ORANGE COUNTY GOVERNMENT FLORIDA

Interoffice Memorandum

AGENDA ITEM

September 22, 2020

TO: Mayor Jerry L. Demings
-AND-
Board of County Commissioners

FROM: Jon V. Weiss, P.E., Director
Planning, Environmental, and Development Services Department

CONTACT PERSON: **David Jones, P.E., CEP, Manager**
Environmental Protection Division
(407) 836-1406

SUBJECT: October 27, 2020 — Consent Item
Joint Participation Agreement between Orange County and the City of Orlando for Completion of a 4e Reasonable Assurance Plan for the Lake Orlando Basin

The Environmental Protection Division is requesting approval of a Joint Participation Agreement (JPA) for the completion of a 4e Reasonable Assurance Plan (RAP) for the Lake Orlando watershed basin with the City of Orlando (City). The JPA will be for the duration of the development of the plan. Orange County (County) will fund a sum of $11,468.74, which is 13% of the total cost to fund a study to identify data gaps and determine nutrient source loads. The funding for the County portion will come from the County's Water Quality Capital Improvement Program (CIP).

In 2015, the Florida Department of Environmental Protection (FDEP) verified that Lake Orlando was impaired for nutrient pollutants in the form of chlorophyll a, nitrogen and phosphorus. A waterbody can be placed in category 4e (Ongoing Restoration Activities) if it is impaired but recently completed or ongoing restoration activities are underway to restore the designated uses of the waterbody. The City, County and the Florida Department of Transportation have determined that a RAP will allow the City and County to work together towards identification of pollutant loads in lieu of the FDEP developing a Total Maximum Daily Load. A proposal for a 4e RAP was submitted to the FDEP and approved on April 7, 2020. Once the pollutant load sources are identified, load reduction projects may be evaluated and planned by either agency in their respective jurisdiction in future fiscal years. These projects will be budgeted through the Water Quality CIP and cost share funding will be investigated when appropriate.

The agreement has been reviewed by the County Attorney's office as to form.

ACTION REQUESTED: **Approval and execution of Joint Participation Agreement between Orange County, Florida, and City of Orlando, Florida for completion of a 4e Reasonable Assurance Plan (RAP) for the Lake Orlando Basin, including reimbursing the City of Orlando for costs not to exceed $11,468.74. District 2**

DDJ/JVW: mg
Attachments

APPROVED BY ORANGE
COUNTY BOARD OF COUNTY
COMMISSIONERS

BCC Mtg. Date: October 27, 2020

Prepared by and return to:
Roy K. Payne, Esq.
Chief Assistant City Attorney
City Attorney's Office
400 S. Orange Ave.
Orlando, FL 32801
Roy.Payne@CityofOrlando.Net
(407) 246-3483

JOINT PARTICIPATION AGREEMENT BETWEEN ORANGE COUNTY, FLORIDA, AND CITY OF ORLANDO, FLORIDA, FOR COMPLETION OF A 4e REASONABLE ASSURANCE PLAN (RAP) FOR THE LAKE ORLANDO BASIN

THIS JOINT PARTICIPATION AGREEMENT, "JPA", made and entered into this ____ day of OCT 2 7 2020, 2020, by and between **Orange County, Florida**, a charter county and political subdivision of the State of Florida, whose address is 201 S. Rosalind Avenue, Orlando, Florida, 32801, "**Orange County**", and **City of Orlando, Florida**, a municipality duly enacted under the laws of Florida, whose address 400 S. Orange Avenue, Orlando, Florida, 32801, "**City**." The parties hereto are sometimes referred to individually as "party" and collectively as "parties".

W I T N E S S E T H

WHEREAS, Orange County, the City, and the State of Florida Department of Transportation, "FDOT", desire to improve and maintain the long-term water quality and health of the Lake Orlando basin, the general boundaries of which are show in **Exhibit "A"**, attached hereto, and located in Orange County, Florida; and

WHEREAS, it has been determined by the parties and FDOT that a 4e Reasonable Assurance Plan, "RAP", for the Lake Orlando basin should be completed to provide a long-term strategy to enhance the water quality and health of the Lake Orlando basin; and

WHEREAS, the RAP will be based on a modeling plan, "Plan," on which the parties and FDOT have agreed; and

WHEREAS, the parties have further agreed that the City will retain a consultant to complete the Plan and the RAP; and

WHEREAS, the Florida Department of Environmental Protection, "FDEP", has consented to this process; and

WHEREAS, Orange County, and the City, have agreed to financially participate in funding the total cost, "Total Cost," of completing the Plan and the RAP; and

WHEREAS, City has entered into a contract with CDM Smith, Inc., "Consultant," for completion of the Plan and the RAP with the following general components: See **Exhibit "B."**

WHEREAS, Orange County will reimburse the City thirteen percent (13%) of the Total Cost in an amount not to exceed $11,468.74; with FDOT to reimburse the City three percent (3%) of the Total Cost under a separate agreement entered into contemporaneously with this Agreement; and City will fund the balance of the Total Cost; and

WHEREAS, entering into this JPA is in the best interest of the citizens of Orange County, and the City of Orlando as it will benefit the health, safety and welfare of such citizens.

NOW, THEREFORE, in consideration of the mutual covenants and representations set forth herein, Orange County and the City agree as follows:

1. Recitals. The recitals above are true and correct and form a material part of this Agreement.

2. Purpose. The purpose of this JPA is to establish the terms and conditions for reimbursement for the City's cost of accomplishing the Plan and the RAP.

3. Plan/RAP. The City has a continuing contract, "Contract," with the Consultant under which terms the Consultant has prepared a scope of services for completion of the Plan and the RAP. The scope of services is set forth in Exhibit "B"

attached hereto. The Consultant will complete the Plan and the RAP under operation of the Contract.

4. Term. This JPA will commence and become effective upon execution by the parties, the later date of execution controlling. This JPA will remain in full force and effect from the date of execution until (i) the Consultant has been paid in full by the City for the total cost of the Plan and the RAP and (ii) Orange County and FDOT have paid their respective shares of the Total Cost.

5. Obligations of Orange County. Orange County is responsible for paying thirteen percent (13%) of the Total Cost in an amount not to exceed $11,468.74. Within thirty (30) days after the end of each three-month period, beginning three months after the Effective Date, City will submit an invoice to Orange County at the following address, describing and evidencing services rendered by the Consultant for the Plan and/or the RAP during such quarter, and including invoices from the Consultant in support:

Orange County Environmental Protection Division
3165 McCrory Place, Suite 200
Orlando, FL 32803-3727
ATTN: Water Sciences

Orange County will pay the invoice within thirty (30) days after receipt of the invoice by the County.

Payment by Orange County will be remitted to:

City of Orlando Revenue Collection
P.O. Box 743808
Atlanta, GA 30374-3808

6. Termination. This JPA may be terminated, in whole or in part, by any party at any time, with or without cause, upon not less than sixty (60) days written notice delivered to the other parties. However, any obligations under this JPA incurred by any

party, prior to the termination date, shall survive the termination and be performed or paid, as the case may be.

7. Indemnification. No party to this JPA, nor its officers, employees and agents shall be deemed to assume any liability for the acts, omissions and negligence of the other party, its officers, employees and agents. Nothing contained herein shall constitute a waiver of the sovereign immunity or the provisions of §768.28, Florida Statutes.

8. Assignment. No party to this JPA shall assign this JPA, nor any interest arising herein, without the prior consent of the other parties.

9. Notices. Whenever any party desires to give notice to another party, notice must be sent to:

for Orange County:

Manager
Orange County Environmental Protection Division
3165 McCrory Place, Suite 200
Orlando, FL 32803-3727
Phone: (407) 836-1400
Fax: (407) 836-1441

for City of Orlando:

Public Works Attorney
City Attorney's Office
City of Orlando
400 S. Orange Ave., Orlando, FL 32801-3317
Phone: (407) 246-2295

Any of the parties may change, by written notice as provided herein, the addresses or persons for receipt of notices.

10. Compliance with Laws and Regulations. In providing all services pursuant to this JPA, the parties shall abide by all statutes, ordinances, rules, and regulations

pertaining to, or regulating the provisions of, such services, including those now in effect and hereafter adopted. This JPA and the provisions contained herein shall be construed, controlled, and interpreted according to the laws of the State of Florida.

11. Amendments. This JPA may be amended only by express written instrument approved by the parties hereto.

IN WITNESS WHEREOF, the following authorized representatives of the parties have executed this JPA on the date signed by each.

ATTEST:

By: _____
Stephanie Herdocia, City Clerk

CITY OF ORLANDO, municipal corporation, organized and existing under the laws of the State of Florida (SEAL)

By: _____
~~Mayor~~ / Mayor Pro Tem

Date: 9 - 8 - 2020

STATE OF FLORIDA
COUNTY OF ORANGE

The foregoing instrument was acknowledged before me by means of □ physical presence or □ online notarization, this 9 day of SEPTEMBER, 2020, by Mayor / Mayor Pro Tem and Denise Aldridge, City Clerk, of the City of Orlando, Florida, who are both personally known to me.

_____
Notary Public Signature
My Commission Expires: 2 · 11 · 2020

DIANA PEREZ
MY COMMISSION EXPIRES FEBRUARY 11, 2023
#GG 300218
Bonded thru Notary Public Underwriters
NOTARY PUBLIC, STATE OF FLORIDA

City Council Meeting: 9 - 8 - 2020
Item: I-3 Ordinance: 2009081103

ORANGE COUNTY, FLORIDA
By: Board of County Commissioners

By: _____
for Jerry L. Demings
Orange County Mayor

Date: OCT 2 7 2020

ATTEST: PHIL DIAMOND, CPA, County Comptroller
As Clerk of the Board of County Commissioners

By: _____
Deputy Clerk

Print: **Katie Smith**

Exhibit "A"

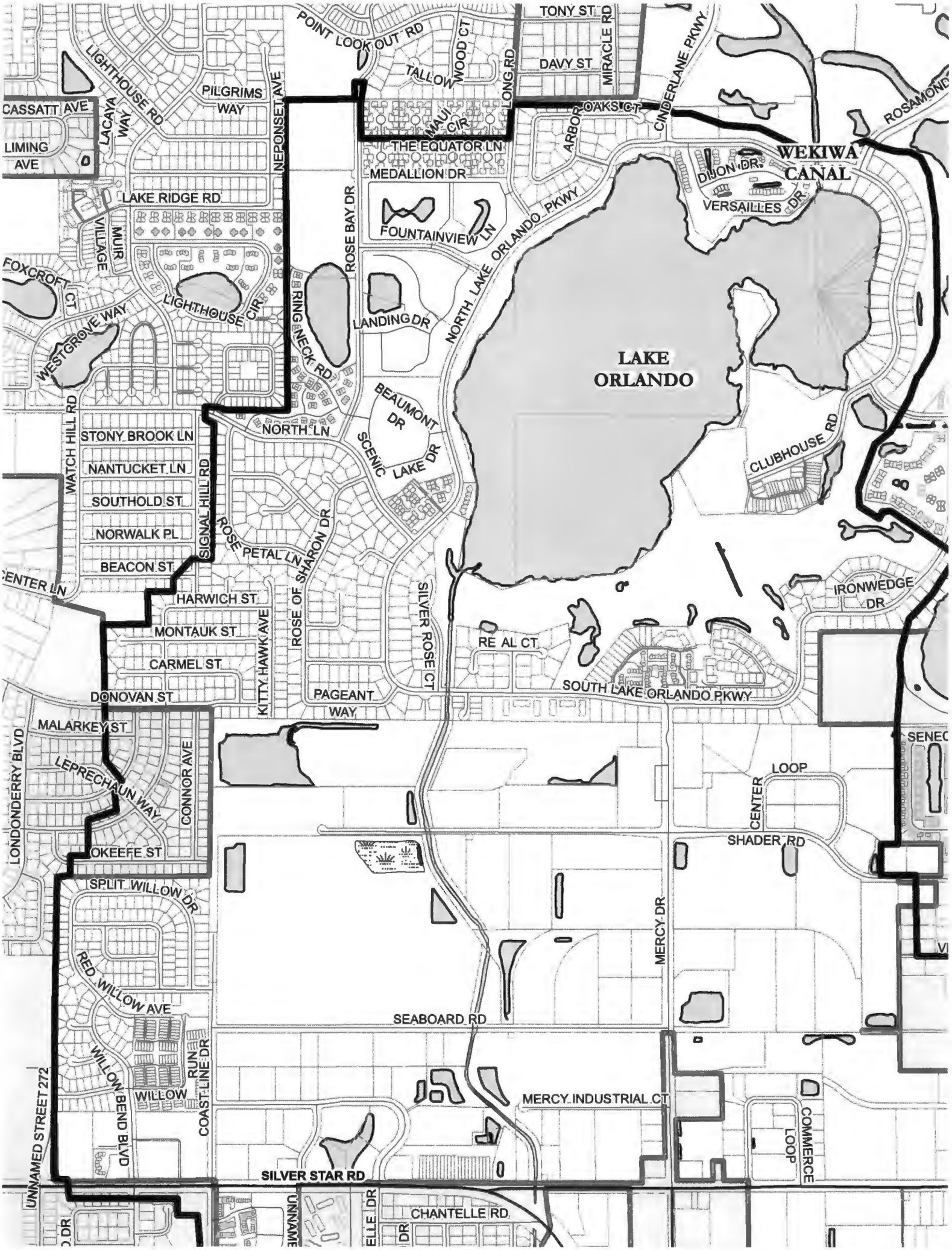
LAKE ORLANDO
WEKIWA CANAL
POINT LOOK OUT RD
TONY ST
DAVY ST
MIRACLE RD
CINDERLANE PKWY
ROSAMOND
TALLOW WOOD CT
LONG RD
MAUI CIR
ARBOR OAKS CT
THE EQUATOR LN
MEDALLION DR
DIJON DR
VERSAILLES DR
NORTH LAKE ORLANDO PKWY
FOUNTAINVIEW LN
ROSE BAY DR
LANDING DR
LAKE RIDGE RD
MUIR VILLAGE
FOXCROFT CT
LIGHTHOUSE CIR
WESTGROVE WAY
RING NECK RD
BEAUMONT DR
SCENIC LAKE DR
NORTH LN
CLUBHOUSE RD
WATCH HILL RD
STONY BROOK LN
NANTUCKET LN
SOUTHOLD ST
NORWALK PL
BEACON ST
SIGNAL HILL RD
ROSE PETAL LN
ROSE OF SHARON DR
HARWICH ST
MONTAUK ST
CARMEL ST
DONOVAN ST
KITTY HAWK AVE
PAGEANT WAY
SILVER ROSE CT
RE AL CT
SOUTH LAKE ORLANDO PKWY
IRONWEDGE DR
MALARKEY ST
LEPRECHAUN WAY
CONNOR AVE
LONDONDERRY BLVD
OKEEFE ST
SPLIT WILLOW DR
RED WILLOW AVE
WILLOW RUN
WILLOW BEND BLVD
COAST LINE DR
UNNAMED STREET 272
SEABOARD RD
MERCY DR
SHADER RD
CENTER LOOP
MERCY INDUSTRIAL CT
COMMERCE LOOP
SILVER STAR RD
CHANTELLE RD
CASSATT AVE
LIMING AVE
LACAYA WAY
LIGHTHOUSE RD
PILGRIMS WAY
NEPONSET AVE

Exhibit "B"

Lake Orlando 4e Plan Support
Task Authorization
June 2020
(Exhibit I)

This Services Authorization will be executed under the Continuing Professional Consulting Agreement (RQS15-0293-2) between the City of Orlando (CITY), and CDM Smith Inc. (ENGINEER), dated November 1, 2018, hereafter referred to as the Agreement.

I. Background

The Florida Department of Environmental Protection (FDEP) met with the CITY and representatives from Orange County (COUNTY) and the Florida Department of Transportation District 5 (FDOT) to discuss the water quality impairments and subsequent total maximum daily load (TMDL) studies of Lake Orlando. FDEP discussed an alternative plan to the TMDL so that this lake can be assigned as Assessment Category 4b (Impaired but TMDL not needed) or 4e (Impaired but restoration ongoing). In subsequent discussions, due to the uncertainty of data and analysis which need to be refined, the CITY and COUNTY wish to purse a 4e Plan. The CITY and COUNTY submitted a 4e Plan to FDEP on April 6, 2020. FDEP approved the 4e Plan on April 7, 2020. The CITY, in conjunction with the COUNTY and FDOT, has requested the ENGINEER to provide technical support with the implementation of a 4e Plan for Lake Orlando related to the impairment of nutrients and biology (i.e., failing lake vegetation index (LVI)). This Task Authorization does not include all of the elements required for 4e implementation; however, based on additional authorization by the CITY, additional tasks may be added.

The ENGINEER will complete the requested services, as defined in the Scope of Work listed below.

II. Scope of Services

TASK 1 – Project Quality Management

1.1 Project Quality Review and Coordination

Activities performed under this task consist of those general functions required to maintain the project on schedule, within budget, and that the quality of the work products defined within this scope is consistent with ENGINEER's standards and CITY's expectations. Specific activities included are identified below:

The ENGINEER maintains a Quality Management System (QMS) on CITY projects performed by the ENGINEER. An internal project planning and scope review session will be conducted at the start of the project. This action is required by the ENGINEER's QMS guidelines. Ongoing project and quality controls and team

coordination among CITY, ENGINEER, and subconsultants will be provided throughout project duration.

1.2 Monthly Invoices

ENGINEER's project manager will review and approve monthly invoices for an anticipated project duration of 6 months for Tasks 1 through 4.

1.3 Project Meetings and Coordination

The ENGINEER will attend three virtual meetings with the CITY consisting of a kickoff meeting and two status meetings with the CITY. In addition to these meetings, ENGINEER will coordinate with the CITY via teleconference and e-mails.

TASK 2 –Implementation of the 4e Plan

The ENGINEER will support the implementation of the 4e Plan for Lake Orlando prepared by the CITY using data and information provided by the CITY, COUNTY and FDOT. The 4e Plan was based on the FDEP document "Guidance on Developing Water Quality Restoration Plans as Alternatives to Total Maximum Daily Loads – Assessment Category 4b and 4e Plans", dated January 2019, referred to as the FDEP Guidance below.

2.1 Description of Impaired Waterbody

Based on the data and information provided by the CITY, COUNTY and FDOT, as well as supporting information obtained from FDEP, the ENGINEER will describe the lakes by providing:

- Lake name, location and watershed(s);
- US Geological Survey (USGS) Hydrologic Unit Code (HUC);
- FDEP Waterbody Identification (WBID) number;
- Designated Use Classification;
- Pollutants of Concern (POC); and,
- Identification of Potential POC sources.

To support the description of the impaired waterbody, the ENGINEER will compile and review available data and studies related to the Lake Orlando watershed and receiving waters, including review of the draft FDEP TMDL and supporting documents, and the TMDL and modeling review completed by Geosyntec Consultants, Inc. ("Peer Review Memorandum – Lake Orlando Draft TMDL Rule 62-304.505", May 2019). Additionally, the ENGINEER will outline the characteristics of additional watershed and receiving water modeling that will need to be completed to address the nutrient impairment during the implementation of the 4e Plan.

2.1.1 Data Compilation and Analysis

In order to characterize Lake Orlando and understand the limitations for the watershed and receiving water quality modeling efforts (Subtasks 2.1.2 and 2.1.3), relevant available data will be compiled and reviewed. Available data to be provided by the CITY and/or COUNTY or obtained from state and regulatory agencies will include:

- Watershed information (including pumping data, gage data, hydrologic modeling efforts, GIS information);
- Flow and water quality data from monitoring stations;
- Lake levels, staff gage locations, and bathymetry data;
- Lake transect and location information for LVI assessments (with supporting GIS information);
- Lake vegetation surveys;
- COUNTY and CITY lake vegetation management practices;
- Rainfall gage information;
- Soils and updated land use information;
- Property appraiser's information; and,
- Structural Best Management Practices (BMPs) data.

The ENGINEER will focus the assessment on those datasets that directly impact the watershed loading and receiving water model development and produce a draft memorandum report with a summary of the data received, quality assessment and indicate gaps for future data collection effort. The assessment will also focus on the biological impairment and additional data that may be needed (if any) to understand causal relationships. The data gap analysis will define data that would provide support in the future development of the watershed and receiving model(s) to address nutrients, the further understanding of the biological impairment and support the development of a monitoring plan (Task 3). The ENGINEER will prepare a draft and final technical memorandum describing the results of the data compilation and gap analyses. The final memorandum will incorporate review comments from the CITY, COUNTY and FDOT.

2.1.2 Identification of Watershed Loading and Receiving Water Models

The purpose of this task is to identify models that characterize nutrient loads; and internal physical, chemical and biological interactions that impair Lake Orlando. The ENGINEER will build and use models identified in Subtask 2.1.2 during

implementation of the 4e Plan. Model development and use will be funded with a subsequent contract that implements the 4e Plan.

The ENGINEER will identify watershed and receiving water models (or a series of models) that can be used to simulate nitrogen and phosphorus loads to Lake Orlando. Models will be forced by hydrologic and constituent inflows to the lake, hydrodynamic conditions in the lake, and include water quality relationships and kinetics. The ENGINEER will analyze data as part of the implementation of the 4e Plan, to identify processes that influence chlorophyll-a (Chl a) concentration in the lake. The ENGINEER will recommend a model (or models) selection as part of this task.

The ENGINEER will prepare a draft and final technical memorandum describing the watershed and receiving model identification and recommended model selection. The final memorandum will incorporate review comments from the CITY, COUNTY and FDOT.

Task 3 – Characterization and Development of the Monitoring Plan

Based on the existing monitoring programs offered by the CITY and COUNTY, the availability of monitoring data and the gap analysis, the ENGINEER will identify how the monitoring and reporting program will be developed to gather the data to support the development of the watershed and receiving water models and to refine the water quality goals to be achieved. The description will identify the data needs and the general characteristics of the monitoring program. As part of this task, the ENGINEER will also make recommendations on supplemental field activities related to the biological (i.e., LVI) impairment which will be incorporated as part of the overall monitoring plan.

The monitoring program development and implementation will be based on the schedule identified in the 4e Plan. Based on the characterization of the monitoring plan, the ENGINEER will develop a detailed monitoring plan for implementation by the CITY and the COUNTY. The plan will identify the types of monitoring (e.g., ambient water quality, flow, seepage, vegetative, etc.), frequency, location and parameters. To supplement the monitoring plan, the ENGINEER will also develop a quality assurance project plan (QAPP).

The ENGINEER will prepare a draft and final technical memorandum which will describe the monitoring plan characterization and will include the detailed monitoring plan and QAPP. The final memorandum will incorporate review comments from the CITY, COUNTY and FDOT.

Task 4 – Coordination with Stakeholders and FDEP

The ENGINEER will participate in up to two virtual coordination (teleconference) meetings with the CITY, COUNTY, FDOT and FDEP. For each meeting, the

ENGINEER will provide a meeting summary to the stakeholders to confirm decisions made (if any).

III. Deliverables

The ENGINEER will provide the following deliverables to the CITY:

1. Data Assessment and Gap Analysis Draft and Final Technical Memorandum (pdf format)
2. Analysis of Modeling Approach Draft and Final Technical Memorandum (pdf format)
3. Characterization of Monitoring Plan Draft and Final Technical Memorandum (pdf format)
4. Supporting documentation that supports the analyses, conclusions, and recommendations outlined in the technical memorandums

IV. Assumptions/Assistance to be Provided by CITY

This Task Authorization anticipates that data will be available for use and that the CITY will make these data available to ENGINEER in a timely manner. Data to be provided by the CITY includes:

- For Lake Orlando and the Lake Orlando watershed:
    - Major outfall locations (GIS shapefile)
    - Watershed boundaries (GIS shapefile)
    - Current monitoring locations (GIS shapefile)
    - Existing water quality and water level data for both the lake and watershed (if available)
    - Lake transect and location information for LVI assessments (with supporting GIS information), lake vegetation surveys and information on lake vegetation management practices;
- Current monitoring plan
- Documents related to the Draft TMDL and its review

No new data collection is anticipated to be needed to adequately execute this scope related to the implementation of the 4e Plan document. Should any additional data collection be needed, the effort will be addressed under a separate scope of services.

Support to the CITY to assist with responding to FDEP comments on the 4e Plan, development of models, implementation of the monitoring plan and identification of long-term restoration strategies are will be included under a separate scope of services as part of future phases.

V. Schedules and Time Constraints

It is anticipated that the Project will take 6 months to complete, starting within two weeks of receipt of a formal notice to proceed (NTP). The estimated schedule by task is shown below. CONSULTANT will prepare an updated detailed schedule within the first 30 calendar days after NTP.

VI. Compensation and Payment

The ENGINEER shall perform the services defined in this authorization for a Not to Exceed sum of $88,221.10 as set forth in Exhibit II. Payment will be in accordance with the CITY's Continuing Professional Consulting Agreement. Total compensation for services, materials, supplies, and any other items or requirements necessary to complete the work, will be on a Wage Cost Multiplier Basis with a 3.0 multiplier for labor plus reimbursables times a factor of 1.0 and subconsultants times a factor of 1.1. The ENGINEER will submit monthly invoices for costs incurred, along with a written monthly status report. The justification for this Task Authorization amount is presented in **Tables 1** through **4**.

EXHIBIT II
TABLE 1

TASK AUTHORIZATION BUDGET
Lake Orlando 4e Plan Support

June-2020

ENGINEERING SERVICES	COST
CDM SMITH SALARY COST - (TABLE 2)	$32,916.66
OUTSIDE PROFESSIONALS	$49,866.62
OUTSIDE PROFESSIONALS (10% CDM SMITH MARKUP)	$4,986.66
OTHER DIRECT COSTS (TABLE 3)	$451.16
TOTAL COST	$88,221.10

TABLE 2

CDM SMITH LABOR BUDGET
Lake Orlando 4e Plan Support

June-2020

	CDM Smith	Principal-in-Charge	Assoc./Proj. Manager	Senior Professional	Project Engineer	Technician/ Drafting	Clerical Support	Total Hours	Total Fee
	Rates with 3.0 Multiplier	$231.81	$186.66	$162.33	$96.93	$78.54	$71.34		
No.	TASKS								
1	Project Quality Management								
1.1	Project Quality Review and Coordination	4	6	8	0	0	4	22	$3,631.20
1.2	Monthly Invoices	2	0	12	0	0	18	32	$3,695.70
1.3	Project Meetings and Coordination	8	12	4	0	0	2	26	$4,886.40
2	Implementation of the 4e Plan								
2.1	Description of Impaired Waterbody								
2.1.1	Data Compilation and Analysis	4	8	0	16	0	4	32	$4,256.76
2.1.2	Identification of Watershed Loading and Receiving Water Mode	8	12	0	12	0	4	36	$5,542.92
3	Characterization and Development of the Monitoring Plan	8	16	0	28	8	2	62	$8,326.08
4	Coordination with Stakeholders and FDEP	4	6	0	4	0	2	16	$2,577.60
	TOTAL HOURS	38	60	24	60	8	36	226	
	COST PER LABOR CATEGORY	$8,808.78	$11,199.60	$3,895.92	$5,815.80	$628.32	$2,568.24		$32,916.66

The total hours, billing rates, and distribution shown above are for planning purposes only and are not intended to be used for invoicing purposes. CDM Smith reserves the right to vary actual hours worked between the various tasks and labor categories above based on available staff mix, project schedules, and project scope.

TABLE 3

OTHER DIRECT COSTS BUDGET
Lake Orlando 4e Plan Support

June-2020

DESCRIPTION	UNITS	QUANTITY	COST	TOTAL
Copies	ea./sheet	300	$0.10	$30.00
Presentation boards	ea	0	$20.00	$0.00
Postage	ea	6	$0.36	$2.16
Express Service	ea	2	$35.00	$70.00
Exhibits production (Half Size)	ea./sheet	30	$0.30	$9.00
Exhibits Reproduction (Full Size)	ea./sheet	0	$0.60	$0.00
Computer Time	hr	40	$6.00	$240.00
CADD	hr	0	$12.00	$0.00
Report Bindings	ea	0	$20.00	$0.00
Data & Media	ea	10	$10.00	$100.00

TOTAL COST	$451.16

TABLE 4

OUTSIDE PROFESSIONAL BUDGET
Lake Orlando 4e Plan Support

June-2020

COMPANY	TASK	SUBCONTRACTED SERVICES	PARTICIPATION	
			MBE	WBE
Applied Ecology		$32,222.00	$0	$32,222.00
Applied Technology & Management, Inc.		$17,644.62	$0	$0
	TOTAL	$49,866.62	$0	$32,222.00
			0.0%	36.5%

Applied Technology and Management, Inc.

APPLIED TECHNOLOGY AND MANAGEMENT, INC.

ATM | DESIGN ENGINEERING CONSULTING

LAKE ORLANDO 4E PLAN SUPPORT

CDM Smith

MAY 12, 2020

ENGINEERING CONSULTING SERVICES

TASK 1.3: PROJECT MEETINGS AND COORDINATION

In support of the 4e Plan development, Applied Technology and Management, Inc. (ATM) will attend three meetings by web-conference. ATM's Project Manager will attend the web-based kickoff meeting and the other meetings. In addition, this task covers other overall project coordination activities by ATM.

TASK 2.1.2 IDENTIFICATION OF RECEIVING WATER MODEL(S)

In support of future model development, ATM will review data, reports, and other information gathered by CDM Smith and others for this 4e Plan. We will identify additional data necessary to support the development of existing-condition or future-condition in-lake receiving water models (transport and water quality) as part of a data-gap analysis. These additional data will be developed or measured in the future to support implementation of the 4e Plan. Some of these additional data will be used in the future to calibrate models. ATM will utilize the City of Orlando comments on FDEP's draft TMDL for Lake Orlando, under Rule 62-304.505, summarized in a peer review memorandum by Geosyntec Consultants, dated May 2019, to inform the data review and identification of additional data. ATM will provide recommendations on future data collection for inclusion in the Monitoring Plan under Task 2.

ATM will identify and make recommendations on receiving water model(s) that can be used to assess the impact of nitrogen and phosphorus loads to Lake Orlando. The determination of the model to use will consider hydrologic and constituent inflows to the lake, hydrodynamic conditions in the lake, and water quality relationships and kinetics. ATM will analyze data to identify processes that influence chlorophyll *a* concentration in the lake and internal physical, chemical and biological interactions that relate to the impairment of Lake Orlando.

ATM will define interim water quality target(s) for the lake to support the determination of the model(s) to be utilized. Presently, ATM plans to use a geometric mean chlorophyll *a* concentration (numeric nutrient criteria, or NNC) as a water-quality target, however, lake total nitrogen concentration and total phosphorus concentration may also be considered. The interim target(s) will be adjusted as the modeling and monitoring is refined and completed.

Deliverable: Draft and final technical memorandum recommending receiving water model(s). The final memorandum will incorporate review comments.

TASK 4: COORDINATION WITH STAKEHOLDERS AND FDEP

In support of the 4e Plan development, ATM will prepare for and attend two web-based coordination meetings with the City of Orlando, and other stakeholders to discuss the findings from the 4e Plan. ATM will focus on the determinations made on the receiving water model recommendations

Note: ATM will build and use model(s) identified in Subtask 2.1.2 during implementation of the 4e Plan. Model development and use will be funded with a subsequent contract that implements the 4e Plan.

SUMMARY OF PROFESSIONAL LABOR FEES

	Task	Labor	Expenses	Total
Task 1.3	Project Meetings and Coordination	$2,995.66	0.00	$2.995.66
Task 2.1.2	Identification of Receiving Water Model(s)	$12,318.76	0.00	$12,318.76
Task 4	Coordination with Stakeholders and FDEP	$2,330.20	0.00	$2,330.20

TASK 1.3 - ATM - Project Meetings and Coordination

Personnel Labor Category		*Hourly Rate*	*Total Labor Hours*	*Costs*
ATM, Incorporated				
1	Principal Engineer	$228.82	12	$ 2,745.84
2	Project Manager	$171.81	0	$ -
3	Senior Engineer	$157.21	0	$ -
4	Engineer	$94.04	2	$ 188.08
5	Technical Editor	$98.19	0	$ -
6	CADD/GIS	$81.57	0	$ -
7	Clerical	$61.74	1	$ 61.74
ATM Labor			15	$ 2,995.66

ITEM	**UNIT**	**PRICE/UNIT**	**# UNITS**	**TOTAL**
Hotel	nights	$100	0	$ -
Meal Per Diem	days	$36	0	$ -
Mileage	miles	$0.58	0	$ -
Equipment	Units	$500	0	$ -
Boat Rental	Days	$250	0	$ -
ADCP Rental	Days	$150	0	$ -
Shipping	Units	$350	0	$ -
Other Item	Units	$0		$ -
Other Item	Units	$0		$ -
Other Item	Units	$0		$ -
TOTAL EXPENSES				$ -
TASK TOTAL				**$ 2,995.66**

TASK 2.1.2 - ATM - Identification of Receiving Water Model(s)				
Personnel Labor Category		***Hourly Rate***	***Total Labor Hours***	***Costs***
ATM, Incorporated				
1	Principal Engineer	$228.82	40	$ 9,152.80
2	Project Manager	$171.81	0	$ -
3	Senior Engineer	$157.21	0	$ -
4	Engineer	$94.04	24	$ 2,256.96
5	Technical Editor	$98.19	8	$ 785.52
6	CADD/GIS	$81.57	0	$ -
7	Clerical	$61.74	2	$ 123.48
ATM Labor			74	$ 12,318.76
ITEM	**UNIT**	**PRICE/UNIT**	**# UNITS**	**TOTAL**
Hotel	nights	$100	0	$ -
Meal Per Diem	days	$36	0	$ -
Mileage	miles	$0.58	0	$ -
Equipment	Units	$500	0	$ -
Boat Rental	Days	$250	0	$ -
ADCP Rental	Days	$150	0	$ -
Shipping	Units	$350	0	$ -
Other Item	Units	$0		$ -
Other Item	Units	$0		$ -
Other Item	Units	$0		$ -
TOTAL EXPENSES				$ -
TASK TOTAL				**$ 12,318.76**

TASK 4 - ATM - Public Meetings

Personnel Labor Category		*Hourly Rate*	*Total Labor Hours*	*Costs*
ATM, Incorporated				
1	Principal Engineer	$228.82	8	$ 1,830.56
2	Project Manager	$171.81	0	$ -
3	Senior Engineer	$157.21	0	$ -
4	Engineer	$94.04	4	$ 376.16
5	Technical Editor	$98.19	0	$ -
6	CADD/GIS	$81.57	0	$ -
7	Clerical	$61.74	2	$ 123.48
ATM Labor			14	$ 2,330.20

ITEM	**UNIT**	**PRICE/UNIT**	**# UNITS**	**TOTAL**
Hotel	nights	$100	0	$ -
Meal Per Diem	days	$36	0	$ -
Mileage	miles	$0.58	0	$ -
Equipment	Units	$500	0	$ -
Boat Rental	Days	$250	0	$ -
ADCP Rental	Days	$150	0	$ -
Shipping	Units	$350	0	$ -
Other Item	Units	$0		$ -
Other Item	Units	$0		$ -
Other Item	Units	$0		$ -
TOTAL EXPENSES				$ -
TASK TOTAL				**$ 2,330.20**

Applied Ecology, Inc.

June 3, 2020

Danielle M Honour, PE, D.WRE
Associate, Water Resources Engineer
CDM Smith
101 Southhall Lane, Suite 200
Maitland, FL 32751

Via Electronic Mail: HonourDM@cdmsmith.com
Cc: Scott McClelland, Vice President, CDM Smith

Scope of Work and Fee for the Lake Wekiva (Orlando) 4E Plan Implementation Support for the City of Orlando

Dear Ms. Honour:

Thank you for providing Applied Ecology, Inc. (AEI) the opportunity to provide water resources support services to the City of Orlando.

The Florida Department of Environmental Protection (FDEP) has deemed Lake Wekiva (Orlando), located within the Little Wekiva watershed, impaired for chlorophyll a, total nitrogen, total phosphorus, and recently biology. The Florida Department of Environmental Protection (FDEP) met with the CITY and representatives from Orange County (COUNTY) and the Florida Department of Transportation (FDOT) to discuss the pending water quality impairments and subsequent total maximum daily load (TMDL) studies of Lake Orlando and Lake Lawne. FDEP discussed the option of a reasonable assurance plan (RAP) in lieu of a TMDL so that these lakes can be assigned as Assessment Categories 4b (Impaired but TMDL not needed) or 4e (Impaired but restoration ongoing). Due to the uncertainty of the data and required analysis, the CITY and COUNTY decided to pursue a 4e Plan. The CITY, in conjunction with the COUNTY and FDOT, has requested the prime consultant, CDM Smith, to provide technical support with the implementation of the 4e Plan for Lake Orlando to the potential impairment of nutrients and biology (e.g. using the Lake Vegetation Index). Applied Ecology will, via the proposed scope of work, provide technical support throughout the support of the 4e Plan, specifically related to the watershed nutrient loading and biological impairment components. This scope of services does not include all of the elements required for 4e implementation; however, based on additional authorization by the CITY, additional tasks may be added.

The proposed work will take place in four major tasks: Meetings and Coordination (Task 1), Data Gathering and Gap Analysis of Watershed Loading and Biological Impairment (Tasks 2A and 2B), Monitoring Plan Recommendations (Task 3), and Coordination with Stakeholders and FDEP (Task 4).

Task 1: Meetings and Coordination

Throughout the 4e Plan Support, Applied Ecology will coordinate closely with CDM Smith (CDM) staff, Applied Technology & Management (ATM), City of Orlando staff, the FDEP, and occasionally with Orange County and FDOT (stakeholders) to ensure no duplication of effort is taking place and a seamless valuable product will be provided to the CITY.

This task also includes up to two webconference meetings with the CITY consisting of a project kickoff and one project coordination/status update.

Task 1 Professional Fees: $3,350.00

Task 2A: Data Gathering and Gap Analysis of the Watershed Loading Model Development

In order to characterize the waterbody of interest (Lake Orlando) and understand the limitations for the watershed and water quality modeling efforts, relevant available data need to be acquired and assessed. Available data will include watershed information (including pumping data, gage data, hydrologic modeling efforts, GIS information), flow and water quality data from monitoring stations, rainfall gage information, soils and land use information, property appraiser's information, as well as structural Best Management Practices (BMPs) data. AEI will focus the assessment on those datasets that directly impact the watershed loading model development and produce a section of the draft memorandum report with a summary of the data received, quality assessment and indicate gaps for future data collection effort. The watershed loading memo section will also include recommendations on an appropriate watershed loading model that can be used to estimate nitrogen and phosphorus loads into the receiving water quality model.

This task will also include time to incorporate CDM's and CITY's comments in a Final Memorandum Report.

Task 2A Professional Fees: $10,996.00

Task 2B: Data Gathering and Gap Analysis of the Biological Impairment

This task focuses on compiling and analyzing the biological data collected by FDEP that led to recent proposed biological impairment of Lake Orlando (LVI over time). Additional data of interest, including CITY and COUNTY littoral zone or aquatic vegetation assessments and lake management data will be requested and assessed, as well as aerial photointerpretation of recent imagery datasets. Data gaps or recommendations from the biological data assessment will be included in a separate section of the Memorandum Report

Task 2B Professional Fees: $13,324.00

Task 3: Monitoring Plan Recommendations

The data gap analysis performed under Task 2 will be critical to recommend the most appropriate monitoring plan, an important part of the 4e Plan implementation effort and critical for the future development of the 4b Plan. This task includes the development of recommendations of critical data needs to be integrated in the Monitoring Plan. The recommendations will focus on data necessary for the development, calibration, and validation of the watershed loading model and future assessments of biological conditions for Lake Orlando.

Task 3 Professional Fees: $2,716.00

Task 4: Coordination with Stakeholders and FDEP

In support of the 4e Plan development, AEI will prepare for and attend up to two remote coordination meetings with the CITY and other Stakeholders to discuss the findings from the 4e Plan. AEI will focus on the data gap analysis and recommendations made on the watershed loading model and on the associated data needs/monitoring for the biological impairment.

Task 4 Professional Fees: $1,836.00

TIMELINE

The work can begin within 1 week after a task order is authorized by the client. Tasks 2 and 3 are anticipated to be complete 4 months after all the requested data have been received by the CITY. Meeting and coordination (Task 1) and Stakeholder support (Task 4) will take place throughout the project duration (6 months).

DELIVERABLES

The deliverables for this project include:

- Draft Memorandum Data Gap Analysis & Recommendations Report Sections (watershed loading model and biological impairment) to include data summary, key findings of the data assessment effort, and recommendations on the watershed loading model
- Final Memo Data Gap & Recommendations Report incorporating two sets of comments by CDM and CITY
- Summary Recommendations monitoring needs for the watershed loading model and biological impairment
- Attendance at two remote meetings with FDEP staff and other stakeholders in the central Florida areas and up to two additional remote meetings with the CITY and COUNTY (kickoff meeting and a status meeting)
- Coordination via conference calls, emails, etc. as necessary with team members, CITY, stakeholders and FDEP staff

BUDGET/INVOICING

The total not-to-exceed budget is **$32,222.00**. Monthly invoices will be billed hourly outlining the description of work completed according to work performed. Details on the level of effort and associated cost by task are provided in Appendix A.

I look forward to working with you for these services. If you have any questions, please do not hesitate to contact me at 321.848.1272 or clistopad@appliedecologyinc.com.

Sincerely,

Claudia M. Listopad, Ph.D., GISP
Principal Scientist, Applied Ecology, Inc.

Appendix A. Detailed hourly effort and associated professional fees for the Lake Orlando 4e Plan Implementation Support.

Task	CDM Smith Scope Task	Subtask	Description	Principal $152.00	Senior Analyst $110.00	Env. Scientist II $77.50	GIS Analyst $66.00	Total Hrs	Total Cost
Project Meeting & Coordination	Task 1.3	1	Webconference meetings with City (2) and meeting preparation	4	0	4	0	8	$918.00
		2	Project Team Meeting and Coordination	16	0	0	0	16	$2,432.00
Coordination & Meetings				20	0	4	0	24	$3,350.00
Watershed Model Assessment and Gap Analysis	Task 2.1	1	Request/Organize Watershed Information, Monitoring Data, Rainfall, Input data from City/County	2	0	8	16	26	$1,980.00
		2	Assess WQ impairment information and gap analysis	8	0	40	16	64	$5,372.00
		3	Produce water quality draft memo section with summary data assessment and gap analysis	4	0	16	0	20	$1,848.00
		4	Two sets of revisions on water quality section	8	0	8	4	16	$1,796.00
Watershed Model Assessment				20	0	72	36	128	$10,996.00
Biological Impairment Assessment and Gap Analysis	Task 2.1	1	Compile Biological information, lake management info (city/county, private when possible)	4	0	8	16	28	$2,284.00
		2	Assess biological information and gap analysis (includes up to 1 field visit)	4	16	40	8	68	$5,996.00
		3	Produce biological impairment draft memo section with summary data assessment and gap analysis	4	24	0	0	28	$3,248.00
		4	Two sets of revisions on vegetation impairment section	6	0	8	4	16	$1,796.00
Biological Impairment Assessment				18	40	56	28	142	$13,324.00
Monitoring Plan Recommendations	Task 3	1	Recommendations for monitoring plan/data collection for the watershed loading model	4	0	8	0	12	$1,228.00
		2	Recommendations for monitoring plan/data collection for the biological impairment	4	8	0	0	12	$1,488.00
Monitoring Plan Recommendations				8	8	8	0	24	$2,716.00
Stakeholder & FDEP Meetings	Task 4	1	Meeting with FDEP and stakeholders (2 hour meetings via webconference) and preparation for meetings	8	0	8	0	16	$1,836.00
FDEP & Stakeholder Meetings				8	0	8	0	16	$1,836.00
Total Project									**$32,222.00**