



1365 Hamlet Ave Clearwater, FL 33756, (727) 442-7196

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## **WORK ORDER INITIATION FORM for the CITY OF CLEARWATER**

**Date:** **April 17, 2017**

**Project Number:** \_\_\_\_\_

**City Project Number:** **17-0022-UT**

**1. PROJECT TITLE: Sanitary Sewer Infiltration Source Investigation Program – Phase 1 (Beach Area Manholes)**

**2. SCOPE OF SERVICES:**

The City of Clearwater (City) has been experiencing high levels of storm water related inflow and groundwater infiltration. The City is now proposing to begin a sanitary sewer infiltration source investigation program to identify locations where excessive groundwater is entering the wastewater collection systems. The first phase of the program will focus on the 'Clearwater Beach Area' where the gravity sewer system is exposed to both constant groundwater and tidally influenced saltwater infiltration.

The 'Beach Area' includes the wastewater collection systems in the following Lift Station Service Areas: 9, 10, 11, 14, 20, 28, 35, 39 and 45. The proposed 'Program' includes the completion of comprehensive manhole inspections and night flow isolations on gravity sewers which are determined to be below the groundwater table and affected by tidal fluctuation. The following identifies the tasks that will be undertaken as part of the project:

**Task 1.1 – Project Administration, Data Collection and Review:** Task includes project setup, monthly progress reports and invoicing. Review of Record Drawings and other wastewater system data layouts.

**Task 1.2 – Manhole Inspections:**

McKim & Creed shall perform individual manhole inspections on all structures located within the "Beach Area". Manhole inspections will utilize a 2-pass process:

- First pass – document the existence of a manhole insert, active infiltration and significant structural/O&M defects; the number of manholes identified that will be inspected under this phase of work shall be 670 structures.
- Second pass – full inspection using digital side scanning equipment. Digital side scanning results and first pass results will allow for immediate

development of rehabilitation projects (scope of repairs, mapping, specifications & costs identified) It is estimated that 75 percent of the structures will require a Level 2 inspection, therefore 503 structures will be inspected under this phase of the work.

Manhole inspections will be conducted only during the wet weather summer months when groundwater elevations are at the highest levels

**Task 1.3 – Night Flow Isolations:**

Night flow isolations will be completed on all gravity sewers that are determined to be under the groundwater table during all tidal conditions. It has been estimated that 65 percent of the 670 Gravity Sewers, approximately 436, that are below the groundwater table will be included under this phase of the work. Night flow isolation results will be utilized to determine which gravity sewers experience excessive groundwater infiltration and require closed circuit television (CCTV) inspection to determine how to remediate the condition. Night flow isolations will be conducted only during the wet weather summer months when groundwater elevations are at the highest levels

**Task 1.4 – Draft Technical Report:** The results of the manhole inspections, night flow isolations and recommended manhole rehabilitation and CCTV inspection will be tracked using an asset management driven approach that incorporates a GIS interface. A draft technical report with findings, recommendations and conceptual cost estimates will be submitted to the City. Submit five (5) hard copies and an electronic PDF copy (via e-mail) of technical memo. Attend review meeting with City staff to discuss findings and recommendations. Prepare and distribute meeting minutes to attendees.

**Task 1.5 – Final Technical Report:** Incorporate comments from review meeting and finalize the technical report to include an updated cost estimate. Submit five (5) signed & sealed hard copies and an electronic PDF copy of memo (via e-mail).

**Task 1.6 – Bid Document Preparation:** Bid Document Preparation - Develop bid documents (plans and specs) based on the City's current standards for cleaning and lining specifications which include the approved materials and methods for successful completion of the necessary rehabilitation using third party contractor(s), or contractor previously selected by the City. The construction documents to be provided by McKim & Creed shall be:

1. Typical Design Details.
2. Typical Design and Material Specifications.
3. Interior Repair Design.

Items not included are:

1. Site survey or utility plans and locates.
2. Manhole replacement design.
3. MOT plans.

### 3. PROJECT GOALS:

- The main project goal is to determine the infrastructure in need of immediate repair, replacement and or rehabilitation.
- The next goal is to develop a conceptual cost estimate for the City to implement the recommended solutions.

Deliverables for the project will include:

- Five (5) copies of draft Technical Report and e-mail copy in PDF format;
- Five (5) bound, signed and sealed copies of final Technical Report; e-mail copy in PDF format; one (1) CD-ROM in PDF format;
- Meeting minutes for kickoff, status ,review meetings and finalization of bid documentation.

### 4. BUDGET:

See Attachment "B"

This price includes all labor and expenses anticipated to be incurred by McKim & Creed, Inc. for the completion of these tasks in accordance with Professional Services Method "B" – Lump Sum – Percentage of Completion by Task, **for a fee not to exceed One Hundred Ninety Five Thousand Three Hundred Dollars (\$195,300.00).**

### 5. SCHEDULE:

Project schedule will commence upon receipt of written authorization from the City. The project is to be completed within **150 calendar days** from issuance of notice-to-proceed. The project shall be phased as follows:

<b>Manhole Inspections – Level 1</b>	<b>90 calendar days</b>
<b>Manhole Inspections – Level 2</b>	<b>60 calendar days</b>
<b>Night Flow Isolation</b>	<b>40 calendar days</b>
<b>Draft Memo</b>	<b>120 calendar days</b>
<b>Final Memo</b>	<b>150 calendar days</b>

### 6. STAFF ASSIGNMENT (Consultant):

Street Lee, PE – Principal-in-Charge  
Aubrey Haudricourt, PE – Project Manager / Lead Engineer  
Gregory Anderson, PE – Project Professional

**7. CORRESPONDENCE/REPORTING PROCEDURES:**

Engineer's project correspondence shall be directed to: Aubrey Haurdicourt, PE

All City project correspondence shall be directed to: Jeff Walker, PE with copies to others as may be appropriate.

**8. INVOICING/FUNDING PROCEDURES:**

For work performed, invoices shall be submitted monthly to the City of Clearwater, Engineering Department, Attn.: Veronica Josef, Senior Staff Assistant, PO Box 4748, Clearwater, Florida 33758-4748.

City Invoicing Code: **0327-96218-561300-535-000-0000**

**9. INVOICING PROCEEDURES**

At a minimum, in addition to the invoice amount(s) the following information shall be provided on all invoices submitted on the Work Order:

- A. Purchase Order Number and Contract Amount.
- B. The time period (begin and end date) covered by the invoice.
- C. A short narrative summary of activities completed in the time period
- D. Contract billing method – Lump Sum or Cost Times Multiplier
- E. If Lump Sum, the percent completion, amount due, previous amount earned and total earned to date for all tasks (direct costs, if any, shall be included in lump sum amount).
- F. If Cost Times Multiplier, hours, hourly rates, names of individuals being billed, amount due, previous amount earned, total earned to date for each task and other direct costs (receipts will be required for any single item with a cost of \$50 or greater or cumulative monthly expenses greater than \$100).
- G. If the Work Order is funded by multiple funding codes, an itemization of tasks and invoice amounts by funding code.

**10. SPECIAL CONSIDERATIONS:**

- A. The consultant named above is required to comply with Section 119.0701, Florida Statutes (2013) where applicable.
- B. Review meeting will be held within two (2) weeks of submittal of draft technical memorandum.

**PREPARED BY:**

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**Aubrey Haudricourt, PE  
Senior Project Manager  
McKim & Creed, Inc.**

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**Date**

**APPROVED BY:**

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**Michael D. Quillen, PE  
City Engineer  
City of Clearwater**

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**Date**



# CITY OF CLEARWATER ENGINEERING DEPARTMENT

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## WORK ORDER INITIATION FORM CITY DELIVERABLES

### 1. FORMAT

The design plans shall be compiled utilizing the following methods:

1. City of Clearwater CAD standards.
2. Datum: Horizontal and Vertical datum shall be referenced to North American Vertical Datum of 1988 (vertical) and North American Datum of 1983/90 (horizontal). The unit of measurement shall be the United States Foot. Any deviation from this datum will not be accepted unless reviewed by City of Clearwater Engineering/Geographic Technology Division.

### 2. DELIVERABLES

The design plans shall be produced on bond material, 24" x 36" at a scale of 1" = 20' unless approved otherwise. Upon completion the consultant shall deliver all drawing files in digital format with all project data in Autodesk Civil 3D file format. If not available Land Desktop files are still acceptable, however the City or Clearwater is currently phasing out Land Desktop.

NOTE: If approved deviation from Clearwater CAD standards are used the Consultant shall include all necessary information to aid in manipulating the drawings including either PCP, CTB file or pen schedule for plotting. The drawing file shall include only authorized fonts, shapes, line types or other attributes contained in the standard release of Autodesk, Inc. software. All block references and references contained within the drawing file shall be included. Please address any questions regarding format to Mr. Tom Mahony, at (727) 562 4762 or email address Tom.Mahony@myClearwater.com.

All electronic files (CAD and Specification files) must be delivered upon completion of project or with 100% plan submittal to City of Clearwater.

# Sanitary Sewer Infiltration Source Investigation Program – Phase 1 (Beach Area)

McKim & Creed, Inc.

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**WORK ORDER INITIATION FORM**

**PROJECT BUDGET**

Task	Description	Subconsultant Services	Labor	Total
1.1	Project Administration, Data Collection & Review		\$5,000	\$5,000
1.2	Manhole Inspections:		\$78,800	\$78,800
1.3	Night Flow Isolations:		\$76,300	\$76,300
1.4	Draft Technical Memorandum		\$20,000	\$20,000
1.5	Final Technical Memorandum		\$5,000	\$5,000
1.6	Bid Document Preparation		\$10,200	\$10,200
<b>Grand Total</b>				<b>\$195,300</b>