

**Air Odor Noise Committee**

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Nick Howland  
Amy Fu, P.E.  
Mobeen Rathore, M.D.

**Education & Public Outreach**

Tony Bellamy, P.E.  
Steven Jenkins  
Lucinda Sonnenberg, Ph.D.  
Michelle Tappouni



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**Bobby L. Baker, P.E., Tony C. Bellamy, P.E.**  
**Roi Dagan, M.D., Amy Fu, P.E., Steven Jenkins,**  
**Mobeen Rathore, M.D., Lucinda Sonnenberg, Ph.D.**

Public Hearing  
Funding Request – Microbial Water Quality Pilot Project

Monday, April 11, 2016  
5:00 p.m.  
Ed Ball Building  
214 N. Hogan Street  
5<sup>th</sup> Floor – Conference Room West

AGENDA

CALL TO ORDER

MICHELLE TAPPOUNI

I. CERTIFICATION OF PUBLIC NOTICE

JAMES RICHARDSON

II. PRESENTATION BY PETITIONER

JAMES RICHARDSON

III. COMMENTS FROM PUBLIC

IV. BOARD DISCUSSION AND STAFF CLARIFICATION

V. BOARD VOTE

EPB Education & Public Outreach Committee recommendation – Approve the funding request of \$32,000 for the Microbial Water Quality Pilot Project.

VI. PROCEDURAL SUMMARY

SONDRA FETNER

VII. ADJOURNMENT

February 16, 2016

Mr. Tom Fallin, P.E.  
City Engineer, Public Works Department  
214 North Hogan Street, 10<sup>th</sup> Floor  
Jacksonville, Florida 32202

**Re: Scope and Fee Submittal – Purchase Order  
Drainage Improvement Program Management/TMDL Reduction Program  
Microbial Water Quality Treatment Pilot Project  
ETM No:**

Dear Mr. Fallin:

As requested and previously discussed with Melissa Long, Bill Joyce and yourself, we have attached the proposed scope and fee to implement a Microbial Water Quality Treatment Pilot Project. The purpose of this proposal is specifically to assist the City to develop and implement a pilot project utilizing microbial treatment of storm water facilities to reduce Total Nitrogen and possibly fecal coliform. The long term implication if successful would be to beneficial to the City's BMAP/TMDL nutrient reduction goals.

Our services are portrayed as a lump sum amount for this work based on estimated hours as depicted in the attached Contract Fee Summary Schedule. This proposal reflects our recent discussions regarding the best implementation approach for this work via a Purchase Order request.

Thank you for the opportunity to provide these services to the City of Jacksonville. If you have any questions, please contact me.

Sincerely,

**England-Thims & Miller, Inc.**

Juanitta Bader Clem

CC: Mr. William Joyce, P.E.  
Ms. Melissa Long, P.E.

**PURCHASE ORDER - SCOPE OF WORK  
MICROBE WATER QUALITY TREATMENT PILOT PROJECT**

**INTRODUCTION**

The City of Jacksonville is responsible for its wasteload allocation (WLA) to reduce the loading of Total Nitrogen (TN) as defined in the Total Maximum Daily Loads (TMDL). The Florida Department of Environmental Protection (FDEP) adopted TMDL then implemented by the Lower St. Johns River Basin Main Stem Basin Management Action Plan (BMAP) in October 2008. To meet the load reduction requirements of the 2023 milestone, as outlined in the adopted BMAP, the City is responsible to reduce 106 metric tons of TN to meet their obligation. This obligation is referenced and enforceable through in the City's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit administered by FDEP.

A vendor recently demonstrated a microbe stormwater pond additive that initial water quality sampling indicates a reduction in TN and fecal coliform in two Jacksonville stormwater facilities. While the product is FDEP approved for organic sediment removal, the nutrient reductions within the water column relative to product effectiveness is not a BMP with approved FDEP nutrient reduction for BMAP reporting. The initial performance of this product to reduce TN and fecal coliform is encouraging and when coupled with the initial cost estimates may have potential to be a cost- effective addition to structural projects to meet the City's 2023 BMAP obligation.

This scope of work is to support the process of obtaining BMAP nutrient load reduction credit with FDEP. This purchase order is to investigate the viability of using the microbe product additive in stormwater facilities and establish, in collaboration with FDEP, a statistically valid study to determine if the use of microbe in stormwater ponds provides a nutrient reduction. The intention of this study is to use results substantiating TN reductions from product application as a basis to receive credit for TN reductions towards the City's TMDL WLA.

**SCOPE OF WORK**

ETM will support the City to develop a microbial study. Scope includes defining the methodology necessary to quantify the nutrient load reduction associated with the implementation of microbial supplements to stormwater treatment facilities. The formation of this methodology will include coordination with FDEP BMAP and FDEP laboratory staff, as well as the identification and collaboration of any municipal or agency partners. The implementation of a statistically valid study includes pond selection, water quality sampling requirements, , identification of appropriate placebo or control ponds, and the necessary elements of study results that must be included in the study final report submission to FDEP. Scope includes:

- A. Coordination with FDEP, potential municipal partners, and State agencies.
- B. Study Design will consist of the following:
  1. Statistically Valid FDEP Sampling Program
  2. ETM, with input from EQD, will select 3 sites for pilot projects.
    - a. Land Use Homogeneity
    - b. Pollutant Loading Calculations
    - c. Control Ponds
  3. Support EQD Water Quality Sampling Staff
    - a. Sampling Plan
    - b. Reporting Protocol
- C. Microbial Stormwater Treatment Study Proposal
  1. Project Background & Objectives
  2. Microbial Product Description

3. Summarization of the initial investigation into the two stormwater treatment facilities
    - a. Address the uncertainties raised in the initial investigation
    - b. Characterize the facilities and their incoming load
    - c. Indicate the load reduction
  4. Study Objectives
  5. Study Methodology
    - a. Pond Selection
    - b. Sampling Plan
- D. Develop Information for Grant Funding Request

**DELIVERABLES**

- Up to five meetings with FDEP and potential partners
- Study Proposal

**SCHEDULE**

Draft Report	30 Days from NTP
COJ Draft Report Review and Comments	15 Days from First Submittal
Final Report	14 Days from Receipt of Review Comments

**Scope Does Not Included**

- Administration of the microbe additive contractor
- On-going results monitoring of the study implementation
- Development of on-going SOP(s)/documentation for BMAP nutrient reduction valuation
- Study Final Report

**LUMP SUM**

\$32,000.00

**BACKUP FOR CONTRACT FEE SUMMARY  
CITY OF JACKSONVILLE, FLORIDA**

PART I - GENERAL				
<b>Project</b> MICROBE WATER QUALITY PILOT PROJECT			<b>Proposal Number</b> Purchase Order	
<b>Name of Consultant</b> England-Thims & Miller, Inc.			<b>Date of Proposal</b> 2/16/2016	
PART II - LABOR RELATED COSTS				
Direct Labor	Hourly Rate	Estimated Hours	Estimated Cost	TOTAL
Principal	\$ 60.10	9	\$ 540.90	
Project Manager	\$ 52.10	50	\$ 2,605.00	
Section Leader	\$ 48.44	90	\$ 4,359.60	
Design Engineer or Architect	\$ 39.85	50	\$ 1,992.50	
Designer or Technician	\$ 26.66	40	\$ 1,066.40	
GIS Programmer	\$ 23.68	20	\$ 473.60	
Clerical	\$ 19.47	20	\$ 389.40	
<b>TOTAL DIRECT LABOR</b>	<b>\$ 40.96</b>	<b>279</b>		<b>\$ 11,427.40</b>
<b>Overhead (Combined Fringe Benefit &amp; Administrative)</b>				
Overhead Rate	150 % x Total Direct Labor			\$ 17,141.00
<b>SUBTOTAL: Labor + Overhead</b>				<b>\$ 28,568.40</b>
<b>PROFIT: Labor Related Costs</b>			x 10%	<b>\$ 2,857.00</b>
<b>LUMP SUM COSTS</b>				<b>\$ 31,425.40</b>
<b>MISCELLANEOUS DIRECT COST</b>				<b>551.24</b>
<b>TOTAL</b>				<b>\$ 31,976.64</b>

ESTIMATE OF WORK EFFORT AND FEE FOR  
MICROBE WATER QUALITY PILOT PROJECT

CONSULTANT: RFP NO.:		NAME OF PROJECT: MICROBE WATER QUALITY PILOT PROJECT									
		ESTIMATOR NAME / DATE : Duane Kent / Jan 2016									
No. / ACTIVITY	PRINCIPAL (2%)		PROJECT MANAGER (40%)		SECTION LEADER (10%)		ENGINEER (20%)		DESIGNER (10%)		
	RATE = \$	60.10	RATE = \$	52.10	RATE = \$	48.44	RATE = \$	39.85	RATE = \$	26.66	
	MAN HOURS	LABOR COST	MAN HOURS	LABOR COST	MAN HOURS	LABOR COST	MAN HOURS	LABOR COST	MAN HOURS	LABOR COST	
A	2	\$120.20	10	\$521.00	20	\$968.80	8	\$318.80	4	\$107	
B	4	\$240.40	10	\$521.00	30	\$1,453.20	15	\$597.75	15	\$400	
C	2	\$120.20	20	\$1,042.00	30	\$1,453.20	15	\$597.75	15	\$400	
D	1	\$60.10	10	\$521.00	10	\$484.40	12	\$478.20	6	\$160	
TOTAL	9	\$540.90	50	\$2,605.00	90	\$4,359.60	50	\$1,992.50	40	\$1,066.40	

No. / ACTIVITY	GIS PROGRAMMER (10%)		CLERICAL (8%)		MAN HOURS BY ACTIVITY	SALARY COST BY ACTIVITY	AVG. HOURLY COST	SALARY COST DIST. %	BURDENED COST
	RATE = \$	23.68	RATE = \$	19.47					
	MAN HOURS	LABOR COST	MAN HOURS	LABOR COST					
A	4	\$94.72	2	\$38.94	50	\$2,169.10	\$43.38	18.98	Task 1 \$ 5,965
B	6	\$142.08	8	\$155.76	88	\$3,510.09	\$39.89	30.72	Task 2 \$ 9,653
C	6	\$142.08	6	\$116.82	94	\$3,871.95	\$41.19	33.88	Task 3 \$ 10,648
D	4	\$94.72	4	\$77.88	47	\$1,876.26	\$39.92	16.42	Task 4 \$ 5,160
TOTAL	20	\$473.60	20	\$389.40	279	\$11,427.40	\$40.96	100.00	\$ 31,425