



Proposal for Charlotte County

Engineering Design Consultant Services Bayshore Live Oak Park Shoreline Restoration

Request for Proposal No.20250710 • October 29, 2025 at 3:00 PM





Hampton Oaks Business
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Tampa, FL 33610
www.ghd.com

October 29, 2025

Charlotte County Purchasing Division
Attn: Selection Committee
18500 Murdock Circle
Port Charlotte, FL 33948-1094

Re: Engineering Design Consultant Services Bayshore Live Oak Park Shoreline Restoration (RFP No. 20250710)

Dear Selection Committee

GHD is pleased to submit our qualifications for the Bayshore Live Oak Park Shoreline Restoration project. We recognize this initiative as a cornerstone of Charlotte County's disaster recovery and resilience strategy following multiple hurricane events that caused severe shoreline erosion, structural damage, and loss of public amenities.

Our team visited the site and observed firsthand that while portions of the park have reopened, significant areas remain closed to the public due to safety hazards and ongoing restoration needs. We understand the community's desire to restore full access to this waterfront gem and the County's commitment to delivering a safe, resilient, and environmentally responsible solution.

This project is more than a repair—it is an opportunity to integrate hazard mitigation, improve storm surge protection, and enhance public amenities in a way that honors the park's role as a community gathering space. Our team will thoughtfully incorporate the site's existing natural features—including oyster habitat, mangrove stands, and limestone riprap—into the design. These elements will be leveraged to strengthen shoreline stability, promote ecological resilience, and complement engineered armoring solutions, creating a hybrid approach that balances durability with environmental stewardship.

Why GHD is the Right Choice for Charlotte County:

→ Marine and Waterfront Design Expertise

Our Florida-based waterfront team has successfully delivered over 30 shoreline and seawall projects statewide, including FEMA Hazard Mitigation Grant Program (HMGP) funded initiatives. We understand the complexities of coastal armoring, pier reconstruction, and upland improvements, and we excel at developing solutions that minimize construction impacts while ensuring long-term durability.

→ Regulatory Compliance and Permitting Leadership

We have extensive experience navigating FDEP, SWFWMD, USACE, and FEMA EHP requirements. Our team includes former regulatory officials and permitting specialists who will streamline approvals and ensure compliance with all federal and state disaster recovery funding requirements.

→ Innovative and Resilient Design Solutions

GHD specializes in hybrid shoreline systems that combine structural armoring with living shoreline features, improving ecological value while meeting hazard mitigation goals. We incorporate adaptive design strategies to address sea level rise and future storm events.

→ Environmental Stewardship

Our environmental scientists will conduct thorough habitat assessments and integrate measures that protect and enhance marine ecosystems. We understand the importance of balancing resilience with sustainability.



→ **Public Engagement and Visual Communication**

We have led numerous high-visibility coastal projects for municipalities and provide compelling renderings and interactive 3D visualizations to communicate design intent and gather stakeholder input.

→ **Local Presence and Rapid Response**

With five offices across Florida—including Fort Myers, Tampa and Miami —and over 150 professionals statewide, GHD offers unmatched responsiveness and local knowledge. Our proximity to Port Charlotte ensures timely site visits, coordination meetings, and construction oversight.

We appreciate the County's consideration of our qualifications and look forward to partnering on a project that restores Bayshore Live Oak Park as a safe, resilient, and vibrant waterfront destination for generations to come.

Sincerely,

A handwritten signature in blue ink, appearing to read "Melissa Burns", with a stylized flourish at the end.

Melissa Burns, PE

Vice President/Structural Engineer

T: 407 708 6105

E: melissa.burns@ghd.com

A handwritten signature in blue ink, appearing to read "Jesse Davis", with a stylized flourish at the end.

Jesse Davis, PE, ENV SP

Project Manager

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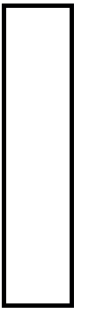


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→ Team Proposed for this Project



The Power of Commitment

GHD recognizes and understands the world is constantly changing. We are committed to solving the world's biggest challenges in the areas of water, energy and urbanization.

We are a global professional services company that leads through engineering, construction and architectural expertise. Our forward-looking, innovative approaches connect and sustain communities around the world. Delivering extraordinary social and economic outcomes, we are focused on building lasting relationships with our partners and clients.

Established in 1928, we remain wholly owned by our people. We are 12,000+ diverse and skilled individuals connected by over 160 offices, across five continents – Asia, Australia, Europe, North and South America, and the Pacific region.

Find out more about us at ghd.com

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, advisory, digital and construction services to our clients.



We are committed to sustainable development.



We improve the physical, natural and social environments of the many communities in which we live and operate.

We rank #30 in the Top 200 Environmental Firms 2024

Ranking published by Engineering News Record (ENR)



#10 in environmental science

#13 hazardous waste

96+ years in operation

135+ countries served

160+ offices worldwide

1.9^B USD revenue **2024**

5 global markets

12^K people

45+ service lines



Providing engineering, environmental, advisory, architecture, digital and construction services



A. Background of the Personnel

GHD is proud to present a multidisciplinary team of coastal, structural, civil, and environmental professionals with deep experience in shoreline armoring, Federally-funded disaster recovery, and resilient public waterfronts throughout Florida.

A1. Project Manager, Jesse Davis, PE, ENV SP, brings over 19 years of marine engineering experience, including successful delivery of Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP) shoreline projects. Supporting Jesse is a team of technical leads and subconsultants with proven expertise in design, permitting, construction management, and community engagement for complex shoreline and park infrastructure. Please see the following page for more details on our Project Manager's recent experience.

A2. Subconsultants, and other Key Personnel



Engineering
& Design

Colliers Engineering & Design – Surveying and Subsurface Utility Engineers (SUE).

Our team's collective experience includes over 30 completed shoreline and seawall projects in Florida, with a strong record of on-time, on-budget delivery and regulatory compliance. In addition to Colliers Engineering & Design, A.D.A. Engineering (ADA) will support GHD in all post-design services, including constructability reviews and construction and engineering inspections (CEI). **Colliers Engineering and Design (CED)** is a multi-disciplinary professional services firm with expertise in providing a wide range of professional services including all aspects of Surveying and SUE. They have extensive experience and have been serving the local area since 1984, with eight offices and over 160 employees in Florida. CED has built a great reputation with their clients by focusing on their core values: responsiveness, customer service, quality, accountability, integrity, and safety.

Given their staff location and availability, they will meet the County's expectations for responsiveness and are prepared to immediately provide staff and resources as needed to support this important contract.

The **CED** team is composed of licensed professional geologists, engineers, surveyors, and technical staff with extensive experience on a wide variety of similar contracts. Their services encompass all aspects of public endeavors including local and regional utilities, water resources, parks and recreational spaces, public facilities, roadways, and streetscape design.

A.D.A. Engineering, Inc.* - Constructability Reviews & Construction Phase Services

ADA is a premier engineering and construction management firm with a rich history of delivering innovative solutions in coastal engineering and environmental sustainability by combining engineering expertise with a deep understanding of ecological systems. Since 1981, the firm has consistently delivered professional engineering and construction management services to Municipal, State, and Federal agency clients.

Effective October 1, 2025, GHD has acquired A.D.A. Engineering, Inc.*, (ADA) and ADA's staff joins GHD's workforce to support projects under the GHD brand. We believe that ADA's long standing local presence and history of project delivery in South Florida, combined with GHD's global network of resources and professionals uniquely positions the firm versus other competitors.





Project Manager Highlight

Jesse Davis, PE, ENV SP

Jesse has over 19 years of experience in coastal engineering and has provided design, permitting, environmental field assessments, and construction phase services for waterfront development, seawall, and living shoreline projects located throughout the United States (East coast, West coast, and Great Lakes Region), the Caribbean, and South America.

Jesse is ideally suited to manage this project. In addition to his hands-on experience designing and providing construction phase services, he has successfully completed, managed, or is currently managing multi-disciplinary teams for the following waterfront development projects. More details are provided in the project descriptions and Jesse's full resume.

Why Jesse?

- **Experienced.** Lessons learned on over 30+ seawall and living shoreline stabilization projects.
- **Practical.** Hands on experience in all phases of project delivery; field investigations, planning, permitting, design, underwater inspections, and construction.
- **Specialized expertise.** Ocean Engineering degree specializing in marine structures from Florida Institute of Technology (2004). Envision Sustainability Professional (2018).

City of Miami

- Morningside and Shorecrest Seawalls and Living Shorelines
- Little River Mini Pocket Park – Seawall, Kayak Launch and Living Shoreline
- Legion Park: Seawall to Living Shoreline Conversion
- South Bayshore Lane Pump Station Outfall Design

Miami-Dade County

- Miami Beach Storm Protection: Planning, Modeling, Permitting and Design Services
- Matheson Hammock Park Marina Seawall Replacement
- County-wide Coastal Model Development

Indian Creek Village

- Top of Seawall Study

University of Florida

- UF Seawall Condition Assessment and Living Shoreline Demonstration

City of Key West

- Bike/Pedestrian Path Concept Study
- Turtle Kraals & C Dock Assessment & Repair Alternatives
- Rest Beach Seawall, SR A1A Shoreline Stabilization

City of North Port

- Jeffrey Lake Seawall Replacement

Ports

- MSC Cruises Terminal Expansion at PortMiami
- Port Everglades Bulkhead Replacement
- Port Everglades Harbor Monitoring Services

Town of Palm Beach

- Mid-Town Seawall Replacement

Marine Corps Air Station Cherry Point, NC

- Seawall Assessment and Living Shoreline Stabilization Project

Lancaster County, VA

- Belle Isle State Park Living Shoreline

Key Project Experience

Fort Pierce City Marina Island Storm Protection

Jesse provided design, permitting, and construction oversight services to reconstruct the City's downtown waterfront after back-to-back impacts from Hurricanes Jeanne and Frances. The project included a 15-acre island breakwater system to protect the marina against 100-yr storm events, 900 LF of seawall, the replacement of the marina docks, and funding through FEMA's hazard mitigation grant program. The innovative network of breakwater islands was authorized by the regulatory agencies as a first of its kind pilot project within the state of Florida with construction finishing in 2015.



The islands have proven successful, with multiple technical awards including. This project was also highlighted by the USACE as an example on how to Engineer with Nature.

This project was also awarded the 2016 ASCE-COPRI Project Excellence Award for large projects.

*See next page for additional information on this project.



Fort Pierce City Marina Island Storm Protection

Fort Pierce, FL



**2016 ASCE-COPRI
Project Excellence
Award for large
projects**

Client

City of Fort Pierce

Year(s)

2005 – 2015

Term of Engagement

10 years

Project Relevancies

- Seawalls
- Living shorelines
- Public outreach
- State and/or Federal grant funds
- Challenging environmental conditions or unique design requirements
- Innovative solutions or approaches to enhance a project's sustainability or efficiency
- Use of cutting edge technology

The challenge

In 2004, Hurricanes Frances and Jeanne destroyed the marina and damaged the seawall fronting the City's scenic waterfront along the Indian River Lagoon. FEMA's hazard damage mitigation funds needed to be utilized to restore the waterfront and provide protection from a future a 100-yr storm event. Project challenges included minimizing impacts to adjacent resources and obtaining regulatory approvals to fill over 15 acres of open water to accomplish the goals of protecting the area from future storm events.

Our response

The project consisted of constructing a 15-acre island breakwater system to provide wave and current protection. We also reconstructed the marina floating docks and over 900 linear feet of seawall. **The island breakwater system was unique in that it incorporated over 20 acres of environmental enhancements which included 1.28 acres of oyster reefs, 6.26 acres of artificial reef, 2.22 acres of coastal dune habitat, 2.33 acres of shorebird habitat, 8.12 acres of seagrass beds, and 1.54 acres of mangrove habitat.** The project also included the beneficial reuse of 150,000 cubic yards of dredged material.

The impact

The innovative network of breakwater islands was authorized by the regulatory agencies as a first of its kind pilot project within the state of Florida with construction finishing in 2015. The islands have proven successful since then, with multiple technical awards and the Florida Main Street's Honor Award for outstanding public improvement. This project was also awarded the 2016 ASCE-COPRI Project Excellence Award for large projects.

This project was also highlighted by the USACE as an example on how to Engineer with Nature.

→ What sets GHD apart?

Why GHD is the RIGHT choice for this project

A2. Key Personnel

- **Jesse Davis, PE, ENV SP** – Project Manager (19+ years, FEMA/HMGP, Florida coastal projects)
- **Melissa Burns, PE** – Lead Structural Engineer (14+ years, seawall and marine structures)
- **Nicholas Bragaia, PE, ENV SP** – Lead Coastal Engineer (7 years, coastal modeling, resilience)
- **Anne Shoffner** – Environmental Permitting & Resource Surveys (25+ years, FDEP/USACE/Local)
- **Steven Janosik, PE** – Geotechnical Engineer (24+ years, marine foundations)
- **Michael Barnett, PE, BC. CE** – Permitting Advisor (former FDEP Bureau Chief, 41+ years)
- **Albert Argudin, CGC** – Constructibility Reviews & Construction Phase Services (48 years of experience overseeing infrastructure projects)
- **Alberto D. Argudin, PE, CGC; LEED AP** – Constructibility Reviews & Construction Phase Services (24 years of professional consulting experience in the construction and engineering industry)

We are here to serve you

We have built a strong team of qualified professionals with a multitude of expertise.

Waterfront Design

EXPERTS

250+

years of experience

30+

relevant projects

DEDICATED

Resources to meet the City's schedule

B. Resumes

Resumes for all key personnel are included in the **Appendix A**.
Staff bios are included below.



**Victor Tirado, PE
QA/QC**

Relevant experience: Over 2 decades of oversight of coastal infrastructure projects ranging from piers to bulkheads, living shorelines, bridges and roadways projects. He has played a QA/QC role for waterfront structural designs, inspections, and structural analyses.

Victor has 21 years of experience in multidisciplinary team management, planning, engineering, and construction. His emphasis is in delivering complex multi-modal transportation and waterfront and marine projects, that range from heavy infrastructure projects to environmental remediation and coastal adaptation projects. Victor has successfully delivered projects that include piers, wharves bulkhead and quay walls, dry docks, large navigation channels, wetland restorations, living shorelines, highway grade separation, bridge and roadways, marine terminal planning, recreational marinas, and site development, among other elements across the world. Victor's international network and skills are an instrumental resource of knowledge in the development of this project. Victor is also a six-year veteran of the United States Navy.



**Melissa Burns, PE
Marine Structural**

Relevant experience: Florida Professional Engineer with recognized experience in both linear structural design (Bridge) and waterfront structural design (seawall, piers, wharfs). Her expertise lies in integrating proposed structures within existing facilities and conflict solutions in limited areas. Additionally, her expertise lies in leading designs that allow facilities to remain operational during construction.

Melissa is a marine and linear infrastructure structural engineer and project manager. She has 14 years of design and management experience. Her projects have encompassed a wide range of private and public facilities. Projects she's worked on include feasibility evaluations, design, modeling, and computation of structural elements, as well as production detailing of plan sets within all design phases. Melissa works on projects from the preliminary engineering pursuit to the final design of structures for both design-build and conventional projects. She is experienced in both linear infrastructure and coastal projects ranging in complexity from simple structures to multi-phase projects accounting for future-year expansion capacities.



**Jon Brent ,PE, SE
Marine Structural**

Relevant experience: Inspection and design experience for seawalls and pile-supported waterfront structures; management of maritime and coastal projects; construction support for shoreline infrastructure improvements including docks, boardwalks, bulkheads, and dune systems.

Jon is a Marine Structural Engineer and Certified Inland Maritime Port Manager with 14 years of design, management, and construction experience in a variety of infrastructure and private facility projects including ports and waterfront structures, high and heavy load cargo terminals, complex drainage and water resources structures, and low-rise buildings. Jon has led the planning, modeling, computation, and detailing of structures for projects subject to a wide range of environmental conditions. Jon's experience also includes facility planning and site layout, 3D modeling and construction drawing development, project specifications, and discipline coordination for new construction, renovations, structural upgrades, and adaptive reuse projects.



Steven Janosik, PE Geotechnical Engineering & Soil Strengthening

Relevant experience: Experience with geotechnical investigations and settlement analyses; coordination with structural design team; geotechnical engineering design and materials testing, evaluation of seawall failures related to subsidence; and site suitability studies.

Steven has nearly 25 years of experience. He specializes in blending forensic engineering assessments with accompanying expert witness testimony, geotechnical engineering design, and construction materials testing (including threshold inspections of reinforcing steel, pile inspections, and construction vibration monitoring). Steven's forensic engineering expertise is focused on evaluating subsidence-related damage to structures, earthen slope and retaining wall failures, construction vibration damage, and pavement failures. His geotechnical engineering design expertise encompasses sinkhole risk assessment and mitigation, shallow and deep foundation design, pavement design, slope stability analyses, bulkhead and retaining wall design, and site suitability studies.



Nicholas Bragaia, PE, ENV SP Coastal Engineering

Relevant experience: Experience includes design and evaluation of seawalls, shoreline stabilization, future marina planning, and construction engineering services.

Mr. Bragaia has over seven years of professional experience working on a wide variety of interdisciplinary engineering projects. Nick's background is rooted in coastal engineering with an emphasis on coastal modeling investigations, waterfront infrastructure, and water resources resiliency projects. He is experienced in developing design metocean conditions, port and waterfront infrastructure projects, and the design coastal protection structures. His experience spans leading the feasibility studies and front-end planning through to detailed design plans and specifications, and stakeholder engagement activities.



Michael Barnett, PE, BC.CE Permitting

Relevant experience: Extensive marine and waterfront design, over 20 shoreline and seawall projects; numerous seawall replacements (including HMGP-funded); permitting, bid services, public engagement; marine life preservation, benthic habitat surveys.

Michael has over 41 years of experience in coastal engineering. He has led the feasibility, planning, engineering design, permitting, construction, and contract document preparation for beach restoration and nourishment projects, seawalls, living shoreline and muck removal projects in the southeastern US. He has led offshore sand source investigations for restoration and nourishment projects in Florida and managed the construction of a mitigative artificial reef as an element of the Miami Harbor Deepening Project. Michael served as the former chief of the Florida Department of Environmental Protection's (FDEP's) bureau of beaches and coastal systems for nearly eight years.



Jingwei Li, PE Civil/Stormwater Engineering

Relevant experience: Experience include stormwater master planning, groundwater, and water quality modeling, and extensive experience in environmental assessments and remediation projects.

Jingwei is a professional engineer with nine years of experience, whose primary focus has been on hydrological and hydraulic modeling, groundwater analysis and modeling, stormwater planning, environmental mitigation, water resources and Geographical Information Systems (GIS). She is experienced in analyzing surface water and groundwater data and GIS databases, developing groundwater, hydraulic and hydrological models. Her work history also includes Asset Management, Phase I and II Environmental Site Assessments, Spill Prevention and Countermeasure Control Plans and Stormwater Pollution Prevention Plans. Jingwei possesses skills that give clients confidence that their projects will have an effective outcome.



Anne Shoffner
Resource Surveys and
Permitting

Relevant experience: Benthic habitat assessments and coastal structure inspection for sensitive marine flora and fauna; marine life preservation plans; environmental mitigation planning, coral relocation, seagrass assessment and monitoring; oyster reef mapping and evaluations.

Anne has over 25 years of experience working in private consulting and for government organizations working in coastal, marine, freshwater, and estuarine environments. Her experience includes business development, project scoping and cost estimations, technical proposal development, NEPA documentation support, and field-based services using remote and in situ equipment for benthic habitat characterization data collection and monitoring surveys. As a project manager, she has conducted contract negotiations, directed project staff and subconsultants, performed risk management, successfully implemented conflict resolution, managed project timelines and budgets, maintained positive and responsive relationships with clients, drafted project updates and technical reports, administered invoicing and subconsultant payments, and applied adaptability and critical thinking during challenging situations. She served as project manager and/or lead scientist on beach nourishment, port dredging, infrastructure construction, offshore energy, and linear projects. She has extensive experience in coral reef restoration and relocation, and seagrass mitigation projects. She has worked in numerous countries and oceans worldwide.



Alberto D. Argudin, PE,
CGC, LEED AP
Utilities, Constructability
Reviews & CEI

Relevant experience: Experience with design coordination during construction for projects involving drainage outfall capacity increase, resulting in reduced flooding; worked on projects involving seawalls, state and/or federal grant funds, and challenging environmental conditions.

Mr. Argudin has over 48 years of experience overseeing infrastructure projects, specializing in stormwater management, water distribution, sewage collection, transportation, solid waste management, environmental studies, permitting, and construction management. As a Project Manager, he has been responsible for coordinating design, permitting, and construction oversight for municipal, institutional, industrial, commercial, and residential developments. He ensures project schedules, budgets, and regulatory requirements are met while managing multidisciplinary teams to deliver high-quality engineering solutions.



Albert Argudin, CGC
Utilities, Constructability
Reviews & CEI

Relevant experience: Experience projects involving seawalls that are funded through state and/or federal grant funds; drainage improvement projects; overseeing CEI projects; seawall raising; design/permitting; and coordinating efforts between multiple disciplines.

Albert Argudin, CGC has 24 years of professional consulting experience in the construction and engineering industry. Albert has served as the project manager for countless roadway and drainage improvement projects throughout Florida. While being diversified in both horizontal and vertical construction projects, he has proven to have the ability and expertise to manage project constraints, such as time and cost, while delivering projects that comply with the construction documents and exceed client expectations.



Nicholas Fewell, CST Survey/SUE

Relevant experience: With over 14 years of field and management experience, Nicholas Fewell, brings extensive expertise in leading subsurface utility engineering (SUE) operations for major clients including FDOT, GDOT, Duke Energy, and multiple state and municipal agencies.

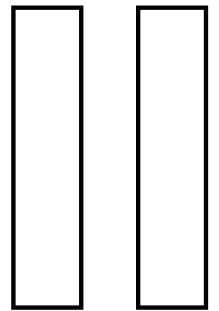
Nicholas Fewell, CST I is a SUE manager with over 14 years of field and management experience. He is responsible for leading designating and locating crews to successful completion of assignments. His responsibilities include assisting project managers, serving as client liaison, communicating with utility owners, contacting state "One-Call" systems, and ensuring compliance with all CED safety and subsurface utility engineering operations. Mr. Fewell has worked on various project assignments for numerous various state and local governments/municipalities, such as the City of Charlotte, departments of transportation and other clients such as FDOT, GDOT, LaDOTD, TxDOT, DUKE Energy, Mosaic, Florida Power & Light, TECO Electric, TECO Peoples Gas, Kinder Morgan, Florida Gas Transmission, and Marine and Airport Authorities.



Wyatt Altman, PSM Survey/SUE

Relevant experience: Survey Project Manager with 15 years of experience leading complex surveying projects, including hydrographic, topographic, and boundary surveys, supported by advanced expertise in digital mapping, LiDAR, and data processing using AutoCAD, Trimble Business Center, and related platforms.

Wyatt is an experienced Survey Project Manager with 15 years of diversified expertise that includes digital imaging and mapping, geodesy, GIS, GPS, photogrammetry, land tenure and cadastral studies, LiDAR, and remote sensing techniques. Mr. Altman as performed hydrographic, ALTA, full topographic, and boundary surveys; subsurface utility locating; and construction layout. He also has expertise performing data processing using AutoCAD, CAice, Trimble Business Center, GeoPAK and Starnet.



→ Proposed Management Plan

A. Team Organization

The proposed team assembled for this project has the wide range and depth of experience necessary to effectively address the County's needs. Not only does the GHD Team have the requisite technical capabilities, but all personnel are capable of successfully interacting with the County's staff and management. The strength of the GHD team lies in the expertise and experience of our seasoned professionals. This allows us to efficiently deliver high-quality services in a cost-effective and timely manner.

WHY THE GHD TEAM?

GHD has a broad bench of dedicated and committed staff to support the Charlotte County.

- 50+ maritime and coastal professionals in North America
- 150+ science and engineering professionals in Florida
- 4,000+ professionals in North America
- 12,000+ professionals worldwide
- Local regulatory experience and connections
- Waterfront design experts
- Proven project experience
- Practical approach to permitting
- Practical approach to permitting



Legend - GHD's Team

 **GHD** ^{GHD}

 **Colliers Engineering & Design** ^{CED}

A. Team Organization (continued)

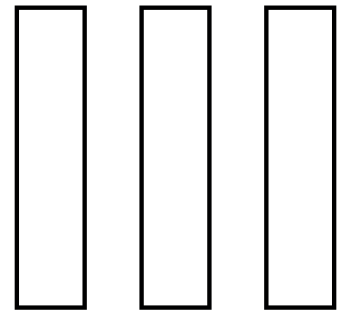
Each phase—site analysis, design, permitting, construction documents, and construction observation—is led by a dedicated technical lead, with the **Project Manager** maintaining overall accountability and direct communication with Charlotte County staff.

- 1** The process will begin with **site analysis**, including baseline ecological assessments, site surveys, condition assessments, hydrodynamic studies, and habitat characterization to inform design decisions.
- 2** The **schematic design phase** will develop conceptual alternatives that balance shoreline protection, habitat restoration, and community use, followed by a design document phase where selected alternatives are advanced into detailed plans with engineering specifications and ecological enhancements.
- 3** During the **permitting phase**, coordination with federal, state, and local regulatory agencies will be undertaken to secure all required environmental and construction approvals.
- 4** In the **construction document phase**, final technical drawings, bid documents, and construction specifications will be prepared to guide contractors.
- 5** Finally, the **construction observation phase** will involve on-site monitoring to verify compliance with design intent, permitting conditions, and ecological performance goals, ensuring that the restoration achieves both functional resilience and long-term sustainability.

B. Roles and Responsibilities of Participants

Roles	Professionals	Responsibilities
Project Manager	Jesse Davis, PE, ENV SP	Single point of contact, responsible for schedule, budget, QA/QC, and client communication.
Technical Leads	Structural, Coastal, Civil, Environmental, Geotechnical	Oversee discipline-specific tasks, coordinate with subconsultants, and ensure technical excellence.
Permitting Lead	Michael Barnett, PE, BC.CE; Anne Shoffner	Manages all agency coordination (FDEP, SWFWMD, USACE, DCR), prepares permit applications, and tracks approvals.
Construction Management	GHD CM/CEI staff	Provides constructability reviews, bid support, and field observation to ensure compliance with plans and specifications.
Survey/SUE	Colliers Engineering & Design	Conducts all required surveys, and utility locates.





→ Previous Experience of Team Proposed for this Project

A. Relevant Work History with Public/Government Facilities and CM Method

Our team has managed projects from concept through construction, including CM-at-risk and traditional design-bid-build delivery. **GHD** has delivered over **30 shoreline, shoreline, pier and seawall projects** for public agencies in Florida, including municipal parks, FEMA-funded disaster recovery, and coastal resilience upgrades.

The following Table 1 depicts a brief snapshot of our team's breadth of experience with regard to the specific experience required to successfully complete this project.

B. Relevant Work History with Marine/Seawall/Civil, Coastal, Engineering and Structural Projects

The GHD team has extensive experience delivering complex marine, seawall, coastal, civil, and structural projects across Florida, consistently balancing engineering excellence, environmental sensitivity, and public accessibility. Recent projects include:

Matheson Hammock Park Seawall Replacement (Miami-Dade County): A 700-linear-foot FEMA-funded seawall within a historic park integrating living shoreline features. GHD managed phased construction to maintain public access, addressed historic structure proximity and utility conflicts, and achieved FEMA-compliant, 100-year storm protection.

Mid-Town Seawall Replacement (Town of Palm Beach): Designed and delivered 2,700 linear feet of adaptive steel sheet pile seawall along a critical hurricane evacuation route. Through value engineering and precise schedule tracking, GHD met the Town's budget while overcoming utility conflicts and limited existing documentation.

Fort Pierce City Marina Island Storm Protection: A 900-linear-foot seawall and breakwater system for a public marina, funded by FEMA and implemented over a 10-year phased schedule. GHD secured complex regulatory approvals, utilized beneficial dredged material, and delivered an award-winning "Engineer with Nature" project recognized by the USACE.

Legion Park Living Shoreline (City of Miami): Transformed a failed seawall into a resilient living shoreline using FEMA and state grants. GHD expedited design and permitting, mitigated erosion risks, and incorporated ecological restoration and public access improvements.

Collectively, these projects demonstrate GHD's proven capability in designing resilient coastal infrastructure that integrates environmental enhancement, cost and schedule discipline, and innovative shoreline protection tailored to Florida's coastal conditions.

C. Permitting Experience with Coastal Regulatory Agencies

Our permitting team includes a former FDEP Bureau Chief and staff with decades of experience securing approvals from FDEP, SWFWMD, USACE (including NWP-03), FEMA EHP, and local agencies.

We have successfully navigated complex permitting for disaster recovery, historic resources, and environmental compliance. This includes obtaining agency approvals to convert the Legion Park seawall to a living shoreline within 3 months from NTP.

D. Design Within a Fixed Project Budget

GHD consistently delivers projects within established budgets. For example, the Matheson Hammock Park Seawall project was completed within the FEMA HMGP allocation, and the Mid-Town Seawall Replacement was value-engineered to meet the Town's budget constraints while maintaining resilience objectives.

Table 1. GHD Team Members Involvement in Representative Projects

	Jesse Davis	Melissa Burns	Steven Janosik	Nicholas Bragaia	Michael Barnett	Brian Moore	Albert Argudin
Morningside and Shorecrest Seawalls and Living Shorelines	✓	✓	✓				✓
Matheson Hammock Park Seawall Replacement and Repairs	✓	✓	✓	✓	✓	✓	
Little River Mini Pocket Park - Seawall, Kayak Launch and Living Shoreline	✓	✓	✓			✓	✓
Legion Park: Seawall to Living Shoreline Conversion	✓	✓	✓		✓	✓	✓
Living Seawall Tile Design - SIMS + Reef Design Lab							
UF Seawall Condition Assessment and Living Shoreline Demonstration	✓				✓		
Jeffrey Lake Seawall Replacement	✓	✓	✓			✓	
Top of Seawall Study	✓			✓	✓		
Mid-Town Seawall Replacement Design, Permitting	✓	✓	✓	✓	✓	✓	
South Bayshore Lane Pump Station Outfall Design	✓	✓	✓			✓	✓
Historic Turtle Kraals and C Dock Assessment	✓	✓	✓			✓	
Port Everglades Bulkhead Replacement	✓		✓	✓		✓	
Port of Palm Beach Bulkhead Cathodic Protection						✓	
MSC Cruises Terminal Expansion at PortMiami	✓			✓	✓	✓	



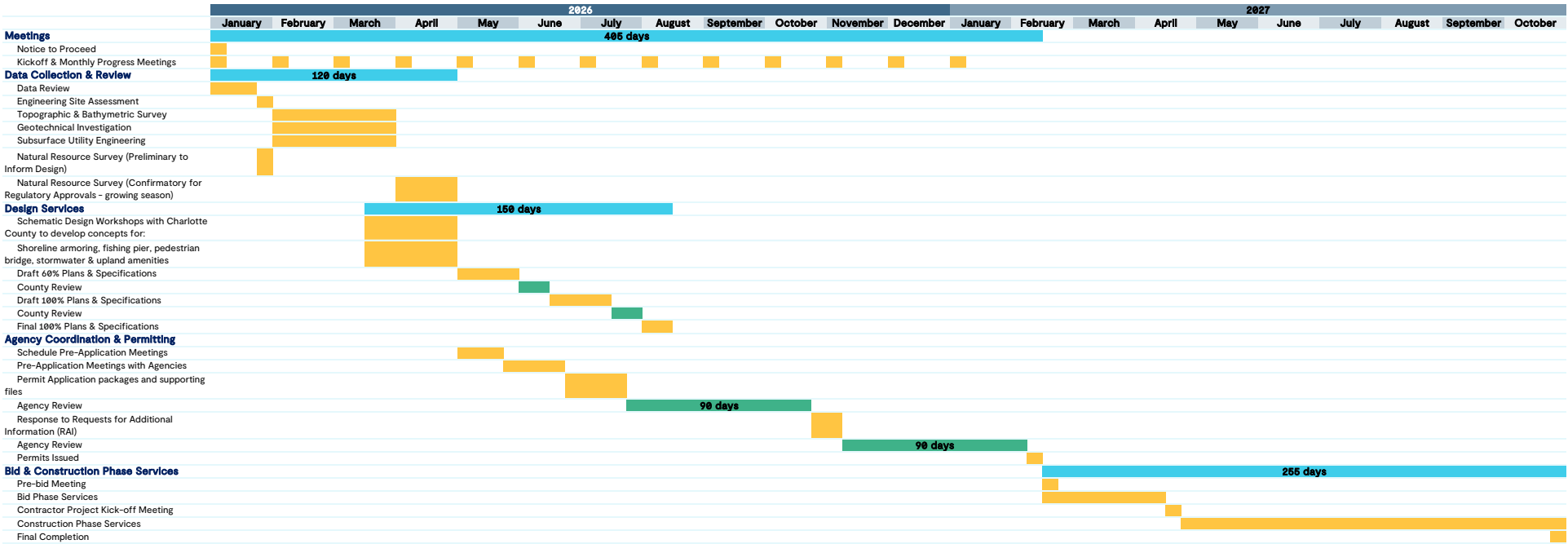
IV

→ Project Control

→ The Power of Commitment

A. Schedule

GHD understands the County’s need to restore the shoreline in a timely manner and we are confident we can create a schedule that meets the needs of the County. GHD intends to begin field investigations as soon as possible. GHD employs critical path scheduling, milestone tracking, and regular progress meetings to ensure timely delivery. The Project Manager is responsible for schedule adherence, with support from discipline leads. Our approach includes early field investigations, parallel permitting, and phased deliverables to meet Charlotte County’s deadlines. This is demonstrated by our sample project schedule (provided below).



B. Cost

We use detailed cost estimating, value engineering, and continuous budget monitoring. The **Project Manager** and discipline leads review all cost proposals, and our team provides regular updates and recommendations for cost savings without compromising quality or resilience.

The **Project Manager**, in collaboration with the **Project Director**, will oversee all cost control measures, provide transparent reporting, and ensure compliance with budgetary requirements.

Our team has successfully delivered multiple shoreline and coastal restoration projects across Florida within budget by integrating financial monitoring with schedule oversight. This proactive approach ensures that cost variances are identified early and corrective measures are implemented promptly.

Several cost control techniques GHD will use include:

- Preparation of a detailed cost baseline with line-item task allocations.
- Regular budget-to-actual tracking and variance analysis.
- Implementation of earned value management to evaluate cost performance.
- Constructability and value engineering reviews during design.

GHD incorporates constructability reviews and material sourcing assessments into all of our design projects. Our material and constructability reviews will include the evaluation of eco-friendly and sustainable materials by our team's Envision sustainability professionals (GHD has been a member since 2014 with over 20 professionals certified), suitable staging areas, construction sequencing, evaluation of water depths versus equipment requirements,

location of marine resources, maintenance of traffic, and construction phasing considerations to maintain public access. The review will also include evaluating material availability, lead times, and cost data. Many times, these reviews lead to value engineering proposals that save time and money.

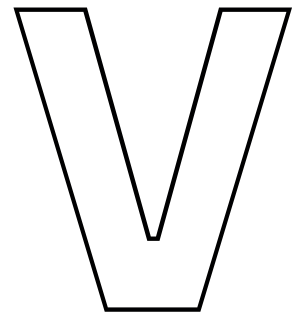
C. Recent, Current, and Projected Workload

GHD maintains a robust Florida presence with 150+ professionals statewide and the flexibility to mobilize quickly for this assignment. Our current workload is balanced but our backlog is low, with less than 50% of our team committed beyond the next 90 days. This will enable us to commit senior, project-critical staff from day one—without competing priorities. We actively manage resources across shoreline and disaster-recovery programs to prevent bottlenecks, and our recent delivery record shows we can run multiple coastal restoration efforts in parallel while maintaining schedule discipline. Because our near-term pipeline is lighter, your project will receive priority status, dedicated leadership attention, and sustained technical depth through each phase—from kickoff and field reconnaissance to design, permitting, and construction support.

What this means for you: we can stand up the core team immediately, hold weekly progress touchpoints without over-allocating personnel, and accelerate early milestones (data requests, baseline conditions review, and site mobilization planning) within the first week of NTP—all without pulling staff from other commitments. This staffing posture is designed to de-risk timelines and keep submittals on track.



We have the capacity to meet Charlotte County's schedule and deliverables.



**→ Present Proposed Design
Approach for This Project**

A. Describe Proposed Design Methodology, Including Phased Approach

The site is located within Charlotte Harbor, a Class III Outstanding Water Body and part of the Gasparilla Sound-Charlotte Harbor Aquatic Preserve. Charlotte County has received federal funding for several disaster recovery projects, including the Design-Bayshore Live Oak Shoreline Project for the partial demolition and complete repair/replacement of the shoreline, shoreline armoring, adjacent amenities, and upland walkways. As a component of replacement of the compromised shoreline, the County wants to repair and/or replace approximately 1,450 ft of armored shoreline, accompanying amenities, and upland walkways, as well as repair/replace a 3,500 square foot fishing pier and pedestrian bridge. Associated elements of the project include addressing the stormwater outfall system and replacing the walkways and sidewalks upland of the seawall.

→ Project meetings and existing data review

GHD has reviewed the information provided in the County's RFQ and developed a technical approach to successfully and efficiently complete the Project. A summary of this approach is provided in our overall project schedule found in Section IV. Each of these main components is addressed in further detail below.

A kick-off meeting will be scheduled with GHD and City staff to verify the County's objectives and expectations for the work, review the project scope and schedule for upcoming field investigations, and confirm communications protocols. Since the project schedule is a key element, GHD anticipates receiving from City Staff additional relevant field surveys, studies, and reports that can be used to inform GHD's field investigations.

The following information is specifically requested:

- Record drawings of the existing seawall, stormwater infrastructure and adjacent structures
- History of modifications and repairs
- Recent boundary, topographic and bathymetric surveys
- Geotechnical and/or geophysical data
- Utility locates/as-builts
- Condition assessment reports
- Design life expectations of new seawall

→ Site investigations

Accurate and timely field investigations are critical to adhering to the County's schedule. Therefore, the GHD Team intends to begin field investigations as soon as practical after the Project Kick-off Meeting.



Geophysical/Geotechnical Investigations. GHD's project team has completed over 30 similar seawall replacement projects in the past 10 years. One frequent observation is the presence of voids within the soil behind the existing wall. This can be caused by erosion of sediment along utility channels (called piping) or through/beneath the seawall. Since the Community Center property is a highly utilized public area, the identification and remediation of any voids is critical to providing a safe long-term waterfront design solution. GHD has the in-house geologists and GPR equipment to determine the spatial and vertical extent of any potential voids (and existing wall tie-backs) located behind the wall. Geotechnical borings (utilizing GHD's drill rig) will also be strategically located to verify the GPR findings to facilitate an accurate and efficient data collection effort.

Utility Surveys. All existing utilities will be identified and assessed along the Community Center's seawall. These services will include identifying and coordinating with the existing Utility Agency Owners (UAOs), reviewing existing as-built documents, and performing field investigations to verify the spatial and vertical location of the utilities.

Topographic, Bathymetric, Condition Assessment and Debris Surveys. The GHD Team will perform a topographic and bathymetric survey of the Project limits sufficient to satisfy both agencies permitting requirements and GHD design efforts. The survey will also include miscellaneous items that may need to be salvaged and/or replaced during construction activities. A condition assessment and debris survey will be used to assist with final design details and identify visible obstructions that could impact construction activities and lessen the risk of a change order during construction.

Natural Resource Surveys. The State and Federal regulatory agencies require a natural resource survey to be conducted within a 'growing season' window from June 1st – September 30th. In order to maintain the County's schedule, the GHD Team will conduct an initial investigation as soon as possible to facilitate structure siting and alternatives analysis.

Schematic Design. Following the field investigations, GHD will develop alternatives for shoreline armoring (precast, block, riprap and natural plantings), the fishing and pedestrian bridge, and stormwater outfalls, integrating hazard mitigation and FEMA compliance. Our design will consider multiple competing considerations and aims to minimize regulatory review timelines as well as upland and in-water conflicts.

→ Permitting and design

Pre-Application Meeting with Regulatory Agencies. Upon completion of the pre-design Investigations, GHD will contact the FDEP and the Jacksonville District of the US Army Corps of Engineers (USACE) to schedule meetings with each agency to discuss the anticipated Project components. The purpose of both meetings will be to familiarize the agencies with the upcoming project and address any potential concerns they may have prior to submitting the full application. GHD will review all current codes and regulations to confirm if any recent relevant modifications have been made by the County's Planning and Zoning Divisions, and Pinellas County's Office of Water and Navigation. Meeting summary reports will be prepared and transmitted to the County.

Example experience

South Bayshore Lane Pump Station Seawall Outfall Design for the City of Miami

The City of Miami is upsizing an existing drainage outfall that is located within a 15-foot wide easement between two condominium buildings. An existing seawall, constructed in 1965, is located at the outfall terminus into Biscayne Bay. GHD provided geophysical field investigations and expedited 90% design plans and specifications. GHD is awaiting the City of Miami review prior to finalizing the design.

Challenge: The record drawing obtained from the City of Miami did not match field conditions. Thus, GHD performed a GPR survey to determine whether any upland conflicts existed (e.g. tie-backs) and the approximate location of reinforcing, thickness of wall, and concrete cover.



60% Design. Utilizing the information obtained from the existing data review and the pre design investigations, GHD will proceed into the project's design phase. Our design will consider multiple competing considerations and aims to minimize regulatory review timelines as well as upland and in water conflicts. **Informed by our successful approach on similar hurricane recovery waterfront projects,** we will apply a resiliency first methodology that (i) reduces transmitted wave energy, (ii) optimizes structural capacity for extreme events, (iii) avoids/minimizes environmental impacts, and (iv) maintains public access through phased implementation.

Design considerations we will include and prioritize:

– Wave Climate Management & Shoreline Sheltering

We will perform site specific hydrodynamic and wave analyses to quantify incident and transmitted wave heights under design water levels (tidal, surge, SLR scenarios), then size shoreline armoring and, where feasible, evaluate complementary living shoreline features (e.g., low crested reef modules or segmented sill/rubble mounds) to attenuate wave energy along fetch exposed reaches.

- Crest Elevation & Width Optimization: We will develop alternatives for crest elevation and section width that achieve design targets for safe public use areas, while balancing cost, viewshed, and environmental considerations.
- Footprint and Gap Spacing: Layouts will be tested to maximize protection across the most damage prone segments, avoid navigational encroachments, and minimize impacts to seagrass and other resources.

– Structural Stability, Settlement, and Scour Control

The wave sheltering elements ability to mitigate waves will be directly attributed to the system's ability to resist:

- Settlement: Unplanned settlement can lead to larger than expected design conditions. GHD will assess the subsurface soil characteristics and incorporate the anticipated settlement into the final section geometry to preserve design freeboard and performance over time.
- Scour/Washout: Unplanned scour can lead to failure of a coastal protection system and the burial of adjacent natural resources. Therefore, it is important to design a system that resists both extreme event loading and seasonal sediment transport.
- Conducting Hydrologic and Hydraulic (H&H) studies to support grant funded projects as may be required (e.g. through FEMA HMGP).
- Remediation of upland voids to provide a safe long-term waterfront design solution. We will prioritize areas adjacent to highly trafficked walkways or streets.
- Maintaining continuity of service to the public during construction.
- We will also work cooperatively with Charlotte County early in the project, holding schematic design workshops to incorporate design concepts early in the project.





Expansion. While we understand the importance of a continuous storm surge and overland flooding barrier, we also understand that a holistic view to a project is key. This means considering the site usage, the proposed elevation, and what the key site constraints are. We have worked for clients in several locations in Florida that have high top-of-wall elevation ordinance requirements that may, potentially, block the view of boaters and beach goers, thereby negating the benefit. To work through this, our team takes an innovative design approach whereby we design and install a wall that may be extended vertically in the future, without new engineering design or wall replacement. This is done by considering the future loading at the site, both landside and waterside, and sizing the structure as such; however, the top of wall is only constructed to an alternative lower elevation now.

Should it be deemed necessary in the future that a higher elevation is desired, the wall may be expanded through an additional cap tied into the existing structure. This decreases the County's initial capital cost yet allows for future protection with limited additional construction cost. We have implemented this approach on several projects with success.

Permitting. All members of the GHD team have participated in several waterfront projects; therefore, we have relationships with decision-making regulatory personnel who will be involved in this process. This includes staff from the FDEP, Southwest Florida Water Management District (SWFWMD), Florida Fish and Wildlife Conservation Commission (FWC), State Historic Preservation Office (SHPO), USACE, US Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and US Coast Guard (USCG). As a result, key regulators are already familiar with our expertise and local knowledge, which will facilitate communication and help expedite the review process. Additionally, our team knows what the regulatory agencies require and can help ensure that their concerns are addressed up front. GHD has reviewed the USACE's Nationwide Permits (NWP), and it is possible that the project may fall under NWP No. 13 – Bank Stabilization or NWP No. 54 – Living Shorelines, however this would require a waiver by the district engineer since the shoreline is greater than 500 ft. but less than 1,000 ft. GHD will strive to accelerate the timeline for permitting but cannot guarantee the project will qualify for an NWP. We will coordinate closely with the USACE and FDEP to modify the design to the best of our ability such that the permitting process will run as smoothly as possible for this project.

100% Design. The 100% design plans and specifications will be further developed and refined based on liaison with regulatory agencies and feedback from other stakeholders, including the County, on the 60% submittal package.

Bid Phase Services. GHD will prepare a set of plans and technical and environmental specifications, the results of the field investigations, the issued state and federal permits, and a schedule of values for incorporation into the County's 'front end' documents to enable the County to advertise a project ready for construction to prospective bidders. We will ensure document and contractor compliance with any state and/or federal grant procurement criteria. We will prepare for and lead a pre-bid meeting, evaluate bid responses, contact contractor references, and provide a letter recommendation of an award.

➔ **Expertise in regulatory compliance and permitting for coastal projects**

GHD brings extensive, hands-on experience navigating the complex regulatory landscape governing coastal construction and shoreline improvements. Our team is highly proficient in securing permits for a wide range of coastal infrastructure projects, including seawalls, bulkheads, retaining walls, drainage systems, and environmentally sensitive shoreline enhancements. We possess in-depth knowledge of the permitting processes and regulatory requirements at the municipal, county, state, and federal levels.

Our coastal design methodology is firmly rooted in a comprehensive understanding of Florida’s regulatory framework. This includes the State of FDEP’s Environmental Resource Permitting (ERP) process, the USACE’s Regulatory Request System (RRS) and Federal regulations, and the Water and Navigation Regulations set forth by Charlotte County. We also stay current with local codes, including the recently updated County’s Code of Ordinance (2024-02), ensuring compliance in the design and implementation of seawalls and other shoreline stabilization structures. GHD is also familiar working on projects located in Outstanding Florida Waters and within Aquatic Preserves in Florida and understand the requirements for working in these designated areas.

With a strong track record of delivering successful coastal infrastructure projects throughout Florida, the GHD team has established longstanding, productive relationships with key regulatory personnel. These relationships foster direct communication and mutual trust with decision-makers at permitting agencies, enabling us to anticipate and resolve potential issues early. As a result, we are well-positioned to accelerate the permitting timeline, reduce delays, and streamline the approval process for our clients.

Upon completing initial site investigations, we proactively engage with regulatory bodies through pre-application meetings. These early consultations with agencies such as FDEP, USACE, and the Charlotte County Environmental Management Division allow us to outline project scope, discuss potential environmental impacts, and address any preliminary concerns. This strategic engagement sets the stage for more efficient formal application submittals and helps ensure that our projects are well-received during the review phase.

GHD provides comprehensive in-house capabilities for preparing, submitting, and managing environmental permit applications. Our team has successfully secured hundreds of permits for waterfront infrastructure—from local municipal approvals to complex federal authorizations—across diverse jurisdictions in the United States. One recent example of our success includes obtaining regulatory approval for a high-profile project with the City of Miami to convert a traditional seawall into an ecologically beneficial living shoreline at Legion Park. We received the regulatory authorizations and implementation completed in just 3 months, additional details on the project is in Section B: Project Experience.

Each member of our team has a rich background in waterfront design and permitting, bringing decades of cumulative experience to the table. Through this experience, we have cultivated strong working relationships with representatives from a broad spectrum of regulatory agencies, including:

- | | | |
|-------------------------------------|---------|---------|
| – FDEP | – FWC | – USFWS |
| – Environmental Resource Permitting | – SHPO | – NMFS |
| – Aquatic Preserves Program | – USACE | – USCG |



B. What problems do you anticipate and how to you propose to solve them?

1. Permitting Complexity and Regulatory Coordination

Problem

Multiple agencies require detailed environmental documentation and compliance with grant and federal disaster recovery standards.

Solution

We will initiate early pre-application meetings and maintain a consolidated permit matrix to track requirements. Our design will adhere to regulatory standards for public waterfront facilities (e.g. FDEP pier elevation and shading criteria) and integrate grant driven criteria, including level of service and flood resilience.

2. Integration of Natural and Engineered Elements

Problem

Balancing structural armoring with ecological features such as existing oysters, mangroves, and limestone riprap while meeting durability and safety goals.

Solution

Our design alternatives will include hybrid shoreline solutions that preserve and enhance these natural features. We will apply wave energy dissipation modeling, a range of footprint vs. elevation alternatives that produce the same level of service, and habitat protection measures to meet both engineering performance and environmental stewardship objectives.

3. Construction Access and Public Safety

Problem

Limited staging areas and the need to maintain safe conditions in a park setting currently closed to the public.

Solution

We will consider the development of a phased construction plan with clear traffic control and safety protocols that maximizes public access.





4. Subsurface Unknowns and Structural Reliability

Problem

Potential voids behind existing seawalls and unknown utility conditions could lead to cost overruns or delays.

Solution

We will perform geotechnical investigations and SUE early to confirm subsurface conditions and inform design alternatives that avoid change orders during construction.

5. Cost Control and Market Volatility

Problem

Rising material and labor costs can impact budget compliance.

Solution

We will apply value engineering principles and validate our OPC's through marine contractor reviews to ensure realistic pricing. We can also develop a plan that preserves multiple alternatives and bid options to provide the most cost-effective price that meets the County's resilience and environmental goals.

6. Storm Resilience and Future Adaptation

Problem

Increased frequency of extreme weather events and sea level rise.

Solution

The design alternatives will incorporate adaptation elements to improve long-term durability and reduce the need for costly post-storm repairs.

C. Describe Innovative Approaches in Production and Design

These relationships are instrumental in facilitating inter-agency coordination, expediting reviews, and aligning project outcomes with environmental stewardship goals. Our intimate knowledge of each agency's specific requirements, combined with our commitment to transparent, solution-oriented communication, ensures that regulatory concerns are addressed early, enhancing project viability and long-term success.

→ Presentation of construction methodologies

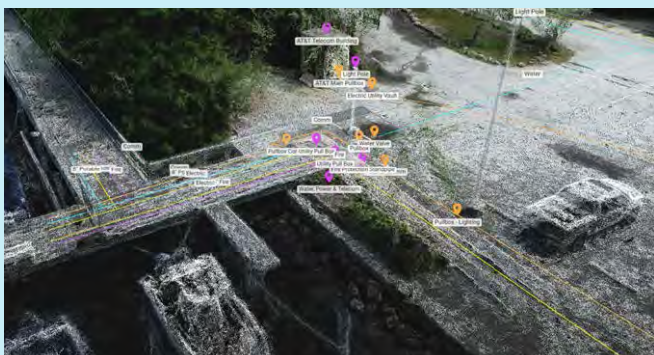
During the initial stages of every project we perform, our Team conducts risk assessment and engages early on with proposed contractors to ensure we are addressing all the stakeholders concerns and goals. GHD reviews the design, materials, budgets and schedules to ensure the project is practical and constructable. This same approach was used on a recent HMGP at Matheson Hammock Park.

→ Risk assessment and mitigation

Understanding each site's requirements, constraints, and existing conditions is paramount to the site's successful design and construction. After our initial investigations and review, we will identify site risks before we start the design process. Identified risks may include existing structures such as seawalls in compromised conditions and residential and commercial buildings. These structures pose site access limitations for field investigations (including geotechnical, GPR, and surveys) as well as construction. Our team also makes environmental considerations, noting seagrass, native species, or potentially compromised site materials.

This data will go into the overall project matrix. The matrix considers efficient design groupings and will ensure that the design is dictated by the final construction requirements. For example, a site may have an existing outfall and nearby residential structures. Our proactive design would consider seawall materials that may be installed with low-vibration methodologies (such as the press-in sheet pile method). These methodologies would limit disruption to the public and nearby residents.

Example experience



A 3D Point Cloud was collected and developed for the recent Matheson Hammock Park Seawall Replacement in conjunction with a detailed utility survey. The 3D Point Cloud tool allowed the team to determine a wall alignment with the fewest potential impacts on upland utilities during seawall construction and allow for continuity of service to the existing marina. This information also helped inform the seawall selection type during the early conceptual design phase, noting additional utility rework costs that would have occurred if a different wall type had been designed. GHD will employ this same methodology on this project.



GHD also used 3D point cloud to assess non-traditional construction methodologies including the use of a non-vibratory, press-in method adjacent to the historic buildings, footer, and awnings. GHD was able to confirm this method would not conflict with other site constraints and would reduce vibrations to less than the FDOT specified levels, preserving the structural integrity of the adjacent historical buildings. This approach would similarly be considered and employed for the shoreline restoration project.

C. Describe Innovative Approaches in Production and Design (continued)

→ **Hybrid Shoreline Solutions:** Combining living shoreline features with traditional seawalls is becoming an increasingly favored strategy for both waterfront properties and public infrastructure to increase resiliency and ecological value. This hybrid approach not only fosters or restores natural habitats, but also enhances water quality, reduces wave impact, and helps prevent shoreline erosion. By incorporating nature-based solutions into conventional coastal defenses, these designs improve resilience—bolstering structural protection, addressing sea level rise, and limiting the discharge of harmful runoff into coastal waters.

For any project situated along coastal areas or inland bays, a key early step is assessing the extent, condition, and type of existing marine resources within the project site. This process will guide the approach for the County's Bayshore Live Oak Shoreline project.

- **GHD partnered with SIMS and the Reef Design Lab in 2018 to design Living Seawall tiles** that are now installed across multiple continents. These tiles can be installed on both new and existing walls. The tile forms are 3D printed and cast by the contractor on site. As a designer of these innovative tiles, GHD has the unique experience and ability to provide customized solutions that meet both the ecological and aesthetic expectations of the County and its stakeholders. GHD also works with several other vendors that provide Living Seawall solutions; including KindDesigns whom has 3D printed seawall options.
- **GHD is currently designing a nearshore segmented reef breakwater system** and is evaluating the use of two different material types; quarried limestone boulders and SEAHIVE units developed by the University of Miami (UM). The SEAHIVE unit sections will be developed using physical model tests at UM's Sustain Laboratory.
- **Mangroves.** The key to installing mangroves and native vegetation for coastal restoration is planting in the correct location and at the correct elevation. The transitional upland coastal strand can also be planted with native species, such as railroad vine, beach creeper, and spartina to assist in stabilizing the upland sediments.

→ **Adaptive Design:** While we understand the importance of a continuous storm surge and overland flooding barrier, we also understand that a holistic view to a project is key. This means considering the site usage, sea level rise, proposed elevation, and what the key site constraints are. Every project requires GHD to consider the future loading at the site, both landside and waterside, and sizing the structure as such; however, the top of wall is only constructed to an alternative lower elevation now. Each design must consider a range of coastal processes, including the effects of severe storms and elevated water levels, sea level rise, winds, tides, and currents.





**→ Present Examples of
Recently Accomplished
Similar Projects**

A. Relevant Project Examples

GHD understands the unique challenges facing the County and recognizes the importance of thoroughly understanding the City's preferences and needs for project delivery and efficient communication. We have provided the projects listed on the next page in the table to demonstrate our qualifications and our staff's breadth of experiences, along with detailed project summaries within this section.

Rendering examples

GHD has extensive experience in providing design and consulting services for with renderings across North America. Our expertise encompasses a wide range of services and here are some examples below.

City of Miami - Legion Park, Seawall to Living Shoreline Conversion



Scope: Failed seawall conversion, FEMA/State grant, rapid agency coordination.

Schedule/Cost Control: Expedited stabilization, minimized upland impacts.

Challenges/Solutions: Erosion, stakeholder engagement, ecological enhancement.

Seawall Delivery: Living shoreline, habitat restoration, public access.



Miami-Dade County PROS - Matheson Hammock Park Seawall Replacement



Scope: 700 LF seawall, FEMA HMGP, historic park, living shoreline integration.































































Schedule/Cost Control: Delivered within FEMA budget, phased construction to maintain public access.

Challenges/Solutions: Historic building proximity, utility conflicts, adaptive wall elevation.

Seawall Delivery: Met 100-year storm protection, FEMA compliance.





Similar Projects	Relevant Experience						
	Seawalls	Living Shorelines	Public Outreach	State and Federal Grant Funds	Challenging Environmental Conditions or Unique Design Requirements	Innovative Solutions or Approaches to Enhance a Project's Sustainability or Efficiency	Construction Phase Services
Morningside and Shorecrest Seawalls and Living Shorelines							
Matheson Hammock Park Seawall Replacement and Repairs							
Little River Mini Pocket Park – Seawall, Kayak Launch and Living Shoreline							
Legion Park: Seawall to Living Shoreline Conversion							
Living Seawall Tile Design – SIMS + Reef Design Lab							
UF Seawall Condition Assessment and Living Shoreline Demonstration							
Jeffrey Lake Seawall Replacement							
Indian Creek Top of Seawall Study							
Mid-Town Seawall Replacement Design, Permitting							
South Bayshore Lane Pump Station Outfall Design							
Historic Turtle Kraals and C Dock Assessment							
Port Everglades Bulkhead Replacement							
Port of Palm Beach Bulkhead Cathodic Protection							
MSC Cruises Terminal Expansion at PortMiami							



Morningside and Shorecrest Seawalls and Living Shorelines

Miami, FL

Client

A.D.A. Engineering, Inc.
8550 NW 33rd St.
Suite 202
Doral, FL 33122

Point of Contact

Albert Argudin Jr, CGC
Vice President
T: 786.382.9046
E: aargudinjr@adaeng.net

Year(s)

March 2024 – Ongoing

Term of Engagement

Ongoing

Value

\$190,000

Project Relevancies

- Seawalls
- Living shorelines
- State and/or Federal grant funds
- Challenging environmental conditions or unique design requirements

Mission

The City of Miami (City) called on GHD to plan how to raise or replace six seawalls in the area. The seawalls are 750 linear feet and have top of cap elevations of ~3.5 feet NAVD-88. Our team was also tasked with designing new paths along the public right-of-way (ROW).

The challenge

One challenge that we face is the compressed timeline required for the project. The work on the six seawall locations is funded through multiple grants and bonds that require construction to begin by the end of 2024. We also need to ensure that our design helps promote biodiversity.

Our response

GHD's in-house equipment (ground penetrating radar, geotechnical drill rig, and laboratory) and expertise will provide turn-key services to facilitate timely and cost-efficient field investigations, design, and permitting.

We are conducting above and below-water inspections using the ASCE Manual of Practice 130 (waterfront facilities inspection and assessment) rating system. The system will assist us in systematically documenting inspection findings and recording the relevant attributes of any defects. We'll also use our findings to estimate information like the remaining design life of the seawalls. The damage observations at each region will provide critical inputs into a basic structural analysis (BSA) that will be used to determine whether the seawall is capable of being raised or requires replacement. Should the BSA determine the seawall is capable of being raised, GHD will perform ground-penetrating radar (GPR) and material testing to locate any conflicts tiebacks the material properties of the existing seawall panel and cap.

The Impact

GHD's coastal and structural engineers are working to provide Miami two design options. We will also give them an opinion of probable construction cost for each of the 6 seawalls. The opinion will advise Miami about whether to raise or replace the existing seawalls. Our services will also provide living shoreline enhancements, including shoreline stabilization using native plantings and mangroves.



→ The Power of Commitment

Matheson Hammock Park Seawall Replacement and Repairs

Miami, FL

Client

Miami-Dade County Parks,
Recreation & Open Spaces
Department (PROS)
275 NW 2nd Street
5th Floor, Suite 553
Miami, FL 33128

Point of Contact

Duane Kopp, PE
Construction Manager 2
T: 305.755.7954
E: duane.kopp@miamidade.gov

Year(s)

2021 – Ongoing

Term of Engagement

Ongoing (design and permitting completed)

Value

\$494,231

Project Relevancies

- Seawalls
- Public outreach
- State and/or Federal grant funds
- Challenging environmental conditions or unique design requirements
- Innovative solutions or approaches to enhance a project's sustainability or efficiency
- Use of cutting edge technology

Value add

- Ooltic tile wall treatment to match existing park/South Florida Aesthetic

Charlotte County

Engineering Design Consultant Services Bayshore Live Oak Park Shoreline Restoration

Mission

GHD was recruited to replace a seawall on the upland side of a marina to combat sea level rise. This project includes the replacement of approximately 700 linear feet of seawall on the upland side of a marina to mitigate sea level rise and sunny day flooding events that limit public enjoyment of the iconic Matheson Hammock Park (Park). The seawall replacement project is the first component of a broader plan to mitigate frequent flooding and enhance the resiliency of the Matheson Park and its critical and historic infrastructure, which has been open to the public since 1930.

Matheson Hammock Park includes a 243-slip marina, restaurant, large wading lagoon and beach, mangrove trails, and numerous historic buildings and structures constructed of Miami's polio limestone.

The challenge

Critical design and construction challenges include providing a solution that minimizes vibration and impacts to a historic building, maintaining power and water access to the marina facilities during construction, planning accommodations for future park projects, and developing alternatives that provide 100-yr storm protection (per the FEMA Hazard Mitigation Grant funding guidelines) while preserving scenic view sheds and accessibility.

Our response

GHD performed a hydrology and hydraulics study to determine an optimum wall alignment and cap elevation that provides the appropriate level of protection and adhere to the FDEM HGMP grant requirements. The structural analysis will consider all challenge components to provide for a resilient and adaptable wall design. Our team reviewed several alignments and wall alternatives to determine the best solution for the client and meet the global goal of the project.

The expandable wall elevation is a key component of the project. It is assumed that the wall design life will outlive current sea level rise projections. Therefore, to allow for an interim wall height, GHD designed for a full future height wall loading that may expand on immediate construction at a later date. This allowed the park to preserve its scenic view shed. GHD also included customized flood gates to avoid reconfiguring ADA access to the marina docks.

The Impact

Our selected design will protect the Park's infrastructure from a 100-yr storm event. The seawall will also meet the guidelines of FEMA's Hazard Mitigation Grant Funding Program.

Project highlight

- FDEM HGMP project
- Preservation of scenic views
- Continuity of service to marina
- Sensitive and historic upland structures



→ The Power of Commitment

Little River Mini Pocket Park – Seawall, Kayak Launch and Living Shoreline

Miami, FL

Client

City of Miami
444 SW 2nd Ave
Miami, FL 33130

Point of Contact

Marisol Martinez Salazar, MBA-PMP
Project Manager
T: 305.416.1219
E: marmartinez@miamigov.com

Year(s)

October 2023 – Ongoing

Term of Engagement

Ongoing

Value

\$250,000

Project Relevancies

- Seawalls
- Public outreach
- State and/or Federal grant funds
- Challenging environmental conditions or unique design requirements
- Innovative solutions or approaches to enhance a project's sustainability or efficiency

Mission

The City of Miami (City) needed to build a new seawall in Little River. The City called on GHD to review another consultant's seawall design. The design needed to extend the seawall to provide flood protection across the park's entire shoreline. The design also needs drainage improvements to accommodate a future pump station and upsized outfalls. Our team needed to develop construction plans and specifications for a new seawall, kayak launch, and mangrove shoreline along the Little River.

The challenge

The project site contains historic mangroves and weak subsurface soil conditions 30 feet below the existing grade. It also includes a highly organic and compressible peat layer within the upper 10 feet.

Our response

GHD mobilized our in-house drill rig to confirm that the weak subsurface conditions extended along the entire proposed seawall alignment. We re-designed the seawall to provide greater overall stability and constructability. Our efforts resulted in a smaller overwater footprint to decrease the time required to obtain regulatory authorizations. GHD made design changes that included changing the seawall type from a concrete pile and panel to a steel sheet pile wall. This design change minimized the potential for sediment transport into the Little River Canal by extending the pile tip elevations to below the weak subsurface soil conditions, which does not require excavation of these soils or removal of the existing wall during construction. Furthermore, the steel sheet pile could be installed within 18 inches of the wet face of the existing wall to facilitate a more timely regulatory review.

The Impact

GHD is working alongside the City and the regulatory agencies (such as DERM) to develop a design change that meets the City's waterfront design guidelines, provides the public with access to a kayak launch, and retains the historic mangroves and natural living shoreline.



→ The Power of Commitment

Legion Park: Seawall to Living Shoreline Conversion

Biscayne Bay, Miami, FL

Client

City of Miami
444 SW 2nd Ave
Miami, FL 33130

Point of Contact

Keith Ng
Project Manager
T: 305.619.2368
E: keithng@miamigov.com

Year(s)

December 2022 – Ongoing

Term of Engagement

Ongoing

Value

\$112,000

Project Relevancies

- Seawalls
- Living shorelines
- Public outreach
- State and/or Federal grant funds
- Challenging environmental conditions or unique design requirements
- Innovative solutions or approaches to enhance a project's sustainability or efficiency

Mission

Convert a failed seawall into a living shoreline that promotes biodiversity in Biscayne Bay.

The challenge

The City of Miami (City) engaged GHD in December 2022 to perform a third-party engineering assessment of a partially constructed seawall. The City wanted to learn how to stop the newly-excavated uplands from eroding. Prior to GHD's involvement, the City's contractor got approval to excavate the adjacent uplands as part of installing 24ft precast concrete seawall panels. The excavation created a deepwater pool that was tidally connected to Biscayne Bay. The pool allowed seasonally high water levels and waves to start eroding the uplands.

Our response

GHD completed our engineering assessment within two weeks. To assess the seawall, GHD performed a drone aerial and high-resolution 3D point cloud survey to document the existing conditions of the site. We engaged stakeholders from Division of Environmental Resources Management (DERM), the Florida Department of Environmental Protection (FDEP) and the US Army Corp of Engineers (USACE) to develop a plan that would stabilize the eroding uplands using living shoreline techniques. The plan also included protecting adjacent mangroves during construction. We recommended that Miami remove the panels and stabilize the excavated uplands.

The impact

GHD worked alongside the City, the regulatory agencies (DERM, FDEP, and USACE) and the contractor to develop an expedited stabilization plan. The plan seeks to protect existing mangroves within the project area, stabilize the eroding shoreline, provide habitat and promote biodiversity within Biscayne Bay. The regulatory agencies approved our plan to stabilize the site in March of 2023.

GHD provided the following in-house services on this project:

- Coastal, structural and geotechnical engineering
- Geotechnical sample collection & characterization at GHD laboratory
- Environmental sample collection and analyses
- Construction phase services



→ The Power of Commitment

Living Seawall Tile Design - SIMS + Reef Design Lab

Sydney, Australia

Client

Sydney Institute of Marine Science (SIMS)
19 Chowder Bay Road
Mosman NSW 2088

Point of Contact

Kate Parsons
Development Manager
T: +61 427 697 868
E: kate.parsons@simms.org.au

Year(s)

2018 - 2024

Term of Engagement

6 years

Value

Not applicable

Project Relevancies

- Seawalls
- Living shorelines
- Public outreach
- Challenging environmental conditions or unique design requirements
- Innovative solutions or approaches to enhance a project's sustainability or efficiency
- Use of cutting edge technology

Mission

SIMS mission is to help seawalls support biodiversity as much as they protect our society. The goal of the project was to use the seawalls in Sydney to increase the ecological value of artificial structures within the marine environment and promote biodiversity through the creation of living seawalls. Typical seawalls inhibit biodiversity. Special tiles installed turn typical seawalls into living seawalls, by mimicking naturally occurring microhabitats and promote a range of marine species such as oysters, seaweed, mussels, barnacles, chitons and more. The living seawalls also attract filter-feeding organisms that absorb and filter out pollutants from the water. As part of a pro bono effort, GHD partnered with SIMS and the Reef Design Lab to assess the living seawalls as part of SIMS' Living Seawalls Initiative (www.ims.org.au/research/flagship-projects/living-seawalls). Our team took on assessing the strength and structural integrity of the concrete tile designs and their in-situ fixings.

The challenge

GHD needed to blend ecological concepts and creative engineering to develop a functional affordable, adaptable, and scalable method to enhance existing seawalls. We needed to assess the design of a particular panel configuration and advise on modifications so that they would be suitable for operational use over a defined design life in a harsh marine environment.

Our response

Photo credential: www.livingseawalls.com.au/design

Charlotte County

Engineering Design Consultant Services Bayshore Live Oak Park Shoreline Restoration



We got to work analyzing the living seawalls. Our analysis included determining typical meteorological wave and passing vessels wave conditions, deriving impacts loads from these waves, wake formulating destructive testing of sample tiles to establish engineering criteria, interpreting destructive testing results, numerical modelling of typical tiles, and studying what materials will support the walls' longevity. GHD designed an anchor arrangement suitable to support the installation of the living seawall tiles for a 50-year design life. We included fatigue and durability considerations. The anchor design also considered the anchor locations and safety of the installers, operators, other personnel, and nearby swimmers.

The Impact

Our efforts helped to increase the ecological value and biodiversity in Sawmillers Reserve, Milson's Point, Clontarf, and Fairlight where the living seawall tiles we helped with were installed. After the success of earlier projects, GHD subsequently assisted SIMS and Northern Beaches Council with a renewal concept design to install living seawall tiles on a proposed concrete stormwater culvert adjacent to the Fairy Bower Sea Pool at Manly, NSW, Australia.

Photo credentials from @livingseawalls Instagram

Top right - www.instagram.com/p/CmiX-iLpxDI/?igsh=dG9nMmlxd20yMzZ2

Bottom left - www.instagram.com/p/BqZgVNQBk_u/?igsh=eWxhbGkygmt2dGhv



→ The Power of Commitment

UF Seawall Condition Assessment and Living Shoreline Demonstration

Ponce Inlet, FL

Client

Greenacres Ponce Inlet, LLC/
The Randolph Company

Point of Contact

Carter Randolph, PhD
Managing Director, The Randolph
Company
T: 513.891.7144
E: carter@therandolphcompany.com

Year(s)

2018 – Ongoing

Term of Engagement

Ongoing

Value

~ \$29,000

Project Relevancies

- Seawalls
- Living shorelines
- Challenging environmental conditions or unique design requirements
- Innovative solutions or approaches to enhance a project's sustainability or efficiency

Mission

The Randolph Company (Randolph) is a wealth management company who oversees the endowment for the University of Florida (UF). UF was considering transforming their 3.2-acre parcel of Greenacres Ponce Inlet (Ponce Inlet) into a coastal science center. On behalf of UF, Randolph hired GHD to assess the condition of a nearby existing seawall located on the Halifax River. UF's parcel of land on the inlet contains ~370 linear feet of shoreline facing the river. If the seawall needed repairs, it would make UF's project more expensive. Randolph wanted to make informed decision about whether to advise UF to develop the coastal science center on the inlet based on GHD's findings.

The challenge

Our team discovered challenges with the seawall after taking our initial measurements. We took measurements based on visual determinations using a 6-point rating scale. The ratings revealed the existing, aged wall is in serious to critical condition. Several sections of the wall had already rotated or collapsed due to getting inundated by the uplands at high tide. Our team also noted spalling, cracking, and loss of soil landward of some of the keyhole joints.

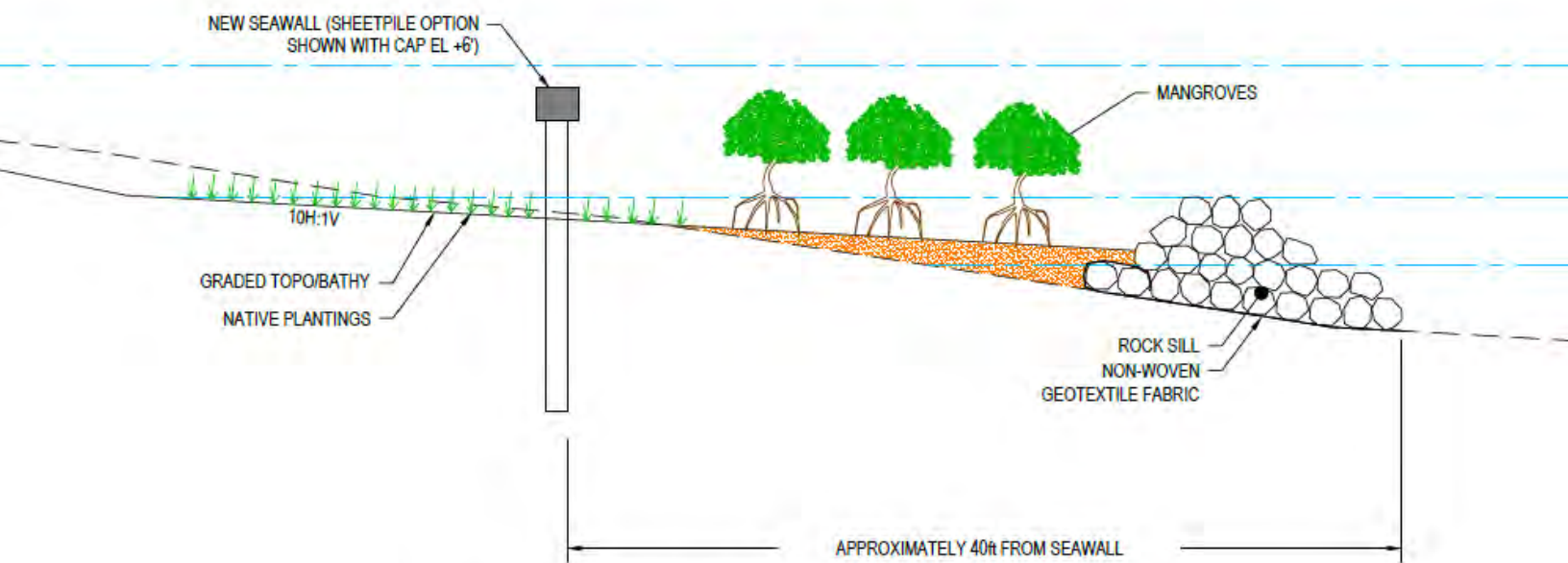
Our recommendations also needed to include protection for an existing structure. A historic two-story building resides on the property ~75 feet north of the wall; this structure had already been partially restored at the time of the field assessment in October 2018.

Our response

Our team got to work analyzing the seawall. We determined that the existing seawall is cast-in-place concrete with key and keyhole joints spaced irregularly along the seawall. The seawall appeared to have been constructed in two phases, with the most recent occurring on or about 1967. The challenges that the seawall faced are noted above.

Charlotte County

Engineering Design Consultant Services Bayshore Live Oak Park Shoreline Restoration



1 **TYPICAL LIVING SHORELINE SECTION**



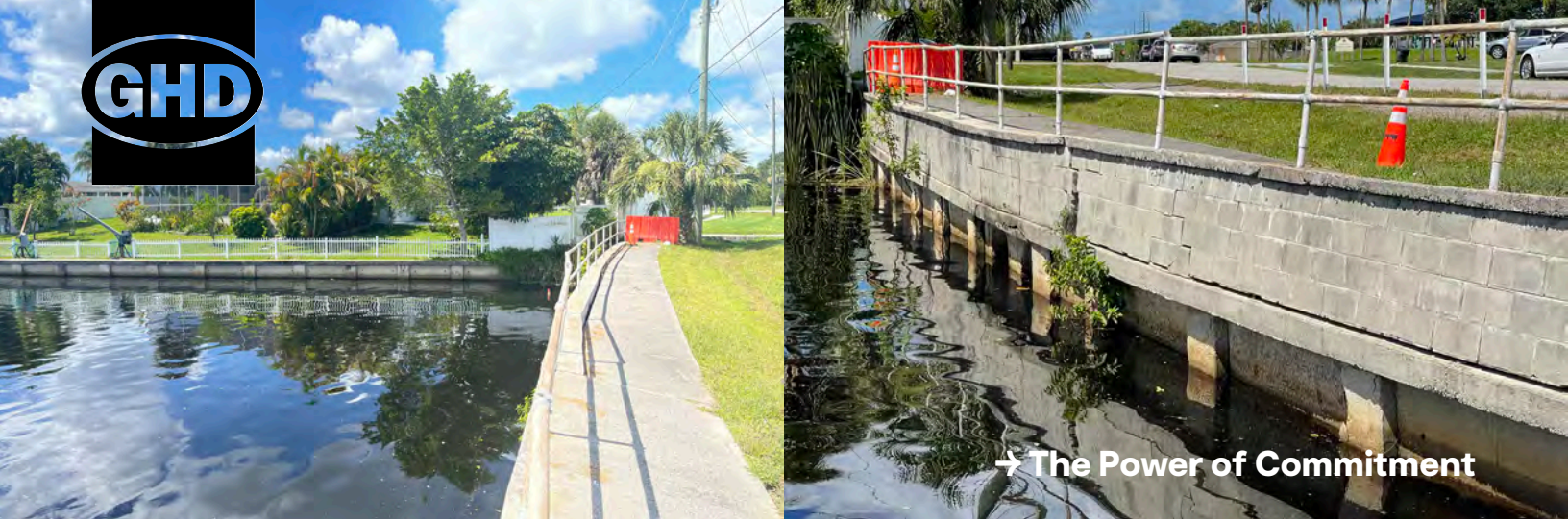
Because UF wanted to develop the land into a coastal science center, GHD provided recommendations for converting one of the sections of the seawall that had already failed (due to a rotational failure of the panels) to a living shoreline, with an articulated concrete block mattress (ACBM) providing slope protection to the embayment. We also recommended adding rock sills and planting native vegetation (including mangroves) to the wall replacement. The additions would provide ecological benefits to the land that the science center planned on studying. The vegetation will also help the coast be more resilient.

GHD's team also provided recommendations for the repair and replacement of the seawall. We submitted a report with what site data we recommend be acquired, as well as environmental and physical surveys, design, federal, state and local permitting, and bid document preparation needs. We also provided a preliminary opinion of probable construction cost.

Our plan and estimate considered the existing historical home. The ACBM will provide a backstop for any erosion that may occur due to an extreme storm event (i.e. major hurricane).

The Impact

We performed our assessment and provided our recommendations within the requested time frame. GHD was able to perform the condition assessment within two weeks of getting the notice to proceed (NTP) and transmitted a report with recommendations and cost information less than one month after the NTP. Our recommendations will serve to inform whether UF proceeds with developing the inlet.



→ The Power of Commitment

Jeffrey Lake Seawall Replacement

North Port, FL

Client

City of North Port
4970 City Hall Boulevard
North Port, FL 34286

Point of Contact

Anthony Friedman, PE, PTOE
Transportation Engineer
T: 941.240.8098
E: afriedman@northportfl.gov

Year(s)

2021 – 2024

Term of Engagement

3 Years

Value

~ \$50,000 (design)

Project Relevancies

- Seawalls
- Challenging environmental conditions or unique design requirements

Mission

GHD was recruited by the City of North Port (City) to help replace a seawall. We completed special inspections, the seawall design, and provided material testing laboratory support.

The challenge

The existing seawall was severely deteriorated. There was a high potential for failure. Failure on the project would impact drainage and residential roadway operations.

Because of permitting requirements, our proposed seawall replacement needed to be located inland (upland) of the existing wall. An existing stormwater outfall through the existing seawall also needed to remain in place and at full operation. Our proposed wall solution required consideration of this existing infrastructure element.

Based on construction funding stipulations, the project also needed designed and constructed on an extremely accelerated timeline. Design, from notice to proceed to final signed and sealed plans issued for construction is 30 days.

Our response

GHD committed staff to immediately mobilize field operations and meet the expedited design timeline. We completed geotechnical investigations and site a evaluation. The replacement seawall design alignment considered the permitting requirements put in place by the City. We also took into account the location of drainage structures, overhead electric utilities, and residential homes in the area.

Our team presented our layout of a driven sheet pile wall. This layout would increase construction efficiency in the shortened timeline, reduce the footprint for impact to the neighbourhood, and enhance the performance of the design in the project location.

The Impact

As of May 2024 the seawall replacement is under construction. 2023 Hurricanes partially damaged the existing wall, the GHD team evaluated the current conditions and swiftly updated design plans for bidding. The design timeline was met and construction expedited, exceeding client expectations on a compressed timeline. Construction support has included in-field design modifications due to unforeseen subsurface conditions, and the team has continued to be responsive in order to avoid construction delays.



→ The Power of Commitment

Top of Seawall Study

Indian Creek Village, FL

Client

Indian Creek Village
9080 Bay Drive
Indian Creek Village, FL

Point of Contact

Guillermo Olmedillo
Village Manager
T: 305.865.4121
E: golmedillo@icvps.org

Year(s)

October 2022 – November 2022

Term of Engagement

1 months

Value

~ \$12,000

Project Relevancies

- Seawalls
- Public outreach

Mission

The Indian Creek Village (Village) needed to ensure their seawall withstands future sea level rise. To help achieve this goal, GHD was retained by the Village to make a uniform top of seawall elevation recommendation.

The challenge

Our team had to consider many factors when proposing new seawall heights. These factors included the tides, seasonal water level variations, flood elevations, and sea level rise projections. GHD needed to align our guidance with municipal requirements and ensure the seawall a service life of 25 years.

Our response

Our team gathered all the relevant local data on the challenges described above. A relative freeboard calculation was performed on a lot-by-lot basis utilizing the local water surface elevations and existing seawall cap heights. GHD determined the optimal height of newly constructed seawalls that balances potential overtopping with economic construction. This translated into a recommendation for the Village to consider a minimum top of wall elevation of +6 (ft, NAVD88), with the ability to raise the top of the wall to +8.5 (ft, NAVD88) in the future.

The impact

The Village will use GHD's analysis and recommendations in future seawall construction projects and coastal infrastructure planning efforts.



→ The Power of Commitment

Mid-Town Seawall Replacement Design and Permitting

Palm Beach, FL

Client

Town of Palm Beach
360 South County Road
Palm Beach, FL 33480

Point of Contact

Jason Debrincat, PE
Assistant Director of Public Works
T: 561.838.5440 x 7027
E: jdebrincat@townofpalmbeach.com

Year(s)

2020 – Ongoing

Term of Engagement

Ongoing

Value

\$758,447

Project Relevancies

- Seawalls
- Public outreach
- Challenging environmental conditions or unique design requirements
- Innovative solutions or approaches to enhance a project's sustainability or efficiency

Value add

- Oolitic tile wall treatment to match existing park/South Florida Aesthetic

Charlotte County

Engineering Design Consultant Services Bayshore Live Oak Park Shoreline Restoration

Mission

GHD was hired by the Town of Palm Beach (Town) to help replace an aging seawall. The Town owns and maintains an approximately 2,715 linear foot vertical seawall, including a stretch on North Ocean Boulevard. The seawall provides protection to public and private infrastructure at Mid-Town beach. We are providing design, permitting, and bid phase services on the project.

The challenge

The primary challenge of this project is that the existing seawall, constructed in the 1920s, is reaching the limits of its design life and requires replacement. Our team also needed to be cognizant that the North Ocean Boulevard stretch of the seawall is the primary hurricane evacuation route for that segment of Palm Beach Island.

Our response

GHD coastal engineering staff performed a coastal engineering assessment of the wall to determine an appropriate top of wall and cap elevation for resiliency. We also scoured the potential at the base of the wall. A consultant prepared a comprehensive vulnerability assessment for the Town. We integrated the results of that study into our coastal engineering assessment. For the assessment, we collected site-specific topographic survey data. We also acquired a series of standard penetration test borings to characterize the subsurface soil conditions. Next, we conducted a ground penetrating radar investigation along the landward side of the seawall to confirm the location of subsurface tie rods and anchors. GHD designed a combination of anchored and, in special consideration areas, cantilevered wall alignments.

We also integrated a number of special design considerations into the design. These include return walls at the ends of the publicly-owned property that comprises the project area (in spite of the seawall continuing to both the north and the south of the existing structure), the integration of existing groins that tie into the base of the existing wall, a lifeguard station (bunker) and restroom facility, an underground tunnel connecting an upland residential property to



the beach, an emergency sanitary sewage outfall vault and pipeline, a ramp for emergency and construction access, and pedestrian access stairs and an ADA ramp connecting Ocean Boulevard to the beach.

A historic, and aesthetically significant, clock tower also exists along the wall's alignment for replacement. Close coordination with the Town's approval board and an architecture teaming partner were key to keep the existing wall scallop feature and tie into the clock tower as well.

The Impact

GHD submitted a permit application to the Florida Department of Environmental Protection (FDEP) in summer 2022.

The permit was obtained in December 2022. Our team finalized the design in May 2023. GHD provided final plans, specifications, and an engineer's opinion of probable construction cost to the Town to support advertisement for bid. GHD assisted the Town with bid phase services which were temporarily postponed. Seawall construction is anticipated to commence in November 2025.



→ The Power of Commitment

South Bayshore Lane Pump Station Outfall Design

Miami, FL

Client

A.D.A. Engineering, Inc.
8550 NW 33rd St.
Suite 202
Doral, FL 33122

Point of Contact

Albert Argudin Jr, CGC
Vice President
T: 786.382.9046
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Year(s)

August 2021 – February 2022

Term of Engagement

6 months

Value

~ \$12.4 M (construction)

Project Relevancies

- Seawalls
- State and/or Federal grant funds
- Challenging environmental conditions or unique design requirements
- Innovative solutions or approaches to enhance a project's sustainability or efficiency
- Use of cutting edge technology

Charlotte County

Engineering Design Consultant Services Bayshore Live Oak Park Shoreline Restoration

Mission

The City of Miami (City) is increasing neighborhood resiliency to flooding from increased rainfall intensity and sea level rise. To lessen the flooding, the City is installing a pump station that will require an the upsizing of a drainage outfall through an existing seawall and into Biscayne Bay. The City recruited GHD to design the expansion.

The challenge

Our team needed to plan how to best increase the capacity of the drainage outfall to accommodate a pump station. The record drawing obtained from the City did not match field conditions. Thus, GHD performed a GPR survey to determine whether any upland conflicts existed (e.g. tie-backs) and the approximate location of reinforcing, thickness of wall, and concrete cover.

Our response

GHD needed to ensure we did extensive testing to ensure the efficacy of our design. We completed Ground Penetrating Radar (GPR) both landside to determine location of any existing tiebacks and along the seaward face of the wall to determine size, spacing and location of existing rebar. GHD also performed subsurface exploration and material testing. Our team used the information we gathered to recommend construction materials and to start designing a new pump. After an assessment of the seawall, our team submitted a completed design to the City. We also provided design coordination during construction.

The impact

The City used our recommendations and designs to increase the capacity of an existing drainage outfall. The neighborhood near the outfall now experiences less flooding.



Historic Turtle Kraals and C Dock Assessment

Key West, FL

Client

City of Key West
1300 White Street
Key West, FL 33040

Point of Contact

Karen Olson
Deputy Director of Port & Marina
Services
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Year(s)

2021 – Ongoing

Term of Engagement

Ongoing

Value

\$130,000

Project Relevancies

- Seawalls
- Living shorelines
- Public outreach
- Challenging environmental conditions or unique design requirements
- Innovative solutions or approaches to enhance a project's sustainability or efficiency
- Use of cutting edge technology

Mission

The City of Key West (City) recruited GHD to assess the C Dock within the Key West Bight Marina at the Historic Seaport. The assessment needed to be completed to determine what kind of repairs are needed.

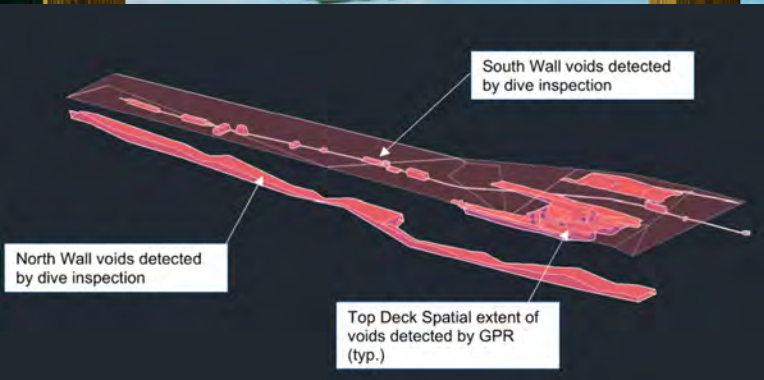
The challenge

C Dock is part of a popular waterfront that is traversed daily by tourists, marina boat owners, and other recreationists. In addition, the project site was added to the U.S. National Register of Historic Places (NRHP) in 1994 as part of the Thompson Fish House, Turtle Cannery, and Kraals. Our team had to be cognizant about how to not disrupt the area. Additionally, the record drawings of the original construction and subsequent modifications to this historic structure could not be found in City files.

Our response

GHD developed a project approach that combined a public records search and non-intrusive field investigations to develop insight into the history of C Dock (e.g., materials of construction, dimensional data, year constructed, major modifications/repairs, etc.) and to characterize the structure's current condition. GHD determined that the most recent repairs were conducted in the mid-1990's and assigned the structure an overall condition assessment rate of "severe to critical" based on the results of an underwater inspection conducted by the GHD Team. Following the American Society of Civil Engineers (ASCE) underwater inspection guidelines, GHD notified the City of the condition assessment rating.

We recommended implementing load restrictions and daily monitoring due to the numerous large voids observed and the potential lack of bearing capacity support beneath the pedestrian walkway and northern seawall. GHD immediately performed a ground penetrating radar (GPR) survey the day before New Year's Eve 2021 to further characterize the condition of the structure. The GPR survey confirmed that voids were located directly below the concrete walkway along



portions of the structure.

GHD expedited the engineering assessment and presented the City with the results, recommendations to perform temporary emergency repairs, and opinions of probable construction costs for two options. The City agreed to move forward with agency coordination of the emergency repair while long-term repairs were being designed and permitted.

The impact

The City elected to pursue a long-term repair option. GHD is currently assisting the City in developing a field investigation plan that includes benthic resource surveys, additional geotechnical data collection, opinions of probable construction cost for two long-term repair options, permitting and the development of a construction plan and bid package of the City's preferred option.



Port Everglades Bulkhead Replacement Fort Lauderdale, FL

Client

T.Y. Lin international
100 W. Cypress Creek Road
Suite 860
Fort Lauderdale, FL 33309

Point of Contact

James Kanter, PE
Sector Manager
T: 954.308.3374
E: james.kanter@tylin.com

Year(s)

2021 – Ongoing

Term of Engagement

Ongoing

Value

~ \$150 M (construction)

Project Relevancies

- Seawalls
- Challenging environmental conditions or unique design requirements

Mission

The Broward County Port Everglades Department needs to replace over 9,000 linear feet of aging deep-water bulkheads as part of the Group 1 bulkhead replacement project. GHD was selected as a subconsultant on the T.Y. Lin International Team. The T.Y. Lin International Team provides a range of services on the project, including deep-water marine structural engineering, corrosion protection, berthing and mooring analysis, civil and utility engineering, geotechnical investigations, foundation engineering, scour analysis and scour protection, coral and benthic habitat surveys, regulatory agency permitting construction cost estimating and project scheduling, as well as construction phase services over a period of 7 to 10 years.

The challenge

The project needs to replace nine separate bulkheads located throughout the Port.

Our response

GHD is currently leading the contamination assessment design and field investigations, and supporting the environmental permitting, coral and benthic habitat surveys.

The impact

This ongoing project will result in over 9,000 linear feet of aging deep-water bulkheads getting replaced.



Port of Palm Beach Bulkhead Cathodic Protection Palm Beach, FL

Client

Kimley-Horn
1920 Wekiva Way
Suite 200
West Palm Beach, FL 33411

Point of Contact

J. Casey Long, PE
Ports and Waterfront Development
T: 561.845.0665
E: casey.long@kimley-horn.com

Year(s)

2020 - 2021

Term of Engagement

1 year

Value

~ \$6,000

Project Relevancies

- Seawalls
- Challenging environmental conditions or unique design requirements

Mission

Kimley-Horn and the Port of Palm Beach District needed to put a coating on the Berth 1 Bulkhead in the Port of Palm Beach. The bulkhead is ~400 ft in length. The seawall is constructed of steel sheet piles that are coated on the ocean-facing side. Each pile of the wall is 4.59 ft in width and 65 ft tall. The bottom 17 ft of each sheet did not contain a coating.

The challenge

GHD needed to ensure our plans aligned with the clients' expectations. The submerged total height of the bulkhead was expected to be 59 ft, with approximately the bottom 26 feet buried within the substrate. The cathodic protection system associated with the bulkhead consists of galvanic aluminium 200-lbs MM-A-200S06 anodes directly mounted to the bulkhead surface. The anodes are installed on every other pile at alternating depths (-7.00' from 00.00 elevations, 3 ft from mud line - see design drawing). A total of (113 galvanic anodes were supplied for the project.

Our response

GHD NACE-certified corrosion engineers provided specialty materials consulting services to Kimley-Horn and the Port of Palm Beach for this project.

The impact

Our team's consulting services were utilized by Kimley-Horn and the Port of Palm Beach.



MSC Cruises Terminal Expansion at PortMiami

Miami, FL

Client

Arquitectonica
2900 Oak Avenue
Miami, FL 33133

Point of Contact

Charles Hugh Crain
Vice President
T: 305.372.1812 x 1024
E: ccrain@arquitectonica.com

Year(s)

2019 - 2022

Term of Engagement

~3 years

Value

\$142,000

Project Relevancies

- Seawalls
- Challenging environmental conditions or unique design requirements
- Innovative solutions or approaches to enhance a project's sustainability or efficiency
- Use of cutting edge technology

Mission

GHD was retained by Arquitectonica on behalf of MSC Cruises to provide a coastal and mooring basis of analysis report that included the development of site environmental conditions, underkeel clearance and scour potential during vessel arrival/departure, a dynamic mooring and berthing analysis that included a passing vessel study, a top of wall elevation assessment, and the recommendation of a minimum finished floor elevation for the terminal building based on storm surge, wave overtopping, and sea level rise projections.

Our response

Hydrologic and Hydraulic Studies: Hydraulic analysis of Miami Harbor for wave, current, and water level analysis.

Flood Control: GHD completed a wave overtopping analysis to ensure that minimum specified seawall elevation met general safety and operational guidance limits during both present-day and future sea level rise scenarios.

GHD also recommended a minimum finished floor elevation for the new terminal building and provided a statistical analysis of the total number of flood events expected over the project's design life. The analysis included a range of sea level rise scenarios for inclusion in the Owner's overall risk management strategy.

Coastal and Navigation Projects: GHD performed a dynamic mooring analysis for multiple floating bodies moored along PortMiami's cruise terminal Berth 8 and Berth 9 (MSC World Class & Liquefied Natural Gas (LNG) bunkering Vessel). The analysis included the effects from winds with magnitude and directional variability, a constant current, and a single passing vessel (Oasis of the Seas – stretch class) at multiple transit speeds and offset distances.

In addition, GHD analyzed the scour potential at the toe of the existing seawall due to propeller wash velocities generated by berthing and un-berthing cruise ships.

GHD also recommended a minimum underkeel clearance in the berth pocket based on an analysis of water levels, ship, bottom/bed factors, dredge tolerances and maintenance intervals, and risk levels.

Surface Water Modeling: GHD developed a hydrodynamic model of Miami Harbor to determine the draw down in water surface elevation and resulting forces that a passing vessel would have on a moored cruise ship and LNG bunkering vessel. GHD also developed a wave model to transform offshore waves into Miami Harbor.



Project Details

Client

Charlotte County

Contact

Brian Hatfield

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E: Bryan.Hatfield@

charlottecountyfl.gov

Completion

2024 - Ongoing

Cost

\$1M

Services | Relevancy

Survey, SUE, GIS Services

Charlotte County, Subsurface Utility Engineering Verification, **Charlotte County, FL**

CED was awarded a contract with Charlotte County to allow Charlotte County Utilities to incorporate SUE data into the Charlotte County Utilities map book in order to provide a more complete and accurate inventory of underground assets.

CED is currently performing QL-C, QL-B, QL-A, Survey and GIS services to update the Charlotte County Utility Mapbook. QL-C survey services are being performed to collect the horizontal positions of all sanitary sewer manholes and obtain their inverts with GPS accuracy. QL-B designates are being performed to accurately map approximately 121 miles of county owned potable water, non-potable water and sewer systems. QL-A services with additional survey services will identify material type, size and elevations to provide additional information at locations requested by county personnel to fortify their records.

Our GIS team will be combining all this information into ARCGIS using the county provided schema and delivering a fully updated geodatabase to seamlessly replace the existing utility map book. This will update the Charlotte County GIS database with more reliable and accurate information for future development and assist with the maintenance of their utility systems.

Colliers Engineering & Design



Project Details

Client

Pinellas County Parks and
Conservation Resources

Contact

Greg Milam
P: 727.582.2537
E: gmilam@pinellascounty.
org

Completion

Ongoing

Cost

\$100,000+ (TWO based)

Services | Relevancy

UAS, Land Survey Services

Professional Engineering Services for Countywide Unmanned Aerial Services & Outback Key Tidal Erosion, **Pinellas County, FL**

Scope: Professional Engineering Services for Countywide Unmanned Aerial Services:

CED has held a County-wide professional services contract for UAS and Land Survey services, resulting in multiple assignments ranging from photographic documentation to onsite UAS training, and professional survey services. One major task order focused on the Baypointe Golf Course, on which we were tasked with supporting Pinellas County as it assessed and designed improvements to convert the golf course into a multi-use pedestrian facility and stormwater retention area. The initial assignment included complete documentation of the 40-acre site using high resolution drone-based imagery. Our approach included collecting multiple close-range video trajectories throughout the site for inspection and public relations, as well as production of an ortho-mosaic image of the site tied to local County survey control. As initial design commenced, CED was then tasked with completing a full topographic survey of the site to support engineering design needs. In order to provide a detailed and comprehensive dataset, we leveraged drone aerial LiDAR to map the entire site in combination with Mobile LiDAR for adjacent roadways and conventional survey to locate all underground utilities and stormwater features. These datasets were merged to develop 1' contours over the site, a tree survey, and 3D modeling of all storm and sanitary pipes in Civil 3D 2018.

Scope: Outback Key Tidal Erosion Monitoring: The changing tidal Shorelines during alternating low and high tides of Outback Key in Fort DeSoto Park have been a favorite recreational destination for local Pinellas County Boaters for generations. However, as is becoming more common along Florida's coastline, sea level rise is changing tidal patterns and causing significant erosion of the sandbars defining this area. These changes are altering the landscape and configuration of Outback Key and leading to navigation issues and safety concerns involving boaters, sunbathers, swimmers, and folks finishing at this location. The Pinellas County Parks Department reached out to CED to provide a solution for visually monitoring the tidal erosion along Outback Key under our existing on-call UAS Survey Contract with the County. This study was performed through high resolution 3" pixel ortho mosaic creation using high resolution imagery captured from a UAS (drone) platform over 4 months at varying tidal levels. The results are being used by the Pinellas Park staff to evaluate available alternatives to help maintain this treasured recreational area for future generations.

Colliers Engineering & Design

VIII

**→ Experience and
Capabilities in the
Following Areas**

More details on these evaluation criteria are provided in previous sections within this RFQ submittal. Brief summaries are provided below.

A. Value Engineering

We employ detailed cost estimating at every phase, using historical data from hundreds of shoreline projects to inform our opinions of probable construction cost (OPC). We also incorporate marine contractor reviews to validate our pricing assumptions. Our Project Manager and discipline leads review all cost proposals and provide regular cost updates and recommendations for savings.

For example, on the **Matheson Hammock Park Seawall Replacement**, our value engineering efforts resulted in the selection of a hybrid wall system that balanced resilience, ecological value, and cost-effectiveness—delivering the project within FEMA HMGP budget constraints.



B. Cost Analysis and Control

We employ detailed cost estimating at every phase, using historical data from over 20 Florida shoreline projects to inform our opinions of probable construction cost (OPC). Our Project Manager and discipline leads review all cost proposals, and we provide regular cost updates and recommendations for savings.

On the **Mid-Town Seawall Replacement**, our proactive cost control and transparent reporting enabled the Town of Palm Beach to make informed decisions and avoid scope creep.



C. Life Cycle Cost Analysis

GHD integrates life cycle cost analysis into our design process, evaluating materials, maintenance requirements, and future adaptability.

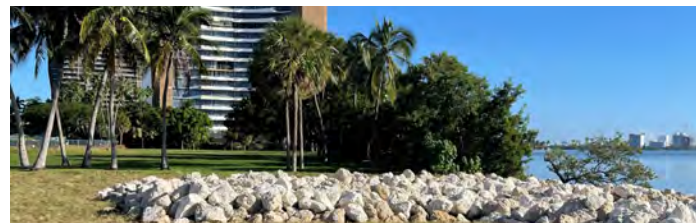
For the **PortMiami project**, we assessed long-term maintenance and replacement costs for various levels of service, recommending solutions that minimized total ownership cost while maximizing resilience and service life.



D. Environmental Assessment

Our environmental team, led by Anne Shoffner, has completed hundreds of benthic, habitat, and ecological assessments for coastal projects. We are experienced in NEPA documentation, FEMA EHP compliance, and mitigation planning.

Our work on the **Legion Park Living Shoreline** included comprehensive environmental monitoring and the development of a monitoring plan that was approved by FDEP, USACE, and local agencies.





E. Permitting for Charlotte County (or similar)

GHD's permitting specialists have secured approvals for shoreline and marine projects throughout Florida, including FDEP, SWFWMD, USACE (including NWP-03), and FEMA EHP. Our team includes a former FDEP Bureau Chief, ensuring up-to-date knowledge of regulatory requirements and strong agency relationships.

F. Specialized Marine/Coastal Experience

Our team has delivered over 30 marine and coastal projects, including seawalls, living shorelines, fishing piers, and stormwater outfalls. We have pioneered hybrid shoreline solutions that integrate hard and soft engineering, and our staff includes Envision Sustainability Professionals and WEDG-certified engineers.

G. Working on Public and/or Government Facilities and Amenities

GHD has extensive experience working with public agencies, including cities, counties, and state departments. Our portfolio includes park shoreline restorations, marina upgrades, and public access improvements, all delivered with a focus on community benefit, safety, and resilience.



VIII

→ **Volume Of Work**

→ **The Power of Commitment**

PART V - SUBMITTAL FORMS
PROPOSAL SUBMITTAL SIGNATURE FORM

1.	Project Team Name and Title	Years experience	City of office individual will work out of for this project	City individual's office is normally located	City of individual's residence
	Jesse Davis, Project Manager	19	Miami, FL	Miami, FL	Miami, FL
	Melissa Burns, Business Group Leader	14	Orlando, FL	Orlando, FL	Orlando, FL
	Nicholas Bragaia, Coastal Engineering	7	West Palm, FL	West Palm, FL	West Palm, FL
	Jingwei Li, Stormwater Engineering	10	West Palm, FL	West Palm, FL	West Palm, FL
	Brian Moore, Environmental Engineering	28	Tampa, FL	Tampa, FL	Tampa, FL
	Steven Janosik, Geotechnical Engineering	25	Tampa, FL	Tampa, FL	Tampa, FL
	Alberto Argudin, Construction Management	41	Miami, FL	Miami, FL	Miami, FL
2.	Magnitude of Company Operations				
	A) Total professional services fees received within last 24 months:			\$ 136,480,433	
	B) Number of similar projects started within last 24 months:			927	
	C) Largest single project to date:			\$ 8,021,045.56	
3.	Magnitude of Charlotte County Projects				
	A) Number of current or scheduled County Projects			0	
	B) Payments received from the County over the past 24 months (based upon executed contracts with the County).			\$ 0	
4.	Sub-Consultant(s) (if applicable)	Location	% of Work to be Provided	Services to be Provided	
	Collier Engineering & Design	Fort Myers, FL	~10%	Surveying & Materials Testing	
5.	Disclosure of interest or involvement: List below all private sector clients with whom you have an active pending contract and who have an interest within the areas affected by this project. Also, include any properties or interests held by your firm, or officers of your firm, within the areas affected by this project.				
	Firm	Address			
	Phone #	Contact Name			
	Start Date	Ending Date			
	Project Name/Description				

NAME OF FIRM GHD Services Inc.
 (This form must be completed and returned)



IX

→ **Location**

→ **The Power of Commitment**

→ Location

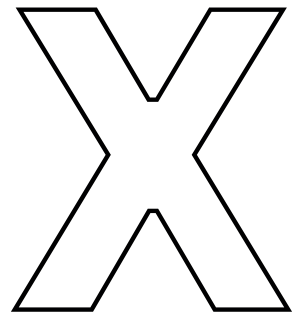
GHD maintains a strong Florida presence, with five offices strategically located in **Fort Myers, Tampa, Miami, West Palm Beach, and Orlando**. Our proposed project team is based in Tampa and Miami, ensuring rapid mobilization and responsiveness to Charlotte County's needs.

Colliers Engineering & Design will provide surveying services out of their Fort Myers, FL office for this project.



Our proximity to Port Charlotte allows us to provide timely field investigations, attend in-person meetings, and respond quickly to project needs.

Our local knowledge of Florida's coastal conditions, permitting environment, and contractor market further enhances our ability to deliver a successful project for Charlotte County.



→ Litigation

→ The Power of Commitment



PRIVILEGED & CONFIDENTIAL

26 September 2025

Re: Request for Disclosure of Litigation History – GHD Services Inc.

To whom it may concern:

GHD is able to inform you that there have been claims notified in the normal course of business, none of which we believe are material to the services which are the subject of your RFP. There are however presently no significant ongoing contract failures, no criminal matters, and there have been no judgments against GHD Inc. within the last 10 years.

GHD discloses the following lawsuits involving GHD within the past seven (5) years:

Case Name	Case No. and Court	Circumstances	Outcome
Fifty Feeley LLC v. Savannah OZF Feeley Ave LLC, Dustcom Limited Inc., GHD Services Inc. Thomas & Hutton Engineering Co. and Trustgard Insurance Company v. Fifty Feeley LLC, Savannah OZF Feeley Ave LLC, Dustcom Limited Inc., GHD Services Inc. Thomas & Hutton Engineering Co.	2024-May-9 State of Georgia State Court of Chatham County Civil Action No. STCCV24-00068	Related to a gravel-surfaced storage yard that was sold where GHD provided a limited scope of pre-design geotechnical work. In each case, the claimant has brought GHD into the lawsuit without merit or basis. GHD denies liability and is actively contesting the claim.	Ongoing
Oncor Electric Delivery Company LLC v. Barton Malow and 21st Century Salvage, Inc.	2025-Jun-20 State of Texas Tarrant County Court Cause No. 2025-000921-1	Related to demolition activities performed by a subcontractor engaged by GHD. During the course of the work, the subcontractor struck and damaged a utility pole. The utility company is seeking reimbursement for repair costs. GHD denies liability, and settlement discussions between the subcontractor and the utility owner are currently underway.	Ongoing
The Great Lakes Water Authority v. De-Cal Odle Inc., and GHD Services Inc.	2024-Oct-10 State of Michigan 3rd Judicial Circuit County of Wayne Case No. 24-014977	Related to the installation of replacement tank liners at a sewer overflow facility where GHD performed post installation inspection work. Claimant is seeking damages resulting from tank liner failure. GHD contests liability and maintains that the tank liner failure was caused by an installation issue or product defect issue.	Ongoing
D&J Investments of Cenla LLC, et al.	2020-Oct-7 United States District Court; Western District of Louisiana; Alexandria Division; Case No. 1:23-CV-00508	Related to environmental remediation work performed at a defunct facility. GHD was named as a third-party in two separate lawsuits with identical allegations for environmental damages caused by the facility, although no specific allegations were stated against GHD.	Ongoing
Abbo-Bradley, et al.; Perini; Connor / Class Action	2011-Jan-11 State of New York; Supreme Court; County of Niagara; Case No. 1:18-cv-00304	Related to remediation and maintenance services at Love Canal, City of Niagara Falls. GHD was named in two separate class action lawsuits with the same alleged underlying incident. Claimants seek indemnity related to damages to their property. GHD contests liability.	Ongoing. GHD dismissed from two of the bell-weather cases (Abbo-Bradley and Pierini).
Elevation Life Church v. GHD Services Inc.	2021-Apr-7 Circuit Court of the Fourteenth Judicial Circuit; Bay County; Florida; Case No. 22-CA-688	Related to dewatering work GHD performed for the FDEP at an adjacent property. The church sought indemnity related to damages settlement to the property. GHD contested liability.	Settled. GHD dismissed.
Zahn Farms LLC v. A&M Concrete & Construction Inc. et al.	2023-Jan-12 State of Wisconsin; Circuit Court; Oconto County; Case No. 22-CV-55	Related to design work for a manure process building and waste transfer system in Oconto County, Wisconsin. Claimant sought damages. GHD contested liability.	Settled. GHD dismissed.
John and Marcella Martusis, individually and as Trustees of the John W. Martusis & Marcella Martusis Revocable Trust v. Pulte Homes of South Carolina, Inc. et al	2021-Nov-11 State of South Carolina; County of Berkeley; Court of Common Pleas; Ninth Judicial Circuit; Case No.: 2020-CP-08-01185	Related to geotechnical evaluation and quality control testing. Pulte sought indemnity related to damages claimed by owners of a property which was built on top of organic- laden materials.	Settled. GHD dismissed.



XI

→ Minority Business

→ The Power of Commitment

→ Minority Business

GHD is committed to fostering diversity, equity, and inclusion in all aspects of our work.

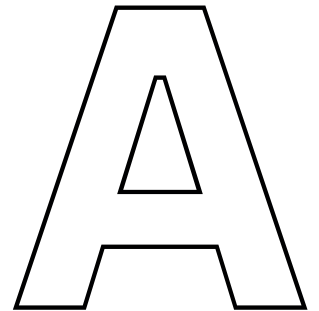
We actively seek to engage minority and small business partners on all our projects and support workforce development initiatives in the communities where we work.

Our team's diversity strengthens our ability to deliver innovative, community-focused solutions for Charlotte County.





Appendix



→ **Resumes**

→ **The Power of Commitment**



Jesse Davis, PE, ENV SP

Project Manager



Experience

19 years

Years with Firm

7 years

Qualifications/Accreditations

- MS, Ocean Engineering 2005
- BS, Ocean Engineering 2004
- Registered Professional Engineer: FL

Relevance to the project:

Jesse has 18 years of experience in coastal engineering and has provided design, permitting, environmental field assessments, and construction phase services for marina, dredging and sediment modeling projects located throughout the United States (East coast, West coast, & Great Lakes Region), the Caribbean, and South America. A career highlight includes playing a key role (from conception to construction) for the permitting, design, and construction of a nature-based island storm protection system at the Fort Pierce City Marina that was the recipient of the 2016 ASCE-COPRI Project Excellence Award for large projects.

Additional project experience includes living shorelines, marinas, boat ramps, dredging, shoreline stabilization, seawalls, propeller wash modeling, vessel berthing and mooring calculations, disaster response, design of fall protection for water control structures, inspection of breakwaters and water control structures, water quality sampling, hazwaste and drycleaner site sampling and contaminated soils removal oversight.

Project experience

Legion Park: Seawall to Living Shoreline Conversion

Role: Project Manager

Client: City of Miami

Location: Miami, FL

Date(s): December 2022 – Ongoing

The City authorized GHD to perform a structural evaluation of the stability of the piles in December 2022 and to perform a regulatory and agency review to determine what steps would be necessary to secure the site while the City considered overall Project direction. A drone aerial and 4D topographic survey was completed to aide in the stabilization plan for the previously excavated area. Design of the temporary structure included stable stone sizing and underlayment (foundation). Rock tonnage and backfill quantity estimates were calculated based on the design approved by the City. GHD corresponded with regulatory agencies to obtain authorization for the temporary design. The City hired GHD to provide construction oversight while the Contractor stabilized the site.

Little River Pocket Park

Role: Project Manager

Client: City of Miami

Location: Miami, FL

Date(s): 2023 – Ongoing

This project seeks to replace ~80 linear feet of waterfront seawall in the Shorecrest Neighborhood. The wall also includes double that length in turn back retention allowing both for the site to be raised for flood protection as well as alignment modification to avoid mature Mangrove Trees. The site includes civil works of an outfall, kayak launch, pedestrian ladders, and design around an existing seawall with no existing data.

South Bayshore Lane Roadway and Drainage Improvements - Phase II Stormwater Pump Station

Role: Project Manager

Client: City of Miami

Location: Miami, FL

Date(s): 2021 – 2022

Worked to upsize a 15" outfall through a seawall to 36". GHD served as a subconsultant to ADA Engineering. The project included designing and analyzing an outdated seawall with limited as-built and modification records. Detailed analysis

Jesse Davis, PE, ENV SP | Project Manager

and construction plans provided to ensure the integrity of the seawall and upland improved infrastructure such as high-density condominiums and apartments. Project challenges included an accelerated schedule, proximity design components, and limited as-built structural information.

Miami Beach Storm Protection: Planning, Modeling, Permitting and Design Services

Role: Project Manager

Client: Miami-Dade County RER-DERM

Location: Miami-Dade County

Date(s): 2020 – Ongoing

Miami-Dade County beaches are known worldwide as a prime tourist destination and are important to the local economy. The County's beaches also provide resiliency and storm protection for billions of dollars in beachfront infrastructure and create habitat for protected animal species, including sea turtles. As part of the County's Sea Level Rise Strategy, GHD developed a coastal modeling tool (hydrodynamic, wave, and sediment transport) to aid in identifying and developing cost effective mitigation and adaptation strategies to maintain a resilient coastline, both now and into the future. GHD is now assisting the County with obtaining a permit modification to streamline truck haul beach nourishments along 13 miles of beach shoreline and developing a preliminary breakwater design to mitigate an erosion hotspot located on Miami Beach. Mr. Davis is the project manager.

Matheson Hammock Park Seawall Replacement and Repairs

Role: Project Manager

Client: Miami-Dade County RER-DERM

Location: Miami, FL

Date(s): 2021 – Ongoing

Project Manager responsible for the replacement of 675 linear feet of sea wall on the upland side of a marina to mitigate sea level rise and sunny day flooding events that limit public enjoyment of this iconic Miami park. This is the first step of a larger coastal protection master plan to ensure protection of the 630 acre Matheson Hammock Park located along the western shoreline of Biscayne Bay that has been open to the public since 1930. The historic park includes a 243 slip marina, restaurant, large wading lagoon and beach, mangrove trails, and numerous historic buildings and structures constructed of Miami's polio limestone. Critical challenges include conflicts with a historic building and utilities, planning accommodations for future park projects, and considering alternatives within FEMA Hazard Mitigation Grant funding limitations.

Top of Seawall Study

Role: Project Manager

Client: Indian Creek Village

Location: Indian Creek Village, FL

Date(s): October 2022 – November 2022

The Village is a man-made island located north of Miami Beach and along the eastern extents of northern Biscayne Bay. The island encompasses ~250 acres, a private golf club, residential homes, and ~13,800 LF of mixed shorelines (the majority of which are seawalls). The Village Police station is situated on the Miami Beach barrier island and contains ~375 LF of shoreline (seawall). Nick provided a review of the top of wall requirements for the surrounding local municipalities and counties.

Mid-Town Seawall Replacement Design, Permitting and Construction Management

Role: Deputy Project Manager and Senior Coastal Engineer

Client: Town of Palm Beach

Location: Palm Beach, FL

Date(s): 2020 – Ongoing

Mr. Davis is serving as the Deputy Project Manager and Senior Coastal Engineer for this multidisciplinary data collection, planning, design, and permitting project associated with replacement of approximately 2,700 linear feet of aging seawall that protects North Ocean Boulevard and upland properties from storm impacts. The project area is along the Town's Mid-Town shoreline, which has a managed and maintained beach project providing storm protection and recreational benefits to residents and visitors. Both cantilevered and tie-back wall alignments will be evaluated, followed by a permit application submittal to the Florida Department of Environmental Protection. The GHD Team will finalize the design in 2021 and assist the Town with bid phase services.

Historic Turtle Kraals & C Dock Assessment

Role: Project Manager

Client: City of Key West

Location: Key West, FL

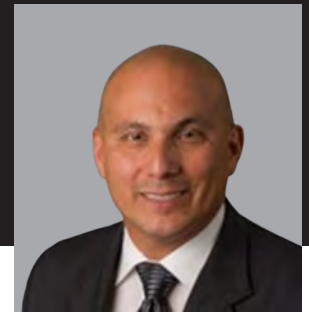
Date(s): 2021 – Ongoing

GHD was contracted by the City of Key West to perform a visual condition assessment, develop restoration recommendations and determine the level of effort required to permit and construct an historically accurate restoration of the concrete pile pens that define the Historic Turtle Kraals within the Key West Bight Marina at the Historic Seaport.



Victor Tirado, PE

QA/QC



Experience

21 years

Years with Firm

8 years

Qualifications/Accreditations

- BS, Applied Arts and Civil Engineering 2004
- Registered Professional Engineer: FL, SC, CA
- Occupational Safety and Health Administration (OSHA) 30-Hour construction Safety and Health 2005

Relevance to the project:

Victor Tirado has 21 years of experience in multidisciplinary team management, planning, engineering, and construction. His emphasis is in delivering complex multi-modal transportation and waterfront and marine projects, that range from heavy infrastructure projects to environmental remediation and coastal adaptation projects. Victor has successfully delivered projects that include piers, wharves bulkhead and quay walls, dry docks, large navigation channels, wetland restorations, living shorelines, highway grade separation, bridge and roadways, marine terminal planning, recreational marinas, and site development, among other elements across the world. Victor's international network and skills are an instrumental resource of knowledge in the development of this project. Victor is also a six-year veteran of the United States Navy.

Project experience

MSC Cruises Terminal Expansion at PortMiami

Role: Quality Control

Client: Arquitectonica

Location: Miami, FL

Date(s): 2019 – 2022

MSC Cruises is proposing a new terminal expansion to be located along the eastern end of Dodge Island. GHD was retained by Arquitectonica, and later DeSimone, on behalf of MSC Cruises to provide coastal and mooring basis of analysis report that includes the development of site environmental conditions, underkeel clearance and scour potential during vessel arrival/departure, mooring and berthing analysis. Including considerations for passing vessel, a top of wall assessment, and the recommendation of a minimum finished floor elevation for the terminal building based on storm surge, wave overtopping, and sea level rise projections.

North Bulkhead Realignment Project at PortMiami

Role: Project Manager, Designer of Record

Client: CBNA

Location: Miami, FL

Date(s): Ongoing

GHD is providing engineering support service during the tender phase of the Design-Build Finance North Bulkhead Realignment project as the Designer of Record to CBNA,

a Bouygues Subsidiary. Acting as the Project Manager and Designer of Record for the design team. The project proposes to realign over 7,000 linear feet of wharf 54 feet into the navigation channel along berths #1 through #6 of PortMiami. The proposed method for the widening is by using caissons to minimize construction times on-site, reduce vibrations to the port access tunnel and reduce potential risk of failure of the existing bulkhead.

Bulkhead Repairs and Rehabilitation at Port Everglades

Role: Technical Advisor

Client: Port Everglades

Location: Fort Lauderdale, FL

Date(s): 2021 – Ongoing

GHD is providing corrosion engineering, geotechnical engineering, and coastal engineering services to the Port via TY Lin. The scope of work includes the repair of over 10,000 linear feet of bulkhead along the northern end of Port Everglades. Provided technical advisory support services to the design team on corrosion and coastal aspects of this project.

West Trail Shoreline Stabilization

Role: Civil Manager
Client: San Mateo County Harbor District
Location: El Granada, CA
Date(s): 2020

Served as Civil Manager with oversight of the design of the West Trail Living Shore project. The project proposes to create a dune system on the seaward side existing pedestrian trail that provides access to Mavericks Beach. The new dune system will serve as a soft solution to coastal erosion and sea-level rise adaptation to reduce erosion of the trail while providing native dune habitat. The proposed project area spans 500 linear feet of shoreline.

Cardiff Beach Living Shoreline - Construction Management

Role: Project Manager
Client: City of Encinitas
Location: Encinitas, CA
Date(s): 2019

Served as Project Manager responsible for the oversight of the construction of the Cardiff Beach Living Shore project. The project created a dune system on the seaward side of Highway 101 (Hwy 101) on Cardiff State Beach to serve as a soft solution to coastal erosion and sea-level rise adaptation to protect a vulnerable segment of the roadway while providing native dune habitat. The project area spans 2,900 linear feet (~0.5 mile) of shoreline, from the Chart House to the north to the Seaside Parking Lot to the south. The dune was developed along the back beach to minimize impacts to the existing recreational beach. The project also included the coordination and protection of a newly installed subsea sewer outfall.

Cardiff Beach Living Shoreline

Role: Civil Project Manager
Client: City of Encinitas
Location: Encinitas, CA
Date(s): 2018 - Ongoing

Served as Civil Project Manager with oversight of the design team to prepare final engineering construction documents for the Cardiff Beach Living Shore project. Also assisted in the environmental permitting process of the project. The project proposes to create a dune system on the seaward side of Hwy 101 on Cardiff State Beach to serve as a soft solution to coastal erosion and sea-level rise adaptation to protect a vulnerable segment of the roadway while providing native dune habitat. The proposed project area spans 2,900 linear feet (~0.5 mile) of shoreline, from the Chart House to the north to the Seaside Parking Lot to the south. The dune is being developed along the back beach to minimize impacts to the existing recreational beach. The project also included the coordination and protection of a newly installed subsea sewer outfall.

Carlsbad Boulevard Beach Access

Role: Technical Director
Client: City of Carlsbad
Location: Carlsbad, CA
Date(s): 2020

Served as Technical Director providing engineering services to the City of Carlsbad for the rehabilitation of the existing beach access structures on the coastal bluff from Pine Avenue to Tamarack Avenue. These structures include promenades at both the top and bottom of the bluff, four access stairways on the slope between the promenades, and the seawalls and retaining walls protecting the bluff and these structures. The scope included investigations of structural elements of the promenade, develop preliminary repair alternatives and associated costs. GHD re-fined the alternatives and conducted a value engineering effort to quantify the costs and benefits of the beach access repair and improvement. GHD's scope also includes facilitating a Coastal Development Permit and other environmental permits that are required for the project. The scope also includes the preparation of a full Plans, Specifications, and Estimate (PS&E) document set, bid support and construction support.

South Carlsbad Boulevard Climate Adaptation Project

Role: Technical Director
Client: City of Carlsbad
Location: Carlsbad, CA
Date(s): 2020

The City of Carlsbad has engaged GHD to provide planning and engineering services to address the cliff retreat and sea-level rise hazards to public safety in this area, advance planning and design for the managed relocation and realignment of a portion of Carlsbad Boulevard to a landward location to address the vulnerability of this transportation corridor, enhance accessibility to trails and non-motorized transportation routes to reduce greenhouse gas emissions and develop a collaborative adaptation vision for Carlsbad Boulevard and its surroundings, including the opportunity for recreation, beach access, habitat restoration and natural shoreline protections. A cliff hazard analysis study area spans from the bluffs from at Terramar Point/Cerezo Bluffs (Cerezo Drive) to the mouth of Batiquitos Lagoon. The roadway realignment design area extends from just north of Palomar Airport Road to the South Carlsbad State Beach Campground. The project will involve five phases, which will develop preliminary design concepts, cliff retreat analysis, conceptual design alternatives, preliminary engineering infrastructure design, and a final report.



John C. Phillips, PE

Geotechnical Engineer and Soil Strengthening



Experience

34 years

Years with Firm

14 years

Qualifications/Accreditations

- BS, Civil Engineering 1988
- Registered Professional Engineer: FL

Relevance to the project:

John has over 34 years of consulting experience in geotechnical engineering and construction materials testing. He has practiced in Florida since 1989, accumulating experience with local soil conditions and foundation construction practices. Mr. Phillips has a wide range of geotechnical engineering experience including: soil mechanics, shallow and deep foundations for new structures, groundwater evaluations, and ground improvement techniques. He has been with GHD for over 13 years and manages geotechnical projects for a large variety of private and public clients.

Project experience

Hillsborough River Seawall Study

Role: Senior Geotechnical Engineer
Client: Hillsborough County
Location: Hillsborough County, FL
Date(s): 2022

GHD provided existing seawall assessment and preliminary design solutions for a private multi building development in downtown Tampa. This project involved consideration for sea level rise and future grading plans. Mr. Phillips developed the geotechnical field exploration plan and provided soil strength parameters to the GHD structural design team. Multiple soil layers were encountered, as well as limestone layers of variable composition and strength.

Sebastian Inlet Jetty

Role: Senior Geotechnical Engineer
Client: Environmental Science Associates
Location: Melbourne Beach, FL
Date(s): 2023 – 2024

GHD performed a subsurface exploration to assist with an evaluation of repeated, (storm-related) loss of soil from behind the North Jetty at Sebastian Inlet State Park. Erosion had been occurring regularly after storm events due to pre-existing pathways below the structure. Values for soil parameters were provided to assist with possible sheet pile well design. Recommendations were also provided by rip-rap modifications.

Wiregrass II Community Development District Geotechnical and Soil Testing Engineering Services

Role: Task Manager and Senior Geotechnical Engineer
Client: Wiregrass Community Development District
Location: Wesley Chapel, FL
Date(s): Ongoing

GHD is currently providing geotechnical engineering and construction materials testing services for the CDD under this task-order based services contract. The projects to-date have primarily consisted of collector roadway extensions, along with mass grading development for future commercial parcels. Mr. Phillips serves as the Geotechnical Task Manager.

Geotechnical Engineering, Soils and Materials Testing

Role: Project/Contract Manager and Senior Geotechnical Engineer
Client: Manatee County
Location: Manatee County, FL
Date(s): Ongoing

GHD is currently providing geotechnical engineering and construction materials testing services for the County under this task-order based services contract. Mr. Phillips serves as the Project/Contract Manager and a Senior Geotechnical Engineer for various projects under this contract.

Miscellaneous Professional Services for Geotechnical Materials

Role: Task Manager and Senior Geotechnical Engineer
Client: City of St. Petersburg
Location: St. Petersburg, FL
Date(s): Ongoing

GHD is currently providing geotechnical engineering and construction materials testing services for the City under this task-order based services contract. Mr. Phillips serves as the Geotechnical Task Manager.

Mast Arms Geotechnical Engineering Monitoring Services

Role: Task Manager and Senior Geotechnical Engineer
Client: Hillsborough and Pinellas County
Location: Hillsborough and Pinellas County, FL
Date(s): 2019

Monitored the installation of drilled shaft foundations for signal mast arms throughout Hillsborough and Pinellas County.

Pinellas County Multiple Projects

Role: Geotechnical Engineer
Client: Pinellas County
Location: Pinellas County, FL
Date(s): 2015 – Ongoing

Provided geotechnical engineering services for multiple school building and infrastructure improvements/additions.

Hillsborough County Multiple Projects

Role: Geotechnical Engineer
Client: Hillsborough County
Location: Hillsborough County, FL
Date(s): Ongoing

Geotechnical engineering for dozens of school projects including Blake High School, several classroom and media center additions, and forensic studies for settlement conditions necessitating remedial recommendations.

Pinch-a-Penny Headquarters and Warehouse Facility

Role: Geotechnical Engineer
Client: Pinch-a-Penny
Location: Largo, FL
Date(s): 2017 – 2018

Provided geotechnical exploration including soil test borings and test pit excavations that encountered buried landfill materials, requiring removal and replacement prior to conventional shallow foundation construction.

Eagle's Nest District Roadway and Drainage Improvements

Role: Geotechnical Engineer
Client: Eagle's Nest District
Location: Belleair, FL
Date(s): 2016 – 2018

Provided geotechnical engineering services involving soil borings, roadway cores, and infiltration testing for improvements to existing established neighborhood roadway and drainage system.



Steven Janosik, PE

Geotechnical Engineering and Soil Strengthening



Experience

21 years

Years with Firm

12 years

Qualifications/Accreditations

– BS, Civil Engineering, Cum Laude

2003

– Registered Professional Engineer: FL, MD, TN

Relevance to the project:

Steven Janosik, PE, has over 21 years of experience. He specializes in blending forensic engineering assessments with accompanying expert witness testimony, geotechnical engineering design, and construction materials testing (including threshold inspections of reinforcing steel, pile inspections, and construction vibration monitoring). Steven's forensic engineering expertise is focused on evaluating subsidence-related damage to structures, earthen slope and retaining wall failures, construction vibration damage, and pavement failures. His geotechnical engineering design expertise encompasses sinkhole risk assessment and mitigation, shallow and deep foundation design, pavement design, slope stability analyses, bulkhead and retaining wall design, and site suitability studies.

Project experience

Legion Park Seawall

Role: Geotechnical Consultant

Client: City of Miami

Location: Miami, FL

Date(s): December 2022 – Ongoing

Steven provided geotechnical consultation during the assessment of driven concrete sheet piles. The piles were designed and installed by others. Existing subsurface conditions were determined to be inappropriate for the proposed sheet pile. GHD developed recommendations for backfilling the sheet pile removal areas. We also gave ongoing consultation during the general site grading and compaction phase.

Mid-Town Seawall Replacement

Role: Senior Geotechnical Engineer

Client: Town of Palm Beach

Location: Palm Beach, FL

Date(s): March 2021 – September 2021

GHD is providing turn-key solutions for the Town of Palm Beach Mid-Town Seawall Replacement project. The project includes existing condition assessments, historical structure review, scour analysis, new seawall panel design, resiliency studies, and geotechnical engineering. Our geotechnical engineering services includes subsurface soil exploration along the seawall segment. It also involves

global stability analyses of the proposed seawall geometry considering the existing soil conditions and anticipated parameters for the respective extreme (short-term) and typical (long-term) scenarios. Steven identified the critical cross-sections and soil zones, conducted the global stability analyses, and prepared the report deliverables. The minimum seawall panel depth was determined based on parametric analysis of the short-term stability under scoured conditions.

Seawall at Tampa Water Works Park

Role: Geotechnical Engineer

Client: Hardeman Kempton & Associates

Location: Tampa, FL

Date(s): August 2004 – September 2004

GHD provided geotechnical services and anchoring system documentation for the evaluation of an existing seawall at Tampa Water Works Park as part of the City of Tampa downtown redevelopment efforts. Steven conducted the field observations, which included excavation of tie-back anchors with a backhoe. Soil borings were also conducted along the landside and waterside of the seawall, and panel reinforcement was evaluated with a pachometer and cores.

Ford Street Canal Filter Marsh - Weir and Boardwalk Refinement and BMAP Allocation

Role: Senior Geotechnical Engineer

Client: City of Fort Myers

Location: Fort Myers, FL

Date(s): January 2015 – April 2015

GHD provided turn-key engineering design services for this successfully constructed project. Our geotechnical services focused on providing sheet pile parameter design for a weir that encompassed an existing wetland. Steven planned and coordinated the subsurface exploration, performed parametric analyses for sheet pile section requirements, and prepared the engineering report. A challenge involved considering Fort Myers' requirement for the sheet piles to be constructed of vinyl or composite (non metallic) materials. Steven also performed an analysis of timber pile penetration depth given anticipated compressive and lateral loading for a wood boardwalk that trended along a portion of the filter marsh weir.

Carlene Avenue Seawall Replacement

Role: Senior Project Engineer (Engineer of Record)

Client: City of Fort Myers

Location: Fort Myers, FL

Date(s): June 2012 – August 2012

GHD evaluated the viability of repairing an existing seawall. The seawall needed to allow for a new Elliptical Reinforced Concrete Pipe (ERCP) to be installed through the existing structure. Based on our visual assessment, we determined Fort Myers needed a replacement seawall. The new wall needed to provide sufficient stability for planned drainage improvements, which included raising the seawall cap elevation ~16 inches. Steven planned and coordinated the subsurface exploration program and provided engineering design services. His efforts included local and global stability analyses of the proposed seawall section (vinyl sheet pile) and seawall anchoring design. Project challenges included Fort Myers' preference for the less rigid vinyl sheeting, tie-in design for the transitions into the existing seawall segments, and reinforcement design around the ERCP outfall opening.

Dam Assessment - Meadow View Lake Dam (TerraLargo Division)

Role: Senior Engineer (Engineer of Record)

Client: Private Client

Location: Lakeland, FL

Date(s): June 2020 – July 2020

The subject dam was located between the TerraLargo residential subdivision and the Carlton Arms Apartments, at the northern bank of the Meadow View Lake reservoir. The dam consists of an earthen embankment that is protected within the emergency spillway segment by uniform section fabric form concrete mats (Armorform). GHD conducted review of prior engineering assessment reports and As-Built drawings, followed by non-destructive inspection of the facility. Visual observations were primarily made along 12 transects, coinciding with east-west construction joints between the Armorform mats. The transects were up to 172 to 212 feet long and were spaced approximately 13 to 14 feet apart. Notable defects were marked in the field, photographed, and discussed in a final report. Engineering opinions regarding the overall stability of the dam were also discussed, along with repair and mitigation recommendations.

Boat Channel Slope Stability Analyses - Esplanade Lake Club Development

Role: Senior Engineer (Engineer of Record)

Client: Private Client

Location: Fort Myers, FL

Date(s): July 2018 – August 2020

GHD provided geotechnical services and slope stability analyses for the construction of a boat channel in the residential development. Steven conducted site visits and bulk sample collection of on-site materials, followed by parametric analyses of short-term construction stability and long-term slope stability for multiple construction slope configurations and final slope configurations. Challenges with this project included modeling of the weak clayey silts along the south side of the channel alignments. Steven prepared the final engineering report as engineer of record, and GHD monitored construction of the boat channel. Following the channel construction, Steve developed as-built slope models from surveyed cross-sections for final stability analyses of the sloped embankments along both sides of the channel.



Meeghan Casey, PG

Geotechnical Engineer and Soil Strengthening



Experience

19 years

Years with Firm

12 years

Qualifications/Accreditations

– BS, Marine Science

2004

– Registered Professional Geologist: FL

Relevance to the project:

Meeghan Casey is a project geologist with over 19 years of experience in geotechnical investigations. Her experience includes evaluating geotechnical studies for the presence of and potential for sinkhole activity. She also studies the cause of ground or structure settlements. These evaluations have included single residential family housing, town home and condominium complexes as well as commercial structures throughout the state of Florida. Meeghan has also provided expert witness testimony for private clients on sinkhole loss claims. She is known for her experience in due diligence evaluations of undeveloped land for proposed residential and commercial development.

Project experience

Various Subsidence Evaluations

Role: Project Manager, Project Geologist (Geologist of Record)

Client: Various Insurance Companies

Location: Florida

Date(s): 2005 – 2000

Meeghan acts as a project manager on subsurface evaluations. These evaluations consist of site and distress observations and subsurface exploration that includes the collection and evaluation of data to determine the geotechnical cause(s) of distress for various private and municipal entities. Meeghan's investigations are comprised of geotechnical and geological studies and analysis to evaluate the cause of or the potential for ground or structure settlements.

Land Development and Site Suitability

Role: Site Supervisor/Project Coordinator

Client: Wiregrass Ranch and Various Private Clients

Location: Wesley Chapel, FL

Date(s): December 2012 – Ongoing

GHD provided geotechnical services for proposed developments, including a series of borings and test pit excavations within proposed parking and drive segments, structure area borings, as well as stormwater collection area borings. The borings were conducted to develop parameters for foundation, drainage and pavement design,

and recommendations for associated site preparation and borrow soil suitability for reuse. Meeghan conducted field visits, coordinated the field activities, and attended onsite meetings with project team members.

Water and Wastewater

Role: Project Coordinator

Client: TAP Project

Location: Hillsborough County, FL

Date(s): 2016

Meeghan coordinated all field activities including determining site access, coordinating between multiple property owners, GHD drill crews, utility providers, and other outside teams working on this public interest project. She was also responsible for obtaining permits required by the local water management districts.

Drilling and Subsurface Exploration

Role: Project Coordinator

Client: The Heights/Tampa Armature Works

Location: Tampa, FL

Date(s): 2014 – Ongoing

Meeghan coordinates field activities including coordinating with the client, GHD drill crews, utility providers and other outside teams working on this project. She is responsible for obtaining permits required by the local water management districts, coordinating with government officials, and submitting well completion reports.

Various Single Family Home Subdivisions and Multi-Family Town Home Complexes, Transportation Projects, Municipality Projects, Commercial and Shopping Centers

Role: Project Coordinator
Client: Various Private Clients
Location: Florida
Date(s): 2007 – Ongoing

Meeghan coordinates all activities of GHD's drilling fleet and geotechnical technicians. She is responsible for ensuring underground and overhead utilities have been identified and marked. Additionally, Meeghan is responsible for obtaining any necessary permits required for testing through the local government agencies.

Well Installation and Abandonment

Role: Project Manager/Project Coordinator
Client: Various Private Corporations and Government Agencies
Location: Florida
Date(s): 2010 – Ongoing

Meeghan is responsible for coordinating GHD's drill crew and technicians for the abandonment of injection, monitor, and potable wells throughout the state. She also coordinates the installation of monitor wells. Meeghan is responsible for obtaining permits required by the local water management districts, as well as the coordination of government officials and submission of well completion reports.

NASA Causeway East Muck Removal Project/Rockledge A Muck Removal Project/Titusville Railroad East and West Borrow Pit Muck Removal Projects

Role: Geotechnical Engineer
Client: Brevard County
Location: Brevard County, FL
Date(s): 2020 – 2021

Meeghan conducted field work onboard a coring vessel to assist with the vibracore sampling of the sediments in the project areas of Brevard County. Meeghan directed field activities with the project team. In addition to the sediment samples, Meeghan collected surface water samples at each of the vibracore sample locations using a Van Dorn style sampler and collected in-situ turbidity, temperature, conductivity and salinity measurements. Surface water samples were also collected into laboratory supplied containers and submitted for analysis of hardness, as well as to be utilized for elutriate testing of heavy metals.

Hurricane Irma Recovery Support for the St. Marys Waterfront

Role: Project Coordinator
Client: City of St. Marys
Location: St. Marys, GA
Date(s): 2017

Meeghan coordinated geotechnical drilling activities to support a construction and engineering team to rebuild the waterfront for the City of St. Marys in southeast Georgia. Hurricane Irma had a major impact on the coastal waterfront and FEMA federal funding was made available to rebuild the critical infrastructure. The GHD team collected geotechnical data and performed a coastal engineering assessment in the field.

Mid-Town Seawall Replacement Project

Role: Geotechnical Engineer
Client: Town of Palm Beach
Location: Palm Beach, FL
Date(s): 2020 – Ongoing

Meeghan coordinated geotechnical drilling activities, right of way permitting and multidisciplinary data collection, associated with replacement of approximately 2,700 linear feet of aging seawall that protects South Ocean Boulevard and upland properties from storm impacts. The project area is along the town's mid-town shoreline, which has a managed and maintained beach project providing storm protection and recreational benefits to residents and visitors.

Atlantic Intracoastal Waterway Sediment Sampling and Analysis

Role: Geotechnical Engineer
Client: US Army Corps of Engineers Savannah District
Location: Atlantic Intracoastal Waterway, GA
Date(s): 2021

GHD was engaged by USACE Savannah District to undertake a sediment sampling and analysis project. In total, 34 locations were sampled across the 161-mile segment of the Atlantic Intracoastal Waterway (AIWW) under USACE Savannah District's jurisdiction to represent areas for upcoming maintenance dredging and possible beneficial use projects.



Otis Thomas

Laboratory Manager



Experience

30 years

Years with Firm

10 years

Qualifications/Accreditations

- American Concrete Institute (ACI)
- Nuclear Testing Equipment, (Troxler)
- Asphaltic Concrete Paving Inspection
- Concrete Field Testing Technician, Level I
- Concrete Strength Testing Technician
- Asphalt Plant Level I
- Construction Materials Engineering Council, Inc. (CMEC) Soils and Concrete Lab Certification
- Certified F-Number Technician

Relevance to the project:

Otis has 30 years of experience construction materials testing and he has been with GHD for more than 20 years. Otis manages GHD's in-house construction materials testing laboratory and supervises the lab technicians and field staff. He ensures the Quality Control of all testing in compliance with ASTM, AASHTO, CMEC and other applicable testing method guidelines and he is responsible for writing/maintaining the Quality Control testing procedural manual. Otis has decades of experience with a variety of testing including soil classification; field and laboratory soil compaction and density testing; field and laboratory soil and pavement material bearing testing, including FBV and LBR tests; observation and testing of utility line and structure backfilling operations; observation and testing of pavement embankment, subgrade, and base construction; stabilized subgrade, limerock, crushed concrete, shell, and soil cement; observation and testing of shallow and deep foundation system construction including footings, piles, and cussions; concrete sampling and strength testing; asphaltic concrete construction testing; foundation system load testing; and demucking and backfilling monitoring and testing. Otis helps manage on-going methodology for staff training procedures and review process and the maintenance all laboratory records.

Project experience

District School Board of Pasco County

Role: Construction Materials Testing Manager

Client: District School Board of Pasco County

Location: Pasco County, FL

Date(s): Ongoing

Construction Services Laboratory Manager providing soils and materials testing services to Pasco County under a miscellaneous testing contract. These projects involve construction materials testing such as testing of concrete; density testing of soils and roadway base and subgrade; asphaltic concrete density, extraction gradation, and Bulk Specific Gravity, Maximum Specific Gravity, Gyratory Compaction; and FBV and LBR testing of roadway base and subgrade.

Manatee County Department of Public Works

Role: Laboratory Manager

Client: Manatee County Department of Public Works

Location: Manatee County, FL

Date(s): Ongoing

Construction Services Laboratory Manager providing soils and materials testing services to Manatee County under a miscellaneous testing contract. These projects involve construction materials testing such as testing of concrete; density testing of soils and roadway base and subgrade; asphaltic concrete density, extraction gradation, and Bulk Specific Gravity, Maximum Specific Gravity, Gyratory Compaction; and FBV and LBR testing of roadway base and subgrade.

Hillsborough County Miscellaneous Testing Contract

Role: Construction Services Laboratory Manager

Client: Hillsborough County

Location: Hillsborough County, FL

Date(s): 2019

Construction Services Laboratory Manager providing soils and materials testing services to Hillsborough County under a miscellaneous testing contract. These projects involve construction materials testing such as testing of concrete; density testing of soils and roadway base and subgrade; asphaltic concrete density, extraction gradation, and Bulk Specific Gravity, Maximum Specific Gravity, Gyratory Compaction; and FBV and LBR testing of roadway base and subgrade.

Pinellas County Department of Public Works

Construction Management

Role: Laboratory Manager

Client: Pinellas County Department of Public Works

Location: Pinellas County, FL

Date(s): 2022

Construction Services Laboratory Manager providing soils and materials testing services to Pinellas County under a miscellaneous testing contract. These projects involve construction materials testing such as testing of concrete; density testing of soils and roadway base and subgrade; asphaltic concrete density, extraction gradation, Bulk Specific Gravity, Maximum Specific Gravity, Gyratory Compaction; and FBV and LBR testing of roadway base and subgrade.

DPR Tampa Heights

Role: Laboratory Manager

Client: DPR Tampa Heights

Location: Tampa, FL

Date(s): 2021

Construction Services Laboratory Manager providing soils and materials testing services to Hillsborough County under a miscellaneous testing contract. These projects involve construction materials testing such as testing of concrete; density testing of soils and roadway base and subgrade; asphaltic concrete density, extraction gradation, and Bulk Specific Gravity, Maximum Specific Gravity, Gyratory Compaction; and FBV and LBR testing of roadway base and subgrade.

Pollack Shores Princeton at College Park

Role: Laboratory Manager

Client: Pollack Shores

Location: Orlando, FL

Date(s): 2020

Construction Services Laboratory Manager providing soils and materials testing services to Hillsborough County under a miscellaneous testing contract. These projects involve

construction materials testing such as testing of concrete; density testing of soils and roadway base and subgrade; asphaltic concrete density, extraction gradation, and Bulk Specific Gravity, Maximum Specific Gravity, Gyratory Compaction; and FBV and LBR testing of roadway base and subgrade.

Pollack Shores Maitland Shores

Role: Laboratory Manager

Client: Pollack Shores

Location: Maitland, FL

Date(s): 2021

Construction Services Laboratory Manager providing soils and materials testing services to Hillsborough County under a miscellaneous testing contract. These projects involve construction materials testing such as testing of concrete; density testing of soils and roadway base and subgrade; asphaltic concrete density, extraction gradation, and Bulk Specific Gravity, Maximum Specific Gravity, Gyratory Compaction; and FBV and LBR testing of roadway base and subgrade.

Pollack Shores M South

Role: Laboratory Manager

Client: Pollack Shores

Location: Tampa, FL

Date(s): 2021

Construction Services Laboratory Manager providing soils and materials testing services to Hillsborough County under a miscellaneous testing contract. These projects involve construction materials testing such as testing of concrete; density testing of soils and roadway base and subgrade; asphaltic concrete density, extraction gradation, and Bulk Specific Gravity, Maximum Specific Gravity, Gyratory Compaction; and FBV and LBR testing of roadway base and subgrade.

Pollack Shores Havana Square

Role: Laboratory Manager

Client: Pollack Shores

Location: Tampa, FL

Date(s): 2020

Construction Services Laboratory Manager providing soils and materials testing services to Hillsborough County under a miscellaneous testing contract. These projects involve construction materials testing such as testing of concrete; density testing of soils and roadway base and subgrade; asphaltic concrete density, extraction gradation, and Bulk Specific Gravity, Maximum Specific Gravity, Gyratory Compaction; and FBV and LBR testing of roadway base and subgrade.



Anne Shoffner

Resource Surveys and Permitting



Experience

< 1 years

Years with Firm

26 years

Qualifications/Accreditations

– MS, Marine Environmental Science

2004

– BS, Biology

1994

Relevance to the project:

Ms. Shoffner has over 25 years of experience working in private consulting and for government organizations working in coastal, marine, freshwater, and estuarine environments. Her experience includes business development, project scoping and cost estimations, technical proposal development, NEPA documentation support, and field-based services using remote and in situ equipment for benthic habitat characterization data collection and monitoring surveys. As a project manager, she has conducted contract negotiations, directed project staff and subconsultants, performed risk management, successfully implemented conflict resolution, managed project timelines and budgets, maintained positive and responsive relationships with clients, drafted project updates and technical reports, administered invoicing and subconsultant payments, and applied adaptability and critical thinking during challenging situations. She served as project manager and/or lead scientist on beach nourishment, port dredging, infrastructure construction, offshore energy, and linear projects. She has extensive experience in coral reef restoration and relocation, and seagrass mitigation projects. She has worked in numerous countries and oceans worldwide.

Project experience

Beach Truck Haul Nourishment

Role: Project Manager

Client: Miami-Dade County

Location: Miami-Dade County, FL

Date(s): 2023 – 2024

Conducted a side-scan sonar (SSS) survey to identify the nearshore hardbottom reef edge along 14 miles of linear shoreline adjacent to the Miami-Dade County coastline as part of a proposed beach nourishment project within the Federal Shoreline Protection Project limits. Potential hardbottom areas identified from the SSS survey were verified in the field on SCUBA and habitats were generally characterized based on the vertical relief and the types of marine organisms present. As part of the survey, Threatened or Endangered (T&E) species within the project area were documented. The results were provided the Florida Department of Environmental Protection (FDEP) as part of the permitting process and confirmed no resources were within 150 meters of the Equilibrium to of Fill (ETOF). As a result, the FDEP confirmed that a Biological Monitoring Plan (BMP) was not required, and monitoring of the habitats would not be included a specific condition in the state Environmental Resource Permit (ERP) issued for the renewal of the nourishment permit.

Pier Construction and Harbour Development

Role: Project Lead – Marine Mitigation

Client: Great Stirrup Cay

Location: The Berry Islands, The Bahamas

Date(s): 2020 – 2024

Project lead for environmental permitting and planning for Norwegian Cruise Lines' planned pier construction and harbour development in the Berry Islands, Bahamas. Developed an Environmental Impact Assessment (EIA), Environmental Management Plan (EMP), and Marine Mitigation Plan, and participated in public meetings as part of the Bahamas' Department of Environmental Planning and Protection (DEPP) EIA/EMP process. The project involved field surveys of marine habitats on SCUBA, upland (terrestrial) habitats, avian population studies, threatened and endangered species surveys, invasive species surveys, and permitting. Upon issuance of the Certificate of Environmental Clearance (CED) from the DEPP, a Coral Relocation Plan was developed and approved. During the summer of 2024, co-led a large coral relocation project over 6 weeks including three work vessels and a large team of divers and biologists.

Port Everglades and Lake Worth Inlet Jetty Rehabilitation

Role: Project Manager/Marine Scientist
Client: US Army Corps of Engineers (USACE)
Location: Miami and Fort Lauderdale, FL
Date(s): 2020 – 2021

Provided environmental support for rehabilitation of two USACE jetties at Port Everglades and the Port of Palm Beach (Lake Worth Inlet). On both projects, conducted benthic surveys within the construction areas, relocated coral colonies, and performed post-relocation monitoring. Worked closely with the Florida Fish and Wildlife Conservation Commission to facilitate the removal and donation of several coral colonies for conservation and research purposes.

Higgs Beach Nourishment Project

Role: Project Manager/Marine Scientist
Client: Monroe County
Location: Key West, FL
Date(s): 2019 – 2024

Work closely with the Florida Department of Environmental Protection, Monroe County, and client on the sand replenishment project at Higgs Beach, City of Key West to monitor potential impacts to hardbottom and SAV communities, and assess the condition of individual coral colonies, including the threatened species *Orbicella faveolata* (mountainous star coral) prior to and for two years following nourishment of the popular beach. The project area is in the Florida Keys National Marine Sanctuary (FKNMS) and in addition to state, Federal and local regulations, is regulated by the FKNMS Act requiring special authorization and monitoring requirements.

PortMiami Deepening Project - Coral Relocation and Seagrass Mitigation and Monitoring

Role: Project Manager/Marine Scientist
Client: USACE
Location: Miami, FL
Date(s): 2013 – 2015

Project Manager and Chief Scientist for the relocation of coral colonies from the channel to natural habitat and artificial reef and creation of over 14 acres of seagrass habitat using specialized techniques and perform immediate post-restoration seagrass monitoring at fixed transects and stations within a filled dredge hole. Prepared a Dive Operations Plan for review and approval by the U.S. Army Corps of Engineers for scientific diving operations (EM-385 compliant) for activities within Biscayne Bay and offshore waters. Assisted in UMAM analysis for project permitting.

Benthic Habitat Characterization Naval Air Station

Role: Senior Marine Scientist
Client: US Navy
Location: Key West, FL
Date(s): 2013

Lead scientist for benthic habitat mapping within five maritime areas owned and operated by Naval Air Station Key West (NASKW). Video transects and quantitative sampling of submerged aquatic vegetations were conducted across each area and included a seagrass assessment.

Village of Key Biscayne Seagrass Mitigation and Monitoring Program

Role: Project Manager/Marine Scientist
Client: Village of Key Biscayne
Location: Key Biscayne, FL
Date(s): 2008 – 2012

Project Manager and Chief Scientist for a large-scale, long-term (7 years) seagrass mitigation and monitoring program for the Village of Key Biscayne, FL. The program was unique in that the seagrass included mixed species over a wide geographic range and multiple jurisdictional and watershed areas. The program including pre-mitigation mapping, mitigation planning, negotiation with state and local agencies, seagrass transplantation, and monitoring across fixed transects and stations over a period of 7 years.

Sunken Island Beneficial Placement Area

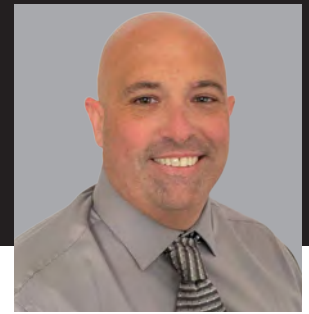
Role: Project Manager, Marine Scientist
Client: LG2 Environmental Solutions – Oneida ESC Group, USACE
Location: Tampa, FL
Date(s): 2023

Using a live-video feed attached to a Remotely Operated Vehicle (ROV), a benthic survey of over 184 acres of seabed was performed to document sensitive marine flora and fauna (seagrass, hardbottom, oysters). This remote sensing method documented 18.4 acres of sparse seagrass within the Sunken Island Beneficial placement area in upper Tampa Bay. To characterize the submerged aquatic vegetation (SAV), divers performed an in-water assessment and identified all species of seagrass and multiple species of macroalgae. A technical report with habitat maps and project recommendations was provided to the USACE as part of the planning and permitting process.



Jason Garwood

Resource Surveys



Experience

23 years

Years with Firm

< 1 years

Qualifications/Accreditations

- MS, Coastal Marine and Wetland Studies 2006
- BS, Double majored in Biology and Marine Science, minored in Chemistry 2004

Relevance to the project:

Jason is an estuarine, coastal, and marine ecologist with 23+ years of experience in ecological monitoring, wetland assessments, NEPA compliance, and fisheries science. He is skilled in integrating science with environmental policy and permitting at all levels of government. Jason is author and co-author of 12+ peer-reviewed publications, including research published in the journal Science on tidal marsh resilience, and had his work featured in National Geographic Online. Jason has a diverse work profile that spans estuarine ecology, wetland biogeochemistry, climate change, and food web modeling. He has led multidisciplinary projects and stakeholder engagement, with ongoing national syntheses on topics such as water quality, decomposition and salinization in coastal systems, climate change, and sea level rise.

Project experience

Federal Offshore Energy Regulation - ESA, MMPA

Role: Principal Program Manager

Client: BSEE

Location: New Orleans, LA

Date(s): Jul 2024 - Mar 2025

In charge of federal monitoring of all the offshore energy discovery and infrastructure removal activities for marine protected species for the Gulf of Mexico. Monitored offshore geophysical energy exploration and infrastructure removal activities for compliance under the MMPA, and ESA. Managed data submissions and conducted data analyses for permit compliance. Drafted citations for noncompliance. Drafted reports and coordinated with other federal agencies.

Mid-Brenton Sediment Diversion

Role: Subject Matter Expert

Client: GEC

Location: Baton Rouge, LA

Date(s): Nov 2023 - Nov 2024

Proposed Action for the placement of a sediment diversion through a portion of the Mississippi River and distributaries. Provided expert opinion and analysis and aided with CPRA, USACE, NFWS, and GHD to draft the EIA and EIS.

National Assessment of Wetland Decomposition Rates

Role: Co-Principal Investigator

Client: NOAA

Location: Various Locations

Date(s): May 2021 - Mar 2025

Investigate decomposition rates in tidal wetlands in the US. Coordinated project design, field data collection, sample processing, data analysis and interpretation, and scientific publication.

Coastal Freshwater Salinization

Role: Co-Principal Investigator

Client: NASA Jet Propulsion Laboratory

Location: Various Locations

Date(s): Jan 2024 - Mar 2025

A national review of federal and state agency monitoring efforts on coastal freshwater salinization. Provided site specific data and expert opinion, collaborated on a review and publication on coastal salinization in the coastal USA.

Eastern Oyster Productivity

Role: Co-Principal Investigator

Client: Northeastern University

Location: Boston, MA

Date(s): Jun 2022 - Mar 2025

Investigate spatial differences in oyster productivity in two Florida Estuaries. Provided data and scientific expertise on project methodology, site selection, project parameters, data interpretation, scientific publication.

NOAA System-wide Water Quality, Meteorology, and Nutrient Monitoring

Role: Program Manager

Client: NOAA, FDEP

Location: Eastpoint, FL

Date(s): Sep 2018 – Mar 2024

Federal and state government program for continuous water quality monitoring in Apalachicola Bay, FL. Managed a government run and funded program to collect continuous environmental monitoring. Managed budgets, staff, scientific equipment, data management, analysis, and reporting.

NOAA Climate and Sea Level Monitoring

Role: Manager

Client: NOAA, FDEP

Location: Eastpoint, FL

Date(s): Sep 2018 – Mar 2024

Federal and state government programs for monitoring climate change, sea level, and its environmental effects in Apalachicola Bay, FL. Managed a government run and funded program to collect climate and sea level data. Managed marsh monitoring programs. Managed budgets, staff, scientific equipment, data management, analysis, and reporting.

Modeling Climate Change and Anthropogenic Stressors on an Estuarine Food Web

Role: Co-Principal Investigator

Client: University of West Florida

Location: Orlando, FL

Date(s): May 2020 – Dec 2023

Collaborated with the University to use long-term water quality, climate, river flow data, fish and invertebrate data to model the effects of flow, temperature, salinity, and sea level rise on commercially important fishes, shrimps, and crabs. Provided long-term data sets, sample collection, data management, statistical analysis, development of model parameters and results, peer-reviewed writing.

Global Synthesis of the Effects of Sea Level Rise on Tidal Marshes

Role: Co-Principal Investigator

Client: Macquarie University

Location: Sydney, Australia

Date(s): Jan 2022 – Dec 2022

Used global long-term sea level and marsh elevation data to synthesize the ability of global marshes to keep up with rising sea levels. Provided long-term marsh elevation data, aided with interpretation of results project results. Co-published a peer-reviewed manuscript in Science Magazine.

Evaluating Long-Term Disturbance Impacts on Nekton in a Northern Gulf Estuary

Role: Principal Investigator

Client: NOAA

Location: Eastpoint, FL

Date(s): Mar 2009 – Mar 2024

Investigated multi-decadal response of fishes and invertebrates in Apalachicola Bay, Florida. Managed all aspects of the project, including budget and acquisition of materials and staff needed to complete the project. Conducted data collection, data management, statistical analysis, reporting to federal and state agencies. Drafted peer-reviewed articles.

Spatial Variation in Methane Concentrations Across US Tidal Wetlands

Role: Co-Principal Investigator

Client: Smithsonian Institute, NOAA

Location: Various Locations

Date(s): Feb 2020 – Jul 2024

National synthesis of methane concentrations from wetlands across the coastal U.S. Provided scientific expertise, field sample collection and processing, data interpretation and scientific manuscript and report writing.

Modeling the Effects of River Flow and Streamflow Droughts on Inorganic Nutrients

Role: Co-Principal Investigator

Client: Florida State University

Location: Eastpoint, FL

Date(s): Jan 2022 – Mar 2025

Used existing long-term water quality data to model inorganic nitrogen and phosphorus for Apalachicola Bay. Provided long-term water quality data, aided with development of model parameters and outputs, draft of peer review manuscript and reporting.

Wetland Soil Elevation Dynamics Across Ecosystems in Apalachicola Bay

Role: Co-Principal Investigator

Client: Florida State University

Location: Tallahassee, FL

Date(s): Jan 2021 – May 2022

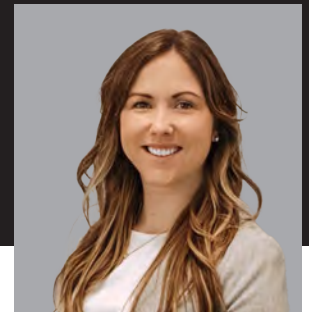
Assessment of vertical changes in wetland soils in relation to environmental disturbances.

Managed field staff, provided research infrastructure, worked with university staff to produce a final data product including a peer-reviewed manuscript and drafted reports to federal and state governments.



Melissa K. Burns, PE

Structural Engineer



Experience

14 years

Years with Firm

8 years

Qualifications/Accreditations

– BS, Civil Engineering

2011

– Registered Professional Engineer: FL, GA, LA, SC

Relevance to the project:

Melissa is a marine and linear infrastructure structural engineer and project manager. She has 14 years of design and management experience. Her projects have encompassed a wide range of private and public facilities. Projects she's worked on include feasibility evaluations, design, modeling, and computation of structural elements, as well as production detailing of plan sets within all design phases. Melissa works on projects from the preliminary engineering pursuit to the final design of structures for both design-build and conventional projects. She is experienced in both linear infrastructure and coastal projects ranging in complexity from simple structures to multi-phase projects accounting for future-year expansion capacities.

Project experience

Matheson Hammock Park Seawall Replacement

Role: Deputy Project Manager and Structural Engineer of Record

Client: Miami-Dade County PROS

Location: Miami, FL

Date(s): 2021 – 2024

Melissa is the engineer of record responsible for replacing ~700 linear feet of sea wall on a marina to mitigate sea level rise and sunny day flooding events. Flooding limits public enjoyment of this iconic Miami park. This project is the client's first step to ensure the protection of the 630-acre Matheson Hammock Park, located along the western shoreline of Biscayne Bay, which has been open to the public since 1930. The historic park includes a 243-slip marina, restaurant, large wading lagoon and beach, mangrove trails, and numerous historic buildings and structures constructed of Miami's oolitic limestone. The design phase is complete; this project is in the final permitting and budgetary allocation. Critical challenges included alignment conflicts with a historic building and utilities, planning accommodations for future park projects, and considering alternatives within grant funding limitations.

Little River Pocket Park

Role: Structural Engineer of Record

Client: City of Miami

Location: Miami, FL

Date(s): 2023 – Ongoing

This project seeks to replace ~80 linear feet of waterfront seawall in the Shorecrest Neighborhood. The wall also includes double that length in turn back retention allowing both for the site to be raised for flood protection as well as alignment modification to avoid mature Mangrove Trees. The site includes civil works of an outfall, kayak launch, pedestrian ladders, and design around an existing seawall with no existing data.

South Bayshore Lane Roadway and Drainage Improvements - Phase II Stormwater Pump Station

Role: Structural Engineer of Record

Client: City of Miami

Location: Miami, FL

Date(s): 2021 – 2022

Worked to upsize a 15" outfall through a seawall to 36". GHD served as a subconsultant to ADA Engineering. The project included designing and analyzing an outdated seawall with limited as-built and modification records. Detailed analysis and construction plans provided to ensure the integrity of the seawall and upland improved infrastructure such as high-density condominiums and apartments. Project challenges included an accelerated schedule, proximity design components, and limited as-built structural information.

Legion Park Seawall

Role: Engineer of Record

Client: City of Miami

Location: Miami, FL

Date(s): December 2022 – August 2023

Melissa was the Engineer of Record responsible for assessment of existing seawall construction, design of temporary upland stabilization, construction oversight, and redesign of the project. The City of Miami hired a contractor to construct the Legion Park Seawall and Non-Motorized Vessel Ramp. The contractor encountered unforeseen construction debris and installed concrete piles utilizing a 'trench box' method that excavated/removed the debris and limestone rock to a depth of 4-5 feet above the pile tip elevation. The City authorized GHD to perform a structural evaluation of the stability of the piles in December 2022 and to perform a regulatory and agency review to determine what steps would be necessary to secure the site while the City considered overall project direction. A drone aerial and topographic survey and a stabilization plan for the excavated area was authorized by the City in February 2023. The GHD team worked quickly to complete the aforementioned steps for this difficult and urgent situation. The next steps will include redesign of the existing boat ramp and upland for City residents to enjoy.

Confidential Client - Tampa, FL Seawall Investigation

Role: Structural Engineer of Record

Client: Confidential Client

Location: Tampa, FL

Date(s): December 2021

Melissa was an engineer of record for a due diligence inspection of a concrete panel seawall in Tampa, FL. The task included the inspection of concrete seawall along the Hillsborough River in Tampa, FL. Melissa completed the inspection and condition assessment on the concrete seawall and will provided repair alternatives with estimates of probable construction costs. Additionally, repairs and recommendations included a future development analysis considering client anticipated land use, environmental conditions, and flood and sea level rise risk.

Turtle Kraals & C-Dock Task Orders

Role: Deputy Project Manager and Structural Engineer of Record

Client: City of Key West

Location: Key West, FL

Date(s): September 2021 – Ongoing

Melissa's two combined roles include the engineering assessment and conceptual repair alternatives to ~450 linear feet of C-Dock in the Historic Key West Bight Marina. Melissa oversees the underwater inspection and condition assessment on the concrete seawall and will provide repair alternatives with estimates of probable construction costs. The paired tasks of the Historic Turtle

Kraal include underwater evaluation of structural piling for the educational recreation of the historic Key West Turtle harvesting industry. The project site inspection was in 2021 with the final reports and evaluations completed Spring 2022.

Jeffrey Lake Seawall Replacement

Role: Structural Engineer of Record

Client: City of North Port

Location: North Port, FL

Date(s): August 2022 – 2024

Melissa is the structural engineer of record for the replacement of 100 linear feet of seawall located at Jeffrey Lake in North Port, Florida. The project includes partial existing seawall removal, client permitting requirements that seawall replacement construction activities be located inland of the existing wall, and a limited right of way with drainage and overhead utilities. The design is also extremely accelerated due to construction grant funding, and the project timeline from NTP to issuance of final construction documents, including geotechnical and survey site investigations, is 45 days. The project is currently finishing construction (2024). The design included a value engineering alternative of a driven sheet pile wall instead of the client-provided concept of a concrete stem wall with footing to decrease the construction schedule, increase seawall integrity, and decrease residential impact during construction through reduced footprint.

Mid-Town Seawall Replacement

Role: Structural Engineer

Client: Town of Palm Beach

Location: Palm Beach, FL

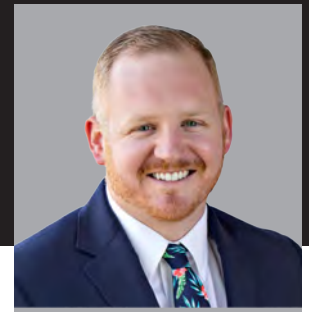
Date(s): September 2020 – 2023

Melissa was responsible for the type selection, layout, and design of the mid-town seawall replacement in Palm Beach, Florida. The section of the wall to be replaced is 2,700 linear feet. The wall provides storm protection for Ocean Boulevard, fronting the Atlantic Ocean. Originally built in 1929 and partially repaired in 1957 and 1974, the toe wall was added in 1987, eight groins were added in 2001, and sheet pile repairs were done in 1957. Design challenges include limited as-built information for the varied existing seawall, conflicting lifeguard and restroom facilities, aesthetic clocktower, and an underground outfall. The project has completed design and is in the permitting and budgetary process. The proposed anchored steel sheet pile wall will protect the town from 100-year storm events, including extreme scour. The design will allow for future wall expansion should the town determine they want to raise the wall elevation for additional resiliency and protection.



Jon A. Brent, PE, SE

Structural Engineer



Experience

13 years

Years with Firm

4 years

Qualifications/Accreditations

- MS, Civil Engineering 2013
- BS, Civil Engineering 2011
- Registered Professional Engineer: FL, GA, IL, NJ, VA
- Registered Structural Engineer: GA, IL
- Port Engineering Certificate, 2021 (ASCE)
- Inland Maritime Port Manager, 2019 (IAMPE)

Relevance to the project:

Jon is a marine structural engineer and GHD's maritime and coastal service line leader for the Americas. He has over 12 years of design, management, and construction experience. Projects he's worked on include infrastructure and private facility projects such as port, waterfront, complex drainage, and water resources structures; high and heavy load cargo terminals; pipe racks and process towers for oil and gas facilities; and low-rise buildings. Jon led the planning, modeling, computation, and detailing of structures for projects subject to a wide range of environmental conditions across North America. He's a subject matter expert for asset management initiatives and grant applications. Jon's experience includes facility planning and site layout, 3D-modeling and construction drawing development, project specifications, and discipline coordination for new construction, renovations, structural upgrades, and adaptive reuse projects. He will bring his wide range of experience to his work for the City of Miami Beach.

Project experience

Matheson Hammock Park Seawall Replacement

Role: Structural Engineer

Client: Miami-Dade County PROS

Location: Miami, FL

Date(s): 2021 - Ongoing

Jon provided structural oversight and reviews for the design of 675 linear feet of seawall on the upland side of the Matheson Hammock Park marina. The project mitigated sea level rise and sunny day flooding events that limit public enjoyment of this iconic park. This is step one by the client to ensure protection of the 630-acre Matheson Hammock Park located along the western shoreline of Biscayne Bay. The historic park includes a 243-slip marina, restaurant, large wading lagoon and beach, mangrove trails, and numerous historic buildings and structures constructed of Miami's oolitic limestone. Currently, the project is in the pre-construction phase, with permits submitted to the respective agencies for review and approval. Construction is anticipated to begin in late 2024. Critical challenges the design team faced include conflicts with a historic building and utilities, planning accommodations for future park projects, and the consideration of alternatives with respect to the grant funding limitations.

Mid-Town Seawall Replacement

Role: Structural Engineer of Record

Client: Town of Palm Beach

Location: Palm Beach, FL

Date(s): 2020 - Ongoing

Jon is a structural engineer responsible for the structural design, detailing, and specifications for the mid-town seawall replacement in the Town of Palm Beach, Florida. The section of wall to be replaced is 2,700 linear feet providing storm protection for Ocean Boulevard, fronting the Atlantic Ocean. The wall was originally built in 1929 and partially repaired in 1957 and 1974, with the addition of toe wall in 1987, eight groins in 2001, and sheet pile repairs in 1957. Design challenges include limited as-built information for the existing seawall, conflicting lifeguard and restroom facilities, and an underground outfall. The proposed anchored steel sheet pile wall will provide the Town protection from 100-Year storm events, including extreme scour. The design will allow for future wall expansion should the town determine they want to raise the wall elevation for additional resiliency and protection.

Dune Restoration Project

Role: Structural Engineer

Client: Oneida General Mechanical Corporation

Location: Naval Station Mayport, Jacksonville, FL

Date(s): October 2023 – Ongoing

Jon leads structural engineer for GHD services on an Oneida-led design-build team (Continental Heavy Civil Corp (CHC) as the contractor) for replacement of approximately 64,000 cubic yards of sand eroded by Hurricanes Ian and Nicole in 2022 from the 6,000 linear feet of shoreline fronting the Atlantic Ocean. GHD Geotechnical Engineers and Geologists are investigating a Dredged Material Management Area on the base for use as the sediment source. GHD will lead the design and permitting and will produce conformed plans and specifications for CHC to construct the project.

Jon is also leading the design of boardwalk replacements. 7 boardwalks were destroyed by the storms and 6 of the 7 will be replaced as a component of the project. Two of the boardwalks will meet the ABA Accessibility Standards. The design will also include high-security fencing. Construction is anticipated for 2024.

Hurricane Matthew FEMA CAT B. Emergency Berm Restoration

Role: Resident Engineer

Client: St. Johns County Board of County Commissioners

Location: St. Johns County, FL

Date(s): 2020 – 2022

Jon was the resident engineer a design-build project to create a sand berm feature along 3 individual shoreline segments along the St Johns County coastline. The project will repair damage from two devastating storm events (Hurricanes Matthew and Hurricane Irma), provide future storm protection, and provide a replacement for crucial species habitat and nesting grounds. 11 miles of new berm will be constructed along the upper portion of the beach between the dune and mean high water line. An estimated 500,000 cubic yards of sand will be sourced from nearby upland mines and truck hauled to the project site. GHD lead the project design, permitting, and environmental monitoring effort, and will continue to support through construction. The design-build team fast-tracked a 60% design submittal and Florida Joint Coastal Permit (JCP) application for the project, both of which were complete within 6 weeks. This fast-tracked schedule constraint was required for FEMA-authorized funding. Other project challenges included multi-agency coordination, limited site access, and sensitive coastal habitats.

Sheet Pile Bulkhead Inspections and Repairs

Role: Engineer of Record

Client: FMC Corporation

Location: Carteret, NJ

Date(s): 2021 – Ongoing

Jon is a structural engineer responsible for the inspections of an existing sheet pile bulkhead at the former FMC Corporation Site as part of the routine annual AOC-1 inspection activities related to site remediation. His inspection work includes a visual evaluation of the existing condition of the wall and UT thickness measurements to assess corrosion. The outcome of these inspections allowed for repair and replacement options to be presented to the client, including order-of-magnitude costs, with careful consideration given to the potential impact of each option to the contaminated site. Structural inspections, assessments, and recommendations are provided in accordance with ASCE Manual of Practice. GHD collaborated with the client to select the appropriate repair option and developed permitting plans for the sheet pile wall repairs which utilize an innovative FRP panel system. Construction is anticipated for 2024.

Liberty Harbor Marina Development

Role: Lead Structural Engineer and Planner

Client: Continental Heavy Civil Corp.

Location: Brunswick, GA

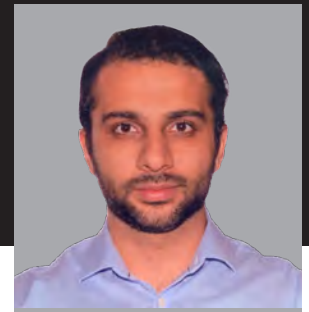
Date(s): 2021 – Ongoing

Jon led the conceptual planning for the redevelopment of Liberty Harbor, an abandoned ship-building basin with 16 acres of open water and tidally influenced salt marsh. The planning included the layout and optimization of the floating docks to accommodate vessels up to 100 ft in length, the siting, sizing, and orientation of the upland dry stack structures, and the general arrangement of the marina office building, restaurant and convenience store, and all associated parking and public spaces. The project also included the development of a basis of design and planning for future coastal studies, geotechnical investigations, environmental field surveys, and permitting requirements in preparation for the final design.



Mohammad Ghiasian, PhD

Structural Engineer



Experience

6 years

Years with Firm

1 year

Qualifications/Accreditations

- | | |
|---|------|
| – PhD, Structural Engineering | 2022 |
| – MS, Coastal & Offshore Structures Engineering | 2018 |
| – BS, Civil Engineering | 2015 |

Relevance to the project:

Mohammad has over 6 years of experience in the field of structural engineering. He specializes in innovative methods for implementing sustainable, efficient, and nature-based solutions for shoreline protection. His PhD research and work at the University of Miami resulted in the development of a novel eco-friendly and sustainable seawall system known as SEAHIVE™. This system has been successfully implemented in multiple projects for the city of Miami Beach, North Bay Village, and Pompano Beach. Mohammad has also contributed to the design and development of multiple waterfront infrastructure and building structures in South Florida. His research and development skills demonstrated by peer-reviewed publications as well as domestic and international conference presentations.

Project experience

Design and Development of SEAHIVE™ System for Coastal Protection

Role: Coastal and Structural Engineer

Client: FDOT

Location: Miami, FL

Date(s): 2019 – Ongoing

The purpose of this research project focused on the development of an effective and ecofriendly modular shoreline protection system for high energy tidal flows. Mohammad performed numerical and experimental investigations to evaluate the hydrodynamic characteristics of a faceted porous stepped seawall system known as SEAHIVE™ under varying water and wave conditions. The proposed system showed lower wave reflection and higher wave energy dissipation compared to conventional solid seawalls. Furthermore, the complex geometry and porosity of SEAHIVE system provides potential habitat for marine ecosystem. Mohammad performed engineering services for this novel system that has been employed in three pilot projects in South Florida. Mohammad currently serves as the structural lead engineer overseeing the design and development of SEAHIVE submerged breakwaters, aimed at providing shoreline protection for the City of Miami Beach.

Exploring Coral Reef Restoration for Shoreline Protection

Role: Coastal and Structural Researcher

Client: NFWF

Location: Miami, FL

Date(s): 2018 – 2022

This research focused on evaluating the resilience of the built environment around coastal areas through the development of hybrid coral reef structures against storm surge and wave impacts. Mohammad quantified the benefits of hybrid artificial reefs populated by coral skeletons of staghorn coral for wave mitigation through experimental testing under different wave and depth conditions. Mohammad found that the hybrid coral reef system can reduce up to 98.5% of the wave energy, with the coral contribution estimated to be up to 56% of the total wave-energy dissipation. His study and work supported the use of hybrid approaches that integrate both gray and green infrastructure to enhance coastal resilience.

Jay Jay Bridge Feasibility Study

Role: Coastal and Structural Engineer

Client: NASA, KSC

Location: Cape Canaveral, FL

Date(s): November 2023 – April 2023

The aim of this study is to evaluate possible alternative options for delivering NASA Solid Rocket Motor (SRM) segments to Kennedy Space Center. Mohammad contributed to develop operational concept, design

Mohammad Ghiasian, PhD | Structural Engineer

concept, and infrastructure requirements to transport segments to the Jay-Jay Rail Yard and transfer to a barge on the west side of the Jay-Jay Bridge. His contributions included evaluating the existing seawall for erosion protection of terminal, identifying the environmental impacts, and exploring the required safety measures for the transportation. Timely delivery, budget adherence, safety, and sustainability are critical parameters for the client. Mohammad closely collaborated with the GHD team to achieve all the milestones of this project.

DO Plant Erosion Repairs

Role: Structural Engineer

Client: US Army Corps of Engineers Savannah District

Location: Savannah, GA

Date(s): November 2023 – February 2023

The purpose of this project was to address erosion repairs for the Dissolved Oxygen (DO) plant by designing and installing approximately 80 linear feet concrete-capped sheet-pile wall on the south end of the property. As the project engineer for this work, Mohammad conducted structural analysis for the design of steel sheet pile system and assessed the stability of the extended bulkhead for erosion control using Shoring Suite software.

Swell Park

Role: Structural Engineering

Client: Miami-Dade County

Location: Miami, FL

Date(s): May 2021 – August 2021

The project involved the design and analysis of steel sheet pile bulkhead structures for Swell Park over the Miami River. Mohammad conducted finite element analysis using STAAD Pro to design the new steel sheet pile and assess the stability of the retaining wall for erosion protection.

Miami-Dade County Truck Haul Nourishment

Role: Coastal Engineer

Client: Miami-Dade County

Location: Miami, FL

Date(s): November 2023 – Ongoing

The goal of this project is to offer design, permitting, bidding, and construction support services for sediment retention and breakwater structures to mitigate coastal erosion along the Miami-Dade County shoreline. Mohammad conducted a cross-shoreline analysis using Storm-Induced Beach Change (SBEACH) numerical modeling to support permit applications and identify the most optimal and sustainable beach fill template design for sediment retention under high-frequency storm events.

Dinner Key Marina

Role: Coastal Engineer

Client: Miami-Dade County

Location: Miami, FL

Date(s): May 2021 – August 2021

The purpose of this project was to develop a coastal protection alternative for Dinner Key Marina, aimed at mitigating potential storm surge and hurricane damages. Mohammad conducted numerical coastal modelling and analysis to assess the effectiveness of a submerged breakwater system in dissipating wave energy and providing flood protection, utilizing MIKE 21/3. In this regard, he evaluated the system's performance both before and after Hurricane Irma (2017), a high-frequency storm in the area with the return period of 10 years. The results of his study demonstrated that the submerged breakwater system could significantly reduce storm surge damages and prevent flooding.

North Cat Cay

Role: Coastal Engineer

Client: Municipal Residents

Location: Cat Cays, Bahamas

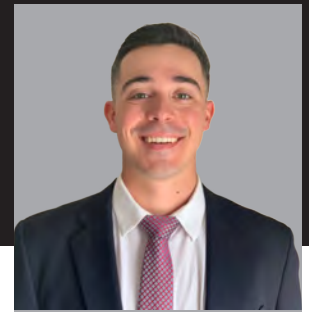
Date(s): May 2021 – August 2021

This project involved coastal protection services for the municipal area of North Cat Cay Island. Due to harsh and active hydrodynamic conditions around the island, the existing beach experienced extensive coastal erosion. Therefore, there was a significant need for sediment retention along the shoreline. Mohammad conducted numerical coastal modelling and analysis using Mike 21/3 to evaluate a combined shoreline protection solution consisting of perpendicular groynes and submerged breakwaters.



Nicholas Bragaia, PE, ENV SP

Coastal Engineer



Experience

6 years

Years with Firm

5 years

Qualifications/Accreditations

- MS, Civil & Coastal Engineering 2021
- BS, Ocean Engineering 2018
- Envision Sustainability Professional, ENV SP
- Registered Professional Engineer: FL

Relevance to the project:

Nick has over 6 years of experience working on various interdisciplinary engineering projects. His academic background is in ocean engineering, with an emphasis on coastal modeling investigations and coastal resiliency studies. He is versed in coastal processes and performs calculations related to determining metocean conditions, climate data investigations, and the design of coastal structures. He is experienced in technical documentation encompassing feasibility studies, design reviews, and technical plan package submittals.

Project experience

Matheson Hammock Park Seawall Replacement

Role: Coastal Engineer

Client: Miami-Dade County PROS

Location: Miami, FL

Date(s): 2021 – Ongoing

This project comprised a replacement of 675 linear feet of sea wall on the upland side of a marina to mitigate sea level rise and sunny day flooding events that limit public enjoyment of this iconic Miami park. The project is step one by the client to ensure the protection of the 630-acre Matheson Hammock Park located along the western shoreline of Biscayne Bay, which has been open to the public since 1930. The historic park includes a 243 slip marina, restaurant, large wading lagoon and beach, mangrove trails, and numerous historic buildings and structures constructed of Miami's oolitic limestone. Critical challenges include conflicts with a historic building and utilities, planning accommodations for future park projects, and considering alternatives within grant funding limitations.

Seawall Assessment (Indian Creek)

Role: Coastal Engineer

Client: Indian Creek Village

Location: Indian Creek Village, FL

Date(s): 2023

Indian Creek is a man-made island located north of Miami Beach and along the eastern extents of northern Biscayne Bay. The island encompasses ~250 acres, a private golf club, residential homes, and ~13,800 LF of mixed shorelines

(the majority of which are seawalls). The Indian Creek police station is situated on the Miami Beach barrier island and contains ~375 LF of shoreline (seawall). Nick provided a review of the top of wall requirements for the surrounding local municipalities and counties. Afterwards, Nick estimated the extreme water surface elevations around the island and calculated the freeboard of several seawall elevations when compared to various storm return intervals considering sea level rise. GHD used Nick's research to make a recommendation for a the top of wall elevation that would provide protection to the upland properties.

Mid-Town Seawall Replacement

Role: Coastal Engineer

Client: Town of Palm Beach

Location: Palm Beach, FL

Date(s): 2020 – Ongoing

Nick is supporting the design, permitting, and bid phase services associated with the replacement of an aging section of an existing seawall fronting the Atlantic Ocean. The project aims to provide storm protection for Ocean Boulevard, which serves as the hurricane evacuation route for this segment of the Island. The project comprises approximately 2,700 linear feet of seawall protecting Ocean Boulevard along a very popular public beach in the heart of Palm Beach. Nick provides coastal engineering services along with scour and vulnerability assessments to support the design of the new seawall.

FDEP – Curry Hammock State Park Tidal Connections Restoration

Role: Coastal Engineer

Client: Gresham Smith

Location: Marathon Key, FL

Date(s): 2023

Curry Hammock State Park is located along US Highway 1 (US 1) in Marathon, Monroe County, Florida. During the development of this area and the construction of US 1 during the last century (early 1900s), the historical tidal connections between the Florida Bay and the Atlantic Ocean were filled in. This tidal restoration project aimed to restore the historical tidal connections at the two sites by re-establishing circulation between the surface waters of the Atlantic and Florida Bay. Nick provided coastal modeling and engineering services to design the tidal restoration structure and quantify the benefits to the water quality of the park. Nick also provided calculations to inform the sizing of rock armor protection for the adjacent shorelines.

Miami-Dade County Coastal Erosion Hotspots: Modeling, Planning & Design Services

Role: Coastal Engineer

Client: Miami-Dade County RER-DERM

Location: Miami-Dade County, FL

Date(s): 2020 – 2021

The Miami-Dade County Division of Environmental Resources Management (DERM), Department of Regulatory and Economic Resources (RER) retained GHD to provide coastal modeling, planning, permitting, and design services to identify and mitigate coastal erosion hotspots along approximately 13 miles of the Miami-Dade County shoreline. The shoreline of interest extends from Florida Department of Environmental Protection (FDEP) reference monuments R-7 to R-74 and comprises beach shorelines extending from a northern boundary of Sunny Isles to the Government Cut north jetty. Nick provided hydrodynamic, wave, and sediment transport modeling support using the MIKE21 suite.

Hurricanes Matthew & Irma FEMA Berm Restoration

Role: Engineer

Client: St. Johns County

Location: St. Johns County, FL

Date(s): 2021 – Ongoing

The passing of Hurricane Matthew in 2016, along with Hurricane Irma in 2017, caused significant coastal erosion throughout segments of shoreline in St. John's County. The county obtained FEMA funding to construct a beach fill project to recover the sand losses sustained throughout these storm events. Nick provided coastal engineering services, including the analysis of 20 years of historic shoreline positional data to quantify shoreline movement

trends throughout the 20.2-mile Project Area. He also provided an analysis on the sediment samples obtained throughout the foreshore and nearshore zones to visualize typical grain size distributions along each shoreline reach. Additionally, Nick assisted in the formation of a joint coastal permit (JCP) application, providing input on how the design of the beach fill project will not alter the coastal processes or navigational practices native to the project.

Colonel Ward Water Treatment Facility Coastal Modeling

Role: Coastal Engineer

Client: City of Buffalo

Location: Buffalo, NY

Date(s): 2021

The location of the Colonel Ward Water Treatment Facility exposes it to extreme wind and water level events on Lake Erie. Nick was responsible for the statistical evaluation of historical records and numerical modeling of design events. He constructed a 2D hydrodynamic and wave model of the project area. Nick also modeled two design events derived from the historical data's extreme value analysis (EVA) to formulate estimates of wave height and water level at the facility. This information was used as inputs into runup and overtopping discharge calculations for a proposed berm. The information was also used to inform the berm crest level and frontal slope design.

Garapan Fishing Base Shoreline Stabilization Design

Role: Coastal Engineer

Client: Western Pacific Regional Fisheries Management Council (WESTPAC)

Location: Saipan, Commonwealth of the Northern Mariana Islands

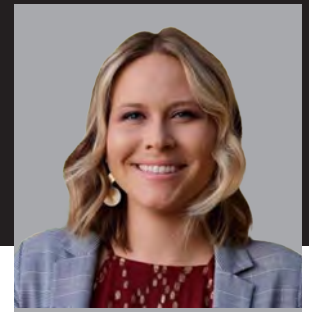
Date(s): 2020

WESTPAC retained GHD to provide engineering design services for improvements to the Garapan Fishing Base Facility in Saipan. The facility is a popular dock for commercial and recreational boaters. The dock is located in an open public space used for large events. One project component involved stabilizing the existing shoreline from erosion events from passing typhoons. Nick provided engineering calculations to estimate median stable rock sizes for the proposed rock revetment along with designs of typical revetment cross-sections. GHD formulated this information into a technical memorandum package and submitted it to the client.



Jessica R. Rakich, PE

Coastal Engineer



Experience

6 years

Years with Firm

3 years

Qualifications/Accreditations

- ME, Coastal and Oceanographic Engineering 2020
- BS, Civil Engineering 2019
- Registered Professional Engineer: FL
- NAUI Open Water Diver
- PADI Enriched Air (Nitrox) Diver

Relevance to the project:

Jessica is a Coastal Engineer with over 6 years of analytical and design experience. Her projects include a variety of public and private projects throughout the United States, the Caribbean, and the Pacific. She has an understanding of regulatory environmental permitting at the local, state, and federal levels. Her projects have involved coastal analysis and design, marina planning and design, construction administration, numerical modeling, and construction document development.

Project experience

Legion Park Seawall

Role: Coastal Engineer

Client: City of Miami

Location: Miami, FL

Date(s): December 2022 – August 2023

Jessica was the coastal engineer responsible for assessment of existing seawall construction, design of temporary upland stabilization, construction oversight, and redesign of the project. The City of Miami hired a contractor to construct the Legion Park Seawall and Non-Motorized Vessel Ramp. The contractor encountered unforeseen construction debris and installed concrete piles utilizing a 'trench box' method that excavated/removed the debris and limestone rock to a depth of 4–5 feet above the pile tip elevation. The City authorized GHD to perform a structural evaluation of the stability of the piles in December 2022 and to perform a regulatory and agency review to determine what steps would be necessary to secure the site while the City considered overall project direction. A drone aerial and topographic survey and a stabilization plan for the excavated area was authorized by the City in February 2023. The GHD team worked quickly to complete the aforementioned steps for this difficult and urgent situation. The next steps will include redesign of the existing boat ramp and upland for City residents to enjoy.

Little River Pocket Park

Role: Coastal Engineer

Client: City of Miami

Location: Miami, FL

Date(s): October 2023 – Ongoing

The City of Miami obtained GHD to review another consultant's seawall design. To mitigate against future sea level rise, the newly designed seawall must extend across the park's entire shoreline. The design also includes drainage improvements to accommodate a future pump station and upsized outfalls. The project contains development of construction plans and specifications for a new seawall, kayak launch, and mangrove shoreline along the Little River. Jessica is responsible for the in-water assessment of the existing seawall, design documentation, and assisting the project manager.

Indian Creek Village Seawall

Role: Coastal Engineer

Client: Indian Creek Village

Location: Indian Creek Village, FL

Date(s): September 2022 – Ongoing

Jessica was the coastal engineer responsible for assisting in the top of seawall elevation study. Indian Creek Village is a man-made island that sits east of Biscayne Bay. The island encompasses ~250 acres, a private golf club, residential

Jessica R. Rakich, PE | Coastal Engineer

homes, and ~ 13,800 LF of mixed shorelines. The Village Police station contains ~375 LF of shoreline. Majority of the shorelines throughout the Village are seawalls. GHD was retained to analyze existing coastal data and provide a recommendation of a top of wall elevation. Future work may include policy review and assessment of alternatives.

West Lake Park - Segment 4

Role: Coastal Engineer/Deputy Project Manager

Client: Continental Heavy Civil Corp

Location: Hollywood Beach, FL

Date(s): March 2023 – December 2023

Jessica was the coastal engineer responsible for assisting the project manager, culvert inspections, and developing the Environmental Protection Plan and Stormwater Pollution Prevention Plan. West Lake Park is a ±1,500-acre park located in Hollywood Beach, FL. Mitigation at the Park has been successfully conducted in years past to improve the ecosystem by removing exotic vegetation, planting native vegetation, regrading soil to create tidal zones, and protecting the shoreline with riprap cribs along the Intracoastal Waterway. Continental Heavy Civil Corp. (CHC) was selected to construct the next phase of the mitigation project, West Lake Park – Segment 4. GHD was hired by CHC to provide assistance during the pre-construction and construction phases of the project.

City of Key West Boat Lift

Role: Coastal Engineer

Client: City of Key West

Location: Key West, FL

Date(s): March 2023 – December 2023

Jessica was the coastal engineer responsible for permitting documentation and assisting in benthic resource survey. The City of Key West desired to obtain permitting support to fulfill a FEMA grant requirement for the installation of two boat lifts at Fire Station #1. The City authorized GHD to commence development of separate permit application packages for submittal to each of the agencies with regulatory jurisdiction (FDEP and USACE) over this project. A topographic and bathymetric survey of the project limits and Garrison Bight basin, sufficient to satisfy agency permitting requirements, as well as map and characterization of the nearshore marine and estuarine benthic habitats located within the project limits was completed.

Ascension St. Vincent's Riverside Hospital FEMA

Role: Coastal Engineer/Deputy Project Manager

Client: Gresham Smith

Location: Jacksonville, FL

Date(s): November 2023 – Ongoing

GHD was hired by Gresham Smith to provide engineering services for the analysis and design of a 3,100 linear foot floodwall with various pedestrian and vehicular flood gates to protect a hospital on the St. Johns River in Jacksonville, FL. The purpose of this project is to protect Ascension St. Vincent's Riverside from flooding, due to overtopping of the shoreline. The project (FLJAC30613 Riverside FEMA Phase 1 Envelope and Flood Mitigation Ascension – St. Vincent's Riverside) is funded through the Hazard Mitigation Grant Program as approved by the Florida Division of Emergency Management (FDEM) and the Federal Emergency Management Agency (FEMA). As part of the project, a wind retrofit and flood control mitigation assessment is needed to determine, design, and permit protection of the Project site during storm events. Challenges include designing to a 500-year storm event, limited as-built information for campus utilities, coordination with various permitting agencies, and integration of a robust flood wall into the existing features and architecture of the campus buildings. Jessica is responsible for assisting the project manager, analysis of coastal data, and construction of the basis of design documentation.

Port of Alaska Terminal 1 Replacement

Role: Coastal Engineer

Client: Port of Alaska, Municipality of Anchorage, AK

Location: Anchorage, AK

Date(s): December 2022 – Ongoing

Jessica is the coastal engineer for the \$10M joint-venture investigation and design of the Terminal 1 Replacement at the Port of Alaska. The redesign and replacement are part of an ongoing 5-part Port of Alaska modernization project, which aims to improve port operations, safety and efficiency, accommodate today's modern shipping operations, and improve resiliency to earthquakes and other natural disasters. The Port is an integral part of the community by providing key transportation of necessary goods into Alaska, making it an extremely complex and high-profile project. Jessica is responsible for the analysis of waves, currents, and tides at the project site, and assisting the project manager with meeting project submittal deadlines.



Nancy Zhou, PhD, PE

Coastal Engineering



Experience

9 years

Years with Firm

< 1 years

Qualifications/Accreditations

- PhD, Coastal Engineering 2016
- BEng, Port, Waterway, and Coastal Engineering 2010
- Registered Professional Engineer: NJ, NY, OH

Relevance to the project:

Nancy is a Coastal Engineer with 9 years of professional experience both in the U.S. and abroad. She has worked on major coastal projects in the U.S., especially in the State of New York. She has extensive experience in the design of climate resilient flood protection system (flood wall, revetment, etc.), assessment of storm risks and hazards, flood mapping, coastal resiliency study, climate change evaluation, inspection of waterfront structures, evaluation of hydraulic structures (tide gates, sluice gates, conduits, etc.), numerical simulation of coastal and oceanic processes, Hydrologic and Hydraulic analysis, met-ocean data collection and analysis, scour analysis and countermeasure design, riverine sediment transport (turbidity curtain, cofferdam, etc.), shoreline erosion and stabilization study, mooring analysis, tsunami risk analysis and tsunami hazard analysis, analysis of marine vessel traffic, forecasting/hindcasting of hurricanes and extratropical storms, extreme value analysis, Cost and Schedule Risk Analysis, and Environment Impact Analysis.

Project experience

PortMiami - North Bulkhead Berths 1-6 Realignment Project

Role: Coastal Engineer

Client: PortMiami

Location: Miami, FL

- Led the estimate of scour at the North Bulkhead wall caused by the propellers of the design vessels.
- Recommended scour countermeasures based on the scour depth and flow speed.
- Carried out met-ocean analysis, which included the analyses of tide, wind, wave, and current under normal condition and storm condition.
- Analyzed the sea level rise scenarios and provided recommendations for the selection of sea level rise projections and design water levels.
- Carried out mooring analysis of Oasis class, Conquest class, Dream class, and Renaissance class cruises for berths 1-6.
- Estimated the passing vessel's effect on the moored cruises.
- Led the study of harbor resonance and its effect on the moored vessels.

Inspection and Remediation Plans of Bulkhead

Role: Coastal Engineer

Client: Confidential Nationwide Food and Beverage Company

Location: Brooklyn, NY

- Led the inspection of the bulkhead in Brooklyn, NY to assess the general condition of the existing bulkhead, identify observable deterioration, and evaluate whether major repairs/replacements will be required.
- Assigned the condition ratings to the bulkhead structure.
- Provided the remediation plans with steel sheet pile and other options.
- Reviewed and compared the inspections and preliminary cost estimates provided by other consulting firms.

Lower Manhattan Coastal Flood Resiliency (Big U)

Role: Coastal Engineer

Client: New York Mayor's Office for Recovery & Resiliency, New York City Economic Development Corp. (NYCEDC)

Location: Lower Manhattan, NY

- Led the evaluation of the flood risk of Lower Manhattan area in New York City by modeling the surface flooding, the rainfall, and the flow in the sewage and drainage system using integrated coastal and stormwater management model system.
- Carried out large scale hurricane/storm modeling on High Performance Computing center.
- Optimized the design of flood countermeasures in the Two Bridge Area, New York, NY to protect the neighborhood.

Reconstruct of the Porpoise Bridge Tide Gate

Role: Coastal Engineer

Client: New York City Department of Design and Construction (NYCDDC)

Location: Queens, NY

- Led the numerical simulation of the flow field near Porpoise Bridge and the adjacent neighborhood, which are located in the densely-populated Flushing Bay area in the heart of Queens, NY, under extreme coastal storms and sea level rise.
- Led the metocean analysis.
- Led the Hydrology & Hydraulics analysis for the project area.
- Provided the design criteria for the reconstruction of Porpoise Bridge tide gates.

North/West/South Battery Park City Resiliency Projects

Role: Coastal Engineer

Client: Battery Park City Authority (BPCA)

Location: New York

- Led the metocean analysis, which includes the analyses of tide, wind, wave, and current.
- Derived the design water level and design wave condition with different return periods.
- Optimized the height of wall for the proposed alternatives of floodwalls.
- Led the development of 2D and 3D wave model systems to assess the vulnerability of the project site.
- Provided the design criteria for the proposed flood resistance alignment.
- Analyzed the interaction between wave and the flood resistance structure.
- Led the analysis of the impact of flood protection system to the adjacent neighborhood.

Tompkinsville Esplanade and Pier

Role: Coastal Engineer

Client: NYC Economic Development Corporation (NYCEDC)

Location: Tompkinsville, NY

- Led the design of revetment at the Tompkinsville Esplanade using rocks and EConcrete components.
- Led the determination of metocean design values (wind, wave, current, and sea level rise) at Tompkinsville, NY.
- Led the calculation of wave loads on the Tompkinsville Pier, including the loads on the piles, the pile caps, and the deck.

Springmaid Pier Rebuild Projects

Role: Coastal Engineer

Client: Doubletree Resort by Hilton

Location: Myrtle Beach, SC

- Led sediment transport modeling and analyzed the beach morphology and local scour near Springmaid Pier at Myrtle Beach, SC.
- Led the metocean analysis.

- Led the development of ocean wave model system to provide design criteria for the rebuild of Springmaid Pier.
- Analyzed the interaction between waves and the proposed pier structure.
- Prepared the technical memo.

Living Breakwaters: Design and Implementation

Role: Coastal Engineer

Client: SCAPE Landscape Architecture/Governor's Office of Storm Recovery (GOSR)

Location: New York

- Reviewed the stone gradation report.
- Reviewed the beach profile bathymetry survey report.
- Reviewed the method statement, equipment data, sample stone placement summary, and stone installation work plan.

Empire Offshore Wind Farm - Detailed Design of Foundations

Role: Coastal Engineer

Client: Empire Offshore Wind LLC

Location: New York

- PE reviewer of scour design for offshore wind pipelines and turbine foundations.
- PE reviewer of the hydrodynamic load, including the loads of normal/extreme/abnormal waves, breaking wave, wave run-up, etc. on the offshore wind foundations in Empire offshore wind farm in New York Bight.
- PE reviewer of the analysis of hurricanes and nor'easters profiles and their effect on the offshore wind turbines.
- PE reviewer of icing load on secondary elements of offshore wind turbines.
- PE reviewer of scour specification for offshore wind turbine foundations.

Gateway Program - Hudson River Ground Stabilization

Role: Coastal Engineer

Client: Kiewit Engineering (NY) Corp., Gateway Development Commission (GDC)

Location: New York

- Led the scour analysis at the cofferdam in Hudson River to be built for the Hudson Tunnel, which included the estimate of scour using empirical formula and numerical tools (HEC-RAS simulation of hydraulics and sediment transport).
- Led the study of metocean design values (wind, wave, current, and sea level rise).
- Led the design of openings on the combi-walls to minimize the head difference between the inside and outside of the cofferdam.
- Led the ship wake analysis, which included the investigation of marine vessel traffic in lower Hudson River in year 2023 using the in-house digital vessel traffic model, and calculation of ship wake heights and periods.



Jingwei Li, PE

Civil/Stormwater Engineering



Experience

10 years

Years with Firm

10 years

Qualifications/Accreditations

- MS, Civil and Engineering 2014
- BS, Civil Engineering 2012
- Registered Professional Engineer: FL

Relevance to the project:

Jingwei is a professional engineer with nine years of experience, whose primary focus has been on hydrological and hydraulic modeling, groundwater analysis and modeling, stormwater planning, environmental mitigation, water resources and Geographical Information Systems (GIS). She is experienced in analyzing surface water and groundwater data and GIS databases, developing groundwater, hydraulic and hydrological models. Her work history also includes Asset Management, Phase I and II Environmental Site Assessments, Spill Prevention and Countermeasure Control Plans and Stormwater Pollution Prevention Plans. Jingwei possesses skills that give clients confidence that their projects will have an effective outcome.

Project experience

Miami-Dade County Environmental Engineering Services

Role: Project Manager

Client: Miami-Dade County

Location: Miami-Dade County, FL

Date(s): 2022 – Ongoing

GHD is under contract to perform various activities and services for Miami-Dade County's National Pollutant Discharge Elimination System (NPDES) Program. The scope of services includes stormwater structure inspection and cleaning, water quality and sediment sampling, nutrient and bacteria removal efficiency analysis for stormwater treatment devices, estimation of outfall pollutant loadings, and developing Bacteria Pollution Control Plan (BPCP) for Total Maximum Daily Loads (TMDL) Waterbodies. The purpose of this project is to identify possible sources of pollution, which contributes to high concentrations of bacteriological and nutrient parameters of concern in surface waters of Miami-Dade County and to calculate nutrient reduction efficiency of various stormwater treatment devices.

Miami-Dade County Stormwater Master Plan Updates

Role: Co-located Engineer and Project Manager

Client: Miami-Dade County

Location: Miami-Dade County, FL

Date(s): 2020 – Ongoing

GHD is under contract to update Stormwater Master Plan for Miami-Dade County under the Equitable Distribution Program (EDP). The Stormwater Master Plan updates consist of four sections: system-wide groundwater elevation updates, stormwater quality updates, stormwater models updates and prioritization of capital improvement projects. The plan estimates the effects of existing and future land-uses on flood protection and water quality and identifies infrastructure and management strategies to accommodate those uses and mitigate future risk and damage. Scopes and Tasks include implementing Miami-Dade County WASD (2040, 2060, 2080 and 2100) groundwater scenarios in the stormwater models, analyzing pollutant runoff loading estimates into Biscayne Bay, analyzing dredging impacts on water quality, developing County-wide salinity profiles, and providing engineering strategies and alternatives for ranking and prioritizing capital projects.

South Florida Water Management District Flow Data Analysis

Role: Co-located Engineer and Project Manager

Client: South Florida Water Management District

Location: South Florida

Date(s): 2013 – Ongoing

Conducted structure analysis, rating analysis, improvement and development of the District's culverts, spillways and weirs. Responsible for analyzing, generating and processing Computational Fluid Dynamics (CFD) flow data. Provided

Jingwei Li, PE | Civil/Stormwater Engineering

guidelines and planning of field measurements. Flow data analysis provides better simulation of the actual flow volumes, which helps improving overall water balance and utilize water resources more efficiently, especially during hurricane seasons.

Watershed Asset Management Plan (WAMP)

Role: Project Engineer
Client: City of Fort Lauderdale
Location: Fort Lauderdale
Date(s): 2019

GHD is under contract to perform a multi-year Watershed Asset Management Program. The contract has included multiple task work orders that have been supported by Ms. Li; including Community Rating System (CRS) analysis, identifying grant sources, developing strategic goals and objectives of the WAMP, conducting condition assessment & capacity analysis for stormwater pump stations SS1 & SS2, and surveying/GIS mapping of unverified stormwater assets (2,700+ red dots) using the City-issued Geodatabase.

Target-Lowe's Groundwater Monitoring

Role: Project Manager
Client: Target Corporation and Lowe's
Location: Hialeah, FL
Date(s): 2014 – Ongoing

Performed semi-annual groundwater elevation contouring and groundwater water quality sampling and analysis for Lowe's at the Site (formerly Hialeah Speedway Development Facility) since 2018. Conducted semi-annual interior ambient and exterior methane monitoring events at the Site since 2014. Prepared a Contingency Plan for Target Corporation in 2018.

Water Resources, Hydrology and Hydraulic Modeling

Role: Project Manager and Consultant Engineer On-Site
Client: South Florida Water Management District
Location: West Palm Beach, FL
Date(s): 2014 – 2020

Conducted structure analysis, rating analysis, improvement and development of the District's culverts, spillways and weirs. Assistance in analyzing, generating and processing Computational Fluid Dynamics (CFD) flow data. Provided guidelines and planning of field measurements for streamgauging/field group. Flow data analysis provides better simulation of the actual flow volumes, which helps improving overall water balance and utilize water resources more efficiently, especially during hurricane seasons. Work involves using Excel, UNIX scripting, HEC-RAS, MIKE SHE, MATLAB, Mathematica, ArcGIS, Google Earth and AutoCAD.

Soil Management Plan - Lincoln Park Playground

Role: Project Engineer
Client: City of Fort Lauderdale
Location: Fort Lauderdale, FL
Date(s): 2019

Under contract to prepare a Soil Management Plan (SMP) for the Lincoln Park Playground in Fort Lauderdale. The City of Ft. Lauderdale fenced the former incinerator area, cleaned contaminated soil on the property, and capped contaminated soil on the Lincoln Park playground back in 2009. In 2019, the City intended to demolish the existing playground equipment located at Lincoln Park and replacing it with new playground equipment.

Methane Mitigation, Operations Maintenance and Monitoring

Role: Project Engineer
Client: Aventura Charter High School
Location: Hallandale Beach, FL
Date(s): 2018 – Ongoing

Work included assistance in designing a methane vapor barrier & venting system for Aventura Charter High School; site inspections during the construction of the methane venting system; preparation of a site-specific Operations, Maintenance, and Monitoring Manual (OMMM) for Aventura Charter High School which provides descriptions of the Methane Gas Mitigation System and activities required for system monitoring, maintenance, reporting and including health and safety procedures.

Multiple Phase I and II ESA Projects for Various Private Clients

Role: Project Engineer
Client: Various Private Clients
Location: Hialeah, FL
Date(s): Ongoing

Collected groundwater and soil samples and conducting environmental site assessments and database analysis. Projects included hazardous waste assessment, remediation and soil management at agriculturally developed land, golf courses and manufacturing facilities.

Amazonian Ecosystems Project

Role: GIS Analyst
Client: HyDROS Lab
Location: Norman, OK
Date(s): 2014

Conducted data analysis using software S and SAS; updated and developed GIS Geodatabases; used GIS for pre- and post-processing of hydrologic and hydraulic data.



Ashton Rogers, PE

Civil/Stormwater Engineering



Experience

19 years

Years with Firm

11 years

Qualifications/Accreditations

- BS, Civil Engineering
- Licensed Professional Engineer: MD, VA

Relevance to the project:

Ashton has more than 19 years of experience in site design, land development, water resources, stormwater management, stormwater master planning, environmental site design, traffic control considerations and erosion and sediment control design. He has been highly successful in the management, development, and engineering of site development plans from initial conception through plan approval, permitting and construction. He is experienced in a wide range of civil site design with an emphasis in stormwater conveyance, stormwater hydrology and hydraulics, layout and accessibility, utility supply, and erosion and sediment control. As a Senior Civil Engineer and Project Manager at GHD, the main functional areas of responsibility relating to the projects he designs and manages are client management and communication, people management and resourcing, performance/quality control management, and master planning. Client management includes contract executions and agreements, understanding of the project scope, development of project execution plans identifying key deliverables and timelines, constant communication, and client briefings, and building client relationships. In addition to being Project Manager, he is a project team member who offers technical support in the development and engineering of stormwater management, sanitary sewer drainage, potable water and irrigation water construction plans, drawings, calculations, and technical reports.

Project experience

Design of East Davis Boulevard from Barbodos Avenue to Chesapeake Avenue

Role: Lead Civil Engineer

Client: City of Tampa

Location: Tampa, FL

Site development and coordination of all the site improvements associated with the design and approval of a quarter mile roadway improvement project for the City of Tampa. Three intersections included within the project are Chesapeake Avenue, Biscayne Avenue, and Barbados Avenue. Improvements included roadway regrading, new stormwater management system, sidewalks, parking, relocation and sizing of water mains and gravity sewer collection networks within the project limits, signage and stripping improvements for safe pedestrian movements within the project limits, adjustments of commercial driveway entrances, along with other miscellaneous improvements. Ashton was responsible for all civil design development including engineering calculations for stormwater, water and sewer networks, development of construction drawings and specifications, project design narratives, code and permitting compliance to ensure the project was designed to both local and FDOT standards.

Grace and Passaic Watermain and Sidewalk

Role: Lead Civil Engineer

Client: City of Fort Myers

Location: Fort Myers, FL

Site development and coordination of all the site improvements associated with the design and approval of a half mile roadway and utility improvement project for the City of Fort Myers. Roadway and utility improvements were provided on Moreno Avenue, Passaic Avenue, Grace Avenue and Canelo Drive. Improvements included roadway regrading, upgrading the stormwater management system, sidewalks, relocation and sizing of water mains and gravity sewer collection networks, implementation of raised islands as traffic calming measures, upgraded signage and stripping to ensure safe pedestrian movements along Canelo Drive adjacent to the Allen Park Elementary School. Ashton was responsible for all civil design development including engineering calculations for stormwater, water and sewer networks, development of construction drawings and specifications, project design narratives, code and permitting compliance to ensure the project was designed to both local and FDOT standards.

Engineering Services for Lake Trafford Stormwater Improvements

Role: Senior Civil Engineer

Client: Collier County

Location: Immokalee, FL

Reviewed development plans, permit applications, and specifications to ensure compliance with applicable codes, ordinances, and County standards. Support the project team with resourcing and oversight of entry level engineers for the development of engineering reports, and cost estimates, stormwater management calculations and development of construction drawings. The project involved the improvements to stormwater conveyance and treat, and a new sidewalk along Lake Trafford Road as a continuation of the Phase 1 design done by others. The project included extensive roadway grading, profiles and sections, utility coordination/relocation in areas of utility conflicts.

Poplin Pump Station

Role: Lead Civil Engineer

Client: Union County Water

Location: Indian Trail, NC

Site development and coordination of all the site improvements associated with the design-build Poplin Pump Station project which included a new replacement sewer pump station, 2,100 linear feet of sewer force main, a flow equalization tank and quarter mile access road to the equalization tank site. Responsibilities included multi-discipline collaboration to ensure the project site plans are coordinated with other disciplines, design of a commercial entrance and quarter mile access road to the new equalization tank site including plan and profiles, development of construction drawings to include sewer force main and gravity sewer plan/profile drawings, site layout plants, erosion and sediment control plans, and a stream crossing. The projected involvement regulatory compliance with NCDOT for the new commercial entrance and access road, and NCDEQ for the force main and gravity sewer stream crossing.

Windmill Pump Station Replacement

Role: Project Manager and Lead Civil Engineer

Client: Easton Utilities

Location: Easton, MD

Replacement and upgrade of the existing Windmill Pump Station located on South Washington Street in the Town of Easton, Maryland. The pump station is owned and operated by Easton Utilities, which is a private utility company that owns and maintains the sanitary sewer, water, and electrical utilities within the Town. The project involved the complete replacement of the existing 1,725 gpm rate Windmill Pump Station. The new Windmill Pump Station was to be designed to 1,725 gpm at 152 ft. total dynamic head (TDH). In addition, the new pump station was relocated approximately 400'

south of the existing pump station in order to get it out of the flood plain and environmentally sensitive areas. Project included redesign of existing sewer utilities within the roadway leading up to the new pump station location and the development of a traffic control plan. The project also include permitting and bid phase services. The proposed 660 feet sewer force main incorporated 560 feet of horizontal directional drilling of the new 14" HDPE force main from the new pump station to an existing force main.

Flood Plain Impacts Study and Remediation

Role: Lead Civil Engineer

Client: City of Westminster

Location: Westminster, MD

Lead Civil Engineer for site development and coordination of all the site improvements associated to the wastewater treatment plant upgrade. Engineering design of stormwater level spreaders to sheet flow to conservation areas. Review and development of the erosion and sediment control plans. Site grading to ensure positive drainage of stormwater runoff to the proposed stormwater management facilities. Site development including vehicle accessibility, staff and guest parking, construction stakeouts, yard piping, building tie-in coordination, and pavement resurfacing. Development and coordination of a permitting matrix for all project associated permits that included planning of the development review process to obtain MDE Dewatering and Construction Permits, and a FEMA Conditional Letter of Map Revision (CLOMR) for the associate floodplain impacts and mitigation measures.

War Memorial Bioretention Basin and Mt. Hermon Rite Aid Stormwater Management

Role: Project Manager

Client: City of Salisbury

Location: Salisbury, MD

The War Memorial project involved the development of 30% design drawings, calculations and cost estimate for the implementation of a bioretention basin and alleviation of stormwater street side ponding. Environmental Site Design (ESD) practices were incorporated using the results of the geotechnical investigations as support. The Mt Hermon (Rite Aid) Stormwater Management project involved a feasibility study for the reconstruction of an on-site existing BMP using ESD practices. The objective was to maximize the stormwater management credits that the City could obtain from the project then provide recommendations on the cost/benefits of the project.



Brian Moore, PE

Environmental Engineering/CAR



Experience

29 years

Years with Firm

28 years

Qualifications/Accreditations

- MBA, Business Administration 2009
- MSE, Environmental Engineering 2005
- BA, Environmental Science 1995
- AS, Science 1992
- Registered Professional Engineer: FL

Relevance to the project:

Brian Moore, PE has more than 29 years of experience in environmental consulting. He's worked in a variety of disciplines including civil engineering, environmental engineering, coastal engineering, solid waste, water, stormwater, and wastewater. Brian has assumed lead roles in directing project teams and junior staff throughout GHD's Florida offices. Brian currently serves as GHD's contract manager for the State of Florida Hazardous Waste and City of Tampa solid waste contracts. He's also served as the design engineer for a variety of design-build, permitting, solid waste, and environmental remediation projects.

Project experience

Multiple Work Orders under General Engineering Contract

Role: Principal-in-Charge
Client: City of Fort Lauderdale
Location: Fort Lauderdale, FL
Date(s): 2016 – Ongoing

Brian has been supporting this continuous contract support to the City of Fort Lauderdale since 2016 under multi-work order contract awarded for a 5-year duration, General Environmental Engineering Contract. He oversees the management of several work orders under, which have included environmental site assessments, both Phase II work orders, forensic cause and origin building assessment, and impacted soils management.

Environmental Engineering Contract

Role: Contract Manager and Principal-in-Charge
Client: City of St. Petersburg
Location: St. Petersburg, FL
Date(s): 2018 – Ongoing

Brian is the program manager for GHD's continuing service environmental engineering contract. Specific duties included overall management of multiple projects, proposal preparation, budget tracking, scheduling, milestone

development, and implementation. GHD has assisted the City with a variety of projects involving all aspects of environmental engineering. Projects of interest include an evaluation of sediment quality from the Admiral Farragut Yacht Basin at the request of the Florida Department of Environmental Protection (FDEP). Sediment cores were gathered and analyzed for various parameters at a Florida-certified analytical laboratory. GHD also assisted the City with monitoring of the Maximo Park Bank Stabilization project following installation of the living shoreline.

Environmental Engineering Continuing Contract

Role: Principal-in-Charge
Client: Lee County
Location: Lee County, FL
Date(s): 2017 – Ongoing

Brian is the Principal and contract manager for the Lee County Environmental Continuing Services Contract. Under this contract, GHD is providing a study for the demolition of three Lee County water and wastewater treatment plants, along with the development of demolition specifications for the project.

Due Diligence Hillsborough County Board of County Commissioners

Role: Project Director

Client: Hillsborough County

Location: Hillsborough County, FL

Brian served as the project director for the completion of various due diligence Phase I and II Environmental Site Assessments. The Hillsborough County Board of County Commissioners (HCBCCC) retains GHD for a variety of as-needed services under this contract. For each project, GHD must refine and confirm the scope of work requirements, establish and strictly adhere to project budgets and projected schedules, and produce quality deliverables subject to full public disclosure. Brian performed pre-acquisition due diligence assessments, hazardous substance evaluations, and indoor air quality assessments.

Ford Street Canal Filter Marsh

Role: Project Manager – Design/Construction

Client: City of Fort Myers

Location: Fort Myers, FL

Brian was the project manager and principal for the final design and implementation of the Ford Street Filter Marsh. The project involved completing a geotechnical evaluation along with structural design services for two filter marsh weir control structures, a boardwalk extension, existing boardwalk and canoe launch rehabilitation, and the canal structure located upstream of the Ford Street Canal Filter Marsh.

Risk Assessment – Bakers Park

Role: Project Engineer

Client: City of Naples

Location: Naples, FL

Brian was the project engineer responsible for reviewing the initial design plans for park features planned for construction in an area that contained buried debris. The process involved evaluating potential risks to future site occupants after park development. The process also required development of a long-term management plan and associated future costs.

Miromar Lakes Water Quality Monitoring

Role: Project Principal

Client: Calvin, Giordano & Associates, Inc.

Location: Lee County, FL

Date(s): 2016 – Ongoing

GHD provides triannual water quality monitoring and reporting services for Lake 6 and Lake 3 at Miromar Lakes within the Miromar Lakes Golf Club. Grab samples are collected from a boat at various locations on the applicable lake areas. Samples representing a specific depth are collected using a Van Dorn water sampler. Monitoring

reports are completed for each sampling event and data is reviewed and analyzed annually.

Water Quality Sampling

Role: Project Principal

Client: City of Fort Myers

Location: Fort Myers, FL

Date(s): 2013 – Ongoing

GHD currently provides water quality monitoring and reporting services for the City of Fort Myers NPDES MS4 Stormwater Testing Program. The sample sites are in various locations along Billy's Creek, Manuel's Branch, Carrell Canal, Winkler Canal, the North Colonial Waterway, and the Downtown Basin. GHD conducts water quality sampling on a monthly basis at nine designated locations. Brian performed quality assurance (QA) procedures for the collection of samples and decontamination of sampling apparatus prior to and during use in the field is conducted in general conformance with the Florida Department of Environmental Protection field sampling and laboratory analysis quality assurance protocol codified in Chapter 62-160 FAC Standard Operation Procedures (SOPs) for Field Activities (FDEP SOP-001/01). Laboratory results were delivered in electronic format to meet Florida Department of Environmental Protection (FDEP)'s requirements for inclusion in the State STORET/WIN water quality database. GHD also imported the data into an access database that is maintained for any further reporting or querying needs. In addition, GHD provided the data in graphical format presenting 12-month rolling averages for each parameter over the previous five (5) years of monthly data.

Hazardous Waste Tice Street

Role: Project Manager

Client: JLM Financial

Location: Fort Myers, FL

Brian was the project manager responsible for the assessment and remediation of a chlorinated solvent groundwater contaminant plume. Chlorinated solvents were utilized at the industrial site resulted in shallow groundwater impacts. Brian led a site assessment completed through the use of direct push profiling and well installation. After the assessment, remedial injection were conducted using a slow release oil substrate in order to stimulate the natural microbes to degrade the chlorinated solvents dissolved in groundwater. Following injections, periodic monitoring was conducted until the site was determined eligible for a conditional site closure. The conditions will require a use restriction for shallow groundwater. The final restrictive covenant is currently being prepared



Jeremy Hess, PE

Environmental Engineer/CAR



Experience

16 years

Years with Firm

8 years

Qualifications/Accreditations

- MS, Civil Engineering 2016
- BS, Civil Engineering 2014
- BS, Environmental Science 2003

Relevance to the project:

Jeremy has 16 years of progressively increasing experience in environmental consulting and engineering. His expertise includes assessment and remediation design of both petroleum- and drycleaning-solvent-impacted facilities. His project management and design experience includes both state-funded programs through FDEP and private-client projects throughout Florida. He has managed projects at hundreds of sites, with work including remedial design, soil and groundwater assessment, operation and maintenance (O&M), and natural attenuation and post-active remediation monitoring. His remedial technology experience includes air sparging (AS) and soil vapor extraction (SVE), groundwater pump and treat, multi-phase extraction, liquid-phase hydrocarbon collection, excavation and dewatering, and in situ chemical oxidation (ISCO) injections. He has extensive experience in preparing and executing plans for pilot testing and engineering control and maintenance, as well as Phases I and II ESAs. A member of the GHD Fast Incident Response Services Team (GHD FIRST), he is responsible for the preparedness of GHD's Tampa-area responders. He supervises the environmental staff at all levels and regularly holds meetings to keep projects technically sound, on schedule, and within budget, with correct and timely invoice submission. He helps prepare technical work plans and reviews technical documents prior to submittal.

Project experience

Williams Air Conditioning & Heating

Role: Engineer of Record

Client: Florida Department of Environmental Protection (FDEP)

Location: Jacksonville, FL

Date(s): 2017 – 2025

Jeremy developed a Remedial Action Plan (RAP) for installing an Air Sparge / Soil Vapor Extraction (AS/SVE) system to address soil and groundwater petroleum impacts at the facility. To address the groundwater plume, which had migrated underneath the warehouse facility, the design included treatment wells inside and outside the building, as well as directionally drilled process piping. The remediation system operated for six quarters before the site transitioned to Post-Active Remediation Monitoring (PARM). After completing four quarters of PARM, No Further Action (NFA) was recommended, and a Site Rehabilitation Completion Order (SRCO) was achieved for the facility in January 2025.

FDEP Forensics Program

Role: Senior Design Engineer

Client: FDEP

Location: Throughout Florida

Date(s): 2022 – 2025

Jeremy has managed several complex sites involving research including property history, previous assessment and remediation activities, and site reconnaissance to create conceptual site models and develop sampling plans to evaluate contaminant plumes and potential sources. He coordinated field activities, performed data analysis, and provided technical conclusions on the status, location, source, and stability of the contamination, and provided recommendations for continued delineation and remedial strategies. Jeremy managed a study to evaluate potential sources of carcinogenic polycyclic aromatic hydrocarbons (PAHs) present in subsurface soils. His responsibilities included detailed file reviews, assessment planning, coordination of field activities, correspondence with the client and property owners, data analysis, and reporting for eleven B(a)P impacted facilities. Findings from the study aided in the development of a methodology for determining the petrogenic vs pyrogenic nature of the identified impacts using multiple lines of evidence.

Jeremy Hess, PE | Environmental Engineer/CAR

G-Bar Service Mart #301

Role: Engineer of Record

Client: FDEP

Location: Pensacola, FL

Date(s): 2022 – 2025

Jeremy is the project manager of the G-Bar Service Mart #301 project which involves a large-scale groundwater plume which has impacted the source property and multiple downgradient properties. Assessment of the source area was completed using laser induced fluorescence (LIF) and hydraulic profiling (HP) technologies, which revealed a large, adsorbed hydrocarbon mass in the saturated media, serving as a continual source of the identified groundwater impacts. Jeremy utilized vacuum enhanced recovery to address the free-phase petroleum presence on the source property. The irrigation wells on the adjacent properties have exacerbated the horizontal and vertical migration of the groundwater contaminant plume. Jeremy has designed and implemented irrigation monitoring systems to record flow and pressure data from the recovery wells to evaluate their influence on the contaminant plume. Jeremy developed and is currently implementing pilot test plans to evaluate the viability of both AS/SVE and colloidal carbon injection technologies. The results have proven beneficial and will be utilized as the basis of a full-scale remedial design to include laterally installed segmented AS and SVE wells and the installation of a colloidal carbon curtain to contain the migrating contaminant plume.

Petroleum Restoration & Waste Cleanup Programs

Role: Design Engineer

Client: FDEP

Location: Throughout Florida

Date(s): 2017 – Ongoing

Development of Remedial Action Plans (RAPs) and Remedial Action Plan Modifications (RAPMs) to address soil and groundwater impacts identified at petroleum and waste clean-up program facilities. Mr. Hess has experience with a variety of remedial technologies including Air Sparging (AS) and Soil Vapor Extraction (SVE), groundwater pump and treat, Multi-phase Extraction (MPX), Liquid Phase Hydrocarbon (LPH) collection, excavation and dewatering, and innovative remediation approaches incorporating advanced oxidation technologies utilizing In-Situ Chemical Oxidation (ISCO) injections.

Hazardous Waste Cleanup Program

Role: Task Manager

Client: FDEP

Location: Throughout Florida

Responsible for all aspects of management associated with State administered assessment and remediation of dry cleaning and hazardous waste facilities throughout Florida. Duties include project management, contamination

assessment, monitoring program design, remedial design and operation and maintenance. Successfully implemented innovative technologies to effectively assess and remediate contaminated sites.

Phase I/II Environmental Site Assessments

Role: Project Engineer

Client: Various

Location: Throughout Florida

Date(s): [Month YYYY]

Managed/performed over 600 Phase I and II Environmental Site Assessments for various developed and undeveloped properties for private and municipal clients throughout Florida in accordance with ASTM standard practices. These assessments include historical record reviews, field investigations, historical aerial photo reviews, regulatory database and file searches, and interviews with relevant owners/operators of the subject sites.

Pharmco Laboratories Inc.

Role: Engineer of Record

Client: FDEP

Location: Titusville, FL

Date(s): 2018 – Ongoing

Development of a RAP for the installation of a groundwater recovery system to address large 1-2 dichloroethane (1,2-DCA) plume. Remediation system design included four submersible recovery well pumps, a six-tray low profile air stripper, two (2) 1,000-pound granular activated carbon (GAC) vessels, and four effluent injection wells.

Bazarte Rene

Role: Engineer of Record

Client: FDEP

Location: Tampa, FL

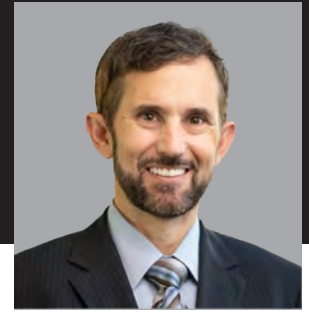
Date(s): 2017 – Ongoing

Development of Limited Scope RAP for the excavation of benzo(a)pyrene soil impacts. Delineation was completed using the Alternative Soil Clean-up Target Level developed for benzo(a)pyrene. Three hundred tons of impacted soil were excavated to the established limits and a site rehabilitation completion order (SRCO) for the facility is currently pending. Selected closure strategy avoided additional assessment and excavation efforts, minimizing the time and cost to closure.



Jeff Knauer, PE, ME, NACE CP Specialist

Corrosion Engineer



Experience

25 years

Years with Firm

9 years

Qualifications/Accreditations

- MBA, Massachusetts Institute of Technology 2024
- MS, Mechanical Engineering 1999
- BS, Mechanical Engineering 1998
- Civil Engineer: CA #68329; WA #50938; HI #15589
- Mechanical Engineer: CA #31977; WA #50938
- National Association of Corrosion Engineers Cathodic Protection Specialist

Relevance to the project:

Jeff Knauer has 25 years of experience with corrosion risk assessment, cathodic protection, and corrosion mitigation design for municipal, private, and federal infrastructure. He has been the corrosion engineer for condition assessment and rehabilitation projects in the United States and the Pacific Islands. Jeff is licensed in civil engineering and mechanical engineering and is a certified NACE CP specialist. He's succeeded at designing corrosion control solutions in challenging environments. Jeff has proven himself an accomplished task leader for large-scale corrosion assessment and rehabilitation projects and provides expert witness services.

Project experience

National Park Service Muni Pier at Aquatic Park

Role: Corrosion Engineer

Client: National Park Service

Location: San Francisco, CA

Jeff served as corrosion engineer for the comprehensive assessment and development of rehabilitation concepts for Municipal Pier at Aquatic Park.

Naval Base Kitsap Offshore Improvements

Role: Corrosion Engineer

Client: US Navy

Location: Bangor, WA

Jeff was a corrosion engineer of the cathodic protection design for a captivated camel berthing facility and associated structures.

American Memorial Park

Role: Corrosion Engineer

Client: National Park Service

Location: Saipan, CNMI

Jeff provided corrosion engineering support for the repair of severely corroded sheet piling bulkhead at Smiling Cove Marina at American Memorial Park.

Wake Island Bulkhead and Causeway

Role: Corrosion Engineer

Client: United States Air Force

Location: Wake Island, Micronesia

Jeff served as corrosion engineer for the design of impressed current cathodic protection for bulkhead and causeway sheet piling in soil and seawater exposures.

China Basin Float Rehabilitation

Role: Corrosion Engineer

Client: Port of San Francisco

Location: San Francisco, CA

Jeff was a corrosion engineer for the cathodic protection design for the ballast tanks of passenger ferry terminal floats serving AT&T Park in San Francisco.

Pile Driver Float Rehabilitation

Role: Corrosion Engineer

Client: Port of San Francisco

Location: San Francisco, CA

Jeff served as corrosion engineer responsible for cathodic protection design of external submerged surfaces and internal ballast tanks.

Pile Driver Float Rehabilitation

Role: Project Manager

Client: Water Emergency Transportation Authority

Location: Berkeley, CA

Jeff served as project manager for conceptual design of a new passenger ferry terminal in Berkeley, California.

Molokai Pier Restoration

Role: Corrosion Engineer

Client: National Park Service

Location: Molokai, HI

Jeff was a corrosion engineer for pier improvements and restoration.

Brannan Street Wharf Design

Role: Corrosion Engineer

Client: Port of San Francisco

Location: San Francisco, CA

Jeff served as corrosion engineer for cathodic protection design of driven steel piles.

***Water Emergency Transportation Authority
Maintenance Facility, Mare Island***

Role: Corrosion Engineer

Client: Water Emergency Transportation Authority

Location: Vallejo, CA

Jeff served as Corrosion Engineer responsible for cathodic protection design of offshore structures.

Kilauea Lighthouse Restoration

Role: Project Manager

Client: US Fish & Wildlife Service

Location: Kauai, HI

Led the project as project manager and lead corrosion engineer for the restoration of historic lighthouse. The task included concrete and metal repair and replacement and design of lightning protection.

Presentations

- NACE International Corrosion Risk Conference “Fitness for Continued Service: A Risk Management Approach to Assessing Corrosion and Prioritizing Infrastructure Improvements” Houston, TX, May 2016.
- NACE Department of Defense (DOD) Corrosion Conference, “The Critical Role of Consistent Facilities-Wide Corrosion Control Design Criteria and O&M Practices to Facilities Asset and Risk Management”, La Quinta, CA, August 2011.
- NACE Western Area Conference, “Corrosion of Reinforced Concrete Structures in the San Francisco Bay”, October 2008.

- American Water Works Association (AWWA) Annual Conference, “The Critical Role of Consistent Corrosion Control Criteria as Part of Comprehensive Asset and Risk Management Planning” Poster Presentation, San Diego, CA, June 2009.
- AWWA Distribution Systems Symposium, “The Critical Role of Consistent Distribution System Wide Corrosion Control Criteria as Part of Comprehensive Asset and Risk Management Planning” Poster Presentation, Reno, NV, September 2009.
- California Water Environment Association (CWEA) Annual Conference “Corrosion Control and Cathodic Protection” Santa Clara, CA, April 2014.
- Nevada Rural Water Association “Corrosion Control and Cathodic Protection Fundamentals” Reno, NV, March 2014.
- AWWA Cal-Nevada Fall Conference “Corrosion and Corrosion Control Fundamentals” Sacramento, CA, October 2013.
- AWWA Annual Conference “Corrosion Control and Cathodic Protection for Water Conveyance, Storage and Treatment Facilities” Las Vegas, NV, August 2013.
- NACE Western Area Conference, “Corrosion of Reinforced Concrete Structures in the San Francisco Bay” San Francisco, CA, November 2012.
- AWWA Cal-Nevada Spring Conference “Fitness for Continued Service: A Risk Management Approach to Assessing Corrosion and Prioritizing Infrastructure Improvements” Sacramento, CA, March 2016.
- NACE Western Area Conference, “Delamination Rate Analysis of Reinforced Concrete Structures in Marine Environments”, December 2016.
- AWWA Western Pacific Subsection Annual Conference “Corrosion and Corrosion Control: Water Infrastructure” Guam (Virtual), September 2021.
- AWWA Cal-Nevada Annual Fall Conference “Data Driven Risk Based Prioritization of Asbestos Cement Pipeline Replacement: MCS D Case Study” Rancho Cucamonga, CA (Virtual), October 2021.



Tracey Scott, AICP, CNU-A, NCI

Park Planning/Architecture



Experience

20 years

Years with Firm

< 1 years

Qualifications/Accreditations

- MS, Urban Design 2005
- MA, Architecture 2005
- BS, Architecture 2002
- American Institute of Certified Planners (AICP) #34039
- The Congress for the New Urbanism (CNU) Accredited Professionals
- National Charrette Institute (NCI) Charrette System Certificate

Relevance to the project:

Tracey has 20 years of professional experience in urban design, planning, architecture, and landscape architecture, including multi-family residential: affordable, attainable, market-rate, military, and student living, mixed-use, high-rise, office, retail, and civic buildings. Her experience includes sustainable and resilient community master planning, neighborhood revitalization, visionary ideas for placemaking, streetscape, and architecture design, complete and green streets, active transportation, transit-oriented development, station area planning, light-rail lines, Housing and Urban Development choice neighborhoods, master plans and specific plans, design guidelines, form-based codes, graphic design, façade and sign design, and community stakeholder engagement. She is passionate about working collaboratively to design great places that enhance everyday life. Tracey enjoys making people happy, promoting health and wellness, producing high-quality design and graphics, and sharing kindness and support with a collaborative design spirit.

Project experience

Central Avenue Master Plan + Corridor Study

Role: Lead Urban Designer

Client: CRA/LA

Location: Watts, Los Angeles, CA

Date(s): 2008

This Specific Plan creates an economically viable, ecologically sustainable, and distinctive corridor, strategically located adjacent to freeways and major transit lines, with a unique pedestrian-friendly, mixed-use character that draws upon the cultural diversity of the Watts Community. The master plan is an integrated assembly of buildings, streetscape, and open spaces that redefine the identity of the Central Avenue Corridor as a vibrant place to live, work, shop, and visit. The Vision was crafted by the community during a series of stakeholder meetings, community workshops, and charrettes, and a Form-Based Code was established to guide development, public realm, and streetscape improvements.

Ablette Village + E State Street

Role: Senior Planner, Urban Designer, Project Manager

Client: Michaels + HACC

Location: Cramer Hill, Camden, NJ

Date(s): 2024

The Ablett Village, Cramer Hill Transformation Plan and Implementation, is a Housing and Urban Development Choice Neighborhood project with mixed-income residential alongside the beautification of a new complete and green street. Created visionary concepts for a pedestrian friendly neighborhood, with new homes for 425 residents and safe streetscapes for families, children, and seniors. Built strong relationships with key stakeholders during an 8-year community engagement process from initial planning through the development of construction documents. Collaboratively designed a new complete and green street for an existing county road to increase connectivity, promote safety, and establish a shared bike/pedestrian path to connect a future transit station to the new residential neighborhood, new regional amenities, and existing community.

350 South Fifth Avenue Transit-Oriented Development

Role: Senior Planner, Urban Designer, Project Manager

Client: The Michaels Organization

Location: Ann Arbor, MI

Date(s): 2024

Conceptual design for a 15-story mixed-use, mixed-income transit-oriented development integrated with a bus-drop off for the Blake Transit Center, a major public transit station, serving as the main hub for TheRide, the terminus and transfer point for 17 Ann Arbor-based routes and multiple intercity bus services.

Jordan Downs S6 + Croesus Avenue

Role: Senior Planner, Urban Designer, Owner's Representative

Client: The Michaels Organization (Housing Authority of the City of Los Angeles)

Location: Watts, Los Angeles, CA

Date(s): 2023

Conceptual design for Jordan Downs S6, which consists of two, four-story mixed-use, mixed-income residential buildings, serving as the gateway and entrance to Jordan Downs, a Watts Choice Neighborhood Redevelopment. Designed a pedestrian friendly, retail focused, plaza type streetscape for Croesus Avenue with the flexibility of accommodating front door parking and access, while also feeling more like a pedestrian only mall with the ability to be temporarily closed for community events.

Rail to River Active Transportation Corridor

Role: Lead Urban Designer

Client: Los Angeles County Metropolitan Transportation

Location: Los Angeles, CA

Date(s): 2014

Created potential development and open space alternatives to integrate the public realm and private development with the active transportation corridor, adjacent communities and existing/proposed transportation options.

San Manuel Master Plan

Role: Senior Urban Designer, Project Manager

Client: San Manuel Reservation

Location: San Bernardino County, CA

Date(s): 2014

Crafted the overall vision and master plan for the San Manuel Reservation as desired by the tribe through engaging community outreach. Developed sustainable design guidelines with placemaking principles for the vision plan. Designed a "Heritage Walk" trail and park network to highlight and preserve many sacred and historical cultural elements, while connecting key moments, places, and views. Created recommendations for future development to support economic and residential growth, while preserving the natural environment and peaceful quality of life on the reservation.

E Street Transit Corridor

Role: Lead Urban Designer

Client: San Bernardino County

Location: San Bernardino, CA

Date(s): 2010

Conceptual Strategy Plan to identify sites for strategic development opportunities for transit-oriented development that leverage the potential of substantial new transportation infrastructure. Specifically, the plan supported the City of San Bernardino's integrated strategy to meet its current and future housing needs.

Crenshaw - LAX Transit Corridor (K-Line)

Role: Lead Urban Designer + Planner

Client: Los Angeles County Metropolitan Transportation

Location: Los Angeles, CA

Date(s): 2010

Provided urban design and planning expertise for the entire line through preliminary engineering and the Environmental Impact Report/Environmental Impact Statement. Created pedestrian friendly, multi-modal, and mixed-use, transit-oriented development and station area planning concepts, ½ mile around each station. Conducted a series of community workshops as part of a collaborative design process to build trust, gain support, educate, and receive feedback from neighborhood stakeholders on this significant and impactful transit corridor planning and design process.

Mid-Coast Corridor Transit Project

Role: Director of Urban Design + Planning

Client: San Diego Association of Governments

Location: San Diego, CA

Date(s): 2013

Led the development of Station Design Guidelines for the proposed sites, while anticipating future transit-oriented development with innovative architecture design to establish a unique corridor identity and theme.

Mission Valley Future Vision

Role: Senior Urban Designer, Project Manager

Client: Multiple Clients

Location: San Diego, CA

Date(s): 2016

Innovative, conceptual design visions to re-imagine Mission Valley as a mixed-use, pedestrian friendly desirable retail and entertainment focused destination that celebrates the San Diego River as the recreational amenity core, creates pedestrian friendly boulevards as destinations for people to enjoy the public realm, and mixed-use neighborhoods that promote connected live, work, play communities. Visions for several key sites, including a future town center and transit-oriented development for the Chargers' Qualcomm Stadium site and a mixed-use development to replace a traditional office park. These inspirational ideas were included in the Mission Valley Community Plan update and have inspired mixed-use development along the corridor.



Christian Branter, RA

Park Planning/Architecture



Experience

20 years

Years with Firm

9 years

Qualifications/Accreditations

- BArch, Architecture 1998
- Registered Architect: FL #AR96457; CA #C37590
- National Council of Architecture Registration Boards #102797

Relevance to the project:

Christian has over 20 years of experience, his extensive knowledge of project management and the design process. His experience ranges from Industrial and Commercial Office to Education and Entertainment. Christian knows what it takes to deliver a project that meets the client's needs. He has coordinated successfully with a wide variety of user groups and has an advanced understanding of managing stakeholder interests, as well as working closely with all subconsultants and partners. Additionally, Christian has knowledge and understanding of technical safety and operations training. Prior to joining GHD, Christian was an instructor in wood and metal shops in Kentucky and Sweden and worked for several architecture firms in Sweden, New York and Kentucky. Also, while in Sweden, Christian completed over a year of courses at Lund University in the International Institute of Industrial Environmental Economics.

Project experience

Davis Fencing

Role: Project Manager

Client: Pacific Gas & Electric (PG&E)

Location: Davis, CA

Date(s): 2021 – Ongoing

New perimeter fencing, gates, access control with no new access points. GHD is providing schematic design, variance application, and construction document services.

Richmond Fencing

Role: Project Manager

Client: PG&E

Location: Richmond, CA

Date(s): 2021 – Ongoing

New and modified perimeter fencing, gates, access control with no new access points. GHD is providing schematic design, variance application, and construction document services.

T&D Consolidated Training Center

Role: Project Architect

Client: Southern California Edison Company

Location: Rancho Cucamonga, CA

Date(s): 2021 – Ongoing

The T&D Training Center Campus is envisioned to be a cutting-edge training center with a focus on Safety, Integrated Learning, and Sustainability. The training activities will be connected through indoor/outdoor spaces. The buildings will feature flexibility, with a focus

on technology and function as a “Living Laboratory” for training purposes. Sustainability considerations include providing EV chargers, having all electric buildings, and achieving LEED Certification.

Davis T-Line Building

Role: Project Manager

Client: PG&E

Location: Davis, CA

Date(s): 2020

The new 13,000-SF Pre-Engineered Metal Building (PEMB) is a design-build project that will accommodate a shop and administration office component. GHD provided design development, construction documents, and construction administration services.

Modesto RFP Prep

Role: Project Manager

Client: PG&E

Location: Modesto, CA

Date(s): 2020

Finalizing Programming and preparation of a Design/Build RFP for the Modesto Service Center Renovation/Expansion Project. The goal for this project is to consolidate PG&E employees that are housed in several facilities to the existing site. It involves the renovation, modernizing and expansion of the main building to accommodate all personnel and the construction of a new warehouse. GHD finalized programming and conceptual designs and developed the design-build RFP.

Fresno AVCRAD HVAC

Role: Project Manager

Client: California Military Department (CMD)

Location: Fresno, CA

Date(s): 2021 – Ongoing

The existing building contains various HVAC systems that are not functioning or not functioning correctly. GHD is providing onsite inspections and is assisting with construction documents to assist in enhancing the performance of the HVAC systems.

Eureka Armory Restoration

Role: Project Architect

Client: California Army National Guard CMD

Location: Eureka, CA

Served as Project Architect 20,000-SF Armory project includes full renovation of HVAC, Electrical, Communications, ADA, Safety, ATFP, Roofing, and civil improvements. GHD provided full architectural design services for this project.

Design-Build RFP

Role: Project Manager

Client: CMD

Location: Santa Rosa Armory, CA

Date(s): 2020

Major renovation for the 14,500-SF Armory, including HVAC, Electrical, Communications, ADA, Safety, ATFP, Roofing, architectural, and civil improvements. GHD provided architectural services for the creation of design-build bridging documents to assist the CMD in the development of RFQ and RFP documents to award a full-service design-build contract.

CMD Camp Roberts Facilities Assessments

Role: Project Manager

Client: California Army National Guard

Location: Los Alamitos, Sacramento, Roseville, San Luis Obispo, CA

Date(s): 2019

Assessments for 19 facilities in the State of California for the CMD. The functions of these facilities include administrative, arms storage, lodging, vehicle maintenance, training centers, and water supply/treatment.

Joint-Use Dining Facility

Role: Project Manager

Client: CMD

Location: Lathrop, CA

Date(s): 2019

The 9,800-SF Joint-Use Dining Facility will contain a dining hall with service line, a commercial kitchen, food service and support areas, staff and admin support areas (offices, lockers, toilets) and utility rooms (mechanical, electrical and telecommunications) to serve as a joint use facility for the 200 National Guard Youth Challenge Program cadets, Army National Guard units, and the soldiers stationed at the

Stockton Airfield. GHD provided architectural services for the creation of design-build bridging documents to assist the CMD in the development of RFQ and RFP documents to award a full-service design-build contract.

CMD Eureka Armory Renovation

Role: Project Manager

Client: California Army National Guard

Location: Eureka, CA

Development of documents for the Design/Build package for the renovation of the Eureka Armory for the CMD.

Nellis Air Force Base, Building 425 Precision Measurement Equipment Laboratory Expansion/Renovation

Role: Project Architect

Client: US Air Force

Location: Las Vegas, NV

Date(s): 2017

The expansion of Building 425 provided an additional 1,500 SF, including a shipping room, lobby, and scheduling room. The entryway to the addition required a covered loading ramp so that carts with heavy equipment can be wheeled into the building. Renovation to the existing precision measurement equipment laboratory rooms 105, 106, 118, 119 and 120 consisted of reconfiguration of room space, refinishing of surfaces, and accommodation of required HVAC, electric, and lighting.

United Airlines Technical Operations Ready Room San Francisco International Airport

Role: Project Manager

Client: San Francisco International Airport

Location: San Francisco, CA

Date(s): 2016

GHD provided design and construction administration services for the tenant improvements to the Technical Operations group at San Francisco International Airport.

Rainwater Basin New Bunkhouse

Role: Project Architect

Client: US Fish and Wildlife Service

Location: United States

Date(s): 2017

As part of an IDIQ contract with the US Fish and Wildlife Service, GHD was the design architect for this new 2,000-SF crew quarters bunkhouse.

Davis Assessments

Role: Project Manager

Client: PG&E

Location: Davis, CA

Date(s): 2020

The new 13,000-SF Pre-Engineered Metal Building (PEMB) is a design-build project that will accommodate a shop and administration office component. GHD provided design development, construction documents, and construction administration services.



Lucas Piper, PLA, QSD/P

Landscape Architecture



Experience

17 years

Years with Firm

7 years

Qualifications/Accreditations

- Bachelor of Landscape Architecture 2006
- Professional Landscape Architect: CA #5783; AZ #78972; PA #LA003512
- Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer/Practitioner: CA #25768

Relevance to the project:

Lucas is a registered landscape architect with over 17 years of design and project management experience. He has worked on a wide variety of projects ranging from private development, institutional and civic, parks and trails, roadway corridors and intersections, and habitat restoration. Lucas is a qualified SWPPP Developer/Practitioner and has worked on several stormwater pollution management, stabilization, and LID projects. He is well experienced in a wide range of design and consulting processes and services including site analysis; site planning; geospatial analysis; conceptual design development; 3D renderings; public outreach, construction document Plans, Specifications, and Estimates (PS&E); and SWPPP development.

Project experience

Savan GUT - Phase 2

Role: Landscape Architect QA/QC

Client: US Army Corps of Engineers (USACE)

Location: Charlotte Amalie – St. Thomas, US Virgin Islands

The main purpose of the project is to reduce flood damages to the Jane E. Tuitt Elementary School and the Central Business District in downtown Charlotte Amalie by converting the current ½ mile open water flood channel into a covered concrete box culvert. As part of this work, seven unique parklets/plaza's will be designed adjacent a linear pedestrian walkway above the box culvert intended to connect remnant cultural/historical structures, provide safe passage through town away from congested streets, and promote reengaging the historic downtown district with the residential neighborhood that resides above. The current open channel divides the town physically and collects unwanted trash and debris. The proposed design will provide much needed safe gathering spaces and multiple community connections meant to enhance the quality of life for the residents.

Hall Park Detention Basin

Role: Landscape Architect, QA/QC Reviewer

Client: Town of Windsor

Location: Windsor, CA

Served as Landscape Architect Lead and QA/QC review for a flood mitigation project that converted an existing

single-use residential park into a multi-use detention basin and park. The primary goal of the project was to detain peak flows to mitigate flooding at a downstream intersection prone to frequent flooding. Key elements of the project included a diversion system, headwall, low impact development features for water quality, and a unique underdrain system to provide adequate drawdown and provide year-round use of the park. New bio-retention plantings, butterfly garden, oak tree replacement plantings and a full irrigation system were also designed as part of the improvements for the park.

River Oaks Regional Stormwater Capture Project

Role: Landscape Architect

Client: City of San Jose

Location: San Jose, CA

The 5.2-acre project site is located in North San José between Riverview Parkway and the Guadalupe River, San José, California. The Project will convert an existing facility to provide stormwater treatment via bioretention prior to discharge to the Guadalupe River, by allowing for low flow water to be routed into a redesigned detention basin after trash capture and sedimentation deposition in a newly created forebay. Water would then flow through the bioretention basin to receive bio-treatment. The project landscape architectural elements include the development of an integrated park to provide recreational, aesthetic, and educational benefits for the community. Currently mid-way through construction document development, park features include a walking trail around the basin composed

of permeable pavement, a boardwalk and viewing platform over the detention basin, two deck overlooks with seating, exercise and play equipment, interpretive signage, a demonstration bioretention planter, and public art (mural on the pump station and educational sculpture). The area surrounding the detention basin will be planted with new trees, native grasses, and a pollinator garden. Additionally, the park facilities are designed to meet ADA accessibility standards.

Hanson Russian River Access and Trail Project

Role: Landscape Architect, Project Manager

Client: Sonoma County Regional Parks Department

Location: Windsor, CA

Responsible for conceptual design development for a new regional park, trail, boat portage, and seasonal campground. Site layout plans and visualizations were developed to meet code requirements and project goals for providing access and public use. A multi-use trail alignment was designed providing access to a new seasonal campground and public parking facilities. The trail and campground are situated on the upland perimeter of a proposed floodplain establishment on the Russian River. Plans to be used for future environmental review.

Gleason Beach-Park and Trails

Role: Project Manager

Client: Sonoma County Regional Parks

Location: Sonoma County, CA

In conjunction with Caltrans and the County of Sonoma, this project is one of the first of its kind in California dealing with the impacts of coastal erosion due to sea-level rise. A multi-faceted project, it aims to restore Scotty Creek, move, and elevate a portion of Highway 1, provide safe and functional access to the Beach, extend, and modify an existing trail, provide outlooks and park area capable of adaptation to the inevitable bluff erosion. The project is currently in the schematic design phase.

Lower Peter's Canyon Rest Area

Role: Landscape Architect

Client: Orange County Parks

Location: Tustin, CA

Provided landscape design and full construction documents for landscape related project elements for a trail head location at Lower Peter's Canyon. Site elements included a restroom, shade structure, benches, kiosk, decorative paving, and planting. Construction detailing was provided for all site furnishing, fencing, and paving. The planting design utilized California natives and a temporary irrigation system.

Perez Park Landscape Design

Role: Landscape Architect

Client: Orange County Public Works

Location: Costa Mesa, CA

Provided landscape design support and quality control/review for the development of a green infrastructure community park. The design integrated water quality treatment and storage into a small pocket park that also provided community park resources such as play equipment, seating walls, tables, shade structures, entry monuments, specialty paving, fencing, walls, and landscape planting and irrigation.

Beach Boulevard Infrastructure Replacement Project

Role: Landscape Architect

Client: City of Pacifica

Location: Pacifica, CA

Served as Landscape Architect for the preparation of design alternatives for the development of an ocean front promenade. Developed alternatives for treatment of the public space between a proposed ocean protection structure (sea wall) and the existing road. Alternatives addressed parking needs, horizontal and vertical relationships, paving and landscape, accessibility and circulation, and site amenities. Alternative were used for multiple virtual public workshops to develop community consensus on a preferred alternative.

Bayshore Bikeway Sea Level Rise Resiliency Project

Role: Landscape Architect

Client: City of Imperial Beach

Location: San Diego, CA

Serves as landscape architecture lead for a multidisciplinary project involving a raised multiuse/multi-benefit pathway implemented to provide the City of Imperial Beach both access improvements, sea level rise resiliency, flood control improvements and habitat enhancement within a federally managed refuge area. The role of lead landscape architect includes tasks, such as oversight of project scope, fees, design team management, preparation of design documents, cost estimates, special provisions, and oversight and control over development of 3d visualizations for communicating design intent to the City of Imperial Beach and other stakeholders.

Eel River Trail

Role: Landscape Architect

Client: City of Rio Dell

Location: Rio Dell, CA

As a part of the Greater Redwoods Trail, Phase 1 of the Eel River Trail is a new 0.25-mile shared use path along the west bank of the Eel River. Landscape architect lead for the design layout and construction detailing of trail amenity features and plaza area. Design features included a trail kiosk, benches, hardscape, an art wall, seat walls, and drinking fountain.



Christopher Ahern

Coordination with Local Stakeholders



Experience

23 years

Years with Firm

4 years

Qualifications/Accreditations

– MBA

2010

– BS, Environmental Engineering Sciences

1999

Relevance to the project:

Experienced Program and Project Manager for variety of waterfront development and surface water quality consulting projects. All of Mr. Ahern's project experience is either near shore water environment or within 100 yards of a shoreline (i.e., beach, bulkhead or riverbank). Clients benefit from Mr. Ahern's experience in Ports & Harbors, maritime logistics, permitting strategy procurement strategy and construction management for delivery of successful projects. He regularly identifies sustainable solutions for development in the Coastal High Hazard environment and recently led the \$21M redevelopment of Maximo Marina in St. Petersburg. As Development Manager for Maximo Marina, he was responsible for site assessments, feasibility studies, proformas, development strategy, procurement of Contractors, Construction Management, commissioning and handover to IGY Maximo Marina Operation Team.

Project experience

Maximo Marina Redevelopment Project

Role: Owners Representative

Client: Lincolnshire Maximo LLC

Location: St. Petersburg, FL

Date(s): Mar 2016 – Feb 2019

Redevelopment of 14-acre marina basin with 262 wet slips of which 150+ of these berths were covered berths. Scope of the MMRP also included repurposing additional 10+ acres with engineering buildings, a marine service yard and a Marina Office built over the water as a reclaimed peninsular. The purpose of the redevelopment was to convert the Marina asset to a modern operational standard with consideration to resiliency in response to tropical weather and Sea Level Rise. The updated Marina is the largest covered berth marina by number of berths and berth sizes (Four berths at 100 feet LOA) and features ground fault monitoring that is compliant with National Electrical Code (NEC).

Responsible for feasibility, design, permitting, procurement strategy, construction management and commissioning. Coordinated architectural and engineering professional services to support the construction schedule. Obtained all necessary permits including state, federal and County dredge permits and Coordinated onsite Contractors to successfully deliver the operational Marina.

St. Petersburg Yacht Club (SPYC) Concept Design

Role: Project Manager

Client: SPYC

Location: St. Petersburg, FL

Date(s): Nov 2019 – Apr 2021

Downtown Marina location is being considered for replacement and upgrade. Lead evaluation of an existing fixed concrete wharf structure and recommended a replacement timeline. Hosted a series of stakeholder coordination meetings (i.e., membership and City of St. Petersburg representatives whose facilities are proximal to SPYC property) before recommending a concept design of the replacement structure. Presented recommended path forward to membership and extended opportunity for membership to comment. A construction cost estimate, procurement strategies and timelines for replacement are summarized in the Concept Design Report.

Sarasota Sailing Squadron (SSS) Wave Screen and Wharf Structure

Role: Project Manager

Client: SSS

Location: Sarasota, FL

Date(s): Oct 2018 – Apr 2020

Evaluation and recommend path forward for existing fixed timber wharf structure that includes wave screen that was being considered for replacement. Assessment of existing A-Dock structure, reviewed recent wind-wave

Christopher Ahern | Coordination with Local Stakeholders

study and recommended a concept design that featured a prefabricated modular concrete wave screen and floating aluminum dock to provide Squadron maximum utilization. Recommended procurement strategy that included utilization of Grant Funding. Resulting replacement dock was installed in July 2020 at the direction of Squadron members.

City of St. Petersburg Marina and Port Consulting Services

Role: Project Manager and Primary Client Contact

Client: City of St. Petersburg, FL

Location: St. Petersburg, FL

Date(s): May 2017 – Dec 2020

Continuing Services Agreement in support of City of St. Petersburg Municipal Marina and Port Infrastructure. Engaged City of St. Petersburg staff and Waterfront Planning Stakeholders to prepare a variety of task orders to be executed and other specialized Design Support Teams. Scope of task orders included Marina Planning, Review of Draft Marina Master Plan, marina design recommendations, remediation strategies for existing bulkheads (over 5 miles of linear bulkheads that City was responsible for) and Construction Management.

Port Tampa Bay General Engineering Consultant (GEC)

Role: Assistant Project Manager

Client: Port Tampa Bay

Location: Tampa, FL

Date(s): Sep 2010 – Oct 2013

Selected for Continuing Services Agreement in support of Port Tampa Bay Engineering and Operations. Assembled RFQ response to earn first selection for Jacobs as one of three GEC Teams selected by Port Tampa Bay. Lead development of work orders in response to Port Tampa Bay's stated needs. Prepare cost proposals using members of Jacobs Project Team identified in RFQ Response (e.g., dive inspection and contamination assessment). Evaluation of existing fendering system a cruise terminal berth 267 and 273. Propose strategy to augment fender capacity. Structural assessment of timber wharf structure at Berths 208 through 211. Leveraging the working relationships to FDOT and Tampa Bay Area Regional Transit Authority (TBARTA), Mr. Ahern was able to advocate for Port Tampa Bay's interest on upland transportation challenges that were outside their gates but impacted their customer's ability to move cargo efficiently.

Beaufort County Stormwater Ordinance Development

Role: Project Engineer

Client: Beaufort County

Location: Beaufort, SC

Date(s): Jan 2009 – Jul 2010

Beaufort County faces rapid upland development along frontage of extensive salt water marsh and was seeking professional advise on how to structure their stormwater ordinance to protect that unique natural resource from further degradation. Identified mechanisms and hydrological responses in coastal and saltwater environment that were contributing to violations in water quality standards. Surveyed alternative stormwater management strategies that lead to revision of stormwater management ordinance. Lead technical assessments of alternative strategies, assessed for their applicability to Beaufort County and recommended technical approach ultimately included in adopted ordinance. Presentations to County administrators, and stakeholders that would be subject to revised stormwater management ordinance.

Stormwater Support Services for Town of Port Royal

Role: Project Manager

Client: Town of Port Royal

Location: Port Royal, SC

Date(s): Jan 2009 – Jul 2010

Continuing Services Agreement in support of Town of Port Royal Town Manager and Support Staff. Responsible for variety of task orders related to evaluation, permitting, design and construction management of stormwater infrastructure on behalf of Town of Port Royal. Response to Town's needs as on-call advisor, monitoring progress on construction works, and certifying payment requests from Contractors.

Stormwater Support Services, Georgetown County

Role: Project Manager

Client: Georgetown County

Location: Georgetown, SC

Date(s): Jan 2009 – Jul 2010

Continuing Services Agreement in support of Georgetown County and Stormwater utility. Responsible for variety of task orders related to evaluation, permitting, design and construction management of stormwater infrastructure on behalf of Georgetown County. Support to Stormwater utility on continuing stormwater design and construction management projects. Evaluation of stormwater management techniques and equipment to limiting or reduce bacteria, specifically fecal coliform, elevated counts in surface waters receiving stormwater runoff.



Yosef Yip

Coordination with Local Stakeholders



Experience

15 years

Years with Firm

< 1 years

Qualifications/Accreditations

– MUP, Urban Design

2011

– BES, Urban Planning

2010

Relevance to the project:

Yosef has more than 15 years of experience in stakeholder and community engagement with a background in urban planning. His community building informs his ability to implement strategic outreach plans, foster trust through equity-focused partnerships with Community-Based Organization (CBO) and enhance public understanding of technical projects. Yosef has successfully managed small and large-scale initiatives for projects in all phases, while also working on multimodal projects like San Mateo County Transportation Authority's El Camino Real Complete Streets Corridor Plan. He has worked in a variety of sectors including transportation, energy, mobility, active transportation, emergency response, and more.

Project experience

Community Engagement for Recovery and Resiliency

Role: Urban Designer and Outreach Specialist

Client: New York City Mayor's Office

Location: New York, NY

After Hurricane Sandy hit the Northeast coast, Yosef joined the Mayor's Office to research urban design mitigation tools for NYC's "Build It Back" program. For a feasibility study, he collected GIS data concerning impacted properties. He also created infographic material to facilitate discussions for housing recovery options presented at community workshops. The program informed urban design policies with a focus on flood hazard risks and housing typologies.

Community Engagement for Recovery and Resiliency

Role: Planner and Community Outreach Specialist

Client: State of New York

Location: New York, NY

As part of the post-Hurricane Sandy rebuild to resiliency efforts in Greater New York City, Yosef worked with NY State Rising Community Reconstruction Program to assess the vulnerability of devastated areas in Coney Island Peninsula and Sheepshead Bay/Gerritsen Beach. Yosef was responsible for mapping vulnerable community assets, conducting GIS assessments, preparing research material, and coordinating community outreach efforts. Yosef led community discussions for public engagement meetings, which included workshops and charrettes.

Oregon Wildfire Debris Cleanup Taskforce

Role: Public Information Officer

Client: State of Oregon

Location: Oregon

In response to Oregon's 2020 Labor Day wildfires, Yosef served as the public information officer for the fire debris cleanup and recovery taskforce. Yosef collaborated closely with technical and operational staff from the Oregon Department of Transportation, Office of Emergency Management, and Department of Environmental Quality to deliver top priorities for public communications through statewide stakeholder coordination, press releases, video and photography content, talking points, innovative and traditional outreach methods, and in-language material development to increase accessibility to information.

Community Engagement for Park Services

Role: Engagement Task Lead

Client: US Forest Services

Location: Inyo County, CA

Date(s): 2024

Inyo County entered the NEPA/CEQA environmental process to improve road and motorized trail management in Coyote Flat, which includes repairing roads for safety and resource protection, reviewing travel management decisions, and adjusting for resource protection and recreation enhancement. Yosef led the engagement activities during Inyo National Forest's release of the Draft Environmental Assessment (EA). Yosef managed project team expectations (deliverables, timeline, budget,

Yosef Yip | Coordination with Local Stakeholders

and review process) through an engagement work plan, facilitated the open house, and developed meeting materials.

Community Engagement for Construction

Role: Communications Task Liaison

Client: Oregon Department of Transportation

Location: Hood River County, OR

Date(s): 2023 – 2024

In support of construction projects between I-205 and Hood River, Yosef's team led the communication and public information plans to inform the public about road closures and safety. Yosef led the social media efforts and liaised with the client on emergency communications, which included managing a media budget, creatives, and quality control.

Community Engagement for NEPA/CEQA

Role: NEPA Engagement Advisor

Client: Micron Technologies Inc.

Location: Bosie, ID and New York, NY

Date(s): 2023 – 2024

Micron is using Federal grants to fund their manufacturing expansion in Boise, Idaho and Clay, New York. As part of the \$15 Billion investment and funding agreement, stakeholder and public engagement is required. To facilitate a NEPA environmental process, Yosef advised on engagement approach and developed the scope of work.

Community Engagement for Emergency Management

Role: Logistic Lead

Client: US Army Corps of Engineers

Location: Florida and USVI

Date(s): 2024

Before hurricane landfall, Yosef deployed to two generator missions: 1) Pensacola, Florida, and 2) St. Croix, US Virgin Islands. In response to the power loss and/or cut-off, the emergency response team received a series of deployment orders for generator missions. Yosef was responsible for coordinating logistics to set up and decommission the Generator Staging Bases (GSB), including inventory preparation, equipment, track generators, Bill of Materials (BOM), communication between the client and subcontractors, and site assessment.

Communications and Public Relations

Role: Project Manager

Client: Alameda County Transportation Commission

Location: Alameda, CA

Date(s): 2024 – 2025

Yosef was the project manager who led the communications, public relations, and outreach services to support the agency's public affairs team. As an extension to the agency, Yosef managed the scope of work related

to project messaging, publications, website maintenance, strategic communications, paid advertising, media placements, media relations, campaign management, event planning and community outreach, translation and interpretation services, video and photography, and Title VI monitoring. Yosef managed contracting, subcontract agreements, project budgets, deliverable production, and vendor coordination.

Stakeholder Engagement ESG

Role: ESG Stakeholder Specialist

Client: Various Private Sector Clients

Yosef was a key member of an ESG advisory group that evaluated ESG performance and approach to implementing a sustainable business. Yosef conducted ESG-focused surveys for company staff, stakeholders, and board members. Accessibility and simplicity of these surveys were critical in obtaining high response rates. Yosef has worked closely with clients to effectively deliver, communicate, and gather data from their survey respondents. These ESG survey results ultimately fed into a company-wide ESG sustainability vision and action plan.

Communications and Public Relations

Role: Communications and Engagement Lead

Client: City of Sacramento Last Mile Broadband Access

Location: Sacramento, CA

Date(s): 2025 – Ongoing

Yosef managed the community engagement team and developed the strategic engagement plan for the Sacramento Last Mile Connectivity Project, which aims to provide digital equity by expanding affordable, high-speed internet access to underserved communities. Yosef developed and managed a workflow for a 2-year engagement plan. He implemented engagement tactics to outreach to landlords and residents, with the goal of notifying landlords and enrolling residents. Yosef also managed and streamlined deliverables such as a dedicated project website, voicemail, and email, comment management, and project collateral development.

Community Engagement for Transportation Projects

Role: Engagement Task Lead

Client: South Forbes Road/Oso Creek Trail Active

Location: Laguna Niguel, CA

Date(s): 2025 – Ongoing

Yosef managed the public and stakeholder engagement plan for the City of Laguna Niguel's Forbes Road Improvement and Oso Trail Extension Active Transportation Improvement Project (Project), which aims to enhance pedestrian and bicyclist safety and connectivity. Yosef managed and guided the engagement activities and material development, which include a public open house, board presentations, dedicated project website and email, and notification planning.



Michael Barnett, PE, BC.CE

Permitting



Experience

41 years

Years with Firm

7 years

Qualifications/Accreditations

- ME, Coastal & Oceanographic Engineering 1987
- BS, Ocean Engineering 1981
- Board-Certified Coastal Engineer (BC.CE) from the Academy of Coastal, Ocean, Port & Navigation Engineers
- Registered Professional Engineer (Civil): FL, AL, LA, MS, and TX

Relevance to the project:

Michael has over 41 years of experience in coastal engineering. He has led the feasibility, planning, engineering design, permitting, construction, and contract document preparation for beach restoration and nourishment projects, seawalls, living shoreline and muck removal projects in the southeastern US. He has led offshore sand source investigations for restoration and nourishment projects in Florida and managed the construction of a mitigative artificial reef as an element of the Miami Harbor Deepening Project. Michael served as the former chief of the Florida Department of Environmental Protection's (FDEP's) bureau of beaches and coastal systems for nearly eight years.

Project experience

Mid-Town Seawall Replacement Project

Role: Project Manager

Client: Town of Palm Beach

Location: Palm Beach, FL

Date(s): September 2020 - Ongoing

Michael is serving as project manager for this multidisciplinary data collection, planning, design, and permitting project associated with replacement of ~2,700 linear feet of aging seawall that protects South Ocean Boulevard and upland properties from storm impacts. The project area is along the Palm Beach's shoreline, which has a managed and maintained beach project providing storm protection and recreational benefits to residents and visitors. The GHD Team conducted a coastal engineering assessment of the seawall and collected site-specific topographic survey data and the acquisition of a series of soil borings to characterize the subsurface soil conditions. A combination of anchored and, in special consideration areas, cantilevered wall alignments were evaluated and designed. The design plans and specifications were finalized and transmitted to Palm Beach as issued for bid in May 2023 along with an engineers' opinion of probable construction cost. A permit application was submitted to the FDEP in summer 2022, and the permit was obtained in December 2022. GHD assisted Palm Beach with bid phase services which were temporarily postponed. Seawall construction is anticipated to commence in November 2025.

Miami-Dade County Coastal Erosion Hotspots: Modeling, Planning & Design Services

Role: Senior Coastal Engineer

Client: Miami-Dade County RER-DERM

Location: Miami-Dade County, FL

Date(s): October 2019 - April 2020

The Miami-Dade County Division of Environmental Resources Management (DERM) retained GHD to provide coastal modeling, planning, permitting, and design services to identify and mitigate coastal erosion hotspots along 13 miles of the Miami-Dade County shoreline, which extends from FDEP reference monuments R-7 to R-74 and comprises beach shorelines extending from a northern boundary of Sunny Isles to the Government Cut north jetty. Michael provided quality assurance reviews of the shoreline modeling and evaluation, and assessments of permit feasibility of proposed modifications to the existing sediment management protocols currently being employed by the County and the US Army Corps of Engineers, Jacksonville District.

St. Johns County FEMA Berm Project

Role: Project Director

Client: Continental Heavy Civil Corp.

Location: St. Johns County, FL

Date(s): March 2021 - March 2023

Michael served as the project director and engineer of record for a design-build project to restore 20 miles of eroded dunes throughout St. Johns County that were

Michael Barnett, PE, BC.CE | Permitting

impacted by Hurricanes Matthew and Irma. He led permitting coordination and application submittal to FDEP for the placement of approximately 750,000 cubic yards of truck-haul sand mechanically placed on the eroded dunes. Construction began in September 2021; sand placement and dune vegetation activities were completed in December 2022. Post-construction submittals were provided to FDEP in February 2023, and the project was closed in March 2023.

Seawall Inspection and Design Services, Living Shoreline Project

Role: Project Manager

Client: The Randolph Company/Greenacres Ponce Inlet, LLC

Location: Ponce Inlet, FL

Date(s): 2018

Mike served as the project manager for professional services to the owner of a 3.5 acre parcel fronting the Halifax River. The property is being improved to create a Coastal Science Center to be operated by the University of Florida. In October 2018, the design team conducted a detailed visual inspection and measurement of an existing 468 ft seawall displaying both partial failure and advanced deterioration. A report was transmitted with a recommendation to replace the seawall. An estimate of design, permitting and construction costs was completed in December 2018, with provision for inclusion of living shoreline elements to demonstrate additional shore protection techniques as a learning and teaching element.

Dune Restoration Project - Naval Station Mayport

Role: Project Director/Engineer of Record

Client: Oneida General Mechanical Corporation

Location: Naval Station Mayport; Jacksonville, FL

Date(s): October 2023 - Ongoing

Michael is engineer of record and project director for GHD services on an Oneida-led design-build team (Continental Heavy Civil Corp [CHC] is the contractor) for replacement of approximately 64,000 cubic yards of sand eroded by Hurricanes Ian and Nicole in 2022 from the 6,000 linear feet of shoreline fronting the Atlantic Ocean.

GHD geotechnical engineers and geologists investigated a dredged material management area on the base for use as the sediment source. GHD submitted a permit application and is finalizing the design, resulting in the production of conformed plans and specifications for CHC to construct the project. Six dune walkovers destroyed by the storms will be replaced. Construction is anticipated for 2024.

Pillar Point Living Shoreline Project | West Trail Shoreline Stabilization

Role: Coastal Engineer

Client: San Mateo County Harbor District

Location: Pillar Point Harbor District, CA

Date(s): 2018 - 2019

West Trail is a north-south oriented trail located along the western edge of Pillar Point Harbor (pedestrian and emergency vehicle access to the Mavericks surf break) that has been subject to erosion and emergency repairs since 1994. Michael provided final quality control and assurance verifications and sign-off on design methodology for providing shore protection to the trail as well as coordinating other design elements to protect infrastructure that is also subjected to erosional stresses along this shoreline segment. Project construction was recently completed.

Shoreline Erosion and Living Shoreline Stabilization Study

Role: Coastal Engineer

Client: LG2 Environmental Solutions, Inc.

Location: Marine Corps Air Station, Cherry Point, NC

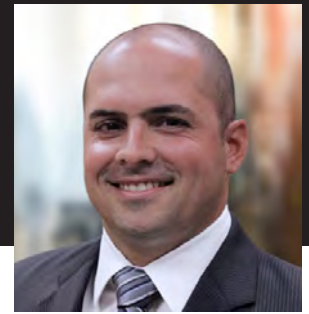
Date(s): September 2017 - January 2018

Michael served on the project team that conducted an inspection and assessment rating of eight existing bulkheads fronting the Neuse River along portions of the installation's 15,500 ft shoreline. A site visit to document and evaluate the potential for implementing living shoreline solutions along the entirety of the eroding shoreline was conducted; conceptual level design drawings and cost estimates to implement these solutions was undertaken, and an envision pre-assessment checklist to assist with planning of a cost-effective, resource-efficient and adaptable shoreline stabilization project was completed. Site work was conducted on the bulkheads in October 2017, and the remainder of the shoreline was assessed in July 2018. A final report was transmitted in September 2018.



Albert Argudin, CGC

Lead Construction Manager



Experience

23 years

Qualifications/Accreditations

- MS, Construction Management, Florida International University 2004
- BS., ESS, University of Florida 1999
- Certified General Contractor: Florida No. 1510041 (Est. 2005)

Relevance to the project:

Albert Argudin has over 23 years of professional consulting experience in the construction and engineering industry. Mr. Argudin has served as the project manager for countless roadway and drainage improvement projects throughout South Florida. While being diversified in both horizontal and vertical construction projects, he has proven to have the ability and expertise to manage project constraints, such as time and cost, while delivering projects that comply with the construction documents and exceed client expectations.

Project experience

Morningside Seawalls & Living Shorelines Project between NE 55th Terrace & NE 65th St. & Biscayne Bay

Role: Lead Construction Manager

Client: City of Miami Resilience and Public Works (RPW)

Location: Miami, FL

The project encompasses three locations: NE 61st Street and Biscayne Bay, NE 59th Street and Biscayne Bay, and NE 55th Street. The main goal of the project is to comply with the newly adopted “Resiliency Standards for Tidal Flood Protection,” the measure sets minimum construction standards for seawalls and other tidal flood barriers to strengthen coastal resilience and mitigate the effects of tidal flooding. The project funded through the Resilient Florida Grant Program (RFGP) 2021–2022 Federal and Miami Forever Bond. ADA has been retained to provide Professional Engineering services to fortify the bulkhead line/shoreline and ensure baywalk continuity by raising or replacing deteriorated seawalls and providing new baywalks along public Right of Way (R/W). The scope includes design/permitting for seawall raising or replacement, dredging, bursting outfall pipes, installing manhole structures, tidal valves, manatee grates, rip-rap, guardrails, signs and pavement markings, concrete and asphalt removal, milling, resurfacing, street lighting, and landscaping (soft/hard), while restoring the right-of-way. Mr. Argudin will serve as the Project Manager on this project and will be responsible for coordinating our efforts

between multiple disciplines, ensuring project milestones are completed on time and within budget and will continue to coordinate with the City’s RPW.

Shorecrest Roadway and Drainage Improvements Project

Role: Lead Construction Manager

Client: City of Miami Office of Capital Improvements (OCI)

Location: Miami, FL

ADA is providing engineering design for the roadway and drainage improvements in the Shorecrest area located south of NW 79 Street. The purpose of the project is to address the flooding currently being experienced in the area due to sea level rise and King Tide conditions experienced in the City’s coastal areas. The scope of services includes development of plan and profile drawings, details, summary of pay items and cost estimating. ADA is coordinating with the County’s RER and FDOT for their permitting requirements. ADA, as the Prime consultant is serving as the project manager in responsible charge of the engineering analyses, design and permitting in addition to construction phase services such as shop drawings review, procurement support, responding to RFIs, performing periodic inspections to ensure construction is in adherence to the approved Contract Documents and completed in accordance with City Standards and Specifications. Mr. Argudin serves as the Project Manager on this project and was responsible for coordinating our efforts between multiple disciplines, ensuring project milestones were

Albert Argudin, CGC | Lead Construction Manager

completed on time and within budget and in close coordination with the City's Project Manager.

South Bayshore Lane Stormwater Pump Station

Role: Lead Construction Manager

Client: City of Miami Department of Capital Improvements & Transportation Public Works

Location: Miami, FL

ADA in collaboration with the CITP department, played a pivotal role in designing a new stormwater pump station for Phase II of the Roadway and Drainage Improvements along South Bayshore Lane. This project not only aimed to alleviate current flooding issues but also addressed the escalating challenges posed by rising King Tide occurrences along the city's coastal zones. ADA's engineering expertise added significant value through various tasks, including conducting 6 Subsurface Utility Engineering (SUE) explorations to identify potential utility conflicts, performing a benthic survey in the Bay to assess the need for rip rap at the outfall, designing marine structures for the seawall replacement with a larger outfall, and structurally designing flex panels for the generator structure. Additionally, ADA enhanced the structural design for the generator structure to accommodate the flex panels, incorporated landscape architecture elements, and provided potential additional geotechnical work as required. These comprehensive engineering efforts contributed significantly to the effectiveness and resilience of the stormwater management system in the area. Mr. Argudin serves as the Project Manager on this project responsible for coordinating our efforts between multiple disciplines, ensuring project milestones are completed on time and within budget and in close coordination with the City's Project Manager.

San Marco Island Drainage Pump Station and Storm Sewer System

Role: Lead Construction Manager

Client: City of Miami Capital Improvements Program (OCI)

Location: Miami, FL

As part of the General Construction Engineering Observation Contract with Miami, ADA provided staff to observe and document the construction of a new stormwater pump station with drainage wells and an overflow outfall to Biscayne Bay. The stormwater system also included French drainage and gravity storm sewers. Roadway reconstruction was also included in the project scope. Mr. Argudin was the Principal-in-Charge for this contract and was responsible for managing all ADA staff, attending coordination meetings with the city, contractor, and design professionals, reviewing payment requests, and schedule review.

Entrada Neighborhood Drainage and Roadway Improvements and JPA for 8-inch Water Main

Role: Lead Construction Manager

Client: City of Miami Capital Improvements Program

Location: Miami, FL

Mr. Argudin served as A.D.A.'s Project Manager under the City's Capital Improvements Program for this project. The Entrada Neighborhood is a coastal community located within the southern limits of the City of Miami. ADA was hired by the City's Capital Improvements Program to design flood mitigation and roadway improvements as well as provide Construction Engineering Inspections (CEI) during the construction phase. During the utility coordination phase, we identified multiple undersized water mains within the neighborhood. Subsequently to this finding, the City and the Miami-Dade Water & Sewer Department (WASD) entered into a Joint Participation Agreement (JPA) for the design and construction of a new 8" water main for the area. We also provided CEI services for the construction of the water main.

Cargo Gate Modifications and Process Improvements-Design, Permitting, and Construction Phase Services for PortMiami

Role: Lead Construction Manager

Client: PortMiami

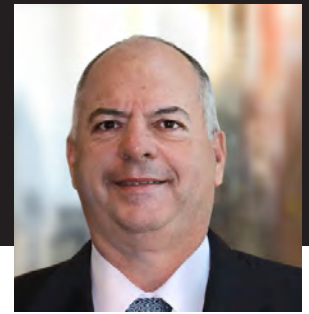
Location: Miami, FL

ADA served as the consultant focusing on environmental and drainage improvements for the relocation of the SFCT access gates and the associated roadway development, covering an 8-acre area at PortMiami. A key component of the project was to enhance the environmental integrity of the site, particularly concerning its drainage into Biscayne Bay through existing outfalls on the island's north side. Overseeing the project's progress through rigorous review of shop drawings, responding to RFIs from the contractor, attending progress meetings, conducting periodic site visits, and coordinating field changes with the contractor to safeguard the ecological aspects of the project.



Alberto Argudin, PE, CGC, LEED AP

Lead Civil Engineer



Experience

48 years

Qualifications/Accreditations

- BS, Civil Engineering University of Florida 1976
- Professional Engineer: Florida No. 23547 (Est. 1980)
- Certified General Contractor: Florida No. 023790 (Est. 1982)
- Certified Engineering Contractor: Miami – Dade County No. E98100 (Est. 1990)

Relevance to the project:

Mr. Argudin is critically focused on ensuring our client's experience of our services is consistently positive. He's had the privileged of serving the South Florida community for over 48 years and has been involved in a variety of projects that include all aspects of site engineering, including stormwater management, water distribution, sewage collection and transmission, transportation, solid waste management, environmental studies, permitting, and construction management. As Project Manager, design engineer, and contractor, Mr. Argudin has been responsible for the planning, design, permitting, and construction supervision of municipal and institutional projects, as well as for industrial, commercial, and residential clients.

Project experience

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Client: City of Miami Office of Capital Improvements (OCI)

Location: Miami, FL

ADA provided engineering design for the roadway and drainage improvements in the Shorecrest area located south of NW 79 Street. The purpose of the project is to address the flooding currently being experienced in the area due to rising King Tide conditions being experienced in the City's coastal areas. Services rendered include project management, engineering analyses, design and permitting in addition to construction phase services such as shop drawings review, procurement support, responding to RFIs, performing periodic inspections to ensure construction is in adherence to the approved Contract Documents and completed in accordance with City Standards and Specifications. The level of effort includes development of plan and profile drawings, details, summary of pay items and cost estimating. ADA will coordinate with the County's RER and FDOT for their permitting requirements. Mr. Argudin is assisting with all QA/QC Reviews.

San Marco Island Drainage Pump Station and Storm Sewer System

Role: Lead Civil Engineer

Client: City of Miami Capital Improvements Program (OCI)

Location: Miami, FL

As part of the General Construction Engineering

Alberto Argudin, PE, CGC, LEED AP | Lead Civil Engineer

Observation Contract with Miami, ADA provided staff to observe and document the construction of a new stormwater pump station with drainage wells and an overflow outfall to Biscayne Bay. The stormwater system also included French drainage and gravity storm sewers. Mr. Argudin served as the Principal and QA/QC Manager for the project.

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served as the Principal.

D6, Specialized Consultant, Services NPDES Program –Outfall Assessment – Collins Ave. Drainage System from, NE 159th Street to NE 174th Street

Role: Lead Civil Engineer

Client: Florida Department of Transportation (FDOT)

Location: Florida

ADA Engineering played a crucial role as part of the Design team, providing professional engineering services to the FDOT Drainage Department for evaluating seven outfalls along Collins Avenue. The project involved comprehensive activities, including data collection from FDOT D-6 and the City of North Miami Beach, field inspections to assess outfall conditions and locations, hydraulic analysis for capacity evaluation, identification of repair needs and retrofit measures, preliminary structural evaluations, coordination meetings, and the development of the Outfall Assessment Report – Phase II. Additionally, ADA updated the GIS Geo Database with inspected outfalls and facilitated coordination meetings with FDOT throughout the project. Mr. Argudin served as the Principal and QA/QC Manager for the project.

G-58 Gate Replacement Project

Role: Lead Civil Engineer

Client: South Florida Water Management District (SFWMD)

Location: Florida

Under an Operation, Maintenance, Repair, Replacement, & Rehabilitation contract with SFWMD, ADA's design team was tasked with several critical assignments. This included the replacement of four slide gates, the construction of a new marine headwall and control/generator building, and the addition of two stilling well structures, along with associated electrical improvements. Furthermore, ADA entered into a joint partnership with the Florida Department of Transportation (FDOT) under a Locally Funded Agreement to undertake the slip-lining of four large culverts. The project site, known as the G-58 structure, is situated within Arch Creek Park on NE 135th Street in the City of North Miami. ADA also provided Engineering During Construction (EDC) services, involving periodic inspections, shop drawing reviews, response to Requests for Information (RFIs), and assistance with project closeout tasks. Despite challenges like buried artifacts, soil contamination, and environmental considerations, ADA navigated these complexities while ensuring public access to the park during normal hours. Mr. Argudin served as the Principal and QA/QC Manager for the project.



Marco Biagioni, PE

Senior Inspector



Experience

42 years

Qualifications/Accreditations

- BS Civil Engineering Universidad Catolica Andres Bello, Venezuela
- Professional Engineer: State of Florida # 60014

1980

Relevance to the project:

Mr. Biagioni has over 42 years of experience managing and inspecting Civil Engineering projects. Possessing a diverse background, he has provided CEI services for roadway and bridge projects, injection wells, pump stations, canal dredging, drainage, utilities and large infrastructure projects.

Project experience

San Marco Island Drainage Pump Station and Storm Sewer System,

Role: Senior Inspector

Client: City of Miami Capital Improvements Program (OCI)

Location: Miami, FL

As part of the General Construction Engineering Observation Contract with Miami, ADA provided staff to observe and document the construction of a new stormwater pump station with drainage wells and an overflow outfall to Biscayne Bay. The stormwater system also included French drainage and gravity storm sewers. Mr. Biagioni served as Project Manager in charge of supervising the CEI team and overall inspection of all project activities including material testing and acceptance for the roadway construction and specialty pump station installation.

The Bicentennial Park Seawall Replacement Phase 4

Role: Senior Inspector

Client: Confidential

Location: Miami, FL

Project (\$5 Million) provided for the demolition and replacement of the final 611 lineal feet of bulkhead, with the project terminating at the Port of Miami Bridge. The bulkhead in this location required the use of custom fabricated 65 foot long epoxy-coated steel sheeting driven deep into the sea substrate. The wall was finished with a 42 inch concrete cap and a contiguous concrete curtain which extends down below the water line at low tide.

Haulover Park Marina Reconstruction Phase 2

Role: Senior Inspector

Client: Confidential

Location: Miami, FL

Scope of work consisted in the excavation of 47,000 cubic yards of upland property, the construction of a 625 lineal foot concrete bulkhead with tie-back anchors and the demolition of the existing concrete piers. Four new main piers, designed to accommodate 85 additional vessels were constructed in the new basin, which was dredged to an average depth of 8 feet. The previously existing 600 lineal foot steel sheet pile bulkhead was removed upon completion of the excavated basin. A new floating ADA accessible dock was installed at the new bulkhead. All pre-cast concrete sections for the concrete docks and the concrete bulkhead were manufactured on site at the north end of the Park. As the project manager, he was in charge of managing the entire workforce for both projects, his duties included interacting with the owner and all official agencies with jurisdiction over the project: Miami Dade County public works, Miami Dade County Parks and Recreation, Fire Department and Building and Zoning department. He was also in charge of conducting weekly progress meetings, shop drawing submittal, material certification and samples submittal, Environmental permits compliance and closure, monthly schedule and payment updates and final acceptance inspections coordination.

Caloosahatchee River (C-43) West Basin Storage Reservoir Project

Role: Project Manager (Irrigation Pump Station S-470)

Client: South Florida Water Management District

Location: Florida

The project intent was to replace the existing LPDD pump stations in order to provide irrigation water to the adjacent agricultural areas. Mr. Biagioni served as Project Manager controlling budget, schedule and supervision of the QA

team. His team was responsible for inspections of all project activities including material testing and acceptance of equipment (195 CFS vertical line electric driven pumps – 3 @ 65 CFS ea w / 350 HP motors) that was installed at this pump station (PS-476).

Naples Big Cypress Field Station Relocation Project

Role: Resident Engineer

Client: *South Florida Water Management District*

Location: Miami, FL

This \$9 million project put crews closer to eastern Collier County, where most of the basin's canal and gates are located. This location doubled the size of the previous field station. A gas station on the site ended the pull of equipment into the neighborhood gas station for a fill-up or to top off the tank before a hurricane. The field station have a new microwave tower allowing the water management district to monitor the basin's canals and water control structures from its West Palm Beach headquarters. This facility includes a huge maintenance barn allowing mechanics to work indoors. I served as an Owner Field Representative, inspecting documenting and reporting all contractor activities. I was also in charge of conducting bi-weekly progress meeting, shop drawings comments and material certification; monthly schedule and approval of payments request by Contractor

Caloosahatchee River (C-43) West Basin Storage Reservoir

Role: Lead Field Engineer

Client: South Florida Water Management District

Location: Florida

This \$750 million project will improve the timing, quantity, and quality of freshwater flows to the Caloosahatchee River and Estuary. To restore and maintain the estuary during the dry season, the project will capture and store basin stormwater runoff, along with a portion of the water discharged from Lake Okeechobee. Water will be slowly released into Caloosahatchee, as needed. This project also provides secondary benefits, once the needs of the estuary are met, along with recreational benefits. Project features include:

- 10,500 acres storage reservoir
- 1,500 cubic feet per second (cfs) pump for filling the reservoir
- Perimeter canal to convey drainage off-site
- Recreation component

He served as the Owner's Construction Manager providing daily observations of the construction activities to ensure compliance with the contract documents. This included maintaining accurate records of the SOV items utilized daily and issuing reports documenting the achieved progress.

ST-2E SDWWTP RAS Pipeline

Role: Senior Inspector

Client: Miami-Dade Water and Sewer Department

Location: Miami, FL

ADA will be inspecting the construction activities associated with replacement of approximately 1,150 linear feet of 36" Return Activated Sludge (RAS) pipeline from RAS Pump Station 1 to Oxygenation Tanks 1-4. In addition, approximately 1,300 linear feet of new 36" pipeline from RAS Pump Station 1 to Oxygenation Tanks 1-4 on the East side of the structures will also be constructed. Demolition of deteriorated RAS piping is also included under this project. This project is one of many required for compliance with the State of Florida's Ocean Outfall Legislation and is being processed under Section 2-8.2.12 of the Code, entitled Miami-Dade Water and Sewer Department Consent Decree and Capital Improvement Programs Accelerate Ordinance. Mr. Biagioni serves as ADA's Senior Inspector, responsible for ensuring the project is delivered in compliance with the approved drawings and specifications. He is responsible for documenting daily activities, inspecting materials upon arrival to the site and coordination with the Construction Manager.

Fort Lauderdale Airport Runway Expansion Project

Role: Lead Field Engineer

Client: Hollywood International Airport

Location: Florida

Lead Field Engineer, Project consists of expanding the South Runway to a total of 8,000 LF long by 150 LF wide along with associated taxiways and infrastructure. The list of activities includes both mayor roadway and structural components such as: Placing over 7 million of cubic yards of fill, pouring over 535,000 square yards of concrete for the runway pavement and over 68,000 cubic yards of concrete for the multiple structures within the scope of work as well as placing over 90,000 tons of asphalt for the runway. A total of 2650 concrete piles and 840 concrete beams were installed to create the elevated runway over US1. I served as the Lead Field Engineer on behalf of the owner (Broward County) in charge of supervising the entire field inspection team and making sure all project activities were properly inspected & documented and that all materials were tested and verified in accordance with the contract documents requirements.



Xavier Sabando

Senior Inspector

Experience

37 years

Qualifications/Accreditations

– BS, Civil Engineering Guayaquil State University, Ecuador

1987

Relevance to the project:

Mr. Sabando has over 37 years of experience in the horizontal construction industry. His diverse background includes the construction of utilities, injection wells, roadway, drainage and bridges throughout South Florida. Throughout his career, he has demonstrated the ability to manage construction activities both within the Right of Way and facilities while maintaining synergy with the Contractors. With a keen attention to detail and meticulous approach, his presence on a project ensures that only the highest degree of quality is achieved. and water main projects.

Project experience

San Marco Island Drainage Pump Station and Storm Sewer System

Role: Senior Inspector

Client: City of Miami Capital Improvements Program (OCI)

Location: Miami, FL

Senior Inspector for this OCI project. As part of the General Construction Engineering Observation Contract with Miami, ADA provided staff to observe and document the construction of a new stormwater pump station with drainage wells and an overflow outfall to Biscayne Bay. The stormwater system also included French drainage and gravity storm sewers. He was responsible for documenting daily construction activities, labor force and equipment, identifying safety deficiencies and verification of activities for conformance with the approved drawings and verification that the proper Maintenance of Traffic was in place. His responsibilities also included inspecting materials upon delivery for conformance with the approved shop drawings. Before acceptance of the project, he witnessed the electrical testing as well as pressure testing of the 24" DIP force main.

Vanderbilt Park (Basin F-1) Drainage Improvements

Role: Senior Inspector

Client: City of Doral Public Works Department

Location: Florida

The project scope included the construction of a new drainage collection system including french drain, replacement of damaged Type F curb, pavement

restoration and roadway milling and resurfacing. These improvements were completed within the Vanderbilt Park area within the City of Doral. ADA provided Construction Engineering Inspection (CEI) services during the construction phase. ADA provided a full-time Sr. Inspector and part-time Project Engineer to oversee the project. ADA's Sr. Inspector witnessed the daily construction activities for general conformance with the construction documents, verified the proper Maintenance of Traffic (MOT) was in place, inspected the materials upon delivery to the site, witnessed geotechnical tests and issued daily reports. ADA's Project Engineer was responsible for providing oversight of ADA's Sr. Inspector, attending bi-weekly meetings and reviewing and approving payment requisitions. A Substantial Completion/Punchlist walk through was completed with the Contractor and Public Works Department. Upon issuance of the punchlist, ADA verified that the items pending resolution were completed.

PortMiami Cargo Gate Modifications and Process Improvements

Role: Senior Inspector

Client: PortMiami

Location: Miami, FL

Senior Inspector at the PortMiami project consisting of roadway and drainage improvements as well as a new water main. Responsible for monitoring all construction activities, documenting pre-trenching activities to identify utility conflicts, verifying that the proper Maintenance of Traffic (MOT) is in place, inspecting materials upon delivery for conformance with the approved shop drawings and direct communication with the PortMiami Construction Manager.

Shenandoah Roadway Improvements

Role: Senior Inspector

Client: City of Miami Office of Capital Improvements

Location: Miami, Florida

Mr. Sabando was the Senior Inspector/Project Administrator for this project. He performed inspections of the delivered materials for acceptance according to the contract drawings and specifications. The inspected materials and activities include milling and resurfacing, tack coat, asphalt, and striping. He was also responsible for verifying that the proper Maintenance of Traffic was in place. Daily reports were generated documenting the completed activities and the quantities utilized.

Coral Gate Roadway Improvements

Role: Senior Inspector

Client: ***City of Miami Office of Capital Improvements***

Location: Miami, FL

Mr. Sabando was the Senior Inspector for this project. The project scope included the installation of a new drainage system, removal and replacement of existing curbs and pedestrian cross walks, new traffic circle with landscaping as well as milling and resurfacing of the existing roadway within the project limits. His duties included observation of the construction activities for compliance with the approved construction documents, verification of the quality of materials when delivered and checking asphalt temperature prior to installation.

Palm Grove Roadway and Drainage Improvements

Role: Senior Inspector

Client: City of Miami Office of Capital Improvements

Location: Miami, FL

Mr. Sabando was the Senior Inspector for this project. The project scope included the installation of new drainage, removal and replacement of existing curbs and pedestrian cross walks. His duties include observation of the construction activities for compliance with the approved construction documents, verification of the quality of materials when delivered.

Fort Lauderdale International Airport Expansion

Role: Senior Inspector

Client: ***Fort Lauderdale International Airport***

Location: Ft. Lauderdale, FL

Responsible for performing technical assignments in field surveying and construction layout, making, and checking engineering computations, inspecting construction work, and conducting field tests and was responsible for coordinating and managing the other inspectors. Work was performed under the general supervision of the Project Administrator. The primary duties for this position require the experience and knowledge of performing Construction Engineering & Inspection (CEI) duties including construction

inspection, materials testing, and the understanding of Florida Department of Transportation (FDOT) construction project administration methods and processes. Perform field inspection, material testing, and documentation along with other tasks. Read and interpret construction plans, specifications, and other contract documents, and identify discrepancies or conflicts within the documents as well as the enforcement of these contract documents.

Roadway/Drainage Reconstruction along Miami-Dade County

Role: Senior Inspector

Client: Confidential

Location: Miami, FL

Responsible for supervision of all existing removing, reconstruction and new jobs on streets, subbase, base, asphalt milling, drilled shafts, drainage, sidewalks, deep pools, electrical installations, structural & no-structural concrete, asphalt inspection, placement, sampling and testing operations. Controlling density tests for new streets, subbase, and base, responsible for monitoring and pay all compute estimates.

N-2E NDWWTP Municipal Injection Wells

Role: Senior Inspector

Client: Miami Dade Water & Sewer Department (WASD)

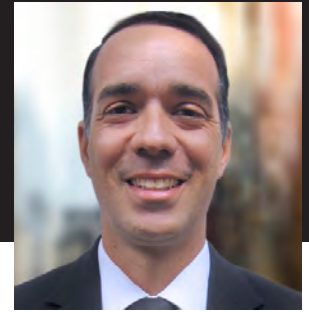
Location: Miami-Dade County, FL

ADA is inspecting the construction activities associated with the construction of five (5) injection wells approximately 3,300 feet deep, two (2) Floridan Aquifer monitoring wells approximately 1,500 feet deep and drilling pad monitoring wells, drilling pads, site work, and wellhead piping. Each of the (5) wells will have a permitted capacity of 18.65 mgd at a maximum flow rate of 10 feet/second and provide an additional disposal capacity of 74.6 mgd in an N+1 configuration for redundancy purposes. The injection wells will be installed with surface casing (54-inch OD) set at approximately 350 bls and intermediate casing (44-inch OD) to approximately 1,100 feet bls using the conventional mud rotary drilling method. Well construction will then be converted to the reverse air circulation method. A second intermediate casing (34-inch OD) will be set at approximately 1,500 feet bls and the final 24-inch seamless casing string will be set to a depth of approximately 2,800 feet bls. Mr. Sabando serves as ADA's Senior Inspector, responsible for ensuring the project is delivered in compliance with the approved drawings and specifications. He was responsible for documenting daily activities, inspecting materials upon arrival to the site and coordination with the Construction Manager.



Waddie D. Ruiz, PE, CGC

Senior Civil Engineer



Experience

26 years

Qualifications/Accreditations

- BS, Civil Engineering University of Puerto Rico (Mayaguez) 1997
- Professional Engineer: Florida No. 62714 (Est. 2005); Puerto Rico No. 16982 (Est. 2000)
- Certified General Contractor: Florida No. 1511731 (Est. 2006)

Relevance to the project:

Mr. Ruiz has 26 years of professional engineering consulting and construction management experience and holds professional engineering licenses in both Florida and Puerto Rico. He's also a certified general contractor in the State of Florida. His work expertise includes project management for both design and the construction of water and wastewater systems, roadways, drainage systems, and land development. Mr. Ruiz's experience also includes permitting, with a focus on Miami-Dade County Water and Sewer Department (WASD), the Florida Department of Transportation (FDOT), the City of Miami Public Works, the Department of Regulatory and Economic Resources (DRER), the Florida Department of Health, and the City of Miami Fire Department.

Project experience

San Marco Island Drainage Pump Station and Storm Sewer System

Role: Senior Civil Engineer

Client: City of Miami Capital Improvements Program (OCI)

Location: Miami, FL

As part of the General Construction Engineering Observation Contract with Miami, ADA provided staff to observe and document the construction of a new stormwater pump station with drainage wells and an overflow outfall to Biscayne Bay. The stormwater system also included French drainage and gravity storm sewers. Mr. Ruiz assisted as a Senior Inspector for this project, for which he performed inspections of the delivered materials for acceptance according to the contract drawings and specifications. The inspected materials included Portland cement, tack coat, asphalt, and reinforcing steel. He was also responsible for verifying that the proper maintenance of traffic was in place. Daily reports were generated documenting the completed activities and the quantities utilized.

South Bayshore Lane S Stormwater Pump Station

Role: Senior Civil Engineer

Client: City of Miami Department of Capital Improvements & Transportation Public Works

Location: Miami, FL

ADA designed a new stormwater pump station as Phase

II for the Roadway and Drainage Improvements to South Bayshore Lane, between East Fairview Street and West Fairview Street. The purpose of the stormwater pump station is to address the flooding experienced in the area, while addressing the rising King Tide conditions experienced in the City's coastal communities. ADA provided the required services including project management, engineering and construction documents for the pump station. The level of effort included development of a site plan, pump design, and structural and electrical design of the pump station, as well as the electrical design for the new backup generator. Analysis of the existing 15" reinforced concrete pipe (RCP) outfall on South Bayshore Lane determined its functionality and effectiveness in conveying the flows from the new stormwater pump station. Mr. Ruiz served as the Project Manager and Engineer of Record in charge of the design and coordination with other disciplines in the development of Contract Documents for the project.

South Bayshore Drive Roadway and Drainage Improvements

Role: Senior Civil Engineer

Client: City of Miami Office of Capital Improvements

Location: Miami, FL

The project scope of work consisted of 1.5 miles of roadway reconstruction of South Bayshore Drive and included drainage improvements, curb and gutter (in both directions), sidewalks and pedestrian ramps, a bike-way, a

shared common path, landscaping, roadway lighting, traffic signalization improvements, permitting, utility coordination, and signing & pavement markings. Also included was the Master Planning process that identified design and alignment options in conjunction with conducting public involvement and public hearings. Additionally, and during the initial contact with Miami-Dade County Water & Sewer Department (WASD), the need to upgrade an existing water main from a 6-inch to an 8-inch line was added. Mr. Ruiz was the Project Engineer responsible for the design of the roadway including alignment and geometry as well as the utility coordination.

Shorecrest Roadway and Drainage Improvements Project

Role: Senior Civil Engineer

Client: City of Miami Office of Capital Improvements (OCI)

Location: Miami, Florida

ADA provided engineering design for the roadway and drainage improvements in the Shorecrest area located south of NW 79 Street. The purpose of the project is to address the flooding currently being experienced in the area due to rising King Tide conditions being experienced in the City's coastal areas. Services rendered include project management, engineering analyses, design and permitting in addition to construction phase services such as shop drawings review, procurement support, responding to RFIs, performing periodic inspections to ensure construction is in adherence to the approved Contract Documents and completed in accordance with City Standards and Specifications. The level of effort includes development of plan and profile drawings, details, summary of pay items and cost estimating. ADA will coordinate with the County's RER and FDOT for their permitting requirements. Mr. Ruiz is the Engineer of Record (EOR) for the Civil Design of the Drainage Sewer System, Roadway Reconstruction, Typical Sections, Pavement, Markings, Storm Water Pollution, Prevention plan, and Maintenance Of Traffic.

Outfall Assessment for Collins Avenue and Alton Road Drainage Systems – Phase I

Role: Senior Civil Engineer

Client: FDOT District 6

Location: Florida

For this project, Mr. Ruiz performed the field assessment of the outfall. As part of the FDOT District 6 district-wide Drainage Design and Plans Review Consultant Contract, our Firm assisted the FDOT in preparing an Outfall Assessment Report regarding the condition of the outfalls associated with the Collins Avenue and Alton Road drainage systems. Our scope of work included: Data Collection and Evaluation; Outfall Field Assessment; Outfall GIS Database Update; Outfall Assessment Report Development (Phase I); and Outfall Diving Inspection. The Outfall Assessment Report (Phase I) documented the conditions of the existing

outfalls associated with these two roads and provided recommendations and costs for the outfalls that require repairs. This report also provided recommendations and costs for outfalls that required diving or video inspections and easement or right-of-way evaluations to better assess the required repairs.

Outfall Assessment – Collins Ave. Drainage System from NE 159th Street to NE 174th Street

Role: Senior Civil Engineer

Client: **FDOT District 6**

Location: Florida

ADA Engineering played a crucial role as part of the Design team, providing professional engineering services to the FDOT Drainage Department for evaluating seven outfalls along Collins Avenue. The project involved comprehensive activities, including data collection from FDOT D-6 and the City of North Miami Beach, field inspections to assess outfall conditions and locations, hydraulic analysis for capacity evaluation, identification of repair needs and retrofit measures, preliminary structural evaluations, coordination meetings, and the development of the Outfall Assessment Report – Phase II. Additionally, ADA updated the GIS Geo Database with inspected outfalls and facilitated coordination meetings with FDOT throughout the project.

West Fairview Roadway & Drainage Improvements & Watermain

Role: Senior Civil Engineer

Client: City of Miami Capital Improvements Program (CIP)

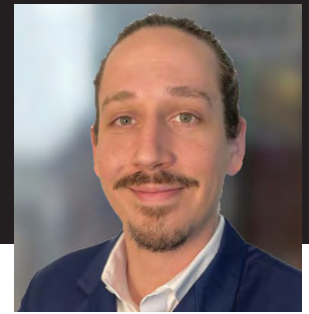
Location: Miami, FL

This project was a Joint Participation Agreement (JPA) between the City of Miami and Miami-Dade Water and Sewer Department. The project objective was to have one project in which all the proposed improvements were constructed concurrently. ADA provided design services for roadway and drainage improvements as well as new eight-inch DIP water main for the project limits consisting of West Fairview Street, East Fairview Street, and South Bayshore Lane. The roadway improvements included roadway reconstruction, new pavement markings, a new concrete curb, replacement of damaged curbs, and replacement of damaged sidewalk. Drainage improvements consisted of the installation of three inline valves in the existing outfalls to mitigate tidal flooding, replacement of an existing drainage collection system with a continuous, water-tight collection system, and lining a portion of the current drainage system. As the Engineer of Record (EOR), Mr. Ruiz designed the new storm sewer system and the reconstruction of the roadway, and also assisted with the development of construction contract documents and the preparation of permit applications.



Michael Casanova, PE

Project Engineer



2014

Experience

10 years

Qualifications/Accreditations

- BS, Civil Engineering, Florida International University
- Professional Engineer: Florida No. 88691 (Est. 2019)
- Engineering Intern: Florida No. 1100019103 (Est. 2014)

Relevance to the project:

Michael Casanova has 10 years of engineering consulting and construction management experience. His varied experience encompasses the planning and design of roadway improvements such as milling and resurfacing and reconstruction. He's also versed in stormwater infrastructure analysis and design, small diameter water and wastewater pipeline and permitting. Navigating through the project life cycle, he has also inspected and managed the construction of horizontal improvements.

Project experience

Shorecrest Roadway and Drainage Improvements Project

Role: Project Engineer

Client: City of Miami Office of Capital Improvements (OCI)

Location: Miami, FL

ADA provided engineering design for the roadway and drainage improvements in the Shorecrest area located south of NW 79 Street. The purpose of the project is to address the flooding currently being experienced in the area due to rising King Tide conditions being experienced in the City's coastal areas. Services rendered include project management, engineering analyses, design and permitting in addition to construction phase services such as shop drawings review, procurement support, responding to RFIs, performing periodic inspections to ensure construction is in adherence to the approved Contract Documents and completed in accordance with City Standards and Specifications. The level of effort includes development of plan and profile drawings, details, summary of pay items and cost estimating. ADA will coordinate with the County's RER and FDOT for their permitting requirements. Mr. Casanova is tasked with performing detailed drainage and roadway analyses to address flooding concerns in the neighborhood and protect/maintain access to the City's Fire Station. In addition to upgrading the existing storm drainage system, the existing roadway elevations are proposed to be raised as much as possible without causing flooding to the residential properties within the neighborhood. Furthermore, Mr. Casanova is responsible for coordinating with both utility and permitting agencies, as well as

developing comprehensive construction documents and technical reports.

Shorecrest Short Term Improvements: NE 10th Avenue Roadway and Drainage Improvements

Role: Project Engineer

Client: City Of Miami Capital Improvements Program

Location: Miami, FL

As a project engineer, Mr. Casanova is tasked with performing detailed drainage and roadway analyses to address flooding concerns in the neighborhood and protect/maintain access to the City's Fire Station. In addition to upgrading the existing storm drainage system, the existing roadway elevations are proposed to be raised as much as possible without causing flooding to the residential properties within the neighborhood. Furthermore, Mr. Casanova is responsible for coordinating with both utility and permitting agencies, as well as developing comprehensive construction documents and technical reports.

South Bayshore Lane Stormwater Pump Station

Role: Project Engineer

Client: City of Miami Capital Improvements Program

Location: Miami, FL

ADA designed a new stormwater pump station as Phase II for the Roadway and Drainage Improvements to South Bayshore Lane, between East Fairview Street and West Fairview Street. The purpose of the stormwater pump station is to address the flooding experienced in the area, while addressing the rising King Tide conditions experienced in the City's coastal communities. ADA

Michael Casanova, PE | Project Engineer

provided the required services including project management, engineering and construction documents for the pump station. The level of effort included development of a site plan, pump design, and structural and electrical design of the pump station, as well as the electrical design for the new backup generator. Analysis of the existing 15" reinforced concrete pipe (RCP) outfall on South Bayshore Lane determined its functionality and effectiveness in conveying the flows from the new stormwater pump station. As a Project Engineer, Mr. Casanova is responsible for developing complete and thorough construction documents, technical reports, and project presentations. Drainage analysis was performed to design an efficient stormwater pump station meeting all regulatory criteria for water quantity and quality. Mr. Casanova's goal is to devise an effective and efficient long-lasting flooding solution through engineering analyses and creative problem solving.

Entrada Neighborhood Drainage and Roadway Improvements and JPA for an 8-inch Water Main

Role: Project Engineer

Client: City of Miami Office of Capital Improvements

Location: Miami, Florida

ADA was hired by the City's Capital Improvements Program to design flood mitigation and roadway improvements as well as provide Construction Engineering Inspections (CEI) during the construction phase. During the utility coordination phase, we identified multiple undersized water mains within the neighborhood. Subsequently to this finding, the City and the Miami-Dade Water & Sewer Department (WASD) entered into a Joint Participation Agreement (JPA) for the design and construction of a new 8" water main for the area. Mr. Casanova was the Project Engineer responsible for establishing the pipeline corridor and designing the new water main. He was also responsible for utility coordination during the design process as well as assembling the technical specifications and the pay items and quantities for the bid tabulation and opinion of probable construction cost and obtaining dry-run approvals from the regulatory agencies.

Outfall Assessment – Collins Ave. Drainage System from NE 159th Street to NE 174th Street

Role: Project Engineer

Client: FDOT District 6

Location: Florida

ADA Engineering played a crucial role as part of the Design team, providing professional engineering services to the FDOT Drainage Department for evaluating seven outfalls along Collins Avenue. The project involved comprehensive activities, including data collection from FDOT D-6 and the City of North Miami Beach, field inspections to assess outfall conditions and locations, hydraulic analysis for capacity evaluation, identification of repair needs and retrofit measures, preliminary structural evaluations,

coordination meetings, and the development of the Outfall Assessment Report – Phase II. Additionally, ADA updated the GIS Geo Database with inspected outfalls and facilitated coordination meetings with FDOT throughout the project.

District-Wide NPDES Program Consultant Services-TWO 17: BIS_11 along SW 27th Ave at Dinner Key Marina

Role: Project Engineer

Client: FDOT District 6/APCTE

Location: Florida

ADA will provide Push Button design services to the FOOT Drainage Department for the Installation of an inline pollution control structure and modification of outfall (removal of sheetpile structure and installation of manatee grate) at. The following sections outline the scope of work, schedule, and compensation associated with this task work order.

G-58 Gate Replacement and Refurbishment (SFWMD) Ready to Advertise Design for Insertion into FDOT Project FM No. 435601-52-01 SR 916 / NE 135th Street at Arch Creek Drainage Culvert Maintenance

Role: Project Engineer

Client: FDOT District 6

Location: Miami, FL

Locally Funded Agreement project between FDOT and SFWMD to replace 4 slide gates, slip-line 4 culverts, new headwall, 2 new stilling wells with walkways, new control building, and associated electrical improvements. Work Order Revision 1 entails re-designing concrete cap on the headwall with an offset to allow easy removal of gates for maintenance. Mr. Casanova was the Civil Engineer responsible for developing the final design, producing the final plans, and ensuring that all technical revisions, comments, and responses were addressed. He also assisted in preparing and producing construction documents and cost estimates.

Stormwater Improvements Years 2 and 3

Role: Project Engineer

Client: City of Doral Public Works Department

Location: Doral, FL

This project included drainage and roadway improvements on various streets within the City of Doral. Mr. Casanova served as the Construction Manager for the project, responsible for performing inspections of the construction activities, providing daily reports including photographs, verifying Maintenance of Traffic (MOT) was in place and reviewing the Contractor's payment requisition for accuracy.



Nicholas Fewell, CST

Subsurface Utility Engineering (SUE) Lead | SUE Investigator

Mr. Fewell has over 14 years of field and management experience. He is one of CED's lead SUE managers, responsible for leading designating and locating crews to successful completion of assignments. His responsibilities include project management, serving as client liaison, communicating with utility owners, contacting state "One-Call" systems, and ensuring compliance with all CED safety and subsurface utility engineering operations.

As a subsurface utility engineering investigator, Mr. Fewell has worked on various project assignments for numerous departments of transportation and other clients such as FDOT, GDOT, LaDOTD, TxDOT, DUKE Energy, Mosaic, Florida Power & Light, TECO Electric, TECO Peoples Gas, Kinder Morgan, Florida Gas Transmission, various state and local governments/municipalities, various contractors, DOD, and Marine and Airport Authorities.

Key Projects

Calusa Trace Flow Diversion, Hillsborough County, FL

CED provided survey and SUE services under a professional services contract in support of the design of 3,200 ft of proposed force main. The scope of services included a topographic survey, establishing control, right of way mapping, identifying existing utility easements and property lines and their respective boundaries, utility designation and utility locating. The survey with utility designates were provided to the engineers so they could design their path. Utility locates were completed after design of the force main path at critical utility conflict locations as well as the two tie-in points to the existing wastewater systems.

WO3 SUE Services - City of Tampa Survey Contract, City of Tampa, FL

CED was awarded a SUE services work order under the City of Tampa Survey Contract. The purpose of the work order is to provide SUE services in support of wastewater engineering. CED has completed three tasks in support of wastewater facilities design providing QL-B designates and QL-A testholes to verify the precise horizontal and vertical positions of utilities in conflict with the proposed design. Our services have provided additional information on utilities that were not known to be within the scope to be included on the design plans. CED has also completed one emergency task related to a joint Storm water project between FDOT and City of Tampa. Time was of the essence for this request to reduce construction delays and costs CED had crews on-site as soon as the 811 ticket was active. Field work & office work was completed and deliverables provided the same day.

TECO Master Services Survey Contract, Various Counties, FL

CED has successfully located gas pipelines, in multiple locations, that TECO locators determined were unlocatable. CED used survey-grade data to update TECO People's Gas GIS system for multiple projects to enable future accurate locates. CED used as-built records, historical aerials, utility designation, test holes and air lance probing to locate undetectable high priority gas mains. CED was also able to repair the tracer wire in some instances to allow ease for future locates.

Evergreen & SR 50 Casings, Hernando County, FL

CED provided QL-A and QL-B services in support of roadway design. CED was tasked with locating the ends of casings for a water main, force main and gravity sewer. CED utilized QL-D through QL-A services to successfully locate the end of the casings to verify that their lengths were sufficient for roadway expansion along SR 50 in Hernando County.

Education

Geomatics Certificate,
University of Florida, 2024

BA, University of South
Florida, 2021

AA, Hillsborough Community
College, 2011

Professional Certifications

OSHA 10 Hr Certification

PowerSafe (Duke Energy)

IMOT

First Aid/CPR

Grace World Church Addition, Brooksville, FL

Provided QLA & QLB services associated with expansion of development on the Church campus on an approximately 13.3 acre property. The development consists of an approximate 5,200 SF two-story building addition and an approximate 8,500 SF gathering building area.

District Wide SUE Designate, Locate and Coordination, FDOT District 1, FL

Prime contract holder with 30+ TWOs performing SUE designates and locates for projects in final design. These tasks entail SUE and survey support services to assist in the design and resolution of conflicts for stormwater, roadway and traffic improvements. Typically, these include accelerated schedules to ensure conflicts were resolved prior to construction with significant UAO and stakeholder coordination.

Reclaimed Water Transmission Main Design, Braden River, FL

Provided designating (CI/ASCE 38-02 Quality Level B) and locating (CI/ASCE 38-02 Quality Level A) subsurface utility engineering and supporting survey services to map the underground utilities within the project limits to support design efforts for the reclaimed water transmission.

SRQ International Airport Culvert and Utilities Exploration, Sarasota, FL

Provided subsurface utility engineering in accordance with (CI/ASCE 38-02 Quality Levels A and B) and supporting survey services to map the horizontal and vertical position of existing underground utilities in support of the design and construction of all taxiways, runway and drainage improvements. CED used the results of the forensic exploration to provide remediation recommendations for the issues (i.e. depressions) caused by the existing stormwater pipeline. Careful coordination between the SUE team, geophysical team, and geotechnical team were critical to provide a seamless deliverable to the airport that accurately depicted the locations of utilities, all subsurface anomalies indicated by the GPR, and the results of the physical that were used to correlate the GPR results. In addition, the entire program had to be performed at night within an accelerated timeframe, to avoid disturbing the functioning airport.

RSW Airport Taxiway/Runway Rehabilitation, Lee County, FL

Provided subsurface utility engineering in accordance with (CI/ASCE 38-02 Quality Levels A and B) and supporting survey services to map the horizontal and vertical position of existing underground utilities in support of the design and construction of all taxiways, runway and drainage improvements.



R. Wyatt Altman, ^{PSM}

Senior Project Manager | Survey | Right of Way

Years of Experience

17 Years

Education

BS, Geomatics, University of Florida, 2009

Professional Registrations

Professional Surveyor and Mapper (PSM) Florida, 2016

Mr. Altman is an experienced Survey Project Manager with extensive and diversified expertise that includes digital imaging and mapping, geodesy, GIS, GPS, photogrammetry, land tenure and cadastral studies, LiDAR, and remote sensing techniques. He has performed hydrographic, ALTA, full topographic, and boundary surveys; sub-surface utility locating; and construction layout. He also has expertise performing data processing using AutoCAD, CAice, Trimble Business Center, GeoPAK and Starnet.

Key Projects

SR 54 Design-Build Survey Services, FDOT District 7, Pasco County, FL

Survey Crew Chief providing Mobile LiDAR services and post-processed and delivered data for this design-build contract, which consisted of road widening, sidewalk design, and signal redesign for seven miles of SR 54. Responsibilities included utilizing Mobile LiDAR, Static LiDAR, and Aerial LiDAR to create standard FDOT compliant deliverables. TopoDOT was used to extract 3D break lines, features, and ground points for creation of a detailed DTM and standard 2 planimetric files. This information was also combined with conventional boots on the ground survey data and existing information provided by the FDOT from earlier surveys in order to completely cover the corridor width. This investigation found about 70% of the corridor needed to be resurveyed, a process that was completed in a timely matter by leveraging the LiDAR technology.

District Wide SUE Designate, Locate and Coordination, FDOT District 1, Districtwide, FL

Performed task work orders to provide Quality Level A and B subsurface utility investigations. Quality Level A involves the use of the use of nondestructive digging equipment at critical points to determine the precise horizontal and vertical position of underground utilities, as well as the type, size, condition, material, and other characteristics. Quality Level B involves the use of surface geophysical techniques to determine the existence and horizontal position of underground utilities.

Hillsborough Transportation Design and General Engineering Services, Hillsborough County, FL

CED was awarded a county wide contract with Hillsborough county for continuing service for survey support. This contract has provided 2 tasks. Task 1 we provided a topographic and SUE survey for the intersection of Durant Road and Miller road. Under task 2 we provided topographic and SUE survey for the intersection of CR 579 and Old Hillsborough road.

SR 519 from I-95 to North of SR 520, FDOT District 5, Brevard, FL

CED acted as a subconsultant to Tetra Tech to support this four (4)-mile pavement rehabilitation project. The project scope included milling and resurfacing of the roadway, drainage improvements, various safety and ADA improvements as well as a Right of Way Control Survey for the corridor. Colliers Engineering & Design leveraged a combination of Terrestrial Mobile Lidar and conventional survey to expedite the creation of a digital terrain model of the roadway with significant detail for cross slope correction and curb design. We designated Subsurface utilities for the entire corridor in order to assist with design decision and improvements..

SR 528 from Narcoossee Road to 1.3 Miles east of International Corporate Park Boulevard, Orlando, FL
Survey Crew Chief & CADD Technician for mobile scanning of seven (7) miles of a major arterial roadway in the metro Orlando area. Performed topographic survey data collection using terrestrial mobile LiDAR scanning and assisted in the development of digital planimetric drawings.

SR 694 Gandy Boulevard, FDOT District 7, St. Petersburg, Pinellas County, FL
Managed the data collection for the location of the entire storm water network in only two days which would have taken twice the time using conventional survey techniques. Analyzed the data for proper flow and missing structures further saving time in the field for the main topographic survey. Attribute data such as inverts, pipe type, pipe size and direction were then used as a QC tool to create the final storm water deliverable. Project consisted of a design survey for the SR 694/Gandy Blvd. from West of Interstate 275 to East of 4th street for the purpose of redesigning the intersection of Gandy Blvd, Roosevelt Blvd and 4th St., as well as Gandy Blvd and 9th Street. Team delivered design files for planimetrics, 3D DTM files, and storm water location files. The storm sewer infrastructure within this project was complex and due to the coastland elevations, confusing to determine storm water flows. Team implemented Trimble RTK GPS with integrated GIS libraries to quickly map the storm structures, decipher flow direction, and collect pertinent attribute data prior to conventional location.

Gateway Expressway Design Build, FDOT District 7, Pinellas County, FL
Awarded to the Archer Western-de Moya JV team in the summer of 2017, this design-build project is changing the existing roadway system in Pinellas County in order to enhance safety, add capacity, and improve mobility by creating two new four-lane elevated tolled roadways. With approximately 90 miles of roadway affected by this construction, fast and accurate survey data collection was paramount to the design process. Colliers Engineering & Design supported BCC Engineering on this project by providing mobile LiDAR collection for the entire proposed corridor and design survey file creation to produce topography and a digital terrain model over the entire project limits.

SR 417 Widening from Landstar to Boggy Creek, Central Florida Expressway Authority (CFX), Orange County, FL
CED acted as a subconsultant to Horizon Engineering Group, Inc. in support of the design of highway widening and various other improvements along SR 417 from Landstar Blvd to Boggy Creek Rd. The survey scope of work included planimetric mapping and digital terrain modeling of the entire project corridor, from Right of Way to Right of Way for over four miles of highway and cross streets. Colliers Engineering & Design provided underground utility designates and locates, Mobile LiDAR, and UAS LiDAR, which were used to locate and document existing ground features along the roadway. Areas not visible for LIDAR collection, such as drainage ditches and wooded areas, were collected conventionally by RTK GPS or Total station. The resulting datasets were merged to create a highly detailed and comprehensive final design survey deliverable. Mr. Altman managed and coordinated field activities and survey data process.



Appendix

B

→ Licenses

State of Florida

Department of State

I certify from the records of this office that GHD SERVICES INC. is a Delaware corporation authorized to transact business in the State of Florida, qualified on October 16, 2003.


The document number of this corporation is F03000005291.

I further certify that said corporation has paid all fees due this office through December 31, 2025, that its most recent annual report/uniform business report was filed on January 23, 2025, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

*Given under my hand and the
Great Seal of the State of Florida
at Tallahassee, the Capital, this
the Fourth day of March, 2025*

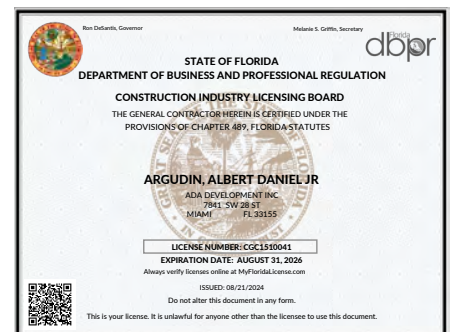
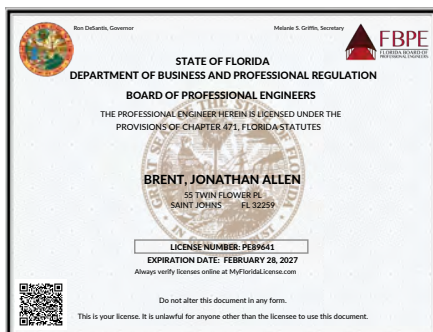
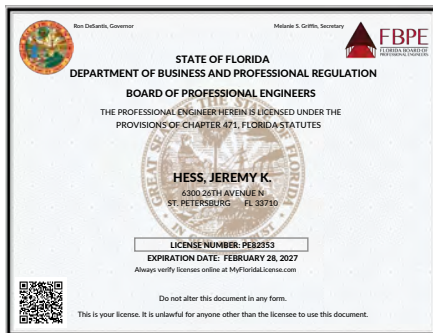
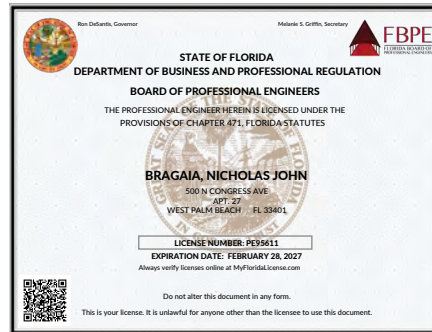
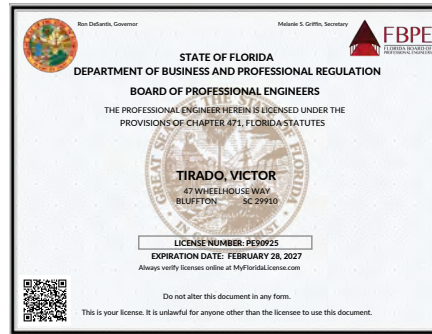
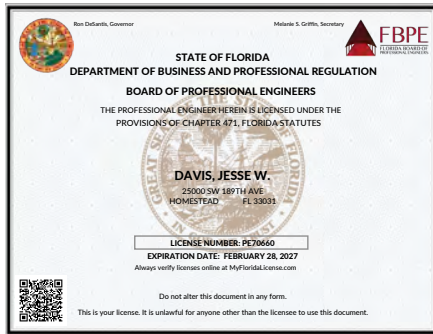


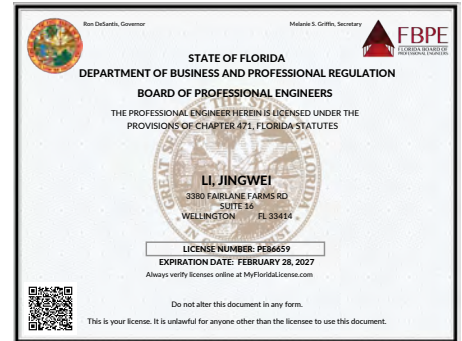

Secretary of State

Tracking Number: 9695666109CU

To authenticate this certificate, visit the following site, enter this number, and then follow the instructions displayed.

<https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication>





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LICENSEE DETAILS 4:52:12 PM 10/28/2025

Licensee Information

Name: **BIAGIONI, MARCO ANTONIO (Primary Name)**

Main Address: **18225 NW 63RD TERRACE APT. 104 DORAL, Florida 33178**

County: **DADE**

License Mailing: **18225 NW 63 TERRACE APT. 104 DORAL, FL 33178**

County: **DADE**

License Location: **18225 NW 63 TERRACE APT. 104 DORAL, FL 33178**

County: **DADE**

License Information

License Type: **Professional Engineer**

Rank: **Prof Engineer**

License Number: **60014**

Status: **Current, Active**

Licensure Date: **06/23/2003**

Expires: **02/28/2027**

Special Qualifications

Qualification Effective

8th Edition, Florida Building Code **01/07/2025**

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LICENSEE DETAILS 4:53:56 PM 10/28/2025

Licensee Information

Name: **CASEY, MEEGHAN KIMBERLY (Primary Name)**

Main Address: **GHD SERVICES INC (DBA Name) 162 43RD AVENUE NE ST. PETERSBURG, Florida 33703**

County: **PINELLAS**

License Information

License Type: **Professional Geologist**

Rank: **PG**

License Number: **PG2738**

Status: **Current, Active**

Licensure Date: **06/02/2012**

Expires: **07/31/2026**

Special Qualifications

Qualification Effective

Alternate Names

[View Related License Information](#)

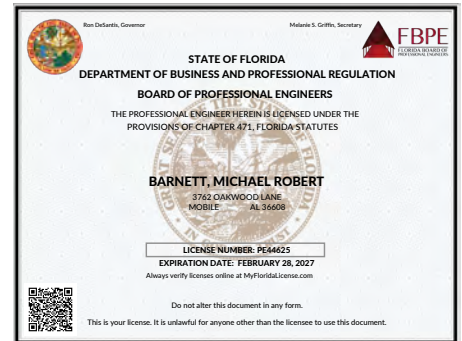
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2001 Blue Shovel Road, Tallahassee FL 32309 Email: [Customer Contact Center](#) Customer Contact Center 850.467.1395

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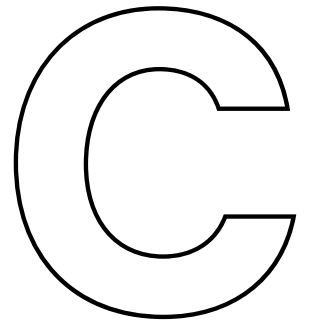
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Under Florida law, email addresses are public records. If you do not want your email address released in response to a public records request, please contact the Department of Business and Professional Regulation at 850.467.1395.





Appendix



→ References

GHD References

GHD is proud of the teams we assemble, the work we complete, and the satisfaction our clients experience in the quality of our deliverables. GHD presents four references below who serve as testaments to our excellence. Each reference can not only speak to our experience and knowledge across the needed technical fields for the Engineering Design Consultant Services Community Center Shoreline Rehabilitation but also the client-centric approach with which that experience and knowledge is delivered.

1. City of Miami

Point of Contact: Keith Ng, Senior Project Manager

444 SW 2nd Ave, Miami, FL 33130

T: 305.416.1298

E: keithng@miamigov.com

Length of time providing services: 2020 - Ongoing

List of any other related services provided: Phase I/II Environmental Site Assessments, contamination assessment water quality monitoring, civil design, construction management, design, permitting, construction phase services, seawalls, living shorelines, stormwater outfalls, compound flooding assessments, adapting to sea level rise, neighborhood flood improvements.

2. Miami-Dade County RER-DERM

Point of Contact: Amy Cook, Senior Professional Engineer, Division of Water Management

701 NW 1st Court, 5th Floor, Miami, FL 33136

T: 786.683.5833

E: Amy.Cook@miamidade.gov

Length of time providing services: 2020 - Ongoing

List of any other related services provided: Beach planning, permitting, design and construction phase services.

3. U.S. Army Corps of Engineers - Jacksonville District

Point of Contact: Manny Vianzon Jr., Project Manager

701 San Marco Blvd, Jacksonville, FL 32207

T: 904.232.3292

E: Emmanuel.A.Vianzon@usace.army.mil

Length of time providing services: 2023 - 2024

List of any other related services provided: Beneficial use of dredge materials, stakeholder engagement, multi-criteria analysis.

4. City of Fort Lauderdale

Point of Contact: Todd Hiteshew, Compliance Manager, Public Works Department

949 NW 38th Street, Fort Lauderdale, FL 33309

T: 954.828.7807

E: THiteshew@fortlauderdale.gov

Length of time providing services: 2016 - Ongoing

List of any other related services provided: Phase I/II Environmental Site Assessments, contamination assessment, industrial hygiene, emergency response, and water quality monitoring and data evaluation.

CED References

1. Charlotte County

Point of Contact: Brian Hatfield

T: 941.769.4054

E: Bryan.Hatfield@charlottecountyfl.gov

Length of time providing services: 2024 – Ongoing

List of any other related services provided: Charlotte County, Subsurface Utility Engineering Verification

2. Pinellas County Parks and Conservation Resources

Point of Contact: Greg Milam

T: 727.582.2537

E: gmilam@pinellascounty.org

Length of time providing services: Ongoing

List of any other related services provided: Professional Engineering Services for Countywide Unmanned Aerial Services & Outback Key Tidal Erosion

RP-23 Proposal Requirements

Team Organization, Management, and Key Personnel Commitment

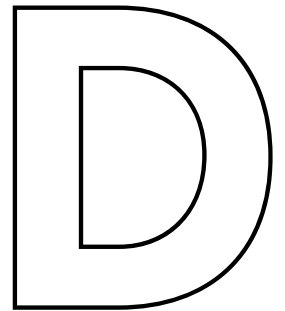
GHD identified the business group leader (signing authority), project manager, and technical leads for this project in the organizational chart and resumes provided in Section I & II. We affirm that these individuals are integral to the success of this project and will not be substituted without the express written permission of Charlotte County. This commitment ensures continuity of leadership, technical expertise, and accountability throughout all phases of design and construction support.

Lead Designer References

For this project, the Project Manager will serve as the Engineer of Record (EOR) and is supported by a team of technical leads for structural, coastal, civil, geotechnical and environmental disciplines. Section III maps these individuals to their respective roles and the project descriptions provided in Section VI. These project descriptions also include client contact details, which collectively satisfy the County's requirement for references. Please refer to those sections for the complete reference list.



Appendix




→ Forms

DRUG FREE WORKPLACE FORM

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that GHD Services Inc.
does: (name of business)

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 any 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 the statement, I certify that this firm complies fully with the above requirements.



Proposer's Signature

October 29th, 2025

Date

NAME OF FIRM GHD Services Inc.

(This form must be completed and returned)

**HUMAN TRAFFICKING AFFIDAVIT
for Nongovernmental Entities Pursuant To FS. §787.06**

Charlotte County Contract #20250710

The undersigned on behalf of the entity listed below, (the "Nongovernmental Entity"), hereby attests under penalty of perjury as follows:

1. I am over the age of 18 and I have personal knowledge of the matters set forth except as otherwise set forth herein.
2. I am an officer or representative of the Nongovernmental Entity and authorized to provide this affidavit on the Company's behalf.
3. Nongovernmental Entity does not use coercion for labor or services as defined in Section 787.06, Florida Statutes.
4. This declaration is made pursuant to Section 92.525, Florida Statutes. I understand that making a false statement in this declaration may subject me to criminal penalties.

Under penalties of perjury, I declare that I have read the foregoing Human Trafficking Affidavit and that the facts stated in it are true.

Further Affiant sayeth naught.



Signature

Melissa Burns, PE

Printed Name

Vice President/Structural Engineer

Title

Nongovernmental Entity

October 29th, 2025

Date

NAME OF FIRM GHD Services Inc.

(This form must be completed and returned)

BYRD ANTI-LOBBYING CERTIFICATION

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of an Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

October 29th, 2025

Date

Melissa Burns, PE

Type or Print Name



Signature

Vice President/Structural Engineer

Title

END OF PART V

NAME OF FIRM GHD Services Inc.

(This form must be completed and returned)

