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April 26, 2022

Hameed Malik, Ph.D., P.E.
Director of Engineering
Augusta Engineering Department
452 Walker Street
Augusta, Georgia 30901

Re: Augusta Levee – 2021 Inspection Follow Up
Corps of Engineers Rehab Program Support Services
Our File No. 2009-0105

Dear Dr. Malik:

In accordance with your request, we are pleased to offer the following proposal for engineering study, coordination, and general support services relating to the US Army Corps of Engineers' (USACE) 2021 inspection of the Augusta Levee. Based on information provided by you, four (4) areas were rated as Unacceptable. As such, we understand the Augusta Levee is ineligible for the USACE Rehabilitation Program (PL84-99).

As discussed during our recent meeting, the October 2021 Corps inspection identified deficiencies that were not previously documented in prior inspections. We understand the focus of this assignment would be limited to only items previously identified and not the new items in the October 2021 Corps report. Specifically, this proposal includes professional services for the following items:

- Levee Embankments, Encroachments
 - Altered Area at Upstream End of Levee (Sta: 14+25-17+71)
 - Water's Edge Development (Sta: 83+50 – 109+00)
- Interior Drainage System, Culverts / Discharge Pipes (4 Locations)
- Interior Drainage System, Sluice / Slide Gates

Cranston Engineering will study these areas and support the Augusta Engineering Department through the development of potential solutions that would result in a revised rating of at least Minimally Acceptable. We will provide coordination services with the Corps of Engineers as it relates to the services associated with each item identified above.

SCOPE OF WORK:

We propose to complete the professional services using the following task-based approach.

➤ TASK #1 - Levee Embankments, Encroachments

- Inspection ID No. 2019-0018 – Area at Upstream End of Levee (Sta: 14+25-17+71)
 - Cranston Engineering proposes to complete a topographic field survey of the upstream end of the Augusta Levee. The survey information will be compared against original design contours to determine if the original levee elevation has been preserved.
 - We will review the results of the survey and offer recommendations.
- Inspection ID No. 2019-0017 – Waters Edge Development (Sta: 83+50 – 109+00)
 - Assist the City of Augusta in the development of a tentative plan to mitigate risks associated with the development.
 - Facilitate meetings with the Corps of Engineers Savannah District to review current risks and potential options for Levee alterations.

➤ TASK #2 – Interior Drainage System, Culverts / Discharge Pipes

- Video Inspection of Culverts & Discharge Pipes (Inspection ID No. Not Identified)
 - Complete an inspection using a combination of visual and camera-assisted observations to assess the condition of the culverts identified below. Based on previous similar efforts, we understand that multi-agency coordination will be required to lower water surface elevations in the Savannah River to levels that will permit video apparatus to effectively document the existing conditions.
 - We will prepare a written report of the results. Such reporting will be included in an overall report covering other assessments as detailed elsewhere. Known pipes to be inspected include:
 - 84" concrete storm pipe at 10th Street between the Storm Vaults on each side of the Levee.
 - 48" concrete storm pipe inside steel casing at 2nd Street
 - 48" concrete storm pipe inside steel casing at Forsythe Street
 - 36" storm pipe at Station 342+15 inside of PCS Nitrogen plant
 - Please refer to the enclosed exhibit for culvert locations.
 - The proposed sub-consultant, Southeast Pipe Survey, has included scope for plugging and dewatering the section of the 84" concrete storm pipe at 10th Street. The use of pneumatic plugs and vacuum truck services is anticipated. Based on site visits to this location, the downstream outlet pipe that extends into the Savannah River appears to be inaccessible. This pipe section is excluded from the survey.
 - Extensive dewatering, debris removal, and structure modifications are excluded.

- We assume that access to these locations and structures will be provided / facilitated by Augusta Engineering Department and PCS Nitrogen.

➤ **TASK #3 – Interior Drainage System – Sluice / Slide Gates**

- Inspection ID No. Not Identified – Sibley / King Mill, Hawks Gully, and Butler Creek Gates
 - The task is specific to the following structures:
 - Sibley Mill gates/wing walls
 - King Mill gates/wing walls
 - Hawks Gulley gates/wing walls
 - Butler Creek gates/wing walls
 - Cranston Engineering will prepare a Structural Condition Assessment Report that includes:
 - Descriptions of the existing conditions
 - Criteria for the prioritization of improvements based on severity of the condition
 - Findings and Conclusions
 - Recommended Prioritization Matrix
 - An estimated timeline for repairs
 - Cranston Engineering will reference the December 2020 inspection reports prepared by us and Rodney Hunt to support the development of recommendations and a prioritization matrix. This task does include additional site visits or use of boat for inspection purposes.

➤ **TASK #4 – Coordination with Corps of Engineers**

- We propose to assist you in coordinating with the Corps of Engineers by supplying additional requested information, responding to Corps comments, and consulting with you on an as-needed basis.

TIME OF COMPLETION:

A refined timeline is challenging to establish given the limited pre-proposal coordination to-date. Regardless, we are prepared to initiate services immediately upon your direction to proceed. At such time, we will develop a task-based schedule to include approximate durations and milestone targets.

FEE PROPOSAL:

We propose the following task-based fee breakdown.

<u>TASK</u>	<u>FEE</u>
1. Levee Embankments, Encroachments (Lump Sum)	
- Survey / Evaluate Area at Upstream End of Levee	\$6,450
- Water's Edge Development Coordination	\$11,810
2. Interior Drainage System – Discharge Pipes (Lump Sum)	\$79,974
3. Interior Drainage System – Sluice / Slide Gates (Lump Sum) (Sibley, King, Hawks Gully, and Butler Creek Gates)	\$19,990
4. Coordination with Corps of Engineers (Lump Sum)	\$12,880*
TOTAL:	\$131,104

*This value is in addition to the \$11,530 in fee that remains in the current contract for Corps Coordination and Response tasks.

We would expect to submit itemized invoices, broken down by the tasks outlined above monthly and to receive payment within 30 days thereafter. We are prepared to execute an appropriate supplemental agreement or to receive an additional purchase order as appropriate.

We appreciate the opportunity of assisting you with this matter. Should you have any questions concerning the scope of the services offered, or the fees, please do not hesitate to give us a call.

Sincerely,

CRANSTON ENGINEERING GROUP, P.C.



Mitchell Murchison, P.E., MBA



Tom Dunaway, P.E., MBA

MBM/wtd

Enclosure