STATEMENT OF QUALIFICATIONS

Annual Environmental Consulting Services

RFP #20-171

ORIGINAL

Prepared for

Alachua County

Board of County Commissioners

Geosyntec consultants

6241 NW 23rd Street
Suite 200
Gainesville, FL 32653

April 24, 2019

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SECTION 1 | Letter of Interest

April 24, 2019

Alachua County Division of Purchasing
County Administration Building
12 SE 1st Street
Gainesville, FL 32601

RE: RFP No. 20-171 - Annual Environmental Consulting Services

The project will be administered locally from our Gainesville office:

Geosyntec Consultants
6241 NW 23rd Street, Suite 500
Gainesville FL 32653

Geosyntec Contract Manager Contact:

Mark Ellard, PE, CFM, D.WRE, ENV SP
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mellard@geosyntec.com

To the Evaluation Committee:

Alachua County (County) is one of the largest and most rapidly growing areas in North Central Florida. The home of Florida's preeminent university, top-ranking Shands Hospital at UF, and abundant surface water and spring resources, Alachua County is known across the country as an innovative region and a model for other green communities. The County focuses on collaboration, robust neighborhood and economic development, and the environment, to sustain and enrich the lives of its residents and community.

We have had the pleasure of working in the County in recent years, during which time we have successfully designed, permitted, and assisted with construction quality assurance on multiple projects including the **Airport Landfill Remediation** and **Beville Creek (Suburban Heights) Stormwater Improvement** projects for Gainesville. In addition, Geosyntec is currently working on multiple high-profile environmental remediation projects within the County including the **Cabot Carbon Superfund Site Remedial Design/Remedial Action** and the **Gainesville Job Corps Center Remediation**. Key Geosyntec staff were also instrumental in leading previous Stormwater Master Planning efforts for the County through which they gained intimate knowledge of the County's surface water resources. We are excited for the opportunity to assist the County in a similar capacity to help address water resources and environmental management and restoration challenges.

Having reviewed the proposed scope of services requested, we have assembled a team of professionals that are highly qualified and experienced in the specific requirements of this contract. Our goal is to provide most favored client status to the County and exceed contract expectations. We will accomplish this goal by leveraging our familiarity with the County's environmental management needs, as well as our depth of experience assisting other Florida municipalities throughout Florida meet their regulator challenges.

Geosyntec Services Areas

BENEFITS OF SELECTING GEOSYNTEC

Geosyntec is a 100% employee owned, multidisciplinary consulting firm comprised of over 1,200 engineers and scientists with a vast amount of experience in providing consultation for the requested services. On a daily basis, Geosyntec provides Florida municipalities with investigation, assessment, design, modeling, planning, analyses, monitoring, permitting, and construction administration support for a wide array of projects. Our depth of experience will allow us to provide cost-effective solutions that will maximize return on expenditures and to help identify outside funding sources and grants where possible.

LEADERSHIP

The proposed Contract Manager, Mark Ellard, PE, CFM, D.WRE, ENV SP has provided water resources, environmental, and civil engineering services to Florida clients since 1990. He is currently focused on leading water resources projects, with emphasis on watershed and stormwater management for Florida municipalities. He also has an extensive background in providing contamination assessment and remediation services for clients across Florida. **Mark has served in a similar project manager capacity on continuing engineering contracts for several other counties and cities in Florida**, including Gainesville, Brevard County, Tallahassee, Orange County, Cape Canaveral, Pinellas County, St. Augustine, Marion County, Orlando, Osceola County, Lakeland, Seminole County, and SWFWMD. As a result, he is intimately familiar with the technical requirements and level of quality assurance needed for successful completion of projects under this continuing contract. **Mark was also the Project Manager for the Stormwater Master Planning efforts for Alachua County in the late 2000s** through which he developed a deep understanding of the County's water resources.

Jim Langenbach, PE, BCEE will serve as the Project Director (PD) for this contract. Jim has over 27 years' experience serving as PD and project manager for **assessment and remediation projects such as Gainesville Job Corps Center and Butler Plaza (FDEP Hazardous Waste Site)**, municipal clients including Brevard County, Orlando, Orange County, and numerous other Florida cities, meeting and exceeding their expectations. Jim is dedicated to the success of this contract and the support of its staff throughout its duration, and is committed to supplying the personnel, software, and equipment resources necessary for successful project completion. **Geosyntec is dedicated to meeting the technical challenges required for successful project completion.**

"Overall, it is an impressive piece of work and a very nicely-done project. This will not be a piece of bookshelf art—It will be put to use right away."
Paul Miselis
Pinellas County, Florida

"Met and often times submitted deliverables in advance of due dates. Impressively timely in generating communications and follow through. Deliverables were developed using innovative engineering and GIS methods. All around deliverables, communication, product value, professionalism, and work ethics provided an enjoyable working relationship."
Gene Altman
SWFWMD Engineering & Watershed Management Section

"Geosyntec has consistently produced high quality project work, met deadlines and budget goals. Geosyntec is responsive, proactive and innovative in their resources and recommendations."
Laurie Smith
City of Lakeland, FL

"As consultants, they have looked out for the client's best interests and deliver quality, technical products that meet and exceed expectations."
Jeff Ratliff
City of Cape Canaveral, FL

"I was pleased with the work and a little surprised you were able to obtain the permit for this project and will be willing to provide you with an excellent reference."
Elliot Shoberg
City of Clearwater, FL

"Our success was clearly a result of the professional expertise, commitment to excellence, and moral integrity you find at all levels of Geosyntec."
John Regan
City of St. Augustine, FL

"I have worked with Lee Mullon and Mark Ellard and have managed Geosyntec as a consultant on stormwater management and water resources projects. They have been consistently responsive and timely in meeting the needs of my projects and my organization. Geosyntec has proven to be highly effective in their ability to coordinate with multiple agencies."
Melissa Lavigne
Orange County, FL

SUCCESS FACTORS

Geosyntec strives to provide the best possible service and value to our clients. We give our clients better solutions to their unique problems and challenges by advancing technology in our practice areas. The County needs an expert consulting firm that can effectively and efficiently complete detailed analysis and develop an implementable plan for projects. **Geosyntec will commit the resources necessary to complete projects on time and within budget.** Based on our record of accomplishment on similar continuing contracts, the following success factors will be considered:

- **Long Term Commitment to Alachua County:** We are motivated by a goal of building a strong and lasting relationship and make Alachua County a favored client in central Florida. Working with the County on important environmental projects from our local office in Gainesville will allow us to leverage our resources even deeper to meet this long-term goal. The County will benefit by having an exceptionally vested consultant.

- **Local and Statewide Resources:** Geosyntec understands the importance and value of having a local team of professionals to meet your needs. Our staff is well-versed in providing not only environmental management, assessment and remediations services for water, soil, and air, as well as urban watershed management/stormwater/drainage design, but also civil engineering, geotechnical engineering, and other environmental solutions. **Our Gainesville office is within close proximity to County offices** to provide support. We have bench strength to successfully support this project with over 120 Florida-based technical staff and over 1,200 company-wide.

Geosyntec is committed to supporting the development of Small Business Enterprises (SBEs) and is pleased to feature the following local SBEs on our Team:

- ***EDA*** *for survey and planning support*
- ***Anamar*** *for ecological support*
- ***Geohazards*** *for geotechnical support*
- ***Koogler*** *for air quality support*
- ***SouthArc*** *for cultural resources support*

- **Key Staff Expertise:** Geosyntec's key staff conducts the types of work proposed for this project on a daily basis for municipal clients throughout Florida. **These practitioners have completed over 500 environmental related projects over the last decade**. Geosyntec understands the big picture and the challenges municipalities face when developing and managing environmental protection programs. Proactive administration is keys to support regulatory compliance as well as maintaining a robust program that meets the community's needs in a sustainable manner.

- **Regulatory Support:** Geosyntec has considerable experience implementing actions under Chapter 62-780, FAC, which are focused on risk-management based closure strategies and provide cost-effective exit strategies for our clients. Additionally, with the recent national focus on issues associated with emerging compounds, specifically, per- and polyfluoroalkyl substances (**PFAS**), we are a recognized leader, as demonstrated by our work nationally with ITRC and at the State level with FDEP **leading PFAS assessments at 15 Florida Fired Training Facilities/Colleges and conducting the largest ongoing PFAS investigation in Florida at a federal facility**. Geosyntec' staff expertise also includes extensive permitting work associated with comprehensive air/environmental compliance programs, including permitting, compliance assessments, and reporting. We also help our clients address Federal Clean Water Act requirements that boil down through the State of Florida's National Pollutant Discharge Elimination System (NPDES) and Total Maximum Daily Load (TMDL) programs. If project needs dictate additional expertise, Geosyntec can leverage its state and national team of experts to bring added value as technical peer review and support.

- **Maintaining Schedule and Budget:** Our extensive municipal experience has prepared us well for executing this project within the contract period. Geosyntec is also sensitive to the limiting funding that

municipalities face and develop our solutions through application of strict benefit cost methods. Geosyntec strives to maintain high productivity, work product excellence, and a core value of unsurpassed client service. We closely manage our workload to assure these goals are met without exception and this level of effort will be emulated for all the work performed under contract to the County.

- **Defensibility:** Our robust internal quality assurance and quality control programs ensure the highest quality products. Our senior and peer review process focuses on clarity of provided conclusions and recommendations and ensuring all of our deliverables are defensible under the highest scrutiny.

Geosyntec greatly appreciates being considered by Alachua County as a provider of professional environmental consulting services. The enclosed statement of qualifications demonstrates our understanding of the nature of the work, our team's competency to meet the technical requirements of any project assigned, and our effective approach to project completion. We are happy to provide any oral discussions or presentation regarding our qualifications as needed or requested.

Sincerely,

Mark Ellard, PE, CFM, D.WRE, ENV SP
Senior Principal / Contract Manager
mellard@geosyntec.com

Jim Langenbach, PE, BCEE
Senior Principal / Project Director
jlangenbach@geosyntec.com

SECTION 2 | Project Understanding and Approach

This section describes Geosyntec's understanding of the requested services under this RFP. This is followed by our general approach to the scope of services. Due to the varying nature of the work types that are possible through this contract, we have organized this information along the following work areas:

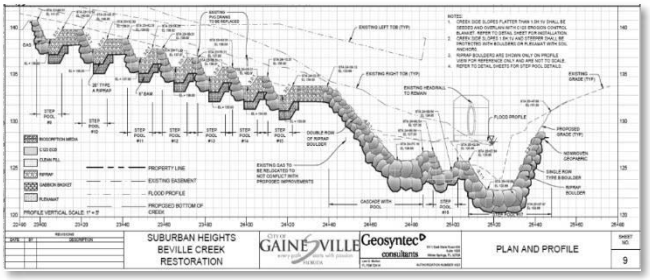
- ***Water and Natural Resources Projects***
- ***Environmental Assessment/Remediation Projects***
- ***Environmental Management/Permitting Projects***

At the conclusion of this section is our firm's quality control and quality assurance method to ensure best product and client satisfaction for any service the County chooses to work with Geosyntec on.

Water and Natural Resources Projects

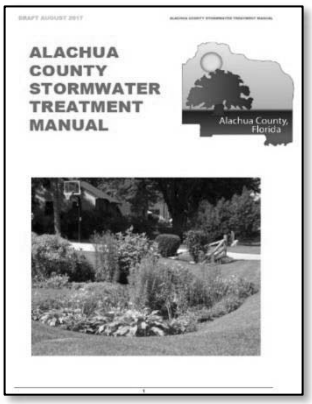
Drainage Improvements/Retrofits

To maintain stormwater system level of service, the County must engage in a proactive program of retrofitting drainage infrastructure. This could address any number of deficiencies including flooding, water quality, erosion control, or simply replacing aging infrastructure that has exceeded its service life. Geosyntec is known for its innovative work in stormwater capital project implementation including stormwater retrofits to address flooding, water quality, and erosion control. Geosyntec staff routinely takes stormwater projects from study through design and permitting, and even into the construction phase, where we provide post-design services. This has included projects ranging from simple culvert replacements all the way to complex master systems and retrofits of entire subdivisions and regional facilities. We also have completed large scale basin studies, watershed management plans, and master planning projects. As such, Geosyntec has seen all facets of project execution and knowing how to identify potential pitfalls, constraints, or other implementation hurdles ahead of time.

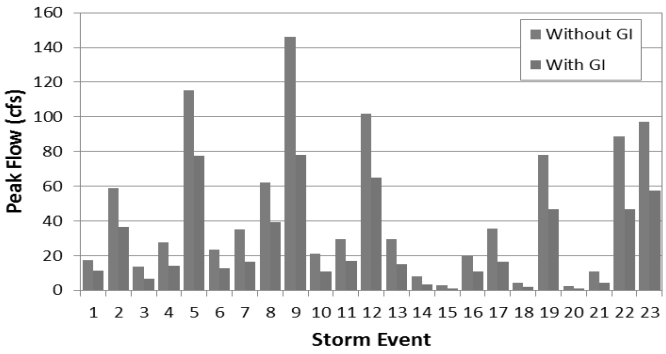


Geosyntec Local Knowledge and Experience:

- The County is a rapidly developing mixed urban-rural area, with opportunity for continued application of traditional drainage improvements, such as stormwater ponds, to address urban flooding or water quality issues. A more sustainable opportunity exists, however, for implementation of innovative drainage retrofits and improvements that better fit within the County's existing infrastructure and/or better mimic existing hydrology.
- The County's recent efforts promulgating a stormwater treatment manual are significant to promote a higher level of treatment. The application of varying strategies including source control is important given the varied nature of County hydrology. Strategies in the highly drained western areas of the County where groundwater resources are at risk may be very different that in the east where poorly draining soils and interconnected lake systems may predominate.



- Low impact Design (LID) and Green Infrastructure (GI) principles should be leveraged within the County to maximize the stormwater quality (nutrient reduction) and quantity (flood control) benefit. Geosyntec's experience has demonstrated that distributed LID and GI can have significant positive benefits to cities that have limited space and right-of-way that prohibit traditional stormwater systems.



- Solving water resources challenges may require integrated solutions where surface water, groundwater, and even wastewater is considered together. Geosyntec's City Park Stormwater Exfiltration project for Cape Canaveral is one example where the City used its existing Ball Field Park property and resources to provide an approximate one million-gallon underground stormwater management system. This project was originally envisioned as a stormwater quality retrofit to reduce nutrient loads to the Banana River, however Geosyntec demonstrated that the exfiltration could be designed to reduce the flood risk in the 173-acre drainage basin as well as demonstrate a net water quality benefit. Furthermore, using the exfiltration system for dry weather storage and infiltration of excess reclaimed wastewater effluent that would otherwise be directly discharged to the lagoon further reduces the nutrient load discharging to the lagoon.
- Stormwater BMP expert Dr. Mike Hardin has conducted state-of-the-art Florida stormwater BMP research, development and implementation at the University of Central Florida's Stormwater Management Academy for the last eight years before joining Geosyntec. Dr. Hardin was one of the original authors of the popular BMPTRAINS model used throughout Florida for assessing nutrient load reduction strategies.

Watershed Management and Master Planning

A complete comprehensive analysis of large geographical areas is necessary to identify flooding, water quality, and erosion control needs. Prioritized project recommendations are typically provided in order to plan for future CIP budgetary expenditures. These studies provide the opportunity to develop holistic solutions throughout the watershed rather than compartmentalizing one small problem area.

Our proposed project team has successfully managed numerous large-scale master planning and watershed management planning efforts of varying size and scope throughout Florida. Our experienced lead project stormwater engineers have extensive experience with these types of projects and have worked together for several years. Geosyntec provides a deep bench-strength of natural resources experts with national experience in watershed management in urban, rural, and coastal jurisdictions which provides a unique and fresh perspective and approach to Florida's distinctive environment.

Geosyntec Local Knowledge and Experience:

- Our proposed Contract Manager Mark Ellard and Senior Engineer Tom Amstadt have been involved with numerous stormwater master plans and watershed management plans of varying size and scope, with

similar municipalities. They were the lead engineers completing the Alachua County Stormwater Master Plan in the late 2000s.

- Dr. Mike Hardin and Principal-in-Charge Mark Ellard are currently implementing multiple stormwater and groundwater retrofit projects for Brevard County to reduce nutrient loading from both surface water and baseflow into the Indian River Lagoon to meet TMDL BMAP load reduction requirements.
- Geosyntec are subject matter experts in natural resources with national experience in watershed management in urban, rural, and coastal jurisdictions which provides a unique and fresh perspective and approach to Florida's distinctive environment.

Stormwater Modeling

These services would be required to evaluate flooding level of services and confirm flooding problems. The modeling could be done on a small area basis, or on a watershed level. If simple level of service is desired for a particular drainage infrastructure, then the model can be focused with the amount of detail needed to meet project objectives. If floodplain delineation is necessary for FEMA purposes, then more detailed watershed modeling may be necessary. Typical models used in Florida for this purpose are ICPR, SWMM, and HEC-RAS, with other models used for specific purposes. Geosyntec is intimately familiar with each of these models. Geosyntec uses GIS to rapidly build models and store parameterization data making it easy to modify models to address calibration deficiencies or evaluate alternatives. GIS management also facilitates mapping of results and floodplains.

Geosyntec Local Knowledge and Experience:

- Geosyntec staff have conducted dozens of stormwater projects where modeling was used to make improvement decisions. This includes large watershed, master plans, and basin studies as well as small area studies. Contract Manager Mark Ellard and Senior Engineer Tom Amstadt modeled over 800 square miles of Alachua County using ICPR as part of the last Alachua County Master Plan efforts.
- Geosyntec's Water Resources staff also have extensive expertise in groundwater modeling and will be relied upon where quantifying complex surface water to groundwater interactions is necessary to meet project objectives.
- Geosyntec staff have experience in virtually any stormwater or groundwater modeling platform that can be used under this contract, including ICPR3, ICPR4, EPA SWMM, MIKE SHE / MIKE Hydro River, MODFLOW, GeoHECRAS, XPSWMM, HSPF, PCSWMM, FEFLOW, Infoworks, Groundwater Vistas, and more. Geosyntec maintains all stormwater modeling licenses.

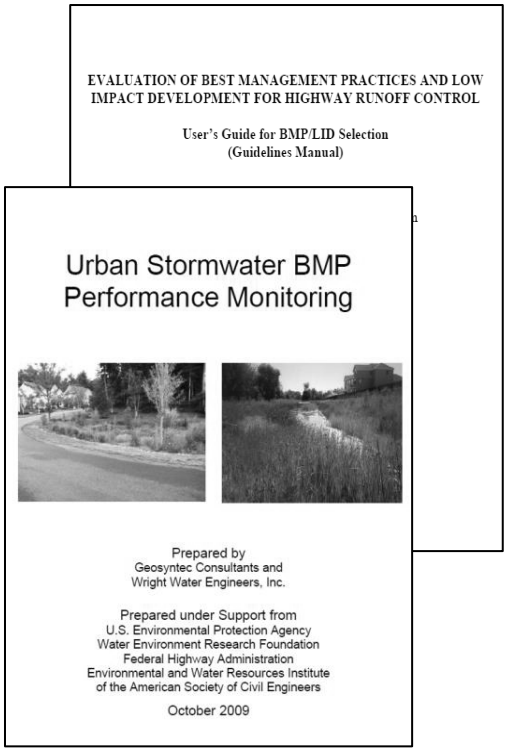
Water Quality Analysis

These services could be necessary to evaluate a wide variety of water resource concerns, such as water quality impacts to receiving water bodies and to evaluate BMP performance. Although many other pollutants associated with stormwater are typically found impacting surface waters, nutrients are believed to be the cause of most of the impairments in surface water. Typical nutrient impacts are evaluated in terms of Total Phosphorus (TP) and Total Nitrogen (TN). Stormwater BMPs are designed to reduce the concentrations of these nutrients before discharging to receiving waters. The difficulty lies in the fact that oftentimes these constituents are removed by different mechanisms, or their interaction with each other is complex so it is not straightforward to determine the most effective treatment strategies. The current presumptive treatment criteria used by the water management districts is somewhat effective in removing nutrients, but enhancement through more innovative technology and/or treatment trains is necessary to be protective of receiving waters. Analysis to support effective nutrient reduction can take the form of simple spreadsheet-

based models (using annual rainfall, land use, soils, and event mean concentrations [EMCs]) or complex hydrodynamic models such as EFDC, HSPF, QUAL-2K, WINSLAM or others.

Geosyntec Local Knowledge and Experience:

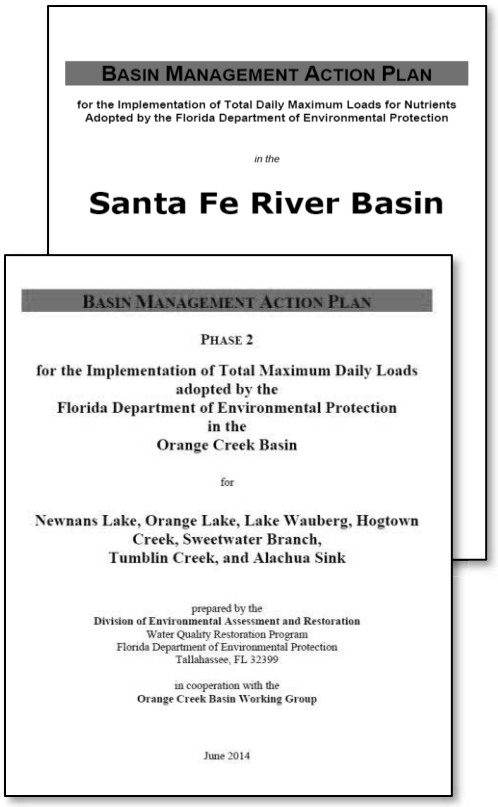
- Geosyntec staff have conducted numerous watershed level and basin studies that included water quality modeling to evaluate pollutant reduction BMP options. Several of the projects involved impaired receiving waters where TMDLs had been established. The projects have typically consisted of detailed GIS/spreadsheet analysis of several pollutants (including TP and TN) to determine annual loadings. Comparisons were then made to various BMP alternatives with resultant loading reductions to identify the most effective corrective action strategies.
- Lead stormwater BMP engineer Dr. Mike Hardin is an author of the BMPTRAINS pollutant loading model, originally developed at the University of Central Florida. This is a widely accepted model for demonstrating BMP effectiveness throughout the State. Mike performs training on the BMPTRAINS model for FDEP, FDOT, all five water management districts and private audiences.
- Geosyntec has been fortunate to be involved with maintaining the national Stormwater BMP Database (www.bmpdatabase.org) which is a store house for data on BMP effectiveness, including nutrients. Geosyntec has completed much of the data evaluation and statistical assessment. Geosyntec has also been involved with development of several national water quality related manuals including:
  - *Urban Stormwater BMP Performance Manual* – Geosyntec Consultants and Wright Water Engineers under support from the USEPA, WERF, FHWA, EWRI, and ASCE.
  - *Evaluation of BMPs and LID for Highway Runoff Control* – Geosyntec Consultants, Oregon State University, University of Florida, and the Low Impact Development Center for the National Cooperative Highway Research Program, TRB, and NRC.



- Geosyntec's company expertise includes detailed water quality studies for numerous sensitive receiving waters throughout the Country. This includes personnel involved in the development of nutrient TMDLs, critique of nutrient TMDLs, use attainment studies, and the development of site-specific alternative criteria.
- Geosyntec Senior Engineers Lee Mullon and Dr. Mike Hardin have both served as researchers at the UCF's Stormwater Management Academy, conducting some of the latest practical research into water quality and nutrient loading and reduction. Completed BMP research includes pervious pavement systems, underground storage and stormwater harvesting, floating treatment wetlands, biosorption activated media (Bold and Gold ™), polyacrylamide, green roofs, and satellite-based multispectral remote sensing of water quality.

NPDES, TMDLs, BMAPs:

Currently EPA requirements are incorporating more accountability to impaired waters into NPDES MS4 permits. This will include tie-ins to the load reduction allocations establishing in TMDL BMAPs. Additional accountability in drainage infrastructure inventory and maintenance will also be required, as well as the creation of Standard Operating Procedures (SOPs) for program operations.


BASIN MANAGEMENT ACTION PLAN

for the Implementation of Total Daily Maximum Loads for Nutrients Adopted by the Florida Department of Environmental Protection

in the

Santa Fe River Basin

BASIN MANAGEMENT ACTION PLAN

PHASE 2

for the Implementation of Total Maximum Daily Loads adopted by the Florida Department of Environmental Protection in the Orange Creek Basin

for

Newnans Lake, Orange Lake, Lake Wauberg, Hogtown Creek, Sweetwater Branch, Tumblin Creek, and Alachua Sink

prepared by the
Division of Environmental Assessment and Restoration
Water Quality Restoration Program
Florida Department of Environmental Protection
Tallahassee, FL 32399

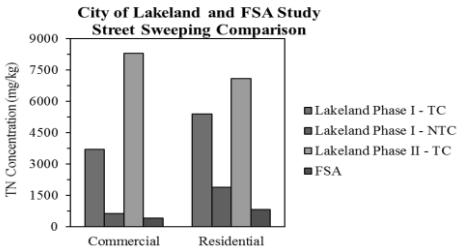
in cooperation with the
Orange Creek Basin Working Group

June 2014

The County currently holds a Phase II NPDES permit in conjunction with the City of Gainesville and the FDOT. The most significant NPDES burden on these stakeholders is the long-term restoration efforts required as part of TMDL Basin Management Action Plans (BMAPs) such as Orange Creek and the Santa Fe River Basins. These BMAPs require significant total nitrogen (TN) and total phosphorus (TP) reductions from each stakeholder. The County should be proactive with its permit compliance efforts, including completing its current projects, identifying opportunities for enhanced maintenance, and evaluating code changes that will make it easier to implement BMPs, particularly those that rely on Low Impact Design (LID) principles. Geosyntec staff have specific experience with field inventories and/or facility inspections for compliance with regulations. Geosyntec's proactivity helps to reduce the County's long-term permit compliance burden.

Geosyntec Local Knowledge and Experience:

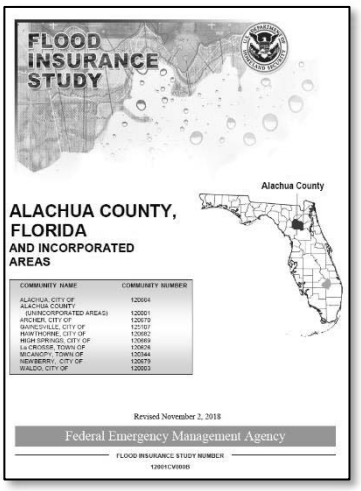
- The Final 2014 Progress Report for the Orange Creek BMAP indicates that *while chlorophyll-a concentrations have decreased, annual average TP and TN concentrations have increased or exhibited a small decline as for TN for Newnans Lake. The increase in nutrients may be a result of extended droughts concentrating them in the water column over the past 15 years. The increase for TP may also be a result of erosion processes in tributary streams that have exposed the phosphate-rich clays of the Hawthorn Group.* This indicates there is still work to do. As future projects are contemplated and implemented, nutrient reductions become harder to achieve because the "low hanging fruit" projects have typically already been completed.
- The Santa Fe River Basin BMAP is focused on addressing the DO and nutrient impacts to help protect natural resources such as the springs. This BMAP focused on several strategies such as efforts to decrease algal mass in the springs, application of fertilizer ordnances, implementation of agricultural BMPs and non-agricultural BMPs. Because of the mobility of nitrate in the subsurface, nutrient reductions strategies in this basin must focus on both surface controls and groundwater migration controls to reduce impacts to springs.
- The County should closely consider the effectiveness of source control activities such as street sweeping. Geosyntec found that the 2011 Florida Stormwater Association's (FSA's) Street Sweeping Study, widely used by MS4s for reporting pollutant reduction, did not consider seasonality and other issues that may greatly impact the amount of pollutant reduction (particularly nutrients) for street sweeping.



Geosyntec demonstrated in the City of Lakeland, Florida, that total nitrogen and total phosphorus removed from street sweeping to be up to an order of magnitude higher than the FSA study reports. **These findings were presented to FDEP and were approved for the City of Lakeland. This is a tremendous benefit for Lakeland to meet ongoing NPDES, TMDL, and BMAP goals.**

Floodplain Management

Inaccuracies or limited detail in floodplain delineations can unfairly put citizens within a regulatory floodplain where limited risk is present. These services would be needed to resolve issues with current floodplain delineation on a parcel or regional level. Alternatively, underestimated flood risk can put citizens in harm's way. These issues can be resolved through FEMA's Letter of Map Revision (LOMR or CLOMR) process. This generally requires detailed flood modeling and completion of standard forms. It should be noted that FEMA is very particular with regard to the data submitted and models used so familiarity with the process reduces requests for information.



Geosyntec has conducted numerous watershed level and smaller area studies to delineate floodplains for both riverine (channelized) and land-locked or lake ponding areas. This includes working completing projects for various state water management districts and other projects for municipalities interested in better defining base flood elevations. Our Geosyntec team is familiar with the models required and detail needed to meet FEMA requirements including ICPR, SWMM, HEC-RAS, etc. Geosyntec's understanding of the FEMA process and data requirements will streamline any map revision efforts.

Geosyntec Local Knowledge and Insight:

- FEMA recently updated the flood insurance rate maps (FIRMs) for some areas of the County in 2018, with some areas still reflecting data from 2006. Many low-lying areas are not within a special flood hazard area (SFHA) with base flood elevations (BFEs) defined. Many areas are currently delineated with Zone A designations with no BFEs based on approximate analysis. The County should carefully consider the impact of these areas relative to citizen risk.
- The Community Rating System (CRS) is a program thought which discounts on flood insurance can be provided o residents based on how robust the municipalities flood management program is. Alachua County is currently at a class rating of 5 which represents a 25% discount to residents. Geosyntec has worked with communities to evaluate options for increasing their class rating. For example, we recently evaluated Broward County's CRS rating with respect to ongoing future flood mapping efforts that may result in additional credit.

Stormwater/Water Resources Permitting

Permitting services would be needed in conjunction with select stormwater related projects. Simple projects such as replacing or small upgrades to existing County infrastructure may be exempt from permitting, but generally any project with impact to wetlands or surface waters will require permitting with the SJRWMD, SRWMD, and/or other regulatory entities including the United States Army Corps of Engineers (USACE). Where impacts or adjustments of utilities are necessary, permitting from the FDEP may be required. Coordination with the FDOT for drainage connection permits may also be necessary of project work impacts State roads.

Geosyntec Local Knowledge and Experience:

- Geosyntec has permitted dozens of stormwater retrofits projects throughout Florida to address flooding, water quality, and/or erosion control. Many of these have dealt directly with the water management districts throughout the state of Florida, and as a result our project team is very familiar with their requirements.
- Geosyntec also has experience obtaining permits from other agencies that may be impacted by construction including the USACE, local utilities, the FDOT, and the FDEP. Geosyntec Project Engineers have a total of over 50 years of combined environmental resource permitting experience in the public and private sectors, are intimately familiar with the internal procedures and guidelines related to permit approval.

Environmental Assessment/Remediation Projects

Geosyntec is a recognized leader in the environmental field for providing innovative environmental assessment and remediation strategies at sites throughout Florida. We are one of the most experienced environmental consulting firms in the industry as demonstrated by our top rankings for public-sector and private industry throughout Florida.

- Geosyntec was recently ranked number one (out of 25 consulting firms) for an innovative/forensic assessment and remediation 10-year contract with the Florida Department of Environmental Protection (FDEP) in 2017.
- Geosyntec was recently selected because of our national and State expertise in emerging compounds by FDEP to lead efforts in the assessment of Per- and Polyfluoroalkyl (PFAS) in soil, sediment, groundwater, and surface waters at 15 Florida fire training facilities throughout the State, in the addition to the Florida Fire College.
- Geosyntec ranked number one for the FDEP Hazardous Waste and Dry-Cleaning Solvent Cleanup Program (DSCP) eight-year contract.
- Geosyntec proposed project team staff Chair the Florida Remediation Conference, the southeast's premier industry conference for environmental assessment and remediation.
- Geosyntec has ranked in the top three environmental consultants providing environmental services for the NASA Kennedy Space Center's (KSC) environmental program for over 22 years, where we are often tasked with NASA's most complex environmental assessment projects. In 2018 Geosyntec was contracted to conduct a facility-wide PFAS investigation which is ongoing.
- Geosyntec is also a leading environmental service provider for many private industry and public-sector client bases throughout Florida, such as the City of Winter Garden, who value us for our extensive site assessment, remediation, and site closure experience.

Geosyntec's team of highly-qualified geologists, scientists and engineers along with our experienced program and project managers will benefit the County in streamlining and reducing the iterative nature of

environmental investigations. Some of Geosyntec's adaptive methods and approaches to streamline investigations and reduce project life cycle at each phase includes:

- Maximizing the value and use of existing data from multiple sources including data from the FDEP OCULUS database, Map Direct, and other available online mapping tools.
- Developing a Conceptual Site Model (CSM) using existing data and innovative online mapping approaches to reduce field program design and implementation schedule.
- Preparing a dynamic field investigation plan and analytical program to fill data gaps and complete the CSM.
- Implementing fieldwork using innovative technologies and appropriate laboratory analyses to provide sufficient, defensible data for decision making capabilities.
- Assigning staff highly experienced in site assessment and remediation for supervising project work and regulatory interaction. Our experienced environmental assessment team will provide innovative diagnostic tools and advanced interpretation for "smart" site investigation.
- Leveraging our experience to bring investigated sites to closure through risk management option (RMO) closure provisions contained within Chapter 62-780, FAC. Our experience negotiating risk-based closures has provided significant savings to our clients, such as the City of Winter Garden, where we saved the City over $500,000 implementing an alternative to a remediation approach prepared by others which resulted in No Further Action via RMO III.
- Providing suggestions for improved methods and approaches based on our extensive experience with USEPA, and FDEP's environmental programs for both public and private sectors, and Florida's environmental and regulatory programs for over 25 years.

Geosyntec's thorough understanding of Florida's environmental programs and challenges stems from our depth and breadth of qualifications and experience on projects throughout Florida, where we successfully provided cost and time savings.

Geosyntec's proposed team has completed hundreds of environmental assessments, baseline studies, and general studies for many of the FDEP programs including Petroleum, Hazardous Waste, DSCP, Federal, Petroleum Restoration Program (PRP), Hazardous Waste, DSCP, Forensics, Brownfields, Site Investigation & State-Owned Lands Programs as well as NASA KSC, and many public and private sites throughout Florida.

Geosyntec Local Knowledge and Experience:

Geosyntec's project team includes the necessary resources and experience to provide the required technical support to complete any required environmental assessments for the County, as well as any potential remedial activities that could be required to address any identified environmental impacts. Our team's experience includes a keen understanding of the most appropriate techniques for completing local assessment related projects, from coordination with regulators to understanding Alachua County's subsurface conditions. We are also able to readily respond to County requests, as an example, we recently completed a Phase I and II ESA for the City of Palm Bay in an expedited fashion, finalizing the Phase I and II ESA work within the 3-week timeframe required to meet the City's needs associated with a property transaction. Our local knowledge and experience is also demonstrated through local environmental assessment and remediation projects we have completed, such as:

- **Gainesville Job Corps Center, Gainesville, Florida**. As a consultant to the Primary Responsible Party, Geosyntec has conducted site assessment activities to map the chlorinated solvent plume present at

the site, permitting (associated with remediation of PCB sediment impacts in wetlands), pilot testing of groundwater remediation technologies (bioremediation and in-situ chemical oxidation), remedial design, remedial implementation, and ongoing reporting and dissolved plume monitoring. Geosyntec has also worked in conjunction with research conducted at the site by University of Florida on Passive Flux Meters, which we deployed as a component of the pilot tests.

- **Northeast Lagoon, Gainesville, Florida**. Geosyntec is supporting the Cabot Corporation in addressing residual tar at the Northeast Lagoon (NEL), which is located east of the Cabot/Koppers Superfund Site in Gainesville, Florida. Some residual tar was left in the NEL after a previous removal action approximately 20 years ago. Geosyntec worked with FDEP project and senior managers to develop a limited excavation approach using large diameter augers to surgically remove the residual tar in an area surrounded by numerous utilities and active facilities. The work was recently approved by FDEP and is expected to be performed during the summer of 2019.
- **Cabot Portion of the Cabot-Koppers Superfund Site, Gainesville, Florida**. Geosyntec is supporting Cabot Corporation with the remedial design/remedial action for the former lagoons on the Cabot portion of the Cabot-Koppers Superfund Site. The selected remedy includes capping the former lagoons, installing an extensive and deep barrier wall, and installing a groundwater extraction and treatment system. These components will address groundwater contamination at the Site. Implementation of the remedy also requires construction of a large stormwater pond for the City of Gainesville in order to decommission the existing stormwater pond that currently resides atop the former lagoons. Geosyntec progressed from pre-design investigations through 100% Remedial Design in approximately 14 months. The 100% Remedial Design was approved by the USEPA in fall 2018 (in less than 30 days and without comments) and construction is scheduled for summer 2019. Geosyntec will be the certifying engineer and will provide construction oversight for the project.
- **NASA, Kennedy Space Center, Florida**. As a consultant to NASA KSC for over 20 years, Geosyntec has conducted a multitude of environmental assessment and remediation projects. Projects have ranged from electrical transformer sites to large-scale PFAS investigations, and the assessment/remediation of the former space shuttle launch pad (LC39B) using a 279 well air sparge system (largest of its kind in Florida).
- **Orlando Manufactured Gas Plant Site, Orlando, Florida**. Geosyntec is managing the complex multi-party PRP Group, Orlando MGP Superfund Site (Operable Unit 1 and 2), which involves extensive community interaction, coordination with FDEP, USEPA, and FDOH; and the implementation of an extensive suite of environmental assessment techniques and remedial technologies to characterize and remediate the surficial and Floridan aquifers.

Software and Modeling Familiarity/Experience.

Geosyntec's technical approach to environmental projects often involves the application of software (including hydrogeologic, hydrologic, and hydraulic applications) to support data evaluation and to assist with cost-effective decision making as a project moves from assessment to remediation. Our technical expertise in this regard is exemplified through application of modeling work to support remediation decision making at several NASA-KSC sites. Software utilized on NASA-KSC projects has included: AquaSolve, BIOCHLOR, GMS, ESRI's ArcMap, cTech's Environmental Visualization System (EVS), USGS MODFLOW, MT3D/RT3D, T-Screen, Monitoring and Remediation Optimization System (MAROS) software statistical evaluations, AutoCAD, and customized software applications. For hydraulic modeling, Geosyntec regularly uses the latest versions of ICPR, as well as SWMM and HEC-HMS. In addition to groundwater modeling software, Geosyntec

practitioners have significant experience utilizing the FLUCL software for computation of 95% upper confidence levels when using a risk-based cleanup approach (global RBCA).

Collectively, our breadth of local knowledge and experience ensures that environmental assessments and any required follow-up remedial activities will be conducted in a manner which meets the County's objectives.

Environmental Management/Permitting Projects

Environmental Permitting and Compliance

Geosyntec provides a diverse portfolio of services to our public and private clients to improve their environmental and financial performance, manage risk, and reduce environmental liabilities consistent with their financial and stewardship goals. Our project team has significant corporate, consulting, and government work experience and specialize in each of these sectors. Accordingly, we understand our clients' challenges and needs and provide appropriate solutions that consistently reduce risk exposure and add value to the bottom-line.

Geosyntec delivers solutions in many areas of environmental compliance support, auditing, management systems, environmental studies and cleanup, infrastructure engineering and design, and natural resources assessment and restoration. We have completed nearly 10,000 projects worldwide with an outstanding and always improving safety record. Our experience delivers on the potential of innovative applications of proven and emerging technologies.

Dynamic environmental laws, regulations, standards, and guidance demand a proactive approach in order for businesses to minimize environmental risk while maintaining economic benefit. Geosyntec's Environmental Management practitioners help our clients manage existing and potential liability associated with environmental, health and safety issues. Our clients have included utilities, government agencies, and companies in agriculture, manufacturing (chemical, food products, and technology), transportation, waste management, retail, and property development/management.

Geosyntec assists clients with a variety of environmental compliance services. These services range from proactive to defensive/corrective, including:

- NPDES permitting support
- Air permitting support
- RCRA program development/implementation
- Environmental auditing program development/implementation
- Environmental performance measurement

Industrial Hygiene Services

Geosyntec provides indoor air quality assessment services to aid building owners, employers, and government agencies as they identify, diagnose, and mitigate causes of occupant health complaints associated with the built environment in combination with our teaming partners.

Our practitioners conduct assessments using the sound scientific principles and practices of industrial hygiene and toxicology. Our certified industrial hygienists and toxicologists work alongside our construction services professionals to develop project-specific solutions that deliver the desired end results for the client.

We consult with clients on a wide range of human health, exposure, and causation matters ranging from combustion products to Legionnaires' disease and mold.

Geosyntec practitioners specialize in solving complex challenges of industrial hygiene that affect workplace operations, staff comfort and productivity, or occupant health. Addressing such challenges involves the anticipation, recognition, evaluation, and control of known and emerging hazards in the workplace and the community. Our in-house toxicologists begin by assessing building occupant exposures to indoor air chemical pollutants to determine if there are risks associated with measured or calculated exposures. With reliable, high-quality data in hand, our clients can then make evidence-based decisions when implementing engineering controls, deploying remediation measures, or relocating occupants.

Geosyntec also provides specialized services applicable to product and materials evaluation. We are able to measure gaseous or particulate emissions from building materials, consumer products, and office equipment. Adhesives, paints, wallboard, insulation, plastics, or combustion appliances can potentially impact the indoor environment and the health of facility occupants.

With our extensive experience in communicating complex, and sometimes disconcerting, findings to employees and community members, we can provide risk communication support to clients. Our senior professionals strive to calmly and confidently speak with the public on complex matters that can potentially impact health while maintaining a sense of transparency and professionalism.

Pollution Prevention Services

Geosyntec helps clients manage risk while meeting their organizational goals for environmental stewardship and financial management. Our environmental management and pollution prevention services build compliance solutions, generate defensible valuations of impaired properties, distinguish between potential and actual environmental risks, and reduce energy and water-resource utilization.

Our environmental management systems (EMS) and compliance practice relies on experts with detailed knowledge of businesses, permitting close evaluation and the generation of specific, actionable reviews and recommendations. Geosyntec utilizes a holistic approach to assist facilities operators in safely and effectively meeting environmental goals while complying with relevant laws and regulations. Our EMS and compliance service offerings encompass water footprinting and use-minimization strategies; waste compliance management program implementation; and process safety management (PSM), environmental health-and-safety (EH&S) and treatment, and storage and disposal facility (TSDF) audits.

Geosyntec's technical expertise, regulatory compliance experience, and collaborative project management approach prepares our practitioners for the most complex and challenging environmental management projects. One notable success was the establishment of a comprehensive environmental management system for the U.S. General Services Administration's Denver Federal Center, an expansive, 640-acre campus hosting 28 federal agencies and nearly 7,000 employees. The center is the largest concentration of federal agencies outside of Washington, D.C., and Geosyntec's practitioners helped GSA leaders achieve measurable improvements in environmental performance and cost savings by guiding the development of a sustainable campus.

In another large-scale project, Geosyntec practitioners turned their attention to the 342-acre Potomac Yard in Alexandria, Virginia, the site of an historic rail yard that had been de-listed from Superfund and was being prepared for redevelopment. Geosyntec's expertise and comprehensive understanding of environmental impacts across the site was used during property transaction negotiations for buyers to make timely and informed financial decisions. Our practitioners helped the client delineate the nature and extent of residual wastes and impacted soil at the site and identify a disposal alternative for more than 50,000 cubic yards of cinder ballast and other materials. Subsequently, Geosyntec personnel remained on hand during redevelopment activities to provide geotechnical recommendations during contractor excavations; to

develop and oversee the implementation of a soil characterization and disposal plan; and to provide oversight of a human health and ecological risk assessment.

Due Diligence

Our environmental due diligence practitioners specialize in assisting mergers, divestitures, and acquisitions (MD&A) activities by locating hard-to-find environmental liabilities and their underlying financial and business risks. Our professionals combine technical expertise in conducting and reviewing environmental assessments for producing streamlined recommendations designed to enhance deal flow. Our MD&A practitioners identify and evaluate business and financial risks associated with:

- Environmental Health and Safety (EH&S) compliance issues
- Financial reporting requirements
- Recalcitrant contamination
- Vapor intrusion and indoor air quality concerns
- Geotechnical challenges
- Hazardous substance-containing building materials
- Protected wildlife and wetlands
- Cultural resources

Phase I and II ESAs

Geosyntec has completed hundreds of ASTM Phase I and II ESAs in Florida at a wide range of properties including agricultural, commercial, public, and industrial. Our personnel are recognized throughout the State for their leadership in these services and the training and lectures provided to a number of clients and industry associations. Several of our staff have been members of ASTM's E-50 committee charged with co-authoring ASTM's Phase I ESA, Phase II ESA, and risk-based corrective action industry standard documents. In addition to providing ASTM E1527-05 training to our Florida-based staff, Geosyntec has an internal "Geosyntec Environmental Professional (GEP)" certification for Environmental Professionals to perform this work. As a further testament to our competency, we are often requested by our clients to provide independent review and critique of Phase I/II ESA documents that have been prepared by others, or to provide technical support during associated environmental litigation. As an example of Phase I/II ESA services, in 2016 Geosyntec conducted due diligence services at the Titusville Rifle and Pistol Club that ultimately resulted in the identification of recognized environmental conditions (RECs) and the eventual remediation of the identified RECs via FDEP funding mechanisms.

Geosyntec can bring a unique combination of environmental and hazard risk engineering expertise to bear to the County on sensitive transactions, such as those related to sensitive infrastructure.

Air Quality Management and Air Pollution Control

The evolving nature of government regulations for air quality and emissions requires planning for and adherence to comprehensive monitoring, testing, emissions control, record keeping, and reporting requirements for certain facilities.

Successfully navigating this complex regulatory environment is a challenge to ensure compliance while also minimizing operational and financial impacts.

Geosyntec's comprehensive understanding of laws and regulations pertaining to air quality paired with our expertise in state-of-the-practice emissions control and monitoring technologies allow us to provide our

clients with innovative and cost-effective solutions for their air quality challenges. Our air quality practitioners offer clients a broad array of services, including permitting, compliance reporting, and air pollution control technology selection and optimization. Our projects routinely involve minor and major source air permitting, compliance assistance, and regulatory negotiations, as well as air pollution control equipment troubleshooting, optimization, and testing. We are experienced in:

Air Permitting

We provide our clients with unique solutions that often result in the avoidance of major source permitting requirements, like Prevention of Significant Deterioration (PSD) or nonattainment area New Source Review, due to our extensive knowledge in operating permit programs; providing permitting assistance to our clients under federal, state, and local air construction; and proven record in crafting strategic approaches to air quality challenges. When avoidance is not an option, our team of air dispersion modelers and control technology experts have the experience necessary to respond to the challenges associated with major source permitting requirements, including performing control technology evaluations (e.g., Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER)) and ambient air impact analyses (e.g., National Ambient Air Quality Standards (NAAQS), PSD Increment, and state Toxic Air Pollutant demonstrations).

Geosyntec air practitioners have experience across the United States providing permitting assistance to our clients under federal, state, and local air construction and operating permit programs. We have a proven track record of crafting strategic approaches to air permitting that often result in the avoidance of major source permitting requirements, like Prevention of Significant Deterioration (PSD) or non-attainment area New Source Review.

Clean Air Act (CAA) regulations have been a focus area for U.S. Environmental Protection Agency's regulatory agenda over the past few years. Without change in this emphasis, CAA regulations will continue to be in flux, with existing rules being revised and new rules being promulgated at a rate that makes compliance all the more challenging. Our air practitioners' experiential understanding of policy, regulation, and drivers results in effective and efficient compliance solutions for our clients.

Working with clients, Geosyntec practitioners provide the necessary framework to implement comprehensive environmental management strategies that allow facilities to meet compliance requirements. Among the compliance programs we have helped design include those governing emission inventory reporting, Title V annual and semi-annual reporting, greenhouse gas (GHG) reporting, and deviation reporting.

These projects include new facility permits, permit modifications, and permit renewals as well as determinations of Best Available Control Technology (BACT) and Lowest Achievable Emission Controls (LAER). We routinely conduct regulatory applicability determinations for NSR/PSD, New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPs), Maximum Achievable Control Technology (MACT), Reasonably Available Control Technology (RACT), and state-specific requirements.

Air Compliance and Reporting

With federal, state, and local air quality regulations in a constant state of fluctuation, maintaining compliance can be a constant struggle and burden. Our air practitioners' experiential understanding of policy, regulation, and drivers results in effective and efficient compliance solutions for our clients so that they can address reporting challenges and remain in compliance without concern. Working with clients, Geosyntec practitioners provide the necessary framework to implement comprehensive environmental management strategies that allow facilities to meet compliance and reporting requirements. Among the compliance programs we have helped design include those governing emission inventory reporting; Title V annual and semi-annual reporting; greenhouse gas (GHG) reporting; and deviation reporting.

Air Quality Monitoring and Studies

Geosyntec's air quality practitioners frequently address client challenges with the monitoring of air emissions for the purpose of Clean Air Act compliance in the United States and for similar regulatory programs around the world. We also conduct studies to assess the various components of those emissions and apply the data in the design of innovative solutions for emission control systems and the development of rigorous pollution control programs.

Geosyntec engineers and scientists provide specialized consulting, design, engineering, and regulatory compliance services for new, operating, and retiring facilities and assets. We have developed a number of annual compliance programs that provide comprehensive emission inventory reporting, Title V annual and semi-annual reporting, greenhouse gas reporting, and deviation reporting. In addition, our practitioners have expertise in New Source Review pre-construction permitting and air dispersion modeling as well as the application of the U.S. Environmental Protection Agency (EPA) air measurement methods. These include the EPA's Standards of Performance for New Stationary Sources, or 40 CFR Part 60, and the Mercury and Air Toxics Standards (MATS).

Our emission measurement experts frequently develop methodologies and configure instruments to monitor pollutants under complex operating conditions, including the application of novel approaches to measure mercury and sulfur trioxide (SO3) emissions. By working closely with our clients and officials from regulatory agencies, we develop test methods and procedures that minimize measurement bias and lead to the collection of high-quality data.

Geosyntec offers installation of state-of-the-practice hardware and software that utilizes cross-duct laser technology for continuous monitoring of ammonia (NH3), and SO3. We also provide Continuous Emission Monitoring System (CEMS) selection and operational assistance, data management, and equipment maintenance to provide maximum equipment up-time and effective data collection and analysis.

Geosyntec scientists have developed specialized continuous real-time measurement methods for certain flue gas constituents important to electric utilities (such as SO3, NH3, and various halogens), in addition to the nitrogen oxide, sulfur dioxide, and other combustion byproducts typically present in flue gas exhaust. In just one example for a power plant in the United States, we applied extractive quantum cascade laser (QCL) absorption spectroscopy to detect sub-ppmv levels of SO3 from multiple points in a selective catalytic reduction exhaust duct. Additionally, statistical calculations were performed to assess exhaust flow variability and possible stratification. The new method achieved favorable detection limits (less than 1 ppmv), and data signal averaging was on the order of 10 seconds per measurement. This enabled real-time monitoring and observation of SO3 changes as sorbent feed rates were varied for optimization at the plant.

Air Quality Control Device Evaluations and Optimization

Our practitioners frequently evaluate air pollution control devices and advise clients on potential avenues for optimization that meet emission standards and minimize operational costs. Our project portfolio includes combustion management and tuning for boilers, thermal oxidizers, and other combustion devices. We have expertise in the measurement of complex pollutants, such as mercury and sulfur trioxide (SO3), in addition to standard control device emission measurements and U.S. EPA test methodologies. Geosyntec offers installation of state-of-the-practice hardware and software that utilizes cross-duct laser technology for continuous monitoring of ammonia (NH3) and SO3. We also provide Continuous Emission Monitoring System (CEMS) selection and operational assistance, data management, and equipment maintenance to provide maximum equipment uptime and effective data collection and analysis.

Advancing the State of the Practice

The expertise in process and air pollution control technology design that our practitioners have enables us to develop strategic approaches to complex, multi-pollutant emission issues and provide our clients with a balanced approach to their plant operations. Within the electric power industry, Geosyntec practitioners designed strategies that reduced the amount of coal required to produce energy through improvements in fuel use, waste generation systems, and air pollution controls. Optimization of air pollution controls, such as selective catalytic reduction or thermal oxidizers, can result in substantial fuel savings as well as and improved control device performance.

Geosyntec practitioners frequently collaborate with colleagues at EPA, the U.S. Department of Energy (DOE), the Electric Power Research Institute (EPRI), and other organizations on new strategies for reducing impacts to air quality, such as NOx control, mercury capture, scrubber optimization for heavy metals, catalyst selection and optimization, and plume opacity mitigation. Through additional research, our experts have developed emission measurement methodologies that enable pollutant-specific measurements under complex operating conditions.

Other Services: Construction Management

Geosyntec has a long history of providing construction related services to our municipal clients. We typically act as the County's representative and manage the construction contract to enforce the contract provisions and ensure that the facilities are constructed in accordance with the contract documents. Additionally, we can provide third-party construction quality assurance (CQA) services to document compliance with the project documents including the CQA plan and construction permit, as well as provide construction completion certification.

For such assignments, we will typically involve a CQA Managing Engineer who will certify the project to the appropriate regulatory agency. We utilize a CQA Site Manager who, depending on the complexity of the project, will reside at the construction site, or make periodic site visits. Also, if warranted, we will have additional staff assigned to the project to

observe contractor performance. All of our CQA personnel are experienced in construction oversight and up to date with state, national (e.g., OSHA regulations) safety protocols.

Other Services: Community Relations Support

Geosyntec has learned that each site has a unique set of stakeholders. Geosyntec realizes the importance of community involvement and a strong community relations program. Geosyntec's approach for Public Involvement/Community Outreach generally follows the seven elements of the EPA's collaborative problem-solving model. We begin this process by working closely with community-based organizations, municipalities, FDEP, and other stakeholders early, to determine the stakeholders and issues, set a community vision and community goals, and discuss the overall approach.

We can then assist in the development and implementation of an appropriate outreach plan specific projects. The plan may include elements such as community workshops, working with public and private sector developers interested in redevelopment, developing and compiling information for education of specific audiences, and/or developing and producing communications via various media. We have public relations specialists and graphic artists to assist our technical personnel with developing understandable outreach support materials.

Geosyntec Local Knowledge and Experience:

As an example of recent community relations support, Geosyntec team members recently conducted an interactive community meeting in Orlando, Florida on March 7, 2019. The community meeting was held at the Dr. J.B. Callahan Community Center to provide an update on the Orlando MGP Superfund Site environmental investigation, upcoming interim remedial actions, and the overall site remedial design. The community meeting attendees included City of Orlando Commissioners, media representatives, FDEP, USEPA, FDOH, and the general public. In addition to coordinating and attending the meeting, Geosyntec prepared display boards to convey the overall project to the public and answered questions as the public toured the various stations set up throughout the room. The community meeting was well received and has helped to foster a positive perspective on the progress being made to address environmental impacts at the site.

Other Engineering and Surveying Services

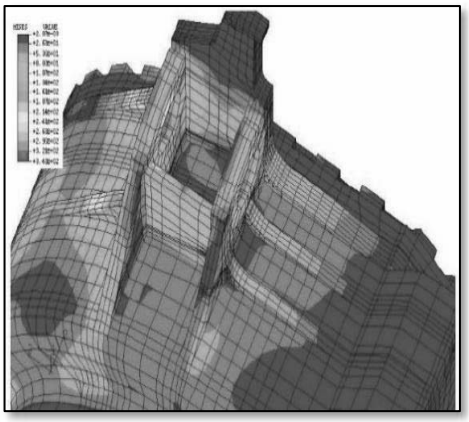
Geosyntec has the capabilities to meet any of the services listed in this response to the RFP, but our intent is to make Geosyntec a "one stop shop" for the County by providing other miscellaneous engineering and surveying support services. Examples of additional expertise include but are not limited to the following:

- ✓ Grant writing
- ✓ Expert witness testimony
- ✓ 3rd party review
- ✓ Natural systems restoration
- ✓ Coastal engineering and resiliency
- ✓ Hydrogeology assessment
- ✓ Water supply
- ✓ Infrastructure assessment

In addition, Geosyntec offers a wide range in modeling, CAD, and GIS related services that could be of use to the County, as described below:

CADD Capabilities

Geosyntec's CADD resources utilizes the latest, state-of-the-art design and modeling software. Geosyntec's design software capabilities include the newest versions of Civil 3D, 3dsMax, Raster design, Map 3D, Microstation, InRoads, Rapid Design Visualization (RDV), and SurvCAD, among others. Geosyntec's CADD professionals, assisted with powerful design software, provide a full range of civil, water resources, geotechnical, environmental, and process engineering design services that capture design elements in figures, as-built (record) drawings, design drawings, construction drawings, three dimensional plans, and videos. Additionally, Geosyntec's CADD group can provide a rapid response while collaborating with clients, stakeholders, contractors, and consultants to provide an efficient product with strict adherence to our quality standards. Geosyntec's CADD experience and close relationships between CADD and engineering personnel, will facilitate effective project implementation.


SERVICES	SOFTWARE TOOLS
• Details, plans, elevations, profiles, and sections • Quantity take offs (cut/fill volumes, areas, linear features, etc.) For cost estimates and budgeting • Civil, geotechnical, environmental site design elements • Third party CAD and survey data, including quantity estimates analysis • Autocad and microstation file conversion and technical support services • Autocad surface, including contours and TIN analysis • Support and assistance to surveyors and field verification efforts • Presentation/proposal AutoCAD and microstation graphics • Project CAD estimates/budgets • Rapid response, particularly during construction • Interoffice, client, contractor, vendor support • Paperless markups using dwf • Autocad training and mentoring for internal personnel • Support for graphical information systems (GIS) • Support for 3-d visualization and animations	• AutoCAD Civil 3-D • Microstation • Rapid Design Visualization (RDV) (3D animation) • SurvCAD (grade roads/linear features on slopes) • HydroCAD (surface water) • Impression (graphical representation of CAD file)

Geosyntec operates primarily with the Autodesk CAD concurrent platform employing the Civil Infrastructure Design Suite package including AutoCAD Civil3D, Map 3D, Infrastructure Modeler, Storm & Sanitary Sewer Analysis, Raster Design, Infraworks and 3DS Max. Our advanced 3D capabilities allow staff to visualize recommended improvements or natural system enhancements and are an effective tool for translating project goals for the public. Electronic deliverables can be provided for all design projects under this project, including the full CAD design files, together with ASCII point file information in standardized format.

Another element of our visualization capabilities includes assisting our clients' staff at public meetings, including the generation of exhibits. Geosyntec can work hand-in-hand to meet the County's public outreach and involvement strategies. Often it is beneficial to provide exhibits and visual aids that tell more of a story than a typical engineering design schematic or typical section does. Our visual analysis teams are able to develop photo-realistic representations of improvement designs to obtain community support and stakeholder buy-in during the conceptual and design phases.

GIS Capabilities

Geosyntec emphasizes the use of GIS in its projects. Using industry standard ESRI-based ArcGIS, we will leverage a wealth of geodatabase management expertise to the county's advantage. Using project-specific GIS geodatabase schema allows for the storage of large amounts of environmental data in a consistent, topologically controlled environment. This allows for easy model updates and exporting input parameters to models such as MODFLOW, EPA SWMM or ICPR. Linkages to the County's drainage inventory can be developed to streamline import of that data into models. Also, simple web-based graphical user interfaces can be applied to allow non-GIS users to benefit from its robust data management capabilities. Our additional 3D, spatial, geostatistical, and topographical processing GIS processing tools increase the efficiency of model parameterization, allowing more time to be spent on alternatives analysis. Our GPS/GIS based handheld field units with photo-linking capabilities further cut down on the time needed to collect, process, and store project data.

Geosyntec GIS Resources

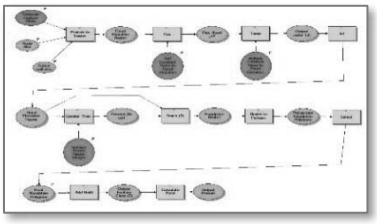
- ArcServer with SharePoint Integration
- ArcGIS Advanced (ArcInfo)
- ArcGIS Standard (ArcEditor)
- ArcGIS Basic (ArcView)
- Customized Tablet Based Data Collectors
- LP360 LiDAR Extension

Data will be managed in ESRI ArcGIS 10.x based framework with geodatabases being the primary data repository. Various ArcGIS licenses are available to key personnel, including **ArcGIS Advanced (ArcInfo)** and **Standard (ArcEditor)** and **ArcGIS Pro** on a concurrent (floating) license basis. Each key team member will also have an **ArcGIS Basic (ArcView)** license (single desktop or floating license) for general data management and map production purposes. Data management will also be conducted using specific ArcGIS extension tools

such as **Spatial Analyst, 3D Analyst**, etc., able to be accessed on a floating license basis by key team members, as well as third party GIS tools such as LP360 for LiDAR data management. Geosyntec also uses numerous internally developed tools to help streamline GIS and modeling processes. For example, we can develop detailed stormwater modeling data via connectivity of the subsurface drainage systems (i.e., pipes, etc.) to be incorporated to the level of detail require to accurately represent the hydraulics for County projects.

Geosyntec is committed to maintaining up-to-date software and computing technology, enabling us to have the computing resources available to provide excellent service and responsiveness.

Geosyntec empowers each of its engineers and scientists with the tools and training to be fully functional and able to accommodate work on any of the assigned tasks. Key project personnel will each have a dedicated state-of-the-art computer with enhanced processing power and memory resources from which to conduct project analysis activities. In addition to access to a stable of concurrent GIS and modeling licenses, the team members are supported with a full suite of Microsoft Office with Adobe Acrobat and have access to AutoCad Infrastructure design packages. **The Geosyntec Team will provide ample computer software and processing resources to complete intensive CAD and GIS processing and modeling tasks in a timely and cost-effective manner.**



Geosyntec also develops and hosts web-based GIS data viewers for our clients. This allows the benefit of GIS data to be leveraged across a wider client audience that does not have access to GIS licenses. For Orange County we set up an interface for their digital watershed information. Orange County struggles, having to manage various disparate watershed and stormwater related GIS geodatabases along with related reference data (plans, permits, photographs, etc.). Custom online tools are being developed to assist staff with daily workflows all though a non-proprietary web browser interface, developed both on desktop and mobile platforms.

Approach to Successful Projects

Our philosophy is to make it easier for County staff to effectively solve your problems and help you use your financial resources wisely. This starts with strong project management coupled with effective communication and supported by resource commitment. **Working though Contract Manager Mark Ellard, our project-designated Project Managers (PM), will be the focal point for all project communication, coordination, and administration,** which will give the County a consistent contact representing the project team. By performing our roles correctly, the County will see us as an extension of County staff, working closely with the County project managers to ensure that needs and goals are being met. Geosyntec will bring a **flexible focus to the project and will not rigidly try to "do it our own way" at the expense of project success**. We listen and remain flexible in our methods so that the outcome is the focus, not the process.

Project Approach for Typical Water Resources Project

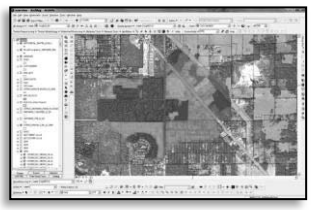
Our project team has been carefully assembled to **provide the most innovative and cost-effective solutions** to the types of projects that will be performed under this contract. Projects will be conducted in accordance with Geosyntec's proven work processes and quality control program, and carefully adjusted to comply with the County's guidelines and expectations.

Once selected for a contract task assignment, Geosyntec will review available documentation and assemble a database of general project information to familiarize ourselves with the project. We will then coordinate a scoping meeting during which the task assignment goals and constraints will be clearly established. Each task

assignment will clearly describe the services required, state task start and completion dates to meet County expectations and establish payment amounts and methods. The project team's extensive past experience with conducting similar projects along with experience managing projects for municipal clients will allow us to identify constraints and potential problems at project commencement that may derail the project schedule. For example, the following questions will be answered during scope development:

- Is the project focused on addressing flooding (retrofit, floodplain, etc.), water quality (TMDL, NPDES, NNC, etc.), or other infrastructure? or a multi-objective combination?
- Is the project reactionary or proactive, and how will that impact desired schedule?
- Will the project identify alternative solutions, or will it commence straight to design level engineering?
- Will permitting be required? SJRWMD? FDEP? USACE? FDOT? Local?
- Will there be significant utility or right-of-way coordination?
- Will there be a significant public involvement component?
- Will there be the opportunity to make ancillary improvements to other County infrastructure or incorporate sustainability features?
- Will the project require grant or other external funding for implementation? Are there funding deadlines or political issues?
- Will the project need to meet NPDES or TMDL requirements? How can the deliverables provide program credit?

Once the scoping meeting is complete, Geosyntec will confer with the project team and **identify key resources** to be allocated to the project. Geosyntec is **sensitive to the limited municipal budgets**, so we will **scrutinize all costs** to ensure the County is receiving the most cost-effective work product. Typical retrofit projects will include the following elements:

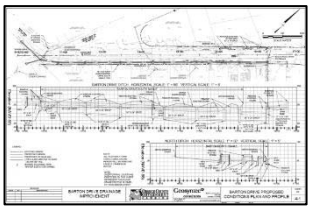


Desktop Review – This initial project element will focus on compiling available background information needed to support project requirements. This entails gathering GIS data, plans, permits, and environmental data relative to the project and compiling it into GIS geodatabases. This process will also identify data gaps requiring additional data collection.

Field Review – This element includes a field investigation with photo/GPS documentation of key features (problem locations, drainage structures, conveyance features, wetlands, high water marks, etc.). During this initial survey, any geotechnical investigations and ecological assessments will be completed. Interviews will be held with County and regulatory personnel as well as residents, if applicable, to assess the frequency and severity of any problems.

Existing Conditions Analysis – The completion of the desktop and field reviews allows for a complete understanding of the existing conditions of the project area. At this point, a hydrologic & hydraulic (H&H) and/or pollutant loading model presentation of the project conditions may be developed to confirm the origin of any problems and provide the basis for evaluating corrective action measures. H&H modeling will generally be performed using ICPR (versions 3 and 4), EPA SWMM, or other model consistent with the available regional models. Additional modeling platforms, such as ICPR as well as the USACE HEC suite of software can also be used to meet individual project needs. Pollutant loading models may be simple spreadsheet-based EMC/land use applications or else more site-specific models in order to be consistent with TMDL/NPDES requirements. At this point, the issues at the project site will be fully defined and the objectives for corrective action established.

Preliminary Engineering - Corrective Actions Analysis – This element entails evaluating alternatives to meet the established corrective action objectives and goals. This may include evaluating various flood reduction scenarios, water quality BMP implementations, infrastructure improvement, erosion and sedimentation control measures, or some combination of these. Each alternative will be fully evaluated with respect to cost, land acquisition, long-term maintenance, constructability, utility conflicts, right-of-way/easement issues, and public acceptance. The focus will be on identifying implementable projects that are cost-effective and attractive to grant funding. Initial conversations with the regulators will generally occur at this time to evaluate the permit feasibility of corrective actions. Concept sketches will be provided, and preferred alternatives will be agreed upon before proceeding with final design.



Final Design Plans Production – Where implementation of capital projects is necessary, plans production will be conducted. Plans will be produced consistent with the County's CADD requirements. During this process, utility conflicts and Right-of-Way issues will be confirmed. All plans will go through a value engineering review while developing cost estimates to ensure the most economical solution is provided. Pay items will be prepared in accordance with standard FDOT line items or based on County preference. Construction specification packages will also be prepared at this time. Right-of-Way, easement, and environmental assessment issues will also be addressed.

Permitting – Permitting with the SJRWMD will generally occur at the 90% or 100% design plans interval. The Geosyntec Team's experience will minimize requests for additional information, thereby saving time and money. In some instances, permitting with other agencies including USACE, FDOT (drainage connections), or FDEP (utility relocations) may be necessary.

Post-Design Services / Construction Oversight – Where necessary, the Geosyntec Team will provide post-design services including pre-bid support, pre-construction reviews, and construction oversight.

Project Approach for Typical Environmental and Remediation Projects

Innovative Approaches for Initial Survey - As an initial step in site investigation, Geosyntec frequently employs a "desk-top" site assessment approach that ultimately reduces project cost and schedule. This involves extensive research of existing and historical site conditions during work plan development and prior to field work implementation. Geosyntec reviews existing information such as FDEP OCULUS database for nearby environmental sites, water management district databases to identify potable wells, current and historical aerial photographs at FDOT websites, and Florida Geological Survey (FGS) and United States Geological Survey bulletins to evaluate hydrogeologic information. This crucial step in CSM development produces practical, high-quality work plans that can be easily implemented, and reduces costs by focusing field activities, identifying potential receptors, and expediting the implementation schedule – all before the project team leaves the office.

Typical Environmental Project Report Submittals

- Groundwater Monitoring Reports
- Supplemental Assessment Reports
- Site Assessment Work Plans
- Site Assessment Reports
- Remedial Alternatives Evaluation/Feasibility Study
- Pilot Testing Work Plans/Results
- Remedial Action Plans
- Post-Active Remediation Monitoring Reports
- Site Rehabilitation Completion Reports
- Construction Completion Reports
- UST Closure Reports
- Interim Source Removal Reports

Conducting Initial Site Visits to Obtain Basic Site Information - During our initial site visit, Geosyntec enhances the "desk top" CSM via the collection of site-specific data through reconnaissance to ascertain and confirm land use, perform a receptor survey and verify any provided information. An initial CSM that identifies potential source areas

and receptors is developed and aids in the implementation of well-defined site assessment (SA) activities. These processes reduce SA costs and timeframes by selecting and locating the most suspect sampling locations, rather than a "poke and hope" approach and multiple stages of drilling approach. This minimizes multiple mobilizations and installation of numerous wells to define affected media.

Performing Field Investigations - Geosyntec emphasizes identifying and delineating source areas, and to collect soil and groundwater samples pursuant to FDEP and/or USEPA regulations, with appropriate tools and moving sites forward quickly and cost effectively. We regularly use Direct Push Technology (DPT) and mobile labs to rapidly collect and analyze samples and provide dynamic, real-time delineation of affected media. This data is used to install a smaller, more economical monitoring well network. The result – strategic planning and proactive measures to combine the drilling programs for the investigation and monitoring phases and avoid iterative drilling approaches and delays.

Geosyntec also understands the strengths and limitations of various characterization tools that produce successful assessments. For example, the membrane interface probe (MIP) is an innovative tool for delineating NAPLs and sorbed mass sources areas. Understanding the innovative tools available and the most appropriate situations to use them enhances the assessment effort at several levels. For example, the MIP is not effective for delineating low-concentration dissolved chlorinated solvent plumes. Other innovative investigation approaches/tools include sonic and angle drilling, color-tec screening, MIP, hydraulic profiling tool, cone penetrometer logging, UVF screening, incremental sampling, XRF testing, modified active gas sampling, pneumatic slug testing, tracer tests, carbon range speciation, leachability evaluations, and saturated-zone soil sampling.

3-D Environmental Visualization Software of Subsurface Contamination at NASA.

Reporting Technical Conclusions - Geosyntec understands the importance of conveying the objectives, findings, and conclusions through our reports. We have worked with DEP's technical staff to develop clear and concise report formats that contain the necessary information to ensure compliance with the applicable rules and regulations. We provide reports that clearly convey the identification, status, location, source, and stability of the contaminants. Geosyntec utilizes standardized forms, tables, and formats. As part of our internal processes, all final reports are created and stored electronically. Map data and engineering drawings are completed in electronic formats compatible with AutoCAD.

Geosyntec understands how and when to use characterization tools to produce successful, fully delineated plumes. Geosyntec uses GIS to assist with the completion of site assessments to ensure that there are no data gaps and that contamination is fully delineated. The firm's GIS specialists prepare geo-referenced overlay and plume maps that provide a summary of assessment field and analytical data that reviewers and regulators can quickly determine SAs are complete. We have a proven track record of preparing reports with the highest level of technical quality and conveying complicated data through GIS applications, engineering drawings, or Environmental Visualization Software. Geosyntec recently responded to DEP's reporting challenges on a high-profile site, when they were required to meet off-site contamination discovery notification and reporting requirements.

Recommendations for Remedial Strategies. If need for remediation becomes apparent, our reports typically include conclusions and recommendations for remedial strategies that can be further evaluated subsequent phases. We have found that presumptive remedies such as source area removals, soil vapor extraction, and/or air sparging can be recommended in SARs to accelerate the overall schedule.

Our Florida staff has excellent working knowledge of Chapter 62-780, F.A.C and various contamination cleanup criteria provided. Geosyntec been involved in hundreds of contaminated site cleanups in accordance with its for municipal, state, federal, and private clients. The implementation of investigations is results driven and we have thoroughly applied our understanding of the various criteria and innovative assessment and remediation techniques to bring closure to many sites within at a lower cost and within compressed timeframes.

For conducing technical reviews, DEP selected Geosyntec out of their top 10 existing environmental consultants to provide technical review services for data generated and collected by other consultants.

We have a proven track record of success working with our clients and regulatory agencies to solve complex environmental issues. Geosyntec has been able to make significant strides on environmental programs by streamlining all phases of site services, advancing innovative technologies, reducing cleanup timeframes, and bringing the ***best value*** to our clients. We are currently providing technical review of environmental assessments and remediation data collected by others through our DEP Consolidated Environmental Contract. We were hand-picked by the DEP, out of the top 10 environmental consultants, providing environmental services to the DEP Hazardous Waste, DCSP, SIS/SOL and Brownfields Programs. We have reviewed high priority federal and state site environmental reports including assessment data, remedial evaluations, and a wide-diversity of other projects including Tyndall AFB, Cape Canaveral AFB and Petroleum Products Corporation Superfund Site.

Remediation

Jim Langenbach, PE coordinating turnkey remedial system construction at a Dry-Cleaners

Effective remedial approaches start with a well-defined CSM determined during site assessment activities followed by conducting a streamlined feasibility study (FS) or Remedial Alternatives Evaluation (RAE) which identifies, evaluates, and recommends cost effective remedial technologies. Geosyntec's engineer's screens conventional and innovative technologies in accordance with each program's specific criteria by evaluating the selection of certain technologies (or "treatment trains") and rejecting less-suitable alternatives. Geosyntec has streamlined the RAE process by collaborating with FDEP technical staff to eliminate significant portions of the RAE based on evaluations conducted for similar projects. While engineering designs are often initiated following approval of a SAR or FS/RAE, Geosyntec design engineers are proactively involved during the assessment phase of projects, prior to design. Geosyntec understands that being involved with a project before progressing to the engineering design phase is a critical step that ultimately saves time and money, and results in a design that meets each site's unique constraints.

Geosyntec has provided turnkey services on a wide variety of remedial action and construction projects, including acting as the prime contractor, providing all the necessary engineering design, contracting, construction activities, scheduling, permitting, and O&M.

Our project teams have implemented our turnkey approach on more than 100 projects in Florida in the last five years, ranging in size from small Interim Source Removals (ISRs) and SVE system installation at petroleum

and drycleaners, to multi-million-dollar environmental construction projects such as the Tampa MGP Brownfieds site. The remedial approach for the Tampa MGP site earned national recognition in 2016, winning the Grand Prize in the remediation category through the American Academy of Environmental Engineers and Scientists.

When implementing a turnkey project, Geosyntec's experienced project managers and field personnel focus on expediting schedules and reducing costs. To expedite project schedules, our project managers explore options to reduce mobilizations and combine project phases. Our engineering designs combine innovative ideas developed from practical hands-on experience learned in the field. We structure our turnkey implementation approach based upon size and type to ensure that projects that require high-tech innovative solutions or just a "shovel and strong back" are properly implemented. Our network of qualified subcontractors throughout Florida ensures that contracts are in place for rapid, cost-effective responses.

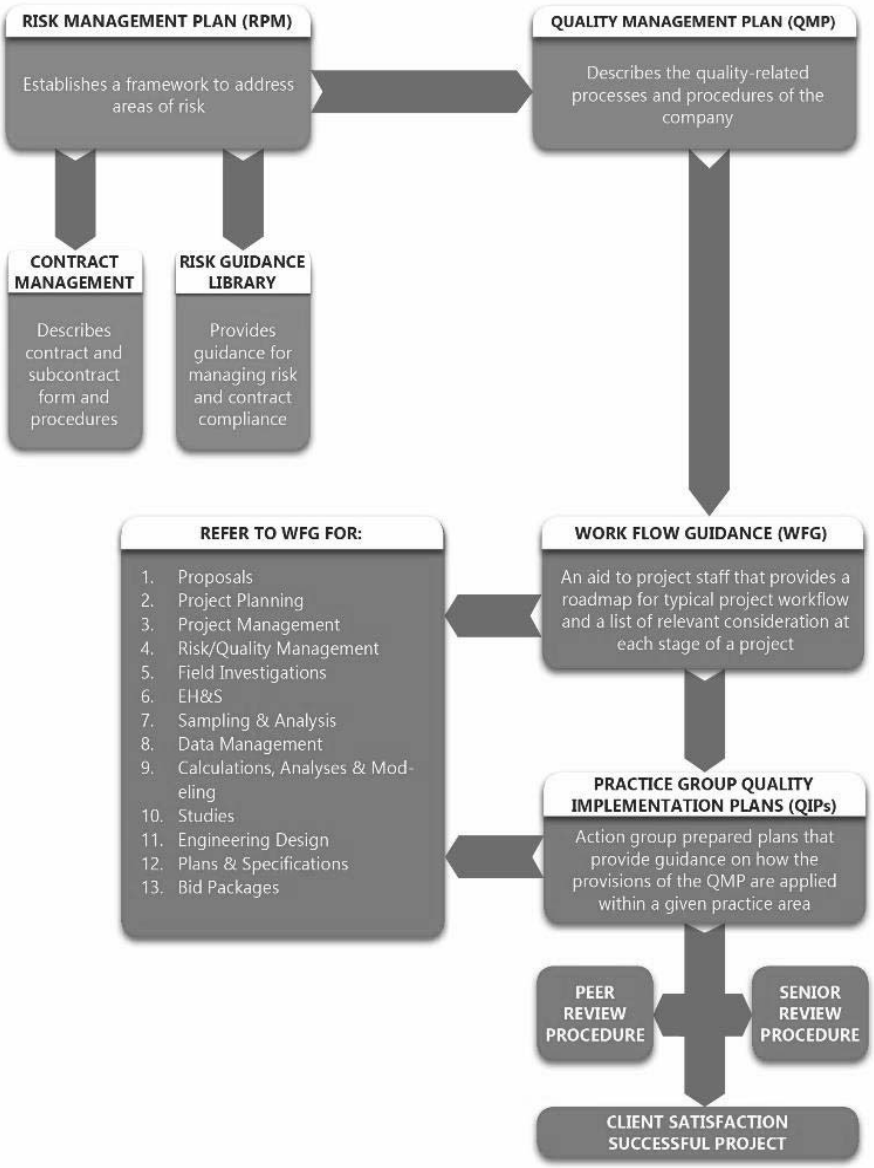
The key to Geosyntec's success on remedial action and construction projects is the continuity of the staff we utilize to complete these assignments. The design engineer is ultimately responsible for coordinating and assigning the appropriate staff and resources to the job. Appropriate staff may include: Geosyntec personnel involved with the site assessment, project engineers who prepared the RAP or ISR Work Plan, construction personnel responsible for permitting, procurement, field implementation, and various subcontractors. The design engineer communicates with these personnel and regulatory staff to ensure that the project is implemented in accordance with the appropriate plan and schedule, and to document that the stated objectives have been achieved.

Former J.H. Dowling Lumberyard Soil Excavation

Geosyntec's State petroleum assessment and remediation experience also includes its selection in 2014 by the FDEP Petroleum Restoration Program (PRP) as an Agency Term Contractor (ATC) for the north, central, and south regions of Florida. During the selection process, Geosyntec was ranked by the FDEP in the top five firms for all three regions of the State for technical qualifications for petroleum assessment and remediation services. Geosyntec has been assigned over 50 PRP sites to date and is currently working on 35 sites.

Under the PRP, Geosyntec completed a large soil ISR in 2016 at the Former J.H. Dowling Lumberyard, a project undergoing redevelopment located in the Gaines Street Corridor. The project included the fast-track ISR design and implementation to dewater and excavate petroleum impacted soil (3,360 tons) to 20+ ft and backfill with flowable fill to facilitate the construction of a multi-story structure for Florida State University student housing. The fast-track $600,000 project was safely completed during a two-month period in November and December 2016, achieving project objectives, facilitating redevelopment, and post-active remediation groundwater monitoring to position the site for No Further Action (NFA).

Quality Control / Quality Assurance Procedures



Geosyntec's Quality Management System (QMS), or management philosophy, utilizes a tiered approach to quality management. With this tiered approach, the levels of managerial control and resource allocation for QC/QA purposes are based on the complexity and size of the project; the degree of accuracy and/or certainty needed in the project data, analyses, designs, and results; and, the applicable standard of professional care for the type of work being performed. Geosyntec is committed to utilizing quality management principles and practices for activities involving: project management; project planning and work plan preparation; health and safety planning and management; information/data collection; data management, interpretation, and use; analytical and numerical modeling and analysis; study design and implementation; engineering design; preparation of plans and specifications; construction oversight; systems start-up and operations; and work product preparation and reporting. The intent of Geosyntec's QMS is to implement a systematic approach to QC/QA in a manner that is technically sound, legally defensible, and produces results of known and documented quality.

Geosyntec has adopted a discipline of strict internal quality control. As part of the firm's Quality Management Plan, Geosyntec has developed a Quality Implementation Plan (QIP). The QIP provides project planning points to assist project managers in the initial planning phases of each project. An attachment to the QIP provides specific planning points for engineering calculations, drawings, and for cost proposals. These planning tools provide resources that describe how to formulate a project kickoff meeting agenda, define the purpose for a set of calculations, define the calculation methodology including design criteria and assumptions, format calculations, present a summary of results, and achieve appropriate certification. For drawings, the planning points cover aspects such as organization of the drawing set, content for drawings such as data tables and

views, adherence to Geosyntec CAD standards, presentation of notes, quality/content requirements for various levels of completion (i.e., 30, 60, 90 percent review sets) and certification requirements. The QIP also provides guidance for preparation of reports, letters, specifications, and other work products.

Geosyntec requires a project-specific Project Management Plan (PMP) for each new project. The QIP contains a spreadsheet-based PMP template tailored for large, medium or small projects. The PMPs are designed to keep project managers aware of important success factors for the project. The PMP templates include schedule milestones and WBS with associated budget. The PMP must be updated monthly and each month several PMPs are selected for presentation to the management staff for a given office. This QIP framework will be coordinated with our subconsultants to ensure administrative consistency.

A cornerstone of our Quality Management Plan and QIP are Geosyntec's quality control review procedures. We have established multiple levels of quality controls to ensure the highest quality of deliverables. First, we have a Peer Review procedure, where every set of calculations must be reviewed by a peer, someone at approximately the same level as the author but who is not directly involved in preparation of the calculation package. Each calculation package is accompanied by a cover sheet whereby the peer reviewer can sign off on this initial review and later on any revisions made because of the initial review. After the peer review is complete, the package receives senior review, typically from the engineer-of-record for the assignment. The process described above results in detailed documentation of the rigorous review process that is completed, which is also documented and saved on our internal electronic database of peer and senior-review forms.

Quality Assurance Manager

Mr. Dan Schauer, PG will serve as our Quality Assurance/Quality Control Manager. He is a geologist with over 30 years of extensive project management experience for municipalities and state agencies in Florida. Mr. Schauer manages multidisciplinary projects involving complex landfill design, permitting, construction, redevelopment and remediation including more than 500 municipal and private landfill projects for Class I MSW, Class III waste, C&D, waste-to-energy (WTE) facilities, incinerator ash landfills, hazardous and low-level radioactive waste disposal, transfer stations, and recovered material processing facilities (RMPFs) in Florida and across the U.S. His areas of expertise include, but are not limited to, geotechnical engineering and testing, geological & hydrogeological assessment, civil infrastructure, utilities, siting & land acquisition, waste mining sub-base preparation, multi-layer composite liner system design, closure design, groundwater and surface water management, gravity leachate collection systems design, treatment and disposal systems, storm water collection and conveyance, waste relocation and soil management plans, landfill operation plans, FDEP permitting, methane surface sweeps/monitoring, landfill gas reporting, waste placement/compaction/filling plans, landfill gas well and header construction, LFG system operation, maintenance, expansion, retrofit, and utilization. As Quality Assurance Manager, Mr. Schauer is committed to satisfying the expectations of our clients and our professional drive for excellence in our work products. Achieving excellence on our projects is a team effort, and quality management and review procedures are designed to enhance the quality of our consulting services. Mr. Schauer will make sure that applicable peer and senior review quality management procedures are implemented under this contract.

SECTION 3 | Consultant's Qualifications and Staff

Our project team has been carefully assembled to **provide the most innovative and cost-effective solutions** to projects assigned under this contract. The projects will be conducted in accordance with Geosyntec's proven work processes and quality control program.

Organization Chart

Resumes

Resumes of our team members are included at the end of this section.

Current Workload and Ability to Satisfy County Requirements

Geosyntec strives to maintain high productivity, work product excellence and maintain a core value of unsurpassed client service. We closely manage our workload to assure these goals are met without exception and this level of effort will be emulated for all the work performed under contract to the County. Geosyntec has presented below a detailed breakdown of our current workload and the availability of key professional staff to participate on work assignments under this contract. We are confident that the work assignments that are undertaken under this contract will be fully staffed with dedicated personnel resources.

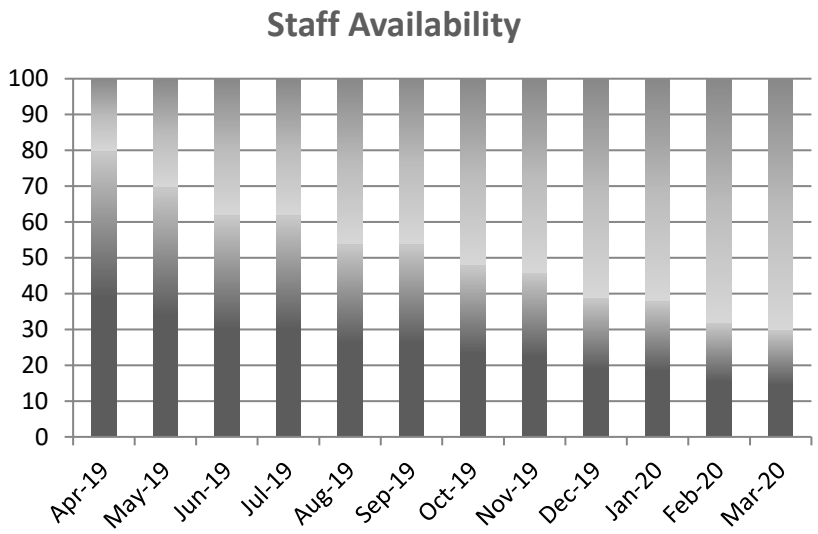
As shown in the table we have ample time to dedicate to projects under this contract, and our projected availability will have a positive impact of project performance.

	Key Team Member	Current Workload April 2019 (% Availability)	Projected Workload Remaining 2019 through 2020 (Average % Availability)
Geosyntec Consultants	Mark Ellard, PE, CFM, D.WRE, ENV SP	10	60
	Jim Langenbach, PE, BCEE	10	30
	Scott McCann, PE	20	40
	Joseph Applegate, PG	30	40
	Rachel Klinger, PE, BCEE	20	30
	Joseph Bartlett, PE	20	60
	Eric Sager, PG	10	30
	Kevin Warner, PE	10	20
	Catherine Soistman, PE	20	70
	Todd Kafka, PG	20	40
	Chip Carwell, CHMM	10	30
	Chris Herin, PG	10	30
	David Latham, PG	20	40
	Sandra Owens, CSP, CHMM	20	50
	Brooke Fait, MPH, PG, CSP, CIH	30	50
	Lee Mullon, PE, CFM, D.WRE	10	60
	Tom Amstadt, PE, CFM	10	70
	Mike Hardin, PhD, PE, CFM	20	80
	Erin Reed, PhD, PE, ENV SP	30	70
	Michael Scott, PE, PMP, ENV SP	20	60
	Todd Anderson, PE	30	50

Note that these current and future workloads are presented as a percentage of expected time available relative to total time (i.e., 40 hours/week, 2080 hours/year) to devote to projects assigned under this contract.

The above table summaries our current workload allocations, along with that projected for the next year.

Key team members are currently completing many existing assignments and based on carefully analyzed manpower projections will have ample time to devout to Alachua County on these projects. Because of the experienced project team, we would propose for each project, multiple project assignments to Geosyntec under this contract would benefit from consolidation of efforts and work effort economy from a consistent client facing staff.



Based on currently contracted work and future projections, this chart Depicts the workload capacity of the Geosyntec Team members over the estimated project schedule.

The Geosyntec Team bases staffing selection on qualifications, location, and availability and will not commit individuals to projects unless they have availability to fulfill their project roles for the duration of the assignments. For ongoing task assignments, we will not substitute key staff members without the County's prior notification and acceptance of a suitably qualified professional. Geosyntec's Florida managers meet weekly to address region-wide staffing needs. Geosyntec's Florida operations are organized by practice area rather than geographic location, so the firm routinely shares engineering personnel between offices.

Geosyntec personnel have **ample staff availability to meet the assigned project requirements** and maintain consistent communication on progress with the County. As the projects progress, Geosyntec will work with the County to ensure the key personnel mix is consistently made available to best meet project needs.

Where expedited schedule or specialized technical needs are required, Geosyntec will leverage its Florida technical staff of over 120 and national staff of over 1200 professionals to assist in meeting project goals

Consultants Background, Organization and Size

Geosyntec Consultants, Inc. is an employee-owned environmental engineering and technical science services company with more than 80 offices, including nine in Florida. Geosyntec was founded in Florida in 1983 and has grown to a staff of more than 1,200 engineers, scientists, and other technical and project staff throughout the U.S. and overseas. We are large enough to consistently deliver technical excellence, yet our operational management structure is intimate enough to provide excellent client service to municipal clients such as Alachua County.

Geosyntec is a classically structured corporation with a Board of Directors, a President/Chief Executive Officer, a Chief Financial Officer, an Executive Committee, and regional and satellite offices. From a corporate management perspective, we have a regional- and branch-based organizational structure, with a "soft matrix" for our technically-focused "Action Groups", or practice lines. Each region is led by an Executive

Committee member that reports directly to the Board of Directors. Branch Managers are technical professionals who have a demonstrated history of building strong consulting and engineering practices, recruiting and mentoring talented consulting and engineering teams, and developing sustained, successful relationships with clients. Management leadership by example remains central to the company's values and culture.

Geosyntec provides both public and private clients with technical services in environmental restoration, waste management, water and natural resources, earth sciences, and construction management and quality assurance. Our public-sector clients include municipal, state/regional, and national governments.

County Liaison

Primary: Mark Ellard, PE, CFM, D.WRE, ENV SP
Senior Principal – Contract Manager

Alternate: Jim Langenbach, PE, BCEE
Senior Principal – Project Director

Subconsultants

Geosyntec is pleased to have the following subconsultant partners on board for this contract:

EDA Engineers-Surveyors-Planners, Inc. (SBE)

As a certified Minority Owned Small Business in Alachua County and a State of Florida recognized Disadvantaged Business Enterprise (DBE), EDA has provided professional civil engineering, planning, and surveying services in the state of Florida since 1976. Their engineers, surveyors, and planners routinely work under multiple continuing services contracts (including a contract with Alachua County) and have completed numerous projects similar in scope to those outlined in this Request for Proposals (RFP).

EDA has been providing surveying and mapping services for over 40 years, including services provided directly to Alachua County government for the past 26 years. Their survey department currently employs registered surveyors with over 80 years combined experience. All surveys prepared by EDA are accurate, professionally prepared, and always meet or exceed all industry standards set by state and federal agencies. Knowing the location of underground utilities is an asset to civil engineers and developers to assist in making appropriate design decisions. EDA provides specialized underground utility location services through the use of advanced ground penetrating radar (GPR) equipment and electronic detection equipment. EDA also provides construction engineering inspection (CEI) services to its public and private sector clients. These services are provided by licensed civil engineers with years of related experience.

Anamar Environmental Consulting, Inc. (SBE)

ANAMAR Environmental Consulting, Inc. is a woman-owned small business (WOSB) that has been in operation in Gainesville, Florida, since 2000. ANAMAR is well-known for their work in environmental planning and permitting related to site characterization and assessment and in regulatory compliance. Routine services include wetland delineation, impact analysis and mitigation, habitat assessment, threatened and endangered

species surveys, water quality monitoring, permit preparation, and agency coordination. ANAMAR is comprised of a well-qualified group of scientists, engineers, and project managers who have long tenures with the company. They have extensive experience working and coordinating with federal, state, and local agencies and stakeholders to develop projects that comply with regulations while still meeting project objectives.

In support of permitting projects, ANAMAR's scientists routinely establish wetland boundaries in accordance with Chapter 62-340 F.A.C. and the *Corps of Engineers Wetland Delineation Manual* (USACE 1987). All of their determinations have been ultimately approved by the regulatory agencies. ANAMAR will perform wetland delineations using various methodologies, from remote sensing to actual placement of binding jurisdictional points along protected wetland features. ANAMAR performs surveys of state- and federally listed plant and animal species for project sites such as those slated for construction or restoration/remediation. They are experienced in conducting large-scale surveys using methodologies approved by USFWS and FWC, as well as small, informal site evaluations to determine the potential for the presence of protected species. Their team of biologists have hands-on knowledge of regulations related to protected species and have excellent working relationships with federal and state wildlife agencies.

Applied Technologies & Management, Inc.

Headquartered in Gainesville, Florida, ATM has been a leading provider of water resources, coastal and marine engineering services throughout Florida and worldwide for more than 35 years. Their 45 employees include 16 licensed professional engineers, two scientists (PhD), a licensed professional geologist (PG), a licensed professional surveyor and mapper (PSM), a certified land planner (AICP), and four engineering interns (EIs). The average tenure of their staff is 10 years, which is a testament of our strength and stability. ATMs' technical diversity allows them to provide effective studies and solutions for any water-related issue. From projects involving sensitive headwaters to coastal systems, we provide customized data collection, assessments, computer modeling, alternatives analysis, management planning, design, and regulatory guidance. ATM's technical professionals have the expertise to economically deliver the range of services needed to resolve complex engineering and environmental challenges for projects in all environments.

A large part of ATM's business is assisting clients with water resource issues. ATM specializes in performing hydrologic and water quality modeling of receiving waters, and watersheds as well as waterbody impairment listings, total maximum daily loads (TMDLs) and basin management action plans (BMAPs). ATM integrates geographic information system (GIS) with all projects, including field studies, data collection, asset management, geospatial analysis, watershed, hydrologic and water quality model pre- and post-processing. ATM is proficient in the development, application and review of a broad range of tools that simulate all aspects of the hydrologic cycle. Modeling studies are often performed in concert with monitoring programs or data gathering efforts to supply model calibration and validation data. This includes storm-event and ambient water quality sampling, as well as flow measurements. They perform detailed data analysis and computer modeling to determine the water quality impacts of nonpoint and point source discharges throughout Florida, the U.S. and internationally. ATM provides both screening-level and detailed dynamic evaluations of watershed hydrology and pollutant loadings. Models utilized include SWMM5, HEC-HMS, HEC-GeoHMS, ICPR3, HSPF, LSPC, WMM, WAM, HEC-1, SWAT, PLOAD, BASINS/HSPF, LSPC, TR-55, PONDS, WAM,

and WMM. ATM also performs hydrodynamic pollutant transport and/or water quality assessments in rivers, lakes, reservoirs, estuaries, and oceans using 1-D, 2-D and 3-D models. Models utilized include EFDC, ECOMSED, ADCIRC, RMA2, HEC-RAS, WASP7, HEC-2, HEC-GeoRAS, CE-QUAL-RIVI, CEQUAL-W2, CEQUAL-ICM, QUAL2E, QUAL-2K, CE-QUAL-W2, CEQUAL-ICM, CORMIX, Bathtub, the full MIKE suite, and VisualPLUMES.

Geohazards, Inc. (SBE)

Geohazards was founded in 1985 in Gainesville to provide geotechnical and geophysical services. The Geohazards engineering team consists of our Director of Engineering and six full time licensed structural, forensic, and geotechnical engineers located throughout the state of Florida. Together, our engineers have a combined total of over 110 years of experience, which includes a combined total of over 45 years of handling forensic claims for insurance carriers in the state of Florida. Geohazards, Inc. is currently an approved vendor for more than 20 insurance carriers and independent adjusting firms from Florida and other offices in the United States. Geohazards is a subcontractor for multiple engineering firms throughout the state, our geophysical testing capabilities and expertise is well respected throughout our peers. We are an approved vendor for the University of Florida and recently completed the University of Florida Mentor Protégé program in 2017. We are also an Alachua County Certified Small Business.

Watershed Management Services

Watershed Management Services, LLC was created by Eric H. Livingston in May 2013 to provide technical assistance to local governments, environmental groups, and the private sector. Eric is the former head of the State of Florida's TMDL and NPDES program for the FDEP. The focus of their work is on reducing pollutant loadings to better protect healthy water bodies and restore impaired water bodies using a comprehensive watershed management approach. This typically includes enhancing stormwater treatment through better site design using Low Impact Design BMPs and reducing loadings from septic tanks by using passive nutrient removing systems. The watershed approach includes reviewing and revising local Land Development Codes to promote Low Impact Design principles and BMPs using incentives such as integration of landscaping, open space, and LID BMPs. It includes the developing and adopting a local stormwater management manual that is customized to local site conditions and the existing comprehensive plan. Watershed Management Services, LLC also has extensive experience in the development and implementation of watershed management plans, including BMAPs, that can be used to meet TMDL obligations.

Koogler & Associates, Inc. (SBE)

Koogler and Associates, Inc. (Koogler) is a multidisciplinary environmental consulting firm offering specialty services in the areas of air permitting and compliance support. Koogler was established in 1974 and provides professional consulting and engineering services clients in matters related to air quality management, air pollution control and environmental permitting. The firm provides services throughout the United States, with a principal focus on the southeastern U.S. Founder Dr. John B. Koogler has been actively involved as a consultant in matters related to air quality since 1964 and is a respected expert in the field. Highly qualified associates and staff also provide a superior level of expertise in all aspects of environmental permitting.

The measurement of air pollutant emissions was one of the earliest activities undertaken in the evaluation of air quality and continues to be a major permit-related activity. Koogler staff has experience that extends from emission measurements on basic air pollution sources to measurements on exceedingly complex sources, such as trial burns on major combustion sources utilizing tire-derived fuel and a broad range of alternative fuels along with the analysis of control system performance. Koogler also provides initial and on-going certification of continuous monitoring systems for common pollutants and parameters such as sulfur dioxide, nitrogen oxides, carbon monoxide, total hydrocarbons, mercury, oxygen, gas flow and opacity from new sources in accordance with EPA Performance Specifications. In the areas of Air Resource Management, Koogler offers expert assistance in securing and renewing air construction and operating permits; tracking permitting requirements, including compliance testing and enforcement issues; performing dispersion modeling analyses; and preparing annual and test reports. Koogler works closely with regulated industries and local, state and federal regulatory agencies to rapidly secure environmental permits that provide maximum operational flexibility.

SouthArc, Inc. (SBE)

SouthArc, Inc. (SouthArc) is a full-service cultural resource management (CRM) firm with extensive experience and a client-focused perspective. Since 1989 SouthArc has been helping thier clients successfully navigate the laws and regulations governing historic properties and working with clients to complete their projects on time and within budget. SouthArc is a woman-owned Minority Business Enterprise (MBE) certified by the State of Florida. They are a small business under current state and federal standards and have been certified as a Small Business Enterprise by Alachua County. SouthArc is owned and operated by professional archaeologists and architectural historians. All senior SouthArc staff have advanced degrees. Thier President is a long-standing member of the Register of Professional Archaeologists (RPA) and the Florida Archaeological Council (FAC). Their services include desktop (GIS) due-diligence and background studies, archaeological surveys, site assessments and data recovery excavations, documentation of historic structures, historic research, development of historic preservation plans, expert witness testimony, and development of exhibits on archaeology and history.

Specialty Support Services

The following specialty services partners are also included on the Geosyntec Team to cover specialized services related to field investigation and laboratory analysis. Geosyntec has a proven track record with these firms on environmental and water resources projects.

Advanced Environmental Laboratories, Inc. is a TNI / NELAP certified, full-service environmental analytical laboratory firm, headquartered in Jacksonville, Florida, with additional offices in Fort Myers, Gainesville, Miami, Orlando, Tallahassee, and Tampa. AEL was founded in 1994 and is still owned by the same sole proprietor, Charles Ged. He opened AEL with himself and one analyst, and a dream of one day building his small company into the best lab in Florida. Today, AEL is well on its way with a network of seven facilities and over 1,000 clients across the state. Staffed by professionals knowledgeable about the local regulatory environment, AEL places a premium on providing personalized service and a top-quality product to every client, be they billion-dollar corporations or a small home builder.

Source Molecular Corporation is a private commercial laboratory founded in 2002 with a mission to fill the void between source identification research and real-world implementation of the technology. The laboratory is dedicated to offering innovative technology for solving pathogenic water pollution problems through microbial source tracking genetic and molecular techniques. Throughout the years, the Source Molecular microbiology laboratory has analyzed samples for hundreds of industrial plants, watershed management groups, state/federal government agencies, universities and engineering firms making it the leader in the Microbial Source Tracking (MST) industry. By providing commercial MST testing services, Source Molecular assists clients with recreational water quality monitoring and supports Total Maximum Daily Load (TMDL) development and implementation.

Weck Laboratories, Inc. was founded in 1964 by Dr. Friedrich Weck and Hildegard Weck as a Contract Research laboratory focused primarily in solving industrial problems including production and environmental aspects and providing laboratory services for industrial quality control. In the 1970's the Company began performing potable water and groundwater analysis for compliance monitoring and studying environmental contamination. Weck specializes in pharmaceutical tracer analysis used in various nutrient tracking studies associate with groundwater, surface water and sediments.

Pace Analytical Services, LLC is a privately held, industry-leading sampling and analytical testing firm. Pace provides analytical lab solutions for testing, staffing and equipment, with a wide scope of services including environmental analytical testing and sampling. Pace specializes in isotope forensic analysis used in various nutrient tracking studies associate with groundwater, surface water and sediments.

Environmental Drilling Services, Inc. is an environmental & geotechnical drilling company located in Central Florida, servicing the Southeastern United States and the Caribbean. They are a family owned and operated business and take pride in knowing that they provide quality service to our clients. That's what has made EDS, Inc. the top Subcontract Drilling Firm in Central Florida.

Groundwater Protection, Inc. was founded in 1986 to provide specialized environmental drilling services to consultants and engineers involved with contamination assessment and clean-up projects. GPI has completed work at well over 15,000 sites throughout the Southeastern United States. This includes underground storage tank sites (UST), industrial hazardous waste sites including 20 Federal Superfund Sites, military installations, due diligence sites and NASA facilities.

Cascade Drilling was founded in 1991 as a highly regarded Northwestern U.S. regional drilling company operating across three states. Cascade developed a strong reputation for safety, service and reliability with a particular emphasis on traditional drilling technologies: auger, rotary and direct push. In 2013, the company made a significant investment in sonic drilling technology and expanded its geographic reach across the United States.

Experience in Scope of Services

Our Team's experience in each of the services outline in the scope is illustrated in the matrix on the following page. As can be seen, our Team can cover all possible work types identified for this contract.

SCOPE OF SERVICES	PROJECT TEAM MEMBER														
	Geosyntec Consultants	EDA Engineers-Surveyors-Planners,	Anamar Environmental Consulting	Applied Technologies & Management	Geohazards	Koogler & Associates	Watershed Management Services	SouthArc	Advanced Environmental Laboratories	Source Molecular	Weck Laboratories	Pace Analytical	Environmental Drilling Services	Groundwater Protection	
Field Sampling and Data Collection or Supervision of such Activities Conforming to State Quality Assurance Requirements and Laboratory Analyses Performed by NELAC Certified and FDEP Certified Labs	✓	✓	✓		✓	✓							✓	✓	✓
Compilation, Interpretation and Reporting on Field Data and Laboratory Analysis	✓	✓							✓	✓	✓	✓			
Technical Reports on assessment of Groundwater, Surface Water, Wastewater, Stormwater, Air or, Soil	✓		✓		✓	✓									
Preparation of Technical Reports on Potential Environmental Impacts from Potential New Pollution Sources and the Suitability of Proposed Pollution Control and Other Technologies	✓		✓	✓		✓	✓								
Prepare Potentiometric Surface and Contaminant Distribution Maps	✓														
Review and Interpretation of Existing Environmental Contamination Levels or Potential Emissions from Pollution Sources and Comparison of Contaminant Levels to Appropriate Federal, State, or Local standards and Guidelines	✓		✓	✓		✓	✓								
Modeling of Potential Contaminant Migration and Remedial Scenarios	✓														
Identification of New Groundwater, Surface Water or Ambient Air Contamination	✓		✓	✓		✓	✓								
Environmental Control Alternatives & New Technology Assessment	✓		✓	✓			✓								
Regulation and Ordinance Development in the Areas of Habitat Protection, Air Quality, Water Quality, Hazardous Materials Control	✓		✓			✓	✓								
Environmental Audits and Assessments of Properties	✓		✓		✓			✓							

SCOPE OF SERVICES	PROJECT TEAM MEMBER														
	Geosyntec Consultants	EDA Engineers-Surveyors-Planners,	Anamar Environmental Consulting	Applied Technologies & Management	Geohazards	Koogler & Associates	Watershed Management Services	SouthArc	Advanced Environmental Laboratories	Source Molecular	Weck Laboratories	Pace Analytical	Environmental Drilling Services	Groundwater Protection	
Drafting of Land Development Regulations and Ordinances, and Performance of Special Studies Involving Environmental Permitting and Planning	✓	✓	✓				✓								
Public Presentations of Work Projects/Attend Public Meetings/Expert Testimony Relating to Work Performed in Support of Ordinance Development, Land Development Regulations or Other Assigned Special Environmental Studies	✓	✓	✓	✓	✓	✓	✓								
Development of Asbestos Abatement Project Plans and Specifications	✓														
Managing or Performing Asbestos Abatement Projects and Administration of Subcontractors	✓														
Air Monitoring and On-site Consultation to Assure On-going Regulatory and Health and Safety Compliance.	✓					✓									
Site Surveys for the Determination of the Presence of Asbestos Containing Materials, Sample Collection and Bulk Sample Analysis	✓														
Training County Staff in Asbestos & Environmental Sampling	✓					✓									
Preparing Reports for Submittal to Local, State and Federal Regulatory Agencies	✓		✓	✓	✓	✓	✓	✓							
Performing Indoor Air Quality Assessments and Industrial Hygiene Surveys	✓					✓									
Wetland Delineation and UMAM Assessments	✓		✓												
Construction-Ready Restoration Plans & Certified Drawings for the County's Natural Areas and Stormwater Management and Improvement Projects	✓	✓													
Assistance with Construction & Implementation Plans and Stormwater Management and Improvement Projects.	✓	✓													

MARK ELLARD, PE, CFM, D.WRE, ENV SP

Senior Principal

Project Role

Contract Manager

Education

M.S. Water Resources Engineering, University of Central Florida, 1995

B.S. Civil Engineering, Georgia Institute of Technology, 1989

Registrations

Professional Engineer, Florida No. 48073

ASFPM Certified Floodplain Manager, US-09-04415

Florida DEP Qualified Stormwater Management Inspector, No. 22318

American Academy of Water Resources Engineers – Diplomate, Water Resources Engineer, No. 00611

ISI – ENVISION Sustainability Professional, No.17515

Years of Experience

Total: 29

With Company: 9

Mr. Ellard has served as Project Manager on water resources and environmental projects for Federal, State, County and City government clients since 1990. His water resources expertise includes diverse stormwater management and water quality assessment projects as part of capital improvement programs, including watershed management, master planning, hydrological and hydrodynamic modeling, TMDL and pollutant load assessment, NPDES compliance, environment resource permitting, hydrologic & hydraulic and groundwater flow modeling, and water quality monitoring. He has conducted numerous projects utilizing expertise with stormwater modeling with ICPR, EPA SWMM, and HEC-RAS.

Additionally, Mr. Ellard has performed numerous Phase I and II environmental assessments and managed contamination assessment and remediation projects to address hazardous and petroleum wastes. This has included groundwater, soils, sediment, and surface water sampling programs to effectively characterize impacts, groundwater contamination transport modeling, and developing remedial strategies for source elimination and/or waste disposal.

Relevant Water Resources Project Experience

Stormwater Master Plan, Alachua County, FL. Project Manager. This project consisted of the development of a detailed Stormwater Master Plan to be used by Alachua County for planning purposes and for the implementation of a stormwater management program. The program would address flood control, water quality improvements, maintenance, and administration. The master plan included a detailed review of County stormwater characteristics, delineation of major watersheds, and the development of a countywide Hydrological and Hydraulic model of 69 watersheds to evaluate level of service of major drainage facilities (culvert, ponds, creeks, etc.). An inventory of drainage features (culverts, ponds, swales, etc.) throughout the County was also collected using field GPS/GIS equipment. Also, included in the projects was the conceptualization of improvements to address flooding and/or water quality deficiencies at 18 historical problem areas. Based on the results of those efforts, a needs assessment was conducted to summarize flooding, water quality and maintenance deficiencies to make recommendations on how they should be addressed and funded under a stormwater management program. Costs for a Capital Improvements Program to address the stormwater needs over a 10-year period were then developed to assist the County with planning. In addition, recommendations were made to fund ongoing water quality efforts to address TMDLs, as well as recommendations for the purchase and operation of maintenance equipment with staff to achieve acceptable level of service of the County's drainage infrastructure. Project included an extensive public involvement program including public meetings, interested stakeholders meetings, web pages, and County Board meetings to educate the public and solicit their support for a proposed stormwater program. The stakeholder coordination process included a series of meetings with citizens groups, environmental groups, regulatory agencies, and other public to solicit input to what issues and problems should be addressed under a stormwater management program and how it should be funded.

Beville Creek Stormwater Improvements, City of Gainesville Public Works, Gainesville, FL. Project was a stormwater retrofit in an older suburban residential neighborhood within the City of Gainesville. The City desired to implement an innovative "Green Infrastructure" improvement known as regenerative stormwater conveyance (RSC) for Beville Creek, within the Suburban Heights neighborhood, to address the heavy erosion of the creek and the City's interest in keeping the creek as an open, naturally flowing system. The close proximity to residential structures caused several design challenges to be overcome, including the steep grading relief of the creek. To address the design challenges, the creek bed was designed to be elevated, with RSC improvements consisting of a series of step pools in between a flat channel bottom, armored with large natural stones and boulders to mimic a steep natural channel terracing. Stormwater modeling demonstrated that flows through Beville Creek permit the construction of the RCS system to be designed, at a cost savings to the City as compared to a closed (i.e., piped) system. Because of the innovative components of this project, Geosyntec assisted the city with the preparation of a SJRWMD innovative grant application, which was awarded as the most innovative project in 2016 grant cycle in the amount of $299,000 in January 2017.

Low Impact Development (LID) Design Manual, Orange County Growth Management, Orange County, FL. As part of the 2012 Orange County Mayor's Sustainability Initiative, which is intended to create long-term strategic planning that considers economic, environmental, and societal factors, Orange County looked to Geosyntec to prepare a LID Design & Implementation Guidelines Manual (LID Manual) for the Horizon West Town Center. The goal of the LID Manual is to educate landowners, land developers, engineers, planners, and permitting authorities on the benefits of implementing LID principles. The LID Manual is a direct result of the issuance and ongoing implementation of a NPDES permit addressing stormwater discharges, implementation of the policies of the adopted Comprehensive Plan, and an Orange County leadership focus on the identification and implementation of sustainable government business practices. The LID Manual provides guidance and design information to developers and engineers as they consider and apply preferred LID practices as a supplement to more traditional methods of stormwater management. Included in the LID manual are seven LID structural technologies, including: pervious pavements, bioretention, rain gardens, planter boxes, tree box filters, curb cuts, inverted medians, and stormwater harvesting. Additional elements of the project included: preparation of an example project using a portion of Horizon West Town Center to compare the cost and performance of LID-based stormwater practices versus traditional stormwater practices, development of a detailed analysis and cost projection of inspection, maintenance, and monitoring activities to alleviate concerns over long term economic impacts, conducted an assessment of options for stormwater master basin planning within developments, evaluated benefits of incorporating LID practices into County open space code, interfacing with SJRWMD staff.

Airport Landfill Restoration, Gainesville, FL. Project included the development of a flood modeling scenario to support the restoration improvements within the Little Hatchet Creek riparian border. A detailed erosion and sedimentation design plan was produced to permit the controlled conveyance of overland runoff from the surface of the landfill to Little Hatchet Creek, without the need for underground storm sewer systems. A multi-phase SWPPP was designed consistent with NPDES criteria to eliminate erosion into Little Hatchet Creek during construction. The City of Gainesville enlisted Geosyntec to conduct a comprehensive assessment and restoration design for the City landfill located northeast of the regional airport. The landfill sits atop the northern bank of Little Hatchet Creek (LHC), a tributary of Newnans Lake, an impaired waterbody. Over the decades since the original landfill closure occurred, significant vegetative growth and erosion has scoured away the earthen cap, allowing the transport of waste into LHC. Geosyntec's restoration design consisted of clearing existing vegetation, regrading the landfill, and backfilling with two feet of clean, protective soils along the border between the existing landfill and LHC. Additionally, the landfill is located within the LHC floodplain, requiring detailed floodplain analysis. Detailed floodplain modeling was performed using the Alachua County regional watershed model to demonstrate no net impacts to the LHC floodplain. Using sophisticated AutoCAD

Civil3D grading tools, Geosyntec was able to design a balanced grading plan that minimized import and export of materials from the site, saving the City costly earthwork expense.

TMDL Studies for the St. Teresa and St. Johns Basins, Titusville, FL. Led multiple TMDL studies to address total nitrogen and total phosphorus mass loadings from urban runoff discharging to the Indian River. These studies focused on evaluating the feasibility of structural BMPs including nutrient removing separating baffle boxes with up-flow filters and subsurface up-flow baseflow treatment with storm flow bio-activated media. An evaluation of existing conditions was performed by hydrologic and hydraulic modeling and pollutant load modeling of the contributing area. Pollutant load reduction estimations of five proposed BMP structural options were calculated as input to the BMP ranking system in which the top BMP was identified. For the top-rated BMP option, proposed condition hydrologic and hydraulic modeling, a summary of implementation factors, and a cost benefit analysis was provided. A pollutant load model based on long-term continuous conditions was used to estimate existing condition nutrient loading, structural BMP performance, and proposed condition nutrient loading on an annual average basis.

Stormwater Code Review for NPDES Compliance, City of Casselberry Public Works, Casselberry, FL. Geosyntec conducted a thorough review of the City of Casselberry code and ordinances pertaining to stormwater and related water, environmental, and ecological resources, in order for the City to comply with their NPDES permit. Geosyntec conducted an inter-departmental review of the City's current local codes and land development regulations to identify potential changes to existing codes and regulations that would further reduce stormwater impacts of new development and aras of significant redevelopment. The proposed changes recommended by Geosyntec included a focus on the city code to promote reductions in impervous surfaces, incorporation of low impact development principles, reduction in flow and volume of stormwater, increase in natural hydrology, and adherence to the principles of the Florida Yards and Neighborhoods program in new landscaping. A Summary Report was developed for the City's Year 2 Annual Report, with a followup Summary Report scheduled for the City's Year 4 Annual Report.

Bay Lake Water Quality Retrofit, Orange County Environmental Protection Department, Orange County, FL. Bay Lake is listed as TMDL impaired for nutrients (nitrogen and phosphorus). The County was interested in implementing measures to reduce the nutrient load entering the lake. The EPD received 319 grant funding approval from the FDEP to design and construct two water quality structures (modular wetlands). The structures are designed to reduce nutrient discharges by nutrient uptake using wetland plants and filtration through an engineered media in the units. The project included development of existing and proposed conditions models to ensure that the proposed water quality units would not increase flooding. Design plans, technical specifications, and engineer's cost estimate were generated at the 60%, 90%, 100%, and Final stage. The project was monitored by Geosyntec for two years, culminating in a final report to the FDEP to meet grant requirements.

Florida Center Floodplain Assessment, City of Orlando, FL. The Florida Center Floodplain Assessment for the City of Orlando was a detailed floodplain study for flood sensitive areas within highly urbanized areas of the city that drain to Shingle Creek. Areas included within the evaluation were Universal Studios, the Mall at Millenia, International Drive and segments of Interstate 4 and the Turnpike. The goal of this study was to verify and/or establish 100-year flood elevations in areas currently labeled as Zone "A" (i.e. no base flood elevation determined). This information was then submitted to FEMA for future flood map updates. Included in the study were data collection, site investigation and inventory of significant drainage features, engineering drainage assessments, and 100-year floodplain modeling using ICPR. Responsibilities included providing all engineering assessments, analyses, and documentation services. All topographic modeling and floodplain data were managed in GIS geodatabases for efficiency in analysis.

Relevant Environmental Assessment and Remediation Project Experience

RCRA Facility Investigations and Corrective Measures Studies, Cape Canaveral Air Force Station, FL. Duties included preparation of cost proposals, Work Plans for fieldwork, procurement of subcontractors, oversight of field drilling/sampling/laboratory activities, interaction with human health and ecological risk assessments, and preparation of RFI/CMS reports for compliance with RCRA regulations. Sites addressed include a former rocket launch complex with solvent, fuel, and PCB contamination; a naval ordinance test facility housing solvent/fuels storage, vehicle maintenance activities, and an industrial wastewater treatment system; a former naval submarine and ship domestic/industrial sewage treatment plant; and a hazardous/petroleum materials storage facility. Efforts included support for CCAS's base-wide Ecological Risk Assessment Program.

Railroad Locomotive Yard, Jacksonville, FL - Design of an industrial wastewater treatment plant and stormwater controls for remedial action of petroleum impacted stormwater runoff and groundwater contaminated from locomotive service and fueling operations. Included design of a vehicle maintenance collection system, 800+ feet of horizontal recovery trenching, pneumatic free phase product and groundwater system, and 50 gpm groundwater treatment system with oil/water separation and air stripping. Recovery system layout based upon MODFLOW computer modeling. Included design and permitting of sewer discharge transmission system connection for both treatment system and domestic effluent to the Jacksonville POTW.

Paper Mill, South Carolina - Performed assessment of former plant waste land application area and a former industrial discharge treatment plant and infiltration lagoon system. Land application area had approximate one-half acre of lead impacted soils at hazardous levels. After complete delineation of contamination and regulatory approval, developed a corrective action plan for excavation, on-site soil stabilization, and landfill disposition of the waste material. Corrective action plan included a technological and economic feasibility evaluation of disposal options, development of site-specific action levels for lead impacted soils, and health and safety. After regulatory approval, a treatment plant and lagoon closure plan was prepared detailing a plan for removal with landfill disposition of treatment plant sludges, demolition of the treatment plant, and mixing/solidification of the lagoon sludges. Prepared bid specifications and provided Construction oversight.

Lake Apopka Northshore Restoration Project, SJRWMD, FL. Project consisted of review existing pre-restoration environmental property assessments and remedial actions to aid client in their determination of contributing factors leading to bird deaths attributed to pesticide exposure in the vicinity of reclaimed agricultural land. A detailed evaluation was completed of site assessments of the agricultural parcels within the land acquisition area performed previously for the SJRWMD and landowners.

Petroleum Cleanup Program Contract, Orange County, FL - Responsible for management and coordination of contamination assessment and remedial action activities at numerous sites under FDEP contract with the County through Florida's petroleum clean-up program. Responsibilities included regulatory interface and preparation of work scopes, cost estimates, and site H&S plans. Contamination assessment activities included hydrogeological investigations to determine saturated and vadose zone fluid flow characteristics; delineation of soil and groundwater contamination through soil vapor surveys, well installation and sampling; interpretation of soil and groundwater analytical testing results; pump/slug tests; and the preparation of contamination assessment reports. Remedial action activities included development of remedial action plans with soil and/or groundwater treatment system engineering design (MODFLOW based groundwater flow modeling, pneumatic/electric pumping systems, air stripping, soil vapor extraction, carbon adsorption, and infiltration trenches); groundwater monitoring plans; preparation of construction plans and bid specifications, oversight of construction; and monitoring of remedial system operations and cleanup progress.

JIM LANGENBACH, PE, BCEE

Senior Principal

Project Role

Project Director

Education

B.S., Environmental Engineering, Florida Institute of Technology, 1992

Registrations

Professional Engineer, Florida No. 51413

American Academy of Environmental Engineers, Board Certified Environmental Engineer No. 11-20014

Years of Experience

Total: 27

With Company: 16

Mr. Langenbach is an environmental engineer with 27 years of extensive professional environmental assessment and remediation experience for a wide diversity of sites exhibiting chlorinated solvents/DNAPL, petroleum, coal tars (manufactured gas plants), pesticides, metals, as well as emerging contaminants such as 1,4 dioxane and per- and polyfluoralkyl substances (PFAS). He has conducted numerous Phase I and Phase II environmental site assessments, environmental contamination sampling and analysis, environmental project feasibility studies, different phases of remediation, petroleum storage tank site closures, state reimbursement program applications (Brownfields), and has had extensive coordination with various regulatory and governmental agencies including USEPA, NASA, FDEP, FDOH, community groups, and multi-party PRP Groups. Mr. Langenbach has also provided support to Brevard NRMD through Applied Ecology associated with PFAS issues and muck sampling results.

Relevant Project Experience

FDEP Consolidated Environmental Contract, Various Sites, FL. Project Manager and/or Lead Engineer for chlorinated solvents and petroleum groundwater and soil investigations, environmental site assessments, environmental project feasibility studies, remedial action plans, remedial implementation plans (including specifications and drawings preparation, permitting, and procurement assistance), field monitoring during turnkey construction, preparation of record drawings, remedial system operation and maintenance, and performance/pilot testing and reporting for 23 sites involving contamination by chlorinated solvents, metals, and/or petroleum residuals. Contamination assessment strategies have included high-resolution saturated zone soil coring to identify DNAPL/sorbed mass source areas, PFAS impacts, MIP investigations, modified active gas testing, and the extensive use of on-site mobile laboratories to support field decisions. Remedial designs have included the engineering of one or more of the following technologies at these sites: soil vapor extraction (SVE), multi-phase extraction, biobarriers, biostimulation, air sparging, biosparging, chemical oxidation (passive and with re-circulation), excavation, land farming, and natural attenuation monitoring. Mr. Langenbach's remedial designs take into consideration approaches that have low O&M and electrical power costs and include sustainable and/or passive approaches for achievement of remedial system operations objectives. Total estimated program costs to date of $21 million.

Site Investigation and Remediation Program Management, NASA, Kennedy Space Center, FL. Manager and/or Principal-in-Charge (PIC) for 24 Delivery Orders to support Geosyntec's RCRA site investigation and remediation contract with NASA. Project work has included: 2 SWMU Assessments (equivalent to a Phase I ESA), 7 Confirmatory Sampling Studies/Reports (equivalent to a Phase II ESA), 3 RFIs/RFI Addendums (equivalent to a Contamination Assessment Plan/Report), 25 Interim Remedial Action Plans/Reports, 14 remedial alternative studies, 6 Remedial Action Plans (Corrective Measure Designs), 4 remedial implementation work plans, and 12 institutional/engineering controls plans. His expertise has focused on innovative assessment and remediation approaches for NASA's most complex sites and including large-scale PFAS assessment activities. Technologies designed and/or implemented include: LDA/steam/ZVI, air/bio

sparging, bioremediation (passive, green technology including solar), in situ chemical oxidation, excavation, containment, SVE, and natural attenuation monitoring. He has provided input regarding optimization of remedies and actively participated in the development of NASA-KSC's Engineering Evaluation Multi-Step Process in addition to active contributions at NASA Team Meetings which involve coordination with regulatory (FDEP) and governmental agencies (NASA). Total estimated program costs to date of $13 million.

Orlando Former Manufactured Gas Plant Site, Operable Unit 1, Orlando, FL. Mr. Langenbach serves as the Primary Responsible Party (PRP) Group (which includes the City of Orlando) Project Manager and engineer of record (groundwater remedy portion) for the preliminary design investigations (contamination assessments plans/reports/work plans) and Final Remedial Design and associated Work Plans to address manufactured gas plant (MGP) residuals and dissolved constituents of concern at the Site. Project work has included monitoring well installations and sampling in addition to the implementation of remedial system performance testing as a component of remedial design. Based upon a remedial alternative study to optimize the design in late 2017, the final remedial design approved for the Site in September 2018 by USEPA and FDEP includes a 60-foot deep slurry wall with an engineered cap and surface soil excavations over six different parcels to encompass the MGP residuals and a biosparge/SVE and groundwater extraction and re-injection system to address the surrounding dissolved groundwater plume and to manage potentiometric head variations within the barrier wall. As an Interim Remedial Action (Plan approved in 2018), Mr. Langenbach managed surface soil remediation efforts on three parcels and City right-of-way areas involving the successful remediation of over 5,000 tons of affected surface soils. Project work also involves his management of a complex PRP group which includes three power companies, their legal counsel (internal and external), power company technical consultants, the City of Orlando, private property owners, FDEP, and USEPA. In addition to the technical challenges associated with project implementation, Mr. Langenbach has supported Community Meetings to educate the local community regarding the proposed remedial design/remedial actions to be conducted at the Site. Total estimated project costs to date of $3.6 million.

Former Grey Line Trucking, Winter Garden, FL. Mr. Langenbach served as Project Director and Engineer-of-Record during contamination assessment, remedial alternative study, remedial action plan preparation, and remedial implementation of the former Grey Line Trucking site engineered impermeable cap and petroleum free product removal. This combined remediation strategy addressed soil and groundwater at the site and replaced a more complicated and expensive air sparge/multi-phase extraction system proposed by others, saving the City a minimum of $480,000. Assessment activities included soil, groundwater, and surface water sampling and analytical testing utilizing DPT drilling and mobile lab services in addition to fixed-base laboratory analysis to increase assessment efficiency. The site obtained a No Further Action via Risk Management Option III. Total estimated project costs of $123,000.

Tampa Former Manufactured Gas Plant Site, Tampa, FL. Mr. Langenbach is the Principal-in charge and Engineer-of-Record for the multi-phase extraction (MPE) remedy implemented as an Interim Remedial Action at the site which was later incorporated into the overall site Remedial Action Plan following the completion of a Remedial Alternative Study and a path forward for the engineered capping of site soils. Mr. Langenbach led the engineering effort to design the full-scale remedy, develop documents for bidding, conduct negotiations with FDEP, and served as the lead contact between the client and client's attorney. The final full-scale MPE design included 44 MPE wells divided into operational zones to increase system operation and flexibility, to allow for better system control, and to reduce capital construction costs. Following design approval, detailed remedial implementation plans were developed which included specifications and bidding packages for remediation-related drilling (monitoring and extraction well installation and sampling), construction, and equipment procurement. Project implementation activities exceeded expectations with the removal of nearly 10,000 gallons of NAPL and over 82,000 pounds of VOCs from the shallow aquifer system

prior to FDEP approval to shut down the remedial system in late 2018 based upon the achievement of remedial objectives. As a component of project activities Mr. Langenbach supported a Brownfield designation for the site, which required the preparation of a State reimbursement program application and annual voluntary cleanup tax credit application. The project won the national Grand Prize in the American Academy of Environmental Engineers and Scientists Excellence in Environmental Engineering & Science, Small Projects category in 2016. Total estimated project costs to date of $3 million.

Building G Contamination Assessment, Remedial Alternative Study and Remedial Action, DeLand, FL. Technical Expert/Lead for assessment and remediation of complex DNAPL PCE and chlorinated solvent contaminated site. Project work has included Contamination Assessment via high-resolution site characterization strategies (MIP, HPT, DPT groundwater and discrete interval soil sampling and monitoring well installations), preparation of a Contamination Assessment Report (Site Assessment Report; SAR), Remedial Alternative Study, and Remedial Action Plan in accordance with Chapter 62-780 FAC. As a component of remedial implementation plans, prepared construction documents and procured contractors. The implemented remedial system operations included large diameter auger mixing with steam and zero valent iron injection with active optimization and performance testing using real-time measurement techniques to treat the 10,000 ft^2 source zone (PCE mass sorbed within clay layers) to 64 ft, in addition to overall dissolved plume monitoring well installations and associated sampling for the approximately 15-acre plume area. Project risks included the proximity of remediation treatment locations to residential buildings (<25 ft). To overcome the obstacle, a vibration monitoring plan was developed as a component of a risk assessment/mitigation strategy and implemented to document that vibrations associated with remedial system operations did not reach threshold levels at the property line. Post-remediation monitoring well installations and sampling have demonstrated that source zone remedial objectives have been achieved at the Site. Total estimated project costs to date of $3.8 million.

FDEP Petroleum Restoration Program Contract, Various Sites, FL. Principal-In-Charge for 15 FDEP PRP sites located across central Florida. Assigned PRP sites have included contamination assessment reports/plans (SARs), Interim Source Removals, the preparation of Remedial Action Plans, remedial alternative study pilot testing (e.g. air sparge/soil vapor extraction testing), remedial implementation (AS/SVE and soil excavation), monitoring well installations and sampling and remedial system performance testing (pilot studies), and regulatory negotiations. Total estimated project costs to date of $5.5 million.

DANIEL SCHAUER, PG

Senior Principal

Project Role

Quality Assurance/Quality Control

Education

B.S., Geology, University of Florida, 1984

Registrations

Professional Geologist, Florida No. 1240, Texas No. 5324, Tennessee No. 2080

Registered Mold Assessor, Florida MRSA1543

INSTEP CIE/LEP No. 61

Years of Experience

Total: 34

With Company: 31

As a Senior Principal, Branch Manager and National Manager of Geosyntec's Construction Services (CS) and geoenvironmental engineering Practice, Mr. Schauer is responsible for managing the continued long-term growth of Geosyntec's national CS practice. As a member of Geosyntec's original CS group, he traveled extensively throughout the U.S. and abroad (Europe, Africa, and South America) to manage multidisciplinary projects involving landfill redevelopment, site remediation, solid, hazardous and low-level radioactive waste disposal facility design and construction, heavy civil earthwork for liquid impoundments (reservoirs, dikes, dams and levees), mine waste disposal, industrial facility demolition and power industry waste containment.

Mr. Schauer is widely recognized as an expert in the construction of containment systems for solid, liquid and hazardous wastes. He has managed the construction of over 500 waste containment projects and overseen the installation of more than over 400,000,000 square feet of geosynthetics and 20,000,000 cubic yards of fine- and coarse-grained soils used in engineered containment systems as well other earthen structure construction.

Mr. Schauer is seasoned program manager with extensive senior level management experience in contaminated site assessment and remediation. Mr. Schauer has an extensive background in managing multi-phased remedial investigations/feasibility studies (RI/FS), phased environmental site assessments (ESAs), and remedial design and remedial action (RD/RA) projects at a wide variety of contaminated sites throughout the United States and abroad. Mr. Schauer has led more than 200 environmental due diligence assignments (Phase I, and II ESAs) and provided Fortune 500 clients litigation support as an expert witness related to in indoor air quality, geology and geotechnical issues. Mr. Schauer has performed numerous contamination assessments and managed the implementation of remedial actions for Superfund sites impacted by radionuclides, metals, petroleum hydrocarbons, volatile organic compounds, polyaromatic hydrocarbon, pesticide, herbicide, dioxin, and chlorinated solvent contamination.

Mr. Schauer currently manages multi-year contracts for federal, municipal and private clients throughout the U.S. Over the past 31 years with the firm, he has managed hundreds of projects and under his leadership the Geosyntec CS practice has grown far past traditional construction quality assurance (CQA) and now includes: construction management; brownfield site redevelopment; litigation support; landfill reclamation; vapor intrusion system design and construction; indoor air quality assessment computerized construction QA/QC data acquisition, remedial system O&M and construction engineering.

Relevant Project Experience

Former Servico Landfill Redevelopment, West Palm Beach, FL. Project Director for the design and geotechnical investigation of this 9-acre former ash and municipal solid waste landfill. Geotechnical investigation was focused on potential development of service station and strip mall facilities over existing buried waste materials. Also assisted in preparing and overseeing waste relocation and soil management plan for site re- development activities.

El Rio Park Phase I and II, Boca Raton, FL. Under the leadership of Dan Schauer Geosyntec's experience with closed landfill redevelopment was instrumental in regulatory approval of Phase I of the park construction. The southern portion of the Park (Phase II) was successfully designed and permitted in 2007 again with Mr. Schauer's assistance in geotechnical engineering, regulatory agency negotiation, innovative stormwater management system design, long-term groundwater monitoring, and environmental resource permitting. As the geotechnical and environmental consultant on the City's selected design team, Geosyntec identified and addressed key items of concern related to the closed landfill including: (i) mitigating potential public exposure to landfill gases and leachate; (ii) evaluation of differential settlement of newly built structures after construction; and (iii) long term maintenance and operational concerns. Unfortunately, with the major downturn in the national economy in 2008 the project was put on hold by the City and eventually the permits for the existing design expired.

Brownfield Designation, Regulatory Agency Liaison, Engineering, Environmental Assessment and Construction Estimating, Former Servico Landfill, West Palm Beach, FL. As Principal-in-Charge of Geosyntec's multidiscipline work for a large Florida-based commercial real estate developer, Mr. Schauer is working closely and collaboratively to provide compliance, engineering, environmental and construction services in connection with acquisition and redevelopment of a high profile, gateway urban site formerly operated by Palm Beach County and the City of West Palm Beach as a municipal solid waste landfill. The site, containing over 100,000 cubic yards of waste material including incinerator ash first disposed of in the mid-1920's in unlined pits, is located near the intersection of Australian Avenue and Belvedere Road and adjacent to a large surface water canal system in West Palm Beach, FL. Geosyntec guided the client through the contamination response and landfill closure process, assess environmental liabilities based on past land use, investigate subsurface environmental and geotechnical conditions based on historic landfilling practices, develop conceptual engineering design suggestions based on the client's reuse objectives, prepare construction budget estimates to accurately capture incremental remediation and landfill closure costs, and negotiate regulatory oversight with the Florida Department of Environmental Protection ("FDEP") to facilitate construction approvals. Mr. Schauer prepared a detailed Waste Relocation and Management Plan for the site which was approved by the FDEP and currently.

Biscayne Commons Brownfields Redevelopment Project, North Miami Beach, FL. *Mr*. Schauer served as project manager for all environmental and geotechnical consulting services performed at the landfill in support of redevelopment of the site as a retail shopping center (Biscayne Commons). The work performed in support of this $30-millon brownfields redevelopment project includes site improvement (dynamic compaction), Phase I ESA, landfill gas studies, evaluation of remedial technologies, and design and permitting services for foundation, stormwater, and landfill gas monitoring and management systems. He was also responsible for the oversight of a gas management system at a shopping center. The system included the installation of 75,000 ft2 of 30-mil thick PVC geomembrane. A single-sided geocomposite and geotextile, as well as 45,000 ft2 of 60-mil thick spray applied asphalt geomembrane (SAG). Duties included monitoring the installation of the geosynthetics and SAG as well as air lance and smoke testing. Responsibilities also included gas monitoring with a photo ionization detector to analyze for CO, H2S, O2 and %LEL at 12 gas probes, 29 sub-slab building sensors as well as oversight and sampling of groundwater monitoring wells. Mr. Schauer was responsible for authoring and co-authoring several deliverables including a detailed Site Assessment Report, Remedial Action Plan, Waste Relation Plan, Groundwater Monitoring Plan, Health and Safety Plan, and Air monitoring Plan. He was also responsible for interaction with the FDEP and Miami-Dade Department of Environmental Resource Management (DERM) regarding all environmental site assessment and development impact related issues. The 125,000 sf complex was completed in early 2004, and has received praise from local political and environmental agency leaders.

Confidential Client, Former Naval Facility, Miami Dade County FL. Mr. Schauer acted as Project Director for the phased investigation of suspected soil and groundwater contamination at a former 2,017-acre property operated by the U.S. Department of Defense (DOD). The property was developed by the in the early 1940's as a Navy Airship Base and commissioned in 1942 to oversee World War II airship operations in Southern Florida, the Gulf of Mexico, and the Caribbean Sea. The base was deactivated in 1946 and used a portion of the property was used for primate (chimpanzee and other primates) quarantine and medical research. The investigation undertaken by Geosyntec included the assessment of the following: (i) former onsite low level radioactive waste (LLRW) disposal; (ii) the detection of arsenic in soils based on the findings of previous environmental investigation; (iii) a former leaking underground storage tank (LUST) site located adjacent to the property; (iv) former military use of the property; (v) use of large scale septic systems; and (vi) the presumed on-site use of chemicals for medical and agricultural research. The investigation utilized geophysical methods time domain electromagnetics (TDEM) and ground penetrating radar (GPR) to aid in the identification of possible buried debris. Sampling and analysis of soil and groundwater included: metals, VOCs; polynuclear aromatic hydrocarbons (PAHs); organochlorine pesticides; and radionuclides (including Actinium 228, Bismuth 211 & 214, Carbon 14, Cesium 137, Cobalt 60, Gross Alpha/Beta, Lead 210, Lead 212, Lead 214, Potassium 40, Radium 228, Thorium 230 & 234, Tritium and Uranium 235 & 238.

Wingate Road Municipal Incinerator and Landfill Site, Ft. Lauderdale, FL. Mr. Schauer served as Wingate Cooperating Parties Group (including the City of Ft. Lauderdale and Waste Management) on-site representative and Construction Manager during the $6 million closure of a 60-acre municipal incinerator and ash landfill. The site included a 40-acre landfill and a 20-acre process area that included two incinerators and ancillary equipment. Constituents of concern include dioxin, toxaphene, and arsenic. The remedial action at the site included: demolition of all site structures; asbestos abatement; excavation of impacted soils and ash from on-site and off- site locations; draining of a 3-acre pond; lake bottom sediment removal and relocation to the landfill; placement of all excavated materials on top of the existing landfill; capping the 40-acre area with a geosynthetic liner; and construction of a stormwater management system. The remedial action was performed under a Consent Decree with USEPA Region IV.

City of Coral Gables Former Incinerator Site, Coral Gables, FL. Mr. Schauer served as Geosyntec's technical lead for engineering and construction related services for Geosyntec's work with the City of Coral Gables. To date activities have included the preparation of the demolition design and bid package for the former incinerator, review of the off-site sampling plan that was prepared by DERM to assess potential dioxin and arsenic impacts related to the former incinerator operation. Assistance in planning and scoping the site assessment. This support has included the preparation of budget estimates to assist the City in planning the required expenditures. Position – Technical Manager.

Landfill Closure and Redevelopment, Green Cove Springs, FL. Mr. Schauer is serving as the construction task leader for implementation of closure and re-development of a former 10-acre municipal solid waste landfill. The work for the City of Green Cove Springs entails bringing the former landfill into compliance with current regulations, completing a closure design that supports re-development, securing a closure permit from FDEP, preparing conceptual re-development plans and preliminary cost estimates, and securing FDEP approval of landfill re-development. With recent approval of the closure plan from the FDEP the closure activities are scheduled to begin in the fourth quarter of 2006. The landfill is being considered for potential planned developments into recreational fields and associated support facilities. Position – Construction Task Leader.

THOMAS AMSTADT, PE, CFM

Senior Engineer

Project Role

Water and Natural Resources

Education

B.S. Civil Engineering, University of Central Florida, 2003

M.E. Environmental Engineering Sciences, University of Florida, 2014

Registrations

Professional Engineer – Florida No. 69032

ASFPM Certified Floodplain Manager, US-09-04404

Florida Department of Environmental Protection Certified Stormwater Erosion and Sedimentation Control Inspector, #22296

Years of Experience

Total: 15

With Company: 8

Mr. Amstadt has served as Project Engineer / Manager on water resources projects for State, County and City government clients since 2004. His keys areas of expertise include watershed management plans, stormwater retrofits, stormwater master planning efforts, floodplain analysis, hydrologic/hydraulic modeling, construction plans preparation, pollutant load analysis, best management practice (BMP) conceptualization, and environmental resource permitting. He has extensive experience with the use of ArcGIS for geoprocessing of spatial data, mapping, and data representation. He has developed numerous stormwater models using ICPR, EPA SWMM, and HEC-RAS models. In addition, he is proficient with development of construction plans and specifications preparation for stormwater design projects. He is also experienced providing post design services including bid specification packages, construction oversight and as-built plans.

Relevant Project Experience

Stormwater Master Plan, Alachua County, FL. Responsibilities included desktop data review, major drainage features delineation, countywide model development, level of service assessment, field investigation of known flooding problem areas, conceptual improvements development, and conceptual cost/benefit analysis. This project consisted of the development of a detailed Stormwater Master Plan to be used by Alachua County for planning purposes and for the implementation of a stormwater management program. The management program would address flood control, water quality improvements, maintenance, and administration. The master plan included a detailed review of County stormwater characteristics, delineation of major watersheds, and the development of a County-wide Hydrological and Hydraulic model to evaluate level of service of major drainage facilities (culvert, ponds, creeks, etc.). As part of the process, geographic information system (GIS) based environmental, topographical, and hydrographical data was collected, reviewed, and edited to reflect the most current conditions. This included land use, hydrologic, and Light Detection and Ranging (LiDAR) based surface elevation features. An inventory of drainage features (culverts, ponds, swales, etc.) throughout the County was also collected using field GPS/GIS equipment. This data was stored in GIS geodatabases with linkages made between planimetric features and hydraulic modeling data. Also, included was the conceptualization of improvements to address flooding and/or water quality deficiencies at 18 historical problem areas. Based on the results of those efforts, a needs assessment was conducted to summarize flooding, water quality and maintenance deficiencies to make recommendations on how they should be addressed under a stormwater management program. Costs for a Capital Improvements Program to address the stormwater needs over a 10-year period were then developed to assist the County with planning. Project included an extensive public involvement program including public meetings, interested stakeholders' meetings, web pages, and County Board meetings to educate the public and solicit their support for a proposed stormwater program. The stakeholder coordination process included a series of meetings with citizens groups, environmental groups, regulatory agencies, and other public to solicit input to

what issues and problems should be addressed under a stormwater management program and how it should be funded.

Weeki Wachee Prairie Watershed Alternatives Analysis, Southwest Florida Water Management District, FL. Project Manager. The purpose of the project was to identify flooding and water quality deficiencies in the watershed and develop improvement concepts to address the deficiencies. A level of service (LOS) analysis was conducted to identify road and structure LOS deficiencies for Mean Annual, 5, 10, 25, 50 and 100-year design storm events in accordance with SWFWMD and Hernando County criteria. The annual flood damages at each structure and road location were also estimated per the criteria. Additionally, a Surface Water Resource Assessment (SWRA) was conducted to inventory water quality concerns and characterize direct runoff, infiltration, and percolation pollutant loads (total nitrogen, total phosphorus, and total suspended solids) in the watershed. Based on the results of the LOS and SWRA and input from SWFWMD and Hernando County staff, 8 flood improvement and / or water quality BMP concepts were developed.

Lake Griffin/Lake Kerr Planning Units Watershed Management Plans, Marion County Clean Water Program, FL. Responsibilities included hydrologic/hydraulic features parameterization, watershed model development, model verification, floodplain analysis and delineation, and report preparation. This project consisted of an approximately 350 square mile area in eastern Marion County within the SJRWMD. A large portion of the project area was within the Ocala National Forest. Generic hydrologic/hydraulic features were parameterized in this phase using automated geographic information system (GIS) geoprocessing tools where possible to enhance efficiency of workflow. The effective utilization of GIS tools was particularly important on this project due to the size of the watershed models (over 9000 subbasins and junctions and over 30000 reaches). In addition to synthetic storm events simulations, simulations of actual historical storm events were performed using Doppler radar data in an attempt to recreate actual watershed conditions and provide model verification data. Stillwater flood zone delineations were generated using geoprocessing tools.

Belmont Estates Drainage Improvements Design, Orange County, FL. The purpose of the project was to provide relief of yard and road flooding within the Belmont Estates subdivision by retrofitting the existing piped outfall from the subdivision. An initial study phase was completed to develop a hydrologic and hydraulic ICPR model of the existing conditions and develop a proposed conceptual improvement. After the study phase, 60%, 90%, 100% and Final design construction plans, specification, and engineer's cost estimate were developed to replace the existing 36" CMP subdivision outfall pipe with dual reinforced concrete pipes of varying sizes. An environmental resource permit was applied for and obtained from the SJRWMD. Because this project proposed flow increases to downstream areas, coupling of the project model with downstream watershed models was required to demonstrate no adverse flood impacts. In addition, due to minor impacts to wetlands and surface waters, a Nationwide Permit was applied for and obtained from the Army Corps of Engineers.

Lake Pinto Floodplain Study, Orange County Stormwater Management, Orange County, FL. Lake Pinto is a dry depression in west Orange County, FL. Because of FEMA map updates in recent years, the depression was designated as within a Special Flood Hazard Zone (SFHA) (within the 100 –year flood zone) that impacted several homes around the depression. Consequently, the County was interested in conducting a detailed study of the area to accurately define the limits of the 100-year flood zone for the depression and submit a Letter of Map Revision (LOMR) to FEMA. The model developed for this study utilized ICPR to simulate stages in the depression. The Green-Ampt runoff method was used to simulate runoff because this method was considered to more accurately model the well-drained soils with deep water table in the watershed. The model results indicated a significantly smaller flood extent for the depression than the FEMA map. A Letter of Map Revision, which significantly lowered the regulatory flood elevation and removed 20+ structures from the 100-year floodplain, was submitted to and later approved by FEMA.

TODD ANDERSON, PE

Senior Engineer

Project Role

Water and Natural Resources

Education

M.S., Civil Engineering, University of South Florida, 1999

B.S., Civil Engineering, University of Florida, 1988

Registrations

Professional Engineer, Florida No. 51277

Years of Experience

Total: 30

With Company: 5

Mr. Anderson is a professional engineer with over 30 years of experience in civil and geotechnical engineering projects including: design, project management, field inspections, and construction. His early career was highly focused on Florida Department of Transportation work and private industry. Mining has been a focus for Mr. Anderson for most of his career. He has worked on mining projects for the phosphate industry, attapulgite clay, oil sands, gold, and more.

Relevant Project Experience

Mine Unit 20 Hydrology Study, Mosaic Fertilizer, LLC, Hillsborough County, FL. Project Manager for hydrologic modeling to compare pre-mining and post-reclamation hydrologic conditions of an over 2200-acre mine parcel located in Hillsborough County, Florida. Modeling was performed to support the modification of the Conceptual Plan permit for the mine, as regulated under Chapter 62C-16, Florida Administrative Code (F.A.C.). Also provided expert support for Phosphate Hearing Master and Board of County Commissioner hearings.

Mine Units 13 &14 Hydrology Study, Mosaic Fertilizer, LLC, Hillsborough County, FL. Project Manager for hydrologic modeling to compare pre-mining and post-reclamation hydrologic conditions of two, approximately 1270-acre, mine parcels located in Hillsborough County, Florida. The analysis was completed in general accordance with the design criteria found in the Southwest Florida Water Management District (SWFWMD) Basis of Review for Environmental Resource Permit Applications document that was adopted for use by the Florida Department of Environmental Protection by reference and the Hillsborough County Phosphate Reclamation Manual.

Lambe Parcel Floodplain Modeling and Permitting, Mosaic Fertilizer, LLC, Manatee County, FL. Managed the process for the Notice of Proposed Change to the Development of Regional Impact (DRI) for the Mosaic's Four Corners Mine, the Manatee County Master Mine Plan, and Operation Permit Amendments; a Rezoning Application for agency submittal; a hydrologic study; a delineation of the 25-year and 100-year floodplain for Long Branch and South Fork Little Manatee River; and a cumulative impacts study for the Long Branch and South Fork Little Manatee River watersheds for the Lambe Parcel addition to the Four Corners/Lonesome Mine.

Lambe Parcel Hydrology Study, Mosaic Fertilizer, LLC, Manatee County, FL. Completed hydrologic modeling to compare pre-mining and post-reclamation hydrologic conditions of a 3000-acre mine. Modeling was performed to support the modification of the Conceptual Plan permit for the mine, as regulated under Chapter 62C-16, Florida Administrative Code (F.A.C.). The advanced ICPR program was used to perform modeling to evaluate the adequacy of the reclamation plan with respect to the design criteria for stormwater quantity found in the Southwest Florida Water Management District Basis of Review for ERP Applications that was adopted for use by the FDEP by reference.

Herbert Hoover Dike Evaluation, U.S. Army Corps of Engineers, Okeechobee, FL. Assisted in the seepage and stability evaluation of 90 miles of levees surrounding Lake Okeechobee in South Florida for the Jacksonville

District of the U.S. Army Corps of Engineers. Scope of work included review of existing data, back calculations of in-situ material properties, model calibration and evaluation of seepage and stability of the dike. Also performed value engineering study for the evaluation of potential alternatives to address potential excessive seepage and piping from Reach 1 of the Herbert Hoover Dike. Stability and seepage evaluations were performed for the 22-mile segment to evaluate alternative solutions for rehabilitation of the dike. Recommendations were issued on three alternative cost-effective solutions.

Four Corners Life of Mine Hydrology Study, Mosaic Fertilizer, LLC, Hillsborough County, FL. Project manager for analysis to compare pre-mining and post-reclamation hydrologic conditions affecting stormwater runoff for the Four Corners Mine located in Hillsborough County, Florida. The project included using computer modeling to predict the basin response to synthetically generated storm events for approximately 40,000 acres within the Four Corners Mine.

Dam Break Analysis and Inundation Map for SFM-6 Clay Settling Area, Mosaic Fertilizer, South Fort Meade Mine, Polk County, FL. Project Manager for the dam break analysis of a 450-acre clay settling area. Three different breach basins were modeled using the U.S. Army Corps of Engineers Hydrologic Engineering Center's River Analysis System (HEC-RAS, version 4.1.0). The breach modeled assumed a release of 4,500-acre feet of water. For each breach, the model was used to create an inundation map that included approximate floodwave arrival times and times to peak for downstream bridges and road crossings. The model terminated approximately 7 miles downstream of the SFM-6 clay settling area.

Crystal River Energy Complex Unit 3 Helper Cooling Tower Laydown, Duke Energy Florida, Inc., Citrus County, FL. Mr. Anderson was the project director for the proposed laydown area to support the construction of the Crystal River Unit 3 South Cooling Tower. This project included converting a 5-acre area adjacent to the active firing range into a laydown area. The site was designed to maximize the area for laydown usage and included an onsite stormwater treatment system with an outfall to the existing intake canal. Mr. Anderson provided senior review of the work products.

Shady Hills Power Project, GE Financial, Pasco County, FL. Managed a geophysical and geotechnical investigation for a proposed power generation facility. Duties included monitoring a field investigation program and evaluating subsurface conditions at the site regarding the proposed structures and potential on-site sinkhole activity. Estimated settlements for shallow footings and ultimate axial capacity of driven piles for various structures associated with the power plant.

NexLube Used Oil Re-Refinery, NexLube Operating LLC, Tampa, FL. Geotechnical engineer of record for site characterization and foundations recommendations for a proposed used-oil re-refinery. Undertook review of historic aerial photographs to evaluate risks of deep infilled chimney karst features on the site. Developed the soil profile from standard penetration test (SPT) data and geotechnical laboratory testing data. Evaluated strength and compressibility parameters to prepare bearing capacity and settlement calculations for the tank farm and associated structures. The tank farm included aboveground storage tanks up to 60 ft in diameter and up to 40 ft in height. Provided foundation recommendations relating to ground treatment beneath the tank farm to reduce total and differential settlements and advised on deep foundations for other structures including a tall tower and a large-span building.

JOSEPH APPLEGATE, PG

Senior Principal

Project Role

Environmental Assessment and Remediation

Education

M.S., Geology, Florida State University, 1986

B.S., Geology, Illinois State University, 1983

Registrations

Professional Geologist, Florida No. 1956

Years of Experience

Total: 32

With Company: 3

Mr. Applegate has more than 30 years of experience and has managed remedial programs for private and public projects at industrial sites including petroleum, hazardous, and nonhazardous waste sites. He has conducted environmental site assessments, rapid assessments, remedial investigations, and remedial actions for various industries, including petroleum, dry-cleaning, chemical manufacturers and distributors, printing operations, landfills, former manufactured gas plants (MGPs), and pesticide manufacturers and applicators. His work includes management of site investigations (soil, groundwater, soil vapor and sediments), feasibility studies, risk assessments, design/bid document preparation and review, and construction oversight at Superfund and state remedial action sites. He has further experience in community relations (plans, meetings, and fact sheets), litigation cases, National Pollutant Discharge Elimination System (NPDES) permitting, treatment technologies for contaminated soil and groundwater, interim remedial actions, and groundwater monitoring programs. Mr. Applegate's knowledge of federal and state environmental rules, regulations, and permitting processes allow him to meet the clients and regulatory community needs quickly and cost-effectively.

Relevant Project Experience

City of Tallahassee Environmental Consulting and Water Services Contracts, FL. Contract Manager for five-year environmental program assisting the City with multiple projects including Cascades Park, Gaines Street Corridor Phase I and II projects, Hopkins Power Plant diesel tank release assessment and remediation, the former Airport Landfill closure and other environmental projects. In addition, he managed a 5-year COT contract dealing with water quality issues, updating their Water Master Plan and other water-related services.

Cascades Park Former Manufactured Gas Plant, RFI/FS, Pilot Study, USEPA, City of Tallahassee, FL. Project Director for an RI/FS CERCLA, former MGP site in downtown Tallahassee that resulted in significant contamination. Mr. Applegate applied innovative assessment tools including passive soil gas survey (gore sorber), direct push technology, and hydraulic profiling in karst topography using large and mini-sonic drilling rigs to depth of 160 feet in the Floridan Aquifer. Mr. Applegate also worked with the USEPA to install dual purpose monitoring and pilot testing wells during the RI to save time and money, given an accelerated schedule to meet a park opening date. Based on a successful bench test, 68,500 gallons of persulfate were injected into the Florida aquifer under a pilot test which treated COC to near RGOs; naphthalene's were treated to below state drinking water criteria. This technical approach saved considerable time and money in a complex geologic setting. He also led the additional RI/FS that was conducted under an additional AOC with the USEPA from 2012 to current; he also supported a recent regulatory meetings with the USEPA and the FDEP to assist the COT with regulatory closure under CERCLA.

Hopkins Power Plant, Tallahassee, FL. Project Director for responding to a release of diesel fuel from a 7MM gallon tank at the Hopkins Power plant. Work included providing emergency response assessment and remediation for the assessment, interim source remedial action plan (IRAP) which was prepared and approved in one week-timeframe. Worked with subcontractors, city officials, and the FDEP in implementing

expedited rapid assessment, ISRP, construction, implementation, and O&M services. The majority of the diesel fuel product was recovered in 3 months. A Site Assessment was conducted and approved by the FDEP which resulted in a natural attention groundwater monitoring program for several years. The site is currently being conditionally closed with the FDEP.

Gaines Street Corridor Phase I and II Assessments, City of Tallahassee, FL. Project Director for a Phase I and II environmental assessment for the GSC, a state-designated Brownfields in one of the City's oldest historical area in Tallahassee. Mr. Applegate directed and expedited assessment to support construction infrastructure improvements. a total of 176 soil borings to 20 feet on either side of the 1-mile long corridor were completed in a 3-week accelerated schedule suing 2 teams of direct push soil and groundwater sampling. By applying the Triad approach which included systematic planning, dynamic work plan strategies, and real time measurements, the GSC field investigation and reporting was completed in five weeks and allowed the property transfer from the FDEO to the COT in a reasonable timeframe.

Former Airport Landfill, City of Tallahassee, FL. Project Director for conducting assessment, natural attenuation groundwater monitoring and reporting at the former COT Airport Landfill. The work was completed to assist the COT in keeping the landfill off the USEPA's CERCLIS list. Through innovative assessment and monitoring, we were able to convince the FDEP to manage the site under a district voluntary program, assisted the COT preparing a Restrictive Covenant Package for an RMOIII, and achieve conditional closure.

GIS Environmental Project City of Tallahassee, FL. Project Director for preparing a GIS solution which lists the COT's environmental projects with backup information regarding environmental conditions and regulatory status.

FDEP Bureau of Waste Cleanup, Consolidated Environmental Program, Multiple Sites, FL. Contract Manager for FDEP Bureau of Waste Cleanup Consolidated environmental programs that include four FDEP environmental programs: Hazardous Waste and Dry-cleaning Solvent Cleanup Program; Site Investigations and State-Owned Lands; CERCLIS Site Screening, and Brownfields Assessment and Cleanup. Mr. Applegate has managed many projects and programs in these various programs over the past 27 and has trusted relationship.

Environmental Services, NASA, Kennedy Space Center, FL. Project Director and Program Manager for multiple projects at the NASA Kennedy Space Center including chlorinated VOCs, petroleum, PCBs, pesticides, and other chemical of concerns. For the past 13 years, he managed RCRA corrective studies including site assessment, risk assessment, CMSs, and long-term monitoring for these sites.

State of Florida Petroleum Restoration Program, Petroleum State Cleanup, and Petroleum Forensics Contracts, DEP, FL. Mr. Applegate is a senior peer reviewer and regulatory support specialist for Geosyntec's DEP Petroleum Restoration Program Contract for assessment and remediation of retail and other petroleum-related sites throughout the state of Florida. These services included forensic and site assessment services, UST permitting and closures, and the application of innovative assessment and remediation tools and methodologies. In addition, he served as Client Advocate and Senior Peer Reviewer for all three of these petroleum programs for another consultant for over 20 years. Mr. Applegate has positive relationships with DEP senior managers, program and project managers, and DEP contract managers. Mr. Applegate was the project director (under another consultant DEP Forensics Contract) for the review 42 petroleum site assessments and historical remediation documents in order to evaluate natural attenuation processes of sites that were "lingering" for over 10 years in the DEP PRP program. He helped to develop a statistical approach to evaluate historical data and to develop a streamlined, 3-page summary report of the findings that were prepared for each site with recommendations for future actions to more quickly achieve site closures.

JOSEPH BARTLETT, PE

Project Engineer

Project Role

Environmental Assessment & Remediation

Education

M.S., Environmental Engineering, University of Central Florida, 2016

B.S., Environmental Engineering, University of Central Florida, 2010

B.S., Civil Engineering, University of Central Florida, 2010

Registrations

Professional Engineer – Florida No. 82249

Years of Experience

Total: 10

With Company: 9

Mr. Bartlett is a licensed Professional Engineer with nearly 10 years of experience in environmental assessment and remediation services, including: Phase I and Phase II Environmental Site Assessments, environmental contamination sampling and analysis, environmental project feasibility studies, remediation planning, implementation, monitoring, and reporting (including bid documents, specifications, procurement packages, and project implementation work plans), remediation system operation and optimization, performance and pilot testing, monitoring well installations and sampling, and coordination with various regulatory and governmental agencies including USEPA, FDEP, multi-party PRP Groups, and Indian River County.

Relevant Project Experience

Harbortown Marina, Merritt Island, FL. Mr. Bartlett serves a project manager for the Harbortown Marina site and is responsible for the design and remedial implementation plans for an AS/SVE Remedial Action Plan (RAP) that addressed onsite petroleum constituent groundwater impacts. Following installation and startup, Mr. Bartlett was responsible for coordination of monthly O&M and optimization events, performance monitoring, groundwater monitoring well sampling, and necessary reporting. He worked closely with the property owner in order to coordinate field activities at the active marina. The system operated for approximately 1.5 years and was successful in reducing groundwater impacts to below alternate target levels. Mr. Bartlett coordinated with various regulatory and governmental agencies to identify and leverage 2017 changes to Chapter 62-780 FAC, regarding alternate cleanup target limits pertaining to sites not eligible for state-funded site rehabilitation, which subjected the site to less stringent cleanup target limits for the certain organoleptic constituents; thereby, achieving cleanup goals at the site on an expedited schedule, saving the client considerable cost.

FDEP Consolidated Environmental Contract, Various Sites, FL. Mr. Bartlett serves as project manager for five currently active FDEP drycleaning (DC)/hazardous waste (HW) program sites located in Orlando (City Chemical [FDEP HW], King of Cleaners [FDEP DC], and Lipham Cleaners [FDEP DC]), St. Augustine (Washac Industries [FDEP HW]), and Jacksonville Beach (Pablo Plaza Cleaners [FDEP DC]), Florida. Activities include groundwater and soil investigations, environmental contamination sampling and analysis, environmental project feasibility studies, remedial action plans, remedial implementation plans (including specifications and drawings preparation, permitting, and procurement assistance), field monitoring during turnkey remedial construction projects, preparation of record drawings, remedial system O&M, and performance/pilot testing and reporting. Contamination assessment strategies have included the use of on-site mobile laboratories to support field decisions that provides real-time development of conceptual site models. Remedial designs have included the engineering of one or more of the following technologies at these sites: air sparging, soil vapor extraction, bioremediation, excavation, and natural attenuation monitoring

Precision, Fabricating, and Cleaning Co. (PFC), Cocoa, FL. Mr. Bartlett serves as project manager for ongoing semi-annual groundwater and remediation system (pump-and-treat) performance monitoring/testing,

reporting, and provides general environmental consulting support. In addition to preparation of an annual report, he also provides support for PFC with preparation of a semi-annual newsletter that is distributed to the adjacent community to provide status of the remedial measures (implementation and operation) and progress at the site. Mr. Bartlett is responsible for coordinating with various regulatory and governmental agencies, including the USEPA and FDEP, to conduct onsite sampling audits and site visits and to serve as a point of contact during review inquiries. Recently, Mr. Bartlett has designed and implemented a focused bioremediation work plan (interim remedial action plan) to reduce VOC concentrations in the residual on-site source area to facilitate shutdown the legacy hydraulic containment system. Mr. Bartlett has also provided other services to PFC including performing a vapor intrusion investigation risk assessment study as a result of inquiries from the USEPA that included collection of groundwater and sub-slab soil vapor samples from in and around the facility. The investigation/risk evaluation ultimately concluded that there was no completed pathway from the groundwater contaminants to the soil vapor, nor from the soil vapor to the indoor air.

Site Investigation and Remediation Program Management, NASA, Kennedy Space Center, FL. Mr. Bartlett serves as project manager for two, currently active sites at Kennedy Space Center (KSC). At the Vertical Processing Facility, he was responsible for the design and implementation of an air sparging remedial alternative, remediation system operation/performance testing and optimization, monitoring well installation and sampling associated with performance monitoring, and preparation of associated reports. Mr. Bartlett was also responsible for development of a 213-well air sparge system, designed to treat a 1.6-acre volatile organic compound high concentration plume at the Hypergol Maintenance Facility on KSC. In addition to project management, Mr. Bartlett has served in a field support capacity conducting phase I and phase II environmental assessment and contamination assessment activities as well as monitoring well installation and sampling at multiple sites across KSC.

FDEP Petroleum Restoration Program Contract, Various Sites, FL. Mr. Bartlett serves as project manager for eight, currently active FDEP PRP sites across central Florida (including Orlando, FL). Assigned PRP sites have included contamination assessment reports/plans (SARs), Interim Source Removals, the preparation of Remedial Action Plans, remedial alternative study pilot testing (e.g., air sparge/soil vapor extraction testing), remedial implementation (AS/SVE and soil excavation), monitoring well installations and sampling and remedial system performance testing (pilot studies), and regulatory negotiations. Geosyntec works closely with FDEP PRP site managers toward the ultimate objective of site closure through achieving an No Further Action conclusion and receipt of a Site Rehabilitation Completion Order. Mr. Bartlett has received four Contractor Performance Evaluations Forms from FDEP for work conducted at sites located in Orange County, Florida, with three of those four (7-Eleven Food Store #23976 [FDEP ID #488512581], 7-Eleven Food Store #27506 [FDEP ID #488513156], and Former Jenks Metals [FDEP ID #488628041]) receiving perfect scores for performance metrics including: Project Timeliness, Invoicing, Reports, Communication, Cost Control, and Quality and Technical Competence.

Orlando Former Manufactured Gas Plant Site, Orlando, FL. Mr. Bartlett assisted with the development and preparation of the Groundwater Remedial Design (Remedial Action Plan) for the Orlando Former Gasification Plant, which serves to supplement a 60-foot deep slurry wall with an engineered cap and surface soil excavations that expands over six different parcels to encompass the MGP residuals. The Groundwater Remedial Design includes a biosparge/soil vapor extraction and groundwater extraction and re-injection systems to address the surrounding dissolved groundwater plume and to manage potentiometric head variations within the barrier wall. Construction activities are expected to commence in 2019.

GLENN "CHIP" CARWELL III, PE, CHMM

Principal

Project Role

Environmental Management

Education

M.B.A., Business Administration, Tennessee state University, 2001

B.S., Civil Engineering Technology, Old Dominion University, 1992

Registrations

Professional Engineer, Virginia No. 032919; Georgia No. 030480

Years of Experience

Total: 27

With Company: 4

Mr. Carwell is a Senior Engineer with Geosyntec Consultants, Inc. based in Jacksonville, Florida. He has over 26 years of safe work experience providing industrial and municipal clients with a variety of environmental engineering, construction and remediation services. His project experience includes twenty eastern U.S. states, eastern Canada and The Bahamas. He is licensed as a professional engineer (PE) in both Georgia and Virginia and a Certified Hazardous Materials Manager (CHMM).

Relevant Project Experience

Florida Department of Environmental Protection – Hazardous Waste Clean-up Program, FL. Prepared the bid package and managed the construction for the interim source removal and groundwater treatment of the Former Bono's Drycleaners. Helical pier installation was required to support the building foundation adjacent to the indoor excavation of soil contaminated with chlorinated VOCs. Zero-valent iron with emulsified vegetable oil (eZVI) was placed prior to backfill with flowable fill for treatment of the groundwater. This project Site was affected by flooding from Hurricane Irma, which resulted in elevated groundwater levels that required dewatering for commercial disposal.

Teco Peoples Gas – Brownfield Site, Tampa, FL. Assisted with the fast-track scheduled design, permitting and coordination of the manufacturing, delivery and installation of a Multi-Phase (Pump & Treat with Soil Vapor Extraction) with DNAPL and oil water gravity and chemical separation, air stripping and activated carbon remediation system for a Former Manufactured Gas Plant (MGP). Also, managed the subcontractor's construction of the 44 extraction and injection well pipe network and infiltration basin. The MGP coal tar NAPLs encompassed a ¾ acre area and the dissolved groundwater plum encompassed 19 acres. This project was selected as the American Academy of Environmental Engineers and Scientists' Grand Prize winner of the 2016 Excellence in Engineering and Science Award, Small Project category.

Rollins, Inc. – Former Orkin Site, Miami, FL. Managed the remediation construction which included source removal of organochlorinated pesticide impacted soil, backfilling and compacting clean soil, and installing sod. Prepared the hazardous waste profile for impacted soil that exceeded TCLP limits, and prepared regulatory reporting required for status as a Large Quantity Generator. After the installation of a seawall (approx. 450-ft) along the Miami River, additional impacted soil will be removed, and micro-scale zero-valent iron (mZVI) will be applied to treat impacted groundwater. Total project costs were approximately $2.5 Million.

Rollins, Inc. – Active Orkin Site, Ft. Pierce, FL. Managed the remediation construction which included source removal of organochlorinated pesticide impacted soil (non-hazardous), grading and constructing a stormwater retention basin, backfilling and compacting clean soil, installing sod and a reinforced asphalt cap/parking area. Other aspects of the project included fencing with motorized access gate, a reinforced concrete dumpster enclosure, extensive landscaping/tree planting, ADA compliant entrance side walk and a bike rack. Total project costs were approximately $0.5 Million.

Nason, Yeager, Gerson, White & Lioce, P.A., Jacksonville, FL. Managed the evaluation of remedial activities at the Former Florida Cycle site and had several meetings with the FDEP on approaches to obtaining site closure. Directed the field assessment activities of the former fire water pond (Pond) which is adjacent to an old municipal landfill to include bathymetric and geophysical surveys, as well as water, groundwater and pond sediment sampling. Designed and prepared a Remedial Action Plan Addendum for the removal of the associated pump house, extraction of contaminated water from the Pond, capping the sediment and closing the Pond with backfill and two-feet of clean fill. Supported the reduction in the Consent Order required Letter of Credit from $2MM to $1MM by preparing a detailed cost estimate through site closure. Prepared construction plans and specifications, evaluated bids for contractor selection and assisted with the contract terms for the construction.

Sun Oil Ltd. (A Shell Licensee), Nassau, The Bahamas. Completed the design and coordinated the manufacturing, delivery and installation of a Dual Phase (Pump & Treat with Soil Vapor Extraction) remediation system for an active retail station (Harrold Road). Managed start-up with telemetry system and periodic system O&M with analytical monitoring. Treatment volume averaged 1 million gallons per month.

Managed the construction oversight and remediation of a closed retail station (East Bay Street) including the removal of five underground storage tanks and associated piping.

Directed the indoor air sampling for vapor intrusion assessment at the neighboring office building to respond to employee complaints. VOCs were confirmed and at highest concentration in the building's bathrooms. The sanitary sewer piping was excavated and replaced to successfully mitigate the vapor intrusion.

HunterMaclean, P.C., Savannah, GA. Assisted a confidential client with corrective actions in response to RCRA compliance violations issued by EPA Region IV. Provided guidance regarding generator status notification, profiling, manifesting, contingency plan preparation, training, managing waste handling areas, etc. Met with EPA Region IV at their office in Atlanta to present evidence of corrective actions and negotiation of the final penalty.

Rogers Towers P.A., Fort Lauderdale, FL. Assisted with the technical review for expert witness/litigation support related to liability associated with solvent contamination fate and transport at the D&B Paints site. The evaluation included the complexities of contamination from a neighboring electronics manufacturing facility.

Holland & Knight LLP, Palm Beach Gardens, FL. Provided technical evaluation of fate and transport using natural groundwater flow direction, historical well-field pump operational data, local industrial facility chemical usage and Contamination Assessment Reports for the determination of potential PCE source location, age, and size. This effort was in support of expert witness support to identify potentially responsible parties associated with chlorinated solvent contamination near the Lilac Street Well-field.

BROOKE FAIT, MPH, PG, CSP, CIH

Project Scientist

Project Role

Environmental Management

Education

M.P.H., Occupational Safety, University of South Florida, 2012

B.S., Environmental Geology and minor in Mathematics, Georgia State University, 2000

Registrations

Professional Geologist, Florida No. 2529

Certified Industrial Hygienist No. 11292

Certified Safety Professional No. 35424

Years of Experience

Total: 18

With Company: 3

Ms. Fait is a project scientist with more than 18 years of experience. Her professional practice has focused on various health and safety, environmental, and water resources. She has provided technical expertise on a wide range of environmental projects, including industrial hygiene assessments, municipal production wellfields, environmental projects and programs, site remediation, regulatory compliance, class I and V injection wells, site permitting, grant writing, cost estimating, and contract negotiation.

Ms. Fait has extensive environmental consulting experience which includes design and execution of Remedial Investigation/Feasibility Study (RI/FS) field events coordinating the work of multiple drillers, subcontractors, and staff. Her roles include Hazardous Waste Site Safety Supervisor, Project Geologist, Sample Custodian, and Field Team Leader. She has performed environmental site assessments (ESAs) and remediation projects for private, municipal, state, and federal clients, including scope development, cost estimates, budgeting, schedules, and quality control. She has completed monitoring well design, and installation, prepared geologic cross sections, and has conducted lithologic and geophysical logging, as well as aquifer testing to evaluate and establish geological/hydrogeological conditions determining fate and transport at hazardous waste sites.

Her safety consulting experiences consist of industrial hygiene investigations, indoor air quality investigations, Occupational Safety and Health Administration (OSHA) compliance audits, and development and implementation of safety programs. Industrial hygiene experiences consist of noise dosimetry, total and respirable dust, metal working fluids, cadmium, hexavalent chromium, hydrofluoric acid, hydrochloric acid, nitric acid, and mold. She has developed safety programs and training presentations for high hazard operations including confined space, lockout/tagout, and hazard communication.

Relevant Project Experience

General Dynamics-Ordinance and Tactical Systems, Sound Level Survey & Industrial Hygiene Employee Exposure Assessments, FL, TX, AL, and PA. Performed area and personal air monitoring for total and respirable dust, metal working fluids, oil mist, lead, molybdenum, cadmium, hexavalent chromium, methylene chloride, hydrofluoric acid, hydrochloric acid, and nitric acid. Perform area sound level mapping and personnel noise dosimetry. Evaluate ventilation systems.

Alliance for the ARTS, Fort Myers, FL. EHS Program Developer responsible for establishing HAZCOM Program. Conceptualize, and develop occupational safety hazard communication program. Perform chemical inventory and create material safety data sheet electronic library. Provide recommendations for cautionary signs and labels.

University of South Florida, Tampa, FL. EHS Specialist responsible for evaluating exposure risks during hazardous waste bulking operations. Review existing Respirator Fit Testing procedure and develop training

program. Conduct EHS auditing at both project and office sites for engineering control deficiencies, indoor air quality, and regulatory compliance.

Lee County Community Development, Fort Myers Florida, Expert Witness Testimony, Noise and Vibration. Reviewed blasting plans for surface mining operation applications for rezoning of agricultural lands: Troyer Brothers and Old Corkscrew Plantation. Provided expert witness testimony regarding community impacts from blasting operations on adjacent and nearby properties. Testified on human annoyance factors associated with blasting and safe blasting distances based on reported and planned peak particle velocities and air overpressure.

Anderson Columbia, Ocala Florida, Noise Ordinance Compliance. Project Manager for community noise exposure project. Selected equipment, designed study, provided technical oversight for fence line sound pressure level measurements as the asphalt production plant. Interfaced with Ocala Planning department to submit community accessible report of findings.

Waste Management, Davie Florida. Project Manager and Industrial Hygienist for community noise exposure project. Collected point source data from shredders, chippers, and screen tumblers to assist facility siting in accordance with Davie County noise ordinances. Measured on-site and off-site background and operational noises in response to noise complaints.

Florida Power & Light, Cutler Substation Contaminated Soil Excavation, Miami, FL. Author Site Specific Health & Safety Plan and community exposure Air Monitoring Plan (AMP). Establish project dust management benchmarks based on soil contaminant concentrations.

City of Miami, Contaminated Park Remedial Action, *Miami, FL.* Author Site specific Health & Safety Plans for Curtis, Douglas, and Armbrister Parks. Establish project dust management benchmarks based on soil contaminant concentrations. Provided community exposure and employee exposure reviews of contractor's air monitoring reports. Provide 8-hour Site Specific Health & Safety training in accordance with OSHA HAZWOPER.

City of Waco, Brazos River Remedial Action, Waco, TX. Hazardous Waste Site Safety Supervisor for contaminated soil and historical tornado debris delineation effort. Authored Health & Safety plan for metals in soil, and asbestos containing building debris for waste sort and debris delineation. Establish project dust management benchmarks based on soil contaminant concentrations. Provided fit testing for respirator use adjacent suspect asbestos containing materials. Combined wet methods with PPE use to protect worker safety and comply with Texas Asbestos Health Protection Act.

Private Client, Asbestos Negative Exposure Assessment and On-Call Industrial Hygiene and Safety Support. Revise and update Site Specific Health and Safety Plan with additional hazards introduced as part of a waste relocation project. Assisted with equipment selection for air monitoring equipment for fugitive dust monitoring and provided on-site training. Authored Negative Exposure Assessment Report following personal air monitoring for asbestos fibers. Collected Short Term Exposure Limit samples as well as full shift 8-hour Time Weighted Average samples for both phase contrast microscopy and transmission electron microscopy. Provide on-call industrial hygiene and safety support for ongoing remedial action.

MIKE HARDIN, PHD, PE, CFM

Senior Engineer

Project Role

Water and Natural Resources

Education

Ph.D. Environmental Engineering, University of Central Florida, 2014

M.S. Environmental Engineering, University of Central Florida, 2006

B.S. Environmental Engineering, University of Central Florida, 2005

Registrations

Professional Engineer, Florida No. 74749

ASFPM Certified Floodplain Manager, US-15-08372

Years of Experience

Total: 13

With Company: 4

Dr. Hardin spent the first 9 years of his career as the lab manager for the University of Central Florida's Stormwater Management Academy field research lab. He managed research related to water quality improvement and water quantity reduction methods for stormwater runoff. Areas of focus include green roofs, pervious pavements, stormwater harvesting, chemical treatment, erosion and sediment control, and media filtration. Dr. Hardin was involved early on in the development of Bold & Gold™ pollution control media mixes related to green roofs, bio-swales, inline filtration treatment, side bank filters, and upflow filters. He is also an instructor for the FDOT state erosion and sediment control 2-day course. Additionally, Dr. Hardin is an instructor for the BMPTRAINS Model training course which is intended to train design professionals on how to properly use the model to quantify the water quality benefit of using stormwater best management practices (BMPs).

Relevant Project Experience

Street Sweeping and Maintenance BMP Optimization Study, City of Lakeland, FL. Dr. Hardin served as project manager on this stormwater BMP evaluation and optimization project. The City desired a study be performed to optimize their street sweeping and BMP maintenance practices. As part of their requirements for the Polk County NPDES MS4 permit, which the City is a co-permittee, water quality improvements must be reported to FDEP. Currently, the City is using statewide median values developed by FSA to represent the nutrient content of collected street debris. Dr. Hardin developed a detailed sampling plan, oversaw the digitization of current swept streets from Excel to GIS and digitization of BMP locations into GIS. Dr. Hardin oversaw field sampling efforts of street debris collected by street sweepers and BMP maintenance activities as well as evaluation of the resulting nutrient content data. Using the site-specific data collected as part of the sampling effort as well as land use data from SWFWMD and tree canopy rasters from NLDC, a cluster analysis was performed to identify streets that would generate high nutrient content street debris. Based on this analysis, a new street sweeping program was proposed to maximize nutrients collected while maintaining current program costs. Similar analysis was performed to identify prime locations for new BMPs to be installed. The results of the project were presented to FDEP which resulted in them issuing a letter of support to use site specific street debris numbers for their NPDES reporting.

Suburban Heights Stormwater Improvements, City of Gainesville, FL. An evaluation of stormwater infrastructure level of service due to the replacement of an upland cut ditch with a piped system to improve erosion and maintenance issues for the City within the Suburban Heights neighborhood was performed. The City required low velocities be maintained in the proposed storm sewer retrofit, which were expected to be high due to a recent stormwater assessment done in the area. Dr. Hardin developed a highly detailed stormwater model using ICPR of the upstream contributing area, including primary and secondary storm sewer systems, as well as stormwater conveyance ditches and ponding areas in the 174-acre watershed. The stormwater model demonstrated significantly lower flows than the previous study, allowing a smaller storm

sewer system to be designed to pipe the ditch, resulting in a considerable cost savings to the City. Design plans were generated for public involvement meetings, who support the improvements.

Lake Bystre Surface Water Resource Assessment (SWRA), SWFWMD & Hernando County, FL – Dr. Hardin served as project engineer on this SWRA. The Bystre Lake watershed is approximately 27.5 square miles and located within Hernando County. The watershed was evaluated for nutrient loading to groundwater and surface water bodies. The SIMPLE-Seasonal model was used to determine the nutrient loads generated within the watershed. Point sources, such as wastewater treatment plant discharges and septic tanks, were identified within the watershed and included in the evaluation. Stormwater best management practices (BMPs) were also identified and load reductions were applied according to the Hernando County guidance document provided. The purpose of the study is to identify areas of high nutrient loading and make recommendations on different BMPs to implement. This evaluation is intended to improve surface and groundwater quality.

***Lake Pineloch BMP Implementation Feasibility Study, Orange County EPD*.** The County desired a study to evaluate the feasibility of retrofitting a built-out watershed with a water quality improvement project. The watershed drains to a Central Florida lake which is on the FDEP verified impaired water bodies list for nutrients. Dr. Hardin oversaw the desktop evaluation of the watershed which included discretizing the basins, digitizing the stormwater infrastructure, and digitizing the DCIA area into GIS. Additionally, an alternatives analysis was performed using the BMPTRAINS Model to assess the nutrient loads generated in different basins and the potential impact of different BMPs in different basins on nutrient loads to the lake. This study resulted in a BMP type and placement recommendation that showed the maximum nutrient removal per unit cost and is currently in the design phase.

Priority Basin/Outfall 1329, 1349, and 1409 BMP Treatment Study, Brevard County, FL – Dr. Hardin served as project manager for this Outfall treatment study. Brevard County assigned Geosyntec with three priority basins to evaluate and design BMPs to treat baseflow (groundwater) for TN and TP to help address the Indian River Lagoon (IRL) TMDL BMAP. The County has performed an extensive evaluation of the nutrient loading to the IRL. Baseflow was identified as the most significant source of TN and TP to the IRL. The County ranked the outfalls to the IRL based on their contribution of TN and TP and assigned Geosyntec three (3) outfalls to evaluate and design baseflow BMPs. Field verification was performed to confirm drainage infrastructure and drainage patterns, as well as identify existing stormwater BMPs within the basins. This data was used to refine basins/contributing areas to the proposed BMPs. Preliminary BMP concepts were proposed to treat the baseflow at the outfalls identified by the County that included treatment process theory and concept, as well as initial sizing based on flow data provided by the County and field observations. Based on the characteristics of the contributing area, flow characteristics, and water quality data collected by the County, pollutant load estimates were prepared and expected removals due to the proposed BMP was determined.

Lakes Catherine, Buchanan, and Tyler Watershed Management Plan, Orange County Stormwater Management, Orange County, FL. Project Engineer. The purpose of the study is to develop a comprehensive drainage and flood level of service (LOS) evaluation (i.e., determine peak stages and durations) of the watershed including floodplain delineation. The primary focus of the study included Lakes Catherine and Buchanan and the level of service provided by the drainwells. The study included hydrologic / hydraulic assessment of primary drainage systems. The floodplain elevations and flood control LOS of the primary drainage systems (lakes, ponds, main culverts, etc.) in the watershed were assessed. The study used a comprehensive GIS geodatabase to manage watershed and modeling data, including topographical data (LiDAR, contours, etc.) physical characteristics (soils, land use, hydrographic features), drainage infrastructure data (culverts, control structures, conveyances features, control structures), hydrological data, and drainage system performance and floodplain results.

J. CHRIS HERIN, PG

Senior Principal

Project Role

Environmental Management

Education

M.S., Geology (Hydrogeology), Wright State University, Dayton, Ohio, 1986

B.S., Earth Science, DePauw University, Greencastle, Indiana, 1984

Registrations

Professional Geologist, Florida No. 1281

Years of Experience

Total: 33

With Company: 20

J. Chris Herin, P.G. is a leading practitioner in the mitigation of environmentally impaired properties, hydrogeologic evaluations, and environmental compliance and due diligence. With over twenty-five years of environmental consulting experience based in Florida, Mr. Herin's expertise lies in environmental support of contaminated property portfolio management strategies, beneficial re-use of impaired properties, and transactional and operational issues related to property development and environmental compliance. In court, he has been considered an expert in the fields of fate and transport of groundwater contamination, development of remediation options, and developing cost estimates for remediation. In just the last few years, he has authored or senior-reviewed hundreds of reports addressing site remediation activities, regulatory compliance, and/or environmental due diligence. Mr. Herin has worked on environmental issues with a broad range of clients that include: chemical, fertilizer, pesticide, automotive, aerospace and other manufacturing companies; agricultural operators; mining operators; national retailers; electric and water utilities; railroad, marine and air transportation; and businesses involved in petroleum distribution, cleaning operations, waste management (recycling, hazardous and non-hazardous waste), and property development/management. He has consulted on projects whose primary focus was on compliance with CERCLA, RCRA, TSCA, CWA, CAA, FIFRA, NEPA and/or the Small Business Liability Relief and Brownfields Revitalization Act. His projects have dealt with contaminants of concern such as solvents (and associated additives), petroleum products, dioxins, PCBs, pesticides and herbicides, radioactive materials and a variety of other inorganic chemicals.

Relevant Project Experience

Collins & Aikman vs Teleflex, Inc., Palm Beach County, FL. Mr. Herin qualified as an expert in the fields of hydrogeology, geology, fate and transport of groundwater contamination, contamination assessment, development of remediation options, review of environmental reports, and developing cost estimates for remediation.

Chlorinated Solvent Contamination Cost Recovery Lawsuit, Confidential Client, FL. Mr. Herin was designated by the client (plaintiff) to provide testimony at a jury trial, including cost-to-cure estimates for the contamination which have served as a basis for the damages claim sought by the client. Near the end of Mr. Herin's testimony at trial, the defendant made a large settlement offer, which was better than past offers and the plaintiff agreed to settle.

Laniger Enterprises of America, Inc. vs Florida Department of Environmental Protection, Jensen Beach, FL. Mr. Herin provided expert witness testimony at a hearing (State of Florida – Department of Administrative Hearings, hearing held in Stuart, Florida) related to FDEP's denial of a renewal permit to operate a waste water treatment plant. Mr. Herin was accepted as an expert in the evaluation of groundwater flow and the evaluation of the transport of chemical constituents in groundwater. The DOAH judge accepted Mr. Herin's testimony and ruled in favor of his client to issue the permit which had been denied.

Bluefield Ranch Inc. vs South Florida Water Management District, FL. Mr. Herin was a designated expert witness (matter settled about one week prior to hearing) for a permit challenge for a 1,000+ acre agricultural property (citrus fields and associated operations) which was designated for redevelopment as a wetland. He provided testimony in deposition regarding environmental due diligence and assessment/remediation requirements for chemical constituent detections found at the property, with respect to the adequacy of existing information to provide "reasonable assurance" to justify conversion of the property to a wetland.

Consulting Expert – Lead-Affected Soil, FL. For this former shooting range, Mr. Herin provided assistance to litigation counsel regarding completed assessment and remediation work wherein lead-impacted soil had undergone remediation efforts.

Litigation Support for Hotel Owner, Miami, FL. Allegedly, stormwater drainage/injection wells had been compromised from unpermitted dewatering into the wells. Mr. Herin provided expert witness testimony at trial regarding a likely cause of reduced capacity of these wells. Mr. Herin's client prevailed in this lawsuit.

Litigation Support for Dredging Company, FL. For a large dredging project, Geosyntec served in a comprehensive environmental role to consult on marine affected-sediment chemical characterization and disposition, management and closure of a dredge material management area (DMMA), extensive environmental due diligence as the client sought DMMA locations, assistance with permitting and certain other management & regulatory negotiation issues for the removed sediment. The involved dredging company later sued the engineer-of-record for the dredging project regarding performance issues. Mr. Herin testified at a jury trial regarding various aspects of the case.

Chlorinated VOC, Nickel, Copper, Chromium, Lead and Fluoride Contamination – Circuit Board Manufacturing Facility, Confidential Client, Southeast FL. After almost 20 years of slow progress with another consult, Geosyntec was retained to take over as the environmental consultant to help address contamination associated with one of the largest circuit board manufacturing facilities which had operated in southeast Florida. By simply retaining Geosyntec to take over the required groundwater monitoring, the client saved thousands of dollars on an annual basis. But, better than this, the client quickly got beyond threatened agency enforcement for lack of progress and started to close out contamination issues. With Mr. Herin as the Project Director, the work has initially included a review of potential remedial options and three-dimensional contaminant transport modeling for decision making purposes. The Site included one of the largest and deepest known vinyl chloride plumes in southeast Florida and this was the initial focus. Geosyntec conducted a very focused source assessment and identified remaining solvent source material which was removed; this has resulted in a significant decline in the vinyl chloride plume. Further, Geosyntec undertook to successfully demonstrate that naturally occurring bacteria at the site are effectively destroying the chlorinated VOC contamination. Little attention had been paid to the inorganic contamination since it was overshadowed by the vinyl chloride. However, with the vinyl chloride plume in decline, efforts have shifted to focus on the inorganic contamination. A no-remediation "restrictive covenant" closure strategy for the metals has been conceptually agreed to with FDEP and is being worked through with involved property owners. Fluoride source material has been found as the reason for a persistent groundwater plume and a treatability study is underway to evaluate methods to change conditions such that the plume shrinks from a relatively large size. As a side service for this project, Geosyntec has undertaken to develop multiple reserve cost estimates to address future contamination closure-related costs; these have been utilized by multiple involved parties for shareholder disclosure purposes.

TODD KAFKA, PG

Principal

Project Role

Environmental Assessment & Remediation

Education

M.S., Geology, Washington State University, 1995

B.A., Joint Geology/ Environmental Studies, Middlebury College, 1992

Registrations

Professional Geologist, Florida No. 2338

Years of Experience

Total: 24

With Company: 15

Mr. Kafka has over 22 years of experience as a hydrogeologist in the environmental consulting field during which he has been exposed to numerous industrial sector and federal sector projects. He has design, implemented, and managed site investigations under RCRA, CERCLA, and numerous state programs for small and large facilities. He has been successful in applying new and innovative technologies when appropriate to provide robust and valuable data at substantial cost savings for clients by streamlining the overall duration of the assessment phase. He has diverse experience in varied geologic environments such as karst, carbonate and crystalline bedrock, coastal plain, piedmont, and glacial terranes and with a variety of contaminants such as hexavalent chromium, arsenic, chlorinated solvents and DNAPL, creosote, petroleum hydrocarbons, and perchlorate. Mr. Kafka has extensive experience in authoring investigation work plans and reports, fate and transport assessments, conceptual site models, remedial alternatives evaluations, and remedial action plans as well as other technical documents. He has assisted clients in property transactions and escrow determination for site remediation. His interests include groundwater-surface water interaction studies, groundwater flow and contaminant transport in fractured bedrock and karst terranes, in situ remediation, and spring water resource and groundwater resource development.

Relevant Project Experience

Florida Department of Environmental Protection – Consolidated Contract, Multiple sites throughout Florida. Mr. Kafka serves as project manager and technical lead on multiple former and active dry-cleaning and hazardous waste sites under Geosyntec's consolidated hazardous waste and dry-cleaning contract with the FDEP. In these roles, Mr. Kafka interacts with FDEP managers to develop task assignments to advance sites through assessment, remediation, and closure; manages the projects; and coordinates the work with staff. Recent key examples include:

Former Jethro Boyd Cleaners, Jacksonville, FL. Geosyntec obtained this site in 2014 after in situ bioremediation had been employed to treat shallow groundwater. The treatment success diminished quickly, and Mr. Kafka employed assessment activities to evaluate the site stratigraphy and hydrogeology. These activities resulted in the removal of a shallow vadose zone source zone in 2016 and identification of a deeper contaminant transport pathway (the local "rock aquifer") below the interval previously treated that had not been assessed. A Remedial Alternatives Evaluation is planned for 2017 to establish a groundwater remedial approach to target the rock aquifer.

Classic Cleaners, Stuart, FL. Mr. Kafka led an expedited site assessment of this active dry cleaners in late 2016 due to pending relocation of the operator. Geosyntec conducted rapid site assessment activities using direct push soil and groundwater sampling, a mobile laboratory, modified active gas sampling, and monitoring wells to identify source areas of dry-cleaning solvents (tetrachloroethene) and develop an interim source removal work plan. A soil vapor extraction (SVE) system will be implemented before the end of 2017 to address soil and groundwater contamination.

Florida Department of Environmental Protection – Petroleum Restoration Program (PRP), Multiple sites throughout Florida. Geosyntec serves as an agency term contractor for the FDEP in the PRP, and Mr. Kafka has been managing and directing assessment and remediation activities on 4 to 6 sites throughout the state since 2016. These sites have included extensive site assessment for soil, groundwater, and LNAPL delineation and developing remedial approaches for pilot testing. The technologies that have been pilot tested include air sparging/SVE and dual phase extraction. Natural attenuation monitoring (NAM) has been implemented at others. Mr. Kafka has been working with site owners to discuss cleanup objectives and risk-based closure options, should the owners be interested in land-use restrictions.

Coal Combustion Residual Compliance, Tampa Electric Company, Big Bend Power Station, Tampa, FL. Geosyntec is implementing the required groundwater monitoring program at the economizer ash ponds at Big Bend Power Station that are regulated under the federal Final Coal Combustion Residual (CCR) Rule in 40 CFR 257.91. Mr. Kafka serves as the lead hydrogeologist and project manager responsible for developing a groundwater monitoring plan compliant with federal regulations. Geosyntec installed piezometers at the ash ponds to evaluate groundwater flow directions (tidally influenced) and converted a subset to permanent monitoring wells to evaluate the upgradient and downgradient groundwater quality. Geosyntec has directed monthly to bi-monthly baseline monitoring of the detection (Appendix III) and assessment (Appendix IV) parameters required in 40 CFR 257.94, performed data validation, and tracked the results for statistical analysis to determine statistically significant increases for the regulated parameters.

Plan of Study, Duke Energy Florida, Crystal River Energy Complex (CREC), Crystal River, FL. Since 2009, Geosyntec has been supporting Duke with regulatory compliance assistance associated with a consent order at the Crystal River Energy Complex (CREC). Geosyntec has prepared Plans of Study and addenda related to COC components (e.g., industrial wastewater permits, etc.) with particular focus on the sources and distribution of arsenic in soil and groundwater. Mr. Kafka designed and directed a soil and groundwater assessment of a former north ash pond to evaluate the distribution of coal ash and arsenic in soil and groundwater in 2016. The groundwater assessment included lateral and vertical delineation of arsenic in the limestone aquifer and geochemical evaluation of other inorganic constituents to background and anthropogenic sources to evaluate fate and transport.

***Brownfield Redevelopment, CSX Transportation, Old Hopewell Road, Tampa, FL*.** Mr. Kafka has served as the lead Hydrogeologist and project manager of this site since 2013. CSXT retained Geosyntec to conduct assessment and remediation activities at this Brownfields Site with an executed Brownfields Site Redevelopment Agreement (BSRA) with Florida Department of Environmental Protection (FDEP). Soil removal was performed in 2013 to remove shallow (2 to 5 ft below grade) organochlorine pesticide contamination on CSXT property. One year of post-excavation groundwater monitoring indicated that OCP concentrations in shallow groundwater declined significantly due to leaching reductions. Stable OCP concentration trends in the two, primary water-bearing units were documented and plume delineation was completed in late 2015. FDEP approved No Further Action via Risk Management Option II to include restrictions to prevent groundwater usage and residential development, at which point site redevelopment will be possible under the Brownfield Program. A restrictive covenant is on track for approval in mid-2017.

Due Diligence, Nestle Waters North America, Multiple Sites. Geosyntec has supported NWNA with due diligence activities in central and north Florida through the performance of Phase I and Phase II Environmental Site Assessments (ESA). Mr. Kafka serves as the Environmental Professional as defined by ASTM 1527-13 on the Phase I ESAs and has provided senior guidance and leadership in the development and implementation of investigative work scopes for the subsequent Phase II ESAs.

RACHEL KLINGER, PE, BCEE

Principal

Project Role

Environmental Assessment and Remediation

Education

M.S, Civil Engineering, University of Virginia, 2009

B.S., Civil Engineering, Florida State University, 2005

Registrations

Professional Engineer, Florida No. 73848

AAEES Board Certified Environmental Engineer

Years of Experience

Total: 11

With Company: 10

Ms. Klinger is a licensed professional engineer (environmental) in the State of Florida and has more than 11 years of experience completing site characterizations to support remedial design; evaluating and selecting remedial alternatives that are cost effective and achieve cleanup goals; designing, implementing, and optimizing selected alternatives; facilitating permitting; and identifying site closure strategies. Ms. Klinger is located in our Jacksonville, FL office and received her M.S in civil engineering from the University of Virginia and her B.S. in civil engineering from Florida State University.

Through Ms. Klinger's experience in the Florida, she is intimately familiar with state environmental regulations and has worked closely with the Florida Department of Environmental Protection (FDEP) in the headquarter office located in Tallahassee, as well as the other supporting District offices, local municipalities, and the United State Environmental Protection Agency (EPA).

She has taken lead roles as project manager and engineer of record to facilitate the assessment and cleanup of numerous contaminated sites throughout Florida including those impacted with pesticides, petroleum compounds, metals, chlorinated volatile organic compounds, and non-aqueous phase liquids (NAPLs).

Relevant Project Experience

JEA, Northside Generating Station Site. The Northside Generating Station is adjacent to the St. Johns River and is one of several generating stations owned and operated by JEA. RCRA investigations identified impacts to groundwater, surface water, soil, and sediments. Ms. Klinger is the Engineer of Record and Project Manager for the RCRA Corrective Measure Implementation related to the Solid Waste Management Unit 18 and Area of Concern 3 which consists of a groundwater extraction system (for hydraulic control of groundwater impacts), soil cap (for ecological soil impacts), and redesign of the existing drainage ditch (for stormwater improvement). As part of pre-design activities, Ms. Klinger lead the aquifer pump tests for the development of a groundwater model to assist with the groundwater extraction system design, installed additional monitoring wells to refine (and reduce) the horizontal and vertical extent of the required capture zone. Ms. Klinger is also lead regulatory negotiations and completed environmental resource permitting including Unified Mitigation Assessment Method (UMAM) assessment, as a portion of the work was completed in wetlands.

JEA, SGS Site. The Former Southside Generating Station is a 42-acres parcel on the St. Johns River in Jacksonville, Florida. Geosyntec was retained to provide environmental site assessment and engineering services. Ms. Klinger completed a detailed high characterization site assessment of an arsenic groundwater plume in three distinct aquifers using direct push technology which was documented in a technical assessment report. By comparing dissolved and total arsenic concentrations, she significantly reduced the overall plume dimensions leading to a more refined conceptual site model. Ms. Klinger also prepared the construction drawings and bid documents for the implementation of a hydraulic control system to mitigate the dissolved arsenic groundwater impacts to the St. Johns River and oversaw the implementation of the

remedial action in 2009 on schedule and under budget. She provides ongoing technical support for the hydraulic control system optimization. The hydraulic control system has successfully captured and minimized the off-site migration of the dissolved arsenic groundwater impacts.

Florida Department of Environmental Protection, Drycleaner Cleanup Program, Former Bellair Cleaners. Ms. Klinger lead the site assessment activities by Geosyntec during January, February, and September 2016 in general accordance with Chapter 62-780.600, Florida Administrative Code. Results of the assessment indicated vadose zone impacts above the leachability-based Soil Cleanup Target Level for PCE and groundwater impacts above the Groundwater Cleanup Target Levels for PCE and its dechlorination products. Ms. Klinger prepared in Interim Source Removal Work Plan for the excavation of soil impacts inside the strip mall suite. Ms. Klinger is working closely with the FDEP and property owner to fast track the implementation of the ISR to facilitate occupancy of the suite.

Commercial Client, Former Duplex Products Site. The Former Duplex Product Site was a duplication, printing, and binding facility operated by Duplex Products. Environmental Site Assessments were completed beginning in 1993 and identified CVOCs and aromatics at the site. Interim source removal activities were subsequently completed to excavate the septic/sump system identified as the source of the groundwater contamination. Groundwater samples were collected following the 2001 excavation until 2004 when groundwater sampling ceased. After a decade of inactivity, FDEP submitted a letter requesting site assessment and remediation be completed under Chapter 62-780, FAC. Geosyntec was initially retained to evaluate the groundwater quality at the Site and assist with obtaining site closure. Ms. Klinger prepared a strategy to evaluate current groundwater impacts within the current network and obtain a Site Rehabilitation Completion Order. After a review of historical data and one year of groundwater monitoring, Ms. Klinger prepared a Site Rehabilitation Completion Report which was later approved, without comment, by FDEP and site closure under RMO I was achieved.

Florida Department of Environmental Protection, Hazardous Waste Cleanup Section, Eagle Picher Industries Site. Geosyntec acquired the site following several years of air sparge, soil vapor extraction, and groundwater recovery and treatment by others. Through additional site assessment activities, Geosyntec identified and delineated soil impacts exceeding the leachability-based soil cleanup target levels for VOAs and prepared an Interim Source Removal Plan for the excavation of soils approximately 5 to 6-ft below land surface. Due to the elevated groundwater concentrations near the excavation, Geosyntec sparged the open hole excavation for additional mass removal prior to backfill and site restoration. Over 1,000-tons of contaminated soil was excavated and disposed of and the site transitioned into long term monitoring.

TECO Peoples Gas System, Former Manufacturers Gas Plant, Tampa, Florida. The approximate 7-acre Tampa MGP Site is a former manufactured gas plant located in a highly urban environment between downtown Tampa and Ybor City, Florida. Multiple soil cores recovered from the Tampa MGP Site during previous investigations have indicated the presence of coal tar Non-Aqueous Phase Liquid within the surficial aquifer which is the primary source for high concentrations of dissolved BTEX (comprised of benzene, toluene, ethylbenzene, and total xylenes) and polyaromatic hydrocarbons observed within the surficial aquifer groundwater. Ms. Klinger is the lead engineer for the Multi-Phase Extraction (MPE) system which was designed, permitted, and constructed in under one year.

United States Environmental Protection Agency, Tower Chemical Superfund Site. Following the implementation of an in-situ chemical oxidation pilot test work plan to evaluate the effectiveness of base-activated sodium persulfate, post injection monitoring was performed. Decreases in concentrations of the pesticide 4,4'-dichlorobenzophenone (4-4'-DCBP) were observed additional reduces were necessary to meet the remedial goals.

DAVID LATHAM, PG

Senior Geologist

Project Role

Environmental Management

Education

M.S., Geology, University of South Florida, 1993

B.S., Geology, University of Florida, 1990

Registrations

Professional Geologist, Florida No. 2015

Years of Experience

Total: 25

With Company: 14

Mr. Latham is a licensed Professional Geologist in Florida and has worked in environmental consulting for over 25 years, including 13 years with Geosyntec as a Project Manager and Senior Geologist. Mr. Latham's primary areas of expertise focus on site assessment, remediation, redevelopment services, and environmental due diligence, with an emphasis on brownfields redevelopment. His project experience has involved a wide range of contaminated sites including those impacted with chlorinated solvents, pesticides, metals, PCBs, and petroleum hydrocarbons. His responsibilities have included all aspects of project and program management including developing cost-effective assessment and cleanup strategies for multiple contaminated sites, coordinating data collection through several different types of drilling and sampling techniques, conducting data review and interpretation, and preparing reports in accordance with FDEP and USEPA guidelines. Mr. Latham has experience with environmental due diligence & compliance issues facing a broad range of clients. He recently served as the Project Manager and/or Project Director for multiple projects conducted under the prior USEPA Brownfields Coalition Assessment Grants awarded to the Treasure Coast Regional Planning Council (in 2011 and 2015). Mr. Latham has been involved with the Florida Brownfields Association (FBA) since 2006 previously serving as the FBA's Secretary and on the Board of Directors in 2014 as well as previously serving as the Chair or Co-Chair of the FBA's Outreach and Education Committee. He has delivered a number of technical and public outreach-related conference presentations on topics pertaining to brownfields redevelopment in Florida.

Relevant Project Experience

Brownfields Site Assessment and Redvelopment Planning, South Gifford Road Landfill Site, Indian River County, FL. Project Director for brownfields site assessment at the former South Gifford Road Landfill Site. The initial Brownfields site assessment work was completed for the TCRPC under a USEPA Brownfields Coalition Assessment Grant, and subsequent assessment work was conducted with funding from Indian River County. The Site is a 115-acre former trench and fill landfill owned Indian River County (northern portion) and the City of Vero Beach (southern portion). Work completed as part of the Phase II brownfields site assessment included investigation of shallow soil quality, evaluation of the thickness of the existing soil cover over waste material, and an evaluation of the composition of soil gas in subsurface soil, typically found in these type of landfills. The assessment activities, conducted in accordance with FDEP Standard Operating Procedures (SOPs), were focused on a portion of the former landfill in order to assess potential human health/direct exposure-related concerns in areas that are most likely to be redeveloped for public use. Mr. Latham also served as Project Manager for redevelopment planning and community outreach activities for this Site. This portion of the project included leading a public design workshop (where public participants could offer their ideas for site reuse) followed by projecting costs for potential Site redevelopment options. A summary of the conceptual redevelopment plan and associated costing was presented to the Board of County Commissioners.

Brownfields Site Assessment, Treasure Coast Regional Planning Council (TCRPC), Martin Luther King, Jr. Memorial Park Site, Vero Beach, FL. Project Manager and Environmental Professional **for** Phase I and Phase

II Environmental Site Assessments (ESAs) at a 5.8-acre Site that contained a small public park at the southern end of the property along with the historic Macedonia Baptist Church. Southern areas and heavily-wooded central portions of the Site also contained grave stones and evidence of a former graveyard. Managed a geophysical investigation utilizing ground-penetrating radar (GPR) to locate potential grave sites and further refine the proposed locations for soil sampling and monitoring wells. Phase II activities also included shallow soil sampling, monitoring well installation, and groundwater sampling. Geosyntec gave two public presentations to the local community regarding the results of the Phase II investigation and provided valuable input regarding the location and conceptual design of a proposed walking trail, which was presented to the community during an outreach workshop. Work was completed under the jurisdiction of USEPA in accordance with a Brownfields Coalition Assessment Grant awarded to the TCRPC. Mr. Latham also assisted with complying with USEPA's administrative requirements including updating the USEPA's ACRES database.

Phase II Site Assessment, Former Hammond Road Landfill, West Palm Beach, FL. Project Manager for Phase I ESA, Phase II site assessment, and redevelopment planning for work conducted under a Brownfields Coalition Assessment Grant awarded to the TCRPC, in this case, for the benefit of St. Lucie County. Geosyntec was retained to perform a Phase II Environmental Site Assessment (ESA) of an approximate 71-acre parcel known as the Former Hammond Road Landfill located in Fort Pierce, St. Lucie County, Florida. Geosyntec completed a Phase II ESA scope that included the environmental assessment of soil and groundwater to evaluate a wide range of potential impacts across the Site including volatile organic compounds, metals, and radionuclides. Results showed limited detections of contaminants in soil and groundwater, which allowed St. Lucie County to shift their focus to the overlying cover soil and geotechnical considerations to support redevelopment/construction at the Site. Mr. Latham also met with each of the St. Lucie County Commissioners to discuss redevelopment options for the project; in addition, he assisted with complying with USEPA's administrative requirements for updating the USEPA's ACRES database.

Site Assessment, Former Byrd & Sons Site, Jacksonville FL. Project Manager for brownfields site assessment conducted under the direction of the FDEP. Geosyntec partnered with an environmental attorney in Jacksonville, Florida to support a local client that was greatly in need of assistance with a redevelopment project. This local client is a non-profit organization (NPO) that purchased a former petroleum distribution facility with the goal of redeveloping the property for use as residential affordable housing or transitional housing. Geosyntec worked with their attorney to prepare a Targeted Brownfields Assessment Grant Application on behalf of the NPO that was submitted to the FDEP. The grant application was accepted in 2017 by FDEP and funds were authorized (which are provided to FDEP via USEPA) toward the project for site assessment with the end goal(s) of safely resolving a historically-reported petroleum discharge at the Site while allowing the redevelopment work to progress. After Geosyntec's completion of site assessment and quarterly groundwater monitoring activities, the Site has qualified for No Further Action without conditions.

Site Assessment and Redevelopment Services, Former Servico Landfill, Goldstein Environmental Law Firm, West Palm Beach, FL. Senior Geologist for site assessment activities for the purposes of redeveloping a 9.4-acre former landfill and municipal incinerator waste. Geosyntec was retained to complete environmental due diligence activities, consisting of Phase I and Phase II Environmental Site Assessment and geotechnical investigation, at the Former Servico Landfill. The property was ultimately acquired for commercial redevelopment, beginning with a convenience store and vehicle fueling area. Subsequent work has included characterization of buried waste (including thickness and extent) and geotechnical testing in support of redevelopment construction.

SCOTT MCCANN, PE

Principal

Project Role

Environmental Management

Education

B.S., Environmental Engineering, University of Florida, 1988

Registrations

Professional Engineer, Florida No. 54172; North Carolina No. 16228; South Carolina No. 021780; Mississippi No. 21103

Years of Experience

Total: 32

With Company: 4

Scott McCann is a Principal based in Florida with over 30 years of experience in environmental consulting and engineering, and Air Quality Permitting and Compliance. Scott works closely with clients to develop a thorough understanding of the unique challenges they face, and through this knowledge, provides innovative solutions to complex environmental issues to satisfy client-specific goals.

Scott specializes in managing the environmental aspects of permitting large capital projects from pre-construction activities (e.g., site selection, selection of reliable pollution control equipment, and development of permitting strategy), to initial permitting (e.g., regulatory interpretation, emission inventory development, impact assessment, agency negotiations), through post-permitting support, (e.g., coordination of compliance testing, development of ongoing compliance systems). Scott's permitting experience covers more than 20 states for clients in manufacturing industries, such as aerospace, chemical, boat building, building products, electronics, and wood pellets; mining industrials, to include coal, sand, phosphate, and rare-earth minerals; bulk-transport businesses, such as volatile organic liquids, cement, phosphate, aggregate, and coal; waste management businesses, to include landfills and incineration; and power generation.

Using his knowledge of a wide range of environmental regulations, as lead auditor or part of a team, Scott has directed or performed more than 100 multi-media environmental compliance audits and environmental due diligence assignments. He has represented his clients during agency compliance audits and ISO 9000 and 14001 certifications and performed internal audits of environmental compliance systems, including those he developed. Additionally, Scott has been retained to manage entire air quality compliance programs for his clients on an as-needed basis.

Relevant Project Experience

Lockheed Martin – Missles and Fire Control, Orlando, FL. For close to 20 years, as Project Manager, responsible for the coordination of the facility's air quality compliance program. Responsibilities include oversight and development of environmental management system, evaluation of the regulatory implications of capital projects, preparation of permit applications and compliance reports, communication with local and state regulators, and audit support.

Enviva Pellets, LLC, Cottondale, FL. As Project Manager, responsible for the coordination of ongoing environmental compliance services for the facility, including of Air Construction and Air Operating Permits Stormwater Pollution Prevention Plans, Spill Prevention Control and Countermeasure Plans, Tier II and SARA *Title III, and Annual Operating Reports.*

Mosaic Fertilizer, LLC, 5 Florida and 2 Louisiana Locations. As Project Director, leading a team to evaluate compliance and consistency of reporting under CERCLA's Continuous Release Reporting program. Project involves identification of releases, sources of those releases, evaluation of these releases as potentially being federally permitted, qualification of identified releases for reporting under the continuous release program, and development of reporting templates.

LEE MULLON, PE, CFM, D.WRE

Senior Engineer

Project Role

Water and Natural Resources

Education

M.S. Water Resources Engineering, University of Central Florida, 2014

B.S. Civil Engineering, University of Central Florida, 2005

Registrations

Professional Engineer, Florida No. 72414

ASFPM Certified Floodplain Manager No. US-15-08381

American Academy of Water Resources Engineers – Diplomate, Water Resources Engineer

FDEP Certified Stormwater Erosion and Sedimentation Control Inspector, No. 22225

Years of Experience

Total: 15

With Company: 5

Mr. Mullon has served as Project Manager and Engineer-of-Record on water resources, stormwater management, and capital improvement projects for public and private clients since 2002. His keys areas of expertise include stormwater master planning efforts, floodplain analysis, hydrologic & hydraulic modeling, stormwater retrofit design and water quality assessment, low impact design (LID) and stormwater best management practices (BMP) design, construction plans preparation, concept visualization, stormwater pollutant prevention plan (SWPPP) development, and environmental resource permitting. He has extensive experience with the use of ArcGIS for spatial analysis, mapping, and data representation, as well as transforming planning-level information into construction-ready design. He has developed numerous stormwater models using ICPR model with and without the groundwater/surface water interfacing, as well as EPA SWMM and HEC RAS. Skilled in 3D CAD modeling and visualization, he prepares complex infrastructure improvements in visually-rich presentations for key stakeholder involvement meetings.

Relevant Project Experience

Beville Creek Stormwater Improvements, City of Gainesville Public Works, Gainesville, FL. Mr. Mullon lead this stormwater retrofit in an older suburban residential neighborhood within the City of Gainesville. The City desired to implement an innovative "Green Infrastructure" improvement known as regenerative stormwater conveyance (RSC) for Beville Creek, within the Suburban Heights neighborhood, to address the heavy erosion of the creek and the City's interest in keeping the creek as an open, naturally flowing system. The close proximity to residential structures caused several design challenges to be overcome, including the steep grading relief of the creek. To address the design challenges, the creek bed was designed to be elevated, with RSC improvements consisting of a series of step pools in between a flat channel bottom, armored with large natural stones and boulders to mimic a steep natural channel terracing. Mr. Mullon oversaw the development of a detailed stormwater ICPR model that utilized LiDAR data to delineate upstream contributing areas in the 174-acre drainage watershed. The stormwater model demonstrated that flows through Beville Creek permit the construction of the RCS system to be designed, at a cost savings to the City as compared to a closed (i.e., piped) system. Because of the innovative components of this project, Geosyntec assisted the city with the preparation of a SJRWMD innovative grant application, which was awarded as the most innovative project in 2016 grant cycle in the amount of $299,000 in January 2017. Construction was completed in December 2017.

City Park Exfiltration and Reclaimed Water Disposal Integrated Water Resources Retrofit, City of Cape Canaveral, FL. The City desired to reduce the discharge of pollutants associated with stormwater runoff and wastewater plant discharges into the Banana River, an impaired water body and part of the Indian River Lagoon (IRL) with a TMDL and BMAP for nutrients. To help meet the City TMDL/BMAP requirements, Geosyntec performed an analysis of a large underground exfiltration system beneath the 6.5-acre downtown

City Park. The stormwater management system surrounding the park includes a shallow storm sewer network collecting runoff from the surrounding neighborhoods, discharging into the Banana River. To manage flood risk, a highly detailed stormwater model evaluated primary and secondary stormwater systems in the 173-acre urban watershed. The model included 130 subbasins, with storm sewer infrastructure, using a modified EPA SWMM stormwater model. Annual pollutant loading reductions of approximately 324 pounds of total nitrogen (TN) and 76 pounds of total phosphorous (TP) to the Banana River are estimated, which is more than 6 times the anticipated removal originally estimated in the IRL BMAP. Geosyntec performed construction oversight, and construction was completed in early 2017. Geosyntec is currently in the process of modifying the City's advanced wastewater treatment plant (AWTP) FDEP permit to allow discharges to the exfiltration system in lieu of direct discharge to the IRL. To manage discharges to the exfiltration, an actuated valve with remote telemetry will permit real-time control of surplus reclaimed water discharges from the AWTP to the exfiltration field, utilizing this 1 MG stormwater asset during dry periods, for an additional estimated annual pollutant loading reduction of 963 lbs TN and 61 lbs TP to the IRL. 90% plans have been completed.

Gainesville Airport Landfill Restoration, City of Gainesville, FL. Mr. Mullon served as the lead stormwater engineer for this City of Gainesville project, where Geosyntec conducted a comprehensive assessment and restoration design for the City landfill located northeast of the regional airport. The landfill sits atop the northern bank of Little Hatchet Creek (LHC), a tributary of Newnans Lake, an impaired waterbody. Over the decades since the original landfill closure occurred, significant vegetative growth and erosion has scoured away the earthen cap, allowing the transport of waste into LHC. Geosyntec's restoration design consisted of clearing existing vegetation, regrading the landfill, and backfilling with two feet of clean, protective soils along the border between the existing landfill and LHC. Complicating matters, due to the age of the landfill, no records existed which depicted the extent of the underlying waste material. Additionally, the landfill is located within the LHC floodplain, requiring detailed floodplain analysis. To address these issues, Geosyntec worked with the Public Works maintenance staff excavating test pits in order to determine the physical extent of the underlying trash while mapping the test location using GPS and incorporating into a working GIS database. Detailed floodplain modeling was performed using the Alachua County regional watershed model to demonstrate no net impacts to the LHC floodplain.

Bay Lake Water Quality Retrofit and Monitoring, Orange County Environmental Protection Department, Orange County, FL. This project included design of two modular wetland with biosorption activated media (BAM) structures to reduce nutrient loads to TMDL nutrient impaired Bay Lake (part of the Wekiva BMAP). The design included H&H model design flood evaluation, construction plans, technical specifications, and engineer's cost estimate. Post design services included construction oversight. After construction, Geosyntec developed and implemented a Quality Assurance Project Plan for water quality sampling of stormwater runoff, which included four autosamplers conducting continuous monitoring and composite stormwater sampling to estimate pollutant loads and load reduction for the FDEP 319 grant.

Casselton Drive Improvements, City of Casselberry Public Works, Casselberry, FL. Mr. Mullon is the engineer-of-record for this "Complete Streets" project for Casselton Drive, a 0.5-mile frontage street in South Casselberry. The design includes a "road diet" approach by removing 25 feet of asphalt road and replacing with an undulating road corridor with open space. The open space provides opportunities for a linear park feature, as well as the implementation of stormwater best management practices, including bioswales, rain gardens, and a water quality stormwater filtration structure. Secondary improvements include the replacement of an aging 12" asbestos cement water main within the corridor as well as landscaping, irrigation, and streetscaping improvements. A stormwater flood determination H&H analysis was conducted using the Little Econlockhatchee regional ICPR model to establish base flood elevations of the area within the FEMA Zone A region. A St. Johns River Water Management District (SJRWMD) permit was issued for this project.

SANDRA OWENS, CSP, CHMM

Senior Professional

Project Role

Environmental Management

Education

B.S., Biology, Chemistry Minor, Jacksonville University, 1994

Registrations

Certified Hazardous Materials Manager Level 12476

Certified Safety Professional No. 24826

Years of Experience

Total: 25

With Company: 4

Sandra Owens, CHMM, CSP is a senior professional with more than 20 years of experience in environmental, health and safety compliance with specific technical expertise in Process Safety Management (PSM) and Risk Management Programs (RMP) compliance. Ms. Owens performs Process Safety Management (PSM) and Risk Management Program (RMP) audits; develops PSM/RMP programs and related procedures; leads process hazard analyses (PHAs) using the What-If, What-If Checklist and HAZOP methods; conducts customized PSM/RMP training; and provides general PSM/RMP compliance assistance. She also performs Offsite Consequence Analyses (OCA) and prepares RMP Submittals for submission to the U.S. EPA. She has assisted clients with regulatory audits and responses to agency consent orders related to PSM and RMP. Specific experience is with processes containing anhydrous ammonia, aqueous ammonia, chlorine, sulfur dioxide, ethylene oxide, propylene oxide, monomethyl hydrazine, propane, butane, hydrazine, vinyl acetate monomer, monomethylamine, and various flammables.

In addition, she also has experience with Tier II submissions; overall environmental, health and safety risk assessments, including aspects and impacts studies; annual operating reports (AORs) and air permits; Spill Prevention, Control and Countermeasure (SPCC) Plans; RCRA waste compliance for operating facilities; and biennial reporting for large quantity generators.

Relevant Project Experience

City of Lakeland, FL. Prepared Process Safety (PSM)/Risk Management Program (RMP) facility manual and participated in HAZOP Process Hazard Analysis for new Selective Catalytic Reduction (SCR) process (Unit 5) containing ammonia. Led Process Hazard Analysis Revalidations, performed periodic compliance audits and provided PSM program assistance at two Lakeland wastewater treatment plants. Lead What-If PHA for new SCR process at Unit 3.

Congentrix/Cedar Bay Generating Company, LP, Jacksonville, FL. Revised and updated RMP Program 2 for Aqueous Ammonia supply process for the Selective Non-Catalytic Reduction (SNCR) process at this coal-fired co-generation plant.

E-Z Weld, Riviera Beach, FL. Led initial HAZOP PHA using PHA-Pro® for flammable liquids blending process; managed project to develop Piping and Instrumentation Diagrams (P&IDs) for process; provided limited Process Safety program development assistance.

Food Processing, Confidential Client. Participated in negotiations with EPA Region 9 and provided guidance on compliance with General Duty Clause consent order under the Clean Air Action related to anhydrous ammonia refrigeration, water chlorination and butane re-fueling processes. As a result of EPA's administrative order, facilitated What-If/Checklist PHAs, using PHA-Pro® for ammonia, chlorine and butane processes.

NuStar, Jacksonville, FL. Conducted PSM/RMP periodic audit and led PHA Revalidation using the HAZOP method for butane blending process which included railcar and truck unloading with simultaneous blending into gasoline.

Confidential Client (Grocery), Various Sites. Performed PSM compliance audits and provided assistance in revising and reorganizing PSM manuals and completing audit action items. Provided training classes and developed training manuals for new facility PSM Coordinators. Served as PHA leader for ammonia refrigeration PHA revalidations, prepared Florida DEM audit responses for audited facilities and assisted with regulatory audit preparation. Served as help desk for PSM and RMP questions from facilities (2001 – present). Prepared PSM/RMP compliant operating procedures for the five process units. Prepared RMP Submittals for all facilities. Prepared full PSM Program for newly constructed warehouse in Orlando and assisted facility with DEM regulatory audit preparation.

St. Johns River Power Park, Jacksonville, FL. Prepared facility PSM/RMP manual for cooling tower chlorination processes and lead initial and revalidation PHAs for Make-up water chlorination process. Inspected facility and collected information for the facility SPCC. Led the initial PHA for the Selective Catalytic Reduction (SCR) Ammonia Supply Process; developed the prevention program for the process. Authored and delivered training on PSM Awareness and Chlorine Awareness; delivered training on Environmental awareness. Prepared RMP Submittal. Prepared SPCC for power plant and coal terminal.

Tampa Electric Company (TECO), FL. Led Revalidation PHA for Bayside Power Station Anhydrous Ammonia Supply Process for Selective Catalytic Reduction; Prepared OCAs and prepared RMP for submission to EPA.

TPG/Sunbreak Farms, Ft. Pierce, FL. Spill Prevention, Control and Countermeasure Plan evaluations for three ranches/agricultural properties in St. Lucie, Okeechobee counties; oversight of tank removal project involving hazardous waste.

ERIN REED, PHD, PE, ENV SP

Senior Engineer

Project Role

Water and Natural Resources

Education

Ph.D. Environmental Engineering, University of Central Florida, 2016

M.E. Environmental Engineering, University of Central Florida, 2015

B.S. Environmental Engineering, University of Central Florida, 2001

Registrations

Professional Engineer, FL No. 66515

ISI - Envision Sustainability Professional No. 28524

Years of Experience

Total: 16

With Company: 3

Dr. Erin Reed is an environmental engineer that specializes in the characterization and remediation of ground- and surface- waters and has lab-scale and field experience with metals and nutrients. Her areas of expertise include water quality monitoring, stormwater management, watershed modeling, pollutant load assessment, water and wastewater treatment, and the evaluation and remediation of nutrients in the environment. Dr. Reed has served as project manager on surface, ground-, and waste- water projects in the environmental consulting and applied research arenas. Dr. Reed's Ph.D. research focused on groundwater issues related to anthropogenic nutrient contamination in the subsurface of a Florida springshed.

Relevant Project Experience

TMDL Studies for the St. Teresa and St. Johns Basins, Titusville, FL. Dr. Reed led multiple TMDL studies to address total nitrogen and total phosphorus mass loadings from urban runoff discharging to the Indian River. These studies focused on evaluating the feasibility of structural BMPs including nutrient removing separating baffle boxes with up-flow filters and subsurface up-flow baseflow treatment with storm flow bio-activated media. An evaluation of existing conditions was performed by hydrologic and hydraulic modeling and pollutant load modeling of the contributing area. Pollutant load reduction estimations of five proposed BMP structural options were calculated as input to the BMP ranking system in which the top BMP was identified. For the top-rated BMP option, proposed condition hydrologic and hydraulic modeling, a summary of implementation factors, and a cost benefit analysis was provided. A pollutant load model based on long-term continuous conditions was used to estimate existing condition nutrient loading, structural BMP performance, and proposed condition annual nutrient loading on an annual average basis.

Lake Pineloch BMP Implementation Feasibility Study, Orange County, FL. Dr. Reed evaluated structural methods of nutrient source control into a central Florida lake surrounded by urban development including nutrient separating baffle boxes with up-flow filters, stormwater treatment ponds, and stormwater harvesting. Pollutant load models were developed in multiple subbasins to quantify runoff, nutrient loading, and performance of multiple BMP alternatives within the lake's drainage area. A ranking system of proposed BMP alternatives was devised on parameters including target water quality parameters and BMP performance. Ultimately, this study delivered the necessary methods and results to determine the single-most top-rated BMP for immediate implementation to improve water quality.

Baffle Box Design for the Knox McRae Outfall, Titusville, FL. Dr. Reed performed design services of an off-line nutrient separating baffle box with up-flow media filter to remove debris and nutrients from urban runoff discharging into the Indian River. Utilizing ICPR and BMPTRAINS, hydrodynamic and pollutant loading models were created of existing conditions and proposed conditions to simulate implementation of the proposed BMP structure while maintaining the required level of service upstream. Preparation of construction plans were developed based on the results of the hydrodynamic and pollutant loading models. Vendor

coordination, a detailed report of modeling results, and permit application to the St. Johns Water Management District were also included as part of this work. Construction is nearly complete.

Macaris Outfall Coastal Resiliency Improvements, City of St. Augustine, FL. Dr. Reed performed design services for tidal backflow prevention of two outfalls (60-inch and 30-inch) that were frequently subject to nuisance flooding from the tidal backflow of the Tolomato River during spring tide or "king tide" events. The proposed improvements consisted of two alternatives for tidal backflow prevention: 1) installation of backflow valve at discharge end of outfall pipes, and 2) installation of water quality treatment structure with backflow valve at discharge end of outfall pipes. Both alternatives included installation of riprap outlet protection to promote stabilization and maintenance access to the outfalls. An expedited schedule to provide project site due diligence, alternatives analysis and 30% design plans were completed within 45 days to meet the grant submission needs of the City in February 2018. Final design engineering plans will be completed later this year. This resiliency project will protect up to 22 acres of City and residential property from nuisance flooding as early as the 2040s.

Keystone Drive BMP Assessment, Orange County, FL. As Project Manager, Dr. Reed led the conceptual design of an in-line nutrient baffle box separator and off-line up-flow media filter to remove debris and nutrients from urban runoff discharging into Lake Pineloch. Pollutant load models quantified runoff, nutrient loading, and performance of the proposed BMP consisting of a baffle box, high capacity bypass, and up-flow filter bed. Utilizing ICPR, baseline and proposed condition hydrodynamic models were created to evaluate the performance of the proposed BMP intended to serve high flows while maintaining the required level of service upstream. Deliverables included graphical and tabular formatted hydraulic performance results, vendor coordination, configuration schematics, and plan and profiles.

Sanford to Volusia Reclaimed Interconnect, County of Volusia, FL. Dr. Reed performed design, coordination, permitting, and construction administration services for more than four miles of reclaimed force main along sections of U.S. 17-92 and private residential roadways in Volusia County, Florida. The purpose of this project was to provide an interconnect to transport excess reclaimed water produced by a water reclamation facility owned by the City of Sanford to the reclaimed service area maintained by County of Volusia. As part of this work, Dr. Reed was responsible for the design of directional horizontal drilling underneath a river, highway, and several residential areas.

Fairvilla Drainage Improvements Design, Orange County, FL. Dr. Reed performed design services for a stormwater retrofit project to address flooding issues in an urban area. Preparation of construction plans to reduce flooding were developed based on the results of an ICPR hydrodynamic stormwater model. A hydrologic and hydraulic features parameterization, watershed model development, floodplain analysis and delineation, report, and permit application to the SJRWMD were prepared.

Modeling Wastewater Indicators and Effects of Contaminant Removal Strategies on Groundwater and Spring Discharge in a Karst Aquifer, Volusia County, FL. For her dissertation, Dr. Reed performed water quality sampling at multiple sites, including Spring discharge and anthropogenic nutrient endmembers for parameterization and characterization of different waters within the 300+ square mile recharge area designated with a BMAP specific to a nitrate-based TMDL. Utilizing MODFLOW and MT3DMS, Dr. Reed developed a three-dimensional groundwater and contaminant transport model calibrated from field observed measurements to estimate pollutant loading in the subsurface. Using the model, Dr. Reed forecasted the effect of several nitrate management scenarios on Spring discharge water quality to determine the water quality benefit of each scenario evaluated.

ERIC SAGER, PG

Principal

Project Role

Environmental Assessment and Remediation

Education

M.S., Geology, East Carolina University, 1996

B.S., Geology, College of William and Mary, 1994

Registrations

Professional Geologist, Florida No. 2255

Years of Experience

Total: 21

With Company: 7

Mr. Sager has more than 20 years of experience in the environmental industry. He is well organized, and he has excellent written and verbal communication skills. In addition, his background includes diversified technical and client/project management experiences. As a project manager, he has been responsible for a portfolio of project that include National Aeronautics and Space Administration (NASA) projects at Kennedy Space Center, the Florida Department of Environmental Protection (FDEP), the utility industry, chemical manufacturers, the retail industry, real estate developers, and other industries.

Relevant Project Experience

Program and Project Manager for FDEP Petroleum Restoration Program and Pre-Approval Program. Mr. Sager is Geosyntec's Program Manager for the FDEP's PRP and has also managed FDEP petroleum-program projects since 1998. As part of the PRP, Geosyntec has been assigned over 40 sites with total contract amount of approximately $2.5 MM. PRP experience has included site assessment, remedial design/implementation, construction oversight, and OM&M at over 50 sites. Results have included numerous No Further Action designations and Site Rehabilitation Completion Orders, including using risk-based closure options.

Project Manager for FDEP Hazardous Waste Program, Dry Cleaning Program, and non-programs sites FDEP program and non-program experience has included site assessment, remedial design/implementation, construction oversight, and OM&M. Results have included numerous No Further Action designations and Site Rehabilitation Completion Orders, including using risk-based closure options.

Project Manager for Resource, Conservation, and Recovery Act (RCRA) investigations at NASA. Mr. Sager has been working with NASA on RCRA-related issues since 2003, and his RCRA experience at Kennedy Space Center has included managing and conducting Solid Waste Management Unit Assessments, Confirmatory Sampling, RCRA Facility Investigations, Interim Measures, Human Health and Ecological Risk Assessments, and Long-Term Monitoring at approximately 40 sites. Sites exhibited volatile organic compounds, petroleum hydrocarbons, polychlorinated biphenyls, pesticides/herbicides, metals, and other constituents of concern in various media. Mr. Sager's construction experience includes pilot study design and implementation and remedial design, installation, construction management, and/or operation and maintenance of air sparge systems. In addition, Mr. Sager has designed, managed, and/or provided oversight for the excavation of approximately 25,000 tons of soil from over 10 sites. The constituents of concern at these sites included PCBs, PAHs, TRPH, arsenic, barium, chromium, copper, lead, and mercury.

Project Manager for a Major Utility Company. Responsibilities have included managing a Compliance Program that included over 600 substations and transmission centers for a major utility company. Site investigation and remediation responsibilities have included managing numerous projects at nuclear power plants for a major utility company. Projects have included the operations, maintenance, and monitoring (OM&M) activities of a groundwater and free product recovery system for a site affected with diesel fuel. Responsibilities have also included overseeing the groundwater monitoring of tritium, VOCs, petroleum

hydrocarbons, and arsenic and managing the installation of monitoring wells for tritium groundwater monitoring program.

Successfully negotiated with FDEP for approval to obtain numerous Site Rehabilitation Completion Orders with Controls and minimize client's environmental liabilities.

Permitting and compliance responsibilities have included managing the implementation of a Plan of Study to evaluate permit compliance with discharge of total residual chlorine to marine surface water. The project includes travel time studies, calculating beach-scale decay rates, field-scale verification of decay rates, reporting, and negotiating with FDEP.

Site assessments for projects with soil, sediments, surface water, and groundwater affected by petroleum constituents, chlorinated solvents, PCBs, metals, and pesticides/herbicides. Activities have included installing groundwater monitoring wells; completing soil borings; conducting headspace analysis using an organic vapor analyzer; collecting/interpreting soil, sediment, surface water, and groundwater data; and collecting/interpreting slug test and pump test data.

Remedial design/implementation and construction oversight of air sparge (AS), soil vapor extraction (SVE), multi-phase extraction (MPE), groundwater pump and treat systems; soil excavation; bioremediation, and in-situ chemical oxidation (ISCO) projects. Responsibilities have included preparing Remedial Action Plans, RCRA Interim Measure Work Plans, selecting remediation equipment, preparing construction drawings and procuring construction contractors, coordinating/overseeing construction activities, and performing system startups.

Operations, Maintenance, and Monitoring. Tasks have included establishing maintenance plans, coordinating field activities, collecting operational data, modifying operational parameters to maximize system efficiency, troubleshooting and fixing malfunctions, and preparing reports.

Designs pilot test plans and conducts pilot studies to determine the effectiveness of proposed remediation technologies. Responsibilities have included designing and conducting pilot studies to effectiveness of proposed remediation technologies. The technologies have included AS/SVE, biosparging, MPE, bioremediation, and ISCO.

Phase I and Phase II Environmental Site Assessments (ESAs). Responsibilities have included managing and performing Phase I and Phase II ESAs at manufacturing plants, agricultural sites, dry cleaning facilities, etc.

Underground and Aboveground Storage Tank Closures. Project experience includes successfully managing and performing site closure for underground and aboveground storage tanks containing various products.

MICHAEL SCOTT, PE, PMP, ENV SP

Senior Engineer

Project Role

Water and Natural Resources

Education

M.S. Engineering Management, University of South Florida, 2009

M.S. Civil Engineering, University of South Florida, 2006

B.S. Mechanical Engineering, University of South Florida, 2006

Registrations

Professional Engineer, FL No. 72475

Project Mgt. Professional No. 1646482

ISI – ENVISION Sustainability Professional, #28614

Years of Experience

Total: 13

With Company: 4

Mr. Michael Scott, PE, provides strong project management and civil engineering design services for multidisciplinary municipal projects, power/utility facilities, port and marine facilities, manufacturing facilities, and commercial land development projects. His primary areas of practice include complete civil site design; local, state, and federal permitting; construction support services; and project management. His experience includes complete civil site design including stormwater management system design, water resources management, surface water modeling, and environmental permitting. Additionally, he has completed dam distress investigations, crest road monitoring, and operation and maintenance inspections for surface water treatment ponds.

Relevant Project Experience

Cleveland Street Stormwater Improvements, City of Tampa, FL. The City of Tampa identified three streets near Cleveland Street in the downtown Tampa area that experience regular localized flooding during rainfall events. The scope of work for this project included providing an updated feasibility analysis of the previously released masterplan update completed by a prior consultant. Mr. Scott managed this project from proposal to completion. Hydrologic and hydraulic model (XP-SWMM: XP STORM) updates were completed based on field reconnaissance, drainage infrastructure data, and discussions between the City and Geosyntec. A feasibility report was submitted to the City of Tampa that included localized stormwater infrastructure retrofit alternatives to improve and minimize the reoccurrence of flooding in the area.

Stoneybrook Hills Parkway Drainage Improvement Study, Orange County, FL. Mr. Scott was the project manager for a drainage improvement study and conceptual design project. The main objective of the project was to evaluate the likely causes of a reported washout adjacent to the sidewalk and retaining wall next to the northern stormwater pond near the intersection of Stoneybrook Hills Parkway and State Road 441. Field reconnaissance and geotechnical investigation was completed, so that a hydrologic and hydraulic model (i.e. ICPR v3) could be completed to assess the issue. Based on the results and field observations made throughout the progression of the project, two alternatives with associated cost estimates to improve and prevent the area from the reoccurrence of another washout incident was presented to the client. Mr. Scott completed field reconnaissance and lead the team to prepare a hydrologic and hydraulic model (i.e. ICPR v3) to provide the client two alternatives with associated cost estimates to prevent the reoccurrence of the previously reported erosion/slope failure.

Wilder Road Stormwater Improvements, Hillsborough County, FL. Mr. Scott designed and modeled stormwater conveyance systems along approximately 2 miles of Wilder Road to alleviate localized flooding during rainfall events. The proposed improvements were in accordance with FDOT standard index and level of service requirements, SWFWMD water quality requirements, and Hillsborough County's maintenance requirements. Mr. Scott managed the project and worked with multiple stakeholders throughout the project

design phase including homeowners, the county design review team, and the regulatory agencies. The final design minimized impacts to wetlands, provided positive conveyance of stormwater away from the roadway, and did not require additional right-of-way to be obtained from the homeowners.

Upton Drive Drainage Improvements Design, Orange County, FL. Existing stormwater infrastructure on Upton Drive had reported complaints since 1999 from its residents; complaints included stormwater runoff from Upton Drive flows through residential properties, causing flooding on their properties. The primary objective was to assess the drainage condition and to construct improvements to the current stormwater management system to alleviate the flooding on Upton Drive. The scope of work for this project includes the preparation of design plans, technical specifications, engineer's estimates of costs, and permitting services necessary for the client to construct the improvements.

Duke Energy (formally Progress Energy Florida) Power Block; St. Petersburg, FL. Project included redesigning and modifying an existing stormwater management system to alleviate localized flooding and modify the facility's environmental resource permit to include a wet detention pond. Modified an existing ICPR model for a wet detention pond originally permitted as a dry detention pond to meet water quantity requirements with 25-year, 24-hour rainfall event, based on previous models using hydraflow hydrographs and storm sewers and another ICPR model to satisfy water quality requirements by assuming that a pond bottom is impermeable at the site. The ICPR model for water quality was used for determining weir and orifice sizes. The proposed modifications included routing stormwater to the existing stormwater management system through a proposed swale and culvert system, adding impervious area inside the plant, adding gravel to some of the existing pervious areas around the water storage tanks and fuel storage tanks, and adding secondary containment structures to the fuel storage tank area.

Beeman Park, Sue Harbor Subdivision Drainage Retrofit, Orange County, FL. Evaluated existing drainage issues and the aging sidewalk and curbing associated with the Beeman Park/Sue Harbor subdivision. Retrofits to update the drainage system (including curb inlets, culverts, manholes, etc.) and the curbing and sidewalk were designed to alleviate the localized street flooding and bring the sidewalk into compliance with current ADA requirements. The project presented several challenges, which included designing a stormwater management system that would convey water off a 1500 feet long road that only had one existing curb inlet; minimize proposed stormwater pipe sizes to allow for installation near potential utility conflicts; and providing the final design package within a two-week period.

Manatee Sports Complex Stormwater Improvements, Manatee County, FL. Mr. Scott engineered a stormwater conveyance system that would eliminate approximately 2.5 miles of road side ditches along the Manatee County Sport Complex in Manatee County, Florida. This included accounting for all contributing areas, identifying the flow paths that stormwater took to get to the existing ditch system, and then designing a culvert system to accommodate the stormwater flows. The final design included a series of drop inlets, culverts, manholes, and a double barrel discharge pipe system. The project had multiple challenges due to utility conflicts, a large volume of offsite run-on, and a requirement to phase the installation, such that the complex could remain open during construction.

John Young Parkway at Turnpike Erosion Control Study, Orange County, FL. Mr. Scott was the project manager and for an embankment erosion investigation project. A portion of John Young Parkway between Directors Row and Sand Lake Road had experienced multiple severe erosion/washout incidents. Extensive geotechnical and ecological investigations were completed to assess the possible causes for the reported erosion/washout incidents. He oversaw the field reconnaissance of the study area and reviewed the results from the completed investigations. The findings were provided to the client with recommendations to prevent the reoccurrence of the previously reported erosion/washout incidents.

CATHERINE SOISTMAN, PE
Project Engineer

Project Role

Environmental Assessment & Remediation

Education

M.S.E., Environmental Engineering, University of Michigan, 2003

B.S., Civil & Environmental Engineering, Stanford University, 1998

Registrations

Professional Engineer, Florida No. 63579

Years of Experience

Total: 18

With Company: 5

Catherine Soistman, P.E. is an Environmental Professional with 18 years of experience in the various phases of site remediation, including site investigation; conceptual design; remediation design, implementation; operation, maintenance, and monitoring; optimization; and site closure. She also has experience in underground storage (UST) closures, due diligence investigations such as Phase I and Phase II Environmental Site Assessments, emergency response, SPCC plans, asbestos abatement, and identification of unknown materials. Ms. Soistman has performed assessment and cleanup of a variety of contaminants, including petroleum products, chlorinated solvents, and pesticides. She has provided environmental consulting services to a variety of clients including municipalities, counties, the federal government, and the private sector.

Relevant Project Experience

Site Investigation and Remediation Program Management, NASA, Kennedy Space Center, FL. Ms. Soistman provides environmental consulting services at multiple sites at NASA KSC. Ms. Soistman designed and implemented a high-resolution site characterization plan to characterize chlorinated solvent impacts in groundwater at the Hypergol Module Processing Facility North Site. The contamination assessment included the collection of 396 groundwater samples from 51 locations using direct push technology (DPT). Samples were analyzed using a mobile laboratory, and Ms. Soistman modified the sampling plan based on real-time data. Ms. Soistman was responsible for the preparation and quality control of data tables and figures presenting concentrations of TCE, cis-1,2-DCE, and VC at 10-foot depth intervals. Ms. Soistman was also responsible for the development of a three-dimensional visualization model using Environmental Visualization System (EVS) software to present the plume geometry. In addition, Ms. Soistman prepared and implemented an Interim Groundwater Monitoring (IGM) Plan to monitor changes in the large groundwater plume associated with well sampling over time. Ms. Soistman documented the field activities and results and recommended modifications to the IGM Plan in an IGM Report.

At the C-Band Radar Site, Ms. Soistman recently managed a contamination assessment to evaluate the presence or absence of contaminants in the soil and groundwater (similar to a Phase Two ESA). Once impacts were discovered, Ms. Soistman managed the contamination assessment to delineate impacts of polychlorinated biphenyls (PCBs) in soil. Ms. Soistman also prepared an Interim Measures Work Plan and Report (similar to an Interim Remedial Action Plan and Report) for the remediation of PCB impacts in soil via excavation. Total estimated project costs to date of $13 million.

Building G Contamination Assessment, Remedial Alternative Study, and Remedial Action, DeLand, FL. Ms. Soistman was project manager and engineer-of-record for assessment and remediation of a complex DNAPL PCE and chlorinated solvent contaminated site. Project work has included contamination assessment via high-resolution site characterization strategies (MIP, HPT, DPT groundwater and discrete interval soil sampling and monitoring well installations), preparation of a Contamination Assessment Report (Site Assessment Report; SAR), Remedial Alternative Study, and Remedial Action Plan in accordance with Chapter 62-780 FAC.

As a component of remedial implementation plans, prepared construction documents and procured contractors. The implemented remedial system operations included large diameter auger mixing with steam and zero valent iron injection with active optimization and performance testing using real-time measurement techniques to treat the 10,000 ft^2 source zone (PCE mass sorbed within clay layers) to 64 ft, in addition to overall dissolved plume monitoring well installations and associated sampling for the approximately 15-acre plume area. Project risks included the proximity of remediation treatment locations to residential buildings (<25 ft away). To overcome the obstacle, a vibration monitoring plan was developed as a component of a risk assessment/mitigation strategy and implemented to document that vibrations associated with remedial system operations did not reach threshold levels at the property line. Post-remediation monitoring well installation and sampling has demonstrated that source zone remedial objectives have been achieved at the Site.

The groundwater impacts extend into the surrounding neighborhood. Therefore, Ms. Soistman selected properties for sampling of individual homeowners' irrigation wells and the installation and sampling of temporary point of compliance (TPOC) wells. This task included multiple forms of public interaction, including face-to-face interaction with residents, correspondence with property owners via mail, and preparation of fact sheets to provide information to interested residents and property owners. Total estimated project costs to date of $3.8 million.

Phase I and Phase II ESAs and Interim Source Removal, Titusville Rifle & Pistol Club (TRPC), Mims, FL. Ms. Soistman completed a Phase One ESA and Phase Two ESA for the FDEP through a grant funded by the USEPA. The site was owned by Brevard County and had been leased by the non-profit shooting range for 50 years. At the request of TRPC, Ms. Soistman completed a Phase One ESA in preparation for a property transaction. Ms. Soistman performed a Phase Two ESA on two recognized environmental conditions identified during the Phase One ESA, including a burn pit and a historical drum disposal area. Multiple drums containing mixtures of unknown petroleum products and water were located in the historical drum disposal area. Initial analytical results indicated that soil samples in the historical drum disposal area contained concentrations of total recoverable petroleum hydrocarbons (TRPH) exceeding FDEP soil cleanup target levels (SCTLs); however, TRPH speciation indicated that SCTLs were not exceeded. Ms. Soistman delineated arsenic impacts in soil in the burn pit and the historical drum area. Ms. Soistman then performed an interim source removal, removing and disposing of the liquid in the historical drums as hazardous waste, and excavating and disposing of arsenic-impacted soil. Ms. Soistman recommended that an Institutional Control be placed on the property to address remaining soil with arsenic concentrations above industrial SCTLs. Total estimated project costs of $78,000.

Storage Tank Closure, Bishop Moore High School, Orlando, FL. Ms. Soistman provided consulting services associated with addressing a release from an underground storage tank (UST) containing unknown petroleum product. A horizontal drilling rig installed a fiber optic cable directly through the previously unknown UST. UST closure and permitting activities were performed, and the site transitioned to natural attenuation monitoring (NAM). Though concentrations in two of the monitoring wells continued to fluctuate, Ms. Soistman recommended site closure based on the risk to potential users being low and an evaluation of dissolved plume stability and size. Based on the risk assessment which documented a lack of exposure to groundwater, that concentrations were less than irrigation well screening criteria, and that the plume was stable and less than ¼-acre in size, site closure was approved under Chapter 62-780 FAC Risk Management Option II. Total estimated project costs of $115,000.

KEVIN WARNER, PE

Principal

Project Role

Environmental Assessment & Remediation

Education

M.S., Chemical Engineering, Florida State University, 1998

M.S., Civil Engineering, University of South Florida, 1990

B.S., Civil Engineering, University of New Orleans, 1985

Registrations

Professional Engineer – Florida No. 44814

Years of Experience

Total: 33

With Company: 3

Over the past 33 years, Mr. Warner has managed multiple large FDEP environmental petroleum contracts and programs for the FDEP. He has designed and implemented well over 500 groundwater and soil remediation systems using various remedial processes throughout Florida and the United States. The remedial processes include soil vapor extraction (SVE), bioventing, in situ air sparging (AS), biosparging, dual phase extraction (DPE), multiphase extraction (MPE), steam enhanced extraction (SEE), bioremediation, in-situ chemical oxidation (ISCO), pump and treat, hydraulic containment, conventional excavation and excavation using Large Diameter Augers (LDA), cosolvent flushing, surfactant flushing, and thermal remediation. He has been responsible for optimizing the performance of these remedial systems as necessary to achieve cleanup goals.

Mr. Warner also has extensive experience in preparing remedial system designs for remediating sites with contaminated soil and groundwater, as well as procuring bids from contractors and equipment vendors and scheduling implementation of the remedial systems. His design experience includes preparing corrective and remedial action plans, construction drawings, process and instrumentation diagrams, and equipment specifications for remedial processes. These duties include sizing pumps, vacuum blowers, air compressors, boilers, pipes and treatment process equipment. He also provides guidance for implementing operations and maintenance programs that optimize the performance of remedial processes.

Relevant Project Experience

FDEP Petroleum Restoration Program Contract, Various Sites, FL. Mr. Warner was the Program and Contract Manager for FDEP Petroleum Cleanup Contract, while at another consultant firm. He managed multiple staff to conduct hundreds of contamination assessments, RAPs, and remedial construction activities. Mr. Warner was one of FDEP's leading performers in achieving site closures. At Geosyntec, Mr. Warner servers as project engineer for multiple remedial action plan designs and implementations for FDEP PRP. Project Value: From 2003 to 2014, the cumulative value of the FDEP contract that he managed was over $55 million. Total estimated program costs to date under Geosyntec of $5.5 million

FDEP Consolidated Environmental Contract, Various Sites, FL. Project engineer for multiple remedial action projects at numerous sites across Florida. Conducted contamination assessments using innovative rapid site characterization tools for FDEP Drycleaning and hazardous waste sites. Prepared remedial action plans and designs, implemented and operated remediation systems and conducted performance testing. Also provides technical reviews for the FDEP Bureau of Waste Cleanup program (overflow technical review) on complex Federal Superfund and other State hazardous waste sites. Total estimated program costs to date of $21 million.

Site Investigation and Remediation Program Management, NASA, Kennedy Space Center, FL. Project Engineer for completion of contamination assessments, remedial investigations, and remedial designs on multiple contaminated sites at the NASA Kennedy Space Center. In addition, Mr. Warner has conducted

Remedial Alternative Studies that included evaluating numerous remedial technology pilot tests that were conducted in order to develop a cost-effective remedial approach. Total estimated program costs to date of $13 million.

Former Dowling Lumber, The District Joint Venture III, West Gaines Street Tallahassee, FL. Project Engineer for a remediation project for an FDEP Petroleum Restoration Program (PRP) site in Tallahassee, FL. The project was conducted in conjunction with a redevelopment building construction project and close coordination with various regulatory and governmental agencies, including the FDEP, City of Tallahassee, construction engineers, and site contractors was necessary. Geosyntec personnel prepared an Interim Remedial Action Plan that included the installation of the groundwater dewatering system and conducted source removal of petroleum affected soil over an accelerated schedule to support a redevelopment project over the Thanksgiving holiday. The plan was quickly approved by the regulatory agency, FDEP, and construction was conducted over a one-month period. Geosyntec closely tracked the schedule and budget for the project and the final cost came in below the initial budget and construction was completed approximately 2 weeks ahead of schedule – Construction was substantially complete on December 16, 2016 versus the scheduled completion date of December 30, 2016. Geosyntec conducted groundwater performance monitoring for four quarters and obtained an LSSI No Further Action regulatory closure from the FDEP in 2018. Total estimated project costs of $600,000.

Hopkins Power Plant, Tallahassee, FL. Project Engineer for responding to a release of diesel fuel from a 7 million-gallon tank at the Hopkins Power plant. Work included providing emergency response assessment and remediation which was prepared and approved in a one week-timeframe. Coordinated with various regulatory and governmental agencies, including subcontractors, city officials, and the FDEP in implementing expedited rapid assessment, Interim Remedial Action Plan, construction, implementation, and operation and maintenance services. The majority of the diesel fuel product was recovered in 3 months. A Contamination Assessment (Site Assessment Report; SAR) was conducted and approved by the FDEP which resulted in a natural attention groundwater monitoring program for several years which eventually was conditionally closed by the FDEP. Total estimated project costs of $400,000.

JARED ROGERS, PSM

Director of Planning

Project Role

Survey, UES, Landscape Architecture, CEI

Education

B.S., Geomatics, University of Florida

Registrations

Professional Surveyor and Mapper, Florida, No. 6687

Years of Experience

Total: 15

With Company: 15

Mr. Rogers was president and owner of Dynamic Land Solutions for five years before merging with **eda** engineers-surveyors-planners, inc. in 2014. With 15 years of experience, he has performed many types of surveying activities throughout Florida, including topographic, right-of-way, boundary, underground utility locations using Ground Penetrating Radar, specific purpose surveying, and construction stakeout.

Mr. Rogers is the Director of Surveying with **eda** utilizing his years of experience to provide professional surveying services as well as coordination of **eda** field crews, one-on-one communication with clients, and project scheduling. Rogers also oversees **eda**'s long-standing continuing services contract with Alachua County for surveying and mapping, performing surveys for the County on a routine basis.

Relevant Project Experience

- Tower Road Topographic Survey – Alachua County
- CR 241 Topographic Survey – Alachua County
- NW 91st Street Topographic Survey – Alachua County
- Canterbury Equestrian Center – Alachua County
- Conservation Easements (Multiple) – Alachua County
- Little Hatchet Creek – Alachua County
- Little Santa Fe to Lake Alto Canal – Alachua County
- Earleton Gage and Little Santa Fe Lake Benchmarks - SRWMD
- Gainesville Area Rowing (GAR) Topographic & Wetland Survey
- Gainesville Regional Airport – Multiple Projects
- University of Florida – Multiple Projects
- City of Alachua – Multiple Projects
- Celebration Pointe Transit Oriented Development

CLAY SWEGER, AICP, LEED AP

Director of Planning

Project Role

Survey, UES, Landscape Architecture, CEI

Education

M.A., Urban and Regional Planning, University of Florida

B.A., Political Science, University of Florida

Registrations

American Institute of Certified Planners (AICP), No. 21983

LEED Accredited Professional

American Planning Association

Years of Experience

Total: 17

With Company: 13

In 2005, Mr. Sweger joined **eda** as the Director of Planning to provide full-service urban planning functions to the firm and its public and private sector clients. His educational training, professional certification, and prior experience as a municipal and county planner, give him a broad range of abilities in the field of urban planning.

Mr. Sweger has been involved in a wide variety of urban planning projects, including master planning, land use change and rezoning applications, master planning, planned development applications, code and comprehensive plan text amendments in the North-Central Florida area. Mr. Sweger has extensive public sector experience, including several projects with the University of Florida, Gainesville Regional Utilities, City of Hawthorne, City of Gainesville, City of Alachua, City of Waldo and City of Newberry as a Planning Consultant. He also holds a FDOT qualification to provide urban planning services.

Along with these functions, Mr. Sweger works closely with the firm's engineers in the design of residential and non-residential site plans with particular attention focused on urban design principles and compliance with the local code criteria.

Relevant Project Experience

- Gainesville Regional Utilities (GRU) - Eastside Operations Center
- Gainesville-Alachua County Regional Airport - Master Plan Update
- San Felasco Tech City Campus - Alachua, FL
- Alachua County Housing Authority - Alachua, FL
- EA-Hawthorne Employment Center Planned Development
- Oaks Preserve Environmental Cluster Subdivision
- Gainesville Community Redevelopment Agency - Power District
- Gainesville Community Redevelopment Agency - Seminary Lane
- Celebration Pointe Transit Oriented Development (TOD)

SERGIO REYES, PE

Director of Planning

Project Role

Survey, UES, Landscape Architecture, CEI

Education

B.S., Civil Engineering, St. Thomas University, Bogotá, Colombia

Post-graduate Courses, University of Florida

Registrations

Professional Engineer, Florida,

No. 47311

Years of Experience

Total: 37

With Company: 26

Mr. Reyes has been a crucial member of eda's team of engineers for the past 26 years. Having 37 years of combined experience, he has worked with public and private sector clients to provide solutions to their varied development needs, from small office buildings and restaurants to large subdivisions and shopping centers.

Mr. Reyes provides design of stormwater drainage facilities and water distribution for several agencies, including Gainesville Regional Airport and Alachua County Public Works. He is the Project Manager for annual contracts with the University of Florida, Gainesville Regional Utilities, Alachua County, City of Alachua, City of Gainesville, City of Newberry, and the Cedar Key Water and Sewer District.

Relevant Project Experience

- Alachua County Library District - Tower Road Branch Expansion
- Alachua County Supervisor of Elections Offices, Gainesville
- City of Gainesville Public Works Addition
- Gainesville Regional Utilities (GRU) - Eastside Operations Center
- Gainesville-Alachua County Regional Airport - Master Plan Update
- Celebration Pointe Transit Oriented Development (TOD)
- Booker T. Washington Neighborhood Infrastructure Improvements
- GCRA – SW 5th Avenue Streetscape Project
- NW 154th Roadway Improvements – City of Alachua
- US 441 Sewer Main Extension – City of Alachua
- Park Avenue Traditional Neighborhood Development
- Lake City Surgical Center at Cypress Lake Business Park
- Clay Electric Cooperative Lake City District Office, Columbia County

MICHELLE RAU, MS

Chief Executive Officer/Sr. Project Manager

Project Role

Ecological and Field Sampling Support

Education

M.S.., Soil and Water Science

B.S., Natural Resource Conservation

Registrations

N/A

Years of Experience

Total: 27

With Company: 16

Ms. Rau is responsible for supervising staff, developing and tracking project budgets, ensuring projects are completed on time and within budget, executing project tasks, preparing project deliverables, and communicating with clients and agencies on a regular basis.

Relevant Project Experience

Project Manager/Lead Technical Writer. USACE-Charleston. *Environmental Assessment for the Charleston ODMDS Modification, SC.* Coordinated with USACE and EPA to prepare an EA that addresses alternatives, affected environment, and environmental effects of expanding the existing ODMDS off the coast of Charleston. Prepared materials and facilitated meetings with state and federal resource agencies to discuss project alternatives and potential environmental impacts. EA included preparation of a Biological Assessment, Essential Fish Habitat Assessment, and a Coastal Zone Consistency Determination.

Project Manager/Lead Technical Writer. USACE-Jacksonville. *Environmental Impact Statement for the Jacksonville ODMDS Designation, FL.* Coordinated with USACE and EPA to prepare an EIS for an ODMDS off the coast of Jacksonville. Prepared materials and facilitated several meetings with state and federal resource agencies, scoping meeting, and public meetings. Planned, organized, and conducted two site designation studies to characterize candidate sites. EIS included preparation of a Biological Assessment, Essential Fish Habitat Assessment, Air Quality Analysis, and a Coastal Zone Consistency Determination.

Project Manager/Lead Technical Writer. USACE-Jacksonville. *Supplemental Environmental Impact Statement (SEIS), Martin County Hurricane and Storm Damage Reduction Project, New Borrow Area, Florida.* Responsible for preparation, revision, and coordination of an EIS and supporting technical reports including a Cumulative Effects Assessment, Coastal Zone Management Consistency report, Section 404(b) report, Essential Fish Habitat Assessment, and Endangered Species Act Biological Assessment, and a public meeting presentation.

Project Manager/Field Team Leader. Private Client. *Soil and Sediment Sampling for the Sawgrass Lake Restoration Project: Shooting Range Impacts, St. Petersburg, Florida.* Conducted soil and sediment coring and surface water sampling to delineate the area, depth, and volume of lead-impacted soils and sediments. Results were used to evaluate and develop reclamation and restoration alternatives.

Project Manager/Lead Technical Writer. USACE-Jacksonville. *Endangered Species Management Plan, Swamp Bloodwood Survey, and the Integrated Natural Resources Management Plan FY15-FY20, Fort Buchanan, Puerto Rico.* Updated Fort Buchanan's Endangered Species Management Plan, surveyed a new area for the swamp bloodwood *(Pterocarpus officinalis)*, conducted a wetland delineation, and updated the Integrated Natural Resources Management Plan (INRMP). Conducted site visits and assessed natural resources at Fort Buchanan.

JASON SEITZ, MS

Project Manager/Biologist

Project Role

Ecological and Field Sampling Support

Education

M.S., Soil and Water Science, University of Florida

B.S., Biology/Aquatic Ecology, University of New York

A.A.S., Fisheries & Wildlife Technology, University of New York

Registrations

N/A

Years of Experience

Total: 23

With Company: 10

As a Project Manager and Biologist, Jason is involved with the sampling, statistical analysis, and reporting of biological, chemical, and physical data from a variety of habitats and project sites. He manages projects involving NEPA and ESA documentation, biomonitoring and sampling (including listed species surveys), wetland delineation, wetland permitting, and sediment and water sampling and analysis.

Relevant Project Experience

Wood Environmental & Infrastructure Solutions, Inc. Natural Resources Investigation and Sediment Sampling and Testing for Millers Creek Special District Eco-Restoration Dredging Project, Jacksonville, Florida. Performed a submerged aquatic plant and natural resources survey in support of obtaining state permitting for the dredging of Millers Creek.

Wood Environmental & Infrastructure Solutions, Inc. Submerged Aquatic Vegetation and Natural Resources Survey of Dunedin Municipal Marina, Pinellas County, Florida. Performed a submerged aquatic plant and natural resources survey towards obtaining state permitting for the maintenance dredging.

Geosyntec Consultants. Wetland Delineation & Ecological Inventory at the Former North Ash Pond, Crystal River Coal and Nuclear Power Plant. Performed a wetland delineation and ecological inventory.

Geosyntec Consultants. Wetland Delineation, Ecological Inventory, and Initial Agency Coordination for the PCB Soil Excavation and Restoration Project, Gainesville, Florida. Performed a wetland delineation, ecological inventory, and initial agency coordination for the excavation and restoration of a PCB-contaminated wetland area.

IAP Worldwide Services, Inc. Permitting and Environmental Assessment for Maintenance Dredging of MacDill AFB, Tampa, Florida. This project involved a wetland delineation, a submerged aquatic plant survey, sediment and elutriate sampling and chemical analysis, a BA, an Environmental Assessment, obtaining a LOP from USACE, an ERP from SWFWMD, and an SWP from Tampa Port Authority.

Geosyntec Consultants. Suburban Heights Beville Creek Restoration Wetland Delineation & Ecological Inventory. This project involved a wetland delineation and imperiled species survey.

Midnight Florida Land, LLC. Crescent Lake Orchard Pond Project, Crescent City, Florida. This project involved delineating a small wetland, obtaining an ERP from St. Johns River Water Management District, obtaining a Nationwide permit from USACE Jacksonville, and coordinating with a wetland mitigation bank to secure credits.

ERIC H. LIVINGSTON

Managing Partner

Project Role

NPDES, Stormwater BMPs & Code Review

Education

M.S., Science, University of Alabama

B.S., Biological Sciences, Florida State University

Registrations

N/A

Years of Experience

Total: 27

With Company: 6

For over 35 years, Mr. Livingston was responsible for the development, administration, and evolution of the State of Florida's stormwater treatment program. He has extensive knowledge of the role of the Federal Clean Water Act, state law, and state regulations with respect to stormwater discharges and has assisted numerous local governments with improving the effectiveness of their local stormwater programs. Mr. Livingston also administered the NPDES Stormwater Program at FDEP and rewrote the Phase I MS4 permits to address new issues associated with the adoption of TMDLs and BMAPs. Finally, Mr. Livingston was responsible for setting up and administering Florida's impaired waters, TMDL, and BMAP program.

Mr. Livingston has extensive knowledge and experience with the NPDES MS4 stormwater requirements. He assisted EPA in the development of both the Phase I and Phase II MS4 stormwater regulations. He assisted EPA in issuing the first cycle of Phase I MS4 permits and has been involved in DEP's assumption of the NPDES stormwater program since it began. His background will be extremely valuable on Task 8 - Review the City's NPDES MS-4 Permit and program elements.

During his career at FDEP, Mr. Livingston administered the Section 319 NPS Grant Program and the TMDL Grant Program. He has awarded and administered over $250 million in Federal and State grant funds for projects to reduce stormwater pollution. His knowledge and experience will be a great asset on Task 6 - Identify funding strategies with specific opportunities for outside grant funding.

Relevant Project Experience

Pinellas County Stormwater Management Manual development and training workshops. Review and revision of Land Development Codes to promote low impact design BMPs. Manual adopted March 2017. Dates of Service: May 2014 through May 2017.

Alachua County Stormwater Treatment Manual development and training (Manual awaiting adoption). Review and revision of Land Development Codes to promote low impact design BMPs. Dates of Service: May 2015 through October 2017.

Escambia County Low Impact Design BMP Manual development and training workshops. Review and revision of Land Development Codes to promote low impact design BMPs. Dates of Service: June 2016 through September 2016.

Technical assistance to Bay County on reducing the water quality impacts from the proposed 200,00-acre St. Joe Development Co. Sector Plan. Review and revision of Land Development Codes to promote low impact design BMPs. Dates of Service: April 2014 through September 2015.

Seminole County Wekiva Watershed technical assistance to reduce stormwater and septic loadings to comply with TMDLs and BMAP. Develop and implement methodology to prioritize septic tank upgrades based on nitrate loading potential.

STEVEN J. PEENE, PHD

Principal Scientist

Project Role

TMDL/BMAP, Water Quality Modeling

Education

PhD, Coastal and Oceanographic Engineering, University of Florida

MS, Coastal and Oceanographic Engineering, University of Florida

BS, Civil Engineering, Lehigh University

Registrations

N/A

Years of Experience

Total: 29

With Company: 23

Dr. Peene has extensive experience in water resources analysis including watershed planning; evaluation of non-point and point source pollution in surface water systems; hydrologic, hydrodynamic, sediment transport and water quality modeling for lakes, rivers, estuaries, coastal embayments, and offshore; evaluation of impacts to ecological resources in surface waters; design and implementation of monitoring in surface water systems; and hydrologic and water quality restoration. He has been involved in national and local evaluation of impacts to surface waters, including development of total maximum daily loads (TMDLs), minimum flows and levels (MFLs), environmental impact assessments (EIAs), ecosystem restoration projects, and NPDES support throughout the US and overseas with extensive experience within the southeast US.

Relevant Project Experience

Flow Restoration Feasibility Analysis for Lake Jesup, Seminole County, FL. Principal scientist who performed EFDC hydrodynamic modeling to evaluate the feasibility of developing additional connections between the St. Johns River and Lake Jesup to improve water quality in Lake Jesup. Tasks included minor grid modifications, testing of the base EFDC model, simulation of three alternatives, and the evaluation of the design alternatives to improve overall circulation and water quality in the lake.

Lake Talquin TMDL Review, Leon County, FL. Project manager for the review of models utilized in the development of the TMDL for Lake Talquin. Models include the LSPC model for watershed loadings, the EFDC model for receiving water hydrodynamics, and WASP for receiving water quality.

Water Quality Model Development for the Indian River Lagoon, Brevard and Indian River Counties, FL. Principal-in-charge for the development of a 3-D EFDC water quality model for the Indian River Lagoon and Mosquito Lagoon system. Utilizing a 3-D hydrodynamic model grid developed by SJRWMD, tasks included development of model input parameters including watershed loads, atmospheric deposition, and offshore boundary forcing conditions; initial testing of the water quality model; and calibration of the water quality model against extensive data collected by the SJRWMD.

TMDL/BMAP/NPDES Support for the Florida Department of Transportation (FDOT), FL. Principal-in-charge of a continuing services contract to provide statewide support on TMDL, NPDES and water quality issues. Specific tasks include review of draft TMDLs and BMAPs and preparation of written comments, review of proposed impairment listings, maintenance of a comprehensive statewide TMDL database, overview and participation in BMAPs statewide, and coordinating with Central Office, District Offices, and FDEP on NPDES issues.

JANET K. HEARN, PE

Senior Water Resources Engineer

Project Role

TMDL/BMAP, Water Quality Modeling

Education

MS, Coastal and Oceanographic Engineering, University of Florida,

BS, Civil Engineering, Oregon State University

Registrations

Professional Engineer, Florida, No. 47110, 1993

Florida Supreme Court Certified County Court Mediator

Years of Experience

Total: 34

With Company: 18

Ms. Hearn is a senior water resources/coastal engineer with extensive experience designing and executing hydrologic, water quality, and sediment sampling studies in both freshwater and ocean environments. Study results have been used for instream habitat assessments, flood evaluations, impact assessments, and determination of compliance with National Pollutant Discharge Elimination System (NPDES) permits. She has extensive knowledgeable regarding the total maximum daily load (TMDL) and basin management action plan (BMAP) programs in Florida, and serves as a technical advisor, liaison, and advocate on TMDL and BMAP issues for many government clients.

Relevant Project Experience

TMDL/BMAP/NPDES Support for the Florida Department of Transportation (FDOT), FL. Project manager and technical lead for comprehensive water quality, TMDL, BMAP and NPDES support services to FDOT under a $2.5 million, 5-year contract. Specific tasks include review of draft TMDLs and BMAPs and preparation of written comments, review of proposed impairment listings, maintenance of a comprehensive statewide TMDL database, overview and participation in BMAPs statewide, and coordinating with Central Office, District Offices, and FDEP on NPDES issues.

TMDL Support for Brevard County, FL. Project manager in the preparation of a TMDL/BMAP audit and risk assessment and GIS database. Identified and mapped status of water body impairments and TMDL and BMAP development for all watersheds in the county. Used audit results to identify TMDL/BMAP activities with potential for future impacts on capital expenditures and recommended specific action items to minimize and manage risk.

TMDL and Water Quality Support for Pasco County, FL. Project manager who provides comprehensive water quality, TMDL, and BMAP support through a continuing services contract. Tasks include review and comments on the Phase I MS4 permit, TMDL reviews on numerous waterbodies, and development of a prioritization plan under the Phase I permit requirements.

Tidal Caloosahatchee River Nitrogen Reduction Plan, Lee County, FL. Project manager on the analysis of water quality data, pollutant load assessments and project alternatives to assist Lee County in achieving reductions in total nitrogen as required by the Caloosahatchee Estuary BMAP.

JAMES OLSON, PG

Director of Geology and Geophysics

Project Role

Geological and Geophysical Assessment and Testing

Education

B.S., Geology, University of Florida

Registrations

Professional Geologist, Florida No. 2795; Georgia No. 2182

Years of Experience

Total: 12

With Company: 12

Mr. Olson gained multiple years of construction experience after being honorably discharged from the Marine Corps. During that time, he worked his way up from a mason tender, to a foreman, eventually became the sole estimator for a multi-million-dollar construction company. He uses that experience in the field of Geology to give unique insight to a multitude of projects. As a geophysicist, Mr. Olson has conducted thousands of projects with a specialization in Electrical Resistivity and Ground Penetrating Radar. A thorough understanding of geologic processes and interpretation are included in Mr. Olson responsibilities.

With 12 years of geologic and geophysical testing experience, Mr. Olson utilizes his extensive knowledge of Florida geology to determine the best testing means and interpretation of data for a comprehensive analysis and report.

Relevant Project Experience

Presidential Palace, Santo Domingo, Dominican Republic. The purpose of this project was to located unknown buried utilities and tunnels surrounding the palace, via ground penetrating radar.

Crawlerway Study, Cape Canaveral, Florida. The purpose of this project was to locate possible voids or areas of disturbed sediment at the ramp adjacent to the launch pad, via ground penetrating radar.

Various Limestone Mines, Florida. The purpose of these projects is to determine the subsurface contact depth of the underlying limestone and to determine the location of any voids or unstable conditions for the mining operation, via electrical resistivity.

Insurance Claims, Florida. A significant portion of daily projects include insurance claims of settlement related distress to structures. Typical testing includes hand auger borings, hand cone penetration tests, soil analysis, standard penetration test borings and geophysical testing. Analysis of the combined tests assist in determination of the cause of distress.

ANTOINETTE WEBSTER, ME, PE

Director of Engineering

Project Role

Geotechnical Assessment and Testing

Education

M.Eng., Civil Engineering, University of Florida

B.S., Civil Engineering, University of Florida

Registrations

Professional Engineer, Florida No. 77743

Years of Experience

Total: 9

With Company: 9

Antoinette Webster, PE, has 9 years of experience in the field of geotechnical engineering for commercial buildings, single and multi-family residential buildings, government facilities, airports, and theme parks.

Ms. Webster has been involved with over 1000 projects, including design of subsurface remediation programs and site investigations consisting of damage assessments, ground penetrating radar (GPR) surveys, electrical resistivity (ER) surveys, test pit excavations, hand auger borings, hand cone penetration tests, electronic cone penetration tests, and standard penetration test (SPT) borings.

She also has experience in a variety of geotechnical laboratory and field-testing procedures and has completed numerous Construction Training Qualification Program (CTQP) technician courses.

Relevant Project Experience

Walt Disney Parks & Resorts, Animal Kingdom. Identified subsurface zones that were adversely affected by a damaged gravity drainage pipe by utilizing GPR and hand cone penetration tests to locate subsurface voids surrounding the damaged pipe. A remediation plan was developed and monitored consisting of polymer injection to stabilize the subsurface.

McMicken Dam Rehabilitation Project, Maricopa County, Arizona. Conducted various geotechnical laboratory tests on soil samples from the McMicken Dam in order to correlate standard soil properties to erosion susceptibility. Testing included Carbonate Content (ASTM D4373), Particle Size Distribution Using Sieve Analysis (ASTM D6913), Particle Size Analysis Using Hydrometer Tests (ASTM D422), Atterberg Limits (ASTM D4318), Moisture Content (ASTM D2216), Unconfined Compression Tests (ASTM D2166), and Collapse Potential of Soils (ASTM D5333).

Jackson County Intersection of Hummingbird Road and Basswood Road, Bascom, Florida. Determined the presence of subsurface cavities and zones of disruption contributing to subsidence of a highway intersection. A remediation program was developed, implemented and certified to stabilize the intersection using polymer injection.

White Oak Dairy, Mayo, Florida. Designed, monitored and certified a subsurface remediation program consisting of compaction grouting in order to mitigate loose soil zones within a proposed storage pond site.

MAXWELL R. LEE, PhD, PE

President/Principal Engineer

Project Role

Air Quality Testing & Monitoring

Education

Ph.D., Environmental Engineering, University of Florida

B.S., Environmental Engineering, University of Florida

Registrations

Professional Engineer, Florida and South Carolina

Years of Experience

Total: 35

With Company: 20

Dr. Lee is president of one of Florida's leading and most well-respected environmental consulting firms, which has assisted industry in Florida with regulatory compliance issues for over 35 years. Koogler and Associates, Inc. was established in 1974 and provides professional consulting and engineering services primarily for industrial clients in matters related to air quality management, air pollution control, environmental permitting and environmental compliance. The firm provides services throughout the United States, with a principal focus in Florida. The firm serves clients from an array of industrial sectors including Cement, Power Generation, Oil and Gas, Phosphate Fertilizer Manufacturing, Mining, Pulp and Paper, Boat Manufacturing, Citrus Processing and Wood Products.

As a professional engineer, Dr. Lee represents a wide variety of industry sectors within Florida and has developed good working relationships with Department of Environmental Protection staff. With over 12 years of experience with Florida's environmental laws and rules, Dr. Lee has participated in rulemaking, as well as following and influencing legislation to benefit the regulated community. Dr. Lee, along with Koogler and Associates, Inc. staff, has developed innovative and successful approaches for minimizing compliance costs and other regulatory burdens for industry including:

- Developing alternative energy sources located in Florida to support energy diversity and increase local economic activities;
- Liaison to industry to improve relationship with the regulating community;
- Comprehensive Environmental Compliance Planning for industrial facilities;
- Environmental financial assessments specializing in air emission control technology and related regulatory compliance;
- Air quality attainment status determinations by air quality modeling and dispersion studies including long-range pollutant transport modeling and accidental release modeling;
- Pollutant emissions measurements and ambient air quality monitoring;
- Storm water and industrial wastewater permitting and plan development;
- RCRA Solid Waste Permitting;
- NEPA Environmental Impact Assessments; and
- Environmental Resource Permitting for storm water and wetland impacts.

LUCY B. WAYNE, PHD, RPA

President/CEO

Project Role

Archaeological & Cultural Resources

Education

Ph.D. Preservation Planning, College of Architecture, University of Florida. *Phi Kappa Phi*.

M.A. Anthropology, University of Florida, Gainesville, FL

Graduate Study, Library Science, State University of New York at Albany

B.A. Art History, Mary Washington College, Fredericksburg, VA

Registrations

Register of Professional Archaeologists (RPA)

Years of Experience

Total: 37

With Company: 30

Dr. Wayne has extensive experience in cultural resource management studies throughout the southeastern U.S. She has served as co-investigator and principal author for projects in Virginia, North Carolina, South Carolina, Georgia, Florida, Maryland, Alabama, the U. S. Virgin Islands, Antigua, WI and Ascension Island. Dr. Wayne has training in archival research, architectural history and preservation, and preservation law. She has conducted extensive historic research for cultural resource projects and regularly documents and evaluates historic properties. Such documentation has included historic structure studies for the Florida Park Service at Fort George Island, Koreshan State Historic Site, Ravine Gardens State Park, Ormond House Historic Site and Tomoka Basin GeoPark. She also documented an historic African American cemetery in Glynn County, Georgia for a power plant expansion project and has evaluated historic structures for highway and development projects in Alabama, Georgia, South Carolina, North Carolina, Florida, Antigua in the West Indies, and Ascension Island in the South Atlantic. Dr. Wayne has provided litigation support services, including historic research and professional opinions for projects in South Florida.

In addition to her architectural history and historic research qualifications, Dr. Wayne is a registered professional archaeologist with experience on both prehistoric and historic sites throughout the southeastern United States and several Caribbean islands. Archaeological projects have ranged from surveys to Phase III data recovery projects for both government and private clients, including several Environmental Assessments and Environmental Impact Statements.

As a result of her experience, Dr. Wayne is familiar with the requirements of both federal and state agencies concerning cultural resource documentation. She is also well-versed in the process of historical research in local and regional archives. Dr. Wayne has a special research interest in archaeological sites which contain historic structure remains. As an outgrowth of her experience and training, she has also been involved in heritage tourism and for three years co-managed the Historic Haile Homestead, an 1855-56 restored plantation home.

SECTION 4 | Ability of Consultant's Professional Personnel

Geosyntec's expert staff brings the County an exceptional level of prior project experience. This experience will be leveraged to the County's benefit on your projects. During the course of successfully completing projects, we have learned what works and what doesn't technically, what regulatory challenges will trip up a project if not addressed early on, and what implementation constraints can derail even the most cost-effective projects. Being able to see ahead to avoid pitfalls to project implementation will provide the County an advantage.

Included below are examples of successful projects Geosyntec has implemented in recent years. These cover a wide array of project types relevant to hose services requested under this RFP. Project contact information is provided for the County's reference.

Stormwater Engineering Continuing Contract, Orange County, FL

Client Contact:
Mike Drozeck, PE, CFM, - Manager
Stormwater Management Division – Public Works Department
4200 South John Young Parkway
Orlando, Florida 32839
(407) 836-7945
mike.drozeck@ocfl.net

Geosyntec has engaged in over 100 projects under these contracts, examples provided below:

Big Sand Lake Watershed Management Plan: The focus of the study is the primary drainage systems (ponds, lakes, main culverts, etc.) in the 5400-acre watershed. Also included is an evaluation of the flood control performance of the drainwells on Big Sand Lake (existing and proposed) based on data review and modeling. The study utilized both single event design storms and rainfall representing the extreme precipitation events of 2003, which caused major flooding in the watershed, to evaluate peak stages. Project Fees: $93,000.

Lake Pineloch BMP Implementation Feasibility Study and Keystone Drive Baffle Box Design: Purpose was to assess structural methods of nutrient source control for urban runoff discharging to Lake Pineloch. Pollutant load models of multiple subbasins were developed to quantify runoff, nutrient loading, and performance of multiple BMP alternatives. Cost benefit analyses were used to evaluate the top two BMP alternatives. Subsequent to more detailed hydrodynamic and pollutant load model development, preparation of construction plans, bid documents, O&M Manual, and water quality monitoring program of the top-rated BMP (baffle box, high capacity bypass, and upflow filter bed) on Keystone Drive is nearly complete. Project Fees: $134,150

Hansel Stormwater Pond Improvements: Hansel Stormwater Pond Improvements: Hansel stormwater pond is small relative to its large urban impervious watershed area, leading to high flow rates, trash and sedimentation, which cause clogging of the pond control structure and substantial erosion to the pond side banks, making maintenance of the pond a challenge for the County. Geosyntec designed a trash collection system that incorporated steel sheet pile bulkheads, and pond skimmers

to provide a solution that would eliminate erosion and direct trash and sediment to an area of the pond that can be easily and safely maintained by the County's long boom excavator. Geosyntec. Project Fees: $136,120.

Beeman Park Subdivision Drainage Retrofit: Geosyntec conducted a property-by-property assessment to determine the limits of possible improvements adjacent to individual residential properties to limit construction-related impacts. Drainage improvements included installation of storm sewers to drain areas off-site where feasible, and underground exfiltration where off-site discharge was not practical, neighborhood-wide sidewalk and curb repair, and regrading existing roadways to promote positive surface drainage. After the design phase, Geosyntec conducted near-full-time construction oversight of the County's contractor, including shop drawing review, responding to RFIs and daily or weekly updates as necessary to communicate construction progress. Project Fees: $91,000.

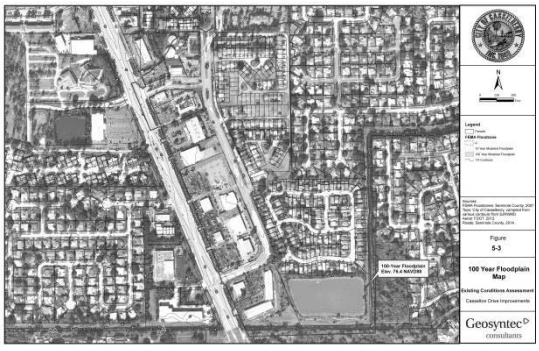
Upper Ocklawaha River Basin TMDL: Purpose was to evaluate nutrient load reduction potential of various BMP options. Existing BMP recommendations from previous studies were explored further and potential additional structural BMPs were identified to address stormwater runoff water quality from surrounding areas. Pollutant load models of multiple subbasins were developed to quantify runoff, nutrient loading, and performance of multiple BMP alternatives. Feasibility and cost benefit analyses were used to evaluate the alternatives. Project Fees: $62,500.

Continuing Stormwater and Lakes Management Projects, City of Casselberry, FL

Client Contact:
Kelly Brock, PhD, PE, CFM, LEED AP, City Engineer
City of Casselberry
95 Triplet Lake Drive Casselberry, FL 32707
407-262-7725
kbrock@casselberry.org

Geosyntec has provided the City stomater and water servics on numerous projects during the contract, including:

Park Drive Drainage & Wetland Improvement: Geosyntec conducted a feasibility study of possible stormwater quality and wetland enhancement improvements to a wetland site on Park Drive. The isolated wetland is in poor hydrologic condition with invasive species and other non-aesthetic features. Geosyntec identified alternatives for integrating stormwater treatment into the area as well as to enhance the existing wetland condition. Improvements included low impact park amenities as a benefit to the neighborhood. The study also included a base flood elevation (BFE) analysis of the existing area which is located within a FEMA Zone A floodplain. Design Fees: $33,960.



Stormwater Code Review for NPDES Compliance: Geosyntec conducted a thorough review of the City of Casselberry code and ordinances pertaining to stormwater and related water, environmental, and ecological resources, in order for the City to comply with their NPDES permit. Geosyntec conducted an inter-departmental review of the City's current local codes and land development regulations to identify potential changes to existing codes and regulations that would further reduce stormwater impacts of new development and areas of significant redevelopment. The proposed changes recommended by Geosyntec included a focus on the city code to promote reductions in impervous surfaces,

incorporation of low impact development principles, reduction in flow and volume of stormwater, increase in natural hydrology, and adherence to the principles of the Florida Yards and Neighborhoods program in new landscaping. Desgin Fees: $103,000.

Casselton Drive Improvements: Geosyntec is conducting a stormwater and transportation improvements project to Casselton Drive, a 0.5 mile long collector road. Geosyntec is designing a "road diet" solution that will narrow Casselton Drive, while increasing the open space and promote pedestrian accessibility, sustainability and liveability for the adjacent neighborhoods. Stormwater BMPs are proposed to improve flooding LOS of the road, as well as increase water quality benefit. A CCTV of the existing storm sewers serving Casselton Drive was performed, and found that severe pipe joint separations are causing groundwater infiltration and are a likely source of surface sinkholes forming in the area. Emergency chemical grouting of the existng storm sewer joints has been proposed by Geosyntec. A BFE analysis of the existing road and drainage area is being performed as the area is within a FEMA Zone A floodplain. Design Fees: $233,000.

Lake Water Quality Monitoring: Geosyntec is performing quarterly ambient water quality analysis of 12 lakes within the City of Casselberry, including Lakes Concord, Grassy, Griffin , Kathyryn, Lost, Queens Mirror, Secret, North Triplet, Middle Triplet, South Triplet, Trout and Yvonne. Each of the lakes are sampled for anlaysis of the following water quality parameters: alkalinity, BOD5, Color, Turbidity, ChlA, Fecal Coliform, Ammonia, Nitrate+Nitrite, TKN, Organic Nitrogen, Orthophosphorus, Total Phosphorus, Cadmium, Chromium, Copper, Lead and Zinc. The purpose of the quarterly analysis is to establish long-term trends of water quality within the Casselberry lake systems. Project Fees: $18,000.

Wekiva Basin Stormwater and TMDL Engineering Services, Seminole County, FL

Client Contact:
Kim Ornberg, PE
Seminole County Public Works
200 W. County Home Road
Sanford, FL 32773
(407) 665-2417
kornberg@seminolecountyfl.gov

Geosyntec completed numerous stormwater and TMDL related elements under this master contract, including:

Watershed Review and Preliminary Model Modernization of the Yankee Lake, Big Wekiva, and Little Wekiva Watersheds: The Yankee Lake, Big Wekiva, and Little Wekiva watersheds lie adjacent to the Wekiva BMAP area. Purpose of project was to bring existing hydraulic and hydrologic model and related GIS data into a common current data format to provide a baseline for future project efforts to meet the goals of the Wekiva Total Maximum Daily Load (TMDL) Basin Management Action Plan (BMAP). Model data needs and updates were prioritized based on a detailed inventory of watershed model data. Project Fees: $43,900.

Big Wekiva Watershed Desktop Refinement and Assessment: Purpose of this project was to refine data associated with the Big Wekiva Watershed area on a desktop basis. The intent of this refinement was to identify flooding problem areas and water quality improvement locations for management planning purposes. Project Fees: $3,300

BMAP Support Data Development: Purpose of this project was to compile relevant available data and studies for purposes of identifying what is useful and what is required to support BMAP plan development. Project team subconsultant ATM utilized available reports, tools, and models to identify potential TN and TP loading

sources, reviewed applicability of available models and tools, identified data gaps, and recommended additional data needs. Project Fees: $4,000.

Septic Tank Assessment: Geosyntec developed a spatial analysis tool to aid in nutrient reduction project identification to meet the goals of the Wekiva TMDL BMAP. In 2017, the FDEP estimated that approximately 29% of the total nitrate load to groundwater in the Wekiva Watershed is a result of onsite sewage treatment and disposal system (OSTDS, also known as septic tank) discharges. Utilizing ArcGIS geoprocessing tools, a refined dataset was developed to contain the most probable OSTDS located on soils likely to promote the formation and transport of nitrate to groundwater. Project Fees: $9,700.

BMP Assessment for Douglas Avenue Pond Retrofit: Purpose of this study was to assess a previously permitted pond retrofit project consisting of a Biosorption Activated Media (BAM) pond intended to provide enhanced nitrate removal of collected runoff during infiltration into the ground. Previous reports and permit documents were reviewed to assist in evaluating the feasibility and water quality benefit of implementing the water quality BMP at the existing retention pond. Project Fees: $4,500.

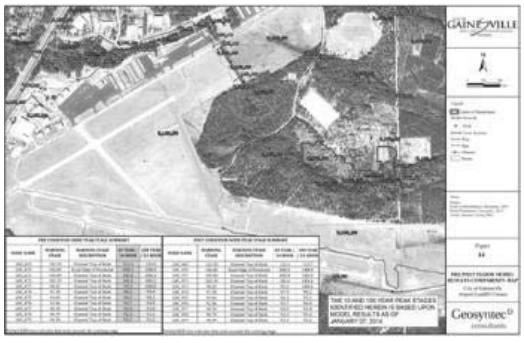
BMP Assessment for Outfall to Lake Destiny Chain of Lakes: Purpose of this assessment was to evaluate the feasibility of implementing a water quality improvement BMP for treatment of runoff conveyed by the proposed outfall from Wymore Road to Spring Wood Lake. Several BMP options including in-line baffle box, in-line baffle box with upflow filter, and roadside swales/bio-swales along Wymore Road. Nutrient load calculations, cost benefit analysis, and an evaluation of permit requirements, performance, maintenance requirements was performed for ultimate BMP recommendation. Project Fees: $4,500

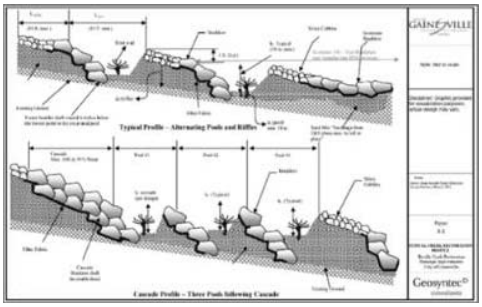
Continuing Services for Water Resources Projects, City of Gainesville, FL

Client Contact:
Project Manager: Betsy Waite
Current Contact: Alice Rankeillor
City of Gainesville Public Works
405 NW 39th Avenue
Gainesville, FL 32609
(352) 334-5070
RankeilloAl@cityofgainesville.org

Geosyntec conducted numerous projects under this contract, including:

Gainesville Airport Landfill Restoration: Geosyntec conducted a comprehensive assessment and restoration design for the City landfill located northeast of the regional airport. The landfill sits atop the northern bank of Little Hatchet Creek (LHC), a tributary of Newnans Lake, an impaired waterbody. Geosyntec's restoration design consisted of clearing existing vegetation, regrading the landfill, and backfilling with two feet of clean, protective soils along the border between the existing landfill and LHC. Due to the age of the landfill, no records existed which depicted the extent of the underlying waste material. Consequently, Geosyntec worked with the Public Works maintenance staff excavating test pits to determine the extent of the underlying trash. Detailed floodplain hydrological modeling was performed using the Alachua County regional watershed model to demonstrate no net impacts to the LHC floodplain. Using AutoCAD Civil3D grading tools, Geosyntec designed a balanced grading plan that minimized earthwork, at a savings to the City. Project Fees: $210,000.





Beville Creek / Suburban Heights Stormwater Improvements: The City desired to construct an innovative regenerative stormwater conveyance (RSC) improvement for Beville Creek due to heavy erosion of the creek and the City's interest in keeping the creek as an open, naturally flowing system. The proximity to residential structures required overcoming several design challenges, including the steep grading relief of the creek. To address the design challenges, the creek bed design was elevated, with RSC improvements consisting of a series of step pools in between a relatively flat channel bottom, armored with large natural stones and boulders to mimic a steep natural channel. A detailed stormwater hydraulic and hydrologic ICPR model including the primary channel and secondary upstream storm drainage systems was developed. Because of the innovative components of this project, Geosyntec assisted the city with the preparation of a SJRWMD innovative grant application in October 2016. Project Fees: $99,000.

Paynes Prairie Sheet Flow Project Hydrologic Data Evaluation: The Paynes Prairie Sheet Flow project is an engineered wetland system designed to treat nitrogen and phosphorus loadings from the City's Sweetwater Creek prior to its discharge into the prairie. Geosyntec performed research on hydrological data collection locations providing recommendations for monitoring program to support this pollutant reduction efficiency BMP monitoring project. Project Fees: $1,900.

Stormwater Design Review: Conducted a peer review of a storm sewer and detention pond system which experienced failure due to extreme rainfall causing flood impacts to adjacent property. A thorough file review was conducted with the City and the SJRWMD to obtain data on design assumptions and a history of maintenance activities. Review provided opinions as to possible design and maintenance deficiencies that warrant action. Project fees were $7500.

Professional Services Capital Improvements Projects, Brevard County, FL

Client Contact:
Carolina Alvarez
Brevard County Natural Resources Dept.
2725 Judge Fran Jamieson Way
Viera, FL 32940
(321)633-2014 Ext 56472
carolina.alvarez@brevardfl.gov

Several project assignments have been issued to Geosyntec under this contract, including:

Pine Industrial Pond Design Phase I: The Pine Industrial Pond Design project will utilize nearby County parcels for the construction of a wet detention facility with enhanced nutrient removal features incorporated into the discharge side of the pond. This phase of the project includes an initial desktop analysis, field data collection, and an existing conditions pollutant loading analysis. This information will be used to perform a pollutant loading analysis of the contributing area with the BMPTRAINS Model. This information will be used in Phase II of this study to design the stormwater pond, as well as the enhanced nutrient removal feature (a large media-based pipe reactor). Additionally, this information will be used to determine the

potential nutrient removal benefit of the pond and enhanced features. This project is ongoing. Project Fees: $19,960.

Johns Road Pond Retrofit: This project is being funded by the Save Our Indian River Lagoon Program. This project is a stormwater pond enhancement design intended to help minimize the nutrients that enter the Indian River Lagoon via stormwater and baseflow. An existing-conditions hydraulic and hydrologic (H&H) model has been run to quantify the existing conditions hydraulic loading using ICPR v. 4.03. The pond water quality enhancement is a pipe media upflow reactor that will take water from the existing pond and treat it for TN and TP prior to discharge. Additionally, an in-pond solar aerator will be incorporated into the design to help facilitate the transformation of organic nitrogen species to inorganic species that are easier to remove. The BMPTRAINS Model is being utilized to evaluate the pre- and post-conditions nutrient loading. This project is ongoing. Project Fees: $24,290.

Flounder Creek Pond Retrofit: This project is being funded by the Save Our Indian River Lagoon Program. This project is a stormwater pond enhancement design intended to help minimize the nutrients that enter the Indian River Lagoon via stormwater and baseflow. An existing-conditions hydraulic and hydrologic (H&H) model has been run to quantify the existing conditions hydraulic loading using ICPR v. 4.03. The pond water quality enhancement is a sub-surface upflow wetland that will take water from the existing pond and treat it for TN and TP prior to discharge. Additionally, an in-pond solar aerator will be incorporated into the design to help facilitate the transformation of organic nitrogen species to inorganic species that are easier to remove. The BMPTRAINS Model is being utilized to evaluate the pre- and post-conditions nutrient loading. This project is ongoing. Project Fees: $27,040.

Priority Basin 1329 Phase 2: This basin was identified by Brevard County as an area that contributes significant nutrient loading via stormwater and baseflow to the Indian River Lagoon. Geosyntec performed the phase 1 evaluation to evaluate the extent of the contributing area and determined the location for the proposed BMP. Based on the results of the phase 1 evaluation, this phase 2 design is moving forward. The proposed BMP is a sub-surface upflow wetland application to remove TN and TP from stormwater and baseflow. Survey has been collected and design services are ongoing. Upcoming tasks include completion of design plans, preparing an engineer's estimate of probable construction cost, permit acquisition, and limited construction oversight services. This project is ongoing. Project Fees: $14,993.

Site Investigation and Remediation Program Management, NASA, Kennedy Space Center, Florida

Client Contact:
NASA
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Kennedy Space Center, FL SI-E2
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michael.j.deliz@nasa.gov

NASA's Kennedy Space Center (KSC) retained Geosyntec under multiple Basic Ordering Agreement (BOA) or Indefinite Delivery Indefinite Quantity (IDIQ) contracts since 1995 to provide center-wide environmental services related to their federal Resource Conservation and Recovery Act (RCRA) Corrective Action Program.

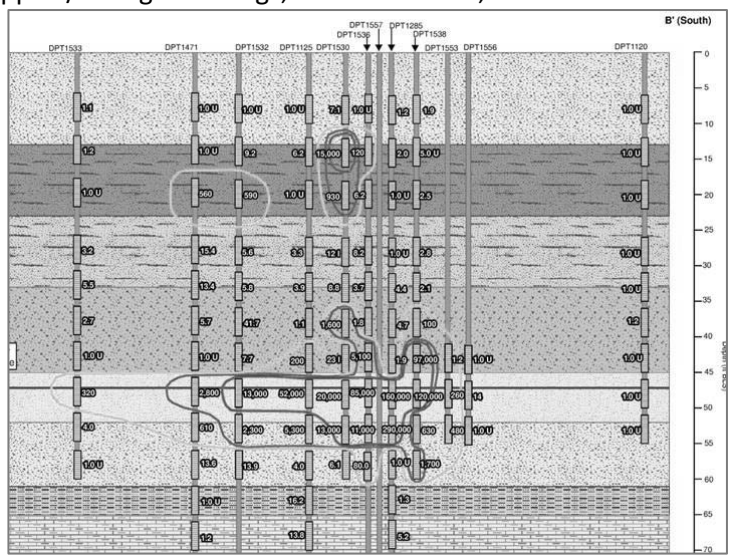
Under these contracts Geosyntec has performed over 100 delivery orders at more than 50 sites at KSC with consulting services exceeding $13 million during the last 5 years. Projects have involved complex assessment and remediation services on behalf of NASA with significant interaction and negotiations with the USEPA Region IV and FDEP.

With a focus on innovative solutions, Geosyntec has teamed with NASA and several academic institutions, to provide innovative approaches for KSC's contamination issues. As an example, Geosyntec has helped KSC secure millions of dollars in external funding, including $500,000 for a partitioning electron donor bioremediation remediation system/ performance test. This sustainable approach utilized a mobile, solar-powered groundwater recirculation system to enhance treatment of chlorinated solvent mass diffused in low-permeability zones.

Air Sparge and Monitoring Well Installations at LC-39B

Geosyntec is a charter member of the KSC Remediation Team, which includes representatives from consulting, FDEP, NASA, and base operations contractors. Geosyntec coordinates meetings with the KSC Remediation Team, gives presentation updates, discusses path forward strategies, and prepares meeting minutes with the Agencies every 6 weeks. The meetings have facilitated open dialogue with the FDEP and enabled complex sites to move forward toward cleanup objectives in an expedited manner.

Geosyntec has conducted solid waste management unit (SWMU) Assessments (RCRA equivalent to a **Phase I ESA**) at 3 sites in the last 3 years to identify the absence or presence of recognized environmental conditions (RECs). As an example, conducted interviews in 2018 which identified RECs associated with historical use of Aqueous Film Forming Foams (AFFF) as part of an environmental assessment to identify potential areas of per- and polyfluoroalklyn Substances (PFAS) impacts to soil and groundwater. During 2018, conducted field investigations at 7 concurrent Confirmatory Sampling sites (RCRA equivalent to a **Phase II**), including the National Park Service site, laboratory facilities, support/storage buildings, ordnance areas, and weather tower refurbishment areas to assess the potential presence/absence of environmental impacts associated with releases of petroleum products, metals, PCBs, PFAS, and solvents.



High Resolution Contaminant Cross-Section Illustration

Geosyntec has prepared a number of **remedial designs** (each starting with **environmental project feasibility studies**) for NASA at KSC over the last 3 years including: bioremediation (Contractors Road Heavy Equipment Area and MLP area), LDA/Steam/ZVI remediation (Wilson Corners and HMF North), solar-powered sparge system (C-5 electrical substation), thermally-enhanced air sparging (Central Heat Plan), and excavations (LC39B, HQ Area). In 2016, Geosyntec prepared and implemented a remedial design for Launch Complex 39B which represents the largest known air sparge system remedy in the United States (279 air sparge wells) to provide treatment to a 9-acre chlorinated solvent impacted groundwater plume. Geosyntec is currently conducting monthly Operation and Maintenance activities at the Launch Complex 39B Site. Recognizing the

critical importance of effective system operation, each operations visit includes optimization steps to expedite cleanup timeframes. In addition to mechanical remediation systems, Geosyntec is presently conducting remediation system performance testing at two bioremediation sites to track the performance of biologically mediated remediation of groundwater as a result of the injection of an electron donor and a microbial culture.

Geosyntec has been involved with **environmental contamination sampling and analysis** and preparation of contamination assessment reports. For example, Geosyntec provided a detailed assessment of groundwater conditions in the VAB Area at KSC. Field activities involved the collection of 4,992 DPT groundwater samples from 556 boring locations to characterize the area and provide delineation of identified plumes. During the last 3 years, conducted contamination assessment planning and/or reporting activities at 17 individual RCRA Sites at KSC.

Phase I and II Environmental Site Assessments (ESAs) and Interim Source Removal, Titusville Rifle and Pistol Club, Mims, Florida

Client Contact:
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Justin Cross
2600 Blair Stone Road, MS 4535, Room 309-C
Tallahassee, FL 32399
850-245-8968

Geosyntec completed **Phase I and Phase II Environmental Site Assessments** (ESAs) on a 40-acre property that the Titusville Rifle and Pistol Club (TRPC) has been leasing from Brevard County since approximately 1966 and was in negotiations to purchase. The ESAs were funded by State and Federal grants received in response to a Site-Specific Activities (SSA) application submitted to the **FDEP Brownfield program** by TRPC. The FDEP **Brownfield administered grant funding** was provided by the United States Environmental Protection Agency (EPA) under its Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 128(a) grant program. Prior to implementing ESA and remediation activities, **Geosyntec coordinated with various regulatory and governmental agencies** including Brevard County, FDEP Central District office, FDEP Brownfields section, and community members that utilize the TRPC.

The funding was requested due to the presence of an estimated 20 to 30, partially-buried 55-gallon drums and a small tank, of which an estimated three to six contained liquids (suspected petroleum products) on an unused portion of the property. The drums and tank were associated with historical borrow pit operations. The Phase I ESA also identified a burn pit on the property as an environmental concern. The burn pit contained a variety of unknown objects and materials. The Phase II ESA consisted of sampling and analytical testing of soil and groundwater at the burn pit and drum disposal area, as well as identification of the unknown material in the drums. Groundwater samples were collected using direct push technology, and via monitoring well installation and sampling. The funding available for this project was limited, so the Phase II ESA was performed in iterations, to minimize analytical costs. Initial analytical results from the Phase II sampling activities indicated that soil samples in the historical drum disposal area contained concentrations of total recoverable petroleum hydrocarbons (TRPH) exceeding FDEP soil cleanup target levels (SCTLs); however, TRPH speciation indicated

Abandoned tanks identified during on-site Phase One Assessment activities

that SCTLs were not exceeded. Overall, the results of the testing indicated that the material in the drums was characterized as a *hazardous waste* and that arsenic-impacted soil was present that represented a threat to human health and the environment.

Based upon a risk assessment screening of site data to SCTLs, Geosyntec recommended that arsenic-impacted soil with concentrations above industrial SCTLs at depths shallower than 2 feet below land surface be excavated, and that an Institutional Control be placed on the property to address remaining soil impacts. FDEP approved the approach and Geosyntec implemented an **Interim Remedial Action Plan** which included soil **remediation** via excavation in both impacted areas. The scope of work also included removal and management of the drums and tank, the hazardous waste in the drums, and the objects and materials in the burn pit. Following completion of the environmental assessment and remediation activities which were funded through the FDEP Brownfields program, no additional remedial actions were warranted.

Geosyntec provided oversight as environmental construction contractors removed product from the abandoned tanks/drums, cut them into pieces and disposed of them properly.

Storage Tank Closure, Bishop Moore High School, Orlando, Florida

Client Contact:
Orlando Diocese (represented by Baker Hostettler)
Bill Pence
200 South Orange Avenue
Orlando, FL 32801
407-649-4095
wpence@bakerlaw.com

Geosyntec provided consulting services associated with investigations and actions to address a release from an underground storage tank (UST). The scope of work included: (i) performing initial site visit and verification assessment actions to confirm and evaluate a release resulting from a horizontal drilling rig installation of a fiber optic cable directly through an unknown UST, (ii) providing recommendations for **environmental contamination sampling and analysis** and closure of the storage tank system in accordance with Chapter 62-761, F.A.C., during a limited period of time while the students were not in attendance during the Christmas/New Year holiday break, (iii) performing **UST closure** and permitting activities, and during the

closure work performing data collection and obtaining information to assess the extent and degree of soil and groundwater contamination, and (iv) **collecting soil, groundwater, and product samples for analyses** of petroleum constituents in addition to chemical forensic fingerprint/chemical signature analysis to compare the contents of the UST with the identified petroleum impacts outside the UST to evaluate/confirm that identified impacts distal to the UST were associated with the same release. Geosyntec successfully completed the forensic investigation activities, **properly closed the UST** during a very short holiday schedule, obtained regulatory approval of a Site Assessment Report (SAR) based upon the verification assessment work, and performed follow-up project support associated with Natural Attenuation Monitoring (NAM). In our final NAM report, we recommended site closure based on the risk to potential users being low. Based on our risk assessment, **site closure was approved** under Chapter 62-780 FAC Risk Management Option II.

Monitoring well installation was completed using due care given the sensitive setting.

Site Assessment and Remediation Services, Cumberland Farms and South Gifford Road, Indian River County, FL

Client Contact:
Indian River County
Himanshu Mehta, PE
1325 SW 74th Avenue, Vero Beach, FL 32968
772-770-5112
mehta@ircgov.com

Under successive contracts, Indian River County (IRC) selected Geosyntec to provide environmental services which have included Phase I and II ESAs, environmental contamination sampling and analysis, petroleum storage tank site closure, brownfield guidance, and environmental project feasibility studies. Total program costs to date are $7.9 million. Two sites are described below.

Chlorinated Solvent-Impacted Site: At the South Gifford Road Landfill, Geosyntec designed a 12-month **environmental site assessment** program to characterize a large downgradient (off-site) 4,000 ft long plume of chlorinated solvents in groundwater and delineate a DNAPL/TCE source area. We fast-tracked specifications, drawings, and cost estimates for interim measures installation to hydraulically contain the source area prior to the design of the final remedy to protect the City's nearby wellfield. Geosyntec also identified homes near the site where contaminated groundwater was present. We worked with the County to determine where publicly-supplied water was prudent to protect human health. Our Interim Pump and Treat (IP&T) system achieved all performance objectives at an O&M cost that allowed the system to operate twice as long as originally planned – all within the original budget.

Geosyntec's **Remedial Action Plan** ($850K constructed value) included specifications, drawings, and consisted of DNAPL source removal via excavation and on-site treatment of hazardous soils using vapor extraction piles. The on-site soil treatment enabled IRC to avoid over $1 million in hazardous waste disposal fees. Based upon the source removal actions, FDEP approved the cessation of the IP&T system operations. Follow-up remedial actions consisted of a passive, green remediation approach using natural attenuation and an emulsified oil bio-barrier system (PRB). This innovative passive PRB solution has proven to be a cost-effective strategy at the site. To document compliance, Geosyntec performs ongoing semi-annual groundwater monitoring and reporting throughout the dissolved plume area.

Remediation wells being installed at the South Gifford Road Landfill Site, in support of the selected remediation strategy.

In 2016, Geosyntec conducted additional site assessment activities, via DPT groundwater sampling, to refine an area of recalcitrant chlorinated solvent impacts located in the former source zone. A **remediation** strategy was designed that included bioremediation injections, performance **monitoring**, and associated **reporting**. The bioremediation strategy was **implemented** in 2017 and included injection of electron donor solution and dechlorinating microbial cultures. Subsequent performance monitoring results indicate that the residual chlorinated solvent concentrations are being completed destroyed based on the decrease of TCE and its daughter products and the increase in ethene (final product of dechlorination) concentration.

Cumberland Farms #0955: The Site began operations as a gas station with three USTs which were replaced in the mid 1990's with 10,000-gallon USTs in a separate location. Geosyntec was retained by IRC to conduct Site assessment activities in an effort to gather data regarding the extent of soil and groundwater petroleum contamination to assist with IRC's decision regarding the purchase of the property.

IRC purchased the Site for the intent of widening Oslo Road. In preparation for this, IRC retained Geosyntec to conduct additional groundwater and soil sampling for the purpose of generating additional data to support the closure of the three exiting USTs and conduct excavation of petroleum impacted soil from within the historical UST area. Geosyntec utilized the results to design a closure strategy under an Interim Source Removal (ISR) in accordance with Chapter 62-780, FAC.

UST Tank Removal and Excavation at Cumberland Farms #0955

Geosyntec completed ISR activities by overseeing the removal of the Site's canopy, dispenser sumps, USTs and fuel transfer piping. Excavation activities were then extended to a depth of 10 feet below land surface (ft bls) through dewatering with groundwater treatment.

Following completion of site activities Geosyntec submitted an ISR and **UST Closure Report** which recommended NFA without controls. Based upon Brevard NRMD approval, FDEP issued a **Site Rehabilitation Completion Order**.

FDEP Consolidated Environmental Contract, Various Sites, Florida

Client Contact:
Florida Department of Environmental Protection
Don Harris
2600 Blair Stone Road, MS 4515
Tallahassee, FL
850-245-8971
don.harris@dep.state.fl.us

Since 2003, Geosyntec has provided the FDEP Bureau of Waste Management with environmental services throughout the state. FDEP has assigned Geosyntec more than 450 task assignments at over 70 drycleaner, hazardous waste, state-owned lands (including state parks and correctional institutions), **Brownfields** and CERCLA (Superfund) sites.

Geosyntec's task is to address contaminants of concern (COCs) such as chlorinated solvents, petroleum hydrocarbons, pesticides, PFAS, and various metals. To address various COCs, Geosyntec has conducted field investigations, including **environmental contamination sampling and analysis**, which have led to **environmental project feasibility studies** and the **development and implementation of remedial actions**. Geosyntec has also audited the agency's engineering and institutional control registry (ICR), assisting with preparation of offsite contamination notifications to support the governmental agencies.

Through the use of innovative remedial strategies, Geosyntec obtained the first two NFA's in the state of Florida for impacted drycleaner sites. In addition, the firm has achieved site closure at 40 percent of its FDEP drycleaner sites.

Geosyntec routinely deploys innovative site investigation and **environmental contamination sampling and analysis** methods such as Waterloo Membrane Samplers (WMSTM) for monitoring volatile organic halogen (VOH) vapor concentrations, modified active gas sampling (MAGS) to identify VOH source areas, and membrane interface probe (MIP) studies to characterize groundwater volatile source zones (chlorinated solvents and petroleum hydrocarbons). Contamination assessment and development of a sound conceptual site model are essential to the success of any environmental project. Geosyntec has been selected as a leading consultant for FDEP to assess over 17 fire training facilities in 2019, located throughout the state, for PFAS where aqueous film forming foam (AFFF), used as a fire suppressant agent, has been historically used.

Geosyntec focused on contamination source area characterization and removal to optimize remediation efforts at the FDEP site pictured above.

Geosyntec has **planned and implemented numerous remedial action plans** (RAPs). One major objective when developing a RAP is to reduce cleanup timeframes while minimizing costs for cleanup by selecting appropriate combinations of advanced tools and techniques, focusing on source area removal, and optimizing remediation performance at each phase of the project. Geosyntec currently has five sites with active ongoing remediation,

including operation of two SVE systems, performance on one bioremediation injection, and one excavation. Sustainable remediation approaches included a passive biostimulation project that achieved site closure, as well as equipment reuse, such as mobilization of one SVE system to three subsequent sites that all achieved No Further Action (NFA) status. Geosyntec is currently performing operation, maintenance, and monitoring activities at the Classic Cleaners site (SVE system).

As part of the Consolidated Contract, Geosyntec has been successful in obtaining funding for Brownfield sites. For example, at the Byrd & Sons Fuel Oil & LP Gas site, worked with a local client (a non-profit organization [NPO]) that purchased a former petroleum distribution facility, and their counsel, with the goal of redeveloping the property for use as residential affording housing or transitional housing. Geosyntec helped prepare a Targeted Brownfields Assessment Grant Application on behalf of the NPO that was submitted to the FDEP, which was accepted in 2017 by FDEP and funds were authorized toward the project for site assessment. After Geosyntec's completion of site assessment and quarterly groundwater monitoring activities, the Site has qualified for a No Further Action without conditions site closure.

Geosyntec provided site investigation and remediation services for arsenic and organochlorinated pesticide impacts from cattle dip vats on State properties.

During development of Remedial Action Plans, environmental feasibility studies are conducted to ensure the appropriate remedial strategy is being selected. Geosyntec has two FDEP Hazardous Waste site that we are currently developing comprehensive Remedial Alternative Evaluations (Studies) to assess which remedial technology to select for implementation. At the City Chemical site, located in Winter Park, Florida, Geosyntec is evaluating excavation with large diameter auger, jet injection of zero valent iron, and application of PlumeStop as remedial alternatives to identify the most cost-effective tailored solution for the site.

Orlando Former Manufactured Gas Plant Site, Orlando, FL

Client Contact:
The Orlando Gasification Plant Site Group
Greg Corbett
Ten Peachtree Place, 17th Floor
Atlanta, GA 30329
404-584-3719

Historical operations of a manufactured gas plant (MGP) in Orlando, Florida from ~1887 to 1959 resulted in the release and on-Site disposal of chemical by-products, including coal tar. The historic releases resulted in soil and groundwater becoming impacted by metals, volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and Non-Aqueous Phase Liquids (NAPLs).

Geosyntec's involvement with this Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Site began in 2014 and since that time the following relevant activities have been conducted:

- **Environmental / Contamination Site Assessment** – Prepared a Field Sampling and Analysis Plan as part of a pre-design investigation (PDI). The results of the PDI contamination sampling and analysis was incorporated into Groundwater Monitoring Reports, Monthly Progress Reports, and a Preliminary Design Report. which was approved by USEPA and FDEP.

- **Remediation Planning, Implementation, Monitoring, and Reporting** – Prepared a Groundwater Remedial Design and Final Design (Remedial Action Plan) for an engineered barrier wall and remaining surface soils in September 2018 which was approved by USEPA and FDEP. The design includes a combination of a subsurface barrier wall, excavation of a tar separator basin, solidification of NAPL, surface soils removal, and dissolved plume treatment outside the barrier wall via sparging, soil vacuum extraction (SVE), and groundwater extraction and recirculation. Prepared a remedial implementation plan including a detailed schedule and procurement/ engineering specifications for the implementation of surface soils excavation activities. The remedial implementation included initial permitting, perimeter air monitoring and other health and safety monitoring, maintenance of traffic (MOT), and the successful excavation and disposal of over 5,000 tons of affected surface soils in 2018. Geosyntec obtained USEPA and FDEP approval to conduct air sparging and SVE pilot testing at the Site which was successfully performed in the spring of 2018.

Surface Soil Remediation Implementation – 2018

- **Environmental Project Feasibility Studies** – Conducted a feasibility study to evaluate barrier wall construction location/size in combination with active groundwater remediation via sparging and groundwater recirculation. Presented the alternatives to the USEPA and FDEP and received approval of modified approach intended to more effectively meet requirements of the Record of Decision.

Spring 2018 community meeting at the Callahan Center (attendees included: Community, City Representatives, USEPA, FDEP, and FDOH)

- **Coordination with Various Regulatory and Governmental Agencies / Miscellaneous Environmental Projects** – The multi-party PRP CERCLA Site is a complex Site that requires signification regulator and governmental coordination. Geosyntec has successfully coordinated and let numerous meetings with the City, utilities, and other stakeholders and have conducted Community Meetings at the Callahan Center, and coordinates multiple meetings with USEPA and FDEP on a regular basis. Geosyntec's active coordination has kept the CERCLA Site remediation on a positive path forward. **Total Project Costs to Date: $3.6 million.**

Former Grey Line trucking, Winter Garden, FL

Client Contact:
City of Winter Garden
Donald Cochran
300 West Plant St.
Winter Garden, FL 34787
407-656-4111, Ext. 2263

Faced with the implementation of a $600,000 (minimum) petroleum cleanup, the City of Winter Garden (City) solicited the services of outside legal counsel. The City's counsel contacted Geosyntec to conduct an evaluation of the contamination issue. Petroleum impacts at the 5-acre site originated from a gas station that operated on one corner of the parcel through the mid 1970's. Following the UST closure in 2005, assessment activities by others documented significant contamination of soil and groundwater and an anticipated cleanup cost of over $600,000. Geosyntec's technical evaluation of the reports prepared by others revealed the following:

- The former UST area, located in an area with surrounding shallow, low-permeability soils was acting as a "bath tub" for the directed collection of infiltrating runoff. The soil impacts remaining in the excavation area where leaching into the perched water in the excavation as a result of the "bath tub" effect.
- A significant vertical head difference in the shallow and intermediate depth monitoring wells suggested that a silty clay layer was serving as a semi-confining unit.
- Soil impacts remaining were significant around the perimeter and base of the former UST excavation (UST area was backfilled with gravel/sand).
- The Remedial Action Plan (RAP) did not consider the highly variable aquifer permeability due to the UST area, and ability to effectively treat petroleum impacts diffused into the low-permeability soils.
- The basis for the RAP was a pilot study which was conducted at injection pressures significantly above the anticipated formation fracture pressure (suggesting short-circuiting during testing occurred).

High-Resolution Soil Core Screening and Sampling

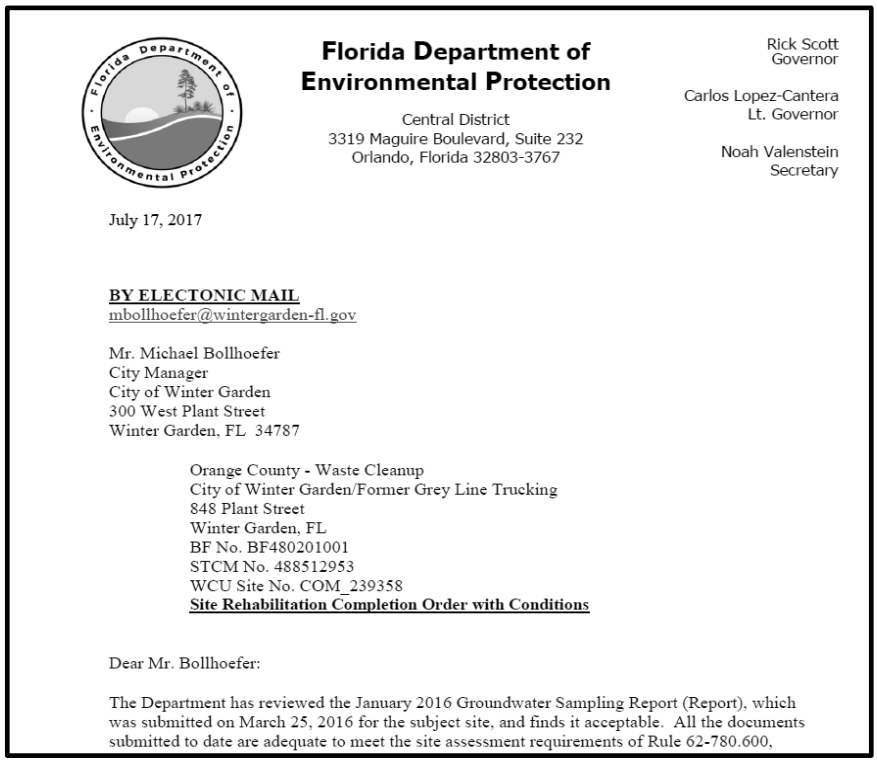
Geosyntec conducted supplemental **Environmental / Contamination Site Assessment** activities, which included **environmental contamination sampling and analysis** to refine the conceptual site model (CSM). Our assessment resulted in a revised CSM which documented that the "true" water table aquifer was located beneath the perched aquifer resulting from the UST closure work.

Results of Geosyntec's supplemental investigation were presented to the FDEP Central District Office. Based upon the results of the presentation and associated regulatory agency negotiations and coordination, the previously submitted RAP was retracted.

The results of Geosyntec's Contamination Assessment and an **Environmental Project Feasibility Study**, which evaluated excavation or a risk management-based closure strategy, resulted in a revised path forward for the site that consisted of an engineered asphalt cap, institutional controls, and limited groundwater monitoring program to document plume stability/collapse following the elimination of significant surface infiltration. Geosyntec prepared a revised **Remedial Action Plan** which was approved by the FDEP. Following **remedial implementation**, which included the installation of the engineered cap,

monitoring well installations, and one year of **post active remediation groundwater monitoring**, and associated **reporting**, **No Further Action via Risk Management Option III was proposed for the Site and approved by the FDEP.** A **Site Rehabilitation Completion Order** was issued on July 17, 2017.

Geosyntec's total project costs were approximately $120,000 and represented a savings to the City of approximately $480,000 (minimum) when compared to the RAP prepared by others which would not have facilitated achievement of NFA and based upon Geosyntec's review would have been ineffective at remediating site petroleum impacts.



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

July 17, 2017

BY ELECTONIC MAIL
mbollhoefer@wintergarden-fl.gov

Mr. Michael Bollhoefer
City Manager
City of Winter Garden
300 West Plant Street
Winter Garden, FL 34787

Orange County - Waste Cleanup
City of Winter Garden/Former Grey Line Trucking
848 Plant Street
Winter Garden, FL
BF No. BF480201001
STCM No. 488512953
WCU Site No. COM_239358
Site Rehabilitation Completion Order with Conditions

Dear Mr. Bollhoefer:

The Department has reviewed the January 2016 Groundwater Sampling Report (Report), which was submitted on March 25, 2016 for the subject site, and finds it acceptable. All the documents submitted to date are adequate to meet the site assessment requirements of Rule 62-780.600,

FDEP Site Rehabilitation Completion Order

SECTION 5 | Ability to Meet Time and Budget Requirements

Our plan for effective project management is predicated on the belief that our job is to make life easier for the County's staff, and to effectively solve their problems. We will afford the County most favored client status in order to forge a lasting work relationship. **We will consider ourselves an extension of County's staff working closely with the County's project managers to ensure that needs and goals are being met.** Geosyntec will bring a flexible focus and will not rigidly try to "do it our own way" at the expense of project success.

> *"Geosyntec has consistently produced high quality project work, met deadlines and budget goals. Geosyntec is responsive, proactive and innovative in their resources and recommendations."*
>
> Laurie Smith, City of Lakeland, FL

At Geosyntec, we understand the business of local government and the daily demands of strict accountability, tight budgets and deadlines, and answering to a diverse range of customers – who are also constituents. **Geosyntec professionals strive to develop and implement practical, often innovative solutions that help our clients meet management objectives as well as resolve the site-specific technical challenges.** We can expedite a project to alleviate imminent concerns or, conversely, perform a project in phases to meet the annual limitations of a capital improvement program. We have also helped our clients identify funding mechanisms and secure grants to provide needed capital for projects.

Geosyntec has a proven track record of complying with with schedule requirements for multiple, concurrent complex projects. The Project Team, led by Contract Manager Mr. Mark Ellard, PE, CFM, D.WRE, ENV SP is committed to the success of this project with Alachua County. **Geosyntec commits to meeting the County's time and budget requirements.**

Plan for Staying on Budget and on Schedule

Upon initial notice to proceed from the County, the Project Team will prepare a master schedule. Using Microsoft Project® or equivalent project management software, the Project Manager will establish the following project baselines:

1. ***Task and Subtask Timelines***
2. ***Milestone Events (e.g., Deliverables, Receipt of Approvals / Permits, Etc.)***
3. ***Critical Path for Achieving Milestones and the Project Endpoint***

The Project Manager will use internal milestones to produce deliverables in time for internal quality control and peer review process, as discussed below. The project schedule will include time for coordination and review with the County prior to the final deliverable due date. If review of the project schedule indicates a potential impact to project milestones or endpoints, the Project Manager will investigate the problem and may reallocate resources to compress the schedule or establish new dates for completing tasks or milestones

after consulting with the County. The Project Manager will only modify the baseline schedule with approval from the County following a change in scope or other conditions. The Project Manager will immediately notify the County of potential variances to the project schedule and keep the County appraised of any proposed corrective actions. The Project Manager will provide the County with comprehensive status reports, presented at monthly progress meetings or other schedule as needed, which will include project progress, deliverable status, and budget status.

> *"Geosyntec has consistently worked within budgetary limits, provided excellent work products and have always demonstrated a commitment to provide outstanding service."*
>
> L. Chris Pearson, City of Jacksonville, FL

Typical causes for schedule erosion include delay in obtaining needed information, changes to scope, regulatory challenges, and workload of assigned project professionals. The Project Team will make requests for needed project information, under the control of the County, at the kickoff meeting for this project or during appropriate time during specific tasks. Our experience in working on numerous similar projects will provide the knowledge to know what is needed and what is not needed for a particular task.

Reallocation of resources is the necessary response to schedule erosion due to workload issues. Excessive workload of assigned staff typically occurs when other existing project commitments are increased due to unforeseen changes to scope. This will be corrected by engaging additional staff from within Geosyntec's Florida offices or other offices nationwide. For this reason, several mid-level engineers outside of Florida recently obtained Florida Professional Engineer's licenses and remain available to assist if needed.

> *"They have repeatedly proven to us their reliability to complete difficult assignments on a tight schedule and within budget."*
>
> Harold Williams, NASA

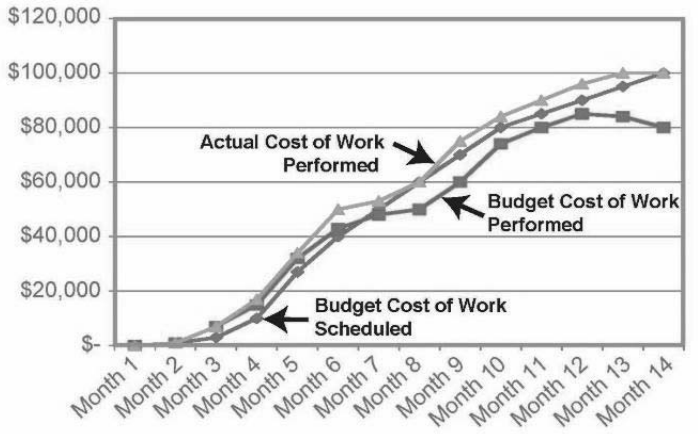
The Project Team will employ a similar process with any subconsultants. We will negotiate a subconsultant agreement with a scope schedule and budget along with interim schedule milestones, if appropriate. The subconsultant agreement will be consistent with regards to schedule and budget requirements, with our primary agreement with the County. We will conduct periodic progress meetings with the subconsultant to ensure they are on schedule with their work product. Should any issue related to subconsultant performance develop, the Project Manager will notify the County immediately with a proposed corrective action plan.

Budget Control and Tracking: Geosyntec considers cost control to be a critical measure of project success for our clients and our project managers. During each phase of the project (e.g. data collection, program design criteria evaluation, future resiliency & adaptation evaluation, and existing conditions model assessment, etc.) we apply our project management and technical skills to control our cost to the County and reduce overall project costs. After work breakdown structure data have been entered into the BST™ project accounting system, the Project Manager and Task Managers have online access to summary and detail reports with near real-time data. The reports reflect labor hours charged to each project as well as individual expenditures. The reports also allow project leaders to review actual versus budgeted costs at the task or subtask level. Task managers will use Earned Value Analysis (EVA) to assess project progress against the baseline budget and schedule.

When a budget variance occurs, the Project or Task Manager will inform County staff immediately and describe the nature of the variance and proposed corrective actions, which may include one or more of the following: (i) reevaluating the scope of remaining work and attempt to consolidate tasks; (ii) reducing remaining scope requirements; and/or (iii) increasing the scope and budget after consulting with County staff.

Communications: Regular communication will be accomplished through progress review meetings to be held monthly (or on a schedule acceptable to the County). Coordination with the County, outside agencies, and Geosyntec will be documented in meeting minutes and phone logs. Geosyntec's approach to successful project completion starts with strong project management and effective communication, and then is supported with resource commitment. Our Contract Manager, Mark Ellard, will be the focal point for project communication, coordination, and administration for all components of the contract work. This will give the County consistent contact representing the Project Team.

Cost-Saving Measures: Geosyntec understands the importance of producing technical strategies that not only addresses the County's growth, land use changes, water quality concerns, and resiliency to future changes in rainfall patterns but does so in a fiscally responsible way. The Project Team will implement a similar approach to examine existing BMPs as well as BMPs developed as a result of this master plan effort for ways to optimize the flooding and water quality benefit provided as well as leverage the latest developments in technology to enhance BMP performance. Additionally, state and federal grant and cost share programs that might be relevant to the types of projects that could come out of the stormwater and resiliency master plan will be identified. Our attention to detail, expertise on cutting edge technology, and familiarity with different funding opportunities will allow the Geosyntec team to ideally position the County to benefit from these opportunities, providing the County with a strategic plan to grow in a smart and cost-effective way. Similarly, for environmental assessment and remediation projects, the Project Team will look at cost-savings measures associated with Risk Management Option (RMO) Site closure, the application of alternative cleanup target levels, and applying effective optimization strategies to reduce overall costs.



"Our success was clearly a result of the professional expertise, commitment to excellence, and moral integrity you find at all levels of Geosyntec."

John Regan, City of St. Augustine, FL

SECTION 6 | Effect of Project Team Location on Project Responses

The location of our project team will benefit the County as we complete the project work. Geosyntec has nine offices throughout Florida to serve our clients. **Our Gainesville office is located in Alachua County.** This proximity will have a positive effect on project work for the County, ensuring sufficient resources can be rapidly assigned as needed to meet contract requirements.

We also have bench strength to successfully support this project with over 120 Florida-based technical staff. Our staff is well-versed in providing not only environmental assessment and remediation as well as watershed management and stormwater design, but also civil engineering, geotechnical engineering, and other environmental management solutions.

SECTION 7 | Appendix

Acknowledgement of Addendum Form **EXHIBIT A**

SBE Program Participation Form **EXHIBIT B**

Certified SBE Points Request Form **EXHIBIT C**

Alachua County Government Minimum Wage Form **EXHIBIT D**

Volume of Previous Work Summary Form **EXHIBIT E**

Proposed Subcontracts (Non SBE) **EXHIBIT F**

Drug Free Workplace Form **EXHIBIT G**

Public Record Declaration of Claim of Exemption Form **EXHIBIT H**

Insurance Requirements **EXHIBIT I**

Alachua County SBE Certification (N/A)

Statement of Consultant's Equal Opportunity Policies and Practices

References

Professional Licenses

EXHIBIT A

SIGNATURE AND ACKNOWLEDGEMENT OF ADDENDUM FORM

RFP NUMBER:	**20-171**
PROPOSAL OPENING DATE:	**2:00 pm, Wednesday, April 24, 2019**
RE:	**Annual Environmental Consulting Services**
PLACE OF RFP OPENING:	Alachua County Division of Purchasing, 3rd Floor County Administration Building 12 SE 1st Street Gainesville, Florida 32601-6983

Acknowledge Receipt of Addendum(s) *(if applicable circle)*: #1 (Yes) No #2 (Yes) No #3 (Yes) No

	Local Based Firms per Section 1.14, Check One Below
X	I **certify that my business is located in Alachua County and meets** the criteria for location points as specified in Section 1.14.
	I **am not** a local based firm in Alachua County.

Proposer: Mark Ellard, PE, CFM, D.WRE, ENV SP Company: Geosyntec Consultants, Inc.

Address: 1511 East State Road 434, Suite 1005

Winter Springs, FL 32708

Authorized Signature: _____ Title: Senior Principal

Clearly Print Name: Mark Ellard, PE, CFM, D.WRE, ENV SP

PHONE: 407-321-7030 FAX: 407-321-7031 DATE: April 24, 2019

Email Address: mellard@geosyntec.com

EXHIBIT B

SMALL BUSINESS ENTERPRISE (SBE) PROGRAM PARTICIPATION FORM

RFP NUMBER: 20-171: Annual Environmental Consulting Services

OPTION 1

I certify that our Company is an **Alachua County Certified Small Business Enterprise (SBE)** registered prior to the Bid opening.

Circle One: **Yes (If yes, complete and sign the last page of this Exhibit)**

No (If No, proceed to *Option 2*.)

OPTION 2

I certify that our Company **will perform ALL work** and that no subcontractors will be utilized for this bid.

Circle One: **Yes (If yes, complete and sign the last page of this Exhibit)**

No (If No, proceed to *Option 3*.)

RFP NUMBER: 20-171: Annual Environmental Consulting Services

OPTION 3

SBE Participation. I certify that our Company has contacted the **Alachua County's Certified SBEs** listed below. I state that the following information regarding SBE Subcontractors is true and correct to the best of my knowledge and belief.

Alachua County has adopted a 15% SBE participation goal and policies which encourage participation of Small Business Enterprises (SBE) in the provision of labor, time, supplies, services or construction items of any kind materials.

SBEs are located in the Alachua County Small Business Enterprise Directory, available at:
http://smallbusdir.alachuacounty.us/ .

Subcontractor (any business entity holding a subcontract with the prime vendor) services are defined as, "a contract with another business entity that obtains labor, time, supplies, services or construction items of any kind."

Vendors submitting bids under this solicitation are to identify the intended SBE subcontractors. These SBEs have agreed to perform the work for **the total dollar value and percentage of the bid** set forth below.

If SBE subcontractors are not utilized and listed below or if option 1 or 2 was not chosen, you must proceed to *Option 4* and document your Good Faith Effort.

EDA Engineers-Surveyors-Planners, Inc. SBE Name of Contractor	Anamar Environmental Consulting, Inc. SBE Name of Contractor
2404 NW 43rd St., Gainesville, FL 32606 Address	2106 NW 67th Place, Suite 5, Gainesville, FL 32653 Address
Survey, UES, Landscape Architecture, CEI Scope of Work to be Performed	Ecological and Field Sampling Support Scope of Work to be Performed
$ N/A (Est $ Value) — 12% % (Est % of Total Bid)	$ N/A (Est $ Value) — 8% % (Est % of Total Bid)
Geohazards, Inc. SBE Name of Contractor	Koogler & Associates, Inc. SBE Name of Contractor
1204 NW 13th Street, Gainesville, FL 32601 Address	4014 NW 13th St., Gainesville, FL 32609 Address
Geotechnical Assessment and Testing Scope of Work to be Performed	Air Quality Testing and Monitoring Scope of Work to be Performed
$ N/A (Est $ Value) — 3% % (Est % of Total Bid)	$ N/A (Est $ Value) — 1% % (Est % of Total Bid)
SouthArc, Inc. SBE Name of Contractor	SBE Name of Contractor
3700 NW 91st St., D300, Gainesville, FL 32606 Address	Address
Archaeological and Cultural Resources Scope of Work to be Performed	Scope of Work to be Performed
$ N/A (Est $ Value) — 1% % (Est % of Total Bid)	$ _____ (Est $ Value) — _____ % (Est % of Total Bid)

*Estimated $ Value Not Applicable as contract has not specified projects or budgets.

RFP NUMBER: 20-171Annual Environmental Consulting Services

OPTION 4

SBE Good Faith Effort. To be considered responsive all Vendors **must have** SBE Participation or demonstrate a good faith effort to utilize SBE subcontractors**. If option 1, 2 or 3 was not chosen the Vendor must complete the section below substantiating compliance with good faith effort requirements.**

In accordance with Section 22.36, of the Alachua County Purchasing Code, I have solicited and received responses from the following Alachua County certified SBE companies. (The SBE vendor's response MUST be recorded in the section below.)

1	Name of SBE Company:	Date SBE Contacted
SBE Contact Name:	Phone:	/ /
Must be completed by. SBE Response when contacted:		
2	Name of SBE Company:	Date SBE Contacted
SBE Contact Name:	Phone:	/ /
Must be completed by. SBE Response when contacted:		
3	Name of SBE Company:	Date SBE Contacted
SBE Contact Name:	Phone:	/ /
Must be completed by. SBE Response when contacted:		
4	Name of SBE Company:	Date SBE Contacted
SBE Contact Name:	Phone:	/ /
Must be completed by. SBE Response when contacted:		
5	Name of SBE Company:	Date SBE Contacted
SBE Contact Name:	Phone:	/ /
Must be completed by. SBE Response when contacted:		
6	Name of SBE Company:	Date SBE Contacted
SBE Contact Name:	Phone:	/ /
Must be completed by. SBE Response when contacted:		
7	Name of SBE Company:	Date SBE Contacted
SBE Contact Name:	Phone:	/ /
Must be completed by. SBE Response when contacted:		

EXHIBIT B

RFP NUMBER: 20-171: Annual Environmental Consulting Services

I as the undersigned Vendor certify that I have completed one of the option(s) below (Circle One):

OPTION 1 **OPTION 2** **(OPTION 3)** **OPTION 4**

If you are unable to certify that, you have completed to the best of your knowledge and belief **OPTION 1, OPTION 2, OPTION 3 or OPTION 4, Call (48 hours prior to RFP opening) the Division of Purchasing at 352.374.5202, for direction.**

Vendor Name: Geosyntec Consultants, Inc. Date April 24, 2019

Signature _____ Title Senior Principal

Printed Name: Mark Ellard, PE, CFM, D.WRE, ENV SP Title Senior Principal

Alachua County Board of County Commissioners

Equal Opportunity Office

EDA ENGINEERS-SURVEYORS-PLANNERS, INC.

is Certified as a Small Business Enterprise Under the Provisions of Section 22, Alachua County Ordinance 06-28 from August 29, 2018 to August 29, 2019

Jacqueline Chung
Jacqueline Chung
Equal Opportunity Manager

Chair
Alachua County Board of County Commissioners

Michelle Rau

From: Constance Steen
Sent: Monday, April 15, 2019 9:02 AM
To: ANAMAR Employees
Subject: Our SBE Certification with Alachua County has been approved

FYI

From: Jonathan Flynt <jflynt@alachuacounty.us>
Sent: Thursday, April 11, 2019 1:11 PM
To: Constance Steen <csteen@anamarinc.com>
Subject: SBE Certification

Congratulations!

Your application for Small Business certification has been approved. Your business name has been added to our SBE directory. You should receive your official certificate within the next 30 days. Meanwhile, should you need proof of certification for a bid or RFP, visit our web site at http://www.alachuacounty.us/Depts/EO/SmallBusiness/Pages/SmallBusinessProgram.aspx , copy the page with your business listing and place it with your bid/RFP documents. We will confirm your certification with the appropriate individuals.

Feel free to contact me via e-mail or at (352) 374-5275 for more information or assistance.

Jonathan Flynt
Equal Opportunity Analyst
12 SE 1st Street, Gainesville FL 32601
(352)374-5275 • (352)384-3112 • TDD Users call 711 Fl Relay

Small Business Directory

Equal Opportunities > Small Business Main Page | Small Business Directory

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z All

To search by products and services click here

ACE POWER DESLAG,LLC

134 SW COZY GLEN, LAKE CITY, FL 32024

Contact: DONALD HOWARD
Email: dhoward@acepowerdeslag.com
Business Tel: (386) 755-2404
Fax Number: (386) 755-2404
Cert. Type: SMALL

Description:
INDUSTRIAL CLEANING

AKEA, INC.

3603 NW 98TH STREET, SUITE B, GAINESVILLE, FL 32606

Contact: TERRYE HENSLEY
Email: thensley@akeainc.com
Business Tel: (352) 474-6124
Fax Number: (352) 474-6324
Cert. Type: SMALL

Description:
ENGINEERING DESIGN - BUILD AND CONSTRUCTION; ARCHITECT.

ALACHUA FIRE EXTINGUISHER CO., INC

2939 SW WILLISTON ROAD, GAINESVILLE, FL 32608

Contact: JAMES R. HODGE
Email: alfire@windstream.net
Business Tel: (352) 377-3473
Fax Number: (352) 377-4999
Cert. Type: SMALL

Description:
FIRE EXTINGUISHER & SUPPRESSION SALES & SERVICE

ANAMAR ENVIRONMENTAL CONSULTING, INC

2106 NW 67TH PLACE, SUITE 5, GAINESVILLE, FL 32653

Contact: CONSTANCE STEEN
Email: csteen@anamarinc.com
Business Tel: (352) 377-5770
Fax Number: (352) 378-7620
Cert. Type: SMALL

Description:
ENVIRONMENTAL CONSULTING AND ENGINEERING

ANGLIN CONSTRUCTION COMPANY

102 NE 10TH AVENUE SUITE 5, GAINESVILLE, FL 32601

Contact: GARY ANGLIN
Email: gary@anglin.cfcoxmail.com
Business Tel: (352) 376-4089
Fax Number: (352) 377-0037
Cert. Type: SMALL

Description:
GENERAL CONSTRUCTION/CONTRACTOR

ASHTIN COMMUNICATIONS, INC.

4577 NW 6TH STREET - SUITE C, GAINESVILLE, FL 32609

Contact: PAULA COX

Description:

Small Business Directory

Equal Opportunities > Small Business Main Page | Small Business Directory

Search for Products and Services: GEOLOGY AND ENGINEERING Submit

For an alphabetical list of companies click here

GEOHAZARDS,INC.

1204 NW 13TH STREET, GAINESVILLE, FL 32601

Contact: GERALD BLACK
Email: jblack@geohazardsinc.com
Business Tel: (352) 371-7243
Fax Number: (352) 371-4410
Cert. Type: SMALL

Description:
GEOLOGY AND ENGINEERING SERVICES

Number of records found: 1

You may download an application form for Small Business Certification here. Please mail it to Alachua County Equal Opportunity Division, 12 SE 1st Street, 1st Floor, Gainesville, Fl 32627 to be considered for entry into the directory.

Alachua County Board of County Commissioners

Equal Opportunity Office

KOOGLER AND ASSOCIATES, INC.

is Certified as a Small Business Enterprise Under the Provisions of Section 22, Alachua County Ordinance 06-28 from March 1, 2019 to March 1, 2020

Jacqueline Chung
Equal Opportunity Manager

Chair
Alachua County Board of County Commissioners

Alachua County Board of County Commissioners

Equal Opportunity Office

Southarc, Inc.

is Certified as a Small Business Enterprise Under the Provisions of Section 22, Alachua County Ordinance 06-28 from April 27, 2018 to April 27, 2019

Jacqueline Chung
Equal Opportunity Manager

Chair
Alachua County Board of County Commissioners

CERTIFIED SMALL BUSINESS ENTERPRISE POINTS REQUEST FORM FOR RFP's

The Technical Qualifications Evaluation phase of the Professional Services Evaluation Process assesses whether a Consultant is a certified Small Business Enterprise (SBEs) and provides for the allotting of points where the Consultant includes in their submittal a request for points allowed for Alachua County's Certified SBEs' participation in accordance with the options listed below and the necessary documentation to substantiate such is provided.

<table>
<tr><td colspan="4">CERTIFIED SMALL BUSINESS ENTERPRISE (SBEs)- REQUEST FOR POINTS
15 POINT MAXIMUM</td></tr>
<tr><td>Points for Certified Small Participation is to be awarded using one of the options below:</td><td>Points Allowed</td><td>Points Requested</td><td>Points Assigned</td></tr>
<tr><td>Fifteen (15) points are awarded to the Consultant if the Consultant is a certified small business (per Alachua County's current SBE registry at the time set for receipt of submittals) and at least 51% of the job will be performed by the Consultant.</td><td>15 pts</td><td></td><td></td></tr>
<tr><td>Eight (8) to thirteen (13) points are awarded if the Consultant commits to a significantly higher certified Small participation than the goal, based on the breakdown indicated below:

Percentage of Certified Small Participation:

at least — but less than — Points to be Awarded

25% — 30% — 8 Points
30% — 35% — 9 Points
35% — 40% — 10 Points
40% — 45% — 11 Points
45% — 50% — 12 Points
50% — 51% — 13 Points</td><td>8 pts - 13 pts</td><td>8 pts</td><td></td></tr>
<tr><td>Five (5) points are awarded to a Consultant who has committed to meet the percentage participation goal of 15% as established by the Board of County Commissioners and the Consultant has listed the certified small business(es) and clearly stated the work and percentages of the job that those business(es) will perform.</td><td>5 pts</td><td></td><td></td></tr>
</table>

EXHIBIT D

ALACHUA COUNTY GOVERNMENT MINIMUM WAGE (GMW) FORM

RFP 20-171: Annual Environmental Consulting Services

The undersigned certifies that all employees, contracted and subcontracted, completing services as part of this Bid/RFP are paid, and will continue to be paid, in accordance with Chapter 22, Article III of the Alachua County Code of Ordinance ("Wage Ordinance").

Please mark the appropriate box below that applies to how you pay your employees:

1.	☒ Employees involved with Alachua County projects are paid a minimum of **$13.00 hourly** and are provided health benefits?
2.	☐ Employees involved with Alachua County projects are paid a minimum of **$15.04 hourly** but are not provided health benefits?

Bidder: Mark Ellard, PE, CFM, D.WRE, ENV SP Company: Geosyntec Consultants, Inc.

Authorized Signature: _____ Title: Senior Principal

Clearly Print Name: Mark Ellard, PE, CFM, D.WRE, ENV SP Phone: 407-321-7030

Email Address: mellard@geosyntec.com

VOLUME OF PREVIOUS WORK SUMMARY

Volume of previous work will be determined by the actual fees rendered to the consultant by Alachua County. These fees are based on actual payments made to the consultant and are retrieved from the County's electronic accounting system. Only a portion of these fees 9 (Adjusted fee) will be considered based on the fiscal year payments and the factor listed below (see chart below).

SAMPLE

PERIOD	ACTUAL FEE	FACTOR	ADJUSTED FEE
Current and last year (Oct 1 – Sept 30)	$ 100,000.00	X 1.0	$ 100,000.00
Second year past (Oct 1 – Sept 30)	$ 100,000.00	X .08	$ 80,000.00
Third year past (Oct 1 - Sept 30)	$ 100,000.00	X .06	$ 60,000.00
TOTAL ADJUSTED FEE CONSIDERED			$ 240,000.00

VOLUME OF PREVIOUS WORK - POINTS EARNED

The volume of previous work points earned are based on the adjusted fee (see chart below).

POINTS	ADJUSTED FEE (AF) *	YOUR REQUESTED AF POINTS
5	AF < 50,000	
4	50,000 < AF < 100,000	
3	100,000 < AF < 200,000	5 points
2	200,000 < AF < 300,000	
1	300,000 < AF < 400,000	
0	AF > 400,000	

EXHIBIT F

PROPOSED SUBCONTRACTORS (NON-SMALL BUSINESS ENTERPRISE) FORM

RFP NUMBER: 20-171: Annual Environmental Consulting Services

This form is for all **Non-Small Business Enterprise subcotractors** being utlized on this project that **are not included** on **Exbihit B**.

Watershed Management Services, LLC Name of Contractor	Applied Technologies & Management, Inc. Name of Contractor
410 White Oak Dr., Crawfordville, FL 32327 Address	2201 NW 40th Terrace, Gainesville, FL 32605 Address
NPDES & County Code Review Scope of Work to be Performed	TMDL/BMAP, Water Quality Modeling Scope of Work to be Performed
$ N/A (Total $ Value) 5% % (% of Total Bid/RFP)	$ N/A (Total $ Value) 5% % (% of Total Bid/RFP)
Environmental Drilling Services, Inc. Name of Contractor	Advanced Environmental Laboratories, Inc. Name of Contractor
4712 Old Winter Garden Rd., Orlando, FL 32811 Address	9610 Princess Palm Dr., Tampa, FL 33619 Address
Environmental Drilling Scope of Work to be Performed	Analytical Testing Scope of Work to be Performed
$ N/A (Total $ Value) 5% % (% of Total Bid/RFP)	$ N/A (Total $ Value) 2% % (% of Total Bid/RFP)
Groundwater Protection, Inc. Name of Contractor	Source Molecular Corporation Name of Contractor
2300 Silver Star Rd., Orlando, FL32804 Address	15280 NW 79th Ct., #107, Miami Lakes, FL 33016 Address
Environmental Drilling Services Scope of Work to be Performed	Specialized Laboratory Services Scope of Work to be Performed
$ N/A (Total $ Value) 0.5% % (% of Total Bid/RFP)	$ N/A (Total $ Value) 1% % (% of Total Bid/RFP)
Cascade Drilling Name of Contractor	Pace Analytical Services, LLC Name of Contractor
1020 S. 82nd St., Tampa, FL 33619 Address	110 Bayview Blvd., Oldsmar, FL 34677 Address
Environmental Drilling Services Scope of Work to be Performed	Specialized Laboratory Services Scope of Work to be Performed
$ N/A (Total $ Value) 0.5% % (% of Total Bid/RFP)	$ N/A (Total $ Value) 0.5% % (% of Total Bid/RFP)

If addtional space is required for your subcontractor listing, make copies of this **Exhibit F** and submit with you RFP package.

*Total $ Value Not Applicable as contract has not specified projects or budgets.

EXHIBIT F

PAGE 2

PROPOSED SUBCONTRACTORS (NON-SMALL BUSINESS ENTERPRISE) FORM

RFP NUMBER: 20-171: Annual Environmental Consulting Services

This form is for all **Non-Small Business Enterprise subcotractors** being utlized on this project that **are not included** on **Exbihit B**.

Weck Laboratories, Inc. Name of Contractor	Name of Contractor
14859 Clark Ave., Hacienda Heights, CA 91745 Address	Address
Specialized Laboratory Services Scope of Work to be Performed $ N/A (Total $ Value) 0.5% % (% of Total Bid/RFP)	Scope of Work to be Performed $ ____ (Total $ Value) ____ % (% of Total Bid/RFP)
Name of Contractor	Name of Contractor
Address	Address
Scope of Work to be Performed $ ____ (Total $ Value) ____ % (% of Total Bid/RFP)	Scope of Work to be Performed $ ____ (Total $ Value) ____ % (% of Total Bid/RFP)
Name of Contractor	Name of Contractor
Address	Address
Scope of Work to be Performed $ ____ (Total $ Value) ____ % (% of Total Bid/RFP)	Scope of Work to be Performed $ ____ (Total $ Value) ____ % (% of Total Bid/RFP)
Name of Contractor	Name of Contractor
Address	Address
Scope of Work to be Performed $ ____ (Total $ Value) ____ % (% of Total Bid/RFP)	Scope of Work to be Performed $ ____ (Total $ Value) ____ % (% of Total Bid/RFP)

If addtional space is required for your subcontractor listing, make copies of this **Exhibit F** and submit with you RFP package.

EXHIBIT G

DRUG FREE WORKPLACE

Section 22.09 Competitive Sealed Bidding of the Alachua County Purchasing Code states that in the evaluation of proposals, all factors in the bidding process being equal, both as to dollar amount and ability to perform, priority will be given, first, to those vendors certifying a drug-free workplace, secondly, to certified Small Business Enterprise (SBE) bidders.

The undersigned vendor in accordance with Florida Statute 287.087 and Section 22.09 of the Alachua County Purchasing Code hereby certifies that

Geosyntec Consultants, Inc.
Name of Business

does:

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 1893 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.

Bidder's Signature

April 24, 2019
Date

EXHIBIT H

PUBLIC RECORD DECLARATION OR CLAIM OF EXEMPTION

As a bidder or proposer, any document you submit to Alachua County may be a public record and be open for personal inspection or copying by any person. In Florida 'public records" are defined as all documents, papers, letters, maps, books, tapes, photographs, films, sound recordings, data processing software, or other material, regardless of the physical form, characteristics, or means of transmission, made or received pursuant to law or ordinance or in connection with the transaction of official business by any agency. Section 119.011, F.S. A document is subject to personal inspection and copying unless it falls under one of the public records exemptions created under Florida law. Please designate what portion of your bid or proposal, if any, qualifies to be exempt from inspection and copying:

(Execute either section I. or II, but not both; bidder may not modify language)

I. NO EXEMPTION FROM PUBLIC RECORDS LAW

No part of the bid or proposal submitted is exempt from disclosure under the Florida public records law, Ch. 119, F.S.

Bidder's Signature _____ Date April 24, 2019

- - - OR - - -

II. EXEMPTION FROM PUBLIC RECORDS LAW AND AGREEMENT TO INDEMNIFY AND DEFEND ALACHUA COUNTY

The following parts of the bid or proposal submitted are exempt from disclosure under the Florida public records law because: (list exempt parts and legal justification. i.e. trade secret):

_____

_____

_____

_____

By claiming that all or part of the bid or proposal is exempt from the public records law, the undersigned bidder or proposer agrees to protect, defend, indemnify and hold the County, its officers, employees and agents free and harmless from and against any and all claims arising out of a request to inspector copy the bid or proposal. The undersigned bidder or proposer agrees to investigate, handle, respond to, provide defense (including payment of attorney fees, court costs, and expert witness fees and expenses up to and including any appeal) for and defend any such claim at its sole cost and expense through counsel chosen by the County and agrees to bear all other costs and expenses related thereto, even if they (claims, etc.) are groundless, false, or fraudulent.

Bidder's Signature _____ Date _____

July 26. 2006

EXHIBIT I

TYPE "B" INSURANCE REQUIREMENTS

"Professional or Consulting Services"

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the contractor, his agents, representatives, employees or subcontractor**s**.

I. **COMMERCIAL GENERAL LIABILITY**.

Coverage must be afforded under a per occurrence form policy for limits not less than $1,000,000 General Aggregate, $1,000,0000 Products / Completed Operations Aggregate,

$1,000,000 Personal and Advertising Injury Liability, $1,000,000 each Occurrence, $50,000 Fire Damage Liability and $5,000 Medical Expense.

I. **AUTOMOBILE LIABILITY**.

Coverage must be afforded including coverage for all Owned vehicles, Hired and Non-Owned vehicles for Bodily Injury and Property Damage of not less than $1,000,000 combined single limit each accident.

II. **WORKERS COMPENSATION AND EMPLOYER'S LIABILITY**.

A Coverage to apply for all employees at STATUTORY Limits in compliance with applicable state and federal laws; if any operations are to be undertaken on or about navigable waters, coverage must be included for the USA Longshoremen & Harbor Workers Act.

B Employer's Liability limits for not less than $100,000 each accident; $500,000 disease policy limit and $100,000 disease each employee must be included.

III. **PROFESSIONAL LIABILITY or ERRORS AND OMISSIONS LIABILITY (E&O)**.

Professional (E&O) Liability must be afforded for not less than $1,000,000 each claim, $1,000,000 policy aggregate

IV. **OTHER INSURANCE PROVISIONS**.

A The policies are to contain, or be endorsed to contain, the following provisions:

B Commercial General Liability and Automobile Liability Coverages

1 The Alachua County Board of County Commissioners, its officials, employees and volunteers are to be covered as an Additional Insured as respects: Liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor.

2 The Contractor's insurance coverage shall be considered primary insurance as respects the County, its officials, employees and volunteers. Any insurance or self-insurance maintained by the County, its officials, employees or volunteers shall be excess of Contractor's insurance and shall be non-contributory.

C All Coverages

1 The Contractor shall provide a Certificate of Insurance to the County with a notice of cancellation. The certificate shall indicate if cover is provided under a "claims made" or "per occurrence" form. If any cover is provided under claims made from the certificate will show a retroactive date, which should be the same date of the contract (original if contact is renewed) or prior.

V. **SUBCONTRACTORS**

Contractors shall include all subcontractors as insured under its policies. All subcontractors shall be subject to the requirements stated herein.

CERTIFICATE HOLDER: **Alachua County Board of County Commissioners**

Client#: 25361 GEOSCONS

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 3/18/2019

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

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

PRODUCER	CONTACT NAME: Carly Underwood	
Greyling Ins. Brokerage/EPIC 3780 Mansell Road, Suite 370 Alpharetta, GA 30022	PHONE (A/C, No, Ext): 770.552.4225	FAX (A/C, No): 866.550.4082
	E-MAIL ADDRESS: carly.underwood@greyling.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : National Union Fire Ins. Co.	19445
INSURED Geosyntec Consultants, Inc. 900 Broken Sound Parkway NW, Suite 200 Boca Raton, FL 33487	INSURER B : Aspen American Insurance Company	43460
	INSURER C : New Hampshire Ins. Co.	23841
	INSURER D : Allianz Underwriters Insurance	36420
	INSURER E : Allied World Assurance Company (U.S.)	19489
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER: 19-20** **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			5268179	04/01/2019	04/01/2020	EACH OCCURRENCE	$1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$500,000
							MED EXP (Any one person)	$25,000
							PERSONAL & ADV INJURY	$1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$2,000,000
	POLICY X PRO-JECT X LOC						PRODUCTS - COMP/OP AGG	$2,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY			4489673 (AOS)	04/01/2019	04/01/2020	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
A	X ANY AUTO			4489674 (MA)	04/01/2019	04/01/2020	BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
B	UMBRELLA LIAB X OCCUR			CX005GA19	04/01/2019	04/01/2020	EACH OCCURRENCE	$15,000,000
	X EXCESS LIAB CLAIMS-MADE						AGGREGATE	$15,000,000
	DED X RETENTION $0							$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N			015893709 (AOS)	04/01/2019	04/01/2020	X PER STATUTE / OTH-ER	
A	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N	N / A		015893710 (CA)	04/01/2019	04/01/2020	E.L. EACH ACCIDENT	$1,000,000
	(Mandatory in NH)						E.L. DISEASE - EA EMPLOYEE	$1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - POLICY LIMIT	$1,000,000
D	Prof Liab (PL)/			U5L00010219	04/01/2019	04/01/2020	Ea Incident $10,000,000	
	Contr. Poll (CPL)						Aggregate $10,000,000	
E	Excess PL/CPL			03117500	04/01/2019	04/01/2020	Ea Inc/Agg $2M/$5M	

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

CERTIFICATE HOLDER

Sample Certificate

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Statement of Consultant's Equal Opportunity Policies and Practices

Geosyntec Consultants
Equal Employment Opportunity and Affirmative Action Plan

The Geosyntec family of companies (Geosyntec) is firmly committed to a policy of Equal Employment Opportunity and Affirmative Action. We will employ qualified persons of the greatest ability without discrimination against any employee or applicant for employment because of race, creed, religion, color, sex, physical or mental disability, medical condition, genetic information, national origin, age, marital status, domestic partner status, sexual orientation, gender identity, citizenship status, weight, height, arrest record, protected veteran status or any other group status protected by law. We will take affirmative action to employ and advance in employment qualified minorities, women, individuals with disabilities and protected veterans. We wish to reaffirm and re-emphasize that this policy applies throughout the firm and each of its subsidiaries.

To implement this policy, Geosyntec has established Affirmative Action programs by which we undertake that:

- We will recruit, hire, train and promote qualified persons in all job titles without regard to race, creed, religion, color, sex, physical or mental disability, medical condition, genetic information, national origin, age, marital status, domestic partner status, sexual orientation, gender identity, citizenship status, weight, height, arrest record, protected veteran status or any other group status protected by law;
- We will base decisions on employment so as to further the principle of equal employment opportunity;
- We will ensure that employment decisions are in accord with principles of equal employment opportunity by imposing only valid job requirements;
- We will ensure that all personnel actions such as compensation, benefits, transfers, promotions, layoffs, return from layoff, company sponsored training, education, tuition assistance and all company programs will be administered without regard to race, creed, religion, color, sex, physical or mental disability, medical condition, genetic information, national origin, age, marital status, domestic partner status, sexual orientation, gender identity, citizenship status, weight, height, arrest record, protected veteran status or any other group status protected by law; and
- To reinforce Geosyntec's commitment to equal employment opportunity and affirmative action, the following activities will occur on an annual basis:
    - Special management meetings with executive managers and supervisory personnel will be held to explain the intent of the program and individual responsibility to ensure the effective implementation and ongoing success of the program and to inform them of the company's commitment to the program;
    - The company's affirmative action policy will be discussed in employee orientation meetings and management training sessions; and
    - Geosyntec's recruiters, subcontractors, vendors and suppliers will be advised both verbally and in writing about the company's affirmative action policies.

Overall responsibility for the implementation of this policy is delegated to Jennifer Plauche, Human Resource Director and Affirmative Action Officer. While it is her day-to-day responsibility to develop and monitor affirmative action and other equal employment opportunity programs, management personnel at every level must share in the responsibility for promoting affirmative action and equal employment opportunity to ensure compliance is achieved.

The Affirmative Action plan is maintained at Corporate Headquarters located at 900 Broken Sound Parkway, Suite 200, Boca Raton, Florida.

Dissemination of Policy

Equal employment opportunity must be part of the fabric of all personnel decisions at Geosyntec. Successful implementation and observance of the Affirmative Action Plan will providebenefits to the Company with full utilization and development of previously underutilized human resources. To that end, Geosyntec recognizes the importance of communicating its EEO policies and procedures both internally, e.g. to employees and management; and externally, e.g. recruiting and referral sources, applicants, community agencies, subcontractors, vendors and suppliers. Toensure the dissemination of these policies, the Company will make its Equal Employment Opportunity and Affirmative Action Policy known internally and externally asfollows:

Internal Dissemination

- Written communication from the Company's Chief Executive Officer re-emphasizing Geosyntec's commitment to Equal Employment Opportunity and Affirmative Action is posted throughout the Company and on the Company's intranet.
- The Company has incorporated activities related to the Affirmative Action Plan, Equal Employment Opportunity Policy, and diversity into the Strategic Plan which has been distributed to all shareholders and managers throughout the firm.
- The Company's Declaration of Policy is conspicuously posted on bulletin boards at Company work sites and on the Company's intranet, which is accessible to all employees with laptop and desktop computers.
- A copy of the Company's Affirmative Action Policy Statement is included in the Company's "Corporate Policies and Procedures Manual", and the "Employee Handbook" which are provided to all Company managers and employees. Geosyntec's AffirmativeAction Policy Statement and Plan is also included on the Company's Intranet which is accessible to all employees with laptop and desktop computers.
- Meetings are held with executives, management and supervisory personnel to explain: (i) the intent of Geosyntec's policy; (ii) the CEO's attitude toward Equal Employment Opportunity and Affirmative Action; (iii) individual responsibilities for effective implementation of the policy; and (iv) to assist managers in identifying problem areas, and in formulation of effective solutions.
- The Company's Affirmative Action Policy is thoroughly explained in employee orientation, performance review meetings and management training programs.
- Company publications, when published, discuss issues pertaining to EEO and Affirmative Action including the progress and promotions of minorities, females, protected veterans and individuals with disabilities.
- Internal job postings state Geosyntec's equal employment and affirmative action policy.

- The progress of the Affirmative Action Program is reported to the CEO, the Board of Directors and managers annually.
- Bulletin boards bear the appropriate state and federal EEO posters.

External Dissemination

- Recruitment sources are informed of the Company's Equal Employment Opportunity policy and are requested to recruit and refer a representative diversity ofapplicants.
- Geosyntec's Equal Employment Opportunity Statement will be posted on the Employment section of Geosyntec's Web site.
- On all written job announcements, help wanted, recruitment brochures, or other communiqués, the words Equal Opportunity/Affirmative Action Employer- Minorities/Females/Disabled/Veteran Status will continue to be included.
- Geosyntec works with local community agencies to assure that minorities, females, protected veterans and individuals with disabilities are aware of openings and their ability to submit applications.
- The Company's Equal Employment Opportunity policy is disseminated to job applicants via the Company's Employment Application. The application will continue to be periodically reviewed to determine compliance with the most recent state and federal EEO regulations to ensure that each applicant is provided the maximum opportunity to display his/her job – related qualifications.
- Geosyntec has incorporated its Equal Employment Opportunity policy on Company printed material including, but not limited to, purchase orders, leases, contracts, Companybrochures, statement of qualifications and proposals.
- Where pictures of staff are required (e.g., firm capabilities' brochures) minorities, women and individuals with disabilities will be pictured.
- The Company will send written notification of Geosyntec's Affirmative Action policy to all subcontractors, subconsultants, vendors and suppliers, and request that all subcontractors, subconsultants, vendors and suppliers certify that they do not maintain segregated facilities, and that they have developed and maintain a written "Affirmative Action Plan".

References

Project/Contract Reference: *Stormwater Engineering Continuing Services Contract*
Client: *Orange County Public Works Department*
Name: *Mike Drozeck, PE*
Title: *Manager – Stormwater Management Division*
Address: *4200 South John Young Parkway, Orlando, FL 32839*
Phone No.: *407-836-7990*
Manager/Key Staff: *Mark Ellard (manager), Tom Amstadt, Lee Mullon, Erin Reed, Mike Hardin, Michael Scott*

Project/Contract Reference: *Wekiva Watershed TMDL Engineering Services Continuing Contract, NPDES Support Services Continuing Contract*
Client: *Seminole County Public Works Department*
Name: *Kim Ornberg, PE*
Title: *Manager – Watershed Management Division*
Address: *200 W. County Home Rd., Sanford, FL 32773*
Phone No.: *407-665-2417*
Manager/Key Staff: *Mark Ellard (manager), Tom Amstadt, Lee Mullon, Erin Reed, Mike Hardin*

Project/Contract Reference: *Environmental Engineering Continuing Services Contract*
Client: *Pinellas County Public Works Department*
Name: *Paul Miselis, PE, ENV SP*
Title: *Senior Engineer, Operations and Watershed Planning - Stormwater and Vegetation Division*
Address: *22211 US Highway 19 North, Clearwater, FL 33765*
Phone No.: *407-464-8921*
Manager/Key Staff: *Mark Ellard (manager), Tom Amstadt, Lee Mullon, Erin Reed, Mike Hardin, Michael Scott*

Project/Contract Reference: *Site Investigation and Remediation Program Management*
Client: *NASA*
Name: *Mike Deliz, PG*
Title: *Remediation Program Manager*
Address: *Kennedy Space Center, FL SI-E2*
Phone No.: *321-867-6971*
Manager/Key Staff: *Jim Langenbach (manager), Rachel Klinger, Joseph Bartlett, Catherine Soistman, Kevin Warner*

Project/Contract Reference: *Former Grey Line Trucking*
Client: *City of Winter Garden*
Name: *Donald Cochran*
Title: *Assistant City Manager – Public Services*
Address: *300 West Plant St., Winter Garden, FL 34787*
Phone No.: *407-656-4111, Ext. 2263*
Manager/Key Staff: *Jim Langenbach (manager), Joseph Bartlett, Catherine Soistman*

Project/Contract Reference: *Storage Tank Closure, Bishop Moore High School, Orlando, FL*
Client: *Orlando Diocese (represented by Baker Hostettler*
Name: *Bill Pence*
Title: *Attorney*
Address: *200 South Orange Ave., Orlando, FL 32801*
Phone No.: *407-649-4095*
Manager/Key Staff: *Catherine Soistman (manager), Jim Langenbach, Joseph Bartlett*

Professional Licenses

Ron DeSantis, Governor

Halsey Beshears, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

BOARD OF PROFESSIONAL ENGINEERS

THE ENGINEERING BUSINESS HEREIN IS AUTHORIZED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

GEOSYNTEC CONSULTANTS, INC.
900 BROKEN SOUND PKY NW #200
BOCA RATON FL 33487-2775

LICENSE NUMBER: CA4321
EXPIRATION DATE: FEBRUARY 28, 2021
Always verify licenses online at MyFloridaLicense.com

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RICK SCOTT, GOVERNOR

JONATHAN ZACHEM, SECRETARY

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

BOARD OF PROFESSIONAL GEOLOGISTS

THE GEOLOGY BUSINESS HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 492, FLORIDA STATUTES

GEOSYNTEC CONSULTANTS, INC.
900 BROKEN SOUND PARKWAY N.W.
SUITE 200
ATTN: MITZI JILES
BOCA RATON FL 33487

LICENSE NUMBER: GB200
EXPIRATION DATE: JULY 31, 2020
Always verify licenses online at MyFloridaLicense.com

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Geosyntec consultants

Offices in Principal Cities of the United States and Select International Locations

www.geosyntec.com

Geosyntec consultants

6241 NW 23rd Street
Suite 200
Gainesville, FL 32653

Alachua County Division of Purchasing, 3rd Floor
County Administration Building
12 SE 1st Street
Gainesville, FL 32601

RFP #20-171
Annual Environmental Consulting Services