

6-16-15  
CM-6  
REVISED



**CITY OF FORT LAUDERDALE**  
**City Commission Agenda Memo**  
**REGULAR MEETING**

#15-0672

**TO:** Honorable Mayor & Members of the  
Fort Lauderdale City Commission

**FROM:** Lee R. Feldman, ICMA-CM, City Manager *LRF*

**DATE:** June 16, 2015

**TITLE:** **REVISED CM-6** - Motion authorizing professional services for the George T. Lohmeyer Waste Water Treatment Plant Stormwater Improvements – Craven Thompson & Associates – \$127,440 Task Order

**Recommendation**

It is recommended that the City Commission approve a Task Order ~~No. 4~~ (Exhibit 1) with Craven, Thompson & Associates, Inc. (Consultant Services Contract 626-10881-3) for the design engineering services and construction engineering inspection services of the stormwater drainage system at the George T. Lohmeyer Wastewater Treatment Plant (GTL) in the amount of \$127,440.

**Background**

GTL is currently experiencing flooding events on the north side of the site. The flooding occurs during rain events more than one inch, and not only causes flooding within the site, but also overflows the perimeter elevations causing flooding on Southeast 18<sup>th</sup> Street and adjacent properties to the north.

On October 21, 2014, the City Commission approved a one year renewal of the civil engineering consulting services agreement with Craven, Thompson & Associates (CAM 14-1066). The Task Order ~~No. 4~~ is for the design and construction management of a new stormwater system to address stormwater issues at GTL. The proposed stormwater system will improve water quality and reduce storm flooding to the wastewater treatment plant and adjacent properties.

**Resource Impact**

There will be a fiscal impact to the City in the amount of \$127,440 for the task order and \$25,000 for in-house project management fees, for a total of \$152,440.

<b>Funds available as of June 3, 2015</b>					
<b>ACCOUNT NUMBER</b>	<b>INDEX NAME (Program)</b>	<b>OBJECT CODE/ SUB- OBJECT NAME</b>	<b>AMENDED BUDGET (Object Code)</b>	<b>AVAILABLE BALANCE (Object Code)</b>	<b>AMOUNT</b>
451-P12106.451- 6599	GT Lohmeyer Drainage System	Capital Outlay/ Construction	\$360,000	\$349,430	\$152,440
<b>TOTAL →</b>					<b>\$152,440</b>

**Strategic Connections**

This item is a *Press Play Fort Lauderdale Strategic Plan 2018* initiative, included within the Infrastructure Cylinder of Excellence, specifically advancing:

- Goal 2: Be a sustainable and resilient community.
- Objective 1: Proactively maintain our water, wastewater, road and bridge infrastructure.
- Objective 2: Reduce flooding and adapt to sea level rise.

This item advances the *Fast Forward Fort Lauderdale 2035 Vision Plan: We Are Ready*.

**Attachment**

Exhibit 1 – Task Order No. 4

Prepared by: Annalise Mannix, P.E., Senior Project Manager  
Pedram Zohrevand, Ph.D., P.E., Assistant City Engineer

Department Director: Hardeep Anand, P.E., Public Works

## **TASK ORDER No. 4 3**

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2015

### **FORT LAUDERDALE PUBLIC WORKS DEPARTMENT**

**PROJECT No. 12106**

### **GT LOHMEYER WWTP STORMWATER IMPROVEMENTS**

#### **PROFESSIONAL SERVICES**

This Task Order is being entered into pursuant to the Continuing Contract for Civil Engineering Consultant Services Agreement (Contract 626-10881-3) between the City of Fort Lauderdale, a municipal corporation of the State of Florida, ("CITY") and CRAVEN THOMPSON & ASSOCIATES, INC., a Florida corporation, ("CONSULTANT") in accordance with the terms of the agreement for professional services dated November 6, 2012 and renewed on October 21, 2014 between CITY and CONSULTANT ("MASTER AGREEMENT").

#### **PROJECT BACKGROUND**

The George T Lohmeyer Waste Water Treatment Plant (GT Lohmeyer WWTP) has historically experienced regular flooding events on the northside of the site. The flooding occurs during 1" plus rainfall events and not only causes flooding within the Site but also overflows the perimeter elevations causing flooding on SE 18<sup>th</sup> Street and within the adjacent properties to the north. This task order requires the CONSULTANT to develop a conceptual design to alleviate the onsite and offsite flooding issues.

Once the conceptual design is approved, the CONSULTANT will provide final construction documents, engineering permits and construction observation services for the **GT Lohmeyer WWTP** stormwater improvements.

#### **PROJECT DESCRIPTION**

The **GT Lohmeyer WWTP** stormwater improvements project will consist of the following phases:

- Phase I - Feasibility Analysis
- Phase II - Permitting and development of 30% and 75% construction documents
- Phase III - Development of 100% construction documents and specifications
- Phase IV - Construction Observation Services

Project location and limits of work are identified in **Exhibit 1**. The Project area is bounded on the north by SE 18<sup>th</sup> Street, on the south by Plant, on the west by Harbor Shops Development and on the east by Eisenhower Boulevard. The work area is limited to the roadway along the northern boundary of the Site and SE 18<sup>th</sup> Street from approximately 750 LF west of Eisenhower Boulevard to Eisenhower Boulevard.

The main objectives of this task order are to obtain all design permits and develop construction documents that would allow the City to bid out the construction of the project.

Major deliverables are described within the Scope section, which include providing final construction documents and design permits that would allow the City to bid out the construction of the project.

## **SCOPE OF SERVICES AND DELIVERABLES**

This Task Order will cover the engineering, and surveying services required to complete plans and obtain permits for the **GT Lohmeyer WWTP** storm water improvements.

The CONSULTANT is responsible for all work of their sub consultants/subcontractors to meet the deliverables included on this task order.

### ***PHASE I – Feasibility Analysis***

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#### **Task 1 – Data Gathering**

- 1.1 Review all available documentation regarding previous studies, surveys, as-builts, atlas', etc. The documents will be used to create a base for which to apply improvements to in order to resolve the flooding issues within the Project Area.

#### **Task 2 – Preliminary Design Development**

- 2.1 CONSULTANT shall develop a maximum of two (2) potential alternative designs to alleviate the flooding issues within the Project Area. These two (2) alternatives will be presented to the City with preliminary construction costs for evaluation. A coordination meeting will be held to discuss and determine which alternate will be utilized for Phase II and III. CONSULTANT shall prepare and submit the meeting agenda and meeting minutes.

### ***PHASE II – Permitting and 75% Design***

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#### **Task 3 – Surveying**

- 3.1 CONSULTANT shall prepare a Topographic Survey of that portion of the above referenced project, shown on Exhibit "1", (attached). This survey lies from the East line of the Pretreatment Building to the west Right-of-Way Line of Eisenhower Blvd., 1,485± L.F. The survey will include recovery of pertinent boundary corners, location of aboveground visible improvements, including pavement, slabs, fences, trees, utility features and the perimeter wall along the north property line of the subject property including S.E. 18<sup>th</sup> Street. In addition, the CONSULTANT will obtain rim elevations of utility structures with invert elevations, pipe size and type of drainage & sanitary structures. The survey will meet current surveying requirements of the Board of Professional Surveyors and Mappers, of the State of Florida, and will comply with the City of Fort Lauderdale CAD standards. The survey will be prepared in AutoCAD Civil 3D, Version 2014 drawing file format. Elevations will be based on the North American Vertical Datum of 1988 (NAVD 88), and referenced to National Geodetic Survey benchmarks.

#### **Task 4 – Stormwater Design**

- 4.1 CONSULTANT shall complete the stormwater engineering design of the **GT Lohmeyer WWTP Stormwater Improvements** to the 30% and 75% design stage. The stormwater engineering design will include complying with the 2014 City adopted roadway flood protection criteria for a 10 YR / 24 HR storm and all associated permit agencies' requirements. It should be noted that due to CITY budget, existing physical conditions and regulatory requirements, the 10 YR / 24 HR roadway flood protection may not be achievable in certain areas within the Project. All

associated hydraulic modeling must be done with the U.S. Environmental Protection Agency (EPA) Storm Water Management Model (SWMM), Interconnected Pond Routing (ICPR), or equal.

- 4.1.1 Conduct Hydraulic Modeling.
- 4.1.2 Design of a pollution prevention and sediment erosion control plan.
- 4.1.3 Design of the drainage system, including but not limited to exfiltration trenches, berms, swales, structures, drainage wells and related storm infrastructure. The design must protect the existing property located on the north side of SE 18<sup>th</sup> Street within the Project Area.
- 4.1.4 Prepare drainage calculations and reports to satisfy permitting agencies requirements, including NPDES MS4 program.
- 4.1.5 CONSULTANT shall review options to incorporate alternative sustainable stormwater features.
- 4.1.6 CONSULTANT shall conduct Underground Utility Locates within the Project Area. It is anticipated that a maximum of ten (10) utility locates will be utilized under this Task.

#### Task 5 – Permitting

- 5.1 CONSULTANT shall obtain all design permits for **GT Lohmeyer WWTP Stormwater Improvements Project** to allow the City to bid out the construction of the project. This item includes responding to all permit agencies comments. This item does not include permits fees, which are reimbursable expenses paid per contract agreement clauses.
  - 5.1.1 PERMITS **GT Lohmeyer WWTP Stormwater Improvements**
    - SFWMD ERP Surface Water
    - FDEP/BCEPD ERP Surface Water
    - FDOT\* Drainage Connection
    - City of Fort Lauderdale Engineering and Building Department

\* Potential Permit

#### Task 6 – Project coordination and information meetings

- 6.1 CONSULTANT shall provide project coordination meetings at the following project milestones: project kick-off, 30% and 75% design.
  - 6.1.1 Each meeting shall not extend more than 2 hours in duration and be charged per actual meeting duration.
  - 6.1.2 Any unused meeting time can be used for subsequent meetings if needed and as approved by CITY.
  - 6.1.3 CONSULTANT staff attending the meetings shall be approved by CITY prior to CONSULTANT conducting any meeting.
  - 6.1.4 CONSULTANT shall prepare meeting agenda and meeting minutes and submit to CITY for review.

#### Task 7 –Reimbursable

- 7.1 Printing costs and postage are included in reimbursables and shall be billed per contract terms and agreement.

### ***PHASE III – Development of 100% construction documents and specifications***

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#### **Task 8 – Development of construction documents for GT Lohmeyer WWTP Stormwater Improvements**

- 8.1 CONSULTANT shall prepare civil engineering design plans for 100% submittals to City Staff for review.
  - 8.1.1 CONSULTANT shall prepare quantity and cost estimates for 100% submittal.
  - 8.1.2 Final design shall include revisions to plans per CITY comments and Permitting agency's comments.
  - 8.1.3 CONSULTANT shall prepare detailed Construction Documents and Specifications for bidding purposes.
  - 8.1.4 CONSULTANT shall attend Pre-Bid Meeting.
  - 8.1.5 CONSULTANT shall respond to questions and comments during bidding process and assist the CITY in preparing Addendums.
  - 8.1.5 CONSULTANT shall review submitted Bids for accuracy and pricing and present results to the CITY.

#### **Task 9 – Project coordination and information meetings**

- 9.1 CONSULTANT shall provide project coordination meetings at the following project milestones: 100% design.
  - 9.1.1 One meeting shall not extend more than 2 hours in duration and be charged per actual meeting duration.
  - 9.1.2 Any unused meeting time can be used for subsequent meetings if needed and as approved by CITY.
  - 9.1.3 CONSULTANT staff attending the meetings shall be approved by CITY prior to CONSULTANT conducting any meeting.
  - 9.1.4 CONSULTANT shall prepare meeting agenda and meeting minutes and submit to CITY for review.

#### **Task 10–Reimbursable**

- 10.1 Printing costs and postage are included in reimbursables and shall be billed per contract terms and agreement.

### ***PHASE IV – Construction Services***

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#### **Task 11 – Construction Administration**

- 11.1 CONSULTANT shall also review the shop drawings and submittals, answer RFI's, and respond to requests for changes.

#### **Task 12 – Construction Observation Services**

- 12.1 CONSULTANT shall provide field observation and inspection services for the proposed project. The field observations and inspections are estimated at twelve (12) hours per week for a construction period of nine (9) months for a senior inspector (468 hrs. total). Services include site visits, testing observation, attendance at meetings (up to 40 hours), coordination with contractor and city, part time on-site observations/verification of construction in progress (including specialized field tests) to determine if construction is proceeding in substantial accordance with the Contract Documents and consider and evaluate Construction Contractor's suggestions for modifications in drawings or specifications.

### **Task 13 – Project Closeout Services**

- 13.1 Before issuance of a determination of substantial completion or final completion, participate in a joint inspection with City and Contractor and assist in preparation of a list of items requiring completion or correction (punch-list) for approval by the City. Provide Construction Contractor with an approved copy of the punch list. Update punch-list as corrections are made. Participate in the final inspection. Assist the CITY with the review and approval of closeout document to include but not limited to change orders, final payments, final inspections and review as-builts for permitting and close out.

#### **Phase I Deliverables**

CONSULTANT shall provide the following deliverables to CITY for review and written approval:

- I. Conceptual Alternative to alleviate the flooding issues experienced within the Project Area.
- II. Alternative presented will have associated preliminary costs.

#### **Phase II Deliverables**

CONSULTANT shall provide the following deliverables to CITY for review and written approval:

- I. Design plans, design permits, reports, survey data for the GT Lohmeyer WWTP Stormwater Improvements to allow the City to bid out the construction of the project.
- II. All deliverables shall be submitted to the City FTP site. Create a new entry under Site manager and use the settings User Name: EngVendor; Password: #Structure#. Use folders to organize submittals (invoices, drawings, PDFs, excel, SWMM files, report, etc.)
- III. CONSULTANT shall deliver a schedule in Microsoft Project of the task order work break down as part of this task order for City review and approval. Schedule shall include deliverables dates, milestones, QA/QC time. City review time frame shall be not less than 7 business days per submittal, etc.
- IV. CONSULTANT shall deliver 30%, 75% plans, calculations and project reports of the design solution of the project.
- V. CONSULTANT shall deliver all project files in native format and upload to the City's FTP site at the 30%, 75% phases. All AutoCad files shall be 2014 or newer version and shall comply with the City's AutoCad standards.
- VI. CONSULTANT shall deliver permits issued from all permit agencies to the City.
- VII. At least two (2) Signed and Sealed hard copies of final plans and associated design reports or calculations.

#### **Phase III Deliverables**

- I. Design plans, design permits, reports, survey data for the GT Lohmeyer WWTP Stormwater Improvements to allow the City to bid out the construction of the project.
- II. All deliverables shall be submitted to the City FTP site. Create a new entry under Site manager and use the settings User Name: EngVendor; Password: #Structure#. Use folders to organize submittals (invoices, drawings, PDFs, excel, SWMM/ICPR files, report, etc.)

- III. CONSULTANT shall deliver a schedule in Microsoft Project of the task order work break down as part of this task order for City review and approval. Schedule shall include deliverables dates, milestones, QA/QC time, City review time frame not less than 7 business days per submittal, etc.
- IV. CONSULTANT shall deliver 100% plans, calculations and project reports of the design solution of the project.
- V. CONSULTANT shall deliver all project files in native format and upload to the City's FTP site at the 100% phase. All AutoCad files shall be 2014 or newer version and shall comply with the City's AutoCad standards.
- VI. CONSULTANT shall deliver permits issued from all permit agencies to the City.
- VII. At least two (2) Signed and Sealed hard copies of final plans and associated design reports or calculations.

#### **Phase IV Deliverables**

- I. Construction Administration including review of shop drawings, submittals, and RFI's.
- II. Project Certifications to permitting agencies based on information provided by Contractor. Well certifications by Contractor.

#### **PROJECT ASSUMPTIONS**

Specific assumptions for the project:

- ICPR shall be used to model the Stormwater Management System.
- CITY shall provide additional construction services during Construction to supplement CONSULTANTS staff.
- CITY shall provide all available information regarding the Project Area, As-builts, Atlases, Easements, Plats, etc. in Electronic and Hard Copy form.

#### **CONSULTANT'S RESPONSIBILITIES**

- CONSULTANT shall review all City, County State records, data and/or other documentation available to review land ownership, easements or other restrictions, provided by the CITY that may affect the project. CONSULTANT shall use survey equipment and data collection systems capable to deliver complete surveys and task order deliverables as stated by the scope of work section of this task order.
- CONSULTANT shall assist CITY in coordination with adjacent property owners- as applicable- to obtain access to project sites and to send deliverables of this task order to CITY.
- CONSULTANT shall prepare hydraulic, water quality, flood plain watershed modeling and analysis utilizing EPA's Storm Water Management Model (SWMM), ICPR or equal for the design of the stormwater solutions associated with the Project. CONSULTANT shall calibrate the models to be consistent with observable and proposed conditions.



### **CITY'S RESPONSIBILITIES**

- CITY will provide decision on preliminary design prior to the development of 30% design plans.
- The CITY's project manager, or a designated representative, will coordinate the project for the CITY.
- Meeting Attendance.
- Provide supplemental Construction Observation and Inspections services and Project Certifications.
- CITY will provide previous survey data, project records, drawings, reports, studies, etc.
- Timely review of submittals.
- Access to project site as required.
- Usual Open Hole Percolation Tests (Minimum 3) and Soil Borings. Locations to be determined.
- Permit Fees
- Reasonable Assurance Report and Well Certification fees for Class IV wells.

### **ADDITIONAL SERVICES**

If authorized in writing by the City as an amendment to this Task Order, the Consultant shall furnish, or obtain from others, Additional Services of the types as listed in the Master Agreement. The CITY, as indicated in the Master Agreement, will pay for these services.

### **PERFORMANCE SCHEDULE**

The CONSULTANT shall perform the services identified in Task 1 through 10 inclusive within 201 working days of written Notice to Proceed and Task 12 through 14 approximately eleven (11) months after the Construction Notice to Proceed as shown on the task order schedule on **Exhibit 2**.

### **METHOD OF COMPENSATION**

The services performed shall be accomplished using the Not to Exceed method of compensation. Reimbursable expenses associated with these services are not included in the fees and will be itemized separately, subject to an established Not to Exceed limit. A fee schedule and cost breakdown for reimbursable expenditures is included on **Exhibit 3**. CITY may process CONSULTANT invoices by percentage of task order completed, accepted and delivered as described in previous task order sections.

Billing shall be per the final negotiated not to exceed price. CITY will have to go back to the Commission for approval of the overall contract once the not to exceed price is detailed / documented and finalized to be incorporated in the contract. A detailed breakdown of price will need to be included as an exhibit in this task order.

CONSULTANT shall keep detailed timesheets of all hours spent for **GT Lohmeyer WWTP Stormwater Improvements**.

- Timesheets and back up billing documentation shall be submitted with each invoice.

**TERMS OF COMPENSATION**

Services shall be provided for the following Not to Exceed amounts as identified in **Exhibit 3**.

**Phase I**

**GT Lohmeyer WWTP Stormwater Improvements Labor Effort is estimated at 88 hours and Not to Exceed amount of \$9,984.00.**

***TOTAL PHASE I Not to Exceed Amount \$9,984.00***

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**Phase II**

**GT Lohmeyer WWTP Stormwater Improvements Labor Effort is estimated at 368 hours and Not to Exceed amount of \$37,640.00.**

**Test Hole Locations are estimated at \$3,000**

**Reimbursables are estimated in the amount of \$500.00**

***TOTAL PHASE II Not to Exceed Amount \$41,140.00***

**Phase III**

**GT Lohmeyer WWTP Stormwater Improvements Labor Effort is estimated at 123 hours and Not to Exceed amount of \$13,000.00.**

**Reimbursables are estimated in the amount of \$500.00**

***TOTAL PHASE III Not to Exceed Amount \$13,500.00***

**Phase IV**

**GT Lohmeyer WWTP Stormwater Improvements Labor Effort is estimated at 650 hours and Not to Exceed amount of \$62,816.00.**

***TOTAL PHASE IV Not to Exceed Amount \$62,816.00***

**CITY CONTACTS**

Requests for payments should be directed to City of Fort Lauderdale Accounts Payable via e-mail to AcctsPayble@FortLauderdale.gov after getting approval from the Project Manager. All other correspondence and submittals should be directed to the attention of Daniel Rey, at the address shown below.

Daniel Rey  
Project Manager II  
City of Fort Lauderdale  
City Hall, 4th Floor Engineering  
100 North Andrews Avenue  
Fort Lauderdale, FL 33301  
Drey@fortlauderdale.gov  
(954) 828-7150

Pedram Zohrevand, Ph.D., P.E.  
Assistant City Engineer  
City of Fort Lauderdale  
City Hall, 4th Floor Engineering  
100 North Andrews Avenue  
Fort Lauderdale, FL 33301  
PZohrevand@fortlauderdale.gov  
(954) 828-6134

Annalise Mannix, P.E., M.S.  
Senior Project Manager  
Design Section, Public Works  
City of Fort Lauderdale  
100 N. Andrews Ave.  
Fort Lauderdale, FL 33301  
Amannix@Fortlauderdale.gov  
(954) 828-4355

Michael Donaldson, PSL  
City Surveyor  
City of Fort Lauderdale  
City Hall, 4th Floor – Engineering  
100 North Andrews Avenue  
Fort Lauderdale, FL 33301

**CONSULTANT CONTACTS**

CONSULTANT Name Craven Thompson & Associates  
CONSULTANT Address 3563 NW 53<sup>rd</sup> Street Fort Lauderdale, FL 33309  
CONSULTANT Project Manager Name: Patrick J. Gibney, P.E.  
CONSULTANT Project Manager Email: [pgibney@craventhompson.com](mailto:pgibney@craventhompson.com)  
CONSULTANT Project Manager Phone: 954-739-6400  
CONSULTANT Project Manager Fax: 954-739-6409

**Department Signatures**

Approved by:

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Daniel Rey, E.I.                      Date:  
Project Manager

Approved by:

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Pedram Zohverand, P.E.              Date:  
Assistant City Engineer

Approved by:

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Hardeep Anand, P.E.                  Date:  
Public Works Director

CITY

IN WITNESS OF THE FOREGOING, the parties have set their hands and seals the day and year first above written.

CITY OF FORT LAUDERDALE, a municipal corporation of the State of Florida:

By \_\_\_\_\_  
LEE R. FELDMAN, City Manager

(CORPORATE SEAL)

ATTEST:

\_\_\_\_\_  
JONDA K. JOSEPH, City Clerk

Approved as to form:

\_\_\_\_\_  
RHONDA MONTOYA HASAN  
Assistant City Attorney

**CONSULTANT**

WITNESSES:

Craven Thompson & Associates Inc.

\_\_\_\_\_  
Signature

By: \_\_\_\_\_

Thomas McDonald, President or

Richard Pryce, Vice President or

Patrick J. Gibney, Vice President

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Signature

ATTEST:

By: \_\_\_\_\_

Joseph D. Handley, Secretary

\_\_\_\_\_  
Print Name

(CORPORATE SEAL)

STATE OF FLORIDA:  
COUNTY OF BROWARD:

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 2015, by \_\_\_\_\_ as \_\_\_\_\_ of Craven, Thompson & Associates, Inc., a Florida corporation, who is  personally known to me or  has produced \_\_\_\_\_ as identification.

(SEAL)

\_\_\_\_\_  
Notary Public, State of Florida  
(Signature of Notary taking Acknowledgement)

\_\_\_\_\_  
Name of Notary Typed, Printed or Stamped

\_\_\_\_\_  
My Commission Expires

\_\_\_\_\_  
Commission No.

**EXHIBITS**

**Exhibit 1 Location Map**

**Exhibit 2 Project Schedule**

**Exhibit 3 Work Break Down Fee Schedule**

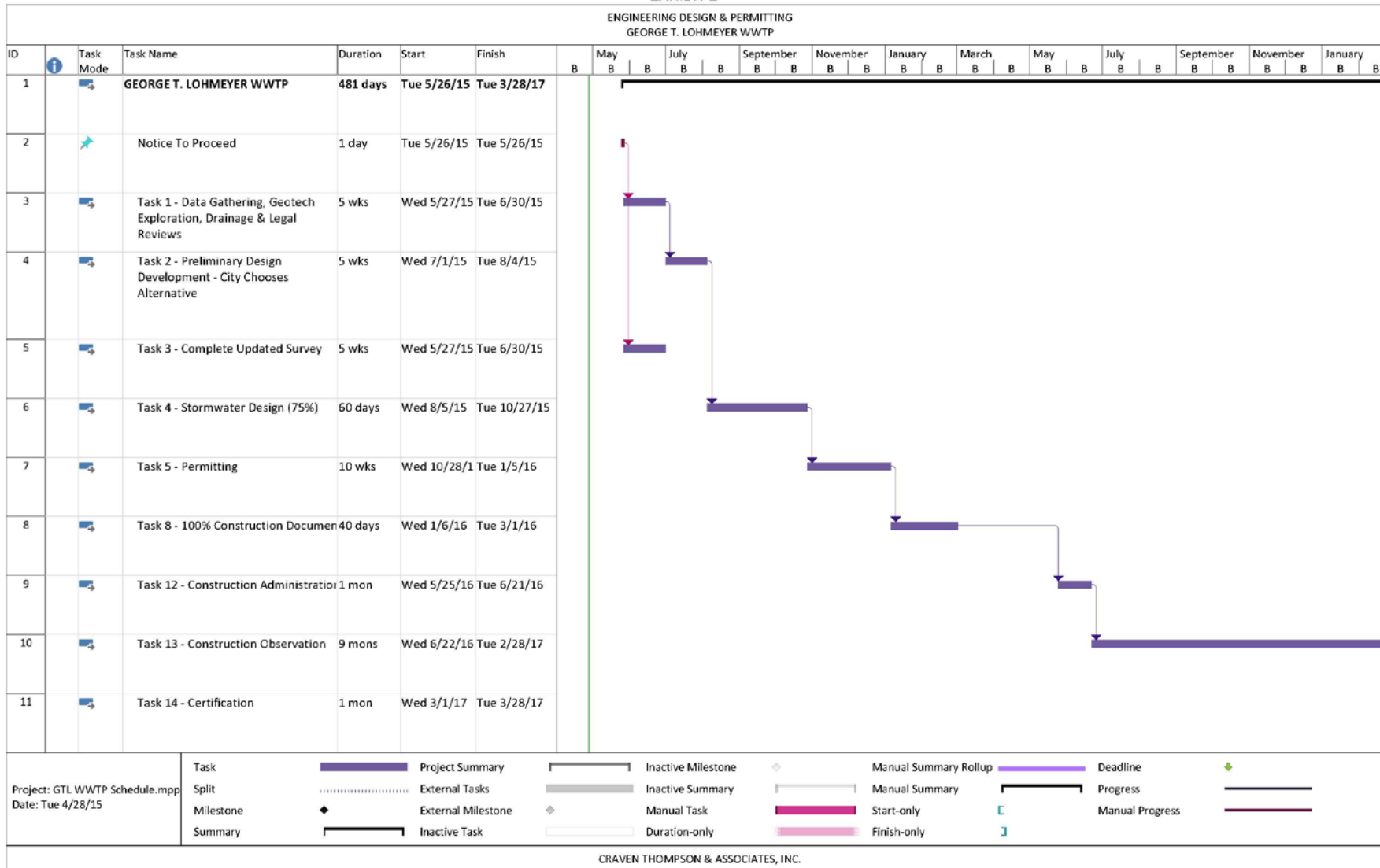
**EXHIBIT 1**





EXHIBIT 2

ENGINEERING DESIGN & PERMITTING  
GEORGE T. LOHMEYER WWTP



GT Lohmeyer WWTP City of Fort Lauderdale  
 City Project No. 12106  
 Task Order No. 1

4/28/2015

**EXHIBIT 3 PHASE I - FEASIBILITY ANALYSIS**

**CONSULTANT WORK BREAKDOWN AND FEE SCHEDULE**

		CRAVEN THOMPSON											INF-RAMAP		SUB-TOTAL	SUB-TOTAL
		Principal Engineer	Clerical	Sr. Supervising Engineer	Senior Engineer	Project Engineer	Sr. CADD Tech	Principal Surveyor	Professional Land Surveyor	Sr. Engineer (Construction)	Sr. Field Representative	2 Man Survey Crew	Laser Survey Crew	Test Holes	HOURS	FEES
<b>Hourly Rate</b>		\$170.00	\$50.00	\$150.00	\$120.00	\$105.00	\$90.00	\$130.00	\$110.00	\$120.00	\$90.00	\$100.00	\$250.00			
Task 1	Data Gathering	2		4	12	24									42	\$4,912.00
Task 2	Preliminary Design Development	2		4	8	24	8								46	\$5,072.00
															<b>88</b>	<b>\$9,984.00</b>

**PHASE II**

**CONSULTANT WORK BREAKDOWN AND FEE SCHEDULE**

		CRAVEN THOMPSON											INF-RAMAP		SUB-TOTAL	SUB-TOTAL
		Principal Engineer	Clerical	Sr. Supervising Engineer	Senior Engineer	Project Engineer	Sr. CADD Tech	Principal Surveyor	Professional Land Surveyor	Sr. Engineer (Construction)	Sr. Field Representative	2 Man Survey Crew	Laser Survey Crew	Test Holes	HOURS	FEES
<b>Hourly Rate</b>		\$170.00	\$50.00	\$150.00	\$120.00	\$105.00	\$90.00	\$130.00	\$110.00	\$120.00	\$90.00	\$100.00	\$250.00			
Task 3	Design Survey						40		20			80			140	\$13,400.00
Task 4	Stormwater Design			16	32	40	64							\$3,000	152	\$18,560.00
Task 5	Permitting			4	16	24	8								52	\$5,600.00
Task 6	Project Coordination			8	8	8									24	\$3,000.00
Task 7	Reimbursable															\$500.00
															<b>368</b>	<b>\$41,140.00</b>

**PHASE III**

**CONSULTANT WORK BREAKDOWN AND FEE SCHEDULE**

		CRAVEN THOMPSON											INF-RAMAP		SUB-TOTAL	SUB-TOTAL
		Principal Engineer	Clerical	Sr. Supervising Engineer	Senior Engineer	Project Engineer	Sr. CADD Tech	Principal Surveyor	Professional Land Surveyor	Sr. Engineer (Construction)	Sr. Field Representative	2 Man Survey Crew	Laser Survey Crew	Test Holes	HOURS	FEES
<b>Hourly Rate</b>		\$170.00	\$50.00	\$150.00	\$120.00	\$105.00	\$90.00	\$130.00	\$110.00	\$120.00	\$90.00	\$100.00	\$250.00			
Task 8	Construction Documents		8	8	16	40	24								96	\$9,640.00
Task 9	Project Coordination			8	11	8									27	\$3,360.00
Task 10	Reimbursables															\$500.00
															<b>123</b>	<b>\$13,500.00</b>

**PHASE IV**

**CONSULTANT WORK BREAKDOWN AND FEE SCHEDULE**

		CRAVEN THOMPSON											INF-RAMAP		SUB-TOTAL	SUB-TOTAL
		Principal Engineer	Clerical	Sr. Supervising Engineer	Senior Engineer	Project Engineer	Sr. CADD Tech	Principal Surveyor	Professional Land Surveyor	Sr. Engineer (Construction)	Sr. Field Representative	2 Man Survey Crew	Laser Survey Crew	Test Holes	HOURS	FEES
<b>Hourly Rate</b>		\$170.00	\$50.00	\$150.00	\$120.00	\$105.00	\$90.00	\$130.00	\$110.00	\$120.00	\$90.00	\$100.00	\$250.00			
Task 11	Construction Administration	2	8	4	12					16					42	\$4,712.00
Task 12	Construction Observation	2		4	24					40	468				538	\$50,752.00
Task 13	Project Closeout Services	2	8	4	8				24	24					70	\$7,352.00
															<b>0</b>	<b>\$0.00</b>
															<b>650</b>	<b>\$62,816.00</b>

<b>TOTAL HOURS</b>	10	24	64	147	168	144	0	20	80	492	80	0				
<b>TOTAL FEE</b>	\$1,760	\$1,200	\$9,600	\$17,640	\$17,640	\$11,520	\$0	\$2,200	\$9,600	\$44,280	\$8,000	\$0			\$3,000	

Construction Schedule 270 Days 39 Weeks Task 14 is based on 12 hours per week for a Senior Inspector  
 Certification Package 30 Days 4 Weeks for the 39 week Construction Period plus Supervision

	HOURS	LABOR	REIMBURSABLE	TESTS	
PHASE I	88	\$9,984			\$9,984
PHASE II & III	491	\$50,640	\$1,000.00	\$3,000	\$54,640
PHASE IV	650	\$62,816			\$62,816
<b>TOTAL</b>		<b>\$127,440.00</b>			