

**BOARD OF COUNTY COMMISSIONERS  
AGENDA ITEM SUMMARY**

Meeting Date: November 17, 2015  
Bulk Item: Yes  No

Department: Sustainability  
Staff Contact /Phone #: Rhonda Haag, 453-8774

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**AGENDA ITEM WORDING:** Approval of Amendment No. 9 with Amec Foster Wheeler Environment & Infrastructure, Inc. to provide canal restoration water quality improvement services, as provided and funded under EPA Grant Agreement X7-00D40915-0 entitled *Improving Water Quality in Residential Canals*.

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**ITEM BACKGROUND:** This amendment increases Amec's existing contract for demonstration project selection and homeowner coordination services by \$73,909.66, to implement the scope of work approved under EPA Grant Agreement X7-00D40915-0 *Improving Water Quality in Residential Canals*. Monroe BOCC approved EPA Grant Agreement X7-00D40915-0 at its October 21, 2015 BOCC meeting for the amount of \$58,909. EPA inadvertently deleted \$15,000.66 from their award to Monroe and have confirmed that an amendment is pending that will increase the amount to the original approved total grant value of \$73,909.66. In addition, a time extension of the Contract from December 31, 2015 to June 30, 2016 is needed to complete these grant tasks.

The County has undertaken a *Canal Restoration Demonstration Program* to evaluate various restoration techniques to improve the water quality in residential canals. During the implementation of the Demonstration Program several data needs have been identified. The objective of the new EPA grant scope of work is to obtain information to address these data needs which will greatly enhance future water quality improvement strategies for canal restorations.

These data needs are addressed in four separate tasks and include:

- Evaluation of dredged sediment treatment options that would increase beneficial reuse of dredged canal sediments;
- Evaluation of alternative technologies to vacuum dredging of high organic sediments to include in-situ removal/inactivation of the organics;
- Research and evaluation of available alternative technologies beyond those currently included in the *CMMP* to identify passive water column treatments to improve water quality that may be more cost effective; and
- Development of a draft Business Plan that identifies priorities and available funding strategies for future canal restorations and operation and maintenance.

Amec Foster Wheeler was proposed as the consultant in the grant application to provide the water quality improvements tasks, as they have the background to perform the effort in a timely and effectual manner as required in the grant.

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**PREVIOUS RELEVANT BOCC ACTION:**

- 10-21-15: Approval to enter into EPA Grant Agreement X7-00D40915-0 for \$58,909 for canal restoration water quality improvement services related to the *Improvement of Water Quality in Residential Canals*. EPA inadvertently deleted \$15,000.66 from their award to Monroe and have confirmed that an amendment is pending that will increase the amount to the original approved total grant value of \$73,909.66.

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**CONTRACT/CONTRACT CHANGES:** Additional services and funding through EPA.

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**STAFF RECOMMENDATIONS:** Approval

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**TOTAL COST:** \$ 73,909.66 **INDIRECT COST:** \_\_\_\_\_ **BUDGETED:** Yes  No

**DIFFERENTIAL OF LOCAL PREFERENCE:** N/A

**COST TO COUNTY:** \$ 0 **SOURCE OF FUNDS:** EPA Grant X7-00D40915-0

**REVENUE PRODUCING:** Yes  No  **AMOUNT PER MONTH** \_\_\_\_\_ **Year** \_\_\_\_\_

**APPROVED BY:** County Atty PM OMB/Purchasing CB Risk Management MS

**DOCUMENTATION:** Included  Not Required \_\_\_\_\_

**DISPOSITION:** \_\_\_\_\_ **AGENDA ITEM #** \_\_\_\_\_ **CAD #** \_\_\_\_\_

MONROE COUNTY BOARD OF COUNTY COMMISSIONERS

CONTRACT SUMMARY			
Contract with:	<u>Amec Foster Wheeler</u>	Contract # <u>A-9</u>	Demo / Homeowner Svsc
		Effective Date:	<u>November 17, 2015</u>
		Expiration Date:	<u>June 30, 2016</u>
Contract Purpose/Description:			
<u>This Amendment No. 9 authorizes Amec Foster Wheeler Environment &amp; Infrastructure, Inc., to provide services for tasks related to improving the Canal Restoration water quality improvement program as funded under U.S. EPA Grant Agreement X7-00D40915-0.</u>			
Contract Manager:	<u>Rhonda Haag</u>	<u>8774</u>	<u>CAD M.S. #26</u>
	(Name)	(Ext.)	(Department/Stop #)
for BOCC meeting on <u>11/17/15</u> Agenda Deadline: <u>11/06/15</u>			

CONTRACT COSTS			
Total Dollar Value of Contract: \$	<u>\$73,909.66</u>	Current Year Portion: \$	<u>73,909.66</u>
Budgeted? Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Account Codes:	_____
Grant: \$	<u>Yes</u>		_____
County Match: \$	<u>0.00</u>		_____
			_____
ADDITIONAL COSTS			
Estimated Ongoing Costs: \$0/yr	For: <u>N/A</u>		
(Not included in dollar value above)	(eg. maintenance, utilities, janitorial, salaries, etc.)		

CONTRACT REVIEW				
	Date In	Changes Needed	Reviewer	Date Out
Division Director	_____	Yes <input type="checkbox"/> No <input type="checkbox"/>	_____	_____
Risk Management	<u>11/4/15</u>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<u>M. Seuss</u>	<u>11-4-15</u>
O.M.B./Purchasing	<u>11/4/15</u>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<u>Christina Brueckel</u>	<u>11/4/15</u>
County Attorney	<u>11/9/15</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<u>[Signature]</u>	<u>11/3/15</u>
Comments: _____				
_____				
_____				
_____				

**AMENDMENT NO. 9  
TO THE CONTRACT  
FOR  
ENGINEERING SERVICES  
FOR THE  
SELECTION OF CANAL DEMONSTRATION PROJECTS  
AND HOMEOWNER APPROVAL COORDINATION**

THIS AMENDMENT NO. 9 dated November 17, 2015, to that Contract dated the 15<sup>th</sup> day of May, 2013, between AMEC Foster Wheeler Environment & Infrastructure, Inc., "CONSULTANT" and Monroe County, "COUNTY," as amended September 17, 2013 (A1) , November 10, 2013 (A2), April 16, 2014 (A3), December 10, 2014 (A4), December 10, 2014 (A5), February 18, 2015 (A6), May 20, 2015 (A7), and July 15, 2015 (A8).

**WITNESSETH:**

**WHEREAS**, the COUNTY has agreed to proceed with several demonstration projects to test various methods for canal restoration techniques to verify the applicability, feasibility, effectiveness and costs in real time of the techniques on the canals; and

**WHEREAS**, much progress has been made under this CONTRACT; and

**WHEREAS**, additional services are needed to fulfill an Environmental Protection Agency ("U.S. EPA") grant awarded to the COUNTY in October, 2015, to perform bench scale testing for removal of salt from dewatered organic muck, evaluate alternative technologies for addressing organic muck, evaluate alternative technologies for water quality improvements in canals, and develop a business plan for Canal Management; and

**WHEREAS**, such additional services are being 100% funded by the U.S. EPA Grant Agreement X7-00D40915-0 awarded to the COUNTY; and

**WHEREAS**, the EPA grant completion date is July 31, 2016, for completion of such tasks by the COUNTY; and

**WHEREAS**, a CONTRACT time extension from December 31, 2015 to June 30, 2016, is required to allow for AMEC's completion of the EPA grant tasks under this Contract, which allows the County thirty (30) days to get all tasks completed by the grant deadline of July 31, 2016; and

**NOW, THEREFORE**, in consideration of mutual promises, covenants and contracts stated herein, and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, COUNTY and CONSULTANT agree as follows:

1. This AMENDMENT NO. 9 provides an additional Seventy Three Thousand Nine Hundred Nine Dollars and Sixty Six Cents (\$73,909.66) for professional services to complete tasks related to bench scale salt leaching, alternative technology evaluations and identification of funding mechanisms for canal restorations and

ensure that they are fully completed in accordance with the EPA grant requirements. The overall CONTRACT value is increased from One Hundred Forty Nine Thousand Seven Hundred Ten Dollars and Seventy Four Cents (\$149,710.74) to Two Hundred Twenty Three Thousand Six Hundred Twenty Dollars and Forty Cents (\$223,620.40).

2. AMEC will provide the scope of services as specified in Exhibit "9-1" attached, including the detailed budget attachment and associated schedule of fees.

3. This Amendment No. 9 shall be effective as of the date above. All work under this Amendment No. 9 shall be completed by June 30, 2016. The Grantee shall be eligible for reimbursement for work performed on or after the effective date of this Amendment through the expiration date of this Amendment No. 9.

IN WITNESS WHEREOF, each party caused this AMENDMENT NO. 9 to be executed by its duly authorized representative on the day and year first above written.

(SEAL)  
Attest: CLERK

BOARD OF COUNTY COMMISSIONERS  
OF MONROE COUNTY, FLORIDA

By: \_\_\_\_\_  
Deputy Clerk

By: \_\_\_\_\_  
Mayor/Chairman

Date: \_\_\_\_\_

AMEC FOSTER WHEELER  
ENVIRONMENT &  
INFRASTRUCTURE, INC.

By: \_\_\_\_\_  
Signature of Witness

By: \_\_\_\_\_  
Signature for AMEC FOSTER WHEELER

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

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

Date: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

MONROE COUNTY ATTORNEY  
APPROVED AS TO FORM

  
PETER MORRIS  
ASSISTANT COUNTY ATTORNEY  
Date: 11/3/2015

## **EXHIBIT 9 - 1** **WORK PLAN**

### **1.0 Purpose and Project Objectives**

The Water Quality Protection Program (WQPP) Action Plan of the Florida Keys National Marine Sanctuary (FKNMS) identifies impaired water quality in residential canals as a priority for corrective action (FDEP, 2013). Of the 502 residential canals in the Keys 311 do not meet the State's water quality standards and are a source of nutrients and other pollutants to near shore waters. Water quality problems in residential canals are the result of inadequately treated wastewater and storm water, poor tidal circulation and accumulation of organic debris, and include high biochemical oxygen demand, eutrophication, and production of hydrogen sulfide and increases in fecal bacteria.

Monroe County has completed a *Canal Management Master Plan (CMMP)* which assessed all 502 residential canals and developed a prioritization process for need for restoration. The *CMMP* identified canals impaired due to low dissolved oxygen, high organic matter, poor flushing, and poor water clarity. The County has also undertaken a Canal Restoration Demonstration Program to evaluate restoration techniques to correct these impairments. During the implementation of the Demonstration Program several data needs have been identified. The objective of the proposed scope of work is to obtain information to address these data needs which will greatly enhance future water quality improvement strategies for canal restorations. These data needs are addressed in four separate tasks and include: 1) evaluation of dredged sediment treatment options that would increase beneficial reuse of dredged canal sediments, 2) evaluation of alternative technologies to vacuum dredging of high organic sediments to include in-situ removal/inactivation of the organics, 3) research and evaluation of available alternative technologies beyond those currently included in the *CMMP* to identify passive water column treatments to improve water quality that may be more cost effective; and 4) development of a Business Plan that identifies priorities and available funding strategies for future canal restorations and operation and maintenance.

### **2.0 Methods and Approach**

**2.1 Description of Major Tasks** - In order to achieve the objectives defined above, Amec Foster Wheeler proposes to conduct the following tasks. The purpose of this project will be to complete Tasks 1 through 3 and assess their feasibility for broad application. Task 4 can be applied to any restoration and its operation and maintenance that has been accepted as effective.

#### **Task 1: Bench Scale Testing to Assist with Beneficial Re-Use of the Organic Sediment Removed from Canal Bottoms**

Beneficial reuse of the organic muck removed during water quality improvement projects is one of the goals of the Monroe County Sustainability Program and the most cost effective solution to dispose of the material. However, additional testing is required regarding initial

salt concentrations in the organic muck and effective method(s) to reduce the salt content to concentrations that will allow use of the organic muck as a potential soil amendment.

**Background:** The purpose of this study is to perform a treatability study, consisting of bench scale testing, for beneficial reuse of the dredged organic material removed from residential canals in the Keys. The main objective for this task is to determine the requirements for reducing the salinity in the muck to acceptable levels for use as a soil amendment for landscaping. To provide additional options for beneficial reuse of the canal sediments with no exceedance of Florida Department of Environmental Protection (FDEP) soil standards, Amec Foster Wheeler intends to develop a stand-alone sediment washing technology. The technology must be easy to implement, reliable, economically feasible, and require a small area. A main objective of the testing will be to determine the quantity of water and time required to accomplish successful salt leaching. The initial salt content of the sediments, the desired level of soil salinity after sediment washing, and the physical and chemical characteristics of sediments are major factors to determine the amount of water needed for reclamation.

**Methods:** Sediments from Canal #266 in Doctor's Arm are proposed to be used for the bench scale study. These sediments meet FDEP soil standards; however their high salinity content (>16 dSm) limits the potential options for soil reuse. The objective of this study is to reduce salinity to concentrations that have no significant detrimental effects to most plants ( $\leq 4$  dSm). In order to achieve a reliable estimate of the water required to remove the salt, a salt leaching curve will be generated. Sediment porosity and pore volume will be calculated following the procedures described in Wasay et al. 2001. The best alternative to reduce salinity in sediments will be determined by testing: 1) the addition of varying freshwater pore volumes (saturation vs oversaturated sediments), and 2) the effect of contact time (e.g. 12, 24, 48, 268 hrs) before leaching.

Dissolution of salt from sediments will be determined by analyzing the electrical conductivity (EC) concentration in the sediment at different time intervals for the different pore volume treatments and in the resulting leachate. Iterative changes in test variables will be attempted until the minimum desired salinity concentration (4 dS/m) is achieved. EC data will be used to develop a salinity leaching curve that will correlate the remaining salinity concentration in the sediment, to the volume of water and contact time required to achieve that concentration. The salinity leaching curve will assess the efficiency of each treatment and will assist in the development of the field soil washing treatment procedure at future dredge projects.

### **Task 2: Alternative Technologies Evaluation to Address Accumulated Organic Material in Canal Bottoms**

Due to the high cost of muck removal, and the widespread need for this technology in the Keys for canal restorations; an evaluation will be completed to see if alternative technologies may be a viable means to reduce the presence of accumulated muck in a more cost effective way than standard dredging and off-site disposal.

**Background:** The recent contract for the muck removal demonstration projects has a total project cost of \$2M for the removal and disposal of 13,000 cubic yards (CY) of muck material; which corresponds to a unit cost \$150/CY. The CMMP estimates that at least 40 canals may benefit from the removal of accumulated organic-rich muck. Therefore, alternative technologies such as capping, thermal desorption, and anaerobic digestion will be evaluated to

determine if they provide more cost effective methods to reduce the presence and effect of the oxygen-demanding organic sediments.

**Methods:** The first phase of the evaluation that Amec Foster Wheeler will complete will be desktop research to identify technologies that are being used in other industries to address organic matter. The second phase of evaluation will identify the pros and cons for each technology. The alternative technologies will be evaluated based on effectiveness, ability to implement (including permitting), time frame for implementation, and potential reduction in cost. The third phase will be to develop conceptual designs for the top two alternative technologies. Additionally, an engineering cost estimate will be developed for the two alternative technologies by assuming a treatment volume of 5,000 CY of muck, or a 0.5 acre canal if the cost of the technology is area dependent.

### **Task 3: Alternative Technology Evaluation for Water Quality Improvements in Canals**

In this task, Amec Foster Wheeler will identify potential passive remediation technologies, not included in the Monroe County CMMP, that may restore and maintain water quality conditions in canal systems to levels that are consistent with the State water quality criteria for Class III waters.

**Background:** The current CMMP provided a preliminary list of restoration technologies that had previously been implemented and noted as effective for improving water quality. However, some of the remedial actions being considered, such as removal of accumulated organics from the bottom of the canals, backfilling to remove deep stagnant zones, and pumping to enhance circulation are expensive, highly dependent on mechanical equipment, and have long term maintenance needs and costs. Other technologies not previously implemented in the Keys canals may offer options for cost effective restorations.

**Methods:** This study shall seek to identify passive and low energy intensive technologies. The passive technology investigation will primarily focus on the implementation of aquaculture (use of organisms, such as macro algae and filter feeders) to improve water quality, and microbes and fungi to promote anaerobic digestion. Additionally, the research will also focus on identifying less intensive technologies that may be capable of achieving the same results as more robust or expensive technologies; such as using check dams or sheet piles to isolate the deeper impaired zones in the canals rather than uniform backfilling.

Phase I will consist of data mining to identify all passive technologies, which have been implemented or evaluated to improve water quality. A special emphasis will be placed on technologies that improve low dissolved oxygen and eutrophication issues. Phase II will consist of a matrix development to evaluate which of the alternatives identified in Phase I better address the water quality issues in the Keys canals. The matrix will consider the five principal requirements for the selection of remedies established by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, section 121 of the Superfund Statute), EPA's nine criteria for evaluating remedial alternatives, as well as additional considerations specifically related to canal restorations in the Keys. Phase III will consist of developing a conceptual design for the top two alternative technologies identified in Phase II.

### **Task 4: Development of a Business Plan for Canal Management**

Canal restorations require a reliable and equitable funding mechanism in order to ensure implementation of the CMMP and long term operations and maintenance of the restoration

systems. Adequate long term and guaranteed funding is required to improve the water quality in the impaired canals in order to meet state water quality standards.

**Background:** Upon completion of the demonstration restoration projects underway, Monroe County is financially challenged to undertake further canal restoration efforts due to a lack of resources and long-term operation and maintenance funding strategy. With minimal funding currently committed to additional canal restorations, a method to fund the required restorations is paramount to moving forward and accomplishing the goals of the CMMP. Task 4 is designed to set forth a path for creating the critically needed resources to keep the program moving forward.

**Methods:** *Development of a Business Plan* will estimate expenditures and priorities for a 10 year program of canal restorations and maintenance, including analysis of available funding strategies for distribution of costs using available legal authority, tools and policies. This scope will include Amec Foster Wheeler research and development of recommendations, steps for implementation for potential Municipal Services Taxing Units (MSTU's) or similar tools for maintenance and construction activities. The Business Plan will include implementation steps, a timeline, identification of potential barriers, and strategies for engagement of stakeholders. Cash flow analysis and cost of service are forecast for at least a five-year period and possibly for a 15-20 year horizon, along with revenue or resource options and implementation strategies. Upon completion of the Business Plan, the County will have a practical guide to achieving its strategic goals.

**Strategy and Process Refinement** is the kickoff event for the overall project, and will engage County leadership and staff to refine the overall process and to:

1) Establish a Canal Financial Advisory Committee of senior representatives from across the County to provide input and feedback on the development and integration of funding analysis and the implementation of the CMMP.

2) Hold two briefings of the County leadership to discuss and capture findings and issues for effective decision-making on the implementation of the canal restoration program. The initial meeting with the senior leadership will capture objectives, expectations, identification of acceptable funding options for the long-term management of the Canal Restoration program. An additional leadership briefing will held for presentation of the draft Business Plans.

The Business Plan will focus on an document: 1) Defined goals and priorities; 2) Defined services and capital investments in the Canal Restoration program; 3) Identification and analysis of funding options available to the County, including barriers and implementation requirements; 4) Prioritization of funding options with recommendation on mix of resources; and, 5) Analysis of implementation strategies for new funding options and a process for moving forward to implementation.

### **3.0 Deliverables**

**3.1 Bi-Annual Reports** – Bi-annual progress reports will be prepared and submitted to Monroe County for the period ending November 30, 2015 and May 30, 2015. These reports will consist of updates on progress toward work objectives, approach, results to date, any problems encountered, actions taken to resolve problems, discussion of remaining tasks, and expenditures to date.



### **3.2 Task Deliverable Items and Schedule**

**Task 1 - Bench Scale Testing to Assist with Beneficial Re-Use of the Organic Sediment Removed from Canal Bottoms:** A report will be prepared detailing the bench scale test method and results along with a recommended soil washing methodology. **Schedule:** within 3 months of Notice-to-Proceed (NTP).

**Task 2 - Alternative Technologies Evaluation to Address Accumulated Organic Material in Canal Bottoms:** A report will be prepared compiling the applicable alternative technologies, components of each technology, method of implementation, and potential ability to reduce the cost of muck removal. A ranking matrix will be included supporting a discussion on the development of the matrix. Two conceptual designs and engineering cost estimates will be prepared. **Schedule:** within 6 months of NTP.

**Task 3 - Alternative Technology Evaluation for Water Quality Improvements in Canals:** A report will be prepared summarizing the findings of the data mining, which will include a description of all applicable technologies, a ranking matrix of the identified technologies with supporting discussion on the development of the matrix. Two conceptual designs and cost estimates will be prepared. **Schedule:** within 8 months of NTP.

**Task 4 - Development of a Business Plan for Canal Management:** 1. Two meetings, documented by meeting minutes, with County leadership to discuss funding mechanism, Business Plan content, analysis financial factors and overall implementation policies. 2. Draft Business Plan for addressing long-range program planning and funding for the CMMP. **Schedule:** Completion within 9 months of NTP.

### **4.0 Fees**

Amec Foster Wheeler will complete the above tasks for a not to exceed fee of \$73,909.66 based upon the contract labor rates as presented in **Table 1**. Additional staff may be deemed necessary to complete the work beyond those identified in **Table 1** and they will be billed per the contract rate schedule also attached.

**Table 1  
Monroe County Canal Water Quality Improvements - Budget Detail**

**Task 1 Bench Scale Testing to Assist with Beneficial Re-Use of the Muck Removed from Canal Bottoms**

Staff I	\$71.00	x		hours	=	\$0.00
Staff II - Pam Bellotti	\$77.00	x	28	hours	=	\$2,156.00
Project - Katherine Deitz	\$86.00	x	24	hours	=	\$2,064.00
Senior - Stephen Hanks	\$109.00	x	6	hours	=	\$654.00
Principal/Project Manager - Wendy Blondin	\$155.00	x	12	hours	=	\$1,860.00
Senior Principal - William Tucker	\$159.00	x	6	hours	=	\$954.00
Chief Engineer/Scientist	\$194.00	x		hours	=	\$0.00
CADD/Draftsperson I	\$66.00	x		hours	=	\$0.00
Admin II - Maggie Kanakis	\$52.00	x	6	hours	=	\$312.00
				<b>Labor Subtotal</b>		<b>\$8,000.00</b>
<b>Expenses</b>						
Laboratory expenses	\$1,000.00	x	1			\$1,000.00
Misc lab supplies	\$78.66	x	1			\$78.66
Sample Shipping	\$200.00	x	1.15			\$230.00
				<b>Expense Total:</b>	<b>\$1,306.66</b>	
<b>Total Task 1</b>						<b>\$9,306.66</b>

**Task 2 Alternative Technologies Evaluation to Address Accumulated Organic Material In Canal Bottoms**

Staff I	\$71.00	x		hours	=	\$0.00
Staff II - Jeremy Paris	\$77.00	x	30	hours	=	\$2,310.00
Project - Greg Corning	\$86.00	x	65	hours	=	\$5,590.00
Senior - Stephen Hanks	\$109.00	x	80	hours	=	\$8,720.00
Principal/Project Manager - Wendy Blondin	\$155.00	x	12	hours	=	\$1,860.00
Senior Principal - Lance Lombard	\$159.00	x	8	hours	=	\$1,272.00
Chief Engineer/Scientist - Ricardo Fraxedas	\$194.00	x	5	hours	=	\$970.00
CADD/Draftsperson I	\$66.00	x	10	hours	=	\$660.00
Admin II	\$52.00	x	15	hours	=	\$780.00
<b>Total Task 2</b>						<b>\$22,162.00</b>

**Task 3 Alternative Technology Evaluation for Water Quality Improvements in Canals**

Staff I	\$71.00	x		hours	=	\$0.00
Staff II - Jeremy Paris	\$77.00	x	30	hours	=	\$2,310.00
Project - Katherine Deitz	\$86.00	x	50	hours	=	\$4,300.00
Senior - Stephen Hanks	\$109.00	x	80	hours	=	\$8,720.00
Principal/Project Manager - Wendy Blondin	\$155.00	x	12	hours	=	\$1,860.00
Senior Principal/Senior Project Manager - Lance Lombard	\$159.00	x	20	hours	=	\$3,180.00
Chief Engineer/Scientist - Ricardo Fraxedas	\$194.00	x	5	hours	=	\$970.00
CADD/Draftsperson I - Jose Milan	\$66.00	x	10	hours	=	\$660.00
Admin II - Maggie Kanakis	\$52.00	x	10	hours	=	\$520.00
<b>Total Task 3</b>						<b>\$22,520.00</b>

**Task 4 Identification of Funding Mechanisms for Canal Restorations**

Staff I	\$71.00	x		hours	=	\$0.00
Staff II	\$77.00	x		hours	=	\$0.00
Project	\$86.00	x		hours	=	\$0.00
Senior	\$109.00	x		hours	=	\$0.00
Principal/Project Manager - Wendy Blondin	\$155.00	x	12	hours	=	\$1,860.00
Senior Principal/Senior Project Manager - David Bulova	\$159.00	x	15	hours	=	\$2,385.00
Chief Engineer/Scientist	\$194.00	x		hours	=	\$0.00
Chief Financial Analyst - Elizabeth Treadway	\$231.00	x	56	hours	=	\$12,936.00
CADD/Draftsperson I	\$66.00	x		hours	=	\$0.00
Admin II - Maggie Kanakis	\$52.00	x	8	hours	=	\$416.00
				<b>Labor Subtotal</b>		<b>\$17,597.00</b>

Airfare	\$500.000		2		\$1,000.00
Rental car	\$45.000		4 days		\$180.00
Hotel	\$250.000		4 days		\$1,000.00
Per diem	\$47.000		4 days		\$144.00

**Total Task 4** **\$19,921.00**

**TOTAL PROJECT BUDGET:** **\$73,909.66**

**Amec Foster Wheeler Environment & Infrastructure, Inc.  
2014 Schedule of Fees**

**I. Personnel**

**A. Professional (Engineer, Geologist, Scientist and Project Management)**

Staff I	\$71.00/hour
Staff II	\$77.00/hour
Project	\$86.00/hour
Senior	\$109.00/hour
Principal/Project Manager	\$155.00/hour
Senior Principal/Senior Project Manager	\$159.00/hour
Chief Engineer/Scientist	\$194.00/hour

**B. Technical Services (Engineering and Science)**

Technician I	\$45.00/hour
Technician II	\$55.00/hour
Senior Technician I	\$60.00/hour
Senior Technician II	\$70.00/hour
Project Administrator/Project Coordinator/Subcontract Administrator/Project Accountant	\$75.00/hour
Technical Writer/Document Production	\$ 78.00/hour
CADD/Draftsperson (includes PC/CAD) I	\$66.00/hour
CADD/Draftsperson (includes PC/CAD) II	\$101.00/hour
Admin I	\$40.00/hour
Admin II	\$52.00/hour

**C. Surveying Services**

Field Surveyor I	\$43.00/hour
Field Surveyor II	\$47.00/hour
Survey Technician I	\$67.00/hour
Survey Technician II	\$72.00/hour
Survey Chief	\$75.00/hour

**D. Information Management**

Software Engineer	\$92.00/hour
Data Technician	\$132.00/hour
Senior Software Engineer	\$162.00/hour
Business Analyst	\$132.00/hour

**E. Contract Labor**

From time to time, Amec Foster Wheeler retains outside Professional and Technical labor on a temporary basis to meet peak workload demands. Such contract labor will be charged at 10% markup.

**II. Expenses**

**A. Travel Expenses**

1. Transportation: Company pickup truck/personal vehicle, per mile – current allowable rate per County and Florida State Statutes
  - a. Company pickup truck per day - \$75.00
  - b. Common carrier or car rental multiplies by (to be the amounts authorized by Section 112.062, Florida Statutes
2. Per Diem Expenses: direct expenses in accordance with Florida State Statutes

**B. Disposal of Hazardous Waste Samples**

Samples of waste will be disposed by permitted methods after a determination is made that the waste is defined by RCRA to be hazardous. Due to the requirements for some hazardous assessments, disposal and invoicing of incurred expenses may take place after invoicing of the originally contracted work.

**C. Equipment / Other Expenses**

(Does not include personnel)

Digital Field Documentation Equipment (cameras, water level & measuring tape, GPS units, etc.)	\$75.00/day (min 2 days)
Geophysical Equipment (GPR Equipment)	\$1,000.00/day (min 2 days)
Underwater Camera Equipment/Video up to 50 feet depth and low turbidity	\$1,900.00/day
Environmental Monitoring & Sampling Equipment (dust, OVA, Air monitoring, Noise Meter, Light Meter)	\$100.00 to \$450.00/day Depending upon the equipment and scale required
Special equipment or supplies, permits, shipping charges, special printing or other items not customarily provided by Amec	Actual cost x 1.15

**D. Communications**

In-house costs for long distance phone, telex, telecopier, postage – project labor charges x 5%

**III. Subcontract**

Subcontract services will be invoiced at a cost multiplied by 1.15