

# Fort Bend County

## Levee Improvement District No. 19

Aptim Environmental & Infrastructure, Inc.

Job Order No. 03

September 19, 2018

### Phase III Recommendations - Scope of Services (Amended)

#### Phase III – Recommendations

The intent of these services is to provide LID 19 with recommendations to improve their facilities utilizing the existing ICPR model with the main focus being on pumping capabilities. The recommendations to be provided will include improvements to existing pumping location at Steep Bank Creek along with recommendations to accommodate larger coincidental rainstorm events. These recommendations to be provided include:

- Recommendations for improvements to LID 19's existing pumping system to meet the current criteria as identified in Aptim's Phase I Report for coincidental events.
- Recommendations for improvements to LID 19's pumping system to exceed the current 2011 FBCDD criteria for a larger design rainstorm for a coincidental event such as 25-year rainstorm event.
- Recommendations for improvements to LID 19's pumping system to a design rainstorm for a coincidental event equivalent to a 100-year rainstorm.
- Recommendations for improvements to LID 19's pumping system to a design rainstorm for a coincidental event equivalent to a 100-year storm utilizing the Preliminary NOAA Atlas 14 Data that is currently being evaluated.

The following items are the services intended to be completed in Phase III:

#### ICPR Modeling

1. Perform adjustments and revisions to the existing ICPR model as identified in the Phase I review. (To be performed by Singhofen & Associates, Inc.)
2. Provide engineering support and oversight during the model revisions. (ie. Provide clarity on structures, cross-sections, rating curves...)
3. Generate hydrographs for each sub basin for the four storm events proposed and import into the ICPR Model.
4. Investigate a new pump station location near Detention Pond "O"
5. Evaluate pumping facility and locations for efficiently managing the ICPR model derived gallons per minute (GPM).

#### Conceptual Design

1. Provide conceptual plan view drawings of recommended pumping improvements along with supporting design information.

2. Provide Rough Order of Magnitude (ROM) cost estimate for each of the 4 recommendations.

**Meetings**

1. Coordinate and conduct progress meetings with LID 19 personnel
2. Attend LID board meetings to provide updates

**Recommendations Memorandum**

1. Compile all information and findings.
2. Develop a detailed memorandum to included recommendations.

**Deliverables**

1. Digital copies of the memorandum will be distributed by email.

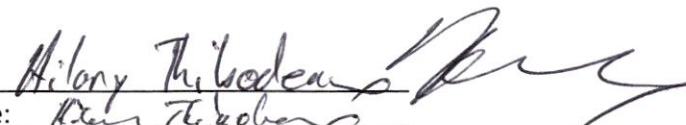
**Completion**

Job Order No. 3 will be completed within 90 days from the date of notice to proceed.

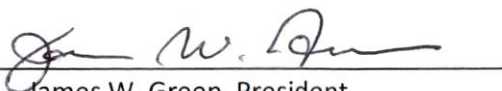
**Price (Not-to-Exceed)**

Task Description	Approx. Man-Hours	Cost
ICPR Modeling	227	\$27,216.00
Conceptual Design	392	\$41,952.00
Meetings	9	\$1,890.00
Recommendations Memorandum	53	\$7,125.00
Direct Expense (ICPR Expert & Travel)		\$33,200.00
<b>Total Not-To-Exceed Cost</b>	<b>681</b>	<b>\$111,383.00</b>

**Aptim Environmental & Infrastructure, Inc.**

By:   
 Name: Hilary Thibodeau  
 Title: Director Engineer

**Fort Bend County Levee Improvement District No. 19**

By:   
 James W. Green, President  
 Date: 9/28/18