



VILLAGE OF KEY BISCAIYNE

Office of the Village Manager

MEMORANDUM

Village Council
Robert L. Vernon, *Mayor*
Enrique Garcia, *Vice Mayor*
Michael W. Davey
Robert Gusman
Michael E. Kelly
Jorge E. Mendia
Thomas Thornton

DATE: September 7, 2010
TO: Honorable Mayor and Members of the Village Council
FROM: Genaro "Chip" Iglesias, Village Manager
RE: Stormwater Management Master Plan Update

Village Manager
Genaro "Chip" Iglesias

RECOMMENDATION

It is recommended that the Village Council approve the proposal submitted by Tetra Tech for professional engineering services in the amount of \$143,342.00. The scope of work included in this proposal is for the update to the existing Stormwater Master Plan adopted by the Village in 1993, the Floodplain Management Plan adopted in 1998 and preparation of the 5-year Cycle Recertification.

BACKGROUND

The update of the Village's Floodplain Management Plan Update is one of the components required by the Community Rating System (CRS) in order to maintain credit in the 5-year CRS Cycle Recertification scheduled in 2011.

Miami-Dade County's DERM requires all municipalities involved in the FEMA CRS and National Pollutant Discharge Elimination System (NPDES) programs to update the Stormwater Master Plan on a regular basis in order to maintain credit for the activity. The Village's Stormwater Master Plan has not been updated since its adoption as prepared by Tetra Tech, formerly known as Williams, Hatfield, & Stoner, Inc. in 1993.

On June 4th, 2010, the Village issued a Request for Qualifications (RFQ). A mandatory pre-proposal meeting was held on June 22nd, 2010. On July 24th, 2010 the Village received nine qualifications and a shortlist of four was announced on August 4th, 2010.

After the firm's presentations on August 11th, 2010 the evaluation committee completed a competitive selection process and chose Tetra Tech as the best firm capable to perform the work requested in the RFQ.

STORMWATER MANAGEMENT PLAN UPDATE RESULTS

Phase I - Competitive Selection-Ranking	Bidders									
Qualifications for Ranking by Members of the Selection Committee	Maximum Points	ADA Engineering	C3TS	Calvin Giordano & Associates	Chen & Associates	Hazen & Sawyer	Keith & Schnars	RS&H	Tetra Tech	Weiler Engineering
Ana deVarona	100	77	84	58	83	100	59	72	94	58
Jud Kurlancheek	100	88	91	86	86	98	68	83	98	70
Armando Nunez	100	73	87	60	88	100	64	74	100	53
Eugenio Santiago	100	79	73	78	78	100	75	81	100	69
Total	400	317	335	282	335	398	266	310	392	250
Best Qualified Bidders			335		335	398			392	

Item	Phase II - Oral Presentation by the Four Best Qualified Teams	Best Qualified Bidders			
		C3TS	Chen & Associates	Hazen & Sawyer	Tetra Tech
	Qualifications for Ranking by Members of the Selection Committee				
	Ana deVarona	4	3	2	1
	Jud Kurlancheek	3	2	4	1
	Armando Nunez	3	2	4	1
	Eugenio Santiago	3	2	4	1
	Total	3.25	2.25	3.5	1
	Three Best Qualified Bidders	3	2		1

Best Qualified Firm = 1
Second Best Qualified = 2
Third Best Qualified = 3

RESOLUTION NO. 2010-

A RESOLUTION OF THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, SELECTING TETRA TECH FOR THE PREPARATION OF A STORMWATER MASTER PLAN; AUTHORIZING THE VILLAGE MANAGER TO NEGOTIATE AND EXECUTE AN AGREEMENT CONSISTENT WITH THE SCOPE OF SERVICES ATTACHED AS EXHIBIT "A;" AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Village of Key Biscayne, Florida (the "Village") recently sought proposals for the preparation of a stormwater master plan through a competitive bidding process; and

WHEREAS, after careful review of the competitive bids submitted, the Village wishes to engage Tetra Tech ("Tetra") for the preparation of a stormwater master plan; and

WHEREAS, the Village Council finds that this Resolution is in the best interest and welfare of the residents of the Village.

NOW, THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, AS FOLLOWS:

Section 1. Recitals Adopted. Each of the above stated recitals are hereby adopted, confirmed and incorporated herein.

Section 2. Tetra Selected. The Village Council hereby selects Tetra to prepare a stormwater master plan consistent with the scope of services attached as Exhibit "A" to this Resolution. If the Village and Tetra cannot negotiate a successful agreement, the Village Manager shall terminate any negotiations with Tetra and begin negotiations with the next highest ranked bidder.

Section 3. Village Manager Authorized. The Village Manager is hereby authorized to negotiate and execute an agreement with Tetra consistent with the scope of services attached as

Exhibit "A", subject to approval as to form and legal sufficiency by the Village Attorney.

Section 4. Effective Date. This Resolution shall be effective immediately upon adoption.

PASSED AND ADOPTED this ____ day of September, 2010.

MAYOR ROBERT L. VERNON

ATTEST:

CONCHITA H. ALVAREZ, MMC, VILLAGE CLERK

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

VILLAGE ATTORNEY

**WORK AUTHORIZATION PURSUANT TO THE AGREEMENT
FOR PROFESSIONAL ENGINEERING SERVICES BETWEEN
VILLAGE OF KEY BISCAYNE AND TETRA TECH**

DATE: September 7, 2010

WORK AUTHORIZATION FOR PROFESSIONAL SERVICES

PROJECT NO. _____ **(KEY BISCAYNE)**

TITLE: **STORMWATER MASTER PLAN & FLOOD PLAIN
MANAGEMENT PLAN UPDATE (ONE-TIME SERVICES)**

I. INTRODUCTION:

Tetra Tech (Tt) is pleased to provide professional engineering services for the above referenced project. This project provides the update to the existing Stormwater Master Plan (SMP) adopted by the VILLAGE of Key Biscayne in 1993, prepared by Tetra Tech (formerly Williams, Hatfield & Stoner) and the Floodplain Management Plan (FMP) which was adopted by the Village in March of 1998. It is one of the many components required by the Community Rating System (CRS) in order to obtain credit for the 5-year CRS Cycle Recertification.

The purpose of this scope of work is for Tetra Tech (CONSULTANT) to provide engineering services to assist the VILLAGE in maintaining compliance with the requirements of the NPDES program and to improve the rating from a Class 7 to a Class 6 community by updating the Floodplain Management Plan.

In addition, this scope includes tasks for the CONSULTANT to conduct a hydrologic and hydraulic (H&H) model of the Village's stormwater conveyance system. This model will be used to assess the Village's system to determine and prioritize upgrades that may be necessary.

The scope of work included in this proposal is as follows:

II. SCOPE OF SERVICES:

Task 1 – Data Gathering

Tetra tech will gather the necessary data by completing the following items:

1. Coordination with Miami-Dade County DERM staff to include improvements that have been completed by the County that were part of the VILLAGE's Master Stormwater Management Plan (SMP). An example of this improvement includes Crandon Boulevard.

2. Conduct a review of public works files to assess the completion of all Capital Improvement Projects (CIPs) and Repair and Replacement Projects (R&R) that have been completed from the date of the SMP through December 2008.
3. Coordination with VILLAGE Public Works and other contacts that have provided design and construction administration services for CIP projects completed since the previous SWMP was adopted to ascertain status of projects.
4. Coordination with FEMA to determine how many LOMRs may have been filed in the vicinity of the VILLAGE that do not show up on current FEMA flood maps.
5. CONSULTANT is in possession of construction drawings and a small amount of as-built drawings of the Villages stormwater conveyance system west of Crandon Boulevard. In addition, the CONSULTANT has a partial set of as-built construction drawings for portions of the stormwater conveyance system on the east side of Crandon Boulevard.
6. Using the data in Item 5 above, the CONSULTANT will determine how much of the Village's existing stormwater conveyance system must be surveyed so that the data can be used in the H&H model.
7. Obtain LiDar aerials from Dade County.

Task 2 – Meetings

The services in this item are as follows:

1. For the purpose of this proposal, Tt has budgeted to conduct two (2) meetings with the VILLAGE during the course of preparing the update to the SMP and FMP. One meeting will be conducted to discuss comments made on the first draft of the document and a follow-up meeting will be held at the VILLAGE to discuss the VILLAGE's comments on the final drafts.
2. One (1) meeting to present to the VILLAGE Council for adoption.
3. Two (2) meetings with outside consultants to gather their information and to supplement any information that may be missing from the VILLAGE's files.
4. Services for subsequent meetings that may be requested by the VILLAGE are not accounted for in this proposal. Should the VILLAGE request any further meetings, Tt will amend this agreement as needed to cover them.
5. Meeting with Miami-Dade CRS Coordinator to discuss the City's goals and objectives.

Task 3 – Stormwater Master Plan Update

1. Updated Studies Compilation

Since the adoption of the SMP and FMP, there have been numerous adjustments to the CIP & R&R projections, many projects have been completed, floodplain investigations initiated and a revised VILLAGE-wide Atlas prepared, new localized flooding areas identified, grants awarded, and lots of public feedback through council meetings. CONSULTANT will capture this updated information and provide the following updates in one bound notebook, as a minimum to meet FEMA standards for maximum CRS credit consideration as identified in Section 450 of the NFIP/CRS Coordinator's Manual:

- A. Revised floodplain mapping and Atlas (as exists)
- B. Review hydrologic calculations and use for H&H modeling. Adjust sub-basin delineation using data collected above.
- C. Revised CIP list and 5-year schedule (as recently developed)
- D. Revised R&R list and 5-year schedule (as recently developed, but with some modifications upon review of what project remains from the original studies and discussions with VILLAGE staff).
- E. Summary of permit conditions requiring mitigation compliance and inspection. Permits will be obtained from the VILLAGE during Tasks 1 above. Tetra Tech will also obtain permit information from the SFWMD.
- F. Revised map (Atlas sheet) indicating status of retrofit construction projects (as exists with some investigation to update).
- G. Revised map showing location of all stormwater pump stations (new exhibit).
- H. Identification of infrastructure inventory map and stormwater Atlas (list of new public stormwater infrastructure) adding to the existing database. Revising the existing Stormwater infrastructure map to include all identified new infrastructure (from recent developments) is not included.
- I. Map showing potential problem lots in the VILLAGE (as exists). Using the existing overall base map prepared by CONSULTANT.
- J. Map showing the CIP projects recently completed (since 1995) (new exhibit).
- K. Compilation of available water quality data reports to date for the VILLAGE including those we have obtained from other sources (new exhibits).

- L. List of the recently updated preliminary opinions of probable costs for CIPs in 1993 adopted SWP which have not been constructed. (as recently updated).
- M. Update and status of NPDES Program and Implementation (from existing Annual Report).
- N. Summary of Grant Applications submitted and actual grants received including amount obtained and status of projects (since 1995).

2. **H&H Modeling**

The CONSULTANT will utilize the InfoSWMM 9.0 software to model the VILLAGE's stormwater conveyance system. Below is a summary of the steps CONSULTANT will use to complete this task:

- A. The LiDar aerials obtained in Task 1 above will be set on the NAVD 88 datum. However, most of the structure data in the documents for the City is based on the NGVD 29 datum. The CONSULTANT will, using the appropriate factors for this area, adjust the structure data to be consistent with the NAVD 88 datum on the LiDar aerials
- B. Using the InfoSWMM software, CONSULTANT will develop sub-catchment basins for the VILLAGE's catch basins and drainage basins.
- C. CONSULTANT will perform calculations to develop the hydrologic parameters necessary to create surface water runoff hydrograph simulations.
- D. The connectivity between the pipes and structures will be established.
- E. CONSULTANT will use critically high tidal elevations in the bay as the tailwater condition for the H&H model.
- F. Process models and summarize results.

3. **Ranking**

- A. CONSULTANT will establish a prioritization and ranking methodology for the VILLAGE to apply to capital improvement projects.

4. **Capital Improvement Projects**

- A. CONSULTANT will identify three (3) capital improvement projects based on results from the H&H model conducted above.

- B. For each of the three (3) identified projects, the CONSULTANT will identify three (3) alternative solutions and conduct a preliminary cost to benefit analysis for each.
- C. Using the prioritization methodology developed in Task 3.3 above, the CONSULTANT will prioritize the identified projects.
- D. CONSULTANT will complete a conceptual design, representing approximately 10% completion, to illustrate the recommended improvements. The concepts will be presented on 11"x17" figures.
- E. CONSULTANT will provide the VILLAGE recommendations of which projects to develop and implement.

5. Financial Snapshot Review of the VILLAGE's Stormwater Management Plan

- A. CONSULTANT will prepare a summary financial snapshot of the known revenues and costs summarized above and compare in an Executive Financial Summary. Costs will be based on the VILLAGE's five (5) year CIP.
- B. CONSULTANT will identify funding sources and preparation of applications for local, State or Federal Grants available to assist in financing the costs for the above services,

6. Local Regulations

- A. CONSULTANT will evaluate and update all Local Regulations that pertain to the mitigation of hurricane and flooding hazards, including analysis of issues, for opportunities and formulation of proposals with respect to the existing provisions related to "Base Flood Elevations", "Substantial Improvements", Flood Insurance Rate Maps (FIRM) and the consideration of a Freeboard Regulation for the VILLAGE.

7. Report Update

- A. These reports will be submitted in the form of a preliminary design report summarizing the work efforts undertaken to complete the tasks above. They will be completed as a supplement to the VILLAGE's 1993 adopted Stormwater Management Plan and Floodplain Management Plan. Tetra Tech will prepare the report as a separate, bound document. The conclusion section will provide a snapshot of the known revenue and cost projections. The revised final reports incorporating comments will be presented to the VILLAGE Council for adoption.

Task 4 – Floodplain Management Plan Update

- A. The CONSULTANT will conduct a thorough review of the VILLAGES adopted FMP.
- B. The CONSULTANT will assess, through coordination with the VILLAGE and Miami-Dade CRS Coordinator, the most beneficial approach to maximize the credit that could be obtained. The CONSULTANT will implement these updates into the FMP document.

Task 5 - CRS 5-year Cycle

The CONSULTANT will assist the VILLAGE in preparation for the 5-year Cycle Verification in order to upgrade the rating from a Class 7 to a Class 6 community by completing the tasks listed hereunder. The Annual Report will be due in draft version on September 21, 2010 and in final version on September 28, 2010 for submittal to FEMA by October 1, 2010. This scope of work will include the following items:

1. Meetings

- A. For the purpose of this proposal, CONSULTANT has budgeted to conduct two (2) meetings with the VILLAGE during the course of preparing the 5-year Cycle Report. One meeting will be conducted to discuss comments made on the first draft of the document and a follow-up meeting will be held at the VILLAGE to discuss the VILLAGE's comments on the final draft.
- B. Attendance at one (1) coordination meeting with the ISO/CRS Specialist and the VILLAGE. During the meeting, the CONSULTANT will assist the VILLAGE in providing the documentation to be reviewed and respond to questions regarding the VILLAGE's program and activities that have been implemented.

2. Credit Activities

The services under this item will include compilation of the documentation, as prepared and provided by the VILLAGE, for the following Activities as defined in the FEMA CRS Coordinator's Manual, latest edition:

- A. Activity 310 - Elevation Certificates
 - a. SFHA areas after CRS 2006
 - b. Post-FIRM between 1994 and 2006
 - c. Pre-FIRM before 1994
 - d. PDF format
 - e. Website
 - f. Off-site Record Storage (ORS)
- B. Activity 340 - Disclosure of Flood Hazards

- a. Disclosure of flood hazard
 - b. Other disclosure requirements
 - c. Real Estate agent's brochure
 - d. Disclosure of other hazards
- C. Activity 440 - Flood Data Maintenance
- a. Additional Map Data
 - b. Benchmark Maintenance
 - d. FIRM copies
- D. Activity 450 - Stormwater Management
- a. SWM regulations
 - b. Storm Water Master Plan Update (under separate proposal)
 - d. Erosion & Sedimentation control regulations
- E. Activity 510 - Floodplain Management Plan
- a. Update Floodplain Map (under separate proposal)
 - b. Repetitive Loss Area Analysis (under separate proposal)
- F. Activity 540 - Drainage System Maintenance
- c. Coastal erosion protection maintenance

3. Report Preparation

One draft of the report will be prepared for VILLAGE review and comment. One (1) certified hard copy of the final report will be provided to the VILLAGE and FEMA each signed by a Certified Floodplain Manager.

Task 6 – Deliverable and Reimbursable expenses

- (1) Nine (9) copies of bound SWMP report update.
- (2) Includes Cost of Reproduction
- (3) Cost of postage and delivery included for distribution of nine (9) copies of report to the VILLAGE.
- (4) PDF of updated GIS maps.

III. ASSUMPTIONS/EXCLUSIONS:

Additional Services that may be requested by the VILLAGE are not accounted for in this proposal. Should the VILLAGE request any permitting, design, geotechnical or ecological investigations, CONSULTANT will amend this agreement as needed to cover them. Searching for, formatting and/or creating requested documents is also excluded. Reproduction or mailing of any program literature is not included and assumed to be performed and distributed by the VILLAGE.

IV. COMPENSATION:

Tetra Tech proposes to accomplish the work for a lump sum fee of **\$143,342**. Construction Services can be provided by Tetra Tech on an hourly basis. Our rates will be per the attached Tetra Tech billing rate schedule. The breakdown of our fee is as follows:

	<u>Sub Costs</u>	<u>Total Costs</u>
Task 1- Data Gathering		\$ 13,056
Task 2 - Meetings		\$ 5,151
Task 3 - Stormwater Master Plan Update		\$ 82,609
Update Studies Compilation	\$14,087	
H&H Modeling and GIS Data Migration	\$29,761	
Ranking Methodology	\$ 1,700	
Capital Improvement Projects	\$ 1,942	
Financial Snapshot Review	\$ 5,605	
Local Regulations Review and Amendments	\$ 4,117	
Update SMP	\$25,398	
Task 4 - FMP Update		\$ 30,313
Task 5 - CRS 5-year Cycle		\$ 7,692
Meetings	\$ 1,758	
Credit Activities	\$ 2,986	
Report Preparation	\$ 2,948	
Task 6 - Reimbursable Expenses and ODCs		\$ 4,500
Total Lump Sum		<u>\$143,342</u>

V. SCHEDULE:

Our work will begin as soon as this Work Authorization is executed. The above described work for the One-Time Services will be accomplished within 16 weeks of acceptance of this proposal pending availability of required documentation.

The CRS Recertification Report will be submitted to FEMA by October 1, 2010. The draft submittals of the Stormwater Master Plan Update and the Floodplain Management Plan Update will be submitted to the Village Council for review by December 7, 2010. A special Village Council session may be required in order to provide Council review time and ensure documentation of presentation to Council before December 31, 2010.

If this proposal is acceptable to you, please sign below and return one copy to our office so that we may proceed. Thank you for the opportunity to serve you.

IN WITNESS WHEREOF, the Village of Key Biscayne, represented by signature of the Village Manager and Tetra Tech, Inc. (CONSULTANT) has executed this Work Authorization as of the day and year written below:

ACCEPTED AND AGREED

VILLAGE OF KEY BISCAYNE

TETRA TECH

Genaro Chip Iglesias
Village Manager
88 West McIntyre Street
Key Biscayne, Florida 33149

Alicia M. Vereas-Feria
Alicia M. Vereas-Feria, E.I.
Client Manager

Date: _____

Date: _____

Roderick K. Cashe, P.E.
Sr. Project Manager

Date: _____

Cc: Armando Nunez, VKB PWD
William Musser, P.E., VP
Jennifer Woodall, P.E., VP
Ken Caban
Sally Alfieri, Tt
Accounting

