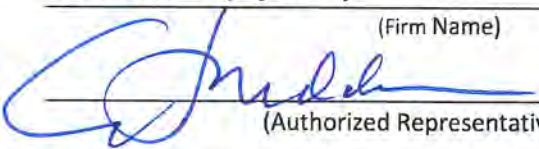


## Response Cover Sheet

This page is to be completed and included as the cover sheet for your response to the Request for Qualifications.

The City Commission of the City of St. Augustine Beach reserves the right to accept or reject any and/or all responses in the best interest of the City.

This response is submitted by the below named firm/individual by the undersigned authorized representative.

	<u>Crawford, Murphy &amp; Tilly</u>
	(Firm Name)
BY	
	(Authorized Representative)
	<u>Gary Sneddon</u>
	(Printed or Typed Name)
ADDRESS	<u>7400 Baymeadows Way # 220</u>
CITY, STATE, ZIP	<u>Jacksonville, FL 32256</u>
TELEPHONE	<u>904.448.5300</u>
FAX	<u>217.787.4183</u>

ADDENDA ACKNOWLEDGEMENTS: (IF APPLICABLE)

Addendum# 1 dated 11/12/21 Initials GS

Addendum# 2 dated \_\_\_\_\_ Initials \_\_\_\_\_

Addendum# 3 dated \_\_\_\_\_ Initials \_\_\_\_\_

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Tab 1

## **General/Background Information**

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November 18, 2021

ATTN: City Clerk  
City of St. Augustine Beach  
2200 S.R. A1A South  
St. Augustine Beach, Florida 32080

Re: **RFQ NO:21-06 Professional Engineering Services for Storm Drainage Master Plan Update**

To Whom it May Concern:

In professional engineering, managing stormwater is one area that is as much art as it is science. The firms that understand that philosophy result in a team of professionals who become experts and the “go-to” advisors for drainage analysis and design.

Since 1946, Crawford, Murphy & Tilly (CMT) has built a long and successful history within the stormwater industry and is a nationally recognized leader in infrastructure planning and design. We bring a 75-year legacy of helping our public agency and municipal clients navigate the stormwater planning process. We understand how to strike a balance between data-driven decisions, watershed definition, and considerations for the area’s unique coastal terrain, built out conditions, and how those conditions have altered the natural environment – all while managing project schedules and budgets. As we’ve practiced this science, our staff has continued to learn the subtleties and nuances of the art, and how we can merge the two to deliver successful solutions for our clients.

At CMT, we will apply our expertise and collaborate with the City of St. Augustine Beach to develop again a Stormwater Master Plan Update as Stone Engineering did before in 2004 that will serve the community for decades. CMT also brings the knowledge of sea level rise, important in coastal and specifically the recent assessment of vulnerable flood prone areas to be incorporated into any future a stormwater/flood protection management plan. We’ve been on the forefront of changing attitudes and approaches to understanding and dealing with stormwater. There’s never been a better time for us to work with you, and we have exactly the team you need.

**The CMT Team** – CMT and Four Waters Engineering have teamed up with the sole intent of providing the strongest team for this important endeavor. Four Waters Engineering is an off-shoot group of engineers from Applied Technology and Management (ATM) and specializes in coastal & waterfront water resources with a strength in software modeling and GIS. Other partners Terracon, and Geomatics Corp. – provides unmatched credentials and expertise to this project. CMT (formerly Stone Engineering Group) and our Project Manager, Gary Sneddon, brings an innovative approach to stormwater planning combined with the institutional knowledge from providing planning, design and construction services for the City of St. Augustine Beach’s stormwater system for over 25 years.

**Together, this team brings you the best of both worlds** – unmatched familiarity with your stormwater system plus the added capacity and expertise of CMT’s stormwater resources. For over 75 years, CMT has been helping municipalities like yours address similar wet weather challenges. CMT’s stormwater expertise is integrated within our core business units, meaning you gain the collective perspectives that a diverse group of professionals brings, including hydraulic modeling, water quality, GIS/Asset Management, transportation, civil site, land development, and sustainability.

We hope that with this statement of qualifications, it is clear that we are excited about this project and have more to share. Thank you for your consideration, and we look forward to continuing our relationship with the City of St. Augustine Beach.

A handwritten signature in blue ink, appearing to read "G. Sneddon", is positioned above the name Gary Sneddon.

Gary Sneddon, Office Manager | [gsneddon@cmtengr.com](mailto:gsneddon@cmtengr.com)

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**Firm**

Crawford, Murphy & Tilly, Inc.  
(CMT)  
S-Corporation

**Established**

1946

**Employees**

400+

**Offices**

25 offices in FL, TN, AL, KY, OH,  
IN, IL, MO, CO

**Contact**

Gary Sneddon, Project Manager  
p: 904.680.0541  
f: 217.787.4183  
gsneddon@cmtengr.com  
7400 Baymeadows Way # 220  
Jacksonville, FL 32256

**Staff Size:**

400+

**Web:**

[www.cmtengr.com](http://www.cmtengr.com)

**History of Firm**

Founded in 1946, Crawford, Murphy & Tilly (CMT) is a nationally ranked professional company providing planning, engineering and construction services to both the public and private sectors. CMT and its 400+ employees provide leadership in civil infrastructure by leveraging staff training and education, shared knowledge, staff longevity, and unique insights. For 75 years, the employee-owned corporation has sustained a trademark level of service and commitment to clients that translate into long-term relationships and enhanced value to our clients' projects.

Stone Engineering Group (SEG) provided civil engineering services to communities in North Florida for 30 years. Based upon a similar culture of service to the individual client, SEG was welcomed into the CMT family in 2019. SEG was established in 1989 when Stephen Joca partnered with John Mahoney to continue the practice founded by H.C. Stone in 1973. Prior to joining CMT, the most current ownership of SEG included Paul Ina and Gary Sneddon. Paul Ina and Gary Sneddon remain as a salaried employees of CMT and managers of CMT Northeast Florida region.

**Business Expertise - Services & Clients****BUSINESS UNITS:**

- Water Resources
- Aviation
- Surface Transportation
- Civil & Site Services

**CLIENT TYPES:**

- Municipalities
- DOTs and State Agencies
- Airports
- Sanitary Districts
- Utilities
- Private Developers
- Retailers
- Institutional
- Health Care
- Energy
- Military
- Federal

**SERVICES:**

- Civil Engineering
- Planning
- Value Engineering
- Architecture
- Roads and Bridges
- Traffic Analysis
- Utilities
- Water and Wastewater Systems
- Stormwater Systems
- Permitting
- Surveys
- Drainage and Floodplain Studies
- Electrical
- Streetscapes/Placemaking
- Bikeways/Paths/Trails
- Landscape Architecture
- Environmental
- Public Engagement
- Sustainability
- Asset Management





## CMT STORMWATER SOLUTIONS

*“[CMT’s] knowledge and expertise in stormwater management and asset resources was a huge advantage to our city.*

*The skillset and perspective that they brought forward helped move our City forward in the way we approach wet weather issues and how we present them to the public. Without a doubt, I confidently recommend CMT to join your team!”*

*Scott Reeise, (former) Director of Public Works, Peoria, IL*

Drainage and stormwater management is fundamental to a sustainable environment in towns and cities. Your community depends on you to provide an environment that is resilient to storm events and protect your water supply. Crawford, Murphy & Tilly (CMT) has been helping clients address these challenges based on over 75 years of innovative and practical approaches to drainage and stormwater issues.

### Sustainable & Practical

Beyond the conventional role of just managing flood impacts and transporting rainfall events, we understand how stormwater infrastructure can be better designed and managed to enhance our communities while better integrating stormwater with the natural environment. CMT has been engaged in the ongoing evolution of innovative LID (low impact development) approaches and BMPs (best management practices). We take a holistic approach to stormwater with clients. Our experience highlights an approach that balances goals within each situational context to provide the most appropriate stormwater solution for each specific project.

### Drainage & Stormwater Services

- Watershed analysis and management
- Floodplain analysis and permitting
- Integrated master planning
- Best management practices
- Permitting/regulatory compliance
- Modeling
- GIS/asset management
- Design engineering
- Construction phase services
- Rate/financial studies
- Green infrastructure
- Stormwater utilities





With Canopy, CMT can use this Stormwater Master Planning project to establish the foundation for an ongoing asset management system for St. Augustine Beach's Stormwater system.

Implementing Canopy will help with managing the City's MS 4 permit requirements by providing a means to graphically display St. Augustine Beach's varied stormwater assets, features, condition and value to the public in a format that is easy to grasp and understand.

Sample Project Planning Report:



## ASSET MANAGEMENT RESOURCES

As a public agency or municipality, you are tasked with being a good steward of public dollars. You must also make regular, major infrastructure investments, often with limited information. To accomplish both, we believe **you shouldn't have to make decisions without data, but you also shouldn't have to spend years building a perfect set of data to do so.** The solution is **Canopy**.

### Start making smarter decisions faster

**Canopy** is a GIS and data management system that empowers public works professionals to improve their asset database, guide maintenance actions, and prioritize capital investments, all in an easy-to-use, web-based environment. Although there are other data management tools out there, we believe that a truly strong system should be intuitive while flexible to provide **knowledge that grows with you.**

As a result, canopy can adapt to your needs, regardless of where you are starting within the asset management lifecycle, **so you can begin making smarter decisions for the infrastructure you build and manage.** Canopy provides applications for multiple infrastructure asset types including street related infrastructure, **potable, storm and waste water assets**, utilities, properties, structures and more. For stormwater assets, **Canopy** can calculate risk scores for pipes / culverts, manholes/inlets/catch basins, roadside ditches, channels/streams, green infrastructure and stormwater management ponds. The advantage of Canopy is that it can be customized to the assets you are managing.

### Take an integrated approach to your assets

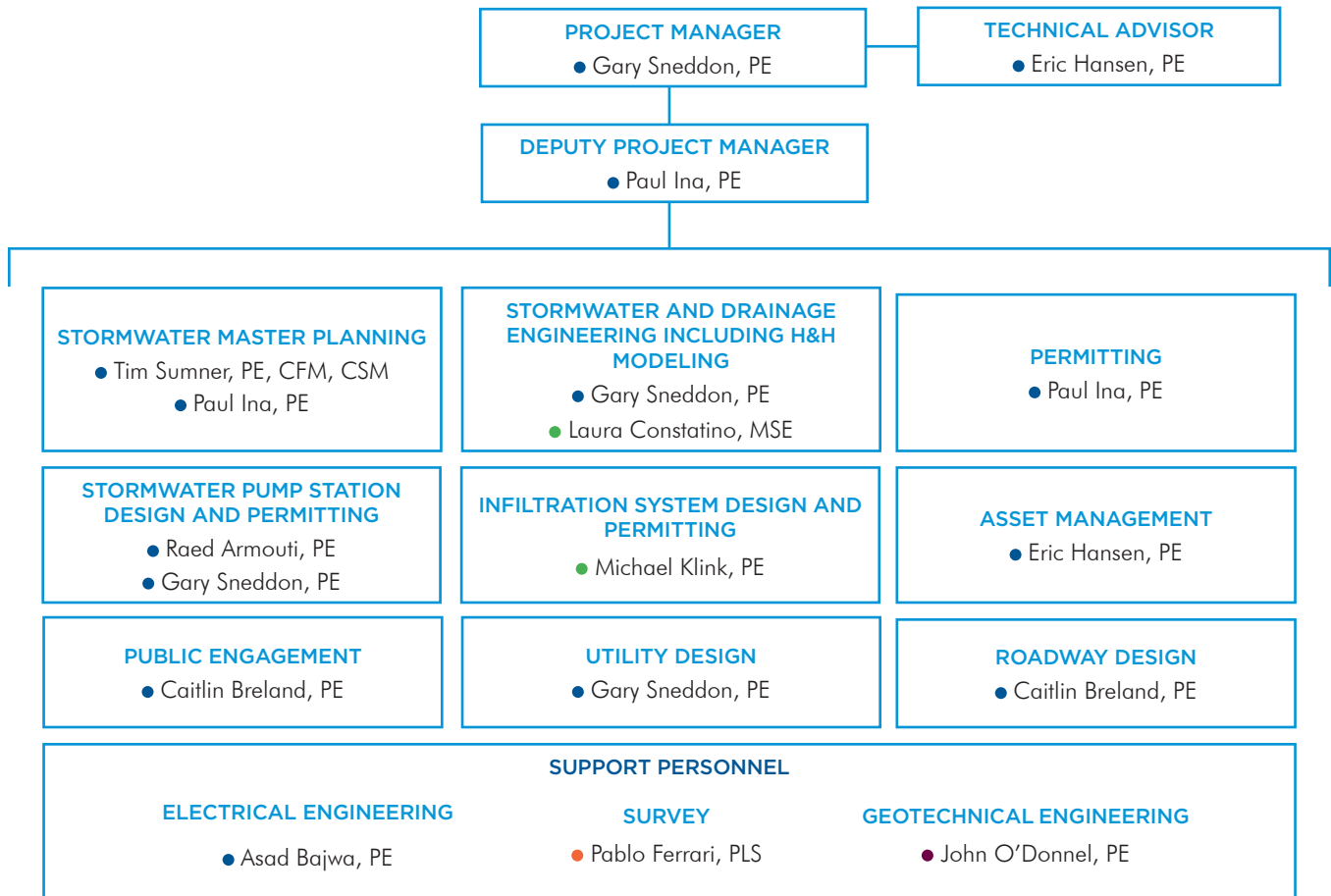
**Canopy** also promotes the integration of all these asset types into a holistic system for evaluation and maintenance. While other tools focus on specific asset types, **Canopy** allows you to consolidate and analyze multiple asset types within a defined ROW segment or customized project area limit. **Canopy** breaks the barriers of **siloed decision-making.**

### Apply risk management capabilities

With **Canopy**, you can plan projects by integrating risk scores with **planning-level construction cost estimates across all asset types.** With canopy for risk management, you can also begin comparing projects based on both risk and total cost; canopy uses custom algorithms to create a planning-level construction cost estimate for proposed projects.



## Organization Chart



### Legend

- CMT      ● Geomatics
- Four Waters      ● Terracon

## The CMT Team

- *The comfort of people you have trusted with the benefit of new and fresh perspectives of an expanded CMT (formerly Stone Engineering) team*
- *Insight from historic involvement in St. Augustine Beach stormwater planning since 2004*
- *Holistic approach to addressing the multiple concerns of stormwater system capacity, condition, and resilience.*

## Subconsultants Partnered for Success

The CMT Team is strategically comprised of trusted subconsultants to address your goals and challenges.. This specialized team provides an exceptional combination that can be leveraged as needed during the course of the contract.



### Stormwater and Drainage Engineering & Infiltration System Design and Permitting

Four Waters Engineering, Inc. (4Waters) is a full-service civil and environmental engineering consulting firm based in Jacksonville Beach, Florida that has been serving public clients in North Florida and throughout the Southeast U.S. for six years. 4Waters staff has broad experience with hydrologic and hydraulic modeling services for stormwater master plans, drainage studies, and planning and design of stormwater control facilities. Our professionals use models to visualize flow and flooding, calculate sediment and pollutant transport, and evaluate corrective measures. Our engineers and professional staff have extensive experience with both water quantity and water quality modeling to help address a variety of stormwater-related issues.

### Survey



Geomatics is a full-service, Small Business Administration (SBA) standard and a Certified Disadvantaged Business Entity (DBE) surveying and mapping firm founded in 1999. For the past 22 years, Geomatics has been dedicated to exceeding expectations providing high quality surveying services to St. Augustine, Jacksonville, and surrounding communities. All work is performed under the direction of Pablo Ferrari, P.S.M., President, and Terry Durden, P.S.M., Vice President, who together have over 60 years of surveying experience. Geomatics is licensed to provide survey and mapping services in Florida. They provide excellent service, accurate results and a quality product on time and on budget.

### Geotechnical Engineering



Terracon's geotechnical engineers analyze the information, develop site preparation options, foundations, and pavements, and consult with you and your entire design team to create excellent designs faster than ever. Understanding that collaboration builds consensus and time is money, they achieve collaboration by delivering data to the entire design team as soon as they collect it.

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## Tab 2

# **Project Approach**

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# CMT Storm Drainage Master Plan Update Approach

## Understanding and Approach

### Background

When the City of St. Augustine Beach was incorporated in 1959, it was a hamlet community with little need for centralized stormwater control. However, with constant growth in the northeastern region and increasing community density, stormwater flooding began to occur more regularly in the mid-1980's due to overdevelopment and a lack of regulation standards.

#### 1995 – ORIGINAL STORMWATER MASTER PLAN

Opportunity arrived for the city in 1994-1995 when FDOT and St. Johns County were planning roadway projects in the City. The FDOT's new SR3-A1A bypass project and St. Johns County's old A1A (Beach Boulevard) widening project required stormwater control, peak attenuation, and treatment to accommodate their new roadway sections. As both projects were located within the City's boundaries and needed to use the existing drainage canal to the Matanzas River outfall, a joint agency agreement was created to expand the stormwater drainage system for the City. This included creating a stormwater master retention area for pollutant treatment and a level of flood control within the stormwater conveyance system and retention area. To fully plan, engineer, and permit this improved stormwater system, a master engineering evaluation would be needed. The 1995 Stormwater Master Plan (SWMP) was developed to determine the routing for stormwater runoff created by the two roadway projects and additional conveyance improvements on 16th Street, modeling the results, and permitting the system through the SJRWMD as a master system of 760 acres. The 1995 Stormwater Master Plan was focused on the current conditions, but not planning for future development, identifying flood prone areas, classifying substandard infrastructure, or upgrading City infrastructure.

### Building on the Recent Plans

#### 2004 – UPDATE TO THE STORMWATER MASTER PLAN

The 2004 SWMP Update, facilitated by CMT, produced not only a broader overview of the City's existing stormwater conditions, but also a working plan to identify and track current and future infrastructure improvements. The updated model expanded the area from 760 acres to approximately 1000 acres and identified areas of flow restriction in the current conveyance network. It also differentiated self-contained stormwater treatment developments from areas with no stormwater treatment. The model improvements were included in the 15-acre master stormwater retention basin treatment calculations. The updated SWMP took the form of a master work plan identifying upgrades to the existing conveyance system and treatment locations for future street paving and community improvements such as police station, parks, fire stations and a new city hall. Once permitted through the St Johns River Water Management District, the 2004 SWMP Update became a Capital Improvement work plan and implementation mechanism.

The 2004 master stormwater plan update although a substantial improvement over the 1995 master stormwater plan still had limitations due to the level of technology available at the time, some of these limitations include.

- The computer model continued in the ICPR r3 version and was not converted to version r4, and the model and master plan remained defined, modeled and limited by the permitting storm event of a 25 year/ 24-hour storm event.
- Only limited updated visual data of pipes, culverts and ditches was incorporated into the base asset inventory and conveyance routing for the stormwater modeling and none of these additions were evaluated for functionality or longevity.
- Due to the expanded size of the area, the overall model continued to have large parcels (10 to 20 acres) indicated in the model as single computer nodal areas. Detail was lacking within these nodes to define tailwater conditions and potential localized flooding in the smaller areas within the larger model nodes.
- The master plan was never used for future prediction of flooding in multi street or subdivision size basins, although enough data was available within the model to attempt such analysis.
- There was no asset inventory or consideration for short- and long-term maintenance of the stormwater conveyance system or master stormwater retention basin , weir, or pumps. This became obvious on a few occasions where system compromise occurred from the lack of preventive maintenance (at the master weir, with the automated operation of the existing pumps, the loss of capacity in the County's 16th Street 72-inch pipe and the overgrown Mickler Boulevard ditch).
- The modeling did not identify or define the actual reverse flood impacts to the city from the downstream tidal surge of the Matanzas River and Salt Run areas into the city stormwater conveyance system. The outfall weir on the master retention area was placed at an elevation that only protected against a typical annual high tide, nothing more.

## 2020 – VULNERABILITY ASSESSMENT USING THE 2004 SWMP UPDATE

The 2020 Vulnerability Study, also completed by CMT, was developed as a future planning tool to identify and protect areas of the City that were most vulnerable to sea-level rise, storm surge, and major stormwater events. This study started with the 2004 SWMP Update and added, topographic features, contours and elevations from the GIS LiDar data from St. Johns County, field observed features, recently completed projects, and local knowledge of the City to identify the most vulnerable locations and provide solutions for their protection. Building off the Vulnerability Assessment, the report conclusions and recommendations act as the first locations for predicting the future flood areas within the new master plan.

## 2022 – New City-Wide Stormwater Master Plan

### A NEXT GENERATION PLAN

The 2022 update of the City Stormwater Master Plan we will call the “New City-Wide Stormwater Master Plan”. We see it as an evolution beyond the prior master plans that builds upon the work done so far to provide a more mature, insightful and dynamic tool for the City to make even better decisions about managing this critical resource. The new plan will benefit not just from more recent and enhanced modeling technology but from a more integrated and holistic approach to addressing the wider range of stormwater management concerns that are pressed upon local governments like St. Augustine Beach to address.

*“With urban populations expected to grow nearly 70% by 2050, and more frequent and intense storms occurring across the country, there is ever-increasing pressure on stormwater systems and water infrastructure. Urban runoff is a leading environmental challenge now and will be in the years to come. (WEF, 2019)”*

Water Environment Federation (WEF). Stormwater Institute, 2019. Stormwater and Green Infrastructure Symposium – Integrated Stormwater Management. May 8, 2019.

### A MORE HOLISTIC VIEW

CMT will suggest a more holistic view of the process in the detailed approach to planning. The holistic view will:

- Take into consideration more detail about the stormwater conveyance system, treatment system, and attenuation system including inventory of the system as a part of Asset Management.
- A more detailed look at the existing system wide conveyance condition, as well as R&R considerations of the existing system.

All the above considerations to mesh with a sustainable maintenance and replacement budget t.

### AN ENHANCED MODEL

The project will expand the master planning effort to the entire city incorporated limits, which will include some expansion of the over-all Computer modeling of the original core city outward. The resulting master plan will include areas of the city that will be part of the free-standing computer modeling and master plan areas

The project will reduce the larger node areas to smaller more numerous nodes to better view and evaluate the street by street and subdivision size areas for potential stormwater flooding, as well as incorporating into the master plan those half a dozen isolated areas that CMT has further evaluated over the years and detailed as white paper amendments to the 2004 master plan (areas such as 9th street, 3rd Alley, Oceanside ditch and the 11th Street /2nd Ave drainage rerouting)

Expand the modeling criteria to match the Vulnerability Assessment prepared by CMT to evaluate a projected 100-year storm event to better define the city-wide improvements needed to protect against tropical storm induced flooding and expected sea level rise.

Use the updated City stormwater ICPR r4 computer model developed by CMT as part of the Vulnerability Assessment to better link with the GIS features within the Master Plan for data presentation and graphics.

## Our Approach

Expanding on the need for evolution in the master planning process for City wide stormwater management we present our vision of the approach to designing the City’s next step in this journey of stormwater infrastructure. Our approach goes beyond the confines of Master Planning for Capital Improvement Planning or Regulatory Permitting to the bigger picture of sustainability and longevity and protection against outside impacts.

Key to the process of the broader based evaluation is the understanding of the Evolving Approaches of Transition from a Master Plans to a Management Plan.

These considerations include:

- System Expansion and Capacity
- System Condition and Maintenance, Repair and Replace
- System Environmental connection: Manage Socio/ Recreational Resources and Protect Water Resources.

CMT proposes an asset management planning approach that considers the operations, maintenance, replacement, and expansion of the existing stormwater infrastructure system to serve the community indefinitely.

The first step in any planning process starts with an assessment of the current information, processes, and perceived needs. The final step in the process will be delivery of a report and asset management recommendations that will serve the community on an annual basis. The intent of this study process is to empower staff to assess future needs and develop budget plans based on historical data and current conditions. The master planning process will:

- Evaluate and assess existing processes, programs and costs
- Evaluate and assess existing infrastructure present day replacement cost
- Prioritize needs based on Risk Factors
- Expand and improve the detail of the hydraulic model of the existing system
- Engage the community in a discussion of stormwater needs and priorities
- Deliver short-term (5 year) and long-term (20 year) recommendations
- Provide guidance for future proactive actions

CMT's four-step stormwater approach for moving forward for creation of the Stormwater Management Plan involves the following key tasks.

### 1. QUANTIFY

- Review existing asset inventory from the existing City GIS dataset already available to CMT
- Identify and document asset information not currently available such as Asset characteristics of age, material, and condition as well as water bodies on private property
- Estimate a present-day replacement value of constructed assets
- Expand the ICPR r4 model of the core City stormwater system and create other independent models of the peripheral areas not currently in the master core model.
- Review the status of 2004 Work Plan Recommendations, those completed and not completed
- and Identify system expansion areas since 2004 or larger areas redefined into smaller areas incorporated as part of the master plan by white paper addendums

### 2. EVALUATE

- Review current codes, policies & initiatives, Subdivision and zoning codes, the City's NPDES MS4 program, other supportive programs such as Economic Development, Green Initiatives, or Livable Community and Assess consistency of stormwater policies in various codes
- Review current Public Works Operations and Capital Programs; maintenance activities, administrative activities, contracted work, city workforce, and documented current annual stormwater system spending
- Evaluate system flow conditions, analyzing existing annual, 25, and 100-year storm event conditions; Identify System Improvements under annual, 25, and 100-year storm event conditions
- Analyze system needs for anticipated growth areas or future community projects
- Calculate Risk Factors for a sample set of the existing system, consider Capital programming using Risk Factors
- Identify an area of the city with confirmed GIS data and import into Canopy to prepare a **pilot asset management program**. Review the results with city staff, refine and present to the City Commission so they can see the benefits of being able to make informed decisions about their stormwater infrastructure.

### 3. FACILITATE

- Assist staff in assembling a staff Advisory Committee
- Audit the community's stormwater knowledge base
  - Green and grey infrastructure, Federal & state laws





- Green Infrastructure applications leveraging Economic Development
- Water quality impacts
- Prioritize stormwater management activities
- Present Level of Service scenarios
- Develop a number of Programs based on varying Level of Service scenarios
  - Maintain current conditions
  - Accelerated Maintenance/Capital plan
  - System replacement plan
- Workshop with City Staff, Review Level of Service program options
  - Review MS4 program recommendations
  - Review City Code recommendations

#### 4. DELIVER

- Financial analysis of Stormwater budgeting and funding mechanisms
- Review ad valorem rates and collection statistics
- Provide estimated budget projections to fund program options
- Evaluate the anticipated impact on the city budget
- Evaluate the future budget need and Future need for additional funding
- Create information/education materials, Printed documents and web-based content
- ICPR model base for the stormwater system multiple models, compile the results of the multiple independent models into a GIS based City wide graphic
- Master Plan Report
- Printed report
- GIS database with GIS applications to implement Master Plan recommendations
- Updated Shape files
- Present Final Recommendations to City Commission

#### ONGOING, COLLABORATIVE ENGAGEMENT

We will accomplish this new master plan update by meeting with city staff frequently to gather information, but to also discuss ideas and concepts to determine if these are worthy of inclusion in the new master plan update. Preparation of this updated Master Plan will be a series of meetings with Public Works to obtain data, exchange information, discuss ideas and concepts, prepare draft documents, obtain feedback and continue to build the concepts that will eventually comprise the updated master plan. In other words, it will be an iterative process of collecting information, drafting a plan, obtaining feedback and repeating the process. This is no different than our work on prior projects for the city. By utilizing this process, we ensure that the new master plan update is one that is built on collaboration and mutual agreement to achieve a plan that benefits the entire community.

This project will build upon CMT's Jacksonville staff intimate knowledge, while bringing in the experience the wider CMT stormwater expert staff to provide a fresh perspective on the planning process. CMT staff from outside Jacksonville will be able to ask questions that possibly challenge the status quo and offer different approaches to managing stormwater and improving overall performance. We look forward to the opportunity to dig into the details of your operations so that we can make meaningful recommendations that provide a foundation for success over this planning horizon.

**St. Augustine Beach is at a critical juncture with regards to stormwater infrastructure and management and CMT is the right team member to help embrace the challenge.**

# CENTERED IN VALUE

## Maximizing Cost Savings

CMT works collaboratively with clients who are challenged to meet system demands with limited resources and budgets. On this project, we will bring a fresh perspective and work side-by-side with you to optimize your program. Wired into each of our staff is a consistent drive to help our clients achieve savings. But in addition to that, we offer a dedicated Value Solutions team for formal VE studies. Our Water Resource team is routinely recognized with industry awards for creative approaches that result in project cost savings and total life cycle cost savings.

*“CMT has a transformative effect on the design issues it encounters”*

*Engineering News-Record naming CMT the Midwest Design Firm of the Year May 2014*

## Maximizing Performance

Our firm has established an excellent record of performance in terms of cost control, work quality, and ability to meet schedules. This performance record can be verified by the significant amount of repeat work we earn from our clients. CMT also routinely demonstrates its ability to not only meet schedules, but also perform on accelerated schedules to meet specific client needs, as demonstrated by our Client Satisfaction Improvement Process.

## Maximizing Functionality and Aesthetics

At CMT, we understand how infrastructure can be better designed and managed to enhance our communities while better integrating it with the natural environment. CMT has been engaged in the ongoing evolution of innovative LID (low impact development) approaches and BMPs (best management practices). We take a holistic approach to stormwater with clients. Our experience highlights an approach that balances goals within each situational context to provide the most appropriate stormwater solution for each specific project.



**CMT's innovative approach to St. Louis storm-related sewer overflows saved over \$80m over a proposed tunnel project.**

## MEETING SCHEDULES & BUDGETS

Through our Client Satisfaction Improvement Process (CSIP), CMT has been formally measuring our performance through our clients for nearly 20 years. Our average scores over the last three years indicate a high level of performance on meeting schedule, budget, and communication expectations.

**9.6**  
out of 10

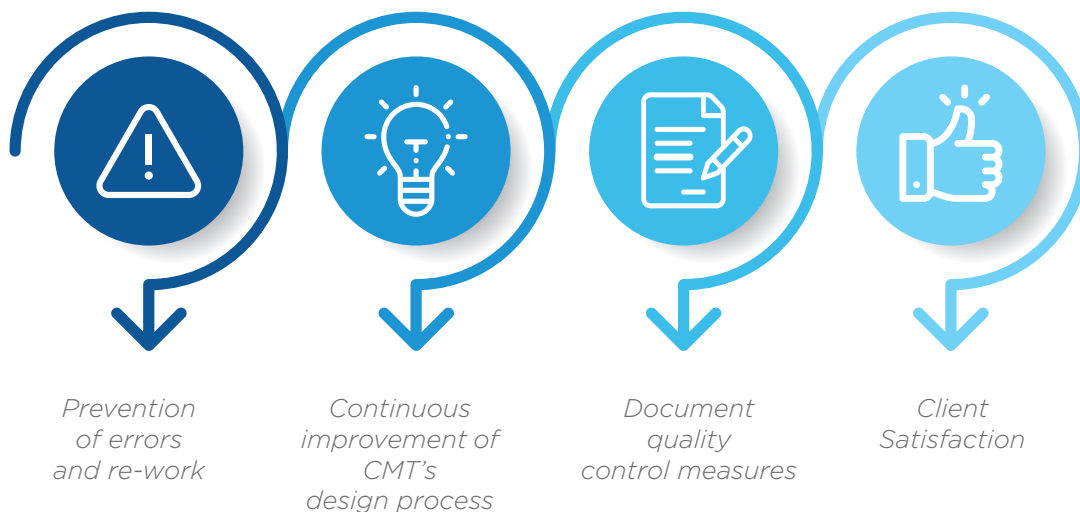
**CMT CLIENT  
SATISFACTION  
IMPROVEMENT PROCESS**  
AVERAGE FOR PAST 3 YEARS





## Quality Assurance & Quality Control

CMT has developed quality control (QC) and quality assurance (QA) procedures which, at the project level, are incorporated into a project specific Quality Assurance Plan (QAP). The purpose of the plan is to achieve the following goals on every project:



### QUALITY ASSURANCE PLAN

The Quality Assurance Plan (QAP) for your projects will be prepared by Paul Ina and Gary Sneddon.

### PROJECT TEAM

The project team will be finalized utilizing the staff provided in our organizational chart and any additional staff required as an outcome of the scope development process for each task assigned. Each project team member's detailed assignment will be identified and all QA/QC personnel will know their responsibilities.

### PROJECT WORK PLAN

A project work plan will be prepared identifying the detailed scope of work, subconsultant responsibilities, applicable standards, guidelines and memorandum. A detailed bar chart project schedule will be prepared identifying the multiple tasks to be completed and the milestones and deliverables required. At the beginning of the project a kick-off meeting will be held with all team members to discuss the project, review the QAP and resolve any outstanding issues that may exist.

As progress is made on the project, the QA/QC team will begin their review of results from the reports, documentation, calculations and preliminary copies of deliverables. The QA/QC team will also review and sign off that they have completed their review of preliminary and final documents they are responsible for prior to delivery. In the preparation of deliverables, the project manager is responsible for a final check to make sure all QA/QC reviews are complete and all comments are incorporated in the documents. In addition to meeting minutes, correspondence, telephone logs and emails will be shared with the QA/QC team members so they stay informed with project issues.

### ELEMENTS OF CMT'S QA/QC PLAN

1. Project Team
2. Written Project Work Plan
3. Project Quality Control Plan
4. Post-Design Evaluation Plan
5. Verification Process



Tab 3

## **Relevant Projects Summary**

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**FIRM:**  
CMT

**DATE:**

1996 - Present

**KEY PERSONNEL**

Paul Ina  
Gary Sneddon  
Caitlin Breland

**REFERENCE:**

Joseph Howells, PE,  
Former Director of  
Public Works  
904.471.1119

## St. Augustine Beach Stormwater Masterplan/and Vulnerability Study

### City of St. Augustine Beach, FL

CMT/Stone Engineering has been providing stormwater consulting services for the City since 2004, beginning with the update of the St. Augustine Beach Stormwater Master Plan. The 6-month effort expanded the original 1994 master plan into a comprehensive stormwater capital improvement planning tool for the drainage basin conveyance system for the City's stormwater retention facility. The original 1994 plan was modeled using an ICPR version 3 Stormwater Modeling software for an initial 760 Acre basin, later expanded in 2004 to a 1,000 acre basin with an expansion of the Master Stormwater Treatment Basin to the current 15 Acres.

The purpose of the 2004 plan was to identify improvements and develop a stormwater model to evaluate and facilitate permitting. The Plan has been used to assist in developing grant applications to address infrastructure improvements and upgrade existing conveyance systems. Stone Engineering (now CMT) has since been providing consulting services including design, permitting, wetland mitigation, and construction administration for various stormwater related improvements identified in the 2004 Plan.

From 2019 to 2021, CMT (formerly Stone) assisted to address the Stormwater Basin Control Structure 160 ft long weir that was damaged in Hurricane Matthew and Hurricane Irma through an initial temporary repair and the subsequent phased weir replacement project funded by FEMA HMGP and SJRWMD matching funds. The associated ICPR modeling validated the extent of vulnerability of the master stormwater system to tropical storm events. The project therefore raises the protective weir to the 100-year FEMA flood stage and upgrades the capacity to a full 250 cfs with addition of three new stormwater pumps with full backup power.

In 2020 CMT facilitated a Coastal Vulnerability Assessment and Adaptation Plan funded by the Florida Department of Environmental Protection (FDEP) Florida Resilient Coastlines Program (FRCP). The Plan identified areas in and around the city vulnerable to flooding due to sea level rise, extreme tides, and storm surge. The city is currently adopting measures to mitigate the effects. Strategies implemented will support resiliency planning efforts and guide future capital improvement plan development. Plan development is directly linked to the city-wide stormwater master planning effort and included a level of engagement with the citizenry in considering the need to invest in a sustainable future mitigation against sea level rise.

CMT utilized the City's full GIS database and the St. Johns County LiDAR topographic data as well as updating the 2004 master stormwater ICPR3 model to the new ICPR4 model. The assessment compiled and analyzed the entire development within the city including areas currently outside the 2004 master stormwater plan for incorporation into a new master plan covering 100% of the city corporate limit.



**FIRM:**  
CMT

**DATE:**  
2008

**KEY PERSONNEL**  
Gary Sneddon

**REFERENCE:**  
Denis Dupree  
Public Works  
904.247.6219

## Jacksonville Beach Stormwater System Tidal Weir and Pump Stations

### City of Jacksonville Beach, Florida

The City of Jacksonville Beach is a coastal municipality with major watersheds on both the Atlantic Ocean and the intracoastal waterway. The City built out primarily in the 1940's through 1970's had experienced tidal influenced flooding for many years. In the mid 1990's the City began an extensive process of developing a stormwater master plan and a stormwater utility. The initial capital improvement implementation was the construction of tidal control weirs and stormwater pump stations. Our team was involved in the project stormwater modeling of the 4,000 Acre master drainage basin, SJRWMD permitting and design of two phases of stormwater tidal control weir structures, and two 100 cfs stormwater pump stations with pump intake basins and outfall canal armoring for erosion control. The project was a total \$10 million retrofit with \$.5 million in FDOT funding. CMT provided a follow-up retrofit upgrade of the facilities for staff ease of maintenance and included repair design for the 13th Avenue South stormwater pump station weir and basin referred to as Phase I and the Ponce de Leon Avenue stormwater pump station weir and basin referred to as Phase 2. The Phase 1, 13th Avenue South Stormwater Weir and Pump Station, included a new park and multi-use trail along the canal / pump intake basin.

**FIRM:**

CMT

**DATE:**

2010

**KEY PERSONNEL**

Paul Ina  
Gary Sneddon

**REFERENCE:**

Greg Caldwell Public  
Works Director  
904.209.0133

## Palm Valley/Ponte Vedra Watershed Masterplan and Drainage Improvements St. Johns County

The multiphase project consisted of a study, hydraulic and hydrological modeling resulting in a regional master plan for half of the Northeast St. Johns County community referral to a Ponte Vedra and Palm Valley including the major watershed of the Guana River Basin. The Basin consists of a total of 9,000 acres of which 4,000 acres lies north of Mickler's Landing and approximately 5,000 acres is located within the Guana State Park and Guana River Preserve. This basin analysis was initiated because of recent and increasing flooding problems within several residential areas within the watershed as a result of the clogging effects of invasive vegetation proliferating from nutrient runoff in the developed areas. The second part of the analysis consisted of an effort to improve water quality within the Basin and leaving the Basin.

The Guana Basin is located in St. Johns County with a significant headwater portion in the Ponte Vedra Municipal Service District, a major contributor for the downstream nutrient loading of the basin.

The Ponte Vedra Stormwater Retrofit project was a continuation of the Guana Watershed Basin Master Plan, by implementing some of the recommendation of the Water Resource Improvement Plan to improve water quality while reducing flooding within the basin area. The project included the stormwater retrofit of two major residential neighborhoods to alleviate flooding, while permitting and designing the retrofitting an existing stormwater pond and installation of storm "septors" for stormwater treatment prior to discharge into the Guana system.

The Palm Valley basin also located in Northeast St. Johns County and a parallel project to the Guana Watersheds consisted of a watershed basin master plan of the Palm Valley area of Ponte Vedra. The basin master plan included the ICPR and HECRAS computer modeling using GIS mapping in determining the hydraulics of the extensive jurisdictional wetland network used as conveyance for the 535-acres watershed a portion of the northern 4,000 acres. The master plan further identified a first phase of drainage improvements to relieve flooding in the area.

Project included design services for stormwater improvements to the Palm Valley Drainage Basin Improvements. Drainage improvements included new drainage pipe and structures along Canal Boulevard, Wilderness Trail North and South, and along Palm Valley Woods Drive within the Palm Valley Wood Estates Subdivision.



**FIRM:**

CMT

**DATE:**

2013 - 2016

**KEY PERSONNEL**

Paul Ina  
Gary Sneddon  
Caitlin Breland

**REFERENCE:**

Carl Cote, Director  
of Stormwater  
& Engineering  
386.986.3749

## Town Center Drainage Basin Stormwater Updates City of Palm Coast, Florida

The Town Center DRI is comprised of approximately 1,557 acres. Generally, the boundaries are I-95 on the east, Belle Terre Parkway on the west, SR 100 on the south, and south of Royal Palms Parkway and includes the Flagler/Palm Coast High School.

CMT provided stormwater planning and civil design services to address stormwater needs and localized flooding issues in what is a fast-developing area of Palm Coast within the Town Center DRI. The high school originally established in 1959 experienced frequent flooding due to its low elevation and the outfall ditch tailwater back flowing into the campus. The project required updating the entire Town Center hydraulic model to address the flooding while also accommodating the widening of a major Bulldog Drive to a 4-lane arterial. Bulldog Drive along with Flagler Palm Coast High School generally served as the drainage divide between two major drainage basins within the Town Center DRI.

CMT performed hydraulic modeling of the area to assess impacts for existing and future conditions. While various alternatives were explored, the model validate the necessity of new stormwater pump station. Iterative runs of the model were conducted to optimize pump size and pond capacities within the entire Town Center basin.

CMT led the design based on key recommendations of the study. A key element was the design and construction of a new 40,000 gpm stormwater pump station with remote automated controls and backup generator to protect the upstream 150-acre sub basin and the high school from flooding.

Solutions were also developed for the Bulldog Drive improvements, which CMT also designed. The drainage area for the ponds extends from Bulldog Drive westerly to the eastern portion of the high school property. The drainage area for the roadside ditch on the east side of Bulldog Drive extends from Bulldog Drive easterly. The drainage area for Bulldog Drive is approximately 20 acres. The design included various aesthetic upgrades in the parking area, landscaping and pedestrian related improvements

The project included modifying the drainage basin inflow and outfall, collection system modifications and updating the hydraulic model of the stormwater system. The design of the pump station 2 pumps for stormwater quantity control and 1 pump for groundwater control to comply with the permitting.



**FIRM:**

CMT

**DATE:**

2016 - 2020

**KEY PERSONNEL**

Paul Ina  
Gary Sneddon  
Caitlin Breland

**REFERENCE:**

: Faith Alkhatib, PE,  
Public Works Director  
386.313.4045

*This environmentally sensitive project highlights the integration of stormwater planning with aesthetics and quality of life features into a popular new public park*

## North MalaCompra Drainage Basin Improvements Flagler County, Florida

CMT provided stormwater master planning and civil design services for two sub basins within the 1,600 acres North Malcompra drainage basin.

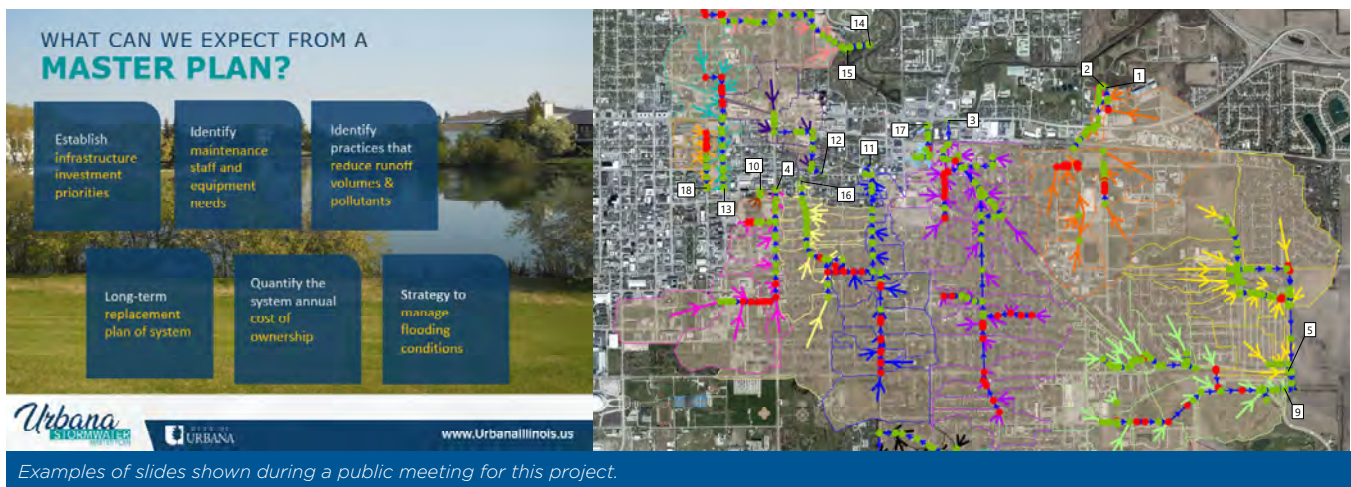
**Marineland Acres** is a 156 acre sub drainage basin and is an older area developed prior to SJRWMD permitting requirements, that lacks an internal collection system resulting in flooding issues. CMT modified the previous stormwater master plan and model to better integrate its key stormwater solution into a new 18-acre park facility fronting the Atlantic Ocean. The new community asset, Bay Drive Park, would surround what would be a master 10-acre stormwater management and flood control lake for the North MalaCompra drainage basin. The lake for stormwater detention was partially funded with a SJRWMD cooperative funding grant and the passive park was funded with a FCT grant.

The project included modifying the drainage basin inflow and outfall, collection system modifications and updating the hydraulic model of the stormwater system. The design of the pond included positive volume recovery and treatment volume to comply with the permitting. The pond accepts inflow from a proposed storm collection trunk line on Central Avenue, and from a proposed connection to the existing Rollins Dunes wet detention pond. The new collection trunk line accepts drainage from proposed side street collection storm drains. The project is located within the FEMA floodplain and hurricane tidal surge area and required special design considerations to protect structures against flooding.

**Integrating Aesthetics** - The scope included a natural shape design of the pond to improve the aesthetics, a roadway entrance feature, water fountain, benches, shaded pavilion, brick pavers, dunes observation deck, paddling trail and recognition signage, interpretation kiosks, planting areas, bike racks, sports courts and horseshoe pit. The project also included sidewalk from adjacent neighborhoods to the park site, paved access road on-site and parking area on-site, multi-use trail, dune crossover/boardwalk for beach access, decorative/pedestrian safety lighting including the entrance, restroom, access road on-site, multi-use trail and parking area. Extensive landscape buffering between the park, the Sea Colony Subdivision and other adjacent residential areas was a requirement.



CMT also developed the stormwater master plan for **Johnson Beach**, an adjacent 122-acre sub-basin also experiencing localized flooding. Key recommendations of the plan included the paving of dirt roads, as well as modifying and expanding the current ditch system. FDOT funding was achieved to construct some of these projects which CMT designed.

**FIRM:**

CMT

**DATE:**

2020

**KEY PERSONNEL**

Tim Sumner  
Eric Hansen

**REFERENCE:**

Justin Swinford, PE  
Civil Engineer  
(Former)  
217.373.3255

***CMT's approach delivered annual capital and maintenance plans based on cost of ownership for a desired level of service***

## Stormwater Management Plan

### City of Urbana, IL

Finding themselves in a new era of stormwater management, Urbana (population 42,700) interviewed consultants to prepare a stormwater master plan to develop a hydrologic and hydraulic model to assess existing drainage problems, incorporating best management practices and guidance for complying with current and anticipated NPDES permit requirements. CMT presented qualifications that addressed all those topics and more. CMT proposed using an asset management approach to stormwater planning to empower public works staff to develop annual capital and maintenance plans based on the total cost of ownership for a desired level of service. Urbana selected CMT based on our three-step process to guide the creation of the 2020 master plan.

**Quantify:** The storm sewer inventory was updated, and the value of the system was established using sewer replacement cost curves. An InfoWorks model of the stormwater collection system comprising 36-inch diameter pipe and larger to assess system capacity was built and recommendations provided for capacity improvements.

**Evaluate:** Urbana's stormwater management spending was assessed, and needs were quantified. Recommendations were prepared to update their MS4 plan. Also included in this phase was a review of the Public Works Department staffing levels, responsibilities, MS4 permitting challenges, software and equipment needs, ordinance review and street sweeping activities.

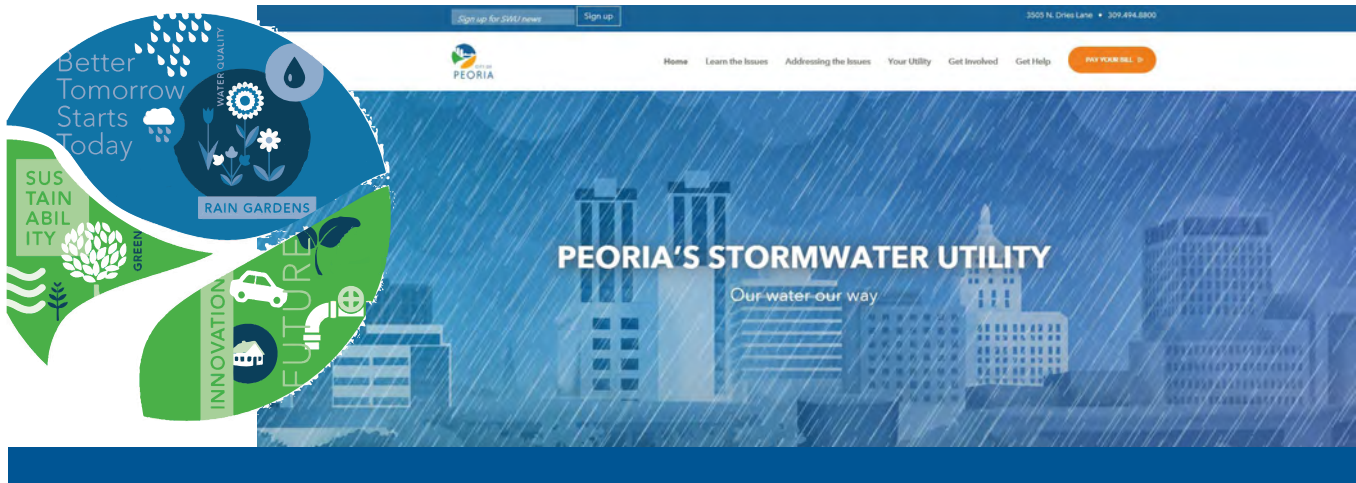
**Facilitate:** An initial meeting with a technical advisory committee made up of representatives from Urbana and stakeholder organizations was held to identify community, environmental and economic issues to be addressed in the stormwater master plan.

Three stormwater management program alternatives were developed for a 5-year program to assist with CIP budgeting and a vision for the future with a series of 20-year programs. The three 5-year program alternatives are described as:

1. **NPDES Permit Compliance:** maintain the status quo and identify what is not being done now but should be done as required by the MS4 permit.
2. **System Maintenance and Repair:** spend funds on making repairs to critical parts of the system to prevent catastrophic failures and anticipate higher maintenance needs and costs beyond 2025.
3. **Replacement and Rehabilitation:** a mixture of replacement and rehabilitation of pipes and structures based on the life cycle costs of the system and the preliminary age assessment performed using historic mapping.

The final report addresses the financial status of the stormwater utility, MS4 stormwater management program updates, new stormwater educational materials, the InfoWorks model of the stormwater collection system and geographic information system (GIS) applications to help implement the master plan recommendations.



**FIRM:**

CMT

**DATE:**

2015 - Present

**KEY PERSONNEL**

Tim Sumner  
Raed Armouti  
Eric Hansen

**REFERENCE:**

Andrea  
Klopfenstein, PE  
Stormwater Engineer  
309.494.8816

***CMT's process delivered a strong business case for a new Stormwater Utility to elevate funding. CMT is also serving as program manager for a multi-year implementation program.***

## Stormwater Management Plan

### City of Peoria, IL

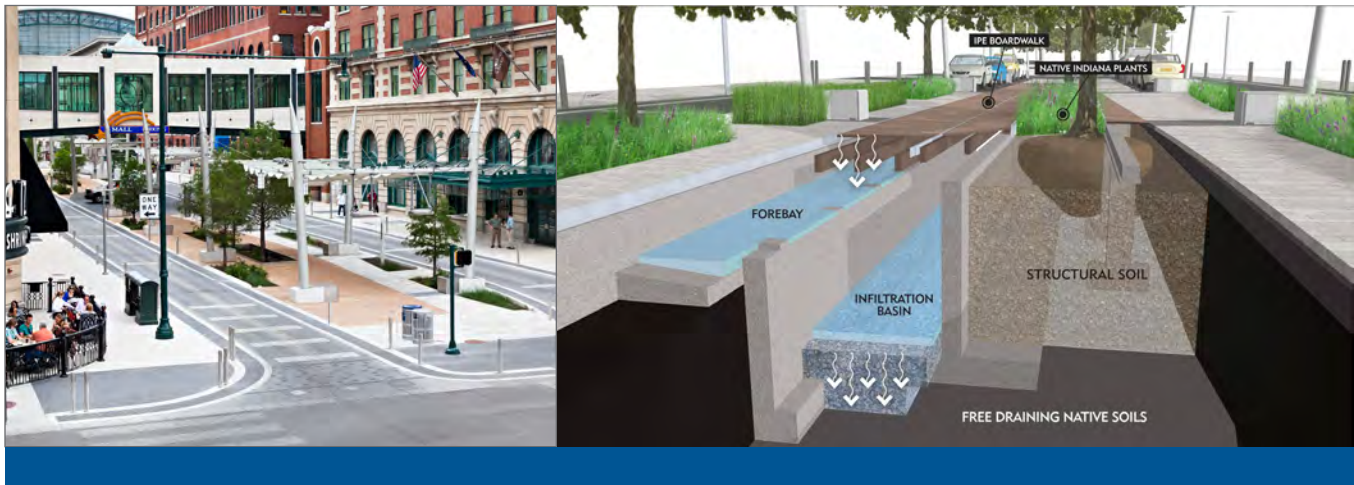
CMT assembled a consulting team that provided the City of Peoria with local knowledge and industry experts to address all facets of stormwater planning, programming, operations, and financial analysis. We understood that Peoria needed a consulting team to lead a very public and informative discussion about the storm drainage infrastructure challenges facing the city. We also knew the City has a vast network of drainage infrastructure that is not mapped or quantified and has been a low priority when funding allocations are programmed.

We implemented a public outreach program that educated decision makers and stakeholders about the storm drainage infrastructure condition, needs, and cost of ownership. Using existing information and anecdotal information from other communities, CMT assessed the condition and needs of the Municipal Separate Storm Sewer System (MS4). We presented the system information to a public advisory committee and discussed the community priorities during regularly scheduled meetings. Engaging the public was a critical first step in raising awareness about the need for annual investments into the storm drainage system. The advisory committee, named the OneWater Committee (OWC), comprised of a diverse set of stakeholders representing business, industry, private property, other governmental bodies and environmental advocates. OWC participation and feedback helped formulate and shape the stormwater management program submitted to the City Council for consideration.

Using the advisory committee feedback, CMT assembled a stormwater management program based on desired levels of service. Frequency of street sweeping, storm sewer inspection, and pipe replacement are level of service examples used to develop the program. The stormwater management program considered all aspects of operating a MS4. Activities and costs for administration, regulatory compliance, system maintenance, repairs and replacement were programmed over a five-year period. With the program fund level established and working with the finance team, CMT used city GIS data to evaluate financial options for the desired stormwater program if a stormwater utility were created to fund the program.

Peoria created a stormwater utility in December 2017 that began collecting revenues June 1, 2018. CMT's team guided the City through the implementation stage and continues to provide technical and administrative assistance in operating the utility. The SWU will be used in combination with sanitary sewer fees and other municipal funds to implement Peoria's Long Term Control Plan to reduce Combined Sewer Overflow events.

CMT's stormwater management program created in 2016 has led to continuing planning and programming services. CMT developed a community-wide asset management plan for all public infrastructure based on a risk management approach developed for the storm drainage system. The new application is to be deployed throughout the public works department to track information and develop prioritized capital programs.

**FIRM:**

CMT

**DATE:**

2012 - Present

**KEY PERSONNEL**

Eric Hansen

**REFERENCE:**

Todd Wilson  
Construction  
Administrator  
317.327.8637

*CMT is also collaborating with the City of Indianapolis and their analytics and software team to explore and enhance asset management solutions that benefit public works.*

## Sustainable Stormwater Management City of Indianapolis, IN

CMT has been a go-to firm providing creative leadership in the integration of innovative LID (low impact development) approaches and BMPs (best management practices) for the City of Indianapolis. Our experience highlights an approach that balances goals within each situational context to provide the most appropriate stormwater solution for each specific project. Sample projects include:

### GEORGIA STREET RECONSTRUCTION

On this signature downtown street that doubles as a popular pedestrian plaza, CMT designed a unique infiltration trench that runs the length of the entire 3-block corridor featuring forebays, sand media filters, and cisterns. The utilization of a boardwalk as a trench drain inlet completely maintains stormwater on-site in a contemporary and sustainable manner.

### SHELBY STREET AND MADISON AVENUE

CMT added both traditional and green stormwater methods to this street project that had poor drainage. Concepts were modified for use in this industrial setting. Creative concepts were helpful in avoiding very cost utility relocations.

### SIGBEE STREET

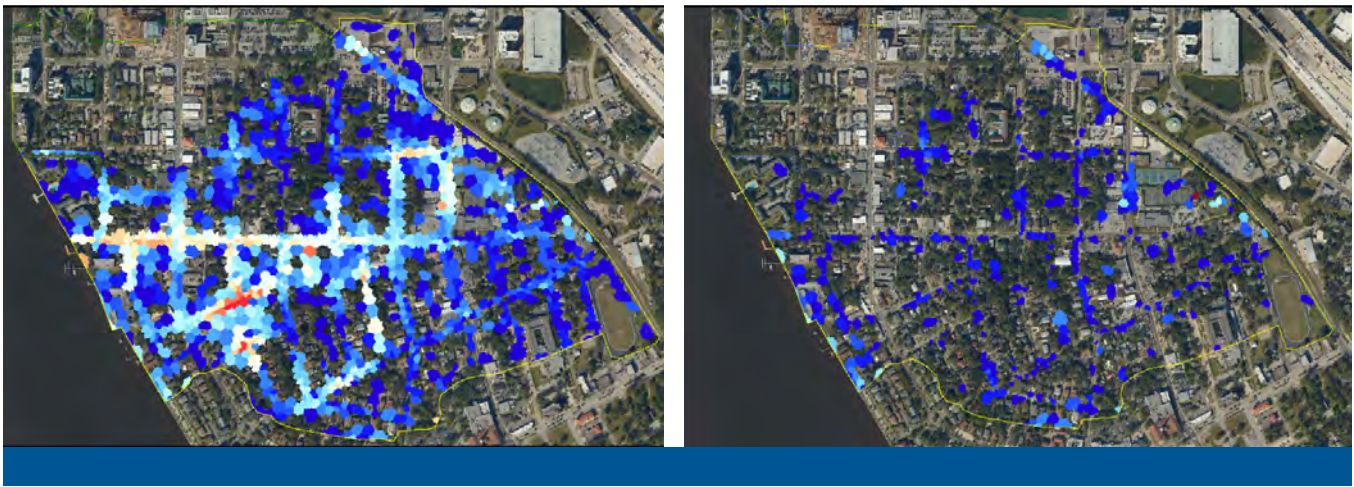
Addition of sidewalks in this neighborhood with flat topography and shallow roadside ditches presented unique challenges that CMT overcame with pavement regrading and hybrid ditch applications.

### WORLD SPORTS PARK

CMT was hand-picked by the City of Indianapolis to lead project development services for the conversion of an existing 48-acre park into a one-of-a-kind athletic facility for international sports. A unique stormwater management approach was used involving a turf root zone that works as a sand filter BMP to eliminate the channelization of runoff.

*“With regard to sustainability, they get it. Their designs for integrating sustainable stormwater management practices on streets are used throughout Indianapolis.”*

Andy Lutz, Indy DPW



**FIRM:**  
Four Waters

**DATE:**  
2020

**KEY PERSONNEL**

Michael Klink  
Laura Constantino

**REFERENCE:**

David D. Hahn,  
PE, Manager,  
904.255.8793,

## Drainage Modeling and Analysis for LaSalle Street Outfall Improvements City of Jacksonville, FL

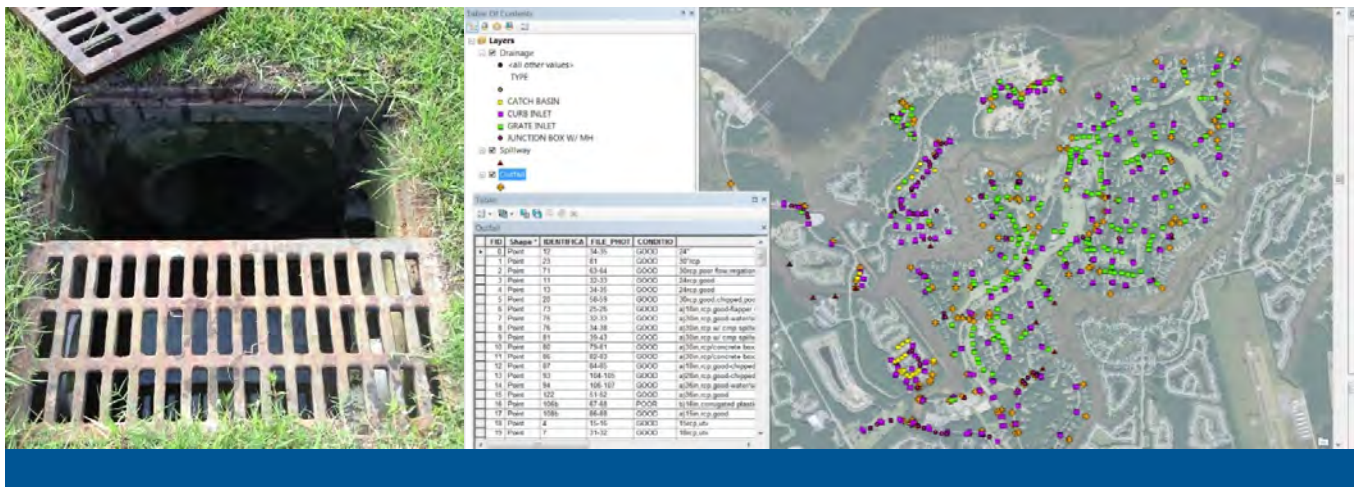
Poor drainage, rising water levels, and tidal influence have caused significant flooding issues in the historic San Marco neighborhood situated adjacent to the St. Johns River. The City of Jacksonville contracted 4Waters to develop plans for a pump station and critical drainage improvements to relieve flooding in the approximately 150-acre LaSalle Street drainage basin. This included stormwater modeling using the Advanced Interconnected Channel and Pond Routing version 4 (ICPR4) computer program developed by Streamline Technologies, Inc. The program is a FEMA-approved model that has the ability to analyze complex interconnected drainage systems dynamically along with two-dimensional overland flow over extended time periods.

4Waters utilized the ICPR4 two-dimensional (2D) overland flow model to simulate the hydrology to the hydraulic one-dimensional (1D) model of the stormwater conveyance system. The 2D model consisted of using the finite volume method, a double mesh including flexible triangular mesh (lump momentum equations along edges) and honeycomb mesh (lump mass balance equations) along with the use of the Digital Elevation Model (DEM). The honeycomb mesh was overlaid with soil zones, impervious and pervious zones digitized from aerial imagery with assigned Curve Numbers (CN) based on HSG soil type, and roughness zones (Manning's "n" surface values and depth) that were used to determine the overland flow stormwater surface runoff. Other input values included rainfall distribution pattern, hydrograph peaking factor, and design storm rainfall amounts.

The 1D model hydraulic input data consists of a system of nodes and links. The nodes represent locations where flows enter or exit the system, change of pipe or channel characteristics, or where stage/storage/time relationships are provided. The links represent traditional types of hydraulic conveyance such as pipes, channels, drop structures, and weirs. When the 2D hydrologic results are combined with the 1D hydraulic information, the hydraulic interactions of the entire drainage system are modeled. The results include visual stormwater surface depths over the project area and hydraulic depths of the conveyance system for at selected times during various design storms.

The design storms evaluated included the mean annual, 5-year, and 50-year, 24-hour storm events. Many scenarios were reviewed to accommodate the three design storms and level of service weighted with the level of improvements required. Five scenarios were selected to show the minimal and extreme efforts of improvements and the impact to alleviating the flooding in the drainage basin. After modeling each scenario and evaluating maximum depth and recovery time for each, 4Waters selected a scenario and provided the City with a detailed recommendation for the improvements.





**FIRM:**  
Four Waters

**DATE:**  
2018

**KEY PERSONNEL**  
Michael Klink  
Laura Constantino

**REFERENCE:**  
John Watkins, CMCA,  
Dunes West POA  
843.654.1542

## Dunes West Stormwater System GIS Inventory, Inspection and ICPR Modeling

### Dunes West Property Owners' Association, Mount Pleasant, SC

The Dunes West POA has partnered with 4Waters to employ the power and flexibility of GIS to spatially enable the stormwater data and build a full-featured stormwater asset management system. This system offers a strategic approach by tying detailed data to geographic locations, to help ensure that deficiencies in their stormwater system are identified, addressed, tracked and monitored.

4Waters worked closely with the POA to develop a GIS stormwater database to be used in conjunction with a full Web-based GIS system housed and managed by ROK Technologies, Inc. 4Waters staff conducted a thorough survey and inventory of the entire stormwater system, spatially locating and identifying more than 1,500 individual stormwater structures by means of sub-meter GPS data, as-built CAD data, custom data input forms, and digital imagery. The stormwater structures included curb inlets, catch basins, grate inlets, junction boxes, spillways, outfalls, and drainage pipes. In addition, data was incorporated for 68 stormwater ponds. This survey provided a library of information detailing the condition and performance of individual structures throughout the stormwater system.

The field data was imported into ArcGIS and formatted. The resulting GIS database includes an image catalog and feature data for each stormwater structure. In addition, the database includes condition data for individual structures, allowing the POA to identify needed maintenance and improvements required for continued proper operation of the stormwater infrastructure. The GIS stormwater database allows the POA quick access to infinite combinations of data to study and compare, which helps them prioritize stormwater projects.

When projects are identified, 4Waters can use the GIS stormwater database to export data to ICPR to efficiently create a pipe network and hydraulic model to assist with evaluating the system. The three primary elements in an ICPR model are basins, nodes and links, which are dynamically used to route stormwater through ponds, open channels and/or closed conduits. By importing data associated with the stormwater pipes, ponds and drainage structures, large quantities of data can populate various required fields and save valuable project time. The program's unique solution algorithm allows it to simulate a wide variety of complex conveyance system scenarios, as well as identify areas of concern with slope, flow issues and potential structural deficiencies.

When projects are complete, the information is updated in the GIS database. 4Waters continually updates and maintains the database to ensure the tool is useful and accurate.



## Tab 4

# Team Resumes

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**E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT***(Complete one Section E for each key person)*

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Gary Sneddon, PE</b>	<b>Project Manager &amp; Stormwater Pump Station Design</b>	43	2.5

15. FIRM NAME AND LOCATION (City and State)	
Crawford, Murphy & Tilly, Inc. (Jacksonville, FL)	
16. EDUCATION (Degree and Specialization)	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
BS / Civil Engineering	Professional Engineer - FL, IL
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)	

Gary has a B.S. Degree in Thermal and Environmental Engineering and has specialized in stormwater masterplans, water quality considerations, watershed evaluation, stormwater and flood mitigation design and permitting throughout his engineering career. Mr. Sneddon has over 43 total years of experience in engineering related to municipal and county governments and as such, has a proven track record of orderly execution of all project requirements, contract follow-up and technical competence. Mr. Sneddon's stormwater masterplan and pump station engineering experience is very extensive and includes the design of over 11 stormwater pump stations and the development/update of 5 stormwater masterplans in the Northeast Florida area.

**19. RELEVANT PROJECTS**

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>St. Augustine Beach Stormwater Masterplan/and Vulnerability Study</b> <b>City of St. Augustine Beach, FL</b>	Present	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Manager.</b> For Stormwater Master Plan including a Coastal Vulnerability Assessment and Adaptation Plan.		
B	<b>Palm Valley/Ponte Vedra Watershed Masterplan and Drainage Improvements</b> <b>St. Johns County, FL</b>	2010	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Manager.</b> For a study, hydraulic and hydrological modeling and a master plan for the Guana Watershed Basin		
C	<b>Jacksonville Beach Stormwater System Tidal Weir and Pump Stations</b> <b>City of Jacksonville Beach, FL</b>	2008	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Manager.</b> For a stormwater modeling of a 4,000 Acre master drainage basin, SJRWMD permitting and design of two phases of stormwater weir structures, and two 100 cfs stormwater pump stations with pump intake basins and outfall canal armoring for erosion control.		
D	<b>Town Center Drainage Basin Stormwater Updates</b> <b>City of Palm Coast, FL</b>	2015	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Engineer.</b> For stormwater planning and civil design services to address stormwater needs and localized flooding issues in what is a fast-developing area of Palm Coast within the Town Center DRI.		
E	<b>North MalaCompra Drainage Basin Improvements</b> <b>Flagler County, Florida</b>	2016	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Engineer.</b> For stormwater master planning and civil design services for two sub basins within the 1,600 acres North Malcompra drainage basin.		

**E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT***(Complete one Section E for each key person)*

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Paul Ina, PE</b>	<b>Deputy Project Manager, Stormwater Master Planning</b>	33	2.5

15. FIRM NAME AND LOCATION (City and State)

Crawford, Murphy &amp; Tilly, Inc. (Jacksonville, FL)

16. EDUCATION (Degree and Specialization)

BS / Civil Engineering; MS / Civil Engineering

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer - FL, GA, SC

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Paul has over 33 years of experience in civil engineering design including extensive expertise in the project priorities and design process of FEMA HMGP funded flood mitigation projects and extensive experience in providing cost effective flood protection enhancements that are beneficial, constructible and sustainable. Mr. Ina also has extensive experience in urban infrastructure retrofit including stormwater, roads and utilities. Mr. Ina has a master's degree in engineering and is a registered Engineer in 3 states. He has served various Local County and city governments in the northeast Florida area for over 23 years.

**19. RELEVANT PROJECTS**

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>St. Augustine Beach Stormwater Masterplan/and Vulnerability Study City of St. Augustine Beach, FL</b>	Present	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Project Engineer.</b> For Stormwater Master Plan including a Coastal Vulnerability Assessment and Adaptation Plan.		
B	<b>Palm Valley/Ponte Vedra Watershed Masterplan and Drainage Improvements St. Johns County, FL</b>	2010	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Project Engineer.</b> For a study, hydraulic and hydrological modeling and a master plan for the Guana Watershed Basin		
C	<b>Town Center Drainage Basin Stormwater Updates City of Palm Coast, FL</b>	2015	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Project Manager.</b> For stormwater planning and civil design services to address stormwater needs and localized flooding issues in what is a fast-developing area of Palm Coast within the Town Center DRI.		
D	<b>North MalaCompra Drainage Basin Improvements Flagler County, Florida</b>	2016	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Project Manager.</b> For stormwater master planning and civil design services for two sub basins within the 1,600 acres North Malcompra drainage basin.		
E	<b>Center Street Drainage Basin Improvements</b>	2011	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Project Manager.</b> For master stormwater modeling of 60 urban acres, improving drainage collection, and construction along Center Street from St. Johns River west to the railroad tracks. Project involved design of drainage improvements to the existing storm drain system to provide stormwater treatment utilizing SJRWMD cost-share funding program.		

**E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT***(Complete one Section E for each key person)*

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Eric Hansen, PE</b>	<b>Asset Management</b>	32	29

15. FIRM NAME AND LOCATION (City and State)

Crawford, Murphy &amp; Tilly, Inc. (Peoria, IL)

16. EDUCATION (Degree and Specialization)

BS / Civil Engineering

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer - IL, IA

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Eric has provided professional engineering services for large and small municipalities, state and federal agencies, private companies, and public and private utilities for the benefit of millions of people that depend on safe and reliable infrastructure. Eric earned the Certified Stormwater Manager (CSM) designation from the American Public Works Association. As such, he was certified by APWA as an expert able to coordinate and implement stormwater management programs for city, county, state, provincial, and federal agencies.

**19. RELEVANT PROJECTS**

A	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Stormwater Master Plan Urbana, IL	PROFESSIONAL SERVICES	CONSTRUCTION
		2020	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
Project Manager. Leading the effort to collect all data and information necessary to prepare Urbana’s Stormwater Master Plan. He worked closely with Public Works to perform staff interviews, solicit the needed data and ask follow-up questions about the information received to ensure he was interpreting and applying it correctly to their program.			
B	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Stormwater Management Program Peoria, IL	PROFESSIONAL SERVICES	CONSTRUCTION
		2015 - Present	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
Project Manager. Developed the stormwater program activities and revenue needs over a five year period for maintenance, inspections, cleaning, repairs and replacement, planning and design, equipment needs, MS4 regulatory compliance, and utility administration. He also participated in the public outreach efforts of the consulting team to help facilitate public advisory committee meetings.			
C	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Kickapoo Creek Peoria County, IL	PROFESSIONAL SERVICES	CONSTRUCTION
		2012	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
Project Manager. Hydrologic and hydraulic HEC modeling of an existing bridge and modeling of a proposed replacement structure to carry a county highway over Kickapoo Creek within a couple miles of the confluence with the Illinois River. The drainage area upstream of the structure is 279 square miles which produces 27,800 cfs during a 100 year event. The replacement structure is a two span 237 foot long bridge. Scour analysis using HEC-18 equations provided information for design of the new structure foundation.			
D	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Drainage Study Morton Business Park	PROFESSIONAL SERVICES	CONSTRUCTION
		2007	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
Project Manager. On behalf of the business park membership to apply for a Storm Water Credit from the Village of Morton Storm Water Utility. The project included the hydrologic and hydraulic study of the existing 192-acre business park. The study included the analysis of two main detention ponds which drain through pumped outlets. The analysis methodology utilized Pond Pack software.			
E	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Ossami Lake Hydrologic Study Village of Morton, IL	PROFESSIONAL SERVICES	CONSTRUCTION
		2008	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
Project Manager. For the 805-acre Ossami Lake watershed study, which included a detailed hydrologic and hydraulic investigation of the existing watershed to develop a computer model of the watershed’s existing conditions. The investigation and computer modeling led the study team to recommend specific best management practices that will reduce erosive conditions, attenuate peak runoff rates, capture pollutants at their source and improve the water quality environment within the Ossami watershed.			

**E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT***(Complete one Section E for each key person)*

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Tim Sumner, PE, CFM, CSM</b>	<b>Stormwater Master Planning</b>	30	30

15. FIRM NAME AND LOCATION (City and State)

Crawford, Murphy &amp; Tilly, Inc. (Springfield, IL)

16. EDUCATION (Degree and Specialization)	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
BS / Civil Engineering	Professional Engineer - IL, IN

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Tim brings 30 years of experience assisting clients in the planning investigation, design, construction and long-term maintenance of stormwater and wastewater systems and projects. Specific expertise includes collection system modeling, planning studies, sewer investigation and rehabilitation, pump stations, plan development, permitting and public involvement.

**19. RELEVANT PROJECTS**

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Stormwater Master Plan Urbana, IL	PROFESSIONAL SERVICES 2020	CONSTRUCTION N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X Check if project performed with current firm	
A	Project Engineer. Leading the effort to collect all data and information necessary to prepare Urbana’s Stormwater Master Plan. Tim worked closely with Public Works to perform staff interviews, solicit the needed data and ask follow-up questions about the information received to ensure he was interpreting and applying it correctly to their program. He also guided engineering staff in development of the InfoWorks model of Urbana’s storm sewer system. His involvement provided him the insight to prepare the master plan report containing recommendations for improvement as well as 5 and 20-year storm water management program alternatives and potential changes to the storm water utility rates.		
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Stormwater Management Program Peoria, IL	PROFESSIONAL SERVICES 2015 - Present	CONSTRUCTION N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X Check if project performed with current firm	
B	Project Engineer. Developed the stormwater program activities and revenue needs over a five year period for maintenance, inspections, cleaning, repairs and replacement, planning and design, equipment needs, MS4 regulatory compliance, and utility administration. He also participated in the public outreach efforts of the consulting team to help facilitate public advisory committee meetings.		
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Sanitary Sewer Master Plan Normal, IL	PROFESSIONAL SERVICES 2016	CONSTRUCTION N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X Check if project performed with current firm	
C	Project Engineer. For sanitary sewer master plan, including assessing operation and maintenance processes, developing asset replacement values, evaluating sewer fund expenditures, developing project approach to reduce inflow & infiltration into the sewer system, and report writing.		
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Village Engineer Village of Rochester, IL	PROFESSIONAL SERVICES 2016	CONSTRUCTION N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X Check if project performed with current firm	
D	Project Manager & Village Engineer. Provided construction plan review services for new subdivisions. Included in the infrastructure review were hydrologic and hydraulic calculations associated with the required stormwater conveyance and detention structures. Managed the village MS4 permit requirements and stormwater management program. Prepared revisions to subdivision and commercial ordinances to strengthen required infrastructure. Developed ordinances for sediment and erosion control, floodplain management and illicit discharge.		
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Drainage Study Central Illinois Regional Airport, Bloomington, IL	PROFESSIONAL SERVICES 2003	CONSTRUCTION N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X Check if project performed with current firm	
E	Prepared a drainage study to mitigate the impacts of extending and widening Runway 2/20 and parallel Taxiway G, as well as future airport development, to meet the City of Bloomington stormwater runoff code requirements. Detention storage of the 100-year rainfall event with a release rate determined using a 3-year frequency event was required.		



**E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT***(Complete one Section E for each key person)*

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Caitlin Breland, PE</b>	<b>Roadway Design &amp; Public Engagement</b>	12	1

15. FIRM NAME AND LOCATION (City and State)

Crawford, Murphy &amp; Tilly, Inc. (Jacksonville, FL)

16. EDUCATION (Degree and Specialization)	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
BS / Civil Engineering & Construction Management	Professional Engineer - FL

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

With over 12 years experience driving positive outcomes, Caitlin has worked as an operations manager, project manager, design-build manager, construction project manager, and lead designer on many projects including many for municipal clients including St Augustine Beach, Flagler County, City of Jacksonville, Jacksonville Transportation Authority, and Town of Lady Lake. Her expertise is in design-build projects, roadway design, and complete streets.

**19. RELEVANT PROJECTS**

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>St. Augustine Beach Stormwater Masterplan/and Vulnerability Study City of St. Augustine Beach, FL</b>	Present	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Project Engineer.</b> For Stormwater Master Plan including a Coastal Vulnerability Assessment and Adaptation Plan.		
B	<b>North MalaCompra Drainage Basin Improvements Flagler County, Florida</b>	2016	Present
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Project Engineer.</b> For stormwater master planning and civil design services for two sub basins within the 1,600 acres North Malcompra drainage basin.		
C	<b>SR 212 from SR 115 to Eve Dr. W Interchange Improvements FDOT District 2, Jacksonville, FL</b>	2020	Present
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Project Engineer.</b> For signing, pavement marking, and maintenance of traffic of double Median U-Turn Intersection (MUT) on SR 212 from SR 115 to Eve Dr. W in FDOT District 2. The SR 212 corridor is a six-lane divided, urban principal arterial with sidewalk on both sides of the roadway. The double MUT replaces direct left turns at an intersection with indirect left turns using a U-turn movement in a wide median. The MUT intersection eliminates left turns on both intersecting streets and thus reduces the number of traffic signal phases and conflict points at the main crossing intersection, resulting in improved intersection operations and safety.		
D	<b>I-10/Marietta Interchange FDOT District 2, Duval County, FL</b>	2016	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Roadway Designer.</b> For the new five ramp interchange on I-10 between Chaffee Road and I-295 in Jacksonville, Florida for FDOT District 2. The project included roadway geometrics, ramp profiles, drainage structure cross sections, bridge design, MSE walls, stormwater management facilities, signing & pavement marking, lighting, signalization, utility coordination support, along with the design of a round-about.		
E	<b>SR 9B (US-1 to SR 9A) Phase 1 FDOT District 2, Duval County, FL</b>	2013	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Project Engineer.</b> For the addition of SR 9B in Jacksonville, Florida. Scope of work included clearing and grubbing of 3 miles to connect US-1 Philips Hwy to State Road 9A (295 East Beltway). Construction involved excavating 9 EA retention ponds, installing storm drains (18" to 42") 15,000 LF, placing and compacting 1.2 million cubic yards of fill, 7 EA MSE Walls, and construction of 12 EA twin bridges and 1 EA Overpass over SR 9A. The new mainline consisted of 12" concrete pavement (full grind) with asphalt shoulders.		

**E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT***(Complete one Section E for each key person)*

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Raed Armouti, PE</b>	<b>Stormwater Pump Station Design and Permitting</b>	34	30

## 15. FIRM NAME AND LOCATION (City and State)

Crawford, Murphy &amp; Tilly, Inc. (St. Louis, MO)

## 16. EDUCATION (Degree and Specialization)

BS / Civil Engineering

## 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer - FL, IL, OH, KS, TN, IN, MO

## 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Raed brings more than 30 years of experience serving as Project Engineer, Resident Engineer, Project Manager and QA/QC Reviewer for the planning, design and construction of wastewater, stormwater and water infrastructure including pumping stations, treatment plants, various potable water distribution, storage tanks, and collection/distribution systems throughout his career with CMT.

**19. RELEVANT PROJECTS**

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>Kingsland Storage Tank Pumping Station, Pagedale, MO Metropolitan St. Louis Sewer District</b>	2021	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Principal.</b> For the design build of a one million gallon SSO relief storage tank, diversion structure and submersible pump station. The project also includes collection system modeling, a spray wash cleaning system, power and standby natural gas generator, real time operations control and site work.		
B	<b>East B Street Pump Station City of Belleville, IL</b>	2017	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Engineer &amp; Manager.</b> For the design, permitting, bidding, SRF loan assistance, and part time construction engineering services for installation of one 30 MGD pump and one 13 MGD pump.		
C	<b>12 MGD Truman Road Booster Station, City of Independence Water Independence, Missouri</b>	2020	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Engineer &amp; Manager.</b> For the planning, design, permitting and construction engineering for the 12 MGD booster pumping station along with all associated suction and discharge piping, fittings and valves and electrical and controls.		
D	<b>Stratmann Pump Station Improvements Missouri-American Water Company</b>	2021	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Principal.</b> For the Facility Planning and Preliminary Engineering phases for a new \$20 million 70 MGD pump station. Preliminary engineering is currently being completed.		
E	<b>Chain of Rocks WTP Raw and Finished Water Pumps Replacement St. Louis Water Division, MO</b>	2015	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Manager.</b> For design, permitting, bidding, SRF loan assistance and full time construction engineering services for replacing one 50 MGD raw water pump and one 25 MGD finished water pump, along with associated suction and discharge piping, fittings and valves. Medium voltage electrical and controls equipment associated with both pumps were also replaced as a part of the project.		

**E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT***(Complete one Section E for each key person)*

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Laura Constantino, MSE</b>	<b>Stormwater and Drainage Engineering, Including H&amp;H Modeling</b>	14	14

15. FIRM NAME AND LOCATION (City and State)

Four Waters (Jacksonville, FL)

16. EDUCATION (Degree and Specialization)	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
BS / Meteorology; MS / Environmental Engineering	

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Laura has 14 years of experience in environmental engineering. She has extensive model development and calibration experience and is proficient with multiple hydraulic modeling platforms. This includes hydraulic and hydrologic calculations, engineering assessments, extended period and dynamic simulations, models with as many as 4,000 elements, field testing, data analysis, and model calibration. Ms. Constantino has extensive training and experience with a multitude of GIS disciplines, including site suitability analyses, thematic mapping, geodatabase design, data conversion and field data collection and validation.

**19. RELEVANT PROJECTS**

A	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	LaSalle Street Outfall Improvements City of Jacksonville, FL	PROFESSIONAL SERVICES	CONSTRUCTION
		2020	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
	Stormwater Modeling and Engineering Support. Analysis of the approximately 150-acre LaSalle Street drainage basin using the ICPR4 2D overland flow model to simulate the hydrology to the hydraulic 1D model of the stormwater conveyance system. When the 2D hydrologic results are combined with the 1D hydraulic information, the hydraulic interactions of the entire drainage system are modeled.		
B	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Reuse Feasibility Study City of Palm Coast, FL	PROFESSIONAL SERVICES	CONSTRUCTION
			N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
	Project Manager and Modeling. Study to convert an existing spray irrigation/concentric ring rapid infiltration basins (RIBS) Site into a RIB system. Developed a hydrogeologic model in ICPR4 for the potential effluent disposal area to replicate the existing groundwater flow pattern at the site and predict, using elapsed time scenarios, the response of the water table and the soil water regime above it to rainfall, intensities of surface/subsurface drainage and surface reuse application.		
C	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Stormwater System GIS Inventory, Inspection, and ICPR Modeling, Dunes West HOA, Mt. Pleasant, SC	PROFESSIONAL SERVICES	CONSTRUCTION
		2018	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
	Stormwater Modeling and GIS. Survey of more than 1000 individual stormwater structures using sub-meter GPS, custom data input forms, and digital imagery. This field data was imported into ArcGIS and formatted with Visual Basic scripts. The result was a comprehensive GIS database including an image catalog and feature data for the stormwater structures.		
D	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	NPDES Engineering & Permit Administration MS4 GIS Inventory Database Update, City of Jacksonville, FL	PROFESSIONAL SERVICES	CONSTRUCTION
		Ongoing	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
	Senior GIS Associate. Senior GIS Associate assisting with update and maintenance of an ESRI geodatabase inventory of the City of Jacksonville’s Municipal Separate Storm Sewer System (MS4) infrastructure (including FDOT District 2 infrastructure located within City boundaries.)		
E	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Baseline Assessment and Infrastructure Assessment City of St. Augustine, FL	PROFESSIONAL SERVICES	CONSTRUCTION
			N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
	Evaluation of the City’s stormwater, water, sewer, and roadway systems and report comparing each to a defined level of service (LOS) and identifying funds and projects needed to meet LOS.		

**E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT***(Complete one Section E for each key person)*

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Michael Klink, PE</b>	<b>Infiltration System Design and Permitting</b>	16	16

15. FIRM NAME AND LOCATION (City and State)

Four Waters (Jacksonville, FL)

16. EDUCATION (Degree and Specialization)	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
BS / Civil Engineering; MS / Civil Engineering	Professional Engineer - FL, GA, SC

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Michael has 16 years of experience in Civil Engineering with a primary focus on stormwater related projects. His extensive experience includes work on stormwater ordinances, stormwater BMP manuals, flood studies, and stormwater infrastructure designs, and LID design. He is proficient in stormwater modeling and analysis of existing and proposed systems, evaluation of existing stormwater structures and replacement recommendations. He frequently provides municipal stormwater construction plans and calculations reviews, stormwater installation inspections, and has developed interactive ArcGIS inventory maps for municipalities' stormwater structures.

**19. RELEVANT PROJECTS**

A	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	LaSalle Street Outfall Improvements City of Jacksonville, FL	PROFESSIONAL SERVICES	CONSTRUCTION
	2020	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		X	Check if project performed with current firm
Project Engineer and Stormwater Modeler. Developed preliminary plans for a pump station to relieve flooding in the approximately 149-acre LaSalle Street drainage basin. This included development of an extensive 2D drainage model and analyses of existing conditions and three storm event conditions for the basin and corresponding stormwater management infrastructure recommendations.			
B	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Dunes West Pond 22 Analysis and Conceptual Design Dunes West HOA, Mt. Pleasant, SC	PROFESSIONAL SERVICES	CONSTRUCTION
	2018	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		X	Check if project performed with current firm
Project Engineer and Stormwater Modeler. For a drainage analysis of Pond 22, a pond that has tidal influence via a ditch to the marsh of the Toomer Creek. The tidal influence of the stormwater system allows for inconsistencies for stormwater storage capacity, saltwater intrusion, and upstream flooding of drainage systems during extreme tides.			
C	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	EOR and Stormwater Modeler, Cypress Wetlands Drainage Improvements and Restoration, Town of Port Royal, SC	PROFESSIONAL SERVICES	CONSTRUCTION
		N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		X	Check if project performed with current firm
Project Engineer. To assist the Town of Port Royal with the development of the multi-phase plan of the Cypress Wetlands. Developed ICPR model and designed stormwater drainage system improvements to prevent stormwater flooding and promote wetland restoration by reconnecting five existing large depressed wetland systems.			
D	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Academy Estates Regional BMP Beaufort County, SC	PROFESSIONAL SERVICES	CONSTRUCTION
		N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		X	Check if project performed with current firm
Project Engineer. Design, drainage calculations, construction plans, and permitting for a BMP for stormwater management of a 17.5-acre tract including a 3.65 acre regional wet detention pond. The Watershed Management Model (WMM) was used to evaluate the pollutant load reduction for the drainage basin.			
E	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Town of Port Royal Stormwater Outfall Identification and Interactive ArcGIS Map, Port Royal, SC	PROFESSIONAL SERVICES	CONSTRUCTION
		N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		X	Check if project performed with current firm
Engineer of Record. Conducted site reconnaissance with GPS to identify the Town of Port Royal stormwater outfall locations to prepare for the possibility of the Town becoming a MS4 and to evaluate the condition of the outfall structures.			

**E. RESUMES OF SUPPORT PERSONNEL PROPOSED FOR THIS CONTRACT***(Complete one Section E for each key person)*

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Asad Bajwa, PE</b>	<b>Electrical Engineering</b>	30	27

15. FIRM NAME AND LOCATION (City and State)
Crawford, Murphy & Tilly, Inc. (Aurora, IL)

16. EDUCATION (Degree and Specialization)	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
BS / Electrical Engineering; MS / Electrical Engineering	Professional Engineer - FL, IL

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
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Asad serves as Chief Electrical Engineer and oversees the firm's electrical engineering projects. He has served as project manager, project engineer, and designer, and has specific experience working on water, wastewater and stormwater infrastructure.

**19. RELEVANT PROJECTS**

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>Casey's Pond Pump Assessment Fermilab, Batavia, IL</b>	2020	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Electrical Engineer.</b> For the evaluation and design of new switchgear, electric service and stand-by power at the Casey's Pond Pump House. Responsibilities included design and construction for pump station improvements, including two new 2000A switchgear, motor control center, automatic transfer switch, and back-up generators.		
B	<b>Power Distribution and Control System Fermilab, Batavia, IL</b>	2010	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Electrical Design Engineer.</b> For the power distribution and control system for several projects, including the design of high voltage power distribution, interior/exterior lighting, underground ductbank system and fire alarm system.		
C	<b>High Service Pump Replacement City of Waukegan, IL</b>	Ongoing	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Lead Electrical Engineer.</b> For the design and construction of the replacement of the high service pumps at the water treatment plant.		
D	<b>River Intake Pump Station Upgrades City of Aurora, IL</b>	2004	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>Electrical Design Engineer.</b> For the electrical upgrades at the River Intake Pump Station, including the installation of variable frequency drives and SCADA controls.		
E	<b>St. Louis Water Division, MO Chain of Rocks WTP Raw and Finished Water Pumps Replacement</b>	2015	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	<b>QA/QC and subconsultant coordination.</b> For replacing one 50 MGD raw water pump and one 25 MGD finished water pump, along with associated suction and discharge piping, fittings, and valves. Medium voltage electrical and controls equipment associated with both pumps were also replaced as a part of the project.		



**E. RESUMES OF SUPPORT PERSONNEL PROPOSED FOR THIS CONTRACT***(Complete one Section E for each key person)*

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Pablo Ferrari, PLS</b>	<b>Survey</b>	33	22

## 15. FIRM NAME AND LOCATION (City and State)

Geomatics (St. Augustine Beach, FL)

## 16. EDUCATION (Degree and Specialization)

BS / Surveying and Mapping

## 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Land Surveyor - FL, AL, GA, MS, NC, SC

## 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Pablo has been with Geomatics Corporation for fourteen years, he has over 33 years of experience in the surveying field. He has worked with numerous public and private clients on various types of corridor surveys for transportation and utility projects. Some of the entities that he has worked with are FDOT, JTA, JEA, City of Jacksonville, JAA, JAXPORT, Duval County School Board, Jacksonville University, St. Johns County Construction Services, City of St. Augustine, St. Johns County Utility Department, St. Johns County School District, Clay County Utility Authority, Clay Electric, ATT, FPL and Georgia Transmission Corporation.

**19. RELEVANT PROJECTS**

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>I-75 From South of CR 240 Columbia County, FL</b>		N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Survey.</b> Design Survey, Horizontal/Vertical Control, Client: FDOT/SAI Consultants		
B	<b>I-75 from North of I-10 Columbia County, FL</b>		N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Survey.</b> Design Survey, Horizontal/Vertical Control, Client: FDOT/SAI Consultants.		
C	<b>Shired Creek Bridge Dixie County, FL</b>		N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Survey.</b> Full Design Survey, Horizontal/Vertical Control, Alignment, R/W, Client: FDOT/GAI Consultants.		
D	<b>California Swamp Dixie County, FL</b>		N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Survey.</b> For the electrical upgrades at the River Intake Pump Station, including the installation of variable frequency drives and SCADA controls.		
E	<b>California Swamp Dixie County, FL</b>		N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Survey.</b> Full Design Survey, Horizontal/Vertical Control, Alignment, R/W, Client: FDOT/GAI Consultants		



**E. RESUMES OF SUPPORT PERSONNEL PROPOSED FOR THIS CONTRACT***(Complete one Section E for each key person)*

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>John O'Donnel, PE</b>	<b>Geotechnical Engineering</b>	7	7

15. FIRM NAME AND LOCATION (City and State)
<b>Terracon (Jacksonville, FL)</b>

16. EDUCATION (Degree and Specialization)	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
BS / Geotechnical Engineering	Professional Engineer - FL, SC

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
---

John has over 7 years of experience as a Geotechnical Engineer. His expertise includes shallow and deep foundation design, analysis, testing, and inspection. As Lead Geotechnical Engineer on numerous public and private projects, he has been responsible for the entire Geotechnical Process, including planning, direction, and supervision of drilling, laboratory testing, analysis, and reporting. This experience has been carried forward through construction on numerous Design-Build and traditional Bid-Build projects.

**19. RELEVANT PROJECTS**

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>SR 105 Heckscher Drive over Myrtle Creek Jacksonville, Duval County, Florida</b>		N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Geotechnical Engineer and Project Manager.</b> Responsible for coordinating subsurface investigation and performing analysis for the bridge replacements in a rural area of Jacksonville. Driven pile capacity analysis was required for the bridge replacements.		
B	<b>SW 20th Avenue, Gainesville Alachua County, Florida</b>		N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Project Manager and Geotechnical Engineer.</b> For the geotechnical exploration, testing, analysis and reporting for roadway widening of SW 20th Avenue and draining structures along SW 61st Street in Gainesville, Alachua County, Florida.		
C	<b>CR65A Juniper Creek Road Over Juniper Creek Gadsden County, Florida</b>		N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Project Manager and Geotechnical Engineer.</b> Responsible for coordinating the subsurface exploration and geotechnical engineering evaluation for the design of the proposed bridge replacement.		
D	<b>Nine Mile Road Design-Build Escambia County, Florida</b>		N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Geotechnical Engineer.</b> Responsible for geotechnical exploration, testing, analysis and reporting. The total project length is about 4 miles includes roadway widening, drainage, noise wall and a bridge structure.		
E	<b>SR 105 Heckscher Drive over Simpson Creek Jacksonville, Duval County Florida</b>		N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Geotechnical Engineer and Project Manager.</b> Responsible for coordinating subsurface investigation and performing analysis for the bridge replacement in a rural area of Jacksonville. Driven pile capacity analysis was required for the bridge replacement.		

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## Tab 5

# Required Forms

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## Public Entity Crimes Statement

### SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a), FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

1. This sworn statement is submitted to Crawford, Murphy & Tilly  
(print name of the public entity)  
by Gary Sneddon, Office Manager  
(print individual's name and title)  
for Crawford, Murphy & Tilly  
(print name of entity submitting sworn statement)  
whose business address is: 7400 Baymeadows Way # 220, Jacksonville, FL 32256  
  
and (if applicable) its Federal Employer Identification Number (FEIN) is 37-0844662  
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement:  
\_\_\_\_\_)
2. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or any agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, robbery, collusion, racketeering, conspiracy, or material misrepresentation.
3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.
4. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:
  - a. A predecessor or successor of a person convicted of a public entity crime; or
  - b. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.
5. I understand that a "person" as defined in paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officer, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.
6. Based on information and belief, the statement in which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies).**

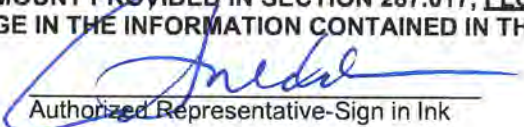
☒ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

☒ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

☒ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **(attach a copy of the final order).**

**I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.**

(Corporate Seal)

  
Authorized Representative-Sign in Ink

Gary Sneddon, Office Manager

Authorized Signature (typed) Title

Crawford, Murphy & Tilly

Company Name

7400 Baymeadows Way # 220

Mailing Address

Jacksonville, FL 32256

City, State, Zip

904.448.5300

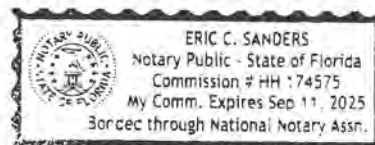
(Area Code) Telephone Number

SUBSCRIBED AND SWORN BEFORE ME AT:

  
THIS 12 DAY OF November 2021

NOTARY PUBLIC


MY COMMISSION EXPIRES: 9/11/25





## Certification Regarding Debarment, Suspension, and Other Responsibility Matters

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
  - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
  - b. Have not within a three (3) year period preceding this application/response been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of these offenses enumerated in paragraph 1 (b) of this certification; and
  - d. Have not within a five (5) year period preceding this application/response had one or more public transactions (Federal, State or local) terminated for cause or default.
2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this response.
3. No subcontract will be issued for this project to any party which is debarred or suspended from eligibility to receive federally funded contracts.

 Office Manager  
Signature Title

Crawford, Murphy & Tilly

Firm Name and Address

7400 Baymeadows Way # 220, Jacksonville, FL 32256

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# Architect - Engineer Qualifications

## Part I - Contract Specific Qualifications

### A. CONTRACT INFORMATION

#### 1. ADVERTISEMENT ITEM NUMBER AND DESCRIPTION

RFQ 21-06: Professional Engineering Services for Storm Drainage Master Plan Update, City of St. Augustine, FL

#### 2. ADVERTISEMENT DATE

3. N/A

November 18, 2021

### B. ARCHITECT-ENGINEER POINT OF CONTACT

#### 4. NAME AND TITLE

Paul Ina, PE - Surface Transportation Group Manager / Project Manager

#### 5. NAME OF FIRM

Crawford, Murphy & Tilly, Inc. (CMT)

#### 6. TELEPHONE NUMBER

904.680.0541

#### 7. FAX NUMBER

217.787.4183

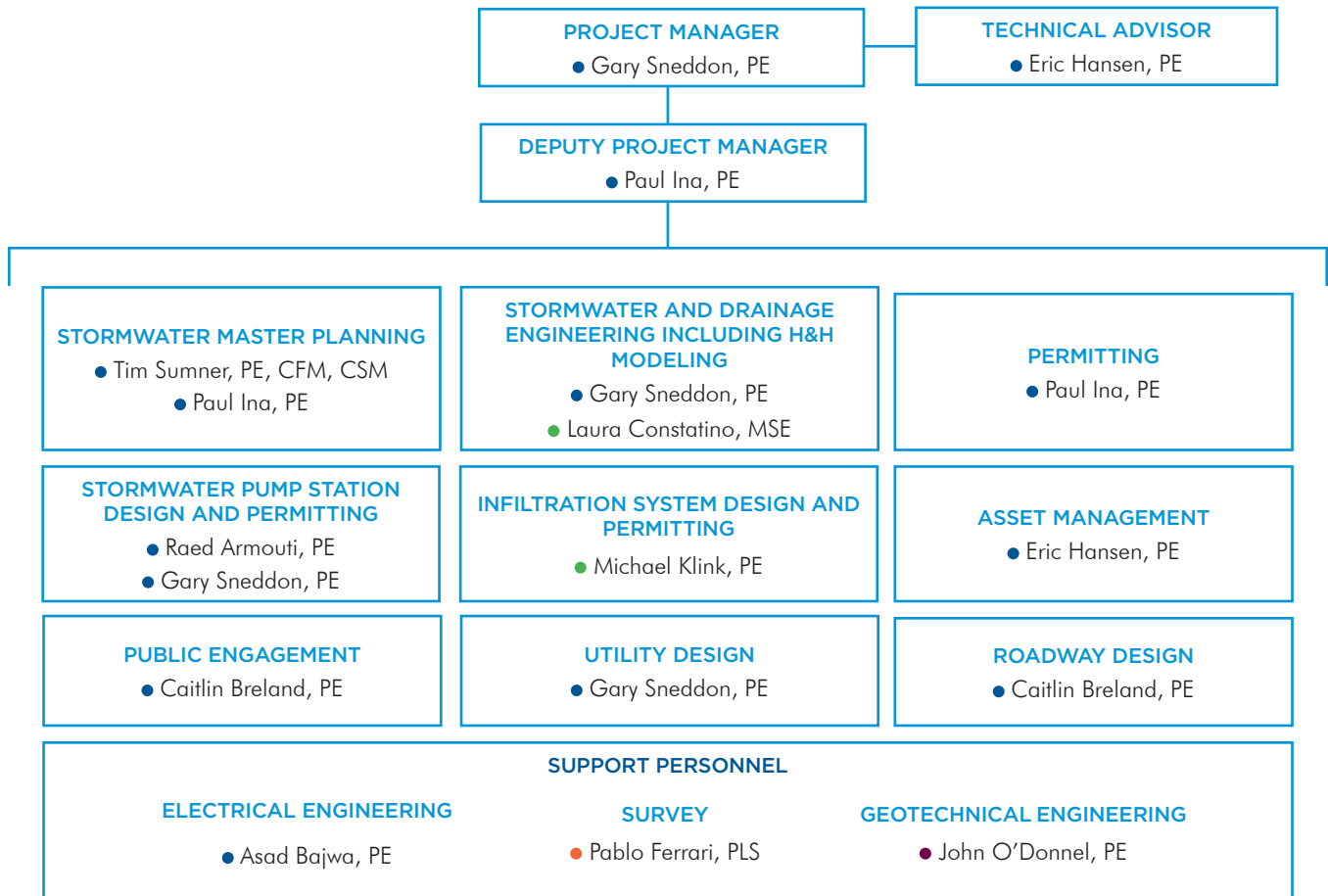
#### 8. EMAIL ADDRESS

pina@cmtengr.com

### C. PROPOSED TEAM

(Complete this section for the prime contractor and all key subcontractors)

(CHECK)				9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
	PRIME	JV PARTNER	SUBCON-TRACTOR			
A.	X			Crawford, Murphy & Tilly, Inc. <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE	7400 Baymeadows Way, Suite 220 Jacksonville, FL 32256	Stormwater engineering, planning, modeling, permitting, and other necessary services
B.	X			Crawford, Murphy & Tilly, Inc. <input type="checkbox"/> CHECK IF BRANCH OFFICE	2750 West Washington Street Springfield, IL 62702	Stormwater engineering, planning, modeling, permitting, and other necessary services
C.			X	Four Waters Engineering <input type="checkbox"/> CHECK IF BRANCH OFFICE	324 6th Ave North Jacksonville Beach, FL 32250	Stormwater modeling
D.			X	Terracon <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE	8001 Baymeadows Way, Suite 1 Jacksonville, FL 32256	Geotechnical Services
E.			X	Geomatics Corp. <input type="checkbox"/> CHECK IF BRANCH OFFICE	2804 N. Fifth Street, Suite 101 St. Augustine, FL 32084	Surveying
F.				 <input type="checkbox"/> CHECK IF BRANCH OFFICE		



### Legend

- CMT
- Geomatics
- Four Waters
- Terracon

## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Gary Sneddon, PE</b>	<b>Project Manager &amp; Stormwater Pump Station Design</b>	43	2.5

15. FIRM NAME AND LOCATION (City and State)

Crawford, Murphy & Tilly, Inc. (Jacksonville, FL)

16. EDUCATION (Degree and Specialization)

BS / Civil Engineering

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer - FL, IL

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Gary has a B.S. Degree in Thermal and Environmental Engineering and has specialized in stormwater masterplans, water quality considerations, watershed evaluation, stormwater and flood mitigation design and permitting throughout his engineering career. Mr. Sneddon has over 43 total years of experience in engineering related to municipal and county governments and as such, has a proven track record of orderly execution of all project requirements, contract follow-up and technical competence. Mr. Sneddon's stormwater masterplan and pump station engineering experience is very extensive and includes the design of over 11 stormwater pump stations and the development/update of 5 stormwater masterplans in the Northeast Florida area.

### 19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>St. Augustine Beach Stormwater Masterplan/and Vulnerability Study City of St. Augustine Beach, FL</b>	Present	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Manager.</b> For Stormwater Master Plan including a Coastal Vulnerability Assessment and Adaptation Plan.		
B	<b>Palm Valley/Ponte Vedra Watershed Masterplan and Drainage Improvements St. Johns County, FL</b>	2010	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Manager.</b> For a study, hydraulic and hydrological modeling and a master plan for the Guana Watershed Basin		
C	<b>Jacksonville Beach Stormwater System Tidal Weir and Pump Stations City of Jacksonville Beach, FL</b>	2008	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Manager.</b> For a stormwater modeling of a 4,000 Acre master drainage basin, SJRWMD permitting and design of two phases of stormwater weir structures, and two 100 cfs stormwater pump stations with pump intake basins and outfall canal armoring for erosion control.		
D	<b>Town Center Drainage Basin Stormwater Updates City of Palm Coast, FL</b>	2015	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Engineer.</b> For stormwater planning and civil design services to address stormwater needs and localized flooding issues in what is a fast-developing area of Palm Coast within the Town Center DRI.		
E	<b>North MalaCompra Drainage Basin Improvements Flagler County, Florida</b>	2016	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Engineer.</b> For stormwater master planning and civil design services for two sub basins within the 1,600 acres North Malcompra drainage basin.		



## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Paul Ina, PE</b>	<b>Deputy Project Manager, Stormwater Master Planning</b>	33	2.5

15. FIRM NAME AND LOCATION (City and State)

Crawford, Murphy & Tilly, Inc. (Jacksonville, FL)

16. EDUCATION (Degree and Specialization)

BS / Civil Engineering; MS / Civil Engineering

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer - FL, GA, SC

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Paul has over 33 years of experience in civil engineering design including extensive expertise in the project priorities and design process of FEMA HMGP funded flood mitigation projects and extensive experience in providing cost effective flood protection enhancements that are beneficial, constructible and sustainable. Mr. Ina also has extensive experience in urban infrastructure retrofit including stormwater, roads and utilities. Mr. Ina has a master's degree in engineering and is a registered Engineer in 3 states. He has served various Local County and city governments in the northeast Florida area for over 23 years.

### 19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>St. Augustine Beach Stormwater Masterplan/and Vulnerability Study City of St. Augustine Beach, FL</b>	Present	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Engineer.</b> For Stormwater Master Plan including a Coastal Vulnerability Assessment and Adaptation Plan.		
B	<b>Palm Valley/Ponte Vedra Watershed Masterplan and Drainage Improvements St. Johns County, FL</b>	2010	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Engineer.</b> For a study, hydraulic and hydrological modeling and a master plan for the Guana Watershed Basin		
C	<b>Town Center Drainage Basin Stormwater Updates City of Palm Coast, FL</b>	2015	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Manager.</b> For stormwater planning and civil design services to address stormwater needs and localized flooding issues in what is a fast-developing area of Palm Coast within the Town Center DRI.		
D	<b>North MalaCompra Drainage Basin Improvements Flagler County, Florida</b>	2016	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Manager.</b> For stormwater master planning and civil design services for two sub basins within the 1,600 acres North Malcompra drainage basin.		
E	<b>Center Street Drainage Basin Improvements</b>	2011	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Manager.</b> For master stormwater modeling of 60 urban acres, improving drainage collection, and construction along Center Street from St. Johns River west to the railroad tracks. Project involved design of drainage improvements to the existing storm drain system to provide stormwater treatment utilizing SJRWMD cost-share funding program.		

## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Eric Hansen, PE</b>	<b>Asset Management</b>	32	29

15. FIRM NAME AND LOCATION (City and State)

Crawford, Murphy & Tilly, Inc. (Peoria, IL)

16. EDUCATION (Degree and Specialization)

BS / Civil Engineering

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer - IL, IA

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Eric has provided professional engineering services for large and small municipalities, state and federal agencies, private companies, and public and private utilities for the benefit of millions of people that depend on safe and reliable infrastructure. Eric earned the Certified Stormwater Manager (CSM) designation from the American Public Works Association. As such, he was certified by APWA as an expert able to coordinate and implement stormwater management programs for city, county, state, provincial, and federal agencies.

### 19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>Stormwater Master Plan Urbana, IL</b>	2020	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Project Manager.</b> Leading the effort to collect all data and information necessary to prepare Urbana's Stormwater Master Plan. He worked closely with Public Works to perform staff interviews, solicit the needed data and ask follow-up questions about the information received to ensure he was interpreting and applying it correctly to their program.		
B	<b>Stormwater Management Program Peoria, IL</b>	2015 - Present	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Project Manager.</b> Developed the stormwater program activities and revenue needs over a five year period for maintenance, inspections, cleaning, repairs and replacement, planning and design, equipment needs, MS4 regulatory compliance, and utility administration. He also participated in the public outreach efforts of the consulting team to help facilitate public advisory committee meetings.		
C	<b>Kickapoo Creek Peoria County, IL</b>	2012	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Project Manager.</b> Hydrologic and hydraulic HEC modeling of an existing bridge and modeling of a proposed replacement structure to carry a county highway over Kickapoo Creek within a couple miles of the confluence with the Illinois River. The drainage area upstream of the structure is 279 square miles which produces 27,800 cfs during a 100 year event. The replacement structure is a two span 237 foot long bridge. Scour analysis using HEC-18 equations provided information for design of the new structure foundation.		
D	<b>Drainage Study Morton Business Park</b>	2007	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Project Manager.</b> On behalf of the business park membership to apply for a Storm Water Credit from the Village of Morton Storm Water Utility. The project included the hydrologic and hydraulic study of the existing 192-acre business park. The study included the analysis of two main detention ponds which drain through pumped outlets. The analysis methodology utilized Pond Pack software.		
E	<b>Ossami Lake Hydrologic Study Village of Morton, IL</b>	2008	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Project Manager.</b> For the 805-acre Ossami Lake watershed study, which included a detailed hydrologic and hydraulic investigation of the existing watershed to develop a computer model of the watershed's existing conditions. The investigation and computer modeling led the study team to recommend specific best management practices that will reduce erosive conditions, attenuate peak runoff rates, capture pollutants at their source and improve the water quality		

Drainage Study of the Ossami watershed.

## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Tim Sumner, PE, CFM, CSM</b>	<b>Stormwater Master Planning</b>	30	30

15. FIRM NAME AND LOCATION (City and State)
Crawford, Murphy & Tilly, Inc. (Springfield, IL)

16. EDUCATION (Degree and Specialization)	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
BS / Civil Engineering	Professional Engineer - IL, IN

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
---

Tim brings 30 years of experience assisting clients in the planning investigation, design, construction and long-term maintenance of stormwater and wastewater systems and projects. Specific expertise includes collection system modeling, planning studies, sewer investigation and rehabilitation, pump stations, plan development, permitting and public involvement.

### 19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Stormwater Master Plan Urbana, IL	PROFESSIONAL SERVICES	CONSTRUCTION
		2020	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
A	Project Engineer. Leading the effort to collect all data and information necessary to prepare Urbana's Stormwater Master Plan. Tim worked closely with Public Works to perform staff interviews, solicit the needed data and ask follow-up questions about the information received to ensure he was interpreting and applying it correctly to their program. He also guided engineering staff in development of the InfoWorks model of Urbana's storm sewer system. His involvement provided him the insight to prepare the master plan report containing recommendations for improvement as well as 5 and 20-year storm water management program alternatives and potential changes to the storm water utility rates.		
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Stormwater Management Program Peoria, IL	PROFESSIONAL SERVICES	CONSTRUCTION
		2015 - Present	N/A
B	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
	Project Engineer. Developed the stormwater program activities and revenue needs over a five year period for maintenance, inspections, cleaning, repairs and replacement, planning and design, equipment needs, MS4 regulatory compliance, and utility administration. He also participated in the public outreach efforts of the consulting team to help facilitate public advisory committee meetings.		
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Sanitary Sewer Master Plan Normal, IL	PROFESSIONAL SERVICES	CONSTRUCTION
		2016	N/A
C	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
	Project Engineer. For sanitary sewer master plan, including assessing operation and maintenance processes, developing asset replacement values, evaluating sewer fund expenditures, developing project approach to reduce inflow & infiltration into the sewer system, and report writing.		
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Village Engineer Village of Rochester, IL	PROFESSIONAL SERVICES	CONSTRUCTION
		2016	N/A
D	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
	Project Manager & Village Engineer. Provided construction plan review services for new subdivisions. Included in the infrastructure review were hydrologic and hydraulic calculations associated with the required stormwater conveyance and detention structures. Managed the village MS4 permit requirements and stormwater management program. Prepared revisions to subdivision and commercial ordinances to strengthen required infrastructure. Developed ordinances for sediment and erosion control, floodplain management and illicit discharge.		
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Drainage Study Central Illinois Regional Airport, Bloomington, IL	PROFESSIONAL SERVICES	CONSTRUCTION
		2003	N/A
E	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
	Prepared a drainage study to mitigate the impacts of extending and widening Runway 2/20 and parallel Taxiway G, as well as future airport development, to meet the City of Bloomington stormwater runoff code requirements. Detention storage of the 100-year rainfall event with a release rate determined using a 3-year frequency event was required.		

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## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Caitlin Breland, PE</b>	<b>Roadway Design &amp; Public Engagement</b>	12	1

15. FIRM NAME AND LOCATION (City and State)

Crawford, Murphy & Tilly, Inc. (Jacksonville, FL)

16. EDUCATION (Degree and Specialization)

BS / Civil Engineering & Construction Management

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer - FL

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

With over 12 years experience driving positive outcomes, Caitlin has worked as an operations manager, project manager, design-build manager, construction project manager, and lead designer on many projects including many for municipal clients including St Augustine Beach, Flagler County, City of Jacksonville, Jacksonville Transportation Authority, and Town of Lady Lake. Her expertise is in design-build projects, roadway design, and complete streets.

### 19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>St. Augustine Beach Stormwater Masterplan/and Vulnerability Study City of St. Augustine Beach, FL</b>	Present	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Project Engineer.</b> For Stormwater Master Plan including a Coastal Vulnerability Assessment and Adaptation Plan.		
B	<b>North MalaCompra Drainage Basin Improvements Flagler County, Florida</b>	2016	Present
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Project Engineer.</b> For stormwater master planning and civil design services for two sub basins within the 1,600 acres North Malcompra drainage basin.		
C	<b>SR 212 from SR 115 to Eve Dr. W Interchange Improvements FDOT District 2, Jacksonville, FL</b>	2020	Present
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Project Engineer.</b> For signing, pavement marking, and maintenance of traffic of double Median U-Turn Intersection (MUT) on SR 212 from SR 115 to Eve Dr. W in FDOT District 2. The SR 212 corridor is a six-lane divided, urban principal arterial with sidewalk on both sides of the roadway. The double MUT replaces direct left turns at an intersection with indirect left turns using a U-turn movement in a wide median. The MUT intersection eliminates left turns on both intersecting streets and thus reduces the number of traffic signal phases and conflict points at the main crossing intersection, resulting in improved intersection operations and safety.		
D	<b>I-10/Marietta Interchange FDOT District 2, Duval County, FL</b>	2016	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Roadway Designer.</b> For the new five ramp interchange on I-10 between Chaffee Road and I-295 in Jacksonville, Florida for FDOT District 2. The project included roadway geometrics, ramp profiles, drainage structure cross sections, bridge design, MSE walls, stormwater management facilities, signing & pavement marking, lighting, signalization, utility coordination support, along with the design of a round-about.		
E	<b>SR 9B (US-1 to SR 9A) Phase 1 FDOT District 2, Duval County, FL</b>	2013	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> X	Check if project performed with current firm
	<b>Project Engineer.</b> For the addition of SR 9B in Jacksonville, Florida. Scope of work included clearing and grubbing of 3 miles to connect US-1 Philips Hwy to State Road 9A (295 East Beltway). Construction involved excavating 9 EA retention ponds, installing storm drains (18" to 42") 15,000 LF, placing and compacting 1.2 million cubic yards of fill, 7 EA MSE Walls, and construction of 12 EA twin bridges and 1 EA Overpass over SR 9A. The new mainline consisted of 12" concrete pavement (full grind) with asphalt shoulders.		

## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Raed Armouti, PE</b>	<b>Stormwater Pump Station Design and Permitting</b>	34	30

15. FIRM NAME AND LOCATION (City and State)

Crawford, Murphy & Tilly, Inc. (St. Louis, MO)

16. EDUCATION (Degree and Specialization)

BS / Civil Engineering

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer - FL, IL, OH, KS, TN, IN, MO

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Raed brings more than 30 years of experience serving as Project Engineer, Resident Engineer, Project Manager and QA/QC Reviewer for the planning, design and construction of wastewater, stormwater and water infrastructure including pumping stations, treatment plants, various potable water distribution, storage tanks, and collection/distribution systems throughout his career with CMT.

### 19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION
A	<b>Kingsland Storage Tank Pumping Station, Pagedale, MO Metropolitan St. Louis Sewer District</b>	2021	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Principal.</b> For the design build of a one million gallon SSO relief storage tank, diversion structure and submersible pump station. The project also includes collection system modeling, a spray wash cleaning system, power and standby natural gas generator, real time operations control and site work.		
B	<b>East B Street Pump Station City of Belleville, IL</b>	2017	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Engineer &amp; Manager.</b> For the design, permitting, bidding, SRF loan assistance, and part time construction engineering services for installation of one 30 MGD pump and one 13 MGD pump.		
C	<b>12 MGD Truman Road Booster Station, City of Independence Water Independence, Missouri</b>	2020	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Engineer &amp; Manager.</b> For the planning, design, permitting and construction engineering for the 12 MGD booster pumping station along with all associated suction and discharge piping, fittings and valves and electrical and controls.		
D	<b>Stratmann Pump Station Improvements Missouri-American Water Company</b>	2021	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Principal.</b> For the Facility Planning and Preliminary Engineering phases for a new \$20 million 70 MGD pump station. Preliminary engineering is currently being completed.		
E	<b>Chain of Rocks WTP Raw and Finished Water Pumps Replacement St. Louis Water Division, MO</b>	2015	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/>	Check if project performed with current firm
	<b>Project Manager.</b> For design, permitting, bidding, SRF loan assistance and full time construction engineering services for replacing one 50 MGD raw water pump and one 25 MGD finished water pump, along with associated suction and discharge piping, fittings and valves. Medium voltage electrical and controls equipment associated with both pumps were also replaced as a part of the project.		



## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Laura Constantino, MSE</b>	<b>Stormwater and Drainage Engineering, Including H&amp;H Modeling</b>	14	14

15. FIRM NAME AND LOCATION (City and State)
Four Waters (Jacksonville, FL)

16. EDUCATION (Degree and Specialization)	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
BS / Meteorology; MS / Environmental Engineering	

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
Laura has 14 years of experience in environmental engineering. She has extensive model development and calibration experience and is proficient with multiple hydraulic modeling platforms. This includes hydraulic and hydrologic calculations, engineering assessments, extended period and dynamic simulations, models with as many as 4,000 elements, field testing, data analysis, and model calibration. Ms. Constantino has extensive training and experience with a multitude of GIS disciplines, including site suitability analyses, thematic mapping, geodatabase design, data conversion and field data collection and validation.

### 19. RELEVANT PROJECTS

A	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	LaSalle Street Outfall Improvements City of Jacksonville, FL	PROFESSIONAL SERVICES	CONSTRUCTION
	2020	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		X	Check if project performed with current firm
Stormwater Modeling and Engineering Support. Analysis of the approximately 150-acre LaSalle Street drainage basin using the ICPR4 2D overland flow model to simulate the hydrology to the hydraulic 1D model of the stormwater conveyance system. When the 2D hydrologic results are combined with the 1D hydraulic information, the hydraulic interactions of the entire drainage system are modeled.			
B	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Reuse Feasibility Study City of Palm Coast, FL	PROFESSIONAL SERVICES	CONSTRUCTION
			N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		X	Check if project performed with current firm
Project Manager and Modeling. Study to convert an existing spray irrigation/concentric ring rapid infiltration basins (RIBS) Site into a RIB system. Developed a hydrogeologic model in ICPR4 for the potential effluent disposal area to replicate the existing groundwater flow pattern at the site and predict, using elapsed time scenarios, the response of the water table and the soil water regime above it to rainfall, intensities of surface/subsurface drainage and surface reuse application.			
C	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Stormwater System GIS Inventory, Inspection, and ICPR Modeling, Dunes West HOA, Mt. Pleasant, SC	PROFESSIONAL SERVICES	CONSTRUCTION
	2018	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		X	Check if project performed with current firm
Stormwater Modeling and GIS. Survey of more than 1000 individual stormwater structures using sub-meter GPS, custom data input forms, and digital imagery. This field data was imported into ArcGIS and formatted with Visual Basic scripts. The result was a comprehensive GIS database including an image catalog and feature data for the stormwater structures.			
D	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	NPDES Engineering & Permit Administration MS4 GIS Inventory Database Update, City of Jacksonville, FL	PROFESSIONAL SERVICES	CONSTRUCTION
	Ongoing	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		X	Check if project performed with current firm
Senior GIS Associate. Senior GIS Associate assisting with update and maintenance of an ESRI geodatabase inventory of the City of Jacksonville's Municipal Separate Storm Sewer System (MS4) infrastructure (including FDOT District 2 infrastructure located within City boundaries.)			
E	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Baseline Assessment and Infrastructure Assessment City of St. Augustine, FL	PROFESSIONAL SERVICES	CONSTRUCTION
			N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		X	Check if project performed with current firm
Evaluation of the City's stormwater, water, sewer, and roadway systems and report comparing each to a defined level of service (LOS) and identifying funds and projects needed to meet LOS.			

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## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		A. TOTAL	B. WITH CURRENT FIRM
<b>Michael Klink, PE</b>	<b>Infiltration System Design and Permitting</b>	16	16

15. FIRM NAME AND LOCATION (City and State)
Four Waters (Jacksonville, FL)

16. EDUCATION (Degree and Specialization)	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
BS / Civil Engineering; MS / Civil Engineering	Professional Engineer - FL, GA, SC

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
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Michael has 16 years of experience in Civil Engineering with a primary focus on stormwater related projects. His extensive experience includes work on stormwater ordinances, stormwater BMP manuals, flood studies, and stormwater infrastructure designs, and LID design. He is proficient in stormwater modeling and analysis of existing and proposed systems, evaluation of existing stormwater structures and replacement recommendations. He frequently provides municipal stormwater construction plans and calculations reviews, stormwater installation inspections, and has developed interactive ArcGIS inventory maps for municipalities' stormwater structures.

### 19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	LaSalle Street Outfall Improvements City of Jacksonville, FL	PROFESSIONAL SERVICES	CONSTRUCTION
		2020	N/A
A	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
Project Engineer and Stormwater Modeler. Developed preliminary plans for a pump station to relieve flooding in the approximately 149-acre LaSalle Street drainage basin. This included development of an extensive 2D drainage model and analyses of existing conditions and three storm event conditions for the basin and corresponding stormwater management infrastructure recommendations.			
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Dunes West Pond 22 Analysis and Conceptual Design Dunes West HOA, Mt. Pleasant, SC	PROFESSIONAL SERVICES	CONSTRUCTION
		2018	N/A
B	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
Project Engineer and Stormwater Modeler. For a drainage analysis of Pond 22, a pond that has tidal influence via a ditch to the marsh of the Toomer Creek. The tidal influence of the stormwater system allows for inconsistencies for stormwater storage capacity, saltwater intrusion, and upstream flooding of drainage systems during extreme tides.			
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	EOR and Stormwater Modeler, Cypress Wetlands Drainage Improvements and Restoration, Town of Port Royal, SC	PROFESSIONAL SERVICES	CONSTRUCTION
			N/A
C	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
Project Engineer. To assist the Town of Port Royal with the development of the multi-phase plan of the Cypress Wetlands. Developed ICPR model and designed stormwater drainage system improvements to prevent stormwater flooding and promote wetland restoration by reconnecting five existing large depressed wetland systems.			
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Academy Estates Regional BMP Beaufort County, SC	PROFESSIONAL SERVICES	CONSTRUCTION
			N/A
D	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
Project Engineer. Design, drainage calculations, construction plans, and permitting for a BMP for stormwater management of a 17.5-acre tract including a 3.65 acre regional wet detention pond. The Watershed Management Model (WMM) was used to evaluate the pollutant load reduction for the drainage basin.			
	(1) TITLE AND LOCATION (City and County)	(2) YEAR COMPLETED	
	Town of Port Royal Stormwater Outfall Identification and Interactive ArcGIS Map, Port Royal, SC	PROFESSIONAL SERVICES	CONSTRUCTION
			N/A
E	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	X	Check if project performed with current firm
Engineer of Record. Conducted site reconnaissance with GPS to identify the Town of Port Royal stormwater outfall locations to prepare for the possibility of the Town becoming a MS4 and to evaluate the condition of the outfall structures.			

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)		20. EXAMPLE PROJECT KEY NUMBER
		1
21. TITLE AND LOCATION (City and County)	22. YEAR COMPLETED	
<b>St. Augustine Beach Stormwater Masterplan/and Vulnerability Study</b> City of St. Augustine, FL	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	Present	N/A
23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of St. Augustine, FL	Bill Tredik, PE Director of Public Works	(904) 471-1119
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)		

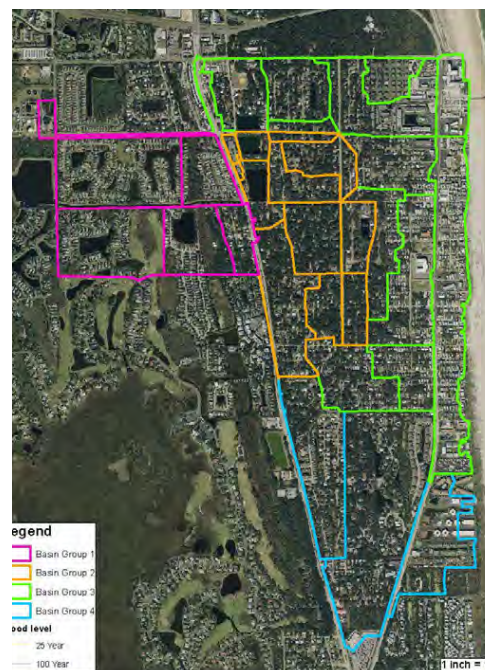
CMT/Stone Engineering has been providing stormwater consulting services for the City since 2004, beginning with the update of the St. Augustine Beach Stormwater Master Plan. The 6-month effort expanded the original 1994 master plan into a comprehensive stormwater capital improvement planning tool for the drainage basin conveyance system for the City's stormwater retention facility. The original 1994 plan was modeled using an ICPR version 3 Stormwater Modeling software for an initial 760 Acre basin, later expanded in 2004 to a 1,000 acre basin with an expansion of the Master Stormwater Treatment Basin to the current 15 Acres.

The purpose of the 2004 plan was to identify improvements and develop a stormwater model to evaluate and facilitate permitting. The Plan has been used to assist in developing grant applications to address infrastructure improvements and upgrade existing conveyance systems. Stone Engineering (now CMT) has since been providing consulting services including design, permitting, wetland mitigation, and construction administration for various stormwater related improvements identified in the 2004 Plan.

From 2019 to 2021, CMT (formerly Stone) assisted to address the Stormwater Basin Control Structure 160 ft long weir that was damaged in Hurricane Matthew and Hurricane Irma through an initial temporary repair and the subsequent phased weir replacement project funded by FEMA HMGP and SJRWMD matching funds. The associated ICPR modeling validated the extent of vulnerability of the master stormwater system to tropical storm events. The project therefore raises the protective weir to the 100-year FEMA flood stage and upgrades the capacity to a full 250 cfs with addition of three new stormwater pumps with full backup power.

In 2020 CMT facilitated a Coastal Vulnerability Assessment and Adaptation Plan funded by the Florida Department of Environmental Protection (FDEP) Florida Resilient Coastlines Program (FRCP). The Plan identified areas in and around the city vulnerable to flooding due to sea level rise, extreme tides, and storm surge. The city is currently adopting measures to mitigate the effects. Strategies implemented will support resiliency planning efforts and guide future capital improvement plan development. Plan development is directly linked to the city-wide stormwater master planning effort and included a level of engagement with the citizenry in considering the need to invest in a sustainable future mitigation against sea level rise.

CMT utilized the City's full GIS database and the St. Johns County LiDAR topographic data as well as updating the 2004 master stormwater ICPR3 model to the new ICPR4 model. The assessment compiled and analyzed the entire development within the city including areas currently outside the 2004 master stormwater plan for incorporation into a new master plan covering 100% of the city corporate limit.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT		
A	(1) FIRM NAME	(2) FIRM LOCATION (City and State)
	Crawford, Murphy & Tilly, Inc.	Jacksonville, FL
		(3) ROLE
		Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)		20. EXAMPLE PROJECT KEY NUMBER
		2
21. TITLE AND LOCATION (City and County)	22. YEAR COMPLETED	
Palm Valley/Ponte Vedra Watershed Masterplan and Drainage Improvements St. Johns County	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2010	N/A
23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
St. Johns County	Greg Caldwell Public Works Director	904.209.0133
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)		

The multiphase project consisted of a study, hydraulic and hydrological modeling resulting in a regional master plan for half of the Northeast St. Johns County community referral to a Ponte Vedra and Palm Valley including the major watershed of the Guana River Basin. The Basin consists of a total of 9,000 acres of which 4,000 acres lies north of Mickler's Landing and approximately 5,000 acres is located within the Guana State Park and Guana River Preserve. This basin analysis was initiated because of recent and increasing flooding problems within several residential areas within the watershed as a result of the clogging effects of invasive vegetation proliferating from nutrient runoff in the developed areas. The second part of the analysis consisted of an effort to improve water quality within the Basin and leaving the Basin.

The Guana Basin is located in St. Johns County with a significant headwater portion in the Ponte Vedra Municipal Service District, a major contributor for the downstream nutrient loading of the basin.

The Ponte Vedra Stormwater Retrofit project was a continuation of the Guana Watershed Basin Master Plan, by implementing some of the recommendation of the Water Resource Improvement Plan to improve water quality while reducing flooding within the basin area. The project included the stormwater retrofit of two major residential neighborhoods to alleviate flooding, while permitting and designing the retrofitting an existing stormwater pond and installation of storm "septors" for stormwater treatment prior to discharge into the Guana system.

The Palm Valley basin also located in Northeast St. Johns County and a parallel project to the Guana Watersheds consisted of a watershed basin master plan of the Palm Valley area of Ponte Vedra. The basin master plan included the ICPR and HECRAS computer modeling using GIS mapping in determining the hydraulics of the extensive jurisdictional wetland network used as conveyance for the 535-acres watershed a portion of the northern 4,000 acres. The master plan further identified a first phase of drainage improvements to relieve flooding in the area.

Project included design services for stormwater improvements to the Palm Valley Drainage Basin Improvements. Drainage improvements included new drainage pipe and structures along Canal Boulevard, Wilderness Trail North and South, and along Palm Valley Woods Drive within the Palm Valley Wood Estates Subdivision.

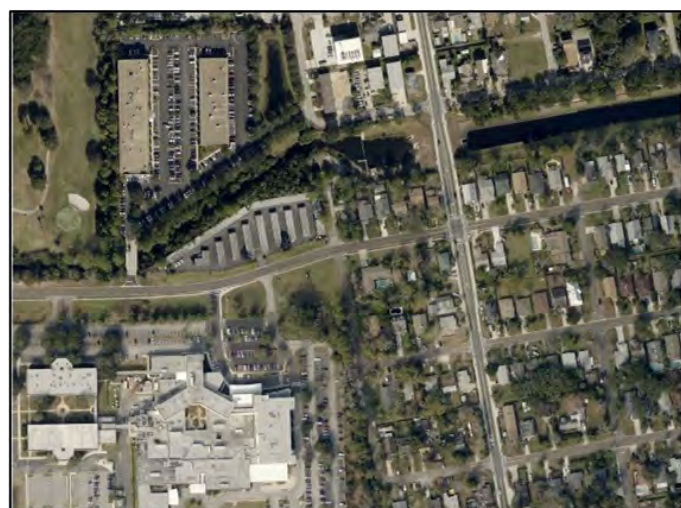
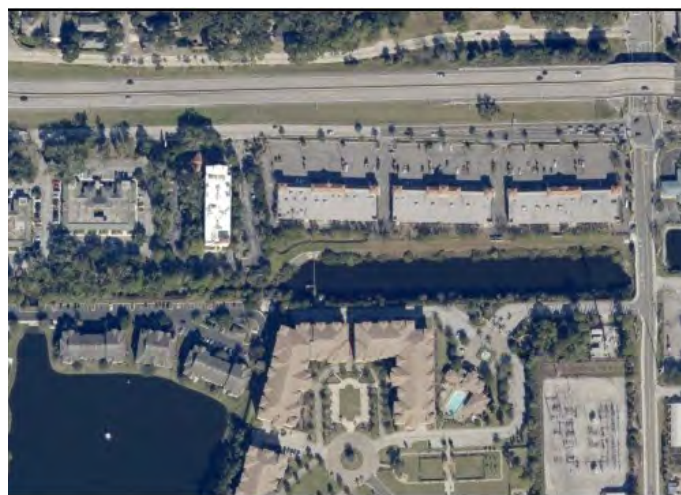


25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
A	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Crawford, Murphy & Tilly, Inc.	Jacksonville, FL	Prime



F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)		20. EXAMPLE PROJECT KEY NUMBER
		3
21. TITLE AND LOCATION (City and County)	22. YEAR COMPLETED	
<b>Jacksonville Beach Stormwater System Tidal Weir and Pump Stations</b> City of Jacksonville Beach, Florida	PROFESSIONAL SERVICES 2008	CONSTRUCTION (If applicable)
23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Jacksonville Beach, FL	Denis Dupree Public Works	(904) 247-6219
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)		

The City of Jacksonville Beach is a coastal municipality with major watersheds on both the Atlantic Ocean and the intracoastal waterway. The City built out primarily in the 1940's through 1970's had experienced tidal influenced flooding for many years. In the mid 1990's the City began an extensive process of developing a stormwater master plan and a stormwater utility. The initial capital improvement implementation was the construction of tidal control weirs and stormwater pump stations. Our team was involved in the project stormwater modeling of the 4,000 Acre master drainage basin, SJRWMD permitting and design of two phases of stormwater tidal control weir structures, and two 100 cfs stormwater pump stations with pump intake basins and outfall canal armoring for erosion control. The project was a total \$10 million retrofit with \$.5 million in FDOT funding. CMT provided a follow-up retrofit upgrade of the facilities for staff ease of maintenance and included repair design for the 13th Avenue South stormwater pump station weir and basin referred to as Phase I and the Ponce de Leon Avenue stormwater pump station weir and basin referred to as Phase 2. The Phase 1, 13th Avenue South Stormwater Weir and Pump Station, included a new park and multi-use trail along the canal / pump intake basin.



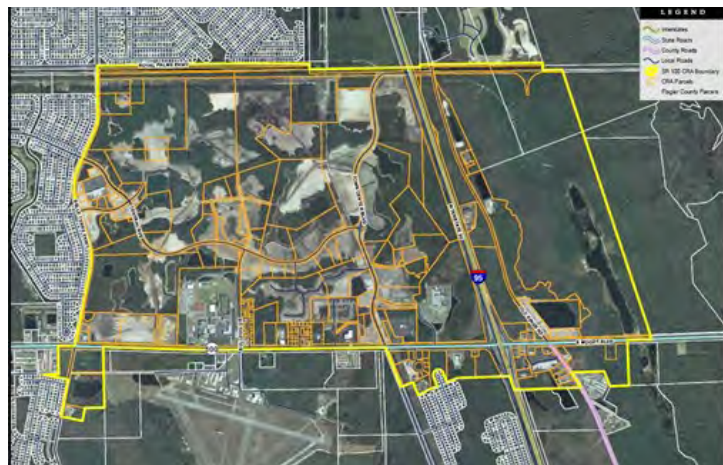
25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
A	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Crawford, Murphy & Tilly, Inc.	Jacksonville, FL	Prime



<b>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT</b> <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		<b>20. EXAMPLE PROJECT KEY NUMBER</b>  4				
<b>21. TITLE AND LOCATION (City and County)</b> Town Center Drainage Basin Stormwater Updates City of Palm Coast, FL		<b>22. YEAR COMPLETED</b> <table border="1"> <tr> <td>PROFESSIONAL SERVICES</td> <td>CONSTRUCTION (If applicable)</td> </tr> <tr> <td>2013</td> <td>2016</td> </tr> </table>	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	2013	2016
PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)					
2013	2016					
<b>23. PROJECT OWNER'S INFORMATION</b>						
<b>a. PROJECT OWNER</b> City of Palm Coast, FL	<b>b. POINT OF CONTACT NAME</b> Carl Cote, Director of Stormwater & Engineering	<b>c. POINT OF CONTACT TELEPHONE NUMBER</b> 386.986.3749				
<b>24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)</b>						

The Town Center DRI is comprised of approximately 1,557 acres. Generally, the boundaries are I-95 on the east, Belle Terre Parkway on the west, SR 100 on the south, and south of Royal Palms Parkway and includes the Flagler/Palm Coast High School.

CMT provided stormwater planning and civil design services to address stormwater needs and localized flooding issues in what is a fast-developing area of Palm Coast within the Town Center DRI. The high school originally established in 1959 experienced frequent flooding due to its low elevation and the outfall ditch tailwater back flowing into the campus. The project required updating the entire Town Center hydraulic model to address the flooding while also accommodating the widening of a major Bulldog Drive to a 4-lane arterial. Bulldog Drive along with Flagler Palm Coast High School generally served as the drainage divide between two major drainage basins within the Town Center DRI.



CMT performed hydraulic modeling of the area to assess impacts for existing and future conditions. While various alternatives were explored, the model validate the necessity of new stormwater pump station. Iterative runs of the model were conducted to optimize pump size and pond capacities within the entire Town Center basin.

CMT led the design based on key recommendations of the study. A key element was the design and construction of a new 40,000 gpm stormwater pump station with remote automated controls and backup generator to protect the upstream 150-acre sub basin and the high school from flooding.

Solutions were also developed for the Bulldog Drive improvements, which CMT also designed. The drainage area for the ponds extends from Bulldog Drive westerly to the eastern portion of the high school property. The drainage area for the roadside ditch on the east side of Bulldog Drive extends from Bulldog Drive easterly. The drainage area for Bulldog Drive is approximately 20 acres. The design included various aesthetic upgrades in the parking area, landscaping and pedestrian related improvements

The project included modifying the drainage basin inflow and outfall, collection system modifications and updating the hydraulic model of the stormwater system. The design of the pump station 2 pumps for stormwater quantity control and 1 pump for groundwater control to comply with the permitting.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT		
A	(1) FIRM NAME	(2) FIRM LOCATION (City and State)
	Crawford, Murphy & Tilly, Inc.	Jacksonville, FL
		(3) ROLE
		Prime

<b>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT</b> <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		<b>20. EXAMPLE PROJECT KEY NUMBER</b>  5				
<b>21. TITLE AND LOCATION (City and County)</b> <b>North MalaCompra Drainage Basin Improvements</b> Flagler County, Florida		<b>22. YEAR COMPLETED</b> <table border="1"> <tr> <td>PROFESSIONAL SERVICES</td> <td>CONSTRUCTION (If applicable)</td> </tr> <tr> <td>2016</td> <td>Ongoing</td> </tr> </table>	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	2016	Ongoing
PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)					
2016	Ongoing					
<b>23. PROJECT OWNER'S INFORMATION</b>						
<b>a. PROJECT OWNER</b> Flagler County, Florida	<b>b. POINT OF CONTACT NAME</b> Faith Alkhatib, PE, Public Works Director	<b>c. POINT OF CONTACT TELEPHONE NUMBER</b> 386.313.4045				
<b>24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)</b>						

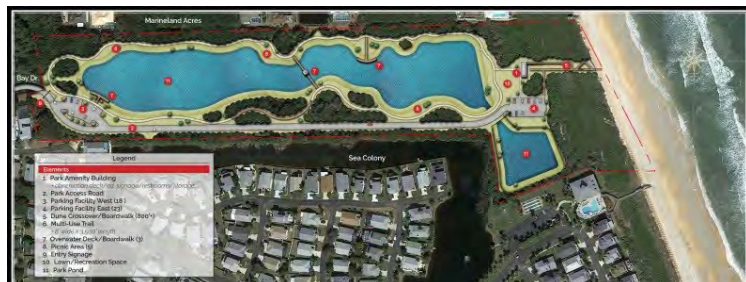
CMT provided stormwater master planning and civil design services for two sub basins within the 1,600 acres North Malcompra drainage basin.

**Marineland Acres** is a 156 acre sub drainage basin and is an older area developed prior to SJRWMD permitting requirements, that lacks an internal collection system resulting in flooding issues. CMT modified the previous stormwater master plan and model to better integrate its key stormwater solution into a new 18-acre park facility fronting the Atlantic Ocean. The new community asset, Bay Drive Park, would surround what would be a master 10-acre stormwater management and flood control lake for the North MalaCompra drainage basin. The lake for stormwater detention was partially funded with a SJRWMD cooperative funding grant and the passive park was funded with a FCT grant.

The project included modifying the drainage basin inflow and outfall, collection system modifications and updating the hydraulic model of the stormwater system. The design of the pond included positive volume recovery and treatment volume to comply with the permitting. The pond accepts inflow from a proposed storm collection trunk line on Central Avenue, and from a proposed connection to the existing Rollins Dunes wet detention pond. The new collection trunk line accepts drainage from proposed side street collection storm drains. The project is located within the FEMA floodplain and hurricane tidal surge area and required special design considerations to protect structures against flooding.

**Integrating Aesthetics** - The scope included a natural shape design of the pond to improve the aesthetics, a roadway entrance feature, water fountain, benches, shaded pavilion, brick pavers, dunes observation deck, paddling trail and recognition signage, interpretation kiosks, planting areas, bike racks, sports courts and horseshoe pit. The project also included sidewalk from adjacent neighborhoods to the park site, paved access road on-site and parking area on-site, multi-use trail, dune crossover/boardwalk for beach access, decorative/pedestrian safety lighting including the entrance, restroom, access road on-site, multi-use trail and parking area. Extensive landscape buffering between the park, the Sea Colony Subdivision and other adjacent residential areas was a requirement.

CMT also developed the stormwater master plan for Johnson Beach, an adjacent 122-acre sub-basin also experiencing localized flooding. Key recommendations of the plan included the paving of dirt roads, as well as modifying and expanding the current ditch system. FDOT funding was achieved to construct some of these projects which CMT designed.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT		
A	(1) FIRM NAME	(2) FIRM LOCATION (City and State)
	Crawford, Murphy & Tilly, Inc.	Jacksonville, FL
		(3) ROLE
		Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)		20. EXAMPLE PROJECT KEY NUMBER
		6
21. TITLE AND LOCATION (City and County)	22. YEAR COMPLETED	
<b>Stormwater Master Plan</b> City of Urbana, IL	PROFESSIONAL SERVICES 2020	CONSTRUCTION (If applicable) N/A
23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Urbana, IL	Justin Swinford, PE Civil Engineer II (Former)	(217) 373-3255
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)		

Urbana's last stormwater master plan prepared in 1980 was a typical plan for that time. It focused on capacity needs of the existing system and future expansion as the city boundaries expanded. During these 40+ years, the drainage system has doubled, a stormwater utility was created, and the third permit cycle of the National Pollutant Discharge Elimination System (NPDES) established new requirements.

Finding themselves in a new era of stormwater management, Urbana interviewed consultants to prepare a storm water master plan to develop a hydrologic and hydraulic model to assess existing drainage problems. They also wanted direction on how to incorporate best management practices and guidance for complying with current and anticipated NPDES permit requirements. CMT presented qualifications that addressed all those topics. However, our proposal took it a step farther and suggested an asset management approach to storm water planning. CMT's planning approach will empower Urbana public works staff to develop annual capital and maintenance plans based on the total cost of ownership for a desired level of service. Urbana liked this unique approach and selected CMT to prepare a new storm water master plan. CMT proposed the following series of questions that guided the creation of the 2020 master plan.

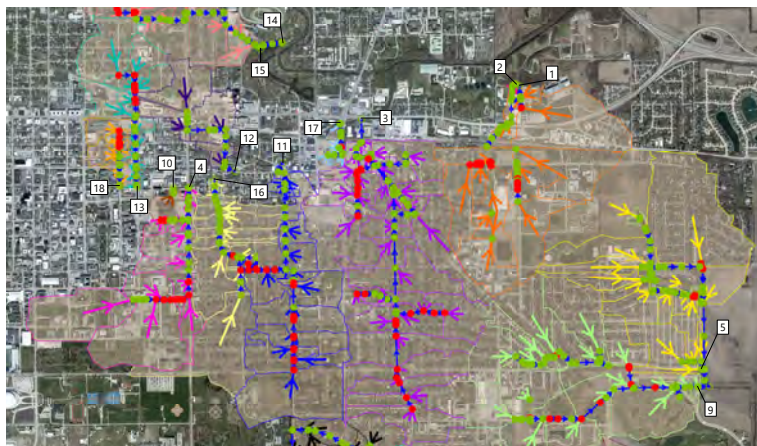
**Quantify:** the storm sewer inventory has been updated and the value of the system has been approximated using sewer replacement cost curves. An InfoWorks model of the storm water collection system comprising 36-inch diameter pipe and larger to assess system capacity has been built. Progress made with implementing recommendations from the 1980 report has been assessed.

**Evaluate:** Urbana's storm water management spending has been assessed and needs have been quantified. Recommendations have been prepared to update their MS4 storm water management plan.

**Facilitate:** an initial meeting with a technical advisory committee made up of representatives from Urbana and stakeholder organizations was held to identify community, environmental and economic issues to be addressed in the storm water master plan.

Completion of the three-step process provided the information necessary to develop three stormwater management program alternatives for a 5-year program to assist with CIP budgeting and a vision for the future with a series of 20-year programs. The three 5-year program alternatives are described as: 1. NPDES Permit Compliance, 2. System Maintenance & Repair, and 3. Replacement & Rehabilitation.

The final report addressed the financial status of the storm water utility, MS4 storm water management program updates, new storm water educational materials, the InfoWorks model of the storm water collection system and geographic information system (GIS) applications to help implement the master plan recommendations.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
A	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Crawford, Murphy & Tilly, Inc.	Springfield, IL	Prime



<b>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT</b> <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		<b>20. EXAMPLE PROJECT KEY NUMBER</b>  7				
<b>21. TITLE AND LOCATION (City and County)</b> <b>Stormwater Management Plan</b> City of Peoria, IL		<b>22. YEAR COMPLETED</b> <table border="1"> <tr> <td>PROFESSIONAL SERVICES</td> <td>CONSTRUCTION (If applicable)</td> </tr> <tr> <td>2018</td> <td>N/A</td> </tr> </table>	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	2018	N/A
PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)					
2018	N/A					
<b>23. PROJECT OWNER'S INFORMATION</b>						
<b>a. PROJECT OWNER</b> City of Peoria, IL	<b>b. POINT OF CONTACT NAME</b> Andrea Klopfenstein, PE Stormwater Engineer	<b>c. POINT OF CONTACT TELEPHONE NUMBER</b> (309) 494-8816				
<b>24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)</b>						

CMT assembled a consulting team that provided the City of Peoria with local knowledge and industry experts to address all facets of stormwater planning, programming, operations, and financial analysis. We understood that Peoria needed a consulting team to lead a very public and informative discussion about the storm drainage infrastructure challenges facing the city. We also knew the City has a vast network of drainage infrastructure that is not mapped or quantified and has been a low priority when funding allocations are programmed.

We implemented a public outreach program that educated decision makers and stakeholders about the storm drainage infrastructure condition, needs, and cost of ownership. Using existing information and anecdotal information from other communities, CMT assessed the condition and needs of the Municipal Separate Storm Sewer System (MS4). We presented the system information to a public advisory committee and discussed the community priorities during regularly scheduled meetings. Engaging the public was a critical first step in raising awareness about the need for annual investments into the storm drainage system. The advisory committee, named the OneWater Committee (OWC), comprised of a diverse set of stakeholders representing business, industry, private property, other governmental bodies and environmental advocates. OWC participation and feedback helped formulate and shape the stormwater management program submitted to the City Council for consideration.

Using the advisory committee feedback, CMT assembled a stormwater management program based on desired levels of service. Frequency of street sweeping, storm sewer inspection, and pipe replacement are level of service examples used to develop the program. The stormwater management program considered all aspects of operating a MS4. Activities and costs for administration, regulatory compliance, system maintenance, repairs and replacement were programmed over a five-year period. With the program fund level established and working with the finance team, CMT used city GIS data to evaluate financial options for the desired stormwater program if a stormwater utility were created to fund the program.

Peoria created a stormwater utility in December 2017 that began collecting revenues June 1, 2018. CMT's team guided the City through the implementation stage and continues to provide technical and administrative assistance in operating the utility. The SWU will be used in combination with sanitary sewer fees and other municipal funds to implement Peoria's Long Term Control Plan to reduce Combined Sewer Overflow events.

CMT's stormwater management program has led to continuing planning and programming services. CMT developed a community-wide asset management plan for all public infrastructure based on a risk management approach developed for the storm drainage system. The new application is to be deployed throughout the public works department to track information and develop prioritized capital programs.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT		
A	(1) FIRM NAME	(2) FIRM LOCATION (City and State)
	Crawford, Murphy & Tilly, Inc.	Springfield, IL
		(3) ROLE
		Prime

<b>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT</b> <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		<b>20. EXAMPLE PROJECT KEY NUMBER</b>  8				
<b>21. TITLE AND LOCATION (City and County)</b> <b>Sustainable Stormwater Management</b> City of Indianapolis, IN		<b>22. YEAR COMPLETED</b> <table border="1"> <tr> <td>PROFESSIONAL SERVICES</td> <td>CONSTRUCTION (If applicable)</td> </tr> <tr> <td>2016</td> <td>N/A</td> </tr> </table>	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	2016	N/A
PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)					
2016	N/A					
<b>23. PROJECT OWNER'S INFORMATION</b>						
<b>a. PROJECT OWNER</b> City of Indianapolis Department of Public Works	<b>b. POINT OF CONTACT NAME</b> Todd Wilson Construction Administrator	<b>c. POINT OF CONTACT TELEPHONE NUMBER</b> (317) 327-8637				
<b>24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)</b>						

CMT has been a go-to firm providing creative leadership in the integration of innovative LID (low impact development) approaches and BMPs (best management practices) for the City of Indianapolis. Our experience highlights an approach that balances goals within each situational context to provide the most appropriate stormwater solution for each specific project. Sample projects include:

#### GEORGIA STREET RECONSTRUCTION

On this complete street, CMT designed a unique infiltration trench that runs the length of the entire 3-block corridor featuring forebays, sand media filters, and cisterns. The utilization of a boardwalk as a trench drain inlet completely maintains stormwater on-site in a contemporary and sustainable manner.

#### SHELBY STREET AND MADISON AVENUE

CMT added both traditional and green stormwater methods to this street project that had poor drainage. Concepts were modified for use in this industrial setting. Creative concepts were helpful in avoiding very cost utility relocations.

#### SIGBEE STREET

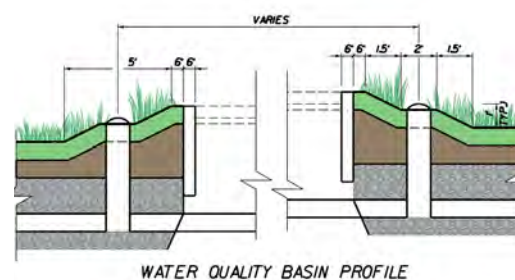
Addition of sidewalks in this neighborhood with flat topography and shallow roadside ditches presented unique challenges that CMT overcame with pavement regrading and hybrid ditch applications.

#### WORLD SPORTS PARK

CMT was hand-picked by the City of Indianapolis to lead project development services for the conversion of an existing 48-acre park into a one-of-a-kind athletic facility for international sports. A unique stormwater management approach was used involving a turf root zone that works as a sand filter BMP to eliminate the channelization of runoff.



*CMT is also collaborating with the City of Indianapolis and their analytics and software team to explore and enhance asset management solutions that benefit public works.*



*“With regard to sustainability, they get it. Their designs for integrating sustainable stormwater management practices on streets are used throughout Indianapolis.”*

*Andy Lutz, Indy DPW*

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
A	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Crawford, Murphy & Tilly, Inc.	Indianapolis, IN	Prime



<b>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT</b> <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		<b>20. EXAMPLE PROJECT KEY NUMBER</b>  9				
<b>21. TITLE AND LOCATION (City and County)</b> <b>Drainage Modeling and Analysis for LaSalle Street Outfall Improvements</b> City of Jacksonville, FL		<b>22. YEAR COMPLETED</b> <table border="1"> <tr> <td>PROFESSIONAL SERVICES</td> <td>CONSTRUCTION (If applicable)</td> </tr> <tr> <td>2018</td> <td>2020</td> </tr> </table>	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	2018	2020
PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)					
2018	2020					
<b>23. PROJECT OWNER'S INFORMATION</b>						
<b>a. PROJECT OWNER</b> City of Jacksonville, FL	<b>b. POINT OF CONTACT NAME</b> David D. Hahn, PE	<b>c. POINT OF CONTACT TELEPHONE NUMBER</b> 904.255.8793				
<b>24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)</b>						

Poor drainage, rising water levels, and tidal influence have caused significant flooding issues in the historic San Marco neighborhood situated adjacent to the St. Johns River. The City of Jacksonville contracted 4Waters to develop plans for a pump station and critical drainage improvements to relieve flooding in the approximately 150-acre LaSalle Street drainage basin. This included stormwater modeling using the Advanced Interconnected Channel and Pond Routing version 4 (ICPR4) computer program developed by Streamline Technologies, Inc. The program is a FEMA-approved model that has the ability to analyze complex interconnected drainage systems dynamically along with two-dimensional overland flow over extended time periods.



4Waters utilized the ICPR4 two-dimensional (2D) overland flow model to simulate the hydrology to the hydraulic one-dimensional (1D) model of the stormwater conveyance system. The 2D model consisted of using the finite volume method, a double mesh including flexible triangular mesh (lump momentum equations along edges) and honeycomb mesh (lump mass balance equations) along with the use of the Digital Elevation Model (DEM). The honeycomb mesh was overlaid with soil zones, impervious and pervious zones digitized from aerial imagery with assigned Curve Numbers (CN) based on HSG soil type, and roughness zones (Manning's "n" surface values and depth) that were used to determine the overland flow stormwater surface runoff. Other input values included rainfall distribution pattern, hydrograph peaking factor, and design storm rainfall amounts.

The 1D model hydraulic input data consists of a system of nodes and links. The nodes represent locations where flows enter or exit the system, change of pipe or channel characteristics, or where stage/storage/time relationships are provided. The links represent traditional types of hydraulic conveyance such as pipes, channels, drop structures, and weirs. When the 2D hydrologic results are combined with the 1D hydraulic information, the hydraulic interactions of the entire drainage system are modeled. The results include visual stormwater surface depths over the project area and hydraulic depths of the conveyance system for at selected times during various design storms.

The design storms evaluated included the mean annual, 5-year, and 50-year, 24-hour storm events. Many scenarios were reviewed to accommodate the three design storms and level of service weighted with the level of improvements required. Five scenarios were selected to show the minimal and extreme efforts of improvements and the impact to alleviating the flooding in the drainage basin. After modeling each scenario and evaluating maximum depth and recovery time for each, 4Waters selected a scenario and provided the City with a detailed recommendation for the improvements.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
A	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Four Waters	Jacksonville Beach FL	H&H Modeling & Analysis

<b>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT</b> <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		<b>20. EXAMPLE PROJECT KEY NUMBER</b>  10
<b>21. TITLE AND LOCATION (City and County)</b> <b>Dunes West Stormwater System GIS Inventory, Inspection and ICPR Modeling</b> Dunes West Property Owners' Association, Mount Pleasant, SC		<b>22. YEAR COMPLETED</b> PROFESSIONAL SERVICES CONSTRUCTION (If applicable)
<b>23. PROJECT OWNER'S INFORMATION</b>		
<b>a. PROJECT OWNER</b> Mount Pleasant, SC	<b>b. POINT OF CONTACT NAME</b>	<b>c. POINT OF CONTACT TELEPHONE NUMBER</b>
<b>24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)</b>		

The Dunes West POA has partnered with 4Waters to employ the power and flexibility of GIS to spatially enable the stormwater data and build a full-featured stormwater asset management system. This system offers a strategic approach by tying detailed data to geographic locations, to help ensure that deficiencies in their stormwater system are identified, addressed, tracked and monitored.

4Waters worked closely with the POA to develop a GIS stormwater database to be used in conjunction with a full Web-based GIS system housed and managed by ROK Technologies, Inc. 4Waters staff conducted a thorough survey and inventory of the entire stormwater system, spatially locating and identifying more than 1,500 individual stormwater structures by means of sub-meter GPS data, as-built CAD data, custom data input forms, and digital imagery. The stormwater structures included curb inlets, catch basins, grate inlets, junction boxes, spillways, outfalls, and drainage pipes. In addition, data was incorporated for 68 stormwater ponds. This survey provided a library of information detailing the condition and performance of individual structures throughout the stormwater system.



The field data was imported into ArcGIS and formatted. The resulting GIS database includes an image catalog and feature data for each stormwater structure. In addition, the database includes condition data for individual structures, allowing the POA to identify needed maintenance and improvements required for continued proper operation of the stormwater infrastructure. The GIS stormwater database allows the POA quick access to infinite combinations of data to study and compare, which helps them prioritize stormwater projects.

When projects are identified, 4Waters can use the GIS stormwater database to export data to ICPR to efficiently create a pipe network and hydraulic model to assist with evaluating the system. The three primary elements in an ICPR model are basins, nodes and links, which are dynamically used to route stormwater through ponds, open channels and/or closed conduits. By importing data associated with the stormwater pipes, ponds and drainage structures, large quantities of data can populate various required fields and save valuable project time. The program's unique solution algorithm allows it to simulate a wide variety of complex conveyance system scenarios, as well as identify areas of concern with slope, flow issues and potential structural deficiencies.

When projects are complete, the information is updated in the GIS database. 4Waters continually updates and maintains the database to ensure the tool is useful and accurate.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
A	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
	Four Waters	Jacksonville Beach FL	Stormwater Modeling

### G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

26. NAMES OF KEY PERSONNEL (From Section E, Block 12)	27. ROLE IN THIS CONTRACT (From Section E, Block 13)	28. EXAMPLE PROJECTS LISTED IN SECTION F (Fill-in "Example Projects Key" section below before completing table. Place "X" under project key number for participation in same or similar role.)									
		1	2	3	4	5	6	7	8	9	10
Gary Sneddon, PE	Project Manager	X	X	X	X	X					
Paul Ina, PE	Deputy Project Manager; Stormwater Engineering & Permitting; Public Engagement	X	X		X	X					
Raed Armouti, PE	Stormwater Pump Station Design & Permitting	X					X	X			
Tim Sumner, PE	Stormwater Master Planning						X	X			
Eric Hansen, PE	QA/QC & Asset Management						X	X	X		
Laura Constantino, MSE	H&H Modeling									X	X
Michael Klink, PE	Infiltration System Design & Permitting									X	X
Caitlin Breland, PE	Roadway Design; Public Engagement	X				X					

### 29. EXAMPLE PROJECTS KEY

NO.	TITLE OF EXAMPLE PROJECT (From Section F)	NO.	TITLE OF EXAMPLE PROJECT (From Section F)
1	St. Augustine Beach Stormwater Masterplan/ and Vulnerability Study	6	Stormwater Master Plan
2	Palm Valley/Ponte Vedra Watershed Masterplan and Drainage Improvements	7	Stormwater Management Plan
3	Jacksonville Beach Stormwater System Tidal Wair and Pump Stations	8	Sustainable Stormwater Management
4	Town Center Drainage Basin Stormwater Updates	9	Drainage Modeling and Analysis for LaSalle Street Outfall Improvements
5	North Malacompra Drainage Basin Improvements	10	Dunes West Stormwater System GIS Inventory, Inspection and ICPR Modeling



## H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION REQUESTED BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.

### Successful Experience with Local, Florida Municipalities

The CMT (formerly Stone Engineering Group) Jacksonville team has completed hundreds of projects, primarily within the Northeast Florida area, over the last 30 years. Our clients have included municipal, state and federal agencies, as well as private owners. However, **80-90% of our work has been focused on public facility projects.** Below, we have detailed this long-standing experience serving local government in the Northeast Florida area.

Municipal & local government projects represent more than

# 80%

of our Northeast Florida area

### Stormwater Experience:

#### Small to Medium Stormwater Projects (Project Name & Owner)

Woodland Subdivision Drainage Improvements - City of St. Augustine Beach  
East Coast Dr, 5th and 6th Street area Drainage Evaluation - City of Atlantic Beach  
Brown's Landing Drainage Improvements - Putnam County  
Welaka - Front Street Drainage Improvements Hazard Mitigation Grant - Putnam County  
Roscoe Boulevard Drainage Outfalls - St. Johns County  
Hazard Mitigation Grant Palmetto Bluff Area - Putnam County  
Red Fox Road Drainage Improvements - Town of Orange Park  
The Venetian / Matanza River Tributary Stormwater Improvements - St. Johns County  
Drainage Improvements within The Village Subdivision - St. Johns County  
Green Cove Springs Middle School Drainage - Clay County School Board  
Hazard Mitigation Grant Downtown Stormwater Improvements - City of Palatka  
Holly Lane Drainage Improvements - Town of Orange Park

#### Stormwater Master Planning (Project Name & Owner)

St. Augustine Beach Master Stormwater - City of St. Augustine Beach  
Core City / Center Street Master Stormwater - City of Green Cove Springs  
Avenue D Drainage Master Stormwater - St. Johns County  
Upper Etonia Creek Stormwater Study - Clay County  
Indigo Branch Stormwater Study & Design - Clay County  
Dudley Branch Stormwater Improvements - Town of Orange Park  
Reynolds Industrial Park Master Stormwater Improvements - Clay Port, Inc.  
Deep Creek / Kelley Road Area (S. of Hastings) Drainage Study - St. Johns County  
Moultrie Creek / Lightsey Road Master Drainage Improvements - St. Johns County  
Penney Farms Master Stormwater Improvements - Town of Penney Farms  
Guana Basin Stormwater Master Plan and Improvements - St. Johns County

#### Large Drainage Projects (Project Name & Owner)

2nd Street and Phase III Drainage Improvements - City of St. Augustine Beach  
Melba / Green Study & Design - City of Jacksonville  
Lincoln Villa Area Drainage Study & Improvements - City of Jacksonville  
Center Street Drainage Study & Improvements - City of Green Cove Springs  
Ponte Vedra MSD Stormwater Improvements - St. Johns County  
Phase I Penney Farms Master Stormwater Improvements - Town of Penney Farms  
Guana Basin Stormwater Master Plan & Improvements - St. Johns County  
Intracoastal / Palm Valley Master Drainage - St. Johns County  
Avenue D. Drainage Improvements - St. Johns County  
Southeast Darlington Drainage Improvements - City of Darlington, SC

### J. Authorized Representative

The foregoing is a statement of facts.

32. SIGNATURE



33. DATE

November 18, 2021

34. NAME AND TITLE

Gary Sneddon, PE, Project Manager

## H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION REQUESTED BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.

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Municipal & local government projects represent more than

**80%**

of our Northeast Florida area

### Stormwater Experience:

#### Small to Medium Stormwater Projects (Project Name & Owner)

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 Welaka - Front Street Drainage Improvements Hazard Mitigation Grant - Putnam County  
 Roscoe Boulevard Drainage Outfalls - St. Johns County  
 Hazard Mitigation Grant Palmetto Bluff Area - Putnam County  
 Red Fox Road Drainage Improvements - Town of Orange Park  
 The Venetian / Matanza River Tributary Stormwater Improvements - St. Johns County  
 Drainage Improvements within The Village Subdivision - St. Johns County  
 Green Cove Springs Middle School Drainage - Clay County School Board  
 Hazard Mitigation Grant Downtown Stormwater Improvements - City of Palatka  
 Holly Lane Drainage Improvements - Town of Orange Park

#### Stormwater Master Planning (Project Name & Owner)

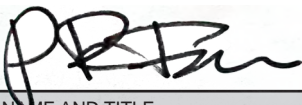
St. Augustine Beach Master Stormwater - City of St. Augustine Beach  
 Core City / Center Street Master Stormwater - City of Green Cove Springs  
 Avenue D Drainage Master Stormwater - St. Johns County  
 Upper Etonia Creek Stormwater Study - Clay County  
 Indigo Branch Stormwater Study & Design - Clay County  
 Dudley Branch Stormwater Improvements - Town of Orange Park  
 Reynolds Industrial Park Master Stormwater Improvements - Clay Port, Inc.  
 Deep Creek / Kelley Road Area (S. of Hastings) Drainage Study - St. Johns County  
 Moultrie Creek / Lightsey Road Master Drainage Improvements - St. Johns County  
 Penney Farms Master Stormwater Improvements - Town of Penney Farms  
 Guana Basin Stormwater Master Plan and Improvements - St. Johns County

#### Large Drainage Projects (Project Name & Owner)

2nd Street and Phase III Drainage Improvements - City of St. Augustine Beach  
 Melba / Green Study & Design - City of Jacksonville  
 Lincoln Villa Area Drainage Study & Improvements - City of Jacksonville  
 Center Street Drainage Study & Improvements - City of Green Cove Springs  
 Ponte Vedra MSD Stormwater Improvements - St. Johns County  
 Phase I Penney Farms Master Stormwater Improvements - Town of Penney Farms  
 Guana Basin Stormwater Master Plan & Improvements - St. Johns County  
 Intracoastal / Palm Valley Master Drainage - St. Johns County  
 Avenue D. Drainage Improvements - St. Johns County  
 Southeast Darlington Drainage Improvements - City of Darlington, SC

### J. Authorized Representative The foregoing is a statement of facts.

32. SIGNATURE




33. DATE

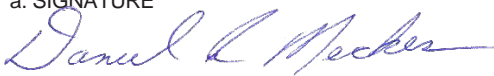
November 18, 2021

34. NAME AND TITLE

Paul Ina, PE, Project Manager



<b>Architect Engineer Qualifications</b>				1. SOLICITATION NUMBER (if any) W9128F22R0014		
<b>PART II - GENERAL QUALIFICATIONS</b> (If a firm has branch offices, complete for each specific branch office seeking work.)						
2a. FIRM (or branch office) NAME Crawford, Murphy & Tilly, Inc.				3. YEAR ESTABLISHED 1946	4. DUNS NUMBER 04-701-9070	
2b. STREET 7400 Baymeadows Way # 220				5. OWNERSHIP		
2c. CITY Jacksonville	2d. STATE FL	2e. ZIP CODE 32256	a. TYPE Corporation			
6a. POINT OF CONTACT NAME AND TITLE Gary Sneddon, PE, Project Manager			b. SMALL BUSINESS STATUS N/A			
6b. TELEPHONE NUMBER 904.448.5300	6c. E-MAIL ADDRESS gsneddon@cmtengr.com		7. NAME OF FIRM (if Block 2A is a branch office)			
8a. FORMER FIRM NAME(S)			8b. YR. ESTABLISHED	8c. DUNS NUMBER		
			10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS			
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (see below)
		(1) FIRM	(2) BRANCH			
02	Administrative	46		A05	Airports; Nav aids; Lighting; Fueling	5
06	Architect	5		A06	Airport: Term; Hangars; Freight	6
08	CADD Technician	24	3	A12	Automation, Controls, Instruments	5
12	Civil Engineer	124	4	B02	Bridges	7
15	Construction Inspector	8		C08	Codes; Standards; Ordinances	5
16	Construction Manager	2		C15	Construction Management	7
21	Electrical Engineer	6		C18	Cost Estimating/Engineering	6
23	Environmental Engineer	33		D02	Dams; Dikes; Levees	5
24	Environmental Scientist	16		E09	EISs; Assessments; Statements	6
29	Geographic Info. System	5		H07	Highways; Airfield Paving; Parking	9
32	Hydraulic Engineer	7		I06	Irrigation; Drainage	6
34	Hydrologist	1		L06	Lighting (Exterior, Streets)	5
38	Land Surveyor	14		M05	Military Design Standards	6
39	Landscape Architect	1		P06	Planning (site, install., project)	6
42	Mechanical Engineer	4		R11	River; Canal; Waterway; Flood	5
	Planner: Aviation	22		S04	Sewage Collection, Treatment	8
47	Planner: Urban/Regional	1		S10	Surveying; Platting; Mapping	6
	Real Estate Services	3		S13	Stormwater Handling/Facilities	6
57	Structural Engineer	22		T02	Testing & Inspection Services	7
60	Transportation Engineer	65	2	T03	Traffic & Transportation Engineering	5
61	Value Engineer	1		W02	Water Resources; Hydrology	6
	TOTAL	410		W03	Water Supply; Treatment; Distrib.	6
11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (insert revenue index number)		PROFESSIONAL SERVICES REVENUE INDEX NUMBER				
a. Federal Work	5	1. Less than \$100,000 2. \$100,000 to less than \$250,000 3. \$250,000 to less than \$500,000 4. \$500,000 to less than \$1 million 5. \$1 million to less than \$2 million		6. \$2 million to less than \$5 million 7. \$5 million to less than \$10 million 8. \$10 million to less than \$25 million 9. \$25 million to less than \$50 million 10. \$50 million or greater		
b. Non-Federal Work	9					
c. Total Work	10					
12. AUTHORIZED REPRESENTATIVE The foregoing is a statement of facts.						
a. SIGNATURE 				b. DATE November 18, 2021		
c. NAME AND TITLE Daniel Meckes, CEO						

<b>Architect Engineer Qualifications</b>				1. SOLICITATION NUMBER (if any) W9128F22R0014		
<b>PART II - GENERAL QUALIFICATIONS</b> (If a firm has branch offices, complete for each specific branch office seeking work.)						
2a. FIRM (or branch office) NAME Crawford, Murphy & Tilly, Inc.				3. YEAR ESTABLISHED 1946	4. DUNS NUMBER 04-701-9070	
2b. STREET 2750 W Washington St				5. OWNERSHIP		
2c. CITY Springfield	2d. STATE IL	2e. ZIP CODE 62702				
6a. POINT OF CONTACT NAME AND TITLE Gary Sneddon, PE, Project Manager				b. SMALL BUSINESS STATUS N/A		
6b. TELEPHONE NUMBER 904.448.5300		6c. E-MAIL ADDRESS gsneddon@cmtengr.com		7. NAME OF FIRM (if Block 2A is a branch office)		
8a. FORMER FIRM NAME(S)			8b. YR. ESTABLISHED		8c. DUNS NUMBER	
			10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS			
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (see below)
		(1) FIRM	(2) BRANCH			
02	Administrative	46	34	A05	Airports; Nav aids; Lighting; Fueling	5
06	Architect	5	4	A06	Airport: Term; Hangars; Freight	6
08	CADD Technician	24	7	A12	Automation, Controls, Instruments	5
12	Civil Engineer	124	25	B02	Bridges	7
15	Construction Inspector	8	2	C08	Codes; Standards; Ordinances	5
16	Construction Manager	2		C15	Construction Management	7
21	Electrical Engineer	6	2	C18	Cost Estimating/Engineering	6
23	Environmental Engineer	33	9	D02	Dams; Dikes; Levees	5
24	Environmental Scientist	16		E09	EISs; Assessments; Statements	6
29	Geographic Info. System	5	2	H07	Highways; Airfield Paving; Parking	9
32	Hydraulic Engineer	7	4	I06	Irrigation; Drainage	6
34	Hydrologist	1	1	L06	Lighting (Exterior, Streets)	5
38	Land Surveyor	14	6	M05	Military Design Standards	6
39	Landscape Architect	1		P06	Planning (site, install., project)	6
42	Mechanical Engineer	4	3	R11	River; Canal; Waterway; Flood	5
	Planner: Aviation	22	6	S04	Sewage Collection, Treatment	8
47	Planner: Urban/Regional	1		S10	Surveying; Platting; Mapping	6
	Real Estate Services	3	2	S13	Stormwater Handling/Facilities	6
57	Structural Engineer	22	4	T02	Testing & Inspection Services	7
60	Transportation Engineer	65	7	T03	Traffic & Transportation Engineering	5
61	Value Engineer	1	1	W02	Water Resources; Hydrology	6
	TOTAL	410	119	W03	Water Supply; Treatment; Distrb.	6
11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (insert revenue index number)		PROFESSIONAL SERVICES REVENUE INDEX NUMBER				
a. Federal Work	5	1. Less than \$100,000 2. \$100,000 to less than \$250,000 3. \$250,000 to less than \$500,000 4. \$500,000 to less than \$1 million 5. \$1 million to less than \$2 million		6. \$2 million to less than \$5 million 7. \$5 million to less than \$10 million 8. \$10 million to less than \$25 million 9. \$25 million to less than \$50 million 10. \$50 million or greater		
b. Non-Federal Work	9					
c. Total Work	10					
12. AUTHORIZED REPRESENTATIVE The foregoing is a statement of facts.						
a. SIGNATURE 				b. DATE November 18, 2021		
c. NAME AND TITLE Daniel Meckes, CEO						

# ARCHITECT – ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)  
RFQ 21-06

## PART II – GENERAL QUALIFICATIONS

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

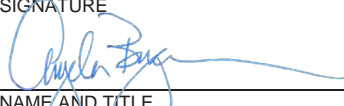
2a. FIRM (OR BRANCH OFFICE) NAME <b>FOUR WATERS ENGINEERING, INC.</b>			3. YEAR ESTABLISHED <b>2015</b>	4. UNIQUE ENTITY IDENTIFIER <b>079914266</b>
2b. STREET <b>324 6th Avenue North</b>			5. OWNERSHIP	
2c. CITY <b>Jacksonville Beach</b>	2d. STATE <b>FL</b>	2e. ZIP CODE <b>32250</b>	a. TYPE <b>S-Corporation</b>	
6a. POINT OF CONTACT NAME AND TITLE <b>Angela Bryan, PE, President</b>			b. SMALL BUSINESS STATUS <b>SB NAICS 541330</b>	
6b. TELEPHONE NUMBER <b>904-414-2400</b>	6c. E-MAIL ADDRESS <b>abryan@4WEEng.com</b>		7. NAME OF FIRM (If block 2a is a branch office)	
8a. FORMER FIRM NAME(S) (If any)			8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees (1) FIRM (2) BRANCH		a. Profile Code	b. Experience	c. Revenue Index Number (see)
02	Administrative	2	2	W03	Water Supply; Treatment and Distribution	2
08	CADD Technician	3	2	S04	Sewage Collection, Treatment and Disposal	2
12	Civil Engineer	3	1	R04	Recreation Facilities (Parks, Marinas, Etc.)	1
15	Construction Inspector	3	2	E02	Educational Facilities; Classrooms	1
23	Environmental Engineer	1	1	S13	Storm Water Handling & Facilities	3
29	GIS Specialist	1	1	G04	Geographic Information System Services	2
58	Technician/Analyst	3	3	E11	Environmental Planning	2
				W02	Water Resources; Hydrology; Ground Water	3
				P06	Site, Installation, and Project	2
				D08	Dredging Studies and Design	1
				R11	Rivers; Canals; Waterways; Flood Control	1
				C18	Cost Estimating; Cost Engineering and	1
	Other Employees			H07	Highways; Streets; Airfield Paving; Parking	1
	<b>Total</b>	<b>16</b>	<b>12</b>			

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

## 12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE 	b. DATE <b>11-18-2021</b>
c. NAME AND TITLE <b>Angela Bryan, PE, President</b>	

## 1. SOLICITATION NUMBER (If any)

## ARCHITECT-ENGINEER QUALIFICATIONS

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

3. YEAR ESTABLISHED	1999
---------------------	------

4. UNIQUE ENTITY IDENTIFIER  
59-3607301

	5. OWNERSHIP
--	--------------

a. TYPE

☐ S-Corp

2d. STATE

2e. ZIP CODE

b. SMALL BUSINESS STATUS

SBE DBE

7. NAME OF FIRM (If Block 2a is a Branch Office)

6c. EMAIL ADDRESS

 tdurden@geomaticscorp.net |

8a. FORMER FIRM NAME(S) (If any)

8b. YEAR ESTABLISHED

D8c. UNIQUE ENTITY IDENTIFIER

10. PROFILE OF FIRM'S EXPERIENCE  
AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (Insert revenue index number shown at right)		PROFESSIONAL SERVICES REVENUE INDEX NUMBER	
a. Federal Work	0	1. Less than \$100,000	6. \$2 million to less than \$5 million
b. Non-Federal Work	5	2. \$100,000 to less than \$250,000	7. \$5 million to less than \$10 million
c. Total Work	5	3. \$250,000 to less than \$500,000	8. \$10 million to less than \$25 million
		4. \$500,000 to less than \$1 million	9. \$25 million to less than \$50 million
		5. \$1 million to less than \$2 million	10. \$50 million or greater

*The foregoing is a statement of facts.*


b. DATE
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11/15/2021

Terry M. Durden, PSM, Vice President

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<b>ARCHITECT-ENGINEER QUALIFICATIONS</b>					1. SOLICITATION NUMBER (If any)	
<b>PART II – GENERAL QUALIFICATIONS</b> <i>(If a firm has branch offices, complete for each specific branch office seeking work.)</i>						
2a. FIRM (or Branch Office) NAME				3. YEAR ESTABLISHED		4. UNIQUE ENTITY IDENTIFIER
<b>Terracon Consultants, Inc.</b>				<b>2009</b>		<b>035308440</b>
2b. STREET				5. OWNERSHIP		
<b>8001 Baymeadows Way, Suite 1</b>				a. TYPE		
				<b>Corporation</b>		
2c. CITY		2d. STATE	2e. ZIP CODE	b. SMALL BUSINESS STATUS		
<b>Jacksonville</b>		<b>FL</b>	<b>32256</b>	<b>N/A</b>		
6a. POINT OF CONTACT NAME AND TITLE				7. NAME OF FIRM (if block 2a is a Branch Office)		
<b>Christopher McIntyre, P.E., Office Manager</b>				<b>Terracon Consultants, Inc.</b> <b>(Est. 1965, DUNS No. 613569961)</b>		
6b. TELEPHONE NUMBER		6c. E-MAIL ADDRESS				
<b>(904) 900 6494</b>		<b>Chris.McIntyre@terracon.com</b>				
8a. FORMER FIRM NAME(S) (if any)				8b. YEAR ESTABLISHED		8c. UNIQUE ENTITY IDENTIFIER
<b>Wolf/WPC, Environmental Services, Inc.</b>				<b>2006</b>		<b>930347794</b>
9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (see below)
		(1) FIRM	(2) BRANCH			
02	Administrative	564	5	A06	Airports	9
05	Archaeologist	34	5	B02	Bridges	8
06	Architect	20		C06	Churches	6
07	Biologist	42	12	C10	Commercial Building Retail (Low Rise)	10
08	CADD Technician	37		D01, D02	Dams, Dikes, Levees	7
12	Civil Engineer	80		E02	Educational; Classrooms	9
14	Computer Programmer/IT	70		E07	Energy Conservation; Renewable Energy	9
15	Construction Inspector	211		E09	EIS; Assessments	8
23	Environmental Engineer	110	1	E12, HO03	Env. Remediation, HTRW	9
24	Environmental Scientist	401	17	H07	Highways; Streets; Parking	10
26	Forensic (Building Diagnostic) Engr	23		H09	Medical Facilities	9
27/55	Foundation/Geotechnical/Soils Engr	424	6	H10	Hotels; Motels	8
29	Geographic Info. Systems	10	2	H11	Multi-Family Housing	9
30	Geologist	257		I01, W01	Industrial; Manufacturing; Warehouse; Depots	10
36	Industrial Hygienist & Safety Specialist	110		O01	Office Buildings	9
40	Construction Materials/Pavement Engr	103	1	P04	Pipelines	9
48	Project Manager	497	5	P12	Power Gen., Transmission, Distribution	9
58	Technician (Field & Testing Lab)	1700	13	R03	Railroad; Rapid Transit	7
	Driller	209	4	R12	Roofing	4
	Bldg Enclosure/Roofing Consultants/ Bldg Commissioning	59	1	S03	Seismic Designs and Studies	3
	Structural Steel Inspector	76	2	S05	Soils/Geologic Studies; Foundations	10
	Geophysicist	15		S07	Solid Waste Facilities	8
	Certified Commercial Diver	4		S13	Storm Water	6
				T02	Testing and Inspection Services	10
	Other Employees	104	5	W02	Water Resources; Hydrology; Groundwater	6
<b>Total</b>		<b>5160</b>	<b>79</b>	<b>W03</b>	Water Supply, Treatment; Distribution	7
11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS <i>(Insert revenue index number shown at right)</i>		PROFESSIONAL SERVICES REVENUE INDEX NUMBER				
a. Federal Work	8	1. Less than \$100,000		6. \$2 million to less than \$5 million		
b. Non-Federal Work	10	2. \$100,000 to less than \$250,000		7. \$5 million to less than \$10 million		
c. Total Work	10	3. \$250,000 to less than \$500,000		8. \$10 million to less than \$25 million		
		4. \$500,000 to less than \$1 million		9. \$25 million to less than \$50 million		
		5. \$1 million to less than \$2 million		10. \$50 million or greater		
12. AUTHORIZED REPRESENTATIVE <i>The foregoing is a statement of facts.</i>						
a. SIGNATURE					b. DATE	
					February 3, 2021	
c. NAME AND TITLE						
<b>Christopher McIntyre, P.E., Office Manager</b>						

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Tab 6

## **Required Disclosures**

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## Conflict of Interest

CMT as the continuing contract consulting engineer for the City does not accept engagements with private clients for services within the City that could compromise our position as technical adviser to the city. CMT has no known conflicts of Interest associated with any aspects of the City of St. Augustine Beach, Florida.



**Firm**

Crawford, Murphy & Tilly, Inc.  
(CMT)  
S-Corporation  
**Tax ID #:**  
37-0844662

## Good Standing

CMT is in good standing and in compliance with all Federal, State, County and local units of government.

CMT is a fully owned subsidiary of CMT Companies, which was established in 2008 as an S-corporation whose owners are all active employees of CMT.

4/16/2021

DBPR - CRAWFORD, MURPHY &amp; TILLY, INC., Registry

5:38:31 PM 4/16/2021

**Licensee Details****Licensee Information**

Name: **CRAWFORD, MURPHY & TILLY, INC. (Primary Name)**  
Main Address: **2750 W. WASHINGTON ST.  
SPRINGFIELD Illinois 62702**  
County: **BAY**  
License Mailing:  
License Location:

**License Information**

License Type: **Registry**  
Rank: **Registry**  
License Number: **29465**  
Status: **Current**  
License Date: **04/04/2011**  
Expires:

**Special Qualifications****Qualification Effective****Alternate Names**[View Related License Information](#)[View License Complaint](#)

2601 Blair Stone Road, Tallahassee FL 32399 :: Email: [Customer Contact Center](#) :: Customer Contact Center: 850.487.1395

The State of Florida is an AA/EEO employer. [Copyright 2007-2010 State of Florida Privacy Statement](#)

Under Florida law, email addresses are public records. If you do not want your email address released in response to a public-records request, do not send electronic mail to this entity. Instead, contact the office by phone or by traditional mail. If you have any questions, please contact 850.487.1395. Pursuant to Section 455.27(1), Florida Statutes, effective October 1, 2012, licensees licensed under Chapter 455, F.S., must provide the Department with an email address if they have one. The emails provided may be used for official communication with the licensee. However email addresses are public record. If you do not wish to supply a personal address, please provide the Department with an email address which can be made available to the public.

<https://www.myfloridalicense.com/LicenseDetail.asp?SID=&id=004E9DE3C3492C9B17EF60593528A02C>

850-817-6381

1/21/2010 2:20:34 PM PAGE 1/001 Fax Server



January 21, 2010

FLORIDA DEPARTMENT OF STATE  
Division of Corporations

CRAWFORD, MURPHY & TILLY, INC.  
2750 WEST WASHINGTON STREET  
SPRINGFIELD, IL 62702

Qualification documents for CRAWFORD, MURPHY & TILLY, INC. were filed on January 20, 2010 and assigned document number F1000000298. Please refer to this number whenever corresponding with this office.

Your corporation is now qualified and authorized to transact business in Florida as of the file date.

This document was electronically received and filed under FAX audit number S#10000011609.

A corporation annual report/uniform business report will be due this office between January 1 and May 1 of the year following the calendar year of the file date. A Federal Employer Identification (FEI) number will be required before this report can be filed. If you do not already have an FEI number, please apply NOW with the Internal Revenue by calling 1-800-829-4933 and requesting form SS-4.

Please be aware if the corporate address changes, it is the responsibility of the corporation to notify this office.

Should you have any questions regarding this matter, please contact this office at (850) 245-6062.

Eula Peterson  
Regulatory Specialist II  
New Filing Section  
Division of Corporations

Letter Number: 710A00001700

3

P.O BOX 6327 - Tallahassee, Florida 32314

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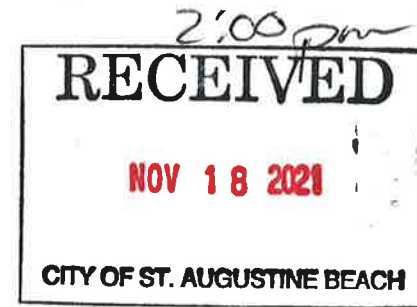
CMTENGR.COM



**Request For Qualifications**  
**For**  
**Professional Engineering Services**  
**for**  
**Stormwater Master Plan Update**

**RFQ 21-06**

City of St. Augustine Beach  
Atten: City Clerk  
2200 S.R. A1A South  
St. Augustine Beach, FL. 32080



**Crawford, Murphy & Tilly**

**Crawford, Murphy & Tilly**  
**Engineers and Consultants**  
**7400 Baymeadows Way, Suite 220**  
**Jacksonville, FL. 32256**  
**(904) 448-5300**