

To: Mr. John Sawyer, PE
 Water Resources & Public Works
 City of Savannah
 PO Box 1027
 Savannah, GA 31402

Date: October 1, 2019

Job: 21310.0300

Re: Bilbo Canal - Amendment No. 7

WE ARE SENDING YOU THE FOLLOWING ITEMS (attached) (under separate cover via USPS)

Shop Drawings Prints Plans Samples Specifications

Copy of Letter Change Order Other: Contract Amendment

Copies	Date	Description
8		Original Amendment No. 7 documents

THESE ARE TRANSMITTED AS CHECKED BELOW:

- For Approval Approved as Submitted Resubmit _____ Copies for Approval
 For Your Use Approved as Noted Submit _____ Copies for Distribution
 As Requested Returned for Corrections Return _____ Corrected Prints
 For Review and Comment _____

Remarks

John - Please enclosed the revised amendment no. 7 as discussed. Please review, and should you have any questions, don't hesitate to call.

Thanks,

Copy to _____ Signed  _____
 _____ Trent V. Thompson, PE

**AMENDMENT NO. 7
TO
AGREEMENT BETWEEN OWNER AND CONSULTANT
CIP # DR-308-08**

WHEREAS, an Agreement was entered into as of December 5th, 2008 between **THE MAYOR AND ALDERMEN OF THE CITY OF SAVANNAH (OWNER)** and **THOMAS & HUTTON (CONSULTANT)** for the **Bilbo Canal Drainage Improvements, CIP # DR-308-08 (PROJECT)**.

WHEREAS, the scope of the Project has been increased to include the following:

- Consultant will provide additional structural engineering analysis of river walk following construction activities. Consultant will also provide design of repairs and improvements.
- Consultant will provide increased level of construction administration/observation services above the original contract amount of 8 hours per week. Consultant will provide extended construction administration/observations services for a period of 6 additional months based on Contractor's anticipated completion date of for Bilbo Canal of July 5, 2019.
- Consultant will provide additional construction administration/observations services between November 1, 2019 and April 30, 2020 based on Contractor's anticipated completion of bulkhead wall repairs and improvements.

The proposed expanded scope of services and justification is detailed in the attached Exhibit "A".

NOW THEREFORE, the OWNER and CONSULTANT agree to amend the PROJECT scope as described herein and to increase the basic services from **\$604,420.00** to **\$1,312,918.00** for an increase of **\$704,498.00**.

IN WITNESS WHEREOF, the parties hereto have made and executed this Amendment this ___ day of _____, 2019.

THE MAYOR AND ALDERMEN OF THE
CITY OF SAVANNAH, GEORGIA

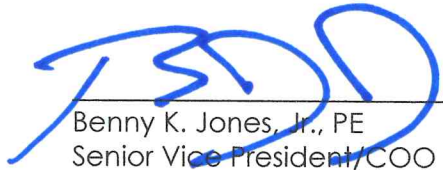
Witness

City Manager

THOMAS & HUTTON ENGINEERING CO.



Witness



Benny K. Jones, Jr., PE
Senior Vice President/COO



Notary Public

Expires 4-13-2020

EXHIBIT "A"

AMENDED SCOPE OF SERVICES

FOR:

AMENDMENT No. 7 TO CIP #DR-308-08

BILBO CANAL DRAINAGE IMPROVEMENTS

GENERAL

WHEREAS, the OWNER has requested the CONSULTANT to provide additional engineering and construction observation services to monitor the anticipated extended construction period of the Bilbo Canal Drainage Improvements Project.

WHEREAS, the OWNER has requested the CONSULTANT to provide increased construction observation above the original contract amount of 8 hours per week based on specific construction activities and contractor coordination efforts starting approximately August 2018.

NOW, THEREFORE the OWNER and ENGINEER agree to amend the project to include the following amended services. Scope includes additional Construction Phase structural engineering, administration, and construction observation/monitoring services, and is specifically limited to, the following:

DESCRIPTION OF ADDITIONAL SERVICES:

This additional project scope includes the following:

I. AMENDED PROJECT SCOPE OF SERVICES

A. Construction Phase

Consultant will perform the following additional Construction Phase tasks:

1. Additional Meetings and Coordination

As requested, and directed by the OWNER, the CONSULTANT shall attend meetings, conference calls, and provide other coordination services with the City, City Attorney, and Contractor on a time and expense basis during the extended construction period. Our scope and fee are based upon attendance of up to five (5) meetings. If the budget for meeting time is expended, or we are requested to attend additional meetings by the Client, the Client will authorize additional funds.

2. Additional Structural Engineering

As requested by the OWNER, the CONSULTANT shall provide additional structural engineering services to assist the City in designing repairs to existing wall systems based on wall condition changes resulting from recent construction activities. Consultant will also provide engineering services to develop designs for existing wall improvements to allow the City to access the northeast corner of the Eastern Warf (formerly Savannah River Landing) site and Bilbo Canal maintenance bridge with heavy equipment. Consultant's structure engineering services will include:

- Analysis of the pre-construction condition of the existing Savannah River Landing river walk and bulkhead structure prior to work performed by the Bilbo Canal Contractor. Analysis will include structural review and modeling of the structures based on known conditions in the area including approximate ground elevations, existing tie-back system, and existing wall system. The summary of our findings shall be provided to the City in memorandum format.
- Analysis of the post-construction loading condition of the existing Savannah River Landing river walk and bulkhead structure based on known activities that occurred during construction of the Bilbo Canal by the Contractor. Analysis will include structural review and modeling of the structures based on known conditions in the area including approximate ground elevations, existing tie-back system, existing wall system, and estimated loadings behind the wall. The summary of our findings shall be provided to the City in memorandum format.
- Prepare timeline of construction events relative to the existing bulkhead and tieback system for City use.
- Review of piling, steel reinforcement, and other tolerance modifications requested by the Contractor that differ from specified tolerances for spacing, vertical plumbness, slopes on batters, and other design tolerances
- Prepare preliminary construction drawings and design calculations for river walk bulkhead repairs and improvements for approximately 60 to 80 feet along the Savannah River from the Bilbo Canal interface west. Consultant will also prepare preliminary construction drawings and design calculations for the "turnback wall" (i.e. wall perpendicular to river at Bilbo Canal) repairs and improvements.

- Consultant will coordinate with Bilbo Canal Contractor on construction sequencing relative to river walk bulkhead and turnback wall repairs. Based on recommendations provided by Contractor and Contractor's specialty construction sub-contractors, Consultant will finalize construction details and sequencing plans for the wall repairs/improvements.
- Consultant will provide final construction plans to the City for issuance to Bilbo Canal Contractor.
- Consultant will review wall repair and improvement pricing provided by Contractor and provide recommendations to the City. Consultant will assist the City in preparation of change order documentation as necessary.

CONSULTANT shall perform these services as directed by the OWNER, and on a time and expense basis. CONSULTANT's estimated budget to provide these services are included herein. Should the OWNER request additional structural or engineering review beyond the allotted budget, specific to issues that may arise during construction, ENGINEER can furnish additional structural review engineering services on a time and expense basis as authorized in writing by OWNER.

3. Increased Construction Administration/Observation Period

As requested by the OWNER, the CONSULTANT provided increased construction administration and observation above the original contract amount of 8 hours per week between approximately August 1, 2018 to January 31, 2019. Consultant provided on average during this period 40 to 60 hours per month of Construction Administration (Project Manager) services, 180 to 220 hours per month of Field Engineer services, and 65-75 hours per month of Field Representative/Observation services. Services during this period were provided on a time and expense basis.

4. Extended Bilbo Canal Construction Administration

As requested by the OWNER, the CONSULTANT shall provide additional Construction Administration services based on the Contractor's anticipated extended construction schedule for Bilbo Canal and expected completion date of July 5, 2019. Based on this extended schedule, an additional six (6) months of construction administration shall be added to the contract from January 19, 2019 to July 5, 2019.

CONSULTANT will provide the following administration services:

- Attend weekly project meetings during the period of construction Process and evaluate Change Orders

- Process Periodic Payment Request
- Prepare and distribute minutes of meetings
- Review material data, shop drawings, and construction schedules provided by the Contractor. ENGINEER will review and return submittals to Contractors and OWNER. ENGINEER requires a minimum of fifteen (15) days excluding delivery time to and from Contractor for each submittal review.
- Attend a Final Field observation
- Provide up to 5 hours per week of Project Manager construction administration
- Provide up to 10 hours per week of Field Engineer construction administration

CONSULTANT will provide these services, on a time and expense basis, for a period of six (6) months from City's notice to proceed issuance. CONSULTANT's estimated budget to provide these services for the 6-month period are included herein. Should the OWNER request additional construction administration beyond the allotted 6-month period, or due to specific to issues that may arise during construction, ENGINEER can furnish additional structural review engineering services, beyond those described hererin, on a time and expense basis as authorized in writing by OWNER.

5. Extended Bilbo Canal Construction Observation

The CONSULTANT's scope of work during the construction phase of the project was based on twenty-four (24) months of construction. Based on the Contractor's anticipated extended construction schedule for Bilbo Canal, expected completion date, an additional six (6) months of construction observation services shall be added to the contract from January 19, 2019 to July 5, 2019.

In addition, the OWNER has requested an increase in the budgeted field visits by the project representative and field engineer as follows:

- Project Representative (Field Representative) up to 10 hours per week for up to 6 months
- Field Engineer up to 10 hours per week for up to 6 months

The CONSULTANT will provide the following construction observation services during the extended construction time:

- Review monthly pay requests and recommend payment amount to the OWNER
- Attend final field inspections by regulating agencies for the project

- Provide construction observation and monitoring to ascertain that the work is in substantial conformance with the contract documents and with the design intent

Construction observation and monitoring does not include exhaustive or continuous on-site inspections to check the quality or quantity of the Contractor's work. However, it does include visits to the project site at intervals appropriate to the various stages of construction to review general compliance with approved plans and specifications. Such visits and observations shall not require Engineer to assume responsibilities for the means and methods of construction, nor for safety measures or conditions on the job site.

Construction Phase service fees are based on an additional six (6) month construction observation period for the Bilbo Canal Improvements, and our field representative and field engineer performing the allotted hours per week of project representation as budgeted in this amendment.

Should construction extend beyond the six (6) month contract time, if authorized by OWNER in writing, ENGINEER shall furnish additional construction engineering services on a time and expense basis in accordance with the schedule of charges attached hereto and titled "Engineering Services on a Time and Expense Basis". Should the OWNER request additional field observation visits beyond the allotted hours per week, specific to issues that may arise during construction, ENGINEER can furnish additional observation services, beyond those described herein, on a time and expense basis as authorized by OWNER.

6. Additional Construction Administration for Wall Repairs & Improvements

Based on discussions and preliminary repair and improvement plans, an estimated seven (7) months will be required to construct the wall repairs and improvements along the river bulkhead and turnback wall. As requested by the Owner, Consultant will provide additional construction administration services for up to seven (7) months, from approximately November 1, 2019 to April 30, 2020. ENGINEER shall furnish these additional construction engineering services on a time and expense basis.

CONSULTANT will provide the following administration services:

- Attend weekly project meetings during the period of construction Process and evaluate Change Orders
- Process Periodic Payment Request
- Prepare and distribute minutes of meetings

- Review material data, shop drawings, and construction schedules provided by the Contractor. ENGINEER will review and return submittals to Contractors and OWNER. ENGINEER requires a minimum of fifteen (15) days excluding delivery time to and from Contractor for each submittal review.
- Attend a Final Field observation
- Provide up to 10 hours per week of Project Manager construction administration
- Provide up to 20 hours per week of Field Engineer construction administration

CONSULTANT will provide these services, on a time and expense basis, for a period of seven (7) months from City's notice to proceed issuance. CONSULTANT's estimated budget to provide these services for the 7-month period are included herein. Should the OWNER request additional construction administration beyond the allotted 7-month period, or due to specific to issues that may arise during construction, ENGINEER can furnish additional structural review engineering services, beyond those described herein, on a time and expense basis as authorized in writing by OWNER.

7. Additional Construction Observation for Wall Repairs & Improvements

Based on discussions and preliminary repair and improvement plans, an estimated six (6) months will be required to construct the wall repairs and improvements along the river bulkhead and turnback wall. As requested by the Owner, Consultant will provide additional construction observation services for up to six (6) months, from approximately November 1, 2019 to April 1, 2020. ENGINEER shall furnish these additional construction engineering services on a time and expense basis.

In addition, the OWNER has requested an increase in the budgeted field visits by the project representative and field engineer as follows:

- Project Representative (Field Representative) up to 15 hours per week for up to 6 months
- Field Engineer up to 12 hours per week for up to 6 months
- Structural Engineering/Project Manager up to 10 hours per week for 6 months

The CONSULTANT will provide the following construction observation services during the extended construction time:

- Review monthly pay requests and recommend payment amount to the OWNER

- Attend final field inspections by regulating agencies for the project
- Provide construction observation and monitoring to ascertain that the work is in substantial conformance with the contract documents and with the design intent

Construction observation and monitoring does not include exhaustive or continuous on-site inspections to check the quality or quantity of the Contractor's work. However, it does include visits to the project site at intervals appropriate to the various stages of construction to review general compliance with approved plans and specifications. Such visits and observations shall not require Engineer to assume responsibilities for the means and methods of construction, nor for safety measures or conditions on the job site.

Construction Phase service fees are based on an additional six (6) month construction observation period for the wall repair and improvements, and our field representative and field engineer performing the allotted hours per week of project representation as budgeted in this amendment.

Should construction extend beyond the six (6) month contract time, if authorized by OWNER in writing, ENGINEER shall furnish additional construction engineering services on a time and expense basis in accordance with the schedule of charges attached hereto and titled "Engineering Services on a Time and Expense Basis". Should the OWNER request additional field observation visits beyond the allotted hours per week, specific to issues that may arise during construction, ENGINEER can furnish additional observation services, beyond those described herein, on a time and expense basis as authorized by OWNER.

8. Additional Construction Phase Survey Monitoring Services

As requested by the OWNER, the CONSULTANT shall provide additional Construction Phase survey monitoring of the existing Eastern Warf (formerly Savannah River Landing) Riverwalk wall. Consultant's scope of services and fees are based on monitoring up to six (6) PK nails previous set at predetermined monitoring locations along the wall. Consultant can set additional PK nail and monitoring additional points as an additional service, on a time and expense basis, if requested in writing by Owner.

CONSULTANT shall monitor the horizontal (northing and easting) data as well as vertical elevation data at these six PK nails. Logs of all data shall be provided to the City on a monthly basis. The survey monitoring shall be tied to the previously set horizontal and vertical control

associated with the Bilbo Canal original design as shown on the construction plans – survey control sheets.

CONSULTANT will provide the additional survey monitoring during the Construction of the canal once a month for up to six (6) months following written authorization from Owner to proceed. Consultant can provide increased frequency or duration of monitoring as an additional service, on a time and expense basis, if requested in writing by Owner.

II. ADDITIONAL FEE BUDGETS

Based on the above described additional services, then NOW, THEREFORE the OWNER and CONSULTANT agree to amend the project to include the following amended phases of work and accompanying fees based on CONSULTANT's current billing rates (see Exhibit B):

<u>Phase</u>	<u>Fee Structure</u>	<u>Fee or Time & Expense Budget</u>
Additional Construction Phase Services:		
Additional Meetings & Coordination	Time & Expense – Budget	\$ 7,500.00
Structural Engineering	Time & Expense – Budget	\$ 190,000.00
Increased Construction Administration/Observation August 2018 to Jan 2019:	Lump Sum	\$ 110,248.00
Extended Bilbo Canal Construction Administration Jan. 19, 2019 to July 5, 2019:	Time & Expense – Budget	\$ 48,900.00
Extended Bilbo Canal Construction Observation Jan. 19, 2019 to July 5, 2019:	Time & Expense – Budget	\$ 85,000.00
Additional Construction Admin. for Wall Repairs & Improvements Nov. 1, 2019 to April 30, 2020:	Time & Expense – Budget	\$ 114,000.00
Additional Construction Observation for Wall Repairs & Improvements Nov. 1, 2019 to April 1, 2020:	Time & Expense – Budget	\$ 134,800.00

City of Savannah
 Bilbo Canal Drainage Improvements
 CIP# DR-308-08
 Amendment #7

Additional Construction Survey Monitoring Nov. 1, 2019 to April 1, 2020:	Time & Expense – Budget	\$	11,250.00
Additional Construction Reimbursable Expenses	Time & Expense – Budget	\$	6,800.00
Total Amendment #7 Fee Budget		\$	708,498.00

Exclusions

Items **not** included in the scope of services are as follows:

- Archaeological survey and report
- Wetland delineation, surveys, or permits
- Construction Materials Testing
- Construction monitoring beyond what is described herein
- Geotechnical investigation or report
- Phase One or Phase Two Environmental Assessments
- Accessibility construction compliance verification (ADA related compliance)
- Endangered species survey and report
- Boundary Survey
- Right-of-Way Plats
- ALTA Surveys
- Subdivision Plat
- Subdivision Plat Approval Process
- Traffic Impact Study
- Hardscape Design
- Landscape Design or Irrigation Design
- Post Construction Survey Services
- Off-site work unless specifically covered in the scope of services
- Approvals or permits other than those related to the scope of work covered by this contract
- Act as an expert witness for legal activities
- Georgia Department of Transportation permits or approvals
- Telephones, cable television, gas, and power distribution systems

These items can be coordinated or provided, if requested by the Owner in writing.