

**TASK ORDER NUMBER 39 TO AGREEMENT FOR PROFESSIONAL SERVICES  
ON A CONTINUING BASIS**

THIS AGREEMENT is made as of the \_\_\_ day of \_\_\_\_\_ in the year 2008, between The CITY of Leesburg, a Florida Municipal Corporation, whose address is 501 West Meadow Street, Post Office Box 490630, Leesburg, Florida 34749-0630 (hereinafter referred to as the "CITY"), and Boyle Engineering Corporation, whose address is 1600 W. MAIN STREET, LEESBURG, FLORIDA 34748 (hereinafter referred to as the "PROFESSIONAL").

**WITNESSETH:**

**WHEREAS**, on **May 24, 2004** the CITY and the PROFESSIONAL previously entered into an Agreement for PROFESSIONAL Services on a Continuing Basis (hereinafter referred to as the "Agreement"). The Agreement is referenced herein as though set forth in full.

**WHEREAS**, the CITY and the PROFESSIONAL desire to enter into a Written Amendment for Task Order Number 39.

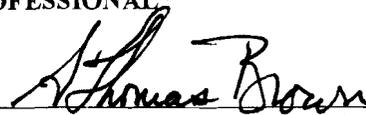
**NOW THEREFORE**, for and in consideration of the mutual covenants and promises contained in this Agreement, the CITY and the PROFESSIONAL do hereby agree as set forth below:

1. The above recitals are true and correct and are incorporated herein.
2. The Parties agree to the scope of work and budget pursuant to the terms and conditions set forth in Exhibits "A & B."

**IN WITNESS WHEREOF**, the parties hereto have executed this Agreement on the respective dates under each signature.

**"PROFESSIONAL"**

By: \_\_\_\_\_



A. Thomas Brown, PE  
District Vice President

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

8/19/08

**"CITY"**

By: \_\_\_\_\_

Mayor/Commissioner

Attest: \_\_\_\_\_

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

**EXHIBIT A**  
**TASK AUTHORIZATION 39**  
**SCOPE OF WORK**  
**FOR**  
**LAKE HOLLYWOOD DRAINAGE BASIN STUDY**

**A. GENERAL**

The CITY recently completed an update to their 1996 Stormwater Planning Study. Recommendations in the updated Stormwater Master Plan included multiple stormwater retrofit projects for flooding abatement and water quality improvement. Additionally, feasibility studies for certain projects and an individual drainage study of the Lake Hollywood Basin were recommended to support the City's efforts in prioritizing additional stormwater retrofit projects.

The CITY has requested PROFESSIONAL to perform a detailed study of the Lake Hollywood drainage basin, including updates to the GIS stormwater database within the basin, locate existing of outfalls from the basin to Lake Harris, perform hydraulic modeling of the basin conveyance system and prepare recommendations of improvements within the basin.

The following paragraphs describe the services and level of effort that are anticipated to be performed by PROFESSIONAL.

**B. SCOPE OF WORK**

The PROFESSIONAL will perform the scope of work described in the following paragraphs.

**TASK 1.0 Project Management, Coordination and Meetings**

**1.1 Project Management and Coordination.** PROFESSIONAL will provide general project control and team coordination, including communication with CITY staff.

**1.2 Meetings.** PROFESSIONAL will conduct one project kick-off meeting upon receipt of Notice to Proceed and monthly meetings thereafter with CITY to provide project updates. PROFESSIONAL anticipates a total of eight (8) meetings.

**TASK 2.0 Hydrologic and Hydraulic Analyses**

**2.1 Data Collection and Review.** PROFESSIONAL collected as-built drawings of stormwater structures during update of the Stormwater Master Plan. PROFESSIONAL will collect and review available additional sources (i.e., St Johns River Water Management District

(SJRWMD), City as-built plans received since the Master Plan) for as-built information to include in the drainage basin study.

- 2.2 Field Reconnaissance.** PROFESSIONAL will perform field reconnaissance to locate and evaluate stormwater hydraulic features for the primary conveyance system within the Lake Hollywood Drainage Basin. We anticipate ten (10) days to perform field activities. Field notes and photographs will be taken of the observed stormwater features to provide written documentation of the feature location, the type (culvert, weir, catch basin, etc.), size and material of the stormwater feature and maintenance conditions noted during the field inspection. Drainage patterns will be evaluated to further divide drainage sub-basins for hydrologic and hydraulic analysis (as described below). Field inspections will be coordinated with the CITY stormwater staff.
- 2.3 Sub-basin Delineation.** PROFESSIONAL will review the Lake Hollywood drainage basin boundaries from the Stormwater Master Plan and further divide into drainage sub-basins for a detailed analysis of surface water flows. PROFESSIONAL will use the City's GIS stormwater database, as-built information collected from the City during the Master Planning process, additional as-built information from the SJRWMD and digital files, including topography and land use data from or SJRWMD and/or Lake County.
- 2.4 Identify Survey Needs.** Based on field reconnaissance and available as-built plans and/or surveys, PROFESSIONAL will prepare a list of the stormwater features that require survey to perform modeling of the drainage sub-basins. Survey data to be collected will include, but not be limited to, culvert size and type, manhole rim and bottom elevations, upstream and downstream invert elevations of pipes, street crown elevation where culverts cross, curb and gutter profiles, catch basin grate and bottom elevations. Once PROFESSIONAL completes field reconnaissance in one of the existing drainage sub-basins, a scope and the area of needed survey will be submitted to the CITY for approval. PROFESSIONAL will use CITY surveyors where practical and cost effective. Should the CITY desire to use a professional survey firm, PROFESSIONAL will prepare a scope for the additional survey services required.
- 2.5 Drainage Conveyance System Modeling.** During field inspections, PROFESSIONAL will evaluate the CITY'S stormwater conveyance system in select locations, identify potential maintenance issues and recommend solutions. Information from City stormwater maintenance staff will be used to identify areas of concern, such as sub-basin LH0090, where stormwater culverts are old and require replacement. A hydraulic model will be created showing the hydraulic grade line and comparing it to the surface elevation, street, or curb and gutter, as applicable. PROFESSIONAL will prepare a hydraulic model to evaluate the existing pipe size and grade, and will provide recommendations regarding existing drainage system capacity and potential remedies (i.e., slip line pipe or replace with larger diameter pipe). The hydraulic model will be evaluated for the 10-year, 24 hour storm event to assess standard design capability. Model runs will also include the 25-year and 100-year, 24-hour storm events to further refine system capacity and Level of Service to allow more informed decisions to be made by CITY on future capital improvement projects.
- 2.6 Hydrologic Analysis.** PROFESSIONAL will update the ICPR model created during the Stormwater Master Plan for the Lake Hollywood Drainage Basin. The model updates will include detailed information on stormwater features collected throughout the basin to provide detailed calculations of surface runoff and its effects on the open and closed stormwater

systems, interconnected lake systems, and open channel systems throughout the basin. The nodal network schematics for the sub-basins will be updated to reflect revisions to sub-basin delineations. Rates and volumes of stormwater runoff for simulated storm events will be determined using the SJRWMD rainfall volumes and distributions used in the Master Model. Peak stages within the basin and the peak flow rates to Lake Harris will be evaluated for the Mean Annual, 10-Year, 25-Year, and 100-Year, 24-Hour storm events. Model scenarios for existing conditions (Existing Conditions Model) will be conducted and areas of potential flooding during the separate storm events will be identified. Model scenarios for recommended improvements (Proposed Conditions Model) will be conducted to evaluate reductions in flood stages.

### **TASK 3.0 Water Quality Assessment**

**3.1 Calculate Nutrient Load Analysis.** A pollutant load analysis was performed during earlier drainage studies for the drainage sub-basins in the Lake Hollywood Drainage Basin that discharge directly to Lake Harris. PROFESSIONAL will update the pollutant load analysis using the Non-Point Source Loading and Management (NPSLM) model, a methodology approved by the SJRWMD. The primary focus in performing the water quality assessment is to evaluate the existing nitrogen and phosphorus loading to Lake Harris from this drainage basin. Pollutant load estimates will be used to rate the sub-basins for their potential to discharge pollutants to Lake Harris and to evaluate reductions that can be achieved by water quality improvement projects as the City strives to meet regulatory required nutrient load reductions.

### **TASK 4.0 GIS Support Services**

GIS support services are integral to performing drainage basin delineations and hydraulic and hydrologic analysis. Land use, topography, and soils data will be obtained from SJRWMD, Lake County and City GIS databases. PROFESSIONAL will use GIS to create the supporting maps for this drainage basin study. In addition to these GIS support services, the following specific tasks will be performed.

**4.1 Identify and Locate Water Body Outfall Locations within the Basin.** PROFESSIONAL will use GPS equipment with sub-meter accuracy to locate outfalls from the major water bodies within the Lake Hollywood Drainage Basin. The water bodies include Lake Maitland, Lake Chester, Lake Balmoral, Lake Hollywood, Lake Lucerne, Flamingo Pond and Lake Bonaire. Outfall structures will be documented and compared to the existing GIS stormwater database. Invert elevations will be collected with GPS to the extent practical and used as a reference when necessary. If more accurate invert elevations are required for hydrologic and hydraulic analysis, request for survey will be submitted to CITY staff.

**4.2 Identify and Locate stormwater outfall locations to Lake Harris.** Stormwater outfall locations are required to be submitted to the FDEP by the City's NPDES permit. PROFESSIONAL will use GPS equipment with sub-meter accuracy to locate stormwater outfalls to Lake Harris from the sub-basins within the Lake Hollywood Drainage Basin that discharge directly to the lake and from additional sub-basins H0089, VG0010 and VG0020. Outfall end treatments will be documented and compared to the existing GIS stormwater database. Invert elevations will be collected with GPS to the extent practical and used as a reference when necessary. If more accurate invert elevations are required for hydrologic and hydraulic analysis, request for survey will be submitted to CITY staff.

## **TASK 5.0 Conclusions and Recommendations**

- 5.1 Conclusions.** PROFESSIONAL will prepare a report documenting the data collection and field reconnaissance activities performed during the Lake Hollywood Drainage Basin Study, modeling results and the results of the water quality analysis.
- 5.2 Recommendations.** PROFESSIONAL will provide up to six (6) recommendations to improve existing conveyance systems, provide flooding abatement and/or enhance water quality in stormwater discharged to Lake Harris from the Lake Hollywood Drainage Basin. PROFESSIONAL will prepare conceptual plans for the six (6) recommendations and an engineer's opinion of probable construction costs.

During monthly meetings with CITY, PROFESSIONAL will discuss findings and proposed improvements for an interactive development of alternative projects for the CITY's consideration. PROFESSIONAL and CITY will agree upon a prioritized list of projects for inclusion in the final report.

### **C. ASSUMPTIONS**

Certain assumptions have been made in preparing this Proposal and are stated in the preceding text. The following additional assumptions have been made in preparing this Proposal.

1. Services will be provided in accordance with the Agreement as qualified herein.
2. CITY survey staff will be available to perform survey services or CITY will contract with a professional survey firm to collect necessary survey data.
3. Opinion of probable construction costs prepared by PROFESSIONAL represents its judgment as a design professional and is provided for planning purposes by the CITY.

### **D. DELIVERABLES**

PROFESSIONAL will provide to CITY the following deliverables:

1. Updated GIS Geodatabase of stormwater infrastructure and outfall locations to Lake Harris from the Lake Hollywood Drainage Basin.
2. Detailed Lake Hollywood Drainage Basin and Sub-basin boundary map.
3. Draft and Final Report concluding activities during the basin study and a prioritized list of recommended stormwater system enhancement projects.
4. Conceptual stormwater retrofit plans with engineer's opinion of probable construction costs.

## **E. SERVICES PROVIDED BY THE CITY**

This Task Authorization assumes that the CITY will assume all responsibilities as set forth in the Agreement and as stated in the preceding paragraphs. In addition, it has been assumed that the CITY will provide the following information and services to the PROFESSIONAL:

1. Timely review of materials submitted by the PROFESSIONAL to the CITY for review.
2. CITY shall pay costs associated with professional survey, if required.

## **F. SCHEDULE**

The services described in this exhibit are anticipated to be completed in accordance with the following summary. Unless noted otherwise, all time durations listed below are in calendar days.

PROFESSIONAL will observe the time limitations contained herein. PROFESSIONAL shall not be responsible for delays, which occur as the result of action or inaction of others, such as delays in receiving information from others and in obtaining review comments from the CITY.

**Task 2.0** Field reconnaissance will be performed and completed within three months of Notice to Proceed (NTP). Identification of survey needs will be prepared for individual sub-basins as field inspections are completed. Updates to the sub-basin boundaries, hydraulic modeling of conveyance system and ICPR updates of the drainage sub-basins will be completed within two months of receipt of requested survey data or within six months from NTP, whichever occurs last.

**Task 3.0** Water quality assessments will be completed one month following completion of the field reconnaissance, approximately four months from NTP.

**Task 4.0** GIS locates and mapping will be performed during field reconnaissance. GIS maps of outfall locations will be completed within four months of NTP.

**Task 5.0** Draft report, including recommended stormwater enhancement projects and engineer's opinion of probable construction costs will be completed seven months from NTP.

## **G. EXCLUSIONS**

Services not included in this scope of work but that may be required will be provided by the CITY or authorized as an amendment.

1. Geotechnical and Hydrogeological Exploration
2. Environmental Resource Permitting

## **H. COMPENSATION**

Compensation for this Scope of Work will be on a lump sum basis, in the amount of \$89,040.00 as shown in Exhibit B. PROFESSIONAL will invoice the CITY on a monthly basis based upon PROFESSIONAL's percent complete, as determined by PROFESSIONAL at the time of billing.

## **I. ADDITIONAL PROVISIONS**

- The services described herein will be provided in accordance with the current generally accepted standards of the engineering profession. Certain assumptions have been made in preparing this scope of services. To the extent possible, they are stated herein and are reflected in the budget estimates included in this scope of services. Reasonable material changes between work tasks, or level of effort actually required and those budgeted, may serve as a basis for modifying this scope and budget, as mutually agreed to between the CITY and the PROFESSIONAL.
- The PROFESSIONAL is entitled to rely upon the accuracy of historical and existing data, and information provided by the CITY and others without independent review and verification.
- The PROFESSIONAL is not responsible for the means, methods, sequences, techniques or procedures of the CITY for safety precautions and programs.

**EXHIBIT B**

**PROJECT BUDGET**

# Project Budget

Lake Hollywood Basin Study

City of Leesburg

Task Description	Personnel Hours						Budget			
	Principal	Senior II	Senior I	Assistant II	CAD/GIS Technician	Clerical	Total Hours	Labor	Non-Labor Fee	Total
<b>Task Group 1: Project Management</b>										
1.1 Project Management and Coordination		32				8	40	\$ 5,280	\$ 174	\$ 5,454
1.2 Meetings (up to 8 meetings)	4	24				8	36	\$ 4,980	\$ 557	\$ 5,537
<b>Subtotal</b>	<b>4</b>	<b>56</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>16</b>	<b>76</b>	<b>\$ 10,260</b>	<b>\$ 731</b>	<b>\$ 10,991</b>
<b>Task Group 2: Hydraulic &amp; Hydrologic Analysis</b>										
2.1 Data Collection and Review		4		20		4	28	\$ 2,600	\$ 222	\$ 2,822
2.2 Field Reconnaissance		24	56			2	94	\$ 11,328	\$ 810	\$ 12,138
2.3 Sub-basin Delineation	2	8	16		32	2	60	\$ 6,058	\$ 262	\$ 6,320
2.4 Identify Survey Needs		6	6	8			28	\$ 2,916	\$ 122	\$ 3,038
2.5 Drainage Conveyance System Modeling	2	40		12			70	\$ 8,690	\$ 305	\$ 8,995
2.6 Hydrologic Analysis		8	24			4	52	\$ 5,504		\$ 5,504
2.7 QA/QC	2	8					10	\$ 1,650	\$ 44	\$ 1,694
<b>Subtotal</b>	<b>6</b>	<b>98</b>	<b>102</b>	<b>40</b>	<b>84</b>	<b>12</b>	<b>342</b>	<b>\$ 38,746</b>	<b>\$ 1,764</b>	<b>\$ 40,510</b>
<b>Task Group 3: Water Quality Assessment</b>										
3.1 Calculate Nutrient Load Analysis	1	4	32		4	4	45	\$ 5,201	\$ 196	\$ 5,397
<b>Subtotal</b>	<b>1</b>	<b>4</b>	<b>32</b>	<b>-</b>	<b>4</b>	<b>4</b>	<b>45</b>	<b>\$ 5,201</b>	<b>\$ 196</b>	<b>\$ 5,397</b>
<b>Task Group 4: GIS Support Services</b>										
4.1 Locate Waterbody Outfall Locations			12		12	2	26	\$ 2,448	\$ 233	\$ 2,681
4.2 Locate Stormwater Outfall Locations to Lake Harris		8	8		24	2	42	\$ 4,056		\$ 4,056
4.3 QA/QC	2	8					10	\$ 1,650	\$ 164	\$ 1,814
<b>Subtotal</b>	<b>2</b>	<b>16</b>	<b>20</b>	<b>-</b>	<b>36</b>	<b>4</b>	<b>78</b>	<b>\$ 8,154</b>	<b>\$ 397</b>	<b>\$ 8,551</b>
<b>Task Group 5: Conclusions and Recommendations</b>										
5.2 Conclusions and Report	2	40	36	12	24	8	122	\$ 14,082	\$ 532	\$ 14,614

**Project Budget**

**Lake Hollywood Basin Study**

**City of Leesburg**

Task Description	Personnel Hours						Budget			
	Principal	Senior II	Senior I	Assistant II	CADD/GIS technician	Clerical	Total Hours	Labor	Non-Labor Fee	Total
5.2 Recommendations (Concept Plans & Engineer's Opinion of Probable Costs)		28	16	8			52	\$ 6,824		\$ 6,824
5.3 QA/QC	4	8					12	\$ 2,100	\$ 52	\$ 2,152
<b>Subtotal</b>	<b>6</b>	<b>76</b>	<b>52</b>	<b>20</b>	<b>24</b>	<b>8</b>	<b>186</b>	<b>\$ 23,006</b>	<b>\$ 584</b>	<b>\$ 23,590</b>
<b>Total</b>	<b>19</b>	<b>250</b>	<b>206</b>	<b>60</b>	<b>148</b>	<b>44</b>	<b>727</b>	<b>\$ 85,367</b>	<b>\$ 3,673</b>	<b>\$ 89,040</b>

Amounts shown are fee.

Personnel Category	\$/HR
Principal	\$225.00
Senior II	\$150.00
Senior I	\$120.00
Assistant II	\$88.00
CADD/GIS technician	\$74.00
Clerical	\$60.00