Loudoun County, VA

Responsible for the design of HVAC systems serving a newly designed pump station comprised of two levels and a fuel oil transfer system for a standby generator. HVAC systems include intake/exhaust ventilation system, single-zone ductless split system, electric heating system, ducted computer room air conditioning (CRAC) systems with a glycol/water side economizer. Designed ductwork, piping and equipment layout for HVAC systems serving administrative, control equipment, mechanical, chemical, process and electrical areas based on code requirements, design criteria and calculations. Designed piping and equipment layout for a fuel oil transfer system based on code requirements, design criteria and calculations. Performed value engineering and equipment life cycle cost analysis for HVAC systems. Used Carrier Hourly Analysis Program to model and calculate the building's heat gains/ losses based on geographic location, material construction and features, orientation, and internal latent/sensible loads to size HVAC equipment. Perform design during construction services by reviewing submittals and responding to RFIs.

Cedar Creek WPCP Influent Screens Facility Improvements

Nassau County Dept. of Public Works, Westbury, NY

Responsible for the design of a 100% O.A. ventilation system, serving the screening area that uses a hot water coil to temper the outside air. The new system was to replace an old existing ventilation system. Upgrades to the ventilation system involved modification to existing supply ductwork, modifications to existing odor control ductwork, replacement of an existing air handling unit, layout of hot water supply & return piping and sizing of hot water pumps. Duct pressure loss calculations were completed to verify that the existing systems were still able to operate with the new modifications and to size the new air handling unit. Pipe pressure loss calculations were also completed to size the hot water pumps. Carrier HAP was used to size the cooling/heating load requirements for spaces such as the electrical room, stairwells, etc. Perform design during construction services by reviewing submittals and responding to RFIs.

Newtown Creek Wastewater Treatment Plant

New York City Department of Environmental Protection, New York, NY

Performed design services during construction consisting of shop drawing reviews, responding to RFIs and field work. Field work includes shop witness testing for carbon absorber tanks and odor control fans to verify that the equipment was built in accordance with the requirements of the project specifications. Developed a technical memo describing the procedures for the shop witness test and results. Performed airflow testing for a section of odor control ductwork at the WWTP to determine the cause of airflow irregularities from the settling tank.

Gregory Osthues, PE, IAM

Condition Assessments

Mr. Osthues has over 3 decades of experience in managing and delivering utility asset management programs in support of facility and capital planning including: the development and implementation of service levels, asset inventory and condition assessment programs and operation and maintenance program evaluation and development. His experience includes the evaluation and implementation of asset management software including Decision Support Systems, Geographic Information Systems (GIS) and Computerized Maintenance Management Systems. He is certified from the Institute for Asset Management (IAM) with extensive background in the industry leading ISO 55000 and EPA/WRF Asset Management Frameworks for water and wastewater utilities.

Education/Qualifications

- MS, Environmental Engineering, Manhattan College, 1994
- BS, Civil Engineering, University of Massachusetts, 1987

Years of Experience

Total – 36
With Arcadis – 33

Professional Registration/ Certifications

- IAM Certificate – Institute of Asset Management
- Professional Engineer – NY #069502

Office Location

Tampa, FL

Relevant Experience

Asset Management Framework Phase I
Miami Dade Water and Sewer Department, Miami, FL

Condition and risk assessment lead to perform EPA/WRF gap analysis and business process mapping around service levels and performance management, capital planning, risk assessment, maintenance, and IT systems. Developed new SOPs for Condition and Risk Assessment covering all water and wastewater vertical assets for treatment plants and pump stations.

Asset Management Services
Indian River County, Vero Beach, FL

Condition/risk assessment lead for a comprehensive asset management program, including WTP, WWTP water booster stations and wastewater pump stations. Activities included visual field assessments, maintenance data review and staff interviews for equipment performance and reliability. Short- and long-term planning results and tools were provided including recommended CIP projects, enhanced maintenance programs, and long-term funding needs.

Asset Management Program – Water and Wastewater
Toho Water Authority, Kissimmee, FL

Condition and Risk Assessment Task Lead for Toho Water Authority's asset management program including 15 water and wastewater plants, over 300 lift stations and 2,000 miles of pipeline infrastructure. Activities included a gap analysis using the IAM SAM+ framework, a Strategic Asset Management Plan (SAMP) and Asset Management Plans (AMPs) for each asset class – wastewater pipelines and lift stations are complete and water mains and treatment plants are scheduled. Each AMP development included updating the asset hierarchies, developing levels of service and KPIs, establishing assessment methodologies, creating risk profiles, defining projects for the 5-year CIP and estimating long-term capital investment needs.

Asset Management Program – Water and Wastewater
Lee County Utilities, Fort Myers, FL

Asset management task leader for development of pilot program asset condition, criticality and risk assessment methodology for water, wastewater and reclaimed water systems. Pilot project included: a water plant, wastewater plant, 33 lift stations, 50 miles of sewer and 60 miles of water and reclaimed water distribution. Activities included: development of asset hierarchy, development of assessment methodologies and guidelines with LCU staff, field collection of asset inventory and condition assessment data, criticality evaluation and risk analysis. Develop estimates of asset effective life and business cases for 10-year CIP.

Asset Management Program
New York City Department of Environmental Protection

Technical lead for development of global risk assessment methodology for use by the three operating bureaus within NYCDEP for all wastewater treatment, water supply and water distribution assets in support of capital planning. Risk assessment methodology includes physical and performance condition assessment for mode and probability of failure combined with consequence of failure evaluation. Responsible for developing risk assessment methodology based on International Infrastructure Management Manual® guidelines and adapting for NYCDEP's specific asset base including conducting workshops to build consensus across the Bureaus on the approach and resulting capital plan.

Asset Management Plan for Department of Public Utilities
City of Columbus, OH

Technical lead for overall risk assessment across Department of Public Utilities' (DPU's) complete asset base, including water, sewer and electric. Responsible for leading work group composed of DPU staff from each utility to develop standard operating procedures for condition assessment, consequence of failure, risk and monetized triple-bottom-line asset evaluation, including DPU wide condition assessment pilot involving representative assets from each utility. Also, technical lead for reimplementation of DPU's EAM application, Oracle WAM® in support of maintenance and capital planning. Key activities include asset hierarchy development, implementation of the condition assessment capabilities within WAM®, implementation of reliability centered maintenance principles for predictive and preventive maintenance, including tracking and reporting failure modes, improvements in inventory management and reporting enhancements.

Large Diameter Pipeline Evaluation and Replacement Program
JEA, Jacksonville, FL

Non-Destructive Testing (NDT) Lead for evaluation of over 950 miles of large diameter pipelines (gravity sewers, force mains and water mains). Condition assessment via non-destructive testing (NDT) technologies included CCTV, acoustic, and electromagnetic, and SmartBall®. Developed the risk-based framework to select candidate pipelines, planned the NDT work, provided field oversight, and data review. Prioritized 97 replacement projects valued at $265M.

Asset Condition Assessment Program
City of Atlanta, GA

Technical lead for condition assessment of 14,000 assets at 4 wastewater plants, 2 water plants, 20 pump stations, 5 booster stations, 12 storage tanks, and 8 CSO facilities. Condition assessments included Tier 1 visual for all assets and Tier 2, non-destructive testing and maintenance assessments, on 1,500 of the assets. Developed the condition assessment methodology including likelihood and consequence of failure and remaining life estimates. Provided QA review for field data results. Developed procedures to incorporate Tier 2 testing results (pump efficiency, vibration, oil analysis, thermography) into the asset condition scoring. Reviewed over 150 asset replacement projects developed from the condition assessment results.

Comprehensive Asset Management and Condition Assessment Program
GCWW, Cincinnati, OH

Project manager for facilities assessments including 2 water treatment plants, 16 booster stations, 8 storage reservoirs, 9 elevated tanks and central maintenance facility. Assessments included field and desktop assessment for over 10,000 assets involving structural, mechanical, electrical, HVAC and I&C evaluations. Methodology evaluated physical condition and asset performance including capacity, regulatory and reliability using multiple data sources from process control and maintenance systems. The Program resulted in a 10-year CIP for asset renewal and replacement at each facility.

Darryl Dunn, PE

Construction Management

Mr. Dunn has served as project construction manager (PCM) as Owner's Agent for 27 years managing owner's pre-construction and construction phase projects primarily focused on water and wastewater projects including treatment plants, pump stations and pipelines. His construction management career was preceded by 18 years in general engineering including planning, directing, and performing civil engineering and design work pertaining to water and sewer utilities, pump stations, force mains, water and wastewater treatment plants. His construction management experience includes bid phase services, constructability reviews, administering construction contracts, conducting meetings, change and schedule management, quality assurance/quality control oversight, startup, commissioning plans, closeout and turnover of projects.

Education/Qualifications

- Engineering Coursework, West Georgia College and DeKalb Community College, 1977

Years of Experience

Total – 49
With Arcadis – 1

Professional Registration/ Certifications

- Professional Engineer – GA

Office Location

Birmingham, AL

Relevant Experience

Pump Station A-16
City of Fort Lauderdale, FL

Provided oversight and inspection for the construction of pump station A-16 inch high groundwater conditions, installation of approximately 2,000 LF of 30-inch High-Density Polyethylene (HDPE) watermain and 3,000-LF of 10-inch. HDPE Force Main in two horizontal directional drilling (HDD) segments along SE 3rd Avenue under the Tarpon River. The project was related to construction of the new Federal Courthouse on 3rd Ave.

Everglades Pump Station Monitoring Panel Replacement Project
South Florida Water Management District, Fort Lauderdale, FL

Provided oversight and inspection services for replacement of engine monitoring panels and devices with modern electronic equipment for five Everglades Canal Pump Stations with multiple engine-driven pumps originally installed in 1952.

Cox Creek Water Reclamation Facility (WRF) Upgrade Project
Department of Public Works, Anne Arundel County, MD

Senior PCM for the $110 million multi-phase, multi-year upgrade of the 15-mgd WRF to 45-mgd comprising headworks improvements including two replacement bar screens, one new additional flow channel and bar screen, new screenings conveyance system, a new fine screen facility ahead of the conversion to biological nutrient removal (BNR) with owner-purchased submerged membrane bio-reactors and expanded aeration facilities. Oversaw new bar screen operation and temporary screenings conveyance during construction. Other project highlights include two new 33KV power services, three substations, return sludge pump station with up to 400% sludge return, expansion of existing aeration oxic/anoxic zone capacity by 40%, new flow distribution box, large pipe tie-ins with 50-mgd bypass pumping capability in several places during construction.

Mayo WRF Conversion Project
Department of Public Works, Anne Arundel County, MD

PCM for this unique $40 million Mayo WRF project to de-commission an existing non-functioning wastewater treatment plant and install 5mi. of 24-inch HDD force main to the Annapolis WRF in 14 segments. Decommissioning the existing faulty treatment plant removed a decades-long sewer moratorium on the Mayo peninsula.

Jennifer Road Pump Station Replacement
Department of Public Works, Anne Arundel County, MD

PCM for the new larger capacity replacement pump station built on the extremely tight site of an existing pump station including a mile-long 18-inch force main and bounded by busy arterial roadways on two sides and a sensitive environmental area on another. Successfully defended against a differing Site Conditions claim.

Mason Farm Wastewater Treatment Plant (WWTP) Upgrade
Chapel Hill, NC

PCM for the $40 million upgrade including a new biological filter building, new influent pump station, new 13.3KV power service and re-powering all operating equipment onsite. Interestingly, the project included an early completion bonus after meeting an interim milestone.

Brooks Road Pump Station
Gwinnett County, GA

PCM for the $25 million construction of a new pump station designed to accommodate 50-mgd of flow but equipped initially for 6-mgd. The excavation was 50 feet deep, 30 feet of which was in hard granite rock.

Water Independence Program
Rockdale County, GA

Program/project construction manager for the $65 million project to design and construct all new water supply, treatment and distribution facilities when the County water supply contract with an adjacent county was to expire. The County was squeezed with only 30 months to develop, design and construct its facilities. It was accomplished thru four engineering contracts and seven construction contracts including startup and commissioning.

Shenango Water Treatment Plant (WTP)
Sharon, PA

PCM for the new $25 million Shenango WTP built on the banks of the Shenango River. The project comprised construction of a complete new water treatment plant and new raw water intake on the site of the existing water treatment plant- some parts of which were constructed in 1898.

WTP Upgrade
Allentown, PA

PCM for the $20 million upgrade and renovation project to demolish the 10-mgd treatment train, re-purpose all its facilities and upgrade the 20-mgd train to 30-mgd. The WTP was originally built in 1927 and first upgraded in 1975.

Klines Island WWTP Upgrade
Allentown, PA

PCM for the $25 million plant upgrade project to demolish existing Imhoff tanks originally built in 1927, construct new 150-foot-diameter Clarifiers, and return sludge pump station, new primary clarifier sludge collectors and new headworks equipment.

Blue Plains AWTF Expansion
Washington, DC

Resident engineer for the 50-mgd filter expansion at the Blue Plains AWTF on the banks of the Potomac River in Washington, DC including installation of 160 concrete displacement piles.

Water and Wastewater Design Contract
U.S. Naval Submarine Base, Kings Bay, GA

Design/project engineer for many of the 150 contract supplements developing designs and drawings for the 10%, 30%, 60%, 90% and Final design packages including improvements to the Base Area Wastewater Treatment Plant and spray irrigation system, Waterfront Wastewater Treatment Plant, Base Area Water Treatment Plant, two deep raw water wells (950 ft), Waterfront Booster Pump Station and an Industrial Waste Treatment Facility The Industrial Waste treatment Facility project won the GWPCA award for design in 1991.

Garth White, EIT, NASSCO

Onsite Inspections

Mr. White has more than 23 years of experience specializing in civil and mechanical engineering disciplines, with a focus on construction management and oversight. His experience includes construction management and inspection, operations monitoring, cost estimating, and trend analysis for large industrial facilities and infrastructure improvement projects throughout Florida and has served in many roles on a variety of water and wastewater projects. Recent experience includes water/wastewater treatment plant rehabilitation, installation of production wells and deep injection wells, installation of above grade and underground high voltage and medium voltage cables, replacement of large diameter water transmission mains, watermain and force main aerial crossings including site restoration, trenchless pipeline restoration/replacement, and paving/drainage projects.

Education/Qualifications

- BS, Mechanical Engineer, California State University

Years of Experience

Total – 23
With Arcadis – 21

Professional Registration/ Certifications

- Engineer-in-Training (EIT)
- National Association of Sewer Service Companies (NASSCO)

Relevant Experience

Consulting Engineer Facilities Inspection Services
Port of Miami-Dade, Miami, FL

Served as Project Consultant for the inspection of Port of Miami Facilities to meet the reporting requirements of Master Bond Ordinance 88-66. Port of Miami Facilities inspected including cruise terminals, storage facilities, parking structures, and exterior areas. Responsibilities also included development of repair and replacement cost estimates for deficient assets and development of the comprehensive deficient asset database.

Annual Inspection and Report
Miami-Dade Water and Sewer Department (MDWASD), Miami, FL

Provided condition assessments MDWASD's water and wastewater infrastructure for the purpose of characterizing the physical condition and operating condition of major asset components. Infrastructure evaluated included waste treatment facilities, water storage and remote pumping facilities, wellfields, wastewater treatment facilities, and wastewater pumping stations. Analyzed data in asset management software, Orion and Asset Hound, to generate facility inspection reports elaborating on the physical and operating conditions of system components.

Pump Station A-16 Upgrades
City of Fort Lauderdale, FL

Lead Inspector providing construction management services for the installation of approximately 2,000 LF of 30-inch HDPE watermain and 3,000 LF of 10-inch HDPE force main along SE 3rd Avenue. This project is part of the relocation of the A-16 Pump Station on SE 11th Street. The project includes two horizontal directional drilling (HDD) segments under the Tarpon River.

Escape and Valencia Force Main Pipe Bursting Improvements
City of Sunrise, FL

Construction management services related to the replacement of over 25,000 LF of aging potable polyvinyl chloride, asbestos-cement, and ductile iron water mains located in the Escape and Valencia residential neighborhood areas within the City's service area. The project also included installation of over 700 service saddles and connections to the existing residential water meters. The site restoration included installation of D curbs, roadway milling and resurfacing activities, new wheel stops and parking lot striping.

NW 44th Street/Pine Island Road Water Transmission Main Improvements
City of Sunrise Utilities Department, Sunrise, FL

Served as Lead Inspector and provided construction management services for the replacement of approximately 5,000 linear feet of 36-inch DIP water transmission main from NW 44th St to the Springtree Water Treatment Plant. This included several onsite design changes due to unforeseen conditions as a result of abandoned in-place utilities. The project activities also included close coordination with the State and County Regulatory agencies, City Utility Department and local residents. The final stage of construction activities included installation of WM/FM aerial crossing of C-13 canal, exfiltration trench on Springtree Drive, start-up of system, and roadway improvements. The roadway restoration consisted of backfilling and compacting the excavated trench with the appropriate lifts per the FDOT requirements. In addition, 13,000 square yards of asphalt milling and asphalt overlay was installed on two (2) lanes of high traffic roadway including 2,000 linear feet of F and D curbs.

Deep Injection Well Construction Management
City of Hollywood, FL

Providing mechanical engineering services and construction oversight services for the installation of a deep injection well and dual zone monitoring wells. These services include testing and regulatory reporting requirements for the large diameter high-capacity Class I injection well, designed to receive both reclaimed water and reverse osmosis concentrate.

Broward Materials Recovery Facility (MRF) Monitoring
Broward County Waste and Recycling Services, Fort Lauderdale, FL

Planned and managed an MRF residue composition analysis in order to determine the amount of program materials that are being disposed of instead of recycled. This project required a large coordination effort on my part with Broward County officials, Wheelabrator, and Waste Management. Responsible for: Preparation of a MRF residue composition analysis protocol. Scheduled residue deliveries. Presentation of policies, procedures, and safety briefings to a field team of seven temporary workers. Sorting of approximately 1,000 pounds of residue in one-day. Preparation of a cost estimate which included all components of the projects. Preparation of a final report to the client which summarized the activities and findings performed.

Environmental Compliance Audit
Miami-Dade Aviation Department (MDAD), Miami, FL

The MDAD contracted with Arcadis to perform environmental compliance audits for seven tenants to monitor tenant compliance with International Standards Organization (ISO) 14001 certification for all of its operations. As part of the audit, performed site visits at each tenant's leasehold to determine compliance in several areas, including environmental management systems; hazardous materials management pesticides management; asbestos and polychlorinated biphenyls management; solid waste management; air emissions management; water supply and wastewater management; oil pollution management; and storage tank management. The findings of the audits were summarized in a report with recommendations to address any noted deficiencies related to regulatory compliance and Best Management Practices.

Bhadrash Patel, PSP

Scheduling/Project Controls

Mr. Patel has 48 years of project experience in water and wastewater treatment, storage and conveyance type projects. He has served as Senior Project Scheduler on assignments for a wide variety of civil engineering, pump stations, wastewater treatment plants, airports, cargo buildings, bridges, chemical and utility projects. Bhadrash has experience in the development of Master CPM Schedules, review and analysis of contractor's baseline CPM schedules, contractor updated CPM schedules and performing time impact analysis in response to contractor requested time extensions. He is an expert user of Oracle Primavera P6 and MS Project scheduling software.

Education/Qualifications

- BS, Civil Engineering, Sardar Patel University, 1977

Years of Experience

Total – 48
With Arcadis - 29

Professional Registration/ Certifications

- PMI-SP
- Primavera P6 103
- MS SQL
- Sybase Infomaker
- Power BI Publisher

Professional Associations

- Project Management Institute
- AACE International #194440

Office Location

Hanover, MD

Relevant Experience

Piscataway Raw Water Pump Station
Washington Suburban Sanitary Commission, Laurel, MD

Served as CPM Scheduler for the Piscataway Raw Wastewater Pump Station project. Responsible for the analysis and review of the contractor's baseline CPM schedule, contractor monthly CPM updates, contractor monthly payment applications and performing independent time impact analysis to support the resolution of the contractor's time extension requests.

South Cobb Water Reclamation Facility Influent Lift Station Recovery
Cobb County, GA

Served as Senior CPM Scheduler for this $24M time-sensitive primary influent station project. Responsible for review and implementation of project schedules and Integrated Master Schedule including but not limited to performing earned value management, perform cost and resource loading analysis, and review and negotiate delay claims.

Sod Run WWTP
Harford County, MD

Served as CPM Scheduler Specialist for this WWTP upgrade project which includes Primary Clarifier upgrades and Digester Facility upgrades. Responsible for reviewing and implementing CPM project schedules, perform earned value management analysis, and tracking and reporting on cost and resource data, preparing time impact analysis and cost estimates for delay claims and supporting negotiations with the contractor.

Atlanta WTP and Pump Station
Atlanta, GA

Project schedule reviewer, analyst and claims evaluator for schedule and time delays to the Atlanta Sewage Treatment Plant facility new high-pressure pump station, Cobb County influent lift station recovery and Clearwell projects. Also, performed cost estimates and cost negotiations and settlement.

Meghan Naumick, CEP, LEED GA

Cost Estimating

Mrs. Naumick has 17 years of experience in the construction industry where she has served as a Senior Principal Cost Estimator and Construction Cost Engineer. She is a highly experienced, certified construction cost estimator with the ability to prepare cost estimates throughout the life of the projects, from planning, design, and through the construction phase. She has prepared cost estimates and associated basis of estimate reports for new or rehabilitation of existing water and wastewater infrastructure and buildings throughout the United States, which includes heavy construction, civil, structural, architectural, process mechanical, plumbing, HVAC, electrical, and instrumentation and controls. She has evaluated market driven factors to determine what impact current market conditions may have on bid results. She has prepared life-cycle cost analysis during planning/study phase and value engineering to provide insights and alternative solutions.

Education/Qualifications

- BS, Civil Engineering, San Diego State University, 2008

Years of Experience

Total – 17
With Arcadis – 8

Professional Registration/ Certifications

- Certified Estimating Professional (CEP)
- LEED™ Green Associate

Relevant Experience

Replacement and Upgrade of Nanofiltration Trains at West Water Treatment Plant
City of Miramar, Miramar, FL

Developed the 90% and 100% estimate to replace nanofiltration (NF) trains, cartridge filters, and appurtenances, and upgrade the corrosion inhibitor system, sodium hypochlorite system, and membrane cleaning system.

Future Waste to Energy Facility – Siting Alternatives
Miami-Dade County – Water and Sewer Department, Miami-Dade County, FL

Developed a conceptual estimate to extend water and sewer utility lines at six different sites: Medley, Ingraham Highway Site No. 1, Ingraham Highway Site No. 2, Dolphin Expressway, Opa-Locka West Airport, and Okeechobee Road. The scope includes water main and force main (horizontal directional drilling where it crosses canal or turnpike), booster station, and lift station.

Port Everglades Interconnect Evaluation
City of Hollywood Public Utilities, Hollywood, FL

As part of the evaluation to determine if providing water to Port Everglades in the future is feasible, Meghan developed a conceptual estimate to install approximately 24,000 linear feet of water main via open-cut and horizontal directional drilling.

Project Olympus
Pratt & Whitney, Juniper, FL

Performed bid evaluation and reviewed multiple trade packages by comparing to independent cost estimates, while coordinating with the Construction Manager At-Risk, for the construction of the Host Building and Chamber.

USEPA WIFIA Reviews
US Environmental Protection Agency, several locations

As part of the support services under the Water Infrastructure Finance and Innovation Act (WIFIA), reviewed the cost estimates submitted in the Project application to assess the reasonableness of the costs relative to the work proposed to be constructed. The projects include Pure Water Program for the City of San Diego; Tillman Advanced Water Purification Facility for City of Los Angeles; Willamette Water Supply System for Tualatin Valley Water District and the City of Hillsboro, OR; Northwest Water Treatment Plant Expansion and Upgrades for County of Brunswick, NC; Donald C. North West Water Treatment Facility for City of Wichita in Kansas City.

3M-Tilton Water Recycling
3M Co., Tilton, NH

Developed a conceptual estimate to provide water recycling at the 3M paper manufacturing facility in Tilton. The scope includes equalization tank, circular clarifier, effluent tank, feed system, sludge holding tank, dewatering, pumps and piping.

City Tunnel No. 3, Stage 2, Construction of Shafts 17B-1 and 18B-1
NYC Department of Environmental Protection, New York, NY

Performed the bid evaluation. Provided estimate review, developed the basis of estimate reports, and managed the estimate submittals for Contract C547A. As part of City Tunnel No. 3, Stage 2, the construction of two new riser shafts, 17B-1 and 18B-1, are needed to fully activate the Queens and Brooklyn Tunnel (QBT). The project also includes unwatering, tunnel lining repair, and temporary ventilation and electrical system.

Facility Planning Services for Hillview Reservoir Functional Alternatives and Long Term 2 (LT2) Compliance
NYC Department of Environmental Protection, Yonkers, NY

Developed a conceptual estimate with four alternatives to upgrade the existing 900-million-gallon uncovered finished water reservoir to comply with the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2) set forth by the U.S. Environmental Protection Agency under the Safe Drinking Water Act.

Eastern Orange Backup Water Pipeline
NYC Department of Environmental Protection, Orange County, NY

Developed a conceptual estimate to provide backup water pipeline to connect NYCDEP's Delaware Aqueduct (DA) to several communities in Orange County from Shaft 5A. Approximately 12 miles of 36" pipe is to be installed via open-cut and horizontal directional drill.

East Side Coastal Resiliency
New York City Department of Design and Construction, New York, NY

The East Side Coastal Resiliency project is an integrated flood protection system that is intended to reduce coastal flooding and improve coastal and social resiliency along an approximately 2.4 mile stretch of Manhattan's East River waterfront. As a cost estimator, Meghan developed an independent conceptual estimate for the two bridges project, a 100-year flood wall under FDR Drive in Lower East Side Manhattan that spans from Brooklyn Bridge to Montgomery Street. Meghan developed the preliminary estimate for interior drainage to improve the drainage infrastructure in Lower East Side by strengthening external walls, replace tide gates, provide interior concrete repair for regulators, and floodproof manholes. Meghan also developed estimates for several buildings, including Comfort Station, Tennis Building, Track Building, and Interceptor Gate Buildings.

Chris Matthews, PE, CGC

Constructability Reviews

Mr. Matthews is a Senior Construction Manager for Arcadis with more than 55 years of experience with construction projects of all sizes, from corporate headquarters for international organizations to the ultra-pure water insulation system for Sandia National Laboratory's Fast Breeder Reactor. He has worked for more than 20 years on the Engineers Joint Contract Documents Committee (EJCDC) and served three terms as Chairman. He is currently an American Council of Engineering Companies Delegate to the EJCDC, a Life Director of the Associated General Contractors of America and has held general contractor licenses in 12 states. He has owned and operated multiple private utility companies and is an Engineering Expert Witness who has worked on many cases of contract litigation and mediation, and holds a US patent for specialized concrete forming systems.

Education/Qualifications

- BSME Nuclear Engineering, University of Alabama, 1973

Years of Experience

Total – 55
With Arcadis - 13

Professional Registration/ Certifications

- Professional Engineer – AL, FL, GA, LA, MD, MS
- Certified General Contractor – FL
- Certified Mechanical Contractor – FL
- Expert Witness, American Council of Engineering Companies Certification

Relevant Experience

CM Services
South Florida Water Management District (SFWMD), West Palm Beach, FL

Managed multiple CM projects for the SFWMD. Projects include North New River Canal Upgrade ($79 million), Corbett Levee Extension Phase II ($9 million) and SCADA Monitoring Panel and Pump Station Upgrades ($17 million). These projects are ongoing and located in Palm Beach and Broward Counties. The work consists of electrical and instrumentation as well as heavy excavation and earth movement, dredging and protection of surrounding water areas.

CM Services
Sarasota County, FL

Oversight of multiple CM and CEI projects for Fort Lauderdale, FL. Projects include PS A16 renovation and force main extension, 42" Water Main installation and 48" Sewer Main Installation. These projects are located in the congested areas of central Fort Lauderdale and include large diameter horizontally drilled piping installation as well as open cut large diameter pipe installation.

CEI Services
Pasco County, FL

Managed CEI projects for Pasco County: Shady Hills Clarifier structural repairs and rehab. Negotiated change orders and delay issues due to unknown conditions encountered.

CM Services
City of Lakeland, FL

Managed investigation into completed DB Contract for Schneider Electric Buildings project for City of Lakeland: Investigation of performance issues for sludge management and installed Piping and Generator.

Sod Run Wastewater Treatment Plant (WWTP)
Harford County, MD

Construction Manager for Enhanced Nutrient Removal (ENR) addition at the Sod Run WWTP which was rated at 20-million gallon per day (mgd) dry-weather flow and 50-mgd wet-weather flow. The ENR program was implemented in new facilities to meet the new and future waste load allocation for its discharge into Bush River. The scope of work for the program Harford included total phosphorus and nitrogen control improvements, new methanol addition facility, effluent filtration addition, main plant switchgear improvements, final clarifier upgrades, aeration system upgrades, return activated sludge pumping upgrades, bio-augmentation and new fermentation tanks and pumping facilities.

Bush Creek Pumping Station and Force Main
Harford County, MD

Construction Manager responsible for the construction management for the improvements to the existing Bush Creek Pump Station, Force Main, and the up-stream and downstream gravity sewers.

Broadneck Water Reclamation Facility (WRF) ENR Upgrade
Anne Arundel County, Churchton, MD

Project Manager for nutrient reduction addition at the Broadneck Water Reclamation Facility. Broadneck is rated at 2-mgd dry weather flow and 10-mgd wet-weather flow. The nutrient reduction program implemented in new facilities to meet the new and future waste load allocation for its discharge into Chesapeake Bay.

Watershed Operations Building and Storage Yard
Peyton Center WSM, Atlanta, Georgia, GA

Project Manager for the City of Atlanta's new Watershed Operations Building and Storage Yard under a fast-track design-build delivery. This project included the preparation of bridging documents, space planning, monitoring the Leadership in Energy and Environmental Design progress, selecting a design-build contractor and monitoring the construction of the new facility of all existing equipment at each intersection that were completed and uploaded to a city accessible database. Responsibilities included coordinating architectural/engineering services throughout the project.

Water Distribution System Improvements
City of Annapolis, MD

Project Manager is responsible for the quality assurance and construction contract administration on the five-year Task Order Contract for water distribution repairs and improvements. Projects included location, investigation and replacement of water mains and appurtenances throughout the County Distribution System. The sum of task values was up to $1.2 million per year.

Anne Arundel County Patuxent WRF
Anne Arundel County, Crofton, MD

Project Manager in the Arcadis' contract consisted of construction management and inspection services during the construction of all necessary modifications to expand the Patuxent (WRF) facility from 7.5-mgd to 11.6-mgd.

Construction Management and Inspection (CMI)
Anne Arundel County, Annapolis, MD

Project Manager for open-ended CMI of various water distribution system improvements including repairs, replacement, and lining.

City of Atlanta Architectural/Engineering Task Order Contract
City of Atlanta, GA

Area Manager for the construction management for multiple field tasks issued under the City's architectural/engineering contract.

Schneider Electric Engine Control Module
City of Atlanta, GA

Project Manager for this design-build, Energy Conservation Project which implemented several process changes to the South River and Utoy WRF for the City of Atlanta. This project involved the design and construction management of changes to several processes at these plants. The major changes included the rehabilitation of two 100-foot diameter digesters and associated equipment, installation of new ultraviolet disinfection units, installation of new thickener units and installation of ammonia based automatic control systems for aeration basins.

Exhibit "B"

JAVIER E. BIDOT CRUZ, PSM

PRINCIPAL-IN-CHARGE

jbidot@jebpr.com

YEARS OF EXPERIENCE: 32

PROJECT QUALIFICATION

Project Principal and Technical Leader Surveyor of Javier E. Bidot & Associates since 1997. Professional experience includes land development and construction management, contractor dispute resolution, as well as the scheduling of major residential and infrastructure projects. Over twenty years of Federal Government survey work at different levels. Project Manager and Principal in charge for various IDIQ Federal Contracts for USACE, US-DOJ, NRCS, USFW, NOAA. Admitted to the Local and Federal Court Circuit as Expert Witness numerous times.

EDUCATION

1990 - Bachelor of Science in Land Surveying and Mapping - Polytechnic University of Puerto Rico (Cum Laude)

LICENSES AND CERTIFICATES

- Professional Land Surveyor, PR (Lic. #12972)
- Professional Land Surveyor and Mapper, FL (Lic. #7111)
- Professional Land Surveyor, NY/PSM (Lic. #050998-1)
- Professional Land Surveyor, USVI (Lic. #0-41929-1B)
- HYPACK Certified
- USACE Construction Quality Management for Contractors
- U.T.A. Certified Advanced Professional Utility Locator
- First Aid & CPR SEASchool-197
- Confined Space Entry OSHA Safety Training Certificate
- Excavation and Trenching OSHA Safety Training Certificate
- USPS Licensed Boat Operator
- Hazardous Waste Operations and Emergency Response (HAZWOPER)

ASSOCIATIONS

- College of Engineers and Surveyors of Puerto Rico (CIAPR) - Active Member and Former Vice President of the Operational and Revenue Audit Committee
- National Society of Professional Surveyors (NSPS)
- Florida Surveying and Mapping Society (FSMS)

JAVIER E. BIDOT & ASSOCIATES
Land Surveyors & Consultants

EXPERIENCE

Javier E. Bidot & Associates, PSC – Land Surveyors and Consultants (JEBA)

President, Owner; January 1997-present

- Supervision of up to ten in-house and four subcontracted crews at multiple heavy civil construction, housing, and topographic mapping projects. All survey activities including but not limited to:
  - ALTA/NSPS, Boundary, Topographic and As-built Surveying, Hydrographic Surveying and all types of construction layout, High-Definition Surveys and Subsurface Utility Engineering Surveys.
  - Supervision of professional and administrative staff.
  - All administrative and managerial duties related to this position.
- All administrative and managerial duties related to this position.

RECENT RELEVANT CONFERENCES AND SEMINARS OFFERED

- Mapping & Cartographic Tools for Household & Individual Natural Disaster Preparation.
- Basic Concepts in Subsurface Utility Engineering Surveys.
- Business Toolkit for Land Surveyors and Engineers.
- Basic Concepts in Coastal and Near-shore Hydrographic (Bathymetric) Surveys.
- Basic Concepts in Subsurface Utility Engineering Surveys.
- Land Surveyor's Role on Wind Farms & Other Renewable Energy Projects.

RECENT RELEVANT CONFERENCES AND WORKSHOPS ATTENDED

- Florida: Laws for Surveyors.
- Surveying Definitions; Overlapping Titles and Descriptions.
- Rules of Construction for Interpreting Descriptions.
- Developing and Employee Safety Training Program.
- Boundary Monuments: Artificial and Natural Markers.
- Boundary Agreements.
- Ethics for Land Surveyors: Abiding by the Rules and Regulations for Surveying.
- Adverse Possession: An Advanced Course.
- Design of Utility Infrastructure.
- Research Properties in Florida.
- New Law 147-2016 for the Engineering Practice and the Special Digital Stamp Requirements.
- Datums Transformations
- Bathymetry in Hydrographic Studies

RECENT RELEVANT PROJECTS

- Surveys in Puerto Rico, USVI and Florida; US Corps of Engineers: From January 2001 to 2012, and from 2019 to present he has served as Project Manager and Principal in charge for contracts with the Jacksonville District Corps of Engineers to perform hydrographic, topographic, cadastral and construction surveys in Puerto Rico, Florida, and the US Virgin Islands. Over 80 delivery orders have been completed with a cumulative cost of more than 6.5M.
- Boundary, Topographic, Hydrographic and Existing Conditions Survey for the C-18W Impoundment Project for SFWMD and USACE.
- Topographic and Hydrographic Survey Support Services for South Florida Water Management District C-139 Flow Equalization Basin (FEB) Project, Hendry County, Florida.
- Topographic, Existing Conditions and High-Definition Surveys for 15 Virgin Islands Port Authority (VIPA) facilities in St. Thomas, St. John, and St. Croix.
- Topographic and Existing Conditions Survey for a two-lane road segment of approximately 5.75 miles Mahogany Road, St Croix; USVI
- Site Survey- Site & Offsite Improvements to Storm Sewer System at DPW, Hallandale Beach
- ROW Mapping, Existing Conditions, Topographic, Hydrographic Survey and Utility Survey in Support to Saeger Road Storm Sewer Improvement Project; St Lucie, FL
- Post Storm Hydrographic Support for Federal and Non- Federal Harbors (USACE), Multiple Municipalities in Puerto Rico
- Subsurface Utility Surveys and supporting Existing Conditions and topographic Surveys for the Broward County Schools Capital Improvements Program.
- Existing Conditions and Topographic Survey for the SFWMD C23-24 MW Backbone Tower North and South Reservoirs and Stormwater Treatment Area (STA), St. Lucie County, FL
- Technical Services in Support of the Landslide and Road Damage Evaluation and Repair Recommendations, Various Municipalities in Puerto Rico
- Surveying Services in Support of New North River Canal Conveyance Improvement Project, Palm Beach, FL
- Topographic, Aerial Photography and LiDAR Surveys for Herbert Hoover Dike Survey Projects, Palm Beach County, Hendry County and Glades County, FL

Exhibit "B"

DANIEL E. BIDOT BETANCOURT, PSM

VICE PRESIDENT

dbidot@jebpr.com

YEARS OF EXPERIENCE: 13

PROJECT QUALIFICATION

With over a decade of survey experience, Daniel E. Bidot focused on survey project management of large construction projects around Florida. As a registered Land Surveyor in Florida and Puerto Rico, Daniel was assigned as the project surveyor for construction projects totaling over 1 billion USD at the same time. Utilizing the latest technologies and methodologies, like UAS, Terrestrial LiDAR, and advanced project management, he is able to deliver construction quantity surveys, GNSS Control Surveys, construction quality control, hydrographic surveying, aerial surveying (LiDAR and Photogrammetry), terrestrial LiDAR, existing conditions surveys, utility surveys, etc.

EDUCATION

2019- Master of Science in Urban Planning- University of Amsterdam
2018- Master of Arts in Philosophy in Ethics and Politics- University of Puerto Rico, Rio Piedras
2016 - Bachelor of Science in Land Surveying and Mapping - Polytechnic University of Puerto Rico (Cum Laude)

LICENSES AND CERTIFICATES

- Professional Land Surveyor, PR (Lic. #27501)
- Professional Land Surveyor and Mapper, FL (Lic. #7317)
- HYPACK Certified
- USACE Construction Quality Management for Contractors
- U.T.A. Certified Advanced Professional Utility Locator
- FAA Drone Pilot Certification
- Level I Antiterrorism Awareness Training Certificate
- First Aid & CPR SEASchool-197
- Confined Space Entry OSHA Safety Training Certificate
- Excavation and Trenching OSHA Safety Training Certificate
- USPS Licensed Boat Operator
- Hazardous Waste Operations and Emergency Response (HAZWOPER)

ASSOCIATIONS

- College of Engineers and Surveyors of Puerto Rico (CIAPR) - Active Member and Former Vice President of the FL Exterior Chapter
- National Society of Professional Surveyors (NSPS)
- Florida Surveying and Mapping Society (FSMS)
- American Society for Photogrammetry and Remote Sensing (ASPRS)

JAVIER E. BIDOT & ASSOCIATES
Land Surveyors & Consultants

EXPERIENCE

Javier E. Bidot & Associates, PSC – Land Surveyors and Consultants (JEBA)

- *Vice President (2024- Present)*

Manage Florida Survey Operations, Contracts, Client and Contract Negotiations, Project Deliverables and Marketing. Supervise crews on day-to-day operations in topographic, as-built, construction-layout, hydrographic, payment, CEI, QA/QC, boundary, subdivision, 3-D Scanning, Utility and Drone Surveys. Supervise CAD Drafting Technicians in providing survey deliverables in a timely manner.

- *Survey Manager (2019-2022)*

Manage Florida Division in client relations; subcontractor service agreements; field crew supervision, federal, state, and local contracts; survey equipment management; purchasing and decommissioning, as well as filling for permits and certifications.

- *Quality Control Surveyor (2017-2019)*

Verify accuracy and general quality of survey deliverables. Assist in final deliverable CAD drawings for topographic surveys, as-built surveys, ALTA/NSPS surveys, etc. Create office marketing strategy, client outreach, as well as supervise media platforms.

Precision Measurements Inc. (PMI)

Office Manager, February 2022- May 2024

- Daily operations include managing the Florida Division in client relations; subcontractor service agreements; field crew supervision, federal, state, and local contracts; survey equipment management; purchasing and decommissioning, as well as filling for permits and certifications. Additionally, he oversees projects and quality control including, but not limited to:
  - Hydrographic Surveys,
  - Subsurface Utilities Studies,
  - ALTA/NSPS Surveys,
  - Aerial LiDAR, and Photogrammetric Surveys,
  - Topographical and As-Built Surveys,
  - Assistant to Expert Witness, 3D Modeling, BIMs and Terrestrial Laser
  - Scanning, Boundary and Route Surveys, etc...

RECENT RELEVANT PROJECTS

- New North River Canal Conveyance Improvement Project Construction Management Services Contract in Palm Beach County.
- SFWMD C-23/C-24 North Reservoir & South Reservoir Microwave Tower Construction Services St. Lucie County.
- Supplemental Geotechnical Investigation for the SFWMD C-18W Impoundment Project, Palm Beach County.
- Central Everglades Planning Project (CEPP) Contract 11B, Everglades Agricultural Area (EAA) A-2 Reservoir Embankment and Structures, Palm Beach County.
- Beach Renourishment - Shore Restoration Project Broward Segment II and III.
- Boundary, Topographic, Hydrographic and Existing Conditions Survey for the C-18W Impoundment Project for SFWMD and USACE.
- NW 20 St. & Lyons Rd, Sawgrass Blvd & Lyons Rd, Regency Lakes & SR-7 Rd- Existing Conditions, Topographic & Utility Survey; Coconut Creek.
- Topographic and Hydrographic Survey Support Services for South Florida Water Management District C-139 Flow Equalization Basin (FEB) Project, Hendry County.
- Existing conditions, topographic and utility location and identification (including GPR/SUE) surveys for capital improvement projects that included perimeter security, fire protection and site utilities for Palm Beach Schools District.
- Existing Conditions and Topographic Survey for Drainage Improvement Project at SW 7th Terrace, Between SW 9th Street and SW 11th Street, Hallandale Beach.
- Subsurface Utility Surveys and supporting Existing Conditions and Topographic Surveys for the Broward County Schools Capital Improvements Program.
- ROW Mapping, Existing Conditions, Topographic, Survey and Utility Surveys in Support to Burnett and Pluckebaum Roads Storm Sewer Improvement Project Brevard County.
- Topographic and Existing Conditions Survey for a two-lane road segment of approximately 5.75 miles Mahogany Road, St Croix; USVI
- Post Storm Hydrographic Support for Federal and Non- Federal Harbors (USACE), Multiple Municipalities in Puerto Rico

Exhibit "B"

CARLOS M. LEBRÓN, PSM

VICE-PRESIDENT / C.O.O.

clebron@jebpr.com

YEARS OF EXPERIENCE: 17 (15 with JEBA)

PROJECT QUALIFICATION

Professional Land Surveyor with over 17 years of experience on the land surveying industry. Experience with survey computations and platting using Trimble Business Center, AutoCAD, Carlson as well as field experience with Trimble Access.

Create and execute project work plans and revises as appropriate to meet changing needs and requirements. Effective verbal and written communication skills in English and Spanish.

EDUCATION

2008 - Bachelor of Science in Land Surveying and Topography – University of Puerto Rico, Mayagüez Campus

LICENSES AND CERTIFICATES

- Professional Land Surveyor, Puerto Rico Lic. #23744
- Professional Land Surveyor, Florida Lic #LS7259
- USACE Construction Quality Management for Contractors.
- Professional Utility Locator Certified
- FAA Part 107 Remote Pilot Certification #4007463
- First Aid & CPR Certificate
- Confined Space Entry OSHA Safety Training
- Excavation and Trenching OSHA Safety Training Certificate.
- Hazardous Waste Operations and Emergency Response (HAZWOPER)

ASSOCIATIONS

- College of Engineers and Surveyors of Puerto Rico (CIAPR) - Active Member

RECENT CONTINUED EDUCATION COURSES

- Urban Planning & Surveying: Integration of Technologies & Methodologies.
- Building Information Modeling for Surveyors and Engineers
- Transitioning to a New Datum
- HYPACK Software Training
- Engineering and Surveying in the Re-invention of Puerto Rico
- Research Property in Florida
- Datums Transformations
- Bathymetry in Hydrographic Studies

JAVIER E. BIDOT & ASSOCIATES
Land Surveyors & Consultants

EXPERIENCE

Javier E. Bidot & Associates, PSC – Land Surveyors and Consultants (JEBA)

Executive Vice-President / C.O.O.; 2023-Present

- Participate in Business Development activities including direct and indirect marketing and meetings with clients, proposal writing, travel to wherever the Company is engaged.
- Implementation of survey principle, technology, concepts in a manner consistent with the Company's vision and plans, including ALTA/ACSM Title and Boundary Surveys, and Maritime Delineation and Water boundaries.
- Implementation of State-of-the-Art surveying and mapping technologies.
- Perform Government Agency submittals and consultations, as required by each job.
- Perform Quality Control of Boundary and ALTA/ACSM.

Survey Manager; 2014-2023

- Oversees daily survey operation of up to six survey crews, supporting technical staff and subconsultants including and not limited to High- Definition Surveys, ALTA/NSPS Surveys, Topographic Surveys, Subsurface Utility Surveys and Hydrographic Surveys, Horizontal and Vertical Control Network and Right of Ways Plans.
- Perform quality control of all survey documents, including survey plans, record plats, descriptions, and review of title commitments reports.
- Coordinate and schedule survey crews.
- Plan, organize and manage office and fieldwork projects to meet critical deadlines and project budget.
- Represent company at projects related meetings and during all point of contact with clients.

Survey Technician; June 2009- June 2014

- Data downloading, processing, analysis, and mapping support.
- Perform deeds and record maps research.
- Prepare Legal Descriptions for property boundaries and easements from AutoCAD mapping and recorded documents.
- Calculate coordinates for boundary corner search and construction staking using AutoCAD.
- Performs GPS observations and post-processing calculations through OPUS and TBC software.

RECENT RELEVANT PROJECTS

- From 2019 to present he has served as Survey Manager for task orders on IDIQ contracts with the Jacksonville & Memphis Districts of the Corps of Engineers to perform hydrographic, topographic, cadastral and construction surveys in Puerto Rico, Florida, and the US Virgin Islands. Over 32 delivery orders have been completed with a cumulative cost of more than 3.5M.
- ROW Mapping, Existing Conditions, Topographic, Hydrographic Survey and Utility Survey in Support to Saeger Road Storm Sewer Improvement Project; St Lucie, FL
- Topographic and Hydrographic Survey Support Services for SFWMD C-139 Flow Equalization Basin (FEB) Project in Hendry County, FL.
- Existing Conditions, Topographic and Utility location and Identification (including GPR/SUE) surveys for Broward County Schools Capital Improvements Program, Broward County, FL
- Over 95 Existing Conditions Site Surveys for the CDBG 3 R Project, Southeast Puerto Rico.
- Topographic and Existing Conditions Surveys of over 60 Landslides, Multiple Municipalities, Puerto Rico.
- Construction Surveying Services for the Reconstruction of Apron 6 at SJU, Carolina, Puerto Rico.
- Over 100 Bridge Scour Study Surveys; Various Municipalities, Puerto Rico.
- LiDAR Mission Support Surveys for LUMA Transmission Lines TL-3100, TL-600, TL 11100. TL 9700, TL-11400, TL 50200, TL 50300, TL 51200 projects in various Municipalities of Puerto Rico.
- Site Surveys and Subsurface Utility Exploration Surveys for PREPA-LUMA Rio Grande Estates, Tapia, Viaducto Substations Projects in various Municipalities of Puerto Rico.
- Surveying Services for LUMA Distribution Lines Projects; El Yunque, Caguas, Carolina, Ponce, Arecibo; in various Municipalities of Puerto Rico.
- Route Study, Existing Conditions, Topographic and Utility Conflict Location and Identification Survey for FEMA Projects, Ponce Short Term Group 1 and 2; San Juan Short Term Group 1, 2 and 3; Caguas Short Term Group 1, 4 and 6; and Arecibo Short Term Group 2.
- Ground Based Engineering Survey Services for FEMA Projects LUMA Transmission Lines 1900, 2200, and 2400; various Municipalities of Puerto Rico.
- Topographic, Existing Conditions and High- Definition Surveys for 15 Virgin Islands Port Authority (VIPA) facilities in St. Thomas, St. John, and St. Croix-USVI.

Exhibit "B"

YVONNE GARTH

PRESIDENT & CEO

Garth Solutions
Thinking beyond the box

YEARS IN INDUSTRY

33 YEARS

YEARS WITH GSI

22 YEARS

EDUCATION

B.S., JOURNALISM & MARKETING

University of Maryland (1992)

WHY YVONNE?

VETERAN LEADERSHIP

Over 31 years of experience leading programs for high-profile clients.

CAMPAIGN EXECUTION

Proven track record in grassroots and digital campaigns that drive awareness and stakeholder support.

STRATEGIC NETWORK

Deep relationships with decision-makers across Florida municipalities and business sectors.

ENGAGEMENT INNOVATION

Develops creative strategies that translate complex projects into clear community narratives.

PUBLIC INSIGHT

Former Commissioner and Vice Mayor of Miramar with deep knowledge of public sector operations and needs.

PROFESSIONAL BIO

Yvonne Garth, President & CEO of Garth Solutions, Inc. (GSI), brings over 31 years of strategic leadership in public relations, marketing, and communications to complex, high-profile projects throughout South Florida and beyond. Since founding GSI in 2003, Yvonne has established the firm as a trusted partner for public and private sector clients dedicated to engaging diverse stakeholders in transformative initiatives. Under her leadership, GSI has successfully executed comprehensive outreach and communication campaigns for prominent organizations that include Broward County Public Schools, Broward County Aviation Department, and nearly all municipalities across Broward.

Yvonne's expertise spans stakeholder engagement, brand development, targeted messaging, media relations, and more. Her background includes nearly a decade as an Advertising and Public Relations Executive at a top-tier agency, where she directed strategic campaigns for global brands, laying a strong foundation for GSI's innovative approach to public sector communications.

Renowned for her ability to leverage deep community relationships, Yvonne consistently facilitates strategic partnerships and collaborations that deliver measurable results. Her commitment to public service and community engagement is exemplified by her previous roles as Commissioner and Vice Mayor for the City of Miramar, as well as Chair and Board Member for the Broward County Small Business Advisory Board, and Board Member of the Miramar Cultural Arts Trust. This blend of local insight and firsthand industry insight positions GSI as a premier communications firm adept at navigating complex, multi-stakeholder environments.

RELEVANT EXPERIENCE

- Broward County Public Schools, SMART Bond Program | Fort Lauderdale, FL
- City of Hollywood New Police Headquarters | Hollywood, FL
- City of Miami Gardens Municipal Complex | Miami Gardens, FL
- FLL Airport New Runway and T4 Expansion | Fort Lauderdale, FL
- FLL Airport Part 150 Noise Compatibility Planning Study | Fort Lauderdale, FL
- Las Olas Beach Park Project | Fort Lauderdale, FL
- Naples Airport Authority, Marketing & Public Relations | Naples, FL
- Sole Mia Local Preference Office, | North Miami, FL
- Town of Davie Water Resiliency Assessment | Davie, FL

SKILLS & EXPERTISE

- TEAM LEADERSHIP
- COMMUNICATION STRATEGY
- STRATEGIC PARTNERSHIPS
- PROGRAM MANAGEMENT
- COMMUNITY OUTREACH
- STAKEHOLDER ENGAGEMENT
- EVENT MANAGEMENT
- MEETING FACILITATION

Exhibit "B"

BRENT CAMPBELL

ACCOUNT MANAGER

Garth Solutions
Thinking beyond the box

YEARS IN INDUSTRY

20 YEARS

YEARS WITH GSI

1 YEAR

EDUCATION

B.A., MARKETING;
MINOR IN ADVERTISING

University of South Carolina (2003)

WHY BRENT?

TWO-SIDED TALENT

Dually skilled in effective client management and digital marketing strategy.

RESOURCE EFFICIENCY

Delivers campaigns that maximize value while meeting project goals.

GROWTH STRATEGIST

Executes plans that drive year-over-year growth and measurable ROI.

INFLUENCER SAVVY

Leverages influencer partnerships and content creation to elevate brand visibility.

DATA-DRIVEN MARKETER

Uses research and analytics to continuously refine and optimize marketing performance.

PROFESSIONAL BIO

Brent Campbell is a seasoned marketing and communications leader with two decades of experience crafting and executing strategies that drive growth, enhance brand visibility, and foster meaningful stakeholder relationships. As Director of Client Services at Garth Solutions, Inc. (GSI), Brent directs comprehensive public outreach campaigns, guides creative execution, and ensures that all initiatives are closely aligned with client objectives and business goals.

Brent excels at mentoring teams and cultivating strong client relationships built on trust and impactful communication. He has successfully led numerous high-profile projects, notably spearheading marketing and public relations efforts for the Naples Airport Authority. His role involved strategic planning, coordination of media relations, stakeholder engagement, and high-impact event management. His innovative approach to public sector communications has repeatedly resulted in increased project efficiency, timely campaign delivery, and significant growth for the organizations he serves.

Brent's expertise in strategy, digital marketing, stakeholder engagement, and data analytics positions him as an invaluable asset to any team aiming for excellence and measurable results in their communications initiatives.

RELEVANT EXPERIENCE

- Boca Raton Airport Authority, Marketing & Public Relations | Boca Raton, FL
- Broward County Net Zero | Broward County, FL
- Broward County Aviation On-Call Project | Fort Lauderdale, FL
- Broward County Public Schools Bond Program | Broward County, FL
- City of Fort Lauderdale Force Main Rehab and Replacement | Fort Lauderdale, FL
- City of Hollywood New Police Headquarters | Hollywood, FL
- City of Hollywood Beach Heights & Beverly Park Sidewalk Improvement | Hollywood, FL
- Cooper City Social Media, Website, and Graphic Design Services | Cooper City, FL
- Town of Davie Water Resiliency Assessment | Davie, FL
- Naples Airport Authority, Marketing & Public Relations | Naples, FL

SKILLS & EXPERTISE

- STAKEHOLDER ENGAGEMENT
- COMMUNICATIONS STRATEGY
- DIGITAL MARKETING
- CAMPAIGN CREATION
- DATA ANALYTICS
- EVENT MANAGEMENT
- CLIENT COMMUNICATION
- TEAM LEADERSHIP

Martin Rossi, PSM

Senior Surveyor

Years of Experience: 46

Years With the Firm: 40

Registrations & Certifications:

Registered Professional Surveyor & Mapper, FL, 1998

Continuing Education:

Land Boundaries, 2018
Wetlands Delineation, 2018

Professional & Civic Activities:

Past Vice President, Florida Surveying & Mapping Society, Broward Chapter

Professional Experience:

Mr. Rossi is a Senior Project Surveyor with more than four decades of surveying and subsurface utility engineering (SUE) experience. His principal areas of experience include surveys such as boundary, topographic, ALTA/ACSM land title surveys, quantity, environmental and wetland, condominium, construction layout, as-built, right-of-way, specific purpose and subdivisions and platting, as well as subsurface utility engineering (SUE). He currently manages the South Florida survey department and field crews and is an Associate with the firm.

Relevant Project Experience:

City of Miami West End Park Survey & SUE - Miller Legg provided boundary and topographic surveying services along with an underground utility survey of West End Park in Miami. The 7-acre active park offers playground, swimming pool, baseball, tennis, pavilion and picnic facilities in addition to a community center.

City of Miami Fairlawn Community Park - Under our continuing services contract with the City of Miami, Miller Legg was awarded the development of programming, pre-design/concept, design, construction document preparation and construction phase services for a new Community Park on SW 63rd Avenue. The scope included planning, civil engineering, landscape architecture, certified arborist, surveying and SUE, structural, electrical and geotechnical engineering as well as permitting, opinion of probable cost and limited construction administration. The passive Park contains a shaded/fenced children's playground, dog run, shared pedestrian / bicyclist perimeter path, light bollards, benches, pedestrian pole lighting, irrigation, water fountain, bike racks, receptacles, hardscape furniture, access driveway and perimeter privacy walls. Permitting was coordinated with the City of Miami, Miami-Dade County DERM, WASD and SFWMD. Survey services included boundary and topographic and tree inventory. Miller Legg assisted the City with the presentation of conceptual designs at Community Meetings to gather public input for a final design.

City of Miami E.G. Sewell Park - Miller Legg is under contract with the City of Miami for program development, pre-design, master planning design including public involvement workshops, construction documents and construction administration services for Sewell Park, a 10.33-acre park on the Miami River. The program will be an open passive park with elements including passive walkways through park and preserve areas, pavilions, an eco-trail, baywalk, hardscape, floating docks, kayak launch, seawall/living shoreline, wayfinding and historical information signage. The scope of services includes landscape architecture, irrigation, environmental, civil engineering, topographical surveying, SUE, certified arborist, structural engineering, electrical engineering, geotechnical engineering, archeological, permitting, bidding assistance and limited construction administration. Miller Legg has performed wetland delineations and a bathymetric survey for the seawall component. The civil scope entails grading, drainage and utilities work. The firm has also conducted a Bonneted Bat survey. The firm is assisting the City to gather community stakeholder input during the design process. Government agency permitting will be coordinated with Miami-Dade County DERM, WASD and SFWMD.

City of Delray Beach Pompey Park Community Center and Campus Design - Miller Legg is providing surveying, SUE, civil engineering, landscape architecture, permitting and construction phase services associated with the design of Pompey Park Community Center and Campus in

Sandro Elvir, CST I

Survey Project Manager

Years of Experience: 28

Years With the Firm: 6

Registrations & Certifications:

Remote Pilot Certification, FL, 2020
Certified Survey Technician Level I, FL, 2021

Education:

Associate of Science, Drafting/CAD
ATI Career Training Center, 2002
, Civil Engineering (2 of 5 yrs completed for Bachelor's)
National Autonomous University of Honduras, 1997

Continuing Education:

AutoDesk Training
Leica Cyclone & Cloudworx for AutoCAD

Professional Experience:

Sandro has almost 30 years of professional surveying experience ranging from a field crew chief to survey manager overseeing survey crews. His areas of expertise include land surveying, boundary, topographic, ALTA, control surveys, utility surveys, 3D Radar Tomography, GPS, route surveys, legal descriptions, laser scanning, and construction layout calculations. He is experienced in AutoCAD, Civil 3D, Cyclone and CloudWorx, and Trimble Geomatics Office.

Prior to joining Miller Legg, Sandro was Survey Coordinator Manager with another South Florida surveying firm for 15 years.

Relevant Project Experience:

Miami-Dade County Water and Sewer Department (WASD) El Portal Basin Surveying - Under Miller Legg's WASD Continuing Services Contract, the firm provided a topographic survey along the entire right-of-way at six (6) streets and intersections and extended 100 feet beyond the intersections' return curves. The six locations in the El Portal neighborhood of Miami-Dade County included: West end of NW 87th ST & NW 5th Ave., NW 95th St. and NW 6th Ave., NW 95th St. and NW 2nd Ave., NE 95th St. and N. Miami Ave., 100 LF south of NE 91st St. and NE 1st St., and 70 LF NE of NE 86th St. and NE 1st St.

Port of Miami Terminal G Topographic Survey - Miller Legg performed topographic surveys and underground utility designations as a subconsultant to Bermello Ajamil & Partners at the Port of Miami Terminal G. Scope included preparation of topographic survey plan at a 50-foot grid throughout the limits, including within 20' of Terminal G and TWIC Buildings; showing above-ground improvements and locations of trees 3 inches DBH or greater, pursuant to code. Drainage and sanitary invert elevations were required. Underground Utility Designation using subsurface ground penetrating radar (GPR) and electromagnetic induction (EM) to perform/verify horizontal locations of any detectable utility. A GPR unit was used to assist in identifying nonmetallic utilities and other structures that are unidentifiable using traditional electromagnetic techniques. Utility location was provided to prevent or reduce the likelihood of damage during excavation and/or provide design information.

Riverwalk Residences Bridge Settlement Monitoring Surveying - Miller Legg has been retained for specific purpose surveying services at the Riverwalk Residences in Fort Lauderdale related to the possible effects on surrounding buildings of heavy construction equipment vibration during construction activities. The scope requires preparation of settlement monitoring reports based on horizontal and vertical measurements of designated points on the bridge, parking garage building and the Water Gardens building.

Related Development E Las Olas Scanner Survey - Utilizing 3D scanner technologies, Miller Legg provided a 3 dimensional point cloud showing horizontal and vertical positions along the east, south and west side of the project site along US 1 and Las Olas Boulevard.

Miami Beach Walk Bathymetric Surveys - As part of the proposed Baywalk project fronting the Intracoastal Waterway in Miami Beach, Miller Legg performed two (2) bathymetric surveys within Biscayne Bay, preparing a survey plan at a 25-foot grid, showing the bottom surface contour within specified areas.

City of Hollywood Boulevard Route Survey - For the Hollywood Community Redevelopment Agency,

MILLER LEGG

Exhibit "B"

Gregory J. Stelmack, PE

Principal Engineer / Managing Partner
34 Years of Experience

CONTACT
901 Northpoint Pkwy, Suite 100
West Palm Beach, FL 33407
GregoryStelmack@wirxeng.com
(561) 307-0166

EDUCATION
Bachelor of Science in Civil Engineering, University of Wisconsin, Madison (1989)
Civil Engineering

PROFESSIONAL LICENSING
Engineer – FL #PE 70556
CTQP Drilled Shaft Inspection
CTQP Pile Driving Inspection

CAPABILITIES
Project Management
Geotechnical Engineering
Foundation Design
Quality Control Inspections
Materials Testing

Mr. Stelmack, PE, has over 34 years of experience and an extensive history of work involving all types of Civil Engineering and Infrastructure-related projects. He has served as the Sr. PM and Engineer of Record on 1000's of projects, including numerous large scale and high-profile projects and Continuing Service Contracts in South Florida for both private and public clients, including: The South Florida Water Management District (SFWMD), Florida Department of Transportation (FDOT), the United States Army Corps of Engineers (USACE), Broward, Palm Beach and Miami Dade Counties and their School Districts, and numerous Cities and other County Agencies.

Mr. Stelmack prepares and reviews geotechnical and materials engineering and inspection reports, coordinates and supervises engineering staff and drilling personnel, and conducts foundation observations, foundation design reviews and geotechnical instrumentation monitoring.

RELATED PROJECT EXPERIENCE

City of West Palm Beach: Continuing Contract for Geotechnical and Testing Services, West Palm Beach, Florida - Senior Contract Manager, Senior Geotechnical and Materials Engineer. Mr. Stelmack served as Senior PM providing geotechnical, and material testing and inspection services for over 12 years on numerous municipal projects ranging in nature from roadway construction, pavement analysis, sidewalk and curb replacements, building foundations, seepage studies, historical studies, Park improvements; seawalls and piers, water treatment plants and waste disposal sites.

Palm Beach County Division of Engineering and Public Work: Continuing Service Contract, Palm Beach County, Florida - Senior Contracts Manager / Sr. Geotechnical Engineer and CMT/CEI Administrator. Multi-year Geotechnical Engineering and Construction Materials Testing and Inspection support Contract for Palm Beach County Engineering and Public Works Depts. Have secured multiple Continuing Services Contracts with PBC over the last 12 years. For this Contract, provided Geotechnical Drilling and Engineering Design Services and Construction Materials Testing in the Laboratory and Field, and Quality Assurance Inspection support on dozens of roadways and utility construction and rehabilitation Projects.

Palm Beach and Broward County School Districts: Continuing Service Contracts, Palm and Broward County, Florida - Senior Contracts Manager / Sr. Geotechnical Engineer and CMT/CEI Administrator. Multi-year Geotechnical Engineering and Construction Materials Testing and Inspection support Contract for the Broward County School District. For this duration of Contract, provided Geotechnical Drilling and Engineering Design Services and Construction Materials Testing, laboratory testing and Quality Assurance Inspection support services on over 50 Broward County and 50 Palm Beach County School District Projects.

Exhibit "B"

Andrew Nixon, PE

Senior Project Engineer / Managing Partner
18+ Years of Experience

Mr. Nixon has 18+ years of experience including providing Environmental, Geotechnical and Construction Materials Testing Services for low and high-rise structures, single family residential developments, bridges, piers, buried structures, transmission towers, silos, roadways, etc. He prepares and reviews geotechnical and materials engineering inspection reports, coordinates and supervises engineering staff and drilling personnel, and conducts foundation observations, foundation design reviews and geotechnical instrumentation monitoring.

He has provided oversight of field and laboratory testing programs during the construction phase of a variety projects and supervised other engineers in the Construction Materials Testing Department. The testing programs typically included the performance of earthwork inspections, field and laboratory testing of soils, and field sampling of concrete. Mr. Nixon has also inspected and supervised testing programs during the construction of various roadway projects.

CONTACT

515 E Las Olas Blvd., Suite 120
Fort Lauderdale, FL 33301
AndrewNixon@wirxeng.com
(561) 762-8918

EDUCATION

Bachelor of Science in Ocean Engineering, Florida Atlantic University, Florida (2005)

PROFESSIONAL LICENSING

Engineer – FL #PE 71458
OSHA 40-hour HAZWOPER
Advanced MOT
Qualified Stormwater Inspector

CAPABILITIES

Project Management
Geotechnical Engineering
Foundation Design
Quality Control Inspections
Environmental Engineering

REPRESENTATIVE PROJECTS

Sunny Isles Central Island Area Pump Stations, Sunny Isles Beach, Florida. Mr. Nixon served as the Geotechnical EOR for two new pump stations on the southeast side of the intersection of N. Bay Drive and 178th Drive, and the northeast side of the intersection of N. Bay Drive and NE 181st Street.

Golden Shores Pump Station Rehabilitation, Sunny Isles Beach, Florida. Mr. Nixon served as the Geotechnical EOR for two new pump stations on the southeast side of the intersection of N. Bay Drive and 178th Drive, and the northeast side of the intersection of N. Bay Drive and NE 181st Street.

NE 25th Avenue 24-inch Force Main Replacement Project, Fort Lauderdale, Florida. Mr. Nixon served as the Geotechnical EOR for the replacement of the existing Pump Station located north of the intersection of North Bay Road and 191st Terrace in a single-family neighborhood in the north end of the City of Sunny Isles Beach.

NE 38th Avenue 42-inch Force Main and 19th Avenue 24-inch Force Main Replacement Project, Fort Lauderdale, Florida. Mr. Nixon served as the Geotechnical EOR for the replacement of approximately 8,000 LF of 42-inch Ductile Iron Pipe (DIP) force mains along NE 38th Street and the construction of approximately 3,000 LF of new 24-inch force main along 19th Street.

Bermuda Riviera Small Water Mains Improvements Project, Fort Lauderdale, Florida. Mr. Nixon served as the Geotechnical EOR for water main improvements within the Bermuda Riviera district including an aerial pipe crossing.

Water and Sanitary Sewer System Improvements for Utility Analysis Zone 113A, Broward County, Florida. Mr. Nixon served as the Geotechnical EOR for the replacement of approximately 168,100 LF of existing water mains, approximately 122,100 LF of existing sanitary sewer mains, and approximately 23,600 LF of existing force mains.

Delray Beach. Surveying services consist of specific service and topographic surveys; subsurface utility engineering, including vacuum excavations. Landscape architecture scope elements are associated with design of planting, irrigation, hardscape, site amenities, two (2) playgrounds, baseball fields (relocation and restoration). Our tree inventory arborist services were key to meeting the community's desire to preserve the large established tree canopy within the Park. Schematic design tasks include due diligence, code, programming, site engineering, landscape and hardscape schematic design verification. Miller Legg assisted with community outreach and relevant City agency design review presentations throughout the process. Permitting coordination will be conducted with the City Engineering and Water and Sewer departments, Lake Worth Drainage District and Palm Beach County Health Department.

City of Cooper City Hiatus Road & NE Lake Boulevard Improvements - Miller Legg performed topographic and subsurface utility engineering (SUE), tree inventory and disposition plans, as well as conceptual landscape plan for the construction of the proposed four leg roundabout at the intersection of Hiatus Road and NE Lake Boulevard. This project is being performed under the City of Cooper City's Professional Service Providers Continuing Services Contract as a subconsultant to the Corradino Group.

Miami-Dade County Water and Sewer Department (WASD) El Portal Basin Surveying - Under Miller Legg's WASD Continuing Services Contract, the firm provided a topographic survey along the entire right-of-way at six (6) streets and intersections and extended 100 feet beyond the intersections' return curves. The six locations in the El Portal neighborhood of Miami-Dade County included: West end of NW 87th ST & NW 5th Ave., NW 95th St. and NW 6th Ave., NW 95th St. and NW 2nd Ave., NE 95th St. and N. Miami Ave., 100 LF south of NE 91st St. and NE 1st St., and 70 LF NE of NE 86th St. and NE 1st St.

Oasis Church of South Florida Survey - Miller Legg performed a boundary and topographic survey of the Oasis Church of South Florida in Pembroke Pines, showing above ground improvements, accessible storm and sanitary sewer rim and invert elevations, pipe types and sizes where shown to reflect recent property improvements. The elevations are shown within adjacent road right-of-way. Miller Legg had prepared the original 1987 property plat.

Port of Miami Terminal G Topographic Survey - Miller Legg performed topographic surveys and underground utility designations as a subconsultant to Bermello Ajamil & Partners at the Port of Miami Terminal G. Scope included preparation of topographic survey plan at a 50-foot grid throughout the limits, including within 20' of Terminal G and TWIC Buildings; showing above-ground improvements and locations of trees 3 inches DBH or greater, pursuant to code. Drainage and sanitary invert elevations were required. Underground Utility Designation using subsurface ground penetrating radar (GPR) and electromagnetic induction (EM) to perform/verify horizontal locations of any detectable utility. A GPR unit was used to assist in identifying nonmetallic utilities and other structures that are unidentifiable using traditional electromagnetic techniques. Utility location was provided to prevent or reduce the likelihood of damage during excavation and/or provide design information.

Miami Beach Walk Bathymetric Surveys - As part of the proposed Baywalk project fronting the Intracoastal Waterway in Miami Beach, Miller Legg performed two (2) bathymetric surveys within Biscayne Bay, preparing a survey plan at a 25-foot grid, showing the bottom surface contour within specified areas.

City of Hollywood Boulevard Route Survey - For the Hollywood Community Redevelopment Agency, Miller Legg provided topographic and tree survey and underground utility designation and mapping between 19th Avenue and 21st Avenue, and between Tyler Street and Harrison Street.

City of Coconut Creek Government Center Improvements - Miller Legg is providing survey, civil engineering, landscape architecture, arborist and architecture design services for the proposed improvements to the Coconut Creek Government Center. Scope includes removal of overgrown vegetation and palms in plaza, seating areas and event space incorporated into the plaza, parking lot design for additional parking spaces, enhancement of the breezeway including seating zones and updated finish improvements, investigate replacement of City Hall sewer lines, drainage inventory and analysis in the plaza and breezeway, monument and directional signage throughout the site, conceptual location of electrical improvements in the courtyard for future connections, graphics and data provided for grant assistance and Order of Magnitude Opinion of Probable Cost (OPC). This work is being performed under our Continuing Services Contract. Justin Architects will provide conceptual designs for the renovation of the existing breezeway, campus signage and wayfinding and monument signs.

Everglades Holiday Park Arena - Miller Legg is providing survey, geotechnical, environmental, civil, mechanical, structural engineering, landscape architecture, permitting assistance and construction phase services for the new proposed animal interaction arena at Everglades Holiday Park. Arena will contain seating for up to 600 spectators. Environmental scope includes preliminary natural resource permitting investigations, jurisdictional determination and agency pre-application, environmental resource permitting, mitigation analysis and a Bonneted Bat roost survey. A topographical survey, arborist tree inventory, tree removal/relocation plans and limited construction observation are included in the scope as well.

Miller Legg provided topographic and tree survey and underground utility designation and mapping between 19th Avenue and 21st Avenue, and between Tyler Street and Harrison Street.

Veterans Administration (VA) Miami Healthcare System Hospital Survey & SUE - Miller Legg provided topographic surveying and sub-surface utility designations and mapping for a portion of the Miami VA Hospital location, having previously performed surveying at the facility in 2003. The survey shows above-ground improvements, trees, parking spaces, and underground utilities locations.

Stephen P Clark Government Center Surveying - Provided boundary and topographic survey, title search and review, underground utility designation, tree inventory and certified arborist assessment.

City of Coconut Creek Government Center Improvements - Miller Legg is providing survey, civil engineering, landscape architecture, arborist and architecture design services for the proposed improvements to the Coconut Creek Government Center. Scope includes removal of overgrown vegetation and palms in plaza, seating areas and event space incorporated into the plaza, parking lot design for additional parking spaces, enhancement of the breezeway including seating zones and updated finish improvements, investigate replacement of City Hall sewer lines, drainage inventory and analysis in the plaza and breezeway, monument and directional signage throughout the site, conceptual location of electrical improvements in the courtyard for future connections, graphics and data provided for grant assistance and Order of Magnitude Opinion of Probable Cost (OPC). This work is being performed under our Continuing Services Contract. Justin Architects will provide conceptual designs for the renovation of the existing breezeway, campus signage and wayfinding and monument signs.

Weston Vista Park Phase II Recreation Center - Miller Legg is providing survey, SUE, landscape architecture, and civil engineering for the development of a new 40,000 SF recreation center with a multipurpose gymnasium with three basketball courts, an upstairs running track, a fitness/activity room, multipurpose rooms, break room, bathrooms, storage, standby power, and other required and support spaces. The park site will also contain a shaded playground, splashpad, multipurpose courts, shade structure, and a new exit/access drive to Vista Park Boulevard. Miller Legg is a subconsultant to Wannemacher Jensen Architects for this project.

Florida International University (FIU) University Student Housing - Miller Legg is providing civil engineering design services for the new 816 bed student housing on the main campus of Florida International University. The facility's main floor will contain retail and academic support areas, with the possibility of providing housing related warehouse/storage space to replace the existing warehouse facility. The building will provide a gathering space for socializing, and a dedicated group study room and lounge. This project is being completed as a subconsultant to Zyscovich.

Suwannee County Project Summit Master Plan - Miller Legg will prepare a Master Plan for the Project Summit parcel. The Master Plan addresses the parcel's future facilities, uses, programs and recommend modifications, improvements and enhancement to create a hurricane shelter and sports tourism destination. The proposed hurricane shelter shall double as a destination sports tourism fieldhouse for both local and regional residents. The master plan will include both active and passive facilities.

Everglades Holiday Park Arena - Miller Legg is providing survey, geotechnical, environmental, civil, mechanical, structural engineering, landscape architecture, permitting assistance and construction phase services for the new proposed animal interaction arena at Everglades Holiday Park. Arena will contain seating for up to 600 spectators. Environmental scope includes preliminary natural resource permitting investigations, jurisdictional determination and agency pre-application, environmental resource permitting, mitigation analysis and a Bonneted Bat roost survey. A topographical survey, arborist tree inventory, tree removal/relocation plans and limited construction observation are included in the scope as well.

City of Miami Gardens Performing Arts Center - Miller Legg is providing civil engineering and landscape architecture design services, traffic engineering services, permitting assistance and construction phase services for the new Miami Gardens Performing Arts Center. The Center will be built on 3.5 acres of land and will include a performing arts center, black box theater, youth center, culinary arts institute, STEM facility with classrooms with movable walls and an outdoor interactive playground to promote the development of youth through scientific and technological innovations. The center will be built through construction management at risk delivery method. Miller Legg is a subconsultant to Synalovski Romanik Saye, a Zyscovich Company.

Hollywood Circle Condominuin Conversion - Miller Legg is providing survey services, including boundary surveys, sketch and legal descriptions for the mixed-use development for condominium conversion. Scope includes boundary survey establishing the perimeter of the property, preparation of a project facility plan showing the boundary elements and shared facilities.

CONSULTING ARBORIST, INC.

JOHN SUTTON
CONSULTING ARBORIST

ISA Certified Arborist #SO 0326
TRAQ Qualified
50 Years' Experience
http://suttonconsultingarborist.com

EDUCATION

ISA Certified Arborist
Graduate American Society of Consulting Arborist Academy
U. S. Airforce
Calhoun Louisiana High (GED)

PROFESSIONAL EXPERIENCE

Mr. Sutton has been in the arboricultural industry for forty-six years. He has a passion for trees and forestry dating back to boyhood in West Monroe Louisiana where he helped his father in their family-owned sawmill business. After service in the U. S. Airforce, Mr. Sutton was certified as an arborist by the state of Louisiana from the Department of Agriculture and Forestry. In 1992, Mr. Sutton received his ISA Certified Arborist Certification through the International Society of Arboriculture. Mr. Sutton maintains several other professional certifications including Certified Landscape Inspector.

Mr. Sutton has provided consulting services to numerous private and public agencies. In many cases, his involvement was critical to the project's success. Mr. Sutton has extensive experience working with Broward County on complex tree appraisals and relocation issues. Mr. Sutton is also very familiar working in Palm Beach County.

AWARDS

Certificate of Merit National Arbor Day Foundation

CERTIFICATIONS & AFFILIATIONS

Member since 2002 - Florida Landscape Inspectors Association
Member since 1992 - International Society of Arboriculture
Member since 1992 -05 Society of Commercial Arboriculture

Past President - Palm Beach Chapter Florida Arborist Association

National Arbor Day Foundation
Boca Beautification Committee
Mounts Botanical Gardens

SPECIAL LICENSES

ISA Certified Arborist #SO-0326A
TRAQ, Tree Risk Assessment Qualification
PPQ, Pruning Prescription Qualification

P.O. Box 541237, Lake Worth, FL 33454 (561) 493-3310
http://suttonconsultingarborist.com Email: JSutton868@aol.com

LIAF, Certified Landscape Inspector #2002-202

NOTABLE PROJECTS

Village of Key Biscayne – Mariana Dominguez-Hardie
Special Projects Coordinator
305-365-8945
City Arborist since August 2005
Streetscape
Hurricane Katrina – Tree damage assessment August 2005
Crandon Boulevard - March 2005 – Consult on tree selection, inspections for grades and standards and correct planting procedures and final inspection.
Headed up a pest control program for spiraling whitefly
Village wide tree survey

Key West – Lanzo Construction
Tree Preservation during new sewer main installation
700 – 800 block of Simonton Street Key West 5/18/2005

Town of Sewells Point – Robert Kellogg 772-287-2455
Consult new landscape decline SR-AIA and Sewells point Road – February 11, 2008

Town of Golden Beach – Alexander Diaz 305-932-0744 x 222
May 23, 2008 Project: Strand Beach Pavilion and Center Median of A1A, consult decline of Coconut Palms and Date Palm

Tree Relocations

Don Murakami Landscape Architects – 561-276-7750

Ron Ernest Jones – Debbie Hernandez – 954-344-9855

EDSA – Scott Lamont – 954-524-3330

PGA National – Scott Clark - 561-627-0020
Champion Golf Course - 2001

La Preserve – Steve Goldstrom – 954-766-8800

Boca Resort – Dave Wilson – 561-239-9084

The Breakers of the Palm Beaches – Danny Miller – 561-723-0210

To name a few

Tree Appraisals

Village of Key Biscayne – Mariana Dominguez - 305-365-8945
November 2005 – Tree evaluation and appraisal for hurricane Wilma
Hurricane Katrina – Tree evaluation and appraisal August 2005

AIG Domestic Claims, Inc.- Rufus Jones – 201-631-4110
David Buettner – 618-939-5591
Faldo Golf Hurricane Appraisal
Marriott - Orlando Golf Courses
Marriott / Cypress Harbor Resort
Marriot / Royal Palms
Marriot Grande Vista / Boulevard

Bianchi & Associates, Inc. – Rocco M. Bianchi – 845-838-1788
Sailfish Marina - Wilma Appraisal

Boca Raton Resort & Club – David Wilson – 561-239-9084
Bahia Mar - Hurricane Wilma
Beach Club - Appraisal Hurricane Wilma
Boca CC - Wilma Clean Up
Golf Course Wilma Clean Up
Golf Villas Tree Work
Grande Oaks-Hurricane Wilma Cleanup
Naples Grande
Naples Grande Golf Course
Pier 66
The Bungalows
Yacht Club

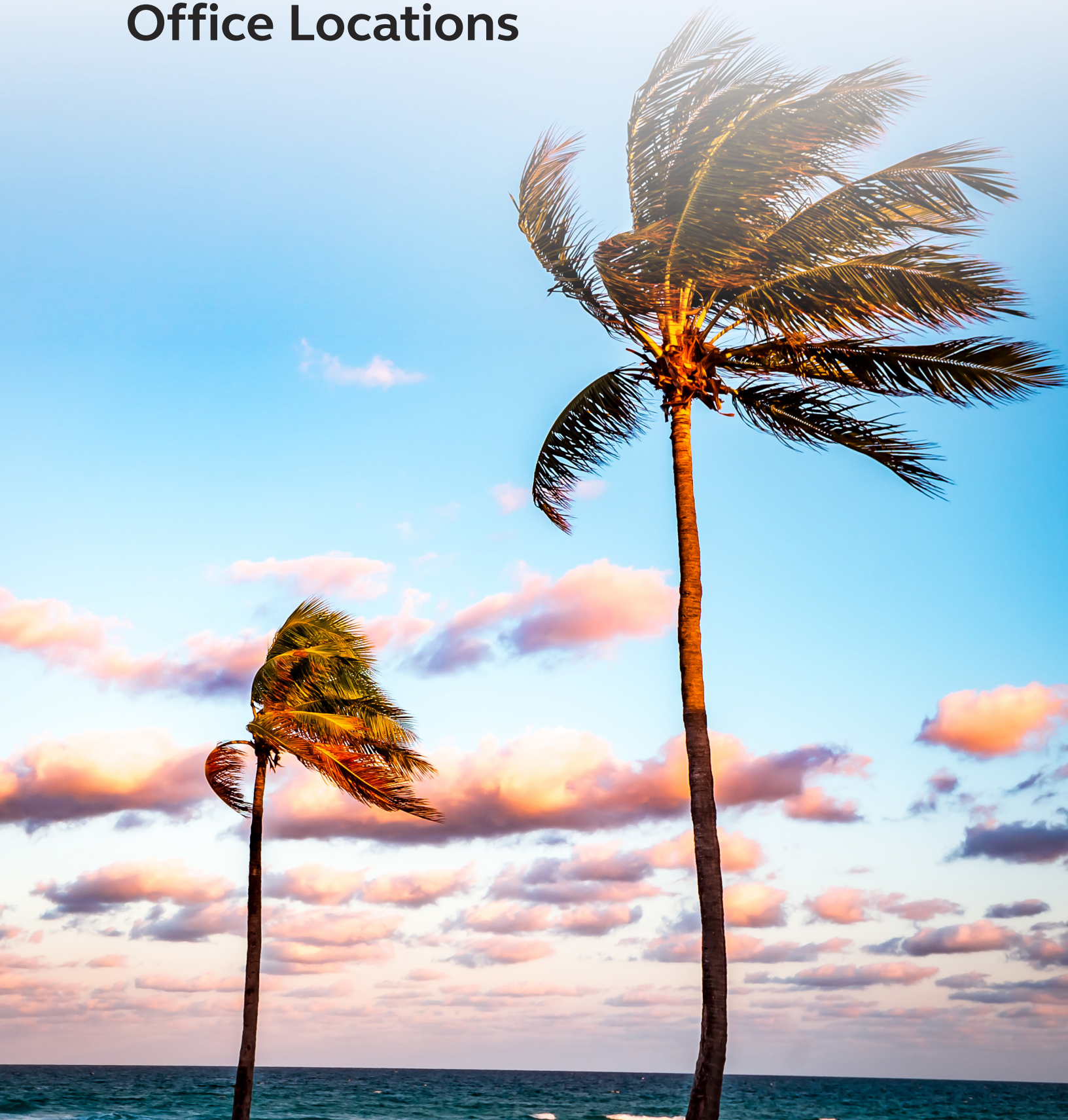
Equity Residential – Vericlaim Insurance –
Don Elliott - 704-364-9980 Larry Moody – 706-828-8051
Coconut Palm Club
Heron Landing
Heron Pointe
Preserve at Deer Creek
Sabal Pointe
Welleby Lake Club
Palm Trace Landings
Complete list for this client available upon request

York Claims Service, Inc. – Steve Kotzin – 407-618-1646
Ron Williams – 213-984-4022
Ballen Isles-Damage Appraisal
Breakers Appraisal Work
Breakers East Wilma Appraisal
Breakers West Wilma Appraisal
Isles of Vero Beach
Ocean Reef Hurricane Damage Appraisal
Naples Beach Resort Wilma Appraisal
PGA Hurricane Damage Appraisals
Turnberry Hurricane Damage Appraisal

Zurich NA – Patrick Menke – 847-605-7982
TeSoro Golf Club

Section 08.

Office Locations



08. Office Locations

With approximately 7,000 U.S. professionals and support personnel, and **more than 400 staff members in the State of Florida**, Arcadis has the capacity to provide the resources necessary to meet any of the City's objectives for this contract. **This contract will be managed from our office in Plantation, FL.**

Arcadis at a Glance

7,000 + U.S.Staff

130 + Offices

36,000 + Wolrdwide Staff

30 + Countries

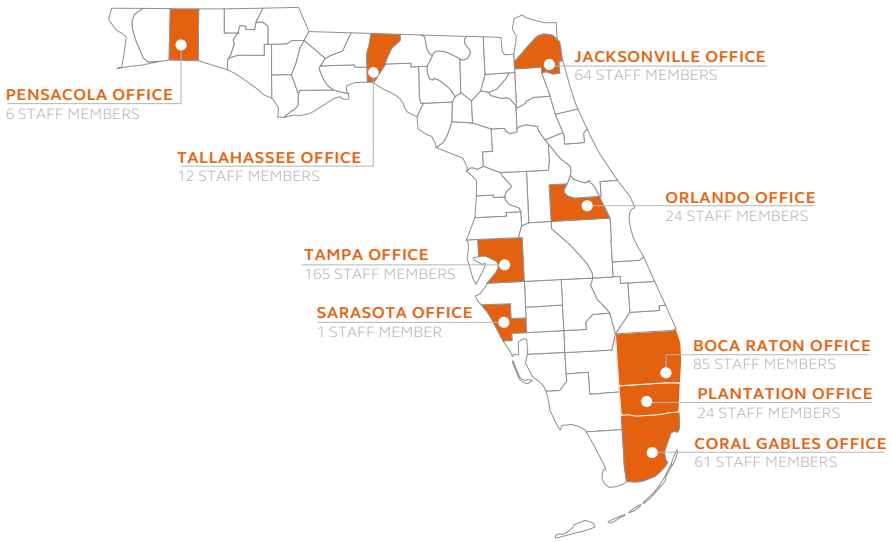
Prime Office Location

150 S. Pine Island Rd., Suite 315
PLANTATION, FL 33324 | PH: (954) 761-3460
24 Staff Members

Tri-County Support Offices

7000 North Federal Hwy.
BOCA RATON, FL 33487
PH: (561) 393-6555
85 Staff Members

2811 Ponce de Leon Blvd., Ste. 200
CORAL GABLES, FL 33134
PH: (888) 492-2762
61 Staff Members



Our Florida practice is supported by over 440+ professionals among 9 Florida offices. Arcadis has performed a thorough review of resources in the State so that local knowledge and established local relationships can be leveraged to bring the City exemplary services.

Subconsultant Office Locations

Javier Bidot & Assoc.
1775 Blount Rd #403, Pompano Beach, FL 33069, POMPANO BEACH, FL 33069

WIRX Engineering, LLC 515 E Las Olas Boulevard, Suite 120, FORT LAUDERDALE, FL 33301

Garth Solutions, Inc.
5595 Orange Drive, Suite 202, DAVIE, FL 33314

Miller Legg
13680 NW 5th Street, Suite 200, SUNRISE, FL 33325

Sutton Consulting Arborist, Inc.
P.O. Box 541237, LAKE WORTH, FL 33454

A Local, Responsive Team

Arcadis' Plantation office (Broward County) is a short 25-minute drive from the City's offices. The Arcadis team is committed to respond quickly and efficiently to all the City's needs under this contract.

Section 09.
Litigation

09. Litigation

Arcadis U.S., Inc., and its related and affiliated North American entities (collectively, "Arcadis"), has various legal proceedings pending at any given time. Such claims are disputed and not reasonably expected to be adversely determined, applicable insurance is available, and/or such claims are not reasonably expected to materially impact the financial condition or the operations of Arcadis, nor will they affect Arcadis' ability to fully perform the applicable services. These occurrences represent a nominal percentage of Arcadis' total projects at a frequency understood to be commensurate with or below industry standards for companies of similar size doing projects of similar type and volume. Please see litigation history below.

ARCADIS

Updated Q1 2025

The following is a summary of requested litigation for the preceding five years. Such claims are disputed and not reasonably expected to be adversely determined, applicable insurance is available, and/or such claims are not reasonably expected to materially impact the financial condition or the operations of Arcadis.

Plaintiff	Defendant (Arcadis Affiliate)	Date Suit Filed	Nature of Incident	Type of Claim	Jurisdiction	Business Line	Government Claim (Y/N)	Resolution 1 = Case Ongoing 2 = Dismissal 3 = Resolved/Settled 4 = Judgment 5 = N/A
Schuller Contractors, Inc.	Arcadis U.S., Inc.	Jan-25	Plaintiff claim personal injury due to negligent traffic pattern direction in construction zone.	Prof. Liability	Orange Cnty, FL	Water	N	1
Kessler, Jayne	Arcadis U.S., Inc. (FKA The Rise Group, LLC)	Nov-24	Plaintiff claims personal injury at project site.	General Liability	Cook County, IL	Places	N	1
CPL Architects, Engineers, Landscape Architect, D.P.C.	Arcadis U.S., Inc.	Apr-24	Plaintiff claiming breach of contract.	Prof. Liability	Gwinnett	Mobiliy	N	3
Belanger, David	Arcadis U.S., Inc.	Jan-24	Plaintiff claims personal injury for failure to maintain safe work area.	General Liability	Juneau, AK	Places	N	1
Walbridge	Arcadis G&M of North Carolina, Inc.	Jan-24	Plaintiff alleges project did not meet design requirements and claiming damages for redesign.	Prof. Liability	TBD	Places	N	3
Sicilian, Paul	Arcadis U.S., Inc. / Elevated Solutions JV	Nov-23	Plaintiff claiming personal injury caused by exposure to epoxy.	General Liability	Cook County, IL	Mobiliy	N	1
Romero and Olmos	Arcadis U.S., Inc.	Sep-23	Motor vehicle accident between Plaintiffs and Arcadis vehicle operated by employee.	General Liability	Middlesex, NJ	Env	N	1
Hiestand	Arcadis U.S., Inc. / Elevated Solutions JV	Aug-23	Plaintiff claims personal injury for failure to maintain safe work area.	General Liability	Cook County, IL	Mobiliy	N	1
Robert Rivers	Arcadis CE	Jun-23	Plaintiff claiming personal injury at project site due to trip and fall.	General Liability	New York	Water	N	1
Arcadis US	USACE NDNODS	Apr-23	Appeal before Armed Services Board of Contract Appeals of COFD's decision denying Plaintiff's claim regarding differing site conditions/cardinal change under Contract Order No. WD912DR18F0689	Appeal	ASBCA	Env	Y	3
Jean, Javon	Arcadis U.S., Inc.	Feb-23	Plaintiff claiming personal injury at property allegedly owned by Arcadis in NY. Arcadis does not own the property. Subsequent third party action filed by Defendant Alliance Energy against Arcadis seeking indemnification and defense.	General Liability	Kings Cnty, NY	Env	N	1
Melito Construction (Stop & Shop)	Arcadis of NY, Inc.	Jan-23	Third party complaint seeking indemnification and defense due to allegations of personal injury on job site.	General Liability	New York	Env	N	1
Dulcio, Mark	Arcadis U.S., Inc.	Jan-23	Plaintiff is alleging violations of Federal, State and Local laws and seeking damages.	Prof. Liability	Fed. Dist. Ct. - S.D. Fla.	Env	N	1
Garnett, Brian	Arcadis U.S., Inc.	Aug-22	Plaintiff alleges insufficient surveying services provided by Chesapeake Bay Site Solutions, Inc. owned by former Arcadis employee	Prof. Liability	Virginia Beach, VA	Water	N	2
Griffin, et al.	Arcadis U.S., Inc.	Aug-22	Plaintiff alleges breach of fiduciary duty, interference with contract, implied contractual indemnity, and unfair competition.	Other	Los Angeles Cnty, CA	Places	N	1
Hyland, Kevin	Arcadis U.S., Inc.	Jun-22	Plaintiff alleges personal injury at project site	General Liability	Mahoning County, OH	Water	N	3
Asif, Mahmood	Arcadis Canada Inc.	Apr-22	Plaintiff claiming personal injury at project site	General Liability	Canada		N	1
Tompkins	Arcadis U.S., Inc.	Apr-22	Plaintiff alleges negligence at project site resulting in serious injury	Prof. Liability	Allen Cnty, IN	Water	N	1
Ayala-Hinkle, Prince	Arcadis U.S., Inc.	Apr-22	Plaintiff alleges negligence at project site resulting in physical, mental, and emotional well-being	Prof. Liability	Sacramento Cnty, CA	Env	N	1
Commonwealth Edison	Arcadis U.S., Inc.	Feb-22	Plaintiff filed claim for damages due to utility strike	General Liability	Cook County, IL	Env	N	3
Tucker, Jerry	Arcadis U.S., Inc.	Nov-21	Plaintiff alleges personal injury due to trip and fall at Hillairy Avenue project site	General Liability	Morris Cnty, NJ	Env	N	3
BHC	Arcadis U.S., Inc. / Arcadis CE	Nov-21	Plaintiff claim is for damages and injunctive relief alleging Defendants were substantial factors causing and/or contributing to the Woolsey Fire in 2018	Prof. Liability	Los Angeles Cnty, CA	Env	N	2
Edgewater Pearl Cond Assoc.	Arcadis U.S., Inc.	Aug-21	Plaintiff alleges negligence in consulting related to contamination of soils	General Liability	Bergen Cnty, NJ	Env	N	1
Greenberg, Solomon	Arcadis U.S., Inc.	Jul-21	Plaintiff alleges injury due to trip and fall	General Liability	Palm Beach Cnty, FL	Infra	N	2
NYCDEP	Arcadis of NY / AECOM JV	Jun-11	Plaintiff alleges damages due to schedule delays, breach of contract and design errors	Breach of Contract	New York, NY	Water	N`	1
Cameron et al.	Arcadis U.S., Inc. / Arcadis G&M of NC	Jun-21	Plaintiffs as employees of the City of Durham's Waste Management Department alleged exposure to hazardous levels of arsenic and lead	Prof. Liability	Durham, NC	Env	N	3
Aguirre, Jacquelyn	Arcadis U.S., Inc.	Apr-21	Plaintiff alleges wrongful death due to failure to maintain premises in a safe condition	Prof. Liability	Fresno, CA	Infra	N	2
Helwig, Tonya	Arcadis U.S., Inc.	Apr-21	Plaintiff alleges a personal injury due to a slip and fall	General Liability	Philadelphia, PA	Env	N	3
Bagley	Arcadis U.S., Inc.	Feb-21	The estate of Justin Bagley alleges wrongful death claims	General Liability	Clayton County, GA	Infra	N	1
Gonzalez	CTR Joint Venture	Dec-20	Plaintiff alleges personal injury as a result of a fall from bicycle in construction zone	General Liability	Cook County, IL	Water	N	3
Gallagher	Arcadis U.S., Inc.	Oct-20	Plaintiff alleges personal injury due to failure to maintain premises in a safe condition	General Liability	San Diego, CA	Infra	N	3
Perez	Arcadis U.S., Inc. / Arcadis CE	Oct-20	Plaintiff alleges failure to maintain premises in a safe condition.	General Liability	New York, NY	Water	N	3
Hunter/Patterson	Arcadis U.S., Inc.	Sep-20	Plaintiff alleges negligence against Arcadis, as GDOT's contractor, regarding incident related to automobile accident	Prof. Liability	Fulton Cnty, GA	Infra	N	3
City of San Diego	Arcadis U.S., Inc.	Aug-20	Third party complaint claiming contribution and indemnification in connection with underlying personal injury claim (Heather Myers v The City of San Diego)	General Liability	San Diego, CA	Infra	N	3
K.K. Machine Co., Inc.	Arcadis U.S., Inc.	Jul-20	Plaintiff claims negligence resulting in structural damages to business property during adjacent sewer project	Prof. Liability	Queens Cnty, NY	Water	N	1
Mehl, Sarah	Arcadis U.S., Inc.	Apr-20	Former employee alleges wrongful termination and disability discrimination	Employment	San Francisco, CA	Corp	N	3
Stryker Demolition	Arcadis U.S., Inc.	Mar-20	Plaintiff claims breach of contract and unjust enrichment	Breach of Contract	DE	Env	N	3
Posley, Donetia	Arcadis U.S., Inc.	Mar-20	Plaintiff claims negligence against Arcadis as engineer of record regarding incident related to automobile accident	Prof. Liability	Duval County, FL	Infra	N	3
Johnson, Robert	Arcadis of NY Inc.	Feb-20	Plaintiff filed suit against the City of New York for personal injury and Arcadis is now a separately named Defendant	General Liability	Queens Cnty, NY	Env	N	3
City of Chicago	The Rise Group and Arcadis US	Feb-20	Client's 3rd party claim for contribution in underlying claim against client for negligence (Hernandez v. CTR JV)	General Liability	Cook Cnty, IL	Water	N	3

Section 10.

City Forms & Other Required Information

In this section we have provided:

- **Qualifications of Bidders Form**
- **Proposer Information Form**
- **W-9**
- **Tier 1 / Tier 2 Local Business Form**
- **Local Business Participation Form**
- **Reviewed and Audited Financial Statements (confidential)**
- **Insurance Certificates**

Bidder Company Name Arcadis U.S., Inc.

Qualifications Of Bidders

To demonstrate qualifications to perform the work, and to be considered for award, each bidder shall submit at least three (3) business customer references. Provide information for business customers for whom you have performed work of this nature which you list as references, excluding the City of Pompano Beach. (Use an attachment if necessary.)

1. Name and address of customer: City of Fort Lauderdale, FL
   100 N. Andrews Avenue, Fort Lauderdale, FL 33301

   Contact person name, telephone number and email address: Monica Spitery, Project Manager II
   City of Fort Lauderdale 954-828-6891, mspitery@fortlauderdale.gov

   Description of services provided and date(s) of service: Riverland Road Water Mains Improvements (2023-ongoing).
   Arcadis provided design services for the development of a Design Criteria Package
   for the replacement of approximately 13,000 linear feet of water mains.

2. Name and address of customer: City of Hollywood, FL
   1621 N. 14th Ave, Hollywood, FL 33020

   Contact person name, telephone number and email address: Kassandra Myers, Assistant Director
   City of Hollywood 954-921-3414, kmyers@hollywoodfl.org

   Description of services provided and date(s) of service: City of Hollywood Water Master Plan (2025)
   As part of a comprehensive Water System Master Plan, Arcadis conducted condition assessment of the City's water treatment and distribution system assets
   as well as developed a hydraulic model to evaluate and prioritize capital improvement needs for the next 20 years.

3. Name and address of customer: City of Hallandale Beach, FL
   400 South Federal Highway, Hallandale Beach, FL 33009

   Contact person name, telephone number and email address: Manga Ebbe, Construction Program Mgr.
   954-457-3043, mebbe@hallandalebeachfl.gov

   Description of services provided and date(s) of service: Lift Station 6 Replacement (2025-2026)
   Under our ongoing Engineering Services CCNA contract with the City of Hallandale Beach,
   Arcadis completed permitting and design for the Lift Station No. 6 Rehabilitation project.

COMPLETE THE PROPOSER INFORMATION FORM ON THE ATTACHMENTS TAB IN THE EBID SYSTEM. PROPOSERS ARE TO COMPLETE FORM IN ITS ENTIRITY AND INCLUDE THE FORM IN YOUR PROPOSAL THAT MUST BE UPLOADED TO THE RESPONSE ATTACHMENTS TAB FOR THE RFP IN THE EBID SYSTEM.

PROPOSER INFORMATION PAGE

RFP 26-003, Continuing Contract for Civil Engineering Services (CCNA)
(number) (RFP name)

To: The City of Pompano Beach, Florida

The below named company hereby agrees to furnish the proposed services under the terms stated subject to all instructions, terms, conditions, specifications, addenda, legal advertisement, and conditions contained in the RFP. I have read the RFP and all attachments, including the specifications, and fully understand what is required. By submitting this proposal, I will accept a contract if approved by the City and such acceptance covers all terms, conditions, and specifications of this proposal.

Proposal submitted by:

Name (printed) Leah Richter, PE Title Vice President

Company (Legal Registered) Arcadis U.S., Inc.

Federal Tax Identification Number 57-0373224

Address 150 S. Pine Island Road, Suite 315

City/State/Zip Plantation, FL

Telephone No. 954.761.3460 Fax No. N/A

Email Address leah.richter@arcadis.com

Exhibit "B"

Form **W-9**
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See *Specific Instructions* on page 3.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

ARCADIS U.S., INC.

2 Business name/disregarded entity name, if different from above.

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor ☒ C corporation ☐ S corporation ☐ Partnership ☐ Trust/estate

☐ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) . . . . . _____

Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) _____

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) 5

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any) E

(Applies to accounts maintained outside the United States.)

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions . . . . . ☐

5 Address (number, street, and apt. or suite no.). See instructions.

630 PLAZA DRIVE, SUITE 200

Requester's name and address (optional)

6 City, state, and ZIP code

HIGHLANDS RANCH, CO 80129

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

5	7	–	0	3	7	3	2	2	4

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here | **Signature of U.S. person** **Date** 1/9/2025

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

TIER 1/TIER 2 COMPLIANCE FORM

IN ORDER FOR YOUR FIRM TO COMPLY WITH THE CITY'S LOCAL BUSINESS PROGRAM AS A TIER 1 OR TIER 2 VENDOR, BIDDERS MUST COMPLETE THE INFORMATION BELOW AND UPLOAD THE FORM TO THE RESPONSE ATTACHMENTS TAB IN THE EBID SYSTEM.

TIER 1 LOCAL VENDOR

_____ My firm has maintained a permanent place of business within the city limits and maintains a staffing level, within this local office, of at least 10 % who are residents of the City of Pompano Beach.

And/Or

_____ My firm has maintained a permanent place of business within the city limits and my submittal includes subcontracting commitments to Local Vendors Subcontractors for at least 10 % of the contract value.

Or

x____ My firm does not qualify as a Tier 1 Vendor.

TIER 2 LOCAL VENDOR

_____ My firm has maintained a permanent place of business within Broward County and maintains a staffing level, within this local office, of at least 15% who are residents of the City of Pompano Beach

And/Or

_____ My firm has maintained a permanent place of business within Broward County and my submittal includes subcontracting commitments to Local Vendors Subcontractors for at least 20% of the contract value.

Or

x____ My firm does not qualify as a Tier 2 Vendor.

I certify that the above information is true to the best of my knowledge.

December 18, 2025
(Date)

Arcadis U.S., Inc.
(Name of Firm)

BY: Leah K. Richter
(Name)

Leah Richter, PE

LOCAL BUSINESS EXHIBIT "A"
CITY OF POMPANO BEACH, FLORIDA
LOCAL BUSINESS PARTICIPATION FORM

Solicitation Number & Title: Continuing Contract for Civil Engineering Services (CCNA) RLI 26-003

Prime Contractor's Name: Arcadis U.S., Inc.

Name of Firm, Address	Contact Person, Telephone Number	Type of Work to be Performed/Material to be Purchased	Contract Amount or %
Javier Bidot & Assoc: 1775 Blount Rd #403, Pompano Beach, FL 33069	Javier E. Bidot, PSM 561.221.4963	Topographic Survey	TBD*
WIRX Engineering, LLC: 515 E Las Olas Boulevard, Suite 120, Fort Lauderdale, FL 33301	Andrew Nixon, P.E. 954-451-0354	Geotechnical Engineering Services	TBD*
Miller Legg: 13680 NW 5th Street, Suite 200 Sunrise, FL 33325	Michael Kroll, RLA, FASLA 954-628-3651	Subsurface Utility Exploration	TBD*
Sutton Consulting Arborist, Inc.: PO Box 541237 Lake Worth, FL 33454	John Sutton 561-493-3310	Arborist	TBD*
Garth Solutions: 5595 Orange Drive, Suite 202 Davie, FL 33314	Yvonne Gagne President/CEO 954-727-3001	Public Outreach	TBD*

LOCAL BUSINESS EXHIBIT "A"

*Arcadis U.S., Inc. is committed to meeting the applicable Local Business Participation goals of the City. Actual participation percentages will be dependent upon ultimate work assigned.

LOCAL BUSINESS EXHIBIT “B”
LOCAL BUSINESS
LETTER OF INTENT TO PERFORM AS A LOCAL SUBCONTRACTOR

Solicitation Number RLI 26-003

TO: Arcadis U.S., Inc.
(Name of Prime or General Bidder)

The undersigned City of Pompano Beach business intends to perform subcontracting work in connection with the above contract as (check below)

_____ an individual
X _____ a corporation
_____ a partnership
_____ a joint venture

The undersigned is prepared to perform the following work in connection with the above Contract, as hereafter described in detail:

Boundary, Topographic and Utility Survey Services

at the following price: TBD based on specific Task Orders

12/9/25
(Date)

Javier E Bidot & Associates, Corp
(Print Name of Local Business Contractor)

1775 Blount Rd #403
(Street Address)

Pompano Beach, FL 33069
(City, State Zip Code)

BY: _____
(Signature)

IMPORTANT NOTE: Signatures on this form MUST be by an authorized employee of Subcontractor and must be uploaded to the Response Attachment Tab

LOCAL BUSINESS EXHIBIT “B”

Not Applicable

LOCAL BUSINESS EXHIBIT “C

LOCAL BUSINESS
UNAVAILABILITY FORM

BID #_____

I,_____
(Name and Title)

of_____, certify that on the _____day of

_____, _____, I invited the following LOCAL BUSINESSES to bid work items to be performed in the City of Pompano Beach:

Business Name, Address	Work Items Sought	Form of Bid Sought (i.e., Unit Price, Materials/Labor, Labor Only, etc.)

Said Local Businesses:

___ Did not bid in response to the invitation

___ Submitted a bid which was not the low responsible bid

___ Other:_____

Name and Title: _____

Date: _____

Note: Attach additional documents as available.

LOCAL BUSINESS EXHIBIT "D"
GOOD FAITH EFFORT REPORT
LOCAL BUSINESS PARTICIPATION

BID # RLI 26-003

1. What portions of the contract have you identified as Local Business opportunities?

Topographic Survey, Public Outreach, Geotechnical Engineering Services, Subsurface Utility Exploration, Arborist

2. Did you provide adequate information to identified Local Businesses? Please comment on how you provided this information.

Yes, by email and phone.

3. Did you send written notices to Local Businesses?

____ Yes __x__ No

If yes, please include copy of the notice and the list of individuals who were forwarded copies of the notices.

4. Did you advertise in local publications?

____ Yes __x__ No

If yes, please attach copies of the ads, including name and dates of publication.

5. What type of efforts did you make to assist Local Businesses in contracting with you ?

Emails and phone calls with firms with prior established working relationships and successful delivery track records.

7. List the Local Businesses you will utilize and subcontract amount.

Javier Bidot & Assoc: Topographic Survey	TBD*
Garth Solutions: Public Outreach	TBD*
WIRX Engineering, LLC: Geotechnical Engineering Services	TBD*
Miller Legg: Subsurface Utility Exploration	TBD*
Sutton Consulting Arborist, Inc. – Arborist	TBD*

* Arcadis US, Inc. is committed to meeting the applicable Local Business Participation goals of the City. Actual participation percentages will be dependent upon ultimate work assigned.

8. Other comments: _____None_____

Exhibit "B"

CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
09/23/2024

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

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

PRODUCER
Aon Risk Services South, Inc.
Franklin TN Office
501 Corporate Centre Drive
Suite 300
Franklin TN 37067 USA

CONTACT NAME:
PHONE (A/C. No. Ext): (866) 283-7122 **FAX (A/C. No.):** 800-363-0105
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	Twin City Fire Insurance Company	29459
INSURER B:	Hartford Fire Insurance Co.	19682
INSURER C:	Hartford Casualty Insurance Co	29424
INSURER D:	Endurance American Insurance Company	10641
INSURER E:	Hartford Accident & Indemnity Company	22357
INSURER F:		

INSURED
Arcadis U.S., Inc.
630 Plaza Drive
Suite 200
Highlands Ranch CO 80129 USA

COVERAGES **CERTIFICATE NUMBER:** 570108353250 **REVISION NUMBER:**

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

Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X **COMMERCIAL GENERAL LIABILITY** CLAIMS-MADE X OCCUR X Contractual Liability GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT X LOC OTHER:			20ECSOL5318 SIR applies per policy terms & conditions	10/01/2024	10/01/2025	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$1,000,000 $1,000,000 $10,000 $1,000,000 $2,000,000 $2,000,000
B	**AUTOMOBILE LIABILITY** X ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY			20 UEN OL5319	10/01/2024	10/01/2025	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000
C	X **UMBRELLA LIAB** X OCCUR **EXCESS LIAB** CLAIMS-MADE DED X RETENTION $10,000			20XHUOL5322 Umbrella	10/01/2024	10/01/2025	EACH OCCURRENCE AGGREGATE	$1,000,000 $1,000,000
E A	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER **(Mandatory in NH)** Y/N: N If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		20WNOL5323 AOS 20WBROL5321 MA, WI	10/01/2024 10/01/2024	10/01/2025 10/01/2025	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE-EA EMPLOYEE E.L. DISEASE-POLICY LIMIT	 $1,000,000 $1,000,000 $1,000,000

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

Evidence of Insurance.

CERTIFICATE HOLDER

Arcadis U.S., Inc.
630 Plaza Drive, Suite 200
Highlands Ranch CA 80129 USA

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Aon Risk Services South Inc.

Holder Identifier :

Certificate No : 570108353250

©1988-2015 ACORD CORPORATION. All rights reserved

The ACORD name and logo are registered marks of ACO

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
05/17/2024

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

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

PRODUCER	CONTACT NAME:	
Aon Risk Services South, Inc. Franklin TN Office 501 Corporate Centre Drive Suite 300 Franklin TN 37067 USA	PHONE (A/C. No. Ext): (866) 283-7122	FAX (A/C. No.): (800) 363-0105
	E-MAIL ADDRESS:	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
Arcadis U.S., Inc. 630 Plaza Drive Suite 200 Highlands Ranch CO 80129 USA	INSURER A: Indian Harbor Insurance Company	36940
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES **CERTIFICATE NUMBER:** 570105766919 **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	
							MED EXP (Any one person)	
							PERSONAL & ADV INJURY	
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	
	OTHER:							
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	
	☐ ANY AUTO						BODILY INJURY (Per person)	
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	
	☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	
	☐ DED ☐ RETENTION							
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						☐ PER STATUTE ☐ OTH-ER	
	ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ N/A (Mandatory in NH)						E.L. EACH ACCIDENT	
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE-EA EMPLOYEE	
							E.L. DISEASE-POLICY LIMIT	
A	Contractors Pollution Liability			US00101061E024A Professional & Pollution SIR applies per policy terms & conditions	06/01/2024	06/01/2025	Each Claim Annual Aggregate	$2,000,000 $2,000,000

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

Evidence of Insurance. For Professional Liability coverage, the Aggregate Limit is the total insurance available for claims presented within the policy period for all operations of the insured. The Limit will be reduced by payments of indemnity and expense.

CERTIFICATE HOLDER

Arcadis U.S., Inc.
630 Plaza Drive, Suite 200
Highlands Ranch CO 80129 USA

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Aon Risk Services South Inc

Holder Identifier :

Certificate No : 570105766919

©1988-2015 ACORD CORPORATION. All rights reserved.

The ACORD name and logo are registered marks of ACORD

Exhibit "B"

AGENCY CUSTOMER ID: 570000005571
LOC #:

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Aon Risk Services South, Inc.	Arcadis U.S., Inc.
POLICY NUMBER	
See Certificate Number: 570105766919	
CARRIER / NAIC CODE	EFFECTIVE DATE:
See Certificate Number: 570105766919	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 **FORM TITLE:** Certificate of Liability Insurance

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER	
INSURER	
INSURER	
INSURER	

ADDITIONAL POLICIES If a policy below does not include limit information, refer to the corresponding policy on the ACORD certificate form for policy limits.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS	
	OTHER							
	[X] Claims-Made							
	[X] Professional Liability							
	[X] and Contractors							
	[X] Pollution Liability							

© 2008 ACORD CORPORATION. All rights reserved.
The ACORD name and logo are registered marks of ACORD

Bidder Company Name Arcadis U.S., Inc.

Qualifications Of Bidders

To demonstrate qualifications to perform the work, and to be considered for award, each bidder shall submit at least three (3) business customer references. Provide information for business customers for whom you have performed work of this nature which you list as references, excluding the City of Pompano Beach. (Use an attachment if necessary.)

1. Name and address of customer: City of Fort Lauderdale, FL
   100 N. Andrews Avenue, Fort Lauderdale, FL 33301

   Contact person name, telephone number and email address: Monica Spitery, Project Manager II
   City of Fort Lauderdale 954-828-6891, mspitery@fortlauderdale.gov

   Description of services provided and date(s) of service: Riverland Road Water Mains Improvements (2023-ongoing).
   Arcadis provided design services for the development of a Design Criteria Package
   for the replacement of approximately 13,000 linear feet of water mains.

2. Name and address of customer: City of Hollywood, FL
   1621 N. 14th Ave, Hollywood, FL 33020

   Contact person name, telephone number and email address: Kassandra Myers, Assistant Director
   City of Hollywood 954-921-3414, kmyers@hollywoodfl.org

   Description of services provided and date(s) of service: City of Hollywood Water Master Plan (2025)
   As part of a comprehensive Water System Master Plan, Arcadis conducted condition assessment of the City's water treatment and distribution system assets
   as well as developed a hydraulic model to evaluate and prioritize capital improvement needs for the next 20 years.

3. Name and address of customer: City of Hallandale Beach, FL
   400 South Federal Highway, Hallandale Beach, FL 33009

   Contact person name, telephone number and email address: Manga Ebbe, Construction Program Mgr.
   954-457-3043, mebbe@hallandalebeachfl.gov

   Description of services provided and date(s) of service: Lift Station 6 Replacement (2025-2026)
   Under our ongoing Engineering Services CCNA contract with the City of Hallandale Beach,
   Arcadis completed permitting and design for the Lift Station No. 6 Rehabilitation project.

COMPLETE THE PROPOSER INFORMATION FORM ON THE ATTACHMENTS TAB IN THE EBID SYSTEM. PROPOSERS ARE TO COMPLETE FORM IN ITS ENTIRITY AND INCLUDE THE FORM IN YOUR PROPOSAL THAT MUST BE UPLOADED TO THE RESPONSE ATTACHMENTS TAB FOR THE RFP IN THE EBID SYSTEM.

PROPOSER INFORMATION PAGE

RFP 26-003, Continuing Contract for Civil Engineering Services (CCNA)
(number) (RFP name)

To: The City of Pompano Beach, Florida

The below named company hereby agrees to furnish the proposed services under the terms stated subject to all instructions, terms, conditions, specifications, addenda, legal advertisement, and conditions contained in the RFP. I have read the RFP and all attachments, including the specifications, and fully understand what is required. By submitting this proposal, I will accept a contract if approved by the City and such acceptance covers all terms, conditions, and specifications of this proposal.

Proposal submitted by:

Name (printed) Leah Richter, PE Title Vice President

Company (Legal Registered) Arcadis U.S., Inc.

Federal Tax Identification Number 57-0373224

Address 150 S. Pine Island Road, Suite 315

City/State/Zip Plantation, FL

Telephone No. 954.761.3460 Fax No. N/A

Email Address leah.richter@arcadis.com

Form **W-9**
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See ***Specific Instructions*** on page 3.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

ARCADIS U.S., INC.

2 Business name/disregarded entity name, if different from above.

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor ☒ C corporation ☐ S corporation ☐ Partnership ☐ Trust/estate

☐ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) . . . . . _____

Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) _____

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) 5

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any) E

(Applies to accounts maintained outside the United States.)

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions . . . . . ☐

5 Address (number, street, and apt. or suite no.). See instructions.

630 PLAZA DRIVE, SUITE 200

Requester's name and address (optional)

6 City, state, and ZIP code

HIGHLANDS RANCH, CO 80129

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

5	7	–	0	3	7	3	2	2	4

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here | **Signature of U.S. person** **Date** 1/9/2025

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

TIER 1/TIER 2 COMPLIANCE FORM

IN ORDER FOR YOUR FIRM TO COMPLY WITH THE CITY'S LOCAL BUSINESS PROGRAM AS A TIER 1 OR TIER 2 VENDOR, BIDDERS MUST COMPLETE THE INFORMATION BELOW AND UPLOAD THE FORM TO THE RESPONSE ATTACHMENTS TAB IN THE EBID SYSTEM.

TIER 1 LOCAL VENDOR

_____ My firm has maintained a permanent place of business within the city limits and maintains a staffing level, within this local office, of at least 10 % who are residents of the City of Pompano Beach.

And/Or

_____ My firm has maintained a permanent place of business within the city limits and my submittal includes subcontracting commitments to Local Vendors Subcontractors for at least 10 % of the contract value.

Or

x____ My firm does not qualify as a Tier 1 Vendor.

TIER 2 LOCAL VENDOR

_____ My firm has maintained a permanent place of business within Broward County and maintains a staffing level, within this local office, of at least 15% who are residents of the City of Pompano Beach

And/Or

_____ My firm has maintained a permanent place of business within Broward County and my submittal includes subcontracting commitments to Local Vendors Subcontractors for at least 20% of the contract value.

Or

x____ My firm does not qualify as a Tier 2 Vendor.

I certify that the above information is true to the best of my knowledge.

December 18, 2025
(Date)

Arcadis U.S., Inc.
(Name of Firm)

BY: Leah K. Richter
(Name)

Leah Richter, PE

04. Project Team Form

PROJECT TEAM

COMPLETE THE PROJECT TEAM FORM ON THE ATTACHMENTS TAB IN THE EBID SYSTEM. PROPOSERS ARE TO COMPLETE THE FORM IN ITS ENTIRETY AND INCLUDE THE FORM IN THEIR PROPOSAL, WHICH MUST BE UPLOADED TO THE RESPONSE ATTACHMENTS TAB IN THE EBID SYSTEM.

RFQ #_26-003_ Name:_Continuing Contract for Civil Engineering Services (CCNA) RLI 26-003_
Federal I.D. #__57-0373224__

PRIME

Role	Name of Individual Assigned to Project	Number of Years Experience	Education, Degrees
PIC	Leah Richter, PE	29	MS, Civil Engineering, Florida Atlantic University, 2002 / BS, Environmental Engineering,University of Florida, 1997
Project Manager	Paul Walansky, PE	26	BS, Ocean Engineering, Florida Atlantic University, 1998
QA/QC	Jim Shelton, PE	40	BS, Chemical Engineering, University of Pennsylvania, 1984
QA/QC	Michael DeVuono, PE, CPESC, LEED AP	30	MS, Civil Engineering, New Jersey Institute of Technology MBA, The Power Business School BA, Geographic Information Systems, West Chester University of PA
Civil/Site Design	Patricia Ramudo, PE, LEED AP	40	MS, Hydraulics & Hydrology, Cornell University, 1983 / BS, Civil Engineering, University of Miami, 1979
Park Improvements	Debra Hernandez, RLA	29	Certificate of Landscape Architecture, University of California - Irvine, 1996
Road & Street Design	Roman Blanco, PE	25	BS, Civil Engineering, University of Florida, 2000
Coastal Engineering	John Atkinson, PhD	21	PhD, Civil Engineering, University of Notre Dame, 2002 MS, Civil Engineering, West Virginia University, 1995 BS, Civil Engineering, West Virginia University, 1992
Hydraulic Modeling	Chris Adams, PE	25	BS, Civil Engineering, Georgia Institute of Technology, 2000
Architecture	Errol Dawkins, RA, LEED AP BD+C	37	Bachelor of Architecture, CUNY City College, 1989 / BS Architecture, CUNY City College, 1988
Pumping Systems	Brian Duane, PE	43	BS, Mechanical Engineering, Georgia Institute of Technology, 1981
Electrical	Eric Battle, PE	17	BS, Electrical Engineering, Virginia Commonwealth University, 2004
I & C / SCADA	Inna Hely, PE	21	BS, Electrical Engineering, Boston University, 2004
Structural	Donnell Duncan, PE	22	MS, Civil Engineering, Georgia Institute of Technology, 2003 / BS, Applied Physics, Morehouse College, 2002 / BS, Civil Engineering, Georgia Institute of Technology, 2002
Pipeline	Jose Custodio, PE	16	ME, Construction Engineering, Polytechnic University of PR, 2013 / BS, Civil Engineering, Polytechnic University of PR, 2010
Pipeline	David Wilson, PE	41	BS, Civil Engineering, Tennessee Technological University, 1984
Asset Management	Celine Hyer, PE, IAM	35	MS, Engineering Management, Florida Institute of Technology, 1989 / BS, Chemical Engineering, Florida Institute of Technology, 1988

04. Project Team Form

PROJECT TEAM

COMPLETE THE PROJECT TEAM FORM ON THE ATTACHMENTS TAB IN THE EBID SYSTEM. PROPOSERS ARE TO COMPLETE THE FORM IN ITS ENTIRETY AND INCLUDE THE FORM IN THEIR PROPOSAL, WHICH MUST BE UPLOADED TO THE RESPONSE ATTACHMENTS TAB IN THE EBID SYSTEM.

RFQ #_26-003_ Name:_Continuing Contract for Civil Engineering Services (CCNA) RLI 26-003___
Federal I.D. #__57-0373224__

PRIME

Role	Name of Individual Assigned to Project	No. of Years Experience	Education, Degrees
Stormwater Design	Chris Tilman, PE, BCEE	26	BS, Civil Engineering, Auburn University Main Campus, 2000 MS, Engineering Management, Troy University, 1997 BS, Environmental Science, Auburn University Main Campus, 1994
HVAC/Plumbing	Sopeark Chhea, PE, LEED	17	MS, Mechanical Engineer, Union College, 2007 / BS, Mechanical Engineer, Union College, 2006
Condition Assessment	Greg Osthues, PE	36	MS, Environmental Engineering, Manhattan College, 1994 / BS, Civil Engineering, University of Massachusetts, 1987
Construction Management	Darryl Dunn, PE	49	Engineering Coursework, West Georgia College and DeKalb Community College, 1977
Onsite Inspections	Garth White, EI, NASSCO	23	BS, Mechanical Engineer, California State University
Scheduling/Project Controls	Bhadrash Patel, PMI-SP	48	BS, Civil Engineering, Sardar Patel University, 1977
Cost Estimating	Meghan Naumick, CEP, LEED GA	17	BS, Civil Engineering, San Diego State University, 2008
Constructability Reviews	Chris Matthews, PE, CGC	55	BSME Nuclear Engineering, University of Alabama, 1973

Subconsultants

Role	Company/Firm Name & Address of Office Handling the Project	Name of Individual Assigned to the Project
Public Outreach	Garth Solutions 5595 Orange Drive, Suite 202 Davie, FL 33314	Yvonne Garth Brent Campbell
Topographic Surveying	Javier E Bidot & Associates, Corp. 1775 Blount Rd #403 Pompano Beach, FL 33069	Javier E. Bidot Cruz, PSM Daniel E. Bidot Betancourt, PSM Carlos Lebron, PSM
Geotechnical Engineering Services	WIRX Engineering, LLC: 515 E Las Olas Boulevard, Suite 120 Fort Lauderdale, FL 33301	Andrew Nixon, PE Gregory J. Stelmack, PE
Subsurface Utility Exploration	Miller Legg 13680 NW 5th Street, Suite 200 Sunrise, FL 33325	Martin Rossi, PSM Sandro Elvir, CST I
Arborist	Sutton Consulting Arborist, Inc. Lake Worth, FL 33462	John Sutton

LOCAL BUSINESS EXHIBIT "A"
CITY OF POMPANO BEACH, FLORIDA
LOCAL BUSINESS PARTICIPATION FORM

Solicitation Number & Title: Continuing Contract for Civil Engineering Services (CCNA) RLI 26-003

Prime Contractor's Name: Arcadis U.S., Inc.

Name of Firm, Address	Contact Person, Telephone Number	Type of Work to be Performed/Material to be Purchased	Contract Amount or %
Javier Bidot & Assoc: 1775 Blount Rd #403, Pompano Beach, FL 33069	Javier E. Bidot, PSM 561.221.4963	Topographic Survey	TBD*
WIRX Engineering, LLC: 515 E Las Olas Boulevard, Suite 120, Fort Lauderdale, FL 33301	Andrew Nixon, P.E. 954-451-0354	Geotechnical Engineering Services	TBD*
Miller Legg: 13680 NW 5th Street, Suite 200 Sunrise, FL 33325	Michael Kroll, RLA, FASLA 954-628-3651	Subsurface Utility Exploration	TBD*
Sutton Consulting Arborist, Inc.: PO Box 541237 Lake Worth, FL 33454	John Sutton 561-493-3310	Arborist	TBD*
Garth Solutions: 5595 Orange Drive, Suite 202 Davie, FL 33314	Yvonne Gagne President/CEO 954-727-3001	Public Outreach	TBD*

LOCAL BUSINESS EXHIBIT "A"

*Arcadis U.S., Inc. is committed to meeting the applicable Local Business Participation goals of the City. Actual participation percentages will be dependent upon ultimate work assigned.

LOCAL BUSINESS EXHIBIT "B"
LOCAL BUSINESS
LETTER OF INTENT TO PERFORM AS A LOCAL SUBCONTRACTOR

Solicitation Number RLI 26-003

TO: Arcadis U.S., Inc.
(Name of Prime or General Bidder)

The undersigned City of Pompano Beach business intends to perform subcontracting work in connection with the above contract as (check below)

_____ an individual
X _____ a corporation
_____ a partnership
_____ a joint venture

The undersigned is prepared to perform the following work in connection with the above Contract, as hereafter described in detail:

Boundary, Topographic and Utility Survey Services

at the following price: TBD based on specific Task Orders

12/9/25
(Date)

Javier E Bidot & Associates, Corp
(Print Name of Local Business Contractor)

1775 Blount Rd #403
(Street Address)

Pompano Beach, FL 33069
(City, State Zip Code)

BY: _____
(Signature)

IMPORTANT NOTE: Signatures on this form MUST be by an authorized employee of Subcontractor and must be uploaded to the Response Attachment Tab

LOCAL BUSINESS EXHIBIT "B"

Not Applicable

LOCAL BUSINESS EXHIBIT "C

LOCAL BUSINESS
UNAVAILABILITY FORM

BID #_____

I,_____
(Name and Title)

of_____, certify that on the _____day of

_____, _____, I invited the following LOCAL BUSINESSES to bid work items to be performed in the City of Pompano Beach:

Business Name, Address	Work Items Sought	Form of Bid Sought (i.e., Unit Price, Materials/Labor, Labor Only, etc.)

Said Local Businesses:

___ Did not bid in response to the invitation

___ Submitted a bid which was not the low responsible bid

___ Other:_____

Name and Title: _____

Date: _____

Note: Attach additional documents as available.

LOCAL BUSINESS EXHIBIT "D"
GOOD FAITH EFFORT REPORT
LOCAL BUSINESS PARTICIPATION

BID # RLI 26-003

1. What portions of the contract have you identified as Local Business opportunities?

Topographic Survey, Public Outreach, Geotechnical Engineering Services, Subsurface Utility Exploration, Arborist

2. Did you provide adequate information to identified Local Businesses? Please comment on how you provided this information.

Yes, by email and phone.

3. Did you send written notices to Local Businesses?

____ Yes __x__ No

If yes, please include copy of the notice and the list of individuals who were forwarded copies of the notices.

4. Did you advertise in local publications?

____ Yes __x__ No

If yes, please attach copies of the ads, including name and dates of publication.

5. What type of efforts did you make to assist Local Businesses in contracting with you ?

Emails and phone calls with firms with prior established working relationships and successful delivery track records.

7. List the Local Businesses you will utilize and subcontract amount.

Javier Bidot & Assoc: Topographic Survey	TBD*
Garth Solutions: Public Outreach	TBD*
WIRX Engineering, LLC: Geotechnical Engineering Services	TBD*
Miller Legg: Subsurface Utility Exploration	TBD*
Sutton Consulting Arborist, Inc. – Arborist	TBD*

* Arcadis US, Inc. is committed to meeting the applicable Local Business Participation goals of the City. Actual participation percentages will be dependent upon ultimate work assigned.

8. Other comments: _____None_____

RLI26-003 Addendum 3
Arcadis US, Inc.
Supplier Response

Event Information

Number:	RLI26-003 Addendum 3
Title:	Continuing Contracts for Civil Engineering Services - CCNA
Type:	Request for Letters of Interest
Issue Date:	11/17/2025
Deadline:	12/18/2025 02:00 PM (ET)
Notes:	According to Section 287.055, Florida Statutes Consultants' Competitive Negotiation Act (CCNA), the City of Pompano Beach (the "City") invites professional companies/firms to submit a Letter of Interest (RLI) to provide civil engineering services on a continuing as-needed basis. The selected firm shall demonstrate specific experience and capabilities and must have qualified personnel and expertise in the specified disciplines. This RLI is subject to the "Cone of Silence," which imposes certain restrictions on communications concerning the RLI process. The Cone of Silence shall take effect once this solicitation is released to the General Public. Respondents to this solicitation or persons acting on their behalf may not contact, between the release of the solicitation and the end of the 72 hours following the agency posting the notice of intended award, excluding Saturdays, Sundays, and state holidays, any employee or officer of the executive or legislative branch concerning any aspect of this solicitation, except in writing to the

procurement officer or as provided in the solicitation documents. Violation of this provision may be grounds for rejecting a response." (F.S. 287.057 (25)).

Any firm or lobbyist for a firm is prohibited from having any communications concerning any solicitation for a competitive procurement with any member of the City Commission, City Clerk, City Manager's Office, any Evaluation Committee Member, or any other City of Pompano Beach employee after Procurement and Contracts releases a solicitation to the General Public. All communications must be sent through the eBid System (IonWave) or to the Purchasing Agent assigned to this solicitation, Jeffrey English, at 954-786-4098 or jeffrey.english@copbfl.com. No other member of the City Commission, City Clerk, City Manager's Office, any Evaluation Committee Member, or any other City of Pompano Beach employee should be contacted concerning this RLI. Any information that amends any portion of this RLI received by any method other than an Addendum issued to the RLI is not binding on the City of Pompano Beach.

Proposals must be submitted electronically through the eBid System (IonWave) on or before the due date and time as provided herein. Any proposals received after the specified due date and time will not be considered. Any uncertainty about the time a proposal is received will be resolved against the firm, if you don't mind.

Firms must be registered on the City's eBid System to view the solicitation documents and respond to this Solicitation. The complete solicitation document can be downloaded for free from the eBid System as a PDF at https://www.pompanobeachfl.ionwave.net. The City is not responsible for the accuracy or completeness of any documentation the firm receives from any source other than the eBid System. The firm is solely responsible for downloading all required documents. To attend the virtual public meeting, go to https://www.pompanobeachfl.gov/pages/meetings to find the Zoom link.

Contact Information

Contact: Michael Lee
Address: Procurement and Contracts
1010 NE 3 Avenue
Pompano Beach, FL 33060
Phone: (954) 786-4098
Email: michael.lee@copbfl.com

Arcadis US, Inc. Information

Contact: Leah Richter
Address: 150 South Pine Island Road
Suite 317
Plantation, FL 33324
Phone: (954) 761-3460
Email: Leah.richter@arcadis.com
Web Address: www.arcadis.com

By submitting this Response I affirm I have received, read and agree to the all terms and conditions as set forth herein. I hereby recognize and agree that upon execution by an authorized officer of the City of Pompano Beach, this Response, together with all documents prepared by or on behalf of the City of Pompano Beach for this solicitation, and the resulting Contract shall become a binding agreement between the parties for the products and services to be provided in accordance with the terms and conditions set forth herein. I further affirm that all information and documentation contained within this response to be true and correct, and that I have the legal authority to submit this response on behalf of the named Supplier (Offeror).

Leah Richter
Signature

leah.richter@arcadis.com
Email

Submitted at 12/18/2025 12:31:11 PM (ET)

Requested Attachments

Letter of Interest

Arcadis_Pompano Beach Civil Engineering Services (CCNA) 26-003.pdf

The electronic version of the proposal must be uploaded to the Response Attachments tab. The file size for uploads is limited to 250 MB. If the file size exceeds 250 MB, the response must be split and uploaded as two (2) separate files.

Proposer Information Page Form

02 Proposer Information Page Form.pdf

Must be uploaded to the Response Attachment Tab

Project Team Form

04_Project Team Form_Pompano Civil.pdf

Must be uploaded to the Response Attachment Tab

Qualification of Bidders Form

01 Qualifications Of Bidders Form.pdf

Qualification of Bidders Form from the attachments tab must be completed and uploaded to this tab.

Tier 1/ Tier 2 Local Business Form

04 T1_T2_Form.pdf

To comply with the City's Local Business Program as a Tier-1 or Tier-2 vendor, you must complete the Tier 1/ Tier 2 Local Business form from the attachments tab and upload it here.

Local Business Program Forms

05 Local Business Program Form.pdf

Local Business Program Forms from the attachments tab must be completed and uploaded to this tab.

Attachment H - W9 Request for Taxpayer Identification Number and Certification

03 2025 Arcadis US Inc. W-9.pdf

Must be uploaded to the Response Attachment Tab

Bid Attributes

1	**Terms & Conditions** Check the box indicating you agree to the terms and conditions of this solicitation. ☑ Agree
2	**Acknowledgement of Addenda** Check this box to acknowledge that you have reviewed all addenda issued for this solicitation. ☑ Yes
3	**Local Business Participation Percentage** If you have indicated local business participation on the Local Business Participation Form Exhibit A enter the percentage of the contract that will be performed by local Pompano Beach businesses. 0%
4	**Vendor Certification Regarding Scrutinized Companies Lists (Any Dollar Amount)** Section 215.4725, Florida Statutes, prohibits agencies from contracting (at any dollar amount) with companies on the Scrutinized Companies that Boycott Israel List, or with companies that are engaged in a boycott of Israel. As the person authorized to electronically sign on behalf of Respondent, I hereby certify by selecting the box below that the company responding to this solicitation is not listed on the Scrutinized Companies that Boycott Israel List. I also certify that the company responding to this solicitation is not participating in a boycott of Israel, and is not engaged in business operations in Syria or Cuba. I understand that pursuant to sections 287.135 and 215.4725, Florida Statutes, the submission of a false certification may subject company to civil penalties, attorney's fees, and/or costs. Select yes for Agree, No for disagree on the drop down menu. Yes

5 Drug-Free Workplace

STATEMENT UNDER SECTION 287.087, FLORIDA STATUTES ON DRUG-FREE WORKPLACE

REQUESTED INFORMATION BELOW IS ON THE ATTRIBUTES TAB FOR THE RFP IN THE EBID SYSTEM. PROVIDE THIS INFORMATION ELECTRONICALLY.

Preference must be given to Contractors submitting certification with their bid or proposal, certifying they have a drug-free workplace in accordance with Section 287.087, Florida Statutes. This requirement affects all public entities of the State and becomes effective January 1, 1991.

Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids which are equal with respect to price, quality and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

(1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

(2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

(3) Give each employee engaged in providing the commodities or contractual services that are under bid, a copy of the statement specified in subsection (1).

(4) In the statement specified in subsection (1) notify the employees that as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace, no later than five (5) days after such conviction.

(5) Impose a sanction on, or require the satisfactory participation in, a drug abuse assistance or rehabilitation program if such is available in the employee's community, by an employee who is so convicted.

(6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign this statement, I certify that his company/firm complies with the above requirements.

By choosing YES, I hereby certify that the company/firm complies with all the above requirements

Yes

6 Conflict of Interest

For purposes of determining any possible conflict of interest, all bidders must disclose if any City of Pompano Beach employee is also an owner, corporate officer, or employee of their business. Indicate either "Yes" (a City employee is also associated with your business), or "No". (Note: If answer is "Yes", you must file a statement with the Supervisor of Elections, pursuant to Florida Statutes 112.313.)Indicate yes or no below with the drop down menu.

No

City of Pompano Beach

RLI26-003 CONTINUING CONTRACT FOR CIVIL ENGINEERING SERVICES (CCNA)

Position Classification & Maximum Hourly Labor Rate Schedule

Prime /Firm Name	**ARCADIS U.S., INC.**

Position / Classification	**Maximum Hourly Rate ($)**
Principal In Charge / Project Officer / SME	$350
Principal Engineer/Architect/Consultant	$300
Senior Project Manager	$295
Project Manager	$275
Senior Engineer/Architect/Consultant	$250
Project Engineer/Architect/Consultant	$195
Staff Engineer/Architect/Consultant	$180
Engineer/Architect/Consultant 2	$165
Engineer/Architect/Consultant 1	$145
Senior Technician/Designer	$180
Technician/Designer	$150
Project Controls / Project Administration	$125
Construction Director	$280
Senior Construction Manager	$230
Construction Manager	$200
Senior Inspector	$160
Inspector	$140

City of Pompano Beach

RLI26-003 CONTINUING CONTRACT FOR CIVIL ENGINEERING SERVICES (CCNA)

Position Classification & Maximum Hourly Labor Rate Schedule

Sub /Firm Name	**JAVIER E. BIDOT & ASSOCIATES**

Position / Classification	**Maximum Hourly Rate ($)**
Topographic Survey Crew	$256.13
Hydrographic Survey Crew	$286.25
Senior (Registered) Surveyor	$160.00
Survey Technician	$140.85

City of Pompano Beach

RLI26-003 CONTINUING CONTRACT FOR CIVIL ENGINEERING SERVICES (CCNA)

Position Classification & Maximum Hourly Labor Rate Schedule

Sub /Firm Name	WIRX Engineering, LLC

Position / Classification	Maximum Hourly Rate ($)
Engineering Assistant/Administrative	$88.00
ACAD Technician	$95.00
Engineering Technician	$118.00
Engineering Inspector	$146.00
Engineer or Engineering Intern	$165.00
Professional Engineer	$195.00
Lead Professional Engineer	$245.00
Chief Professional Engineer	$295.00

City of Pompano Beach

RLI26-003 CONTINUING CONTRACT FOR CIVIL ENGINEERING SERVICES (CCNA)

Position Classification & Maximum Hourly Labor Rate Schedule

Sub /Firm Name	**Miller Legg & Associates, Inc. (dba Miller Legg)**

Position / Classification	**Maximum Hourly Rate ($)**
Surveyor	$170.00
Senior Surveyor	$200.00
2-Person Survey Crew	$200.00
3-Person Survey Crew	$290.00
4-Person Survey Crew	$350.00
Senior Survey Designer	$145.00
Senior Survey Specialist	$150.00
GIS Specialist	$120.00
Sub Surface Utility Engineering Designation (Utility Location)	$1,700/Day

City of Pompano Beach

RLI26-003 CONTINUING CONTRACT FOR CIVIL ENGINEERING SERVICES (CCNA)

Position Classification & Maximum Hourly Labor Rate Schedule

Sub /Firm Name	**Sutton Consulting Arborist, inc**

Position / Classification	**Maximum Hourly Rate ($)**
Site Visit- Arborist site visit for tree evaluation	$250.00
Prepared Reports	$250.00
meetings on site/virtual	$250.00
per unit price data collection	$30.00
tree risk assements w/ report	$300.00
pruninning prescription	$300.00
supervising of trimming	$250.00
per arborist on site	$250.00

City of Pompano Beach

RLI26-003 CONTINUING CONTRACT FOR CIVIL ENGINEERING SERVICES (CCNA)

Position Classification & Maximum Hourly Labor Rate Schedule

Sub /Firm Name	**Garth Solutions, Inc.**

Position / Classification	**Maximum Hourly Rate ($)**
Public Outreach Manager	$175.00
Content Strategist	$125.00
Sr. Community Outreach Specialist	$125.00
Municipal Outreach Specialist	$125.00
Community Relations Specialist	$100.00
Copywriter	$100.00
Multimedia Specialist	$100.00
Graphic Designer	$100.00
Content Developer	$100.00

City of Pompano Beach

RLI26-003 CONTINUING CONTRACT FOR CIVIL ENGINEERING SERVICES (CCNA)

Position Classification & Maximum Hourly Labor Rate Schedule

Other Items	WIRX ENGINEERING LLC

A	Geotechnical Field/Driling Explorations			Unit Price	Unit
1	**Drilling Equipment Mobilization**				
	1.1	Truck Mount		$650.00	Each
	1.2	ATV/Track Mount		$850.00	Each
	1.3	Support Vehicle		$275.00	Day
	1.4	Tri-Pod / Mini-Rig (Special Access)		TBN	Each
	1.5	Core Drill		$500.00	Each
2	**Field Drilling/Sampling/ Coring**				
	2.1	Auger Borings		$20.00	LF
	2.2	Asphalt Core (4-inch with base check)		$350.00	Each
	2.3	Standard Penetration Test Borings			
		2.3.1	Truck/Track Rig (0-50 Ft)	$23.00	LF
		2.3.2	Truck/Track (50-100 Ft)	$27.00	LF
	2.4	Extra SPT Samples			
		2.4.1	Truck/Track Rig (0-50 Ft)	$60.00	Each
		2.4.2	Truck/Track (50-100 Ft)	$75.00	Each
	2.5	Rock Coring (HQ; Larges Sizes TBN)			
		2.5.1	Truck/Track Rig (0-50 Ft)	$55.00	LF
		2.5.2	Truck/Track (50-100 Ft)	$75.00	LF
	2.6	Temporary Casing (Up to 4 in ID)			
		2.6.1	Truck/Track Rig (0-50 Ft)	$12.00	LF
		2.6.2	Truck/Track (50-100 Ft)	$15.00	LF

	2.7	Undisturbed Sampling			
		2.7.1	Truck/Track Rig (0-50 Ft)	$200.00	Each
		2.7.2	Truck/Track (50-100 Ft)	$250.00	Each
	2.8	Borehole Gouting			
		2.8.1	Truck/Track Rig (0-50 Ft)	$9.00	LF
		2.8.2	Truck/Track (50-100 Ft)	$11.00	LF
	2.9	Permeability/Exfiltration/Infiltration Testing			
		2.9.1	Field Perm 0-10 Ft Open-End Borehole Method	$500.00	Each
		2.9.2	Field Perm 10-25Ft Open-End Borehole Method	$650.00	Each
		2.9.3	Double Ring Infiltration	$750.00	Each
3	**Maintenance of Traffic (MOT)**				
	3.1	Maintenance of Traffic		TBN	Each
B	**Geotechnical Laboratory Testing Services**			**Unit Price**	**Unit**
1	**Aggregate Testing**				
	1.1	Carbonates & Organic Matter FM 5-514		$165.00	Test
	1.2	Shell Content of Coarse Aggregate FM 5-555		$175.00	Test
	1.3	Sieve Anlsys of Fine & Coarse AASHTO T27		$105.00	Test
	1.4	Soundness AASHTO T104		$550.00	Test
	1.5	Specific Gravity/Absorption Coarse AASHTO T85		$150.00	Test
	1.6	Specific Gravity/Absorption Fine AASHTO T84		$195.00	Test
2	**Asphalt Testing**				
	2.1	Bulk Specific Gravity FM 1-T166		$105.00	Test
3	**Soil/Rock Testing**				
	3.1	Chloride Soil or Water FM 5-552		$85.00	Test
	3.2	Corrosion Series FM 5-550 through 5-553		$260.00	Test
	3.3	Hydrometer Only AASHTO T88		$150.00	Test
	3.4	Limerock Bearing Ratio (LBR) FM 5-515		$550.00	Test
	3.5	Liquid Limit AASHTO T89		$105.00	Test
	3.6	Materials Finer than 200 Sieve		$65.00	Test
	3.7	Maximum Density ASTM D4254		$375.00	Test
	3.8	Moisture Content Laboratory AASHTO T265		$35.00	Test
	3.9	Organic Content Ignition		$65.00	Test
	3.10	Particle Size Anlys AASHTO T88 (Incl. Hydrometer)		$200.00	Test
	3.11	Particle Size Anlys AASHTO T88 (No Hydrometer)		$105.00	Test
	3.12	Plastic Limit & Plasticity Index AASHTO T90		$105.00	Test
	3.13	Proctor Modified FM 1-T180		$195.00	Test
	3.14	Proctor Standard AASHTO T99		$185.00	Test
	3.15	Specific Gravity AASHTO T100		$85.00	Test

City of Pompano Beach

RLI26-003 CONTINUING CONTRACT FOR CIVIL ENGINEERING SERVICES (CCNA)

Position Classification & Maximum Hourly Labor Rate Schedule

Other Items	**Miller Legg & Associates, Inc. (dba Miller Legg)**
Mileage (per mile)	$0.84
Color Copies (<8 1/2" X 11") (per copy)	$1.00
Color Copies (<11" X 17") (per copy)	$2.00
Blackline Prints (<24" X 36") (per	$2.20
sheet) Mylars (<24" X 36") (per sheet)	$28.00
Vellums (<24" X 36") (per sheet)	$5.50
Official Record Docs (per page)	$1.00