

**PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS
AGENDA ITEM SUMMARY**

Meeting Date: August 19, 2014 (X) Consent () Regular
() Ordinance () Public Hearing

Department

Submitted By: Environmental Resources Management

Submitted For: Environmental Resources Management

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to:

A) approve an Estuary Habitat Restoration Program Cooperative Agreement with the Department of the U.S. Army Corps of Engineers (USACE) to implement a federally funded grant for \$757,800 towards the construction of the Grassy Flats Restoration Project within the Lake Worth Lagoon through December 2019;

B) approve a Budget Amendment of \$757,800 in the Environmental Enhancement Non-Specific Fund (1225) to recognize this Agreement; and

C) authorize the County Administrator, or his designee, to sign all future time extensions, task assignments, certifications, and other forms associated with this contract that do not significantly change the scope of work, terms, or conditions of the Agreement.

D) authorize Work Supplement No. 1825-01B to build a portion of Grassy Flats Restoration Project for an amount not to exceed \$376,964.17 in accordance with Palm Beach County Annual Dune & Wetlands Restoration Project No. 2013ERM01 Contract (R2013-1825) with Eastman Aggregate Enterprises, LLC (Eastman).

E) authorize the County Administrator, or his designee, to sign Work Supplement No. 1825-01B.


Summary: The Cooperative Agreement provides federal funding to reimburse the County up to \$757,800 for transportation and placement of sand to cap muck sediments and limestone rock to create a breakwater to protect the wetland island at the Grassy Flats project site. The County is providing \$453,385 as match. Work Supplement No. 1825-01B will generate additional fill to complete the Grassy Flats Restoration Project. District 7 (SF)

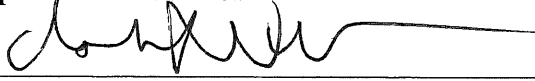
Background and Justification: Grassy Flats Restoration was ranked number one nationwide by The Estuary Habitat Restoration Council. The project will restore and enhance nearly 20 acres of critical shallow seagrass, mangrove, and tidal marsh habitat through capping muck sediments. The County has been awarded a \$757,800 grant award for this project.

An estimated 30,000 cubic yards of fill will be required to complete the muck capping process at Grassy Flats. Eastman will excavate fill from Okeeheelee Park South for transport and placement at the project site. The removal of fill from Okeeheelee Park will assist County Parks and Recreation in the ongoing construction of freshwater wetlands and lakes as mitigation.

Attachments:

- 1. Cooperative Agreement
- 2. Budget Amendment (1225)

Recommended by:  7-29-14
Department Director **Date**

Approved by:  7/28/14
County Administrator **Date**

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

| Fiscal Years | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------------------------|-------------------------|-------|-------|-------|-------|
| Capital Expenditures | _____ | _____ | _____ | _____ | _____ |
| Operating Costs | <u>\$1,211,185</u> | _____ | _____ | _____ | _____ |
| External Revenues | <u>(\$757,800)</u> | _____ | _____ | _____ | _____ |
| Program Income (County) | _____ | _____ | _____ | _____ | _____ |
| In-Kind Match (County) | <u>\$453,385</u> | _____ | _____ | _____ | _____ |
| NET FISCAL IMPACT | <u>\$453,385</u> | _____ | _____ | _____ | _____ |

ADDITIONAL FTE
POSITIONS (Cumulative)

Is Item Included in Current Budget? Yes ___ No X
 Budget Account No.: Fund ___ Agency ___ Org. ___ Object ___
 Program Code _____

B. Recommended Sources of Funds/Summary of Fiscal Impact

| | | |
|-----------|---|-----------|
| \$757,800 | USACE Cooperative Agreement (CFDA 12.130) | 1225-3080 |
| \$453,385 | Manatee Protection Program | 1226-3080 |

C. Department Fiscal Review:

AP

III. REVIEW COMMENTS

A. OFMB Fiscal and/or Contract Administrator Comments:

| | |
|---|--|
| <p><i>[Signature]</i> 8/1/2014 _____ OFMB <i>K/AD JB MK</i> 730 SC 7/31/14</p> | <p><i>[Signature]</i> 8/4/14 _____ Contract Administrator 3-4-14 <i>[Signature]</i></p> |
|---|--|

B. Legal Sufficiency:

[Signature]

 Assistant County Attorney

C. Other Department Review:

 Department Director

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Recommended by: [Signature] 7-29-14
Department Director Date

Approved by: _____
County Administrator Date

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| NET FISCAL IMPACT | <u>\$453,385</u> | _____ | _____ | _____ | _____ |

ADDITIONAL FTE
POSITIONS (Cumulative)

Is Item Included in Current Budget? Yes _____ No X
Budget Account No.: Fund__ Agency__ Org.____ Object____
Program Code _____

B. Recommended Sources of Funds/Summary of Fiscal Impact

| | | |
|-----------|---|-----------|
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| \$453,385 | Manatee Protection Program | 1226-3080 |

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III. REVIEW COMMENTS

A. OFMB Fiscal and /or Contract Administrator Comments:

OFMB

Contract Administrator

B. Legal Sufficiency:

Assistant County Attorney

C. Other Department Review:

Department Director

ATTACHMENT I

**DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, JACKSONVILLE
P.O. Box 4970
Jacksonville, FL 32232-0019**

**ESTUARY HABITAT RESTORATION PROGRAM
COOPERATIVE AGREEMENT
FOR
THE GRASSY FLATS ESTUARINE HABITAT RESTORATION PROJECT**

This Cooperative Agreement (CA) is entered into this _____ day of _____, _____, by and between the Department of the Army (hereinafter the "Government"), represented by the Grants Officer Jacksonville District and the Palm Beach County Board of County Commissioners (hereinafter the "Recipient"), represented by its Mayor.

- 1. Cooperative Agreement Title:** Grassy Flats Estuarine Habitat Restoration Project
- 2. Cooperative Agreement Number:**
- 3. Recipient Name and Address:**
Palm Beach County Board of County Commissioners
2300 North Jog Road
4th Floor
West Palm Beach, FL 33411-2743
- 4. Tax ID No:** 59-6000785
DUNS No: 0784704810000
CAGE Code: 1RFV4
- 5. Recipient Program Manager:**
Julie O. Bishop, Environmental Program Supervisor
561-223-2400; jbishop@pbcgov.org
- 6. Recipient Administrative POC:**
Eric Anderson, Environmental Analyst
561-233-2514; eanderson1@pbcgov.org
- 7. Grants Officer:**
Philip Mauldin, Contracting Officer
P.O. Box 4970
Jacksonville, FL 32232-0019
904-232-1240; facsimile: 904-232-2748 philip.m.mauldin@usace.army.mil

8. Grants Officer's Technical Representative (GOTR):

Jesse Lugo, Contracting Officer
P.O. Box 4970
Jacksonville, FL 32232-0019
904-232-1051; Jesse.Lugo@usace.army.mil

9. Statement of Work:

The work to be accomplished is described in Palm Beach County, Florida's Proposal titled Grassy Flats Estuarine Habitat Restoration Project and dated February 8, 2013 incorporated herein as "Attachment A" and the Project Management Plan (PMP) incorporated herein as "Attachment B".

10. Period of Performance: Date of Award through December 2019.

11. Award Amount:

\$757,800 (The approved \$842,000 is reduced by \$84,200 to be used for USACE's management, administrative, and oversight costs).

12. Authority:

This Cooperative Agreement is authorized by the Estuary Restoration Act of 2000, Public Law 106-457, as amended (33 U.S.C. § 2901). The source of USACE funds for this agreement is the Energy and Water appropriations for the Estuary Restoration Program.

13. Accounting and Appropriation Data:

Funding in the amount of \$757,800 is being provided upon award.
Appropriation Code 96X3122 737

14. Administered by:

U.S. Army Engineer District, Jacksonville
Attn: Programs and Projects Management Division
P.O. Box 4970
Jacksonville, FL 32232-0019

15. Terms and Conditions:

This Cooperative Agreement is subject to the specific terms and conditions set forth in this Cooperative Agreement, including the attachments as listed below,

- a. Attachment A, the Project Proposal, Grassy Flats Estuarine Habitat Restoration, containing the scope of work; and the final monitoring plan (attachment E) approved in accordance with the Project Management Plan (attachment B) are attached and made a part hereof.
- b. Attachment B, the Project Management Plan containing additional information regarding responsibilities and schedules of work and payment is attached hereto and made part hereof.
- c. Attachment C, containing standard terms and conditions of this Cooperative Agreement is attached hereto and made part hereof.
- d. Attachment D, containing certifications and representations is attached hereto and made a part hereof.
- e. Attachment E, the approved monitoring plan will be attached hereto and made a part hereof upon approval prior to the initiation of construction, in accordance with the Project Management Plan.
- f. Attachment F, the approved Operation and Maintenance Manual will be attached hereto and made a part hereof upon approval prior to the completion of construction, in accordance with the Project Management Plan.
- g. Attachment G, Documentation of Required Real Estate will be attached hereto and made a part hereof upon approval in accordance with the Standard Conditions.
- h. Notwithstanding the recipient's technical and cost proposals, the Government's obligation to the recipient is restricted to the funding stated in Paragraph 11.
- i. Replacement of key personnel shall require a two-week prior notification, if possible, to the Grant Officer's Technical Representative in Paragraph 8. If a two week notification is not possible, notification of replacement of any personnel is required as soon as the situation arises. Replacement personnel shall possess not less than an equivalent education/experience level than the originally proposed individual.

16. Reporting Requirements: Reporting requirements are pursuant to the requirements in Attachment B and Sections 7 and 8 of General Terms and Conditions (Attachment C). Final performance reports are due within 60 calendar days of the expiration of the period of performance, or completion of the final post construction monitoring, whichever occurs first.

17. Payments: Payments will be made pursuant to the schedule in the PMP and Section 1 of Attachment C. Payments will be made by Electronic Funds Transfer (EFT).

Standard Form 271 shall reference the Cooperative Agreement number in Paragraph 2. Submit original SF 271s to the Administration Office listed in Paragraph 14. Submit copies to the GOTR listed in Paragraph 8.

The Administration Office represented by the Project Manager will review the SF 271 and notify the GOTR of the amount requested by the recipient. Within five (5) work days of notification of the Recipient's payment request, the GOTR will make payment recommendations to the Administration Office based on the Recipient's progress to-date.

18. Government Participation: The Government's technical contribution towards this effort will include technical management, responsibility for any Federal environmental compliance documents, review and approval of planning and design documents and construction, and overall supervision. The Administration Office will coordinate with the GOTR regarding any changes in scope, schedule or cost.

FOR THE RECIPIENT:

The Honorable Priscilla A. Taylor
Mayor, Palm Beach County

DATE: _____


FOR THE UNITED STATES OF AMERICA:

Philip M. Mauldin
Grants Officer
United States of America

DATE: _____

**APPROVED AS TO FORM
AND LEGAL SUFFICIENCY**

ASSISTANT COUNTY ATTORNEY DATE

 7-29-11
**APPROVED AS TO TERMS
AND CONDITIONS.**

ATTACHMENT 2

Attachment A - Approved Proposal



DEPARTMENT OF THE ARMY
OFFICE OF THE ADMINISTRATIVE ASSISTANT
105 ARMY PENTAGON
WASHINGTON DC 20310-0105

19 SEP 2013

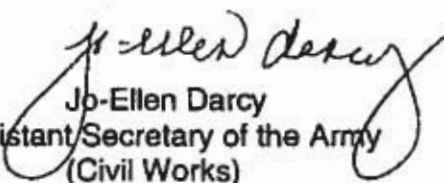
**MEMORANDUM FOR THE DEPUTY COMMANDING GENERAL FOR CIVIL AND
EMERGENCY OPERATIONS**

**SUBJECT: Estuary Restoration Act of 2000, As Amended - Estuary Habitat Restoration
Program Project Recommendations for 2013**

The Estuary Habitat Restoration Council has identified a prioritized list of twelve new projects (Enclosure 1) and has recommended that I consider them for approval and funding by this office. I concur with the recommendation that all 12 projects be included on the list of projects approved for implementation by all parties involved, however, the Corps may only move forward to implement those projects for which the Corps has sufficient funds. As of the date of this memorandum this means the first 8 projects.

As we continue our collaborative effort on these important projects, please continue to work with all of the agencies involved and encourage them to similarly support and fund estuary restoration projects. In order to more efficiently implement the Act, the use of cooperative agreements is encouraged.

Please do not hesitate to contact me if you have questions. Your staff may contact Mr. Chip Smith at 703-693-3655.


Jo-Ellen Darcy
Assistant Secretary of the Army
(Civil Works)

2 Enclosures

- 1. Estuary Habitat Restoration Council list of ERA Habitat Restoration Proposals recommended for funding**
- 2. Project summaries for the 12 recommended projects in rank order.**

| 2013 RECOMMENDED PROJECT LIST | | | | | |
|-------------------------------|--|---|-------|--|-------------|
| Rank | Project Title | Applicant Name | State | Acreage and Habitats | ERA Request |
| 1 | Grassy Flats Estuarine Habitat Restoration | Palm Beach County Board of County Commissioners | FL | 19.8 seagrass, 0.3 mangrove, 1.1 tidal marsh, 0.3 tidal flat and 0.6 oyster reef | \$842,000 |
| 2 | Humboldt Bay Invasive Species Eradication | Humboldt Bay Harbor, Recreation and Conservation District | CA | 80 tidal marsh | \$299,000 |
| 3 | Eelgrass Restoration in Puget Sound | Washington State Department of Natural Resources | WA | 3,700 subtidal | \$1,000,000 |
| 4 | Cedar Beach Creek Habitat Restoration Demonstration Project | Cornell Cooperative Extension of Suffolk County | NY | 19.5 salt marsh, 1.7 seagrass meadow, and 3.0 open water | \$410,904 |
| 5 | Oyster Restoration for Ecosystem Services and Fish Habitat in Great Bay Estuary | The Nature Conservancy | NH | 10 oyster reef | \$494,275 |
| 6 | Restoration of Historically Degraded Eelgrass and Bay Scallops to the Coastal Bays of Virginia | Virginia Institute of Marine Science, College of William and Mary | VA | 50 eelgrass | \$728,696 |
| 7 | Community-Based Restoration of Eelgrass in Frenchman Bay | Mount Desert Island Biological Laboratory | ME | 214 eelgrass | \$238,847 |
| 8 | St. Lucie River Oyster Reef Habitat Restoration | Martin County Board of County Commissioners | FL | 2 oyster reefs | \$205,240 |
| 9 | Deadman's Island Restoration Fish Habitat Breakwater | City of Gulf Breeze | FL | 3 salt marsh, 1 dune, 5 water column, 2 soft bottom, and 10 upland | \$640,000 |
| 10 | Farm Pond Restoration | Town of Oak Bluffs | MA | 15 salt marsh and 35 salt pond | \$1,000,000 |
| 11 | Middle Island Restoration /Massey's Ditch Beneficial Re-Use | Delaware Center for the Inland Bays, Inc. | DE | 5 salt marsh and 5 upper island habitat | \$1,000,000 |
| 12 | Round Hill Salt Marsh Restoration | Town of Dartmouth | MA | 11.6 salt marsh | \$1,000,000 |

RANK: 1

**ESTUARY RESTORATION ACT OF 2000
FY2013 SOLICITATION PROJECT SUMMARY**

NAME: Grassy Flats Estuarine Habitat Restoration Project

LOCATION: Lake Worth Lagoon, Florida, USA

ACRES: 22.1 acres (19.8 submerged aquatic vegetation, 1.1 saltmarsh, 0.6 oyster reef, 0.3 mangrove wetlands, and 0.3 tidal flat)

NON-FEDERAL SPONSOR: Palm Beach County

PROJECT COST:

| | |
|-------------------------------------|-------------|
| Total Project Cost | \$2,660,309 |
| Total Federal Share of Project Cost | 65% |
| ERA amount | \$842,000 |
| Other Federal funds | \$887,142 |
| Non-federal Match | \$931,167 |

PROJECT DESCRIPTION:

This project will cap anoxic, fine-grained organic sediments (i.e., muck) resulting in the restoration and enhancement of 22 acres of critical estuarine habitat. This project will restore and enhance seagrass habitat by capping approximately 30,000 cubic yards of muck sediment appropriate for seagrass recruitment and raising the elevation to depths appropriate for seagrass growth and by capping adjacent muck sediments, reducing turbidity, improving water quality, and providing for an increase in seagrass density. Also this project will restore tidal marsh, mangrove habitat, and tidal flat by capping muck with appropriate sediment at the elevations and planting some areas with smooth cordgrass (*Spartina alterniflora*), some areas with red mangroves (*Rhizophora mangle*), and allowing others areas to be unvegetated. Finally, the project will place limerock to promote oyster recruitment.

EXPECTED BENEFITS:

In addition to providing downstream water quality improvements and habitat for over 195 species of fish and 89 species of birds, including 19 Federal and State listed species, the project has been designed to improve ecosystem resiliency by maximizing carbon sequestration and allowing for a natural succession of habitat types as sea level rises.

PROJECT PARTNERS AND THEIR CONTRIBUTION VALUES:

| | |
|--|-----------|
| Palm Beach County Environmental Resources Management | \$920,073 |
| Florida Fish and Wildlife Commission | \$5,118 |
| West Palm Beach Fishing Club Volunteers | \$3,096 |
| Marine Industries Association Volunteers | \$2,880 |



Processing, please don't close the window until you receive a confirmation.

Grant Application Package

| | |
|-------------------------|--|
| Opportunity Title: | Estuary Habitat Restoration Program Project Solicitation |
| Offering Agency: | Dept. of the Army -- Corps of Engineers |
| CFDA Number: | 12.130 |
| CFDA Description: | Estuary Habitat Restoration Program |
| Opportunity Number: | USACE-EHR-001 |
| Competition ID: | |
| Opportunity Open Date: | 12/12/2012 |
| Opportunity Close Date: | 02/12/2013 |
| Agency Contact: | Ellen Cummings EHRP Manager E-mail: Ellen.M.Cummings@usace.army.mil Phone: 202-761-4570 |

This electronic grants application is intended to be used to apply for the specific Federal funding opportunity referenced here.

If the Federal funding opportunity listed is not the opportunity for which you want to apply, close this application package by clicking on the "Cancel" button at the top of this screen. You will then need to locate the correct Federal funding opportunity, download its application and then apply.

This opportunity is only open to organizations, applicants who are submitting grant applications on behalf of a company, state, local or tribal government, academia, or other type of organization.

* Application Filing Name:

Mandatory Documents

Move Form to Complete

Move Form to Delete

Mandatory Documents for Submission

Application for Federal Assistance (SF-424)
BUDGET INFORMATION - Construction Programs
Budget Information for Non-Construction Program

Optional Documents

Disclosure of Lobbying Activities (SF-LLL)

Move Form to Submission List

Move Form to Delete

Optional Documents for Submission

Instructions

- 1 Enter a name for the application in the Application Filing Name field.
 - This application can be completed in its entirety offline, however, you will need to login to the Grants.gov website during the submission process.
 - You can save your application at any time by clicking the "Save" button at the top of your screen.
 - The "Save & Submit" button will not be functional until all required data fields in the application are completed and you clicked on the "Check Package for Errors" button and confirmed all data required data fields are completed.
- 2 Open and complete all of the documents listed in the "Mandatory Documents" box. Complete the SF-424 form first.
 - It is recommended that the SF-424 form be the first form completed for the application package. Data entered on the SF-424 will populate data fields in other mandatory and optional forms and the user cannot enter data in these fields.
 - The forms listed in the "Mandatory Documents" box and "Optional Documents" may be predefined forms, such as SF-424, forms where a document needs to be attached, such as the Project Narrative or a combination of both. "Mandatory Documents" are required for this application. "Optional Documents" can be used to provide additional support for this application or may be required for specific types of grant activity. Reference the application package instructions for more information regarding "Optional Documents".
 - To open and complete a form, simply click on the form's name to select the item and then click on the => button. This will move the document to the appropriate "Documents for Submission" box and the form will be automatically added to your application package. To view the form, scroll down the screen or select the form name and click on the "Open Form" button to begin completing the required data fields. To remove a form/document from the "Documents for Submission" box, click the document name to select it, and then click the <= button. This will return the form/document to the "Mandatory Documents" or "Optional Documents" box.
 - All documents listed in the "Mandatory Documents" box must be moved to the "Mandatory Documents for Submission" box. When you open a required form, the fields which must be completed are highlighted in yellow with a red border. Optional fields and completed fields are displayed in white. If you enter invalid or incomplete information in a field, you will receive an error message.
- 3 Click the "Save & Submit" button to submit your application to Grants.gov.
 - Once you have properly completed all required documents and attached any required or optional documentation, save the completed application by clicking on the "Save" button.
 - Click on the "Check Package for Errors" button to ensure that you have completed all required data fields. Correct any errors or if none are found, save the application package.
 - The "Save & Submit" button will become active; click on the "Save & Submit" button to begin the application submission process.
 - You will be taken to the applicant login page to enter your Grants.gov username and password. Follow all onscreen instructions for submission.

| Application for Federal Assistance SF-424 | | |
|---|---|--|
| * 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application | * 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision | * If Revision, select appropriate letter(s): _____ * Other (Specify): _____ |
| * 3. Date Received: 02/05/2013 | 4. Applicant Identifier: _____ | |
| 5a. Federal Entity Identifier: _____ | 5b. Federal Award Identifier: _____ | |
| State Use Only: | | |
| 6. Date Received by State: _____ | 7. State Application Identifier: _____ | |
| 8. APPLICANT INFORMATION: | | |
| * a. Legal Name: Palm Beach County Board of County Commissioners | | |
| * b. Employer/Taxpayer Identification Number (EIN/TIN): 59-6000785 | * c. Organizational DUNS: 078470481000 | |
| d. Address: | | |
| * Street1: 2300 North Jog Road, 4th Floor | _____ | |
| Street2: | _____ | |
| * City: West Palm Beach | _____ | |
| County/Parish: | _____ | |
| * State: FL: Florida | _____ | |
| Province: | _____ | |
| * Country: USA: UNITED STATES | _____ | |
| * Zip / Postal Code: 33411-2743 | _____ | |
| e. Organizational Unit: | | |
| Department Name: Environmental Resources Mgmt. | Division Name: _____ | |
| f. Name and contact information of person to be contacted on matters involving this application: | | |
| Prefix: Ms. | * First Name: Julie | _____ |
| Middle Name: | _____ | |
| * Last Name: Mitchell | _____ | |
| Suffix: | _____ | |
| Title: Environmental Analyst | | |
| Organizational Affiliation: _____ | | |
| * Telephone Number: 561-233-2437 | Fax Number: 561-233-2414 | |
| * Email: jmitchell@pbcgov.org | | |

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

Bi: County Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

*** Other (specify):**

*** 10. Name of Federal Agency:**

Dept. of the Army -- Corps of Engineers

11. Catalog of Federal Domestic Assistance Number:

12.130

CFDA Title:

Estuary Habitat Restoration Program

*** 12. Funding Opportunity Number:**

USACE-EHR-001

*** Title:**

Estuary Habitat Restoration Program Project Solicitation

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

[Add Attachment](#)

[Delete Attachment](#)

[View Attachment](#)

*** 15. Descriptive Title of Applicant's Project:**

Grassy Flats Estuarine Habitat Restoration Project

Attach supporting documents as specified in agency instructions.

[Add Attachments](#)

[Delete Attachments](#)

[View Attachments](#)

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: b. Program/Project:

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

* a. Start Date: * b. End Date:

18. Estimated Funding (\$):

| | |
|---------------------|---|
| * a. Federal | <input type="text" value="1,729,142.00"/> |
| * b. Applicant | <input type="text" value="920,073.00"/> |
| * c. State | <input type="text" value="5,118.00"/> |
| * d. Local | <input type="text" value="0.00"/> |
| * e. Other | <input type="text" value="5,976.00"/> |
| * f. Program Income | <input type="text" value="0.00"/> |
| * g. TOTAL | <input type="text" value="2,660,309.00"/> |

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

a. This application was made available to the State under the Executive Order 12372 Process for review on .

b. Program is subject to E.O. 12372 but has not been selected by the State for review.

c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

Yes No

If "Yes", provide explanation and attach

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name:

Middle Name:

* Last Name:

Suffix:

* Title:

* Telephone Number: Fax Number:

* Email:

* Signature of Authorized Representative: * Date Signed:

BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 06/30/2014

SECTION A - BUDGET SUMMARY

| Grant Program Function or Activity (a) | Catalog of Federal Domestic Assistance Number (b) | Estimated Unobligated Funds | | New or Revised Budget | | |
|--|--|-----------------------------|--------------------|-----------------------|--------------------|-----------------|
| | | Federal (c) | Non-Federal (d) | Federal (e) | Non-Federal (f) | Total (g) |
| 1. Estuary Habitat Restoration Program Project | 12.130 | \$ | \$ | \$ 1,729,142.00 | \$ 931,167.00 | \$ 2,660,309.00 |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. Totals | | \$ | \$ | \$ 1,729,142.00 | \$ 931,167.00 | \$ 2,660,309.00 |

SECTION B - BUDGET CATEGORIES

| 6. Object Class Categories | GRANT PROGRAM, FUNCTION OR ACTIVITY | | | | Total (5) |
|--|---|-----|-----|-----|-----------------|
| | (1) | (2) | (3) | (4) | |
| | Estuary Habitat Restoration Program Project | | | | |
| a. Personnel | \$ 352,995.00 | \$ | \$ | \$ | \$ 352,995.00 |
| b. Fringe Benefits | 1,164.00 | | | | 1,164.00 |
| c. Travel | 0.00 | | | | |
| d. Equipment | 0.00 | | | | |
| e. Supplies | 0.00 | | | | |
| f. Contractual | 2,305,383.00 | | | | 2,305,383.00 |
| g. Construction | 0.00 | | | | |
| h. Other | 0.00 | | | | |
| i. Total Direct Charges (sum of 6a-6h) | 2,659,542.00 | | | | \$ 2,659,542.00 |
| j. Indirect Charges | 767.00 | | | | \$ 767.00 |
| k. TOTALS (sum of 6i and 6j) | \$ 2,660,309.00 | \$ | \$ | \$ | \$ 2,660,309.00 |
| 7. Program Income | \$ | \$ | \$ | \$ | \$ |

SECTION C - NON-FEDERAL RESOURCES

| | (a) Grant Program | (b) Applicant | (c) State | (d) Other Sources | (e) TOTALS |
|-------------------------------|-------------------------------------|---------------|-------------|-------------------|---------------|
| 8. | Estuary Habitat Restoration Program | \$ 920,073.00 | \$ 5,118.00 | \$ 5,976.00 | \$ 931,167.00 |
| 9. | | | | | |
| 10. | | | | | |
| 11. | | | | | |
| 12. TOTAL (sum of lines 8-11) | | \$ 920,073.00 | \$ 5,118.00 | \$ 5,976.00 | \$ 931,167.00 |

SECTION D - FORECASTED CASH NEEDS

| | Total for 1st Year | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|------------------------------------|--------------------|---------------|---------------|---------------|---------------|
| 13. Federal | \$ 1,729,142.00 | \$ 432,285.50 | \$ 432,285.50 | \$ 432,285.50 | \$ 432,285.50 |
| 14. Non-Federal | \$ 931,167.00 | 232,791.75 | 232,791.75 | 232,791.75 | 232,791.75 |
| 15. TOTAL (sum of lines 13 and 14) | \$ 2,660,309.00 | \$ 665,077.25 | \$ 665,077.25 | \$ 665,077.25 | \$ 665,077.25 |

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

| | (a) Grant Program | FUTURE FUNDING PERIODS (YEARS) | | | |
|----------------------------------|-------------------|--------------------------------|------------|-----------|------------|
| | | (b) First | (c) Second | (d) Third | (e) Fourth |
| 16. | | \$ | \$ | \$ | \$ |
| 17. | | | | | |
| 18. | | | | | |
| 19. | | | | | |
| 20. TOTAL (sum of lines 16 - 19) | | \$ | \$ | \$ | \$ |

SECTION F - OTHER BUDGET INFORMATION

| | | | |
|---------------------|--|-----------------------|--|
| 21. Direct Charges: | | 22. Indirect Charges: | \$767 is associated with FWC mgmt. of NCMCGP grant |
| 23. Remarks: | | | |

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

| COST CLASSIFICATION | a. Total Cost | b. Costs Not Allowable for Participation | c. Total Allowable Costs (Columns a-b) |
|---|-----------------|--|--|
| 1. Administrative and legal expenses | \$ 210,610.00 | \$ | \$ 210,610.00 |
| 2. Land, structures, rights-of-way, appraisals, etc. | \$ | \$ | \$ |
| 3. Relocation expenses and payments | \$ | \$ | \$ |
| 4. Architectural and engineering fees | \$ 50,300.00 | \$ | \$ 50,300.00 |
| 5. Other architectural and engineering fees | \$ 65,000.00 | \$ | \$ 65,000.00 |
| 6. Project inspection fees | \$ | \$ | \$ |
| 7. Site work | \$ | \$ | \$ |
| 8. Demolition and removal | \$ | \$ | \$ |
| 9. Construction | \$ 2,311,183.00 | \$ | \$ 2,311,183.00 |
| 10. Equipment | \$ | \$ | \$ |
| 11. Miscellaneous | \$ 23,216.00 | \$ | \$ 23,216.00 |
| 12. SUBTOTAL (sum of lines 1-11) | \$ 2,660,309.00 | \$ | \$ 2,660,309.00 |
| 13. Contingencies | \$ | \$ | \$ |
| 14. SUBTOTAL | \$ 2,660,309.00 | \$ | \$ 2,660,309.00 |
| 15. Project (program) income | \$ | \$ | \$ |
| 16. TOTAL PROJECT COSTS (subtract #15 from #14) | \$ 2,660,309.00 | \$ | \$ 2,660,309.00 |
| FEDERAL FUNDING | | | |
| 17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter eligible costs from line 16c Multiply X <input type="text" value="65"/> % Enter the resulting Federal share. | | | \$ 1,729,200.85 |

PROJECT SUMMARY

PROJECT NAME

Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon, Florida

NON-FEDERAL SPONSOR

Palm Beach County, 2300 N. Jog Road, 4th Floor, West Palm Beach, Florida 33411

SITE LOCATION

Palm Beach County, Florida, at 26°42'32.97" N. Latitude, -80°2'58.60" W. Longitude.

LANDOWNER

State of Florida, 3900 Commonwealth Boulevard, MS 100, Tallahassee, Florida 32399

PROJECT TIMELINE

| | |
|--------------------------------------|-----------------------------|
| Proposal submission | February 2013 |
| Development of cooperative agreement | May-August 2013 |
| Construction | December 2013-November 2014 |
| Post-construction monitoring | December 2014-July 2019 |

PROJECT COST

The total project cost for this proposal is \$1,295,385. \$842,000 in ERA funds is requested and will be matched with \$453,385 in Non-Federal funds. \$1,364,924 in additional Federal and Non-Federal funding is provided for a total project cost of \$2,660,309.

ACREAGE OF ESTUARINE HABITAT RESTORED

The total project is 22.1 acres, which includes 19.8 acres of submerged aquatic vegetation, 1.1 acres of salt marsh, 0.6 acre of oyster reef, 0.3 acre of mangrove wetlands, and 0.3 acre of tidal flat.

PROJECT DESCRIPTION

This cost-effective project will cap anoxic, fine-grained organic sediments (i.e. muck), resulting in the restoration and enhancement of 22 acres of critical estuarine habitat. In addition to providing downstream water quality improvements and habitat for over 195 species of fish and 89 species of birds, including 19 Federal and State listed species, the project has been designed to improve ecosystem resiliency by maximizing carbon sequestration and allowing for a natural succession of habitat types as sea level rises. The project is a partnership between Palm Beach County, the Florida Fish and Wildlife Commission, the West Palm Beach Fishing Club and the Marine Industries Association.

REGULATORY APPROVALS

| Agency | Permit Number | Status |
|---------------------------------|----------------|-----------------------------|
| S. FL Water Management District | 50-09957-P | Issued February 6, 2012 |
| U.S. Army Corps of Engineers | SAJ-2011-01156 | Issued January 3, 2013 |
| U.S. Coast Guard | N/A | Application to be submitted |

PROJECT NARRATIVE

BACKGROUND AND NEED

Overview of the Lake Worth Lagoon

The Lake Worth Lagoon (Lagoon) estuary in Palm Beach County (PBC) runs approximately 20 miles parallel to the southeast coastline of Florida (see attached location map). A barrier island separates the Lagoon from the Atlantic Ocean to which it is connected by two man-made inlets, separated by a distance of approximately 15.6 miles. Water depths range from less than one foot to dredged areas over 35 feet deep, with an average depth of six feet.

Lake Worth Lagoon Habitat Characterization

The primary habitat types in the Lagoon include seagrass (National Wetlands Inventory [NWI] code E1AB3L), mangrove (E2FO3N), tidal marsh (E2EM1N), tidal flat (E2US2N), and oyster reef (E2RF2N). Seagrass communities are highly productive, faunally rich, and ecologically important systems. They provide food, substrate, and shelter for thousands of species of flora and fauna, and also help stabilize sediments and maintain water clarity. In the Indian River Lagoon, an estuary just north of and ecologically similar to the Lake Worth Lagoon, the annual value of seagrass as related to fisheries is \$26,000/acre (FWC 2003) (adjusted for 3% annual inflation). During a 2007 mapping effort, 1,688 acres of seagrass habitat (representing approximately 22% of the total estuarine habitat) were identified in the Lagoon (PBCERM 2008b). Of the six seagrass species found in the Lagoon, *Halophila johnsonii* is one of the most abundant in terms of area of coverage. *H. johnsonii* is the only marine plant designated as a federally threatened species, and several designated critical habitat areas for this species are found in the Lagoon (RECOVER 2010; NMFS 2002). The Lake Worth Lagoon and Palm Beach County seagrass populations represent a coverage of *Halophila* species which is proportionately larger than any other location along the southeast coast of Florida (NMFS 2002).

Mangroves are an important source of primary production, and they provide nursery habitat for fish and wildlife, sequester carbon, and stabilize shorelines. Based on fisheries alone, the annual value of mangrove wetlands in the Indian River Lagoon is approximately \$2,200-\$3,800/acre (USFWS 1999) (adjusted for 3% annual inflation). In 2007, approximately 299 acres of mangroves (representing approximately 4% of the total estuarine habitat) were identified in the Lagoon (PBCERM 2008b).

Acting as ecosystem engineers, oysters provide nursery grounds, refugia, and foraging areas for a wide variety of birds and invertebrates (Coen *et al.* 1999a; Beck *et al.* 2011). As individual oysters filter 4 to 34 liters of water per hour, oyster reefs also have an essential role in maintaining water quality (Coen *et al.* 1999b). Newell *et al.* (2005) reported that one million oysters in the Chesapeake Bay can remove approximately 753 kg of nitrogen and 272 kg of phosphorous from the water column, on average, per year. In 2007, 4.2 acres of natural oyster reef were identified in the Lagoon (PBCERM 2008b).

Estuarine tidal marsh habitat is among the most productive habitat types in the world. Tidal marsh habitat plays a large role in the aquatic food web and in trapping and binding sediments. Restored tidal marshes produce up to 50 pounds of resident fish per acre annually, translating into trophic support for wading birds and larger game fish species (Bell 1997; Stevens *et al.* 2006). Along the east coast of Florida, the annual total life support value of tidal marshes,

Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon, Palm Beach County, Florida

including production of commercial and recreational fisheries, aquaculture, and waste treatment, is estimated to be approximately \$170,000/acre (Mager and Thayer 1986) (adjusted for 3% annual inflation). In 2007, 1.5 acres of tidal marsh, primarily vegetated with smooth cordgrass (*Spartina alterniflora*), were identified in the Lagoon (PBCERM 2008b).

Estuarine tidal flats are also highly productive areas, supporting a high biomass of micro- and infaunal organisms and recycling organic matter and nutrients from both terrestrial and marine sources. They are of great importance to large numbers of invertebrates and fish, supporting complex estuarine food webs and providing foraging and resting areas to large numbers of indigenous wading birds and migratory shorebirds.

Fish and Wildlife Utilization in the Lake Worth Lagoon

A wide variety of species exist in the Lagoon. Over 195 fish species have been identified, including commercially and recreationally valuable common snook (*Centropomus undecimalis*), red drum (*Sciaenops ocellatus*) and gray snapper (*Lutjanus griseus*) (PBCERM 2008a). An estimated 94% of commercially and recreationally important marine fish species in South Florida are dependent upon estuarine habitats during some stage of their life (Chambers 1991; Harris *et al.* 1983).

Several bird sanctuaries and rookeries are located in the Lagoon. A Lagoon-wide bird count conducted by PBCERM in 2004-2005 documented 89 species, including several threatened/endangered species and many Species of Special Concern (PBCERM 2008a; FWC 2011). During 2010-2011 post-construction surveys of the Ibis Isle Restoration Project, a PBCERM estuarine restoration project directly north of the proposed Grassy Flats project, 45 bird species were observed, including three endangered/threatened species and eight Species of Special Concern.

The Lagoon also provides major warm water refuge, foraging habitat, and travel corridors for federally endangered West Indian Manatees (*Trichechus manatus*). Manatees are observed year-round, with a significantly higher number observed during the winter season. Between February 2009 and March 2011, a total of 4,008 manatees were counted in the Lagoon during bi-monthly annual surveys with up to 800 individuals counted at one time (PBCERM 2011a; FPL 2011). Manatees feed primarily on seagrass, but they have also been observed foraging on smooth cordgrass at Snook Islands Natural Area and Ibis Isle, which share designs with and are in close proximity to the Grassy Flats project site.

Areas within the Lagoon that support high amounts of seagrass and algae are frequently used as developmental habitat by juvenile sea turtles. Federally endangered green sea turtles (*Chelonia mydas*) were observed 790 times, and federally threatened loggerhead sea turtles (*Caretta caretta*) were documented 9 times within the Lagoon from 2005-2011 (PBCERM 2011b; PBCERM 2011c). Preliminary results indicate that the dietary composition of green sea turtles in the Lagoon is predominately (97%) seagrass (PBCERM 2011b).

Of the 974 species that have been identified as having the greatest conservation need in Florida by the Florida Fish & Wildlife Conservation Commission (FWC), 200 are regularly found in, or are dependent on, one or more of the habitat types proposed by the Grassy Flats project (FWC 2005).

Problems and Issues Affecting the Lake Worth Lagoon

The most significant impacts to the Lagoon are the loss of intertidal and subtidal estuarine habitats as a result of extensive dredging and filling of wetlands along the shoreline, dredging of canals and channels, and the construction of seawalls, bridges, causeways, docks, marinas, a port, and a power plant. All five habitat types that will be restored by this project are in poor condition and are declining in coverage statewide (FWC 2005).

Seagrasses are declining worldwide (Orth *et al.* 2006). Decline in Florida is primarily due to reduced water quality from anthropogenic nutrient and sediment loading (USDOI 1991; FWC 2005). The Lagoon has experienced a 40% decline in seagrass over the past 70 years, and the loss can be attributed, in part, to elevated concentrations of fine-grained silt and clay-enriched organic sediments (i.e. muck) in freshwater from the three major canals, including the C-51 Canal, discharging to the Lagoon (Fig. 18, pg. 40, www.pbcgov.com/erm/lakes/estuarine/lake-worth-lagoon/pdf/LWLMP.pdf) (PBCERM 2008a; PBCERM 2009b; PBCERM 2012). The central portion of the Lagoon, where the proposed Grassy Flats project is located, contains the most significant muck deposits and only 12% of the Lagoon's seagrass (PBCERM 2008b).

Oysters and seagrasses are regionally declining habitat types (John Swords, NWI, pers. comm. May 2012). Recent estimates indicate that 85% of oyster reefs have been lost globally (Beck *et al.* 2011). Oyster loss in Florida is primarily due to altered hydrologic regime (FWC 2005). In the Lagoon, there has been a 50-89% loss from historic levels of oysters and recent monitoring events indicate that this loss may be due to a lack of suitable substrate for attachment (Beck *et al.* 2009; PBCERM 2008a).

Mangrove wetlands are considered a declining habitat both nationally and statewide due to pressures from coastal development (USDOI 1991; FWC 2005). An estimated 87% loss in mangrove wetlands (approximately 2,000 acres) occurred in the Lagoon between 1940 and 1975 as a result of shoreline development (Harris *et al.*, 1983). Between 1944 and 1982, 51% of tidal marsh wetlands were lost due to altered hydrology associated with development adjacent to the Lagoon (Buchsbaum 1994). Today, 87% of the Lagoon's shoreline contains a vertical structure (e.g. seawall, riprap, etc.) and of the total 7,782-acre Lagoon, only 299 acres of mangroves, 1.5 acres of tidal marsh, and 4.2 acres of oyster reef remain (PBCERM 2008b).

Management of the Lake Worth Lagoon

Recent restoration projects in the Lagoon have proven very successful and indicate great potential for restoration of much of the Lagoon's lost habitats. In 1987, the Lagoon was included in the Surface Water Improvement and Management Plan (SWIM) Act as a water body of regional or Statewide significance and designated as one of four water bodies in South Florida having priority restoration needs (Chapter 373.453, Florida Statutes). In response, the Florida Department of Environmental Protection (FDEP) and PBCERM formed the Lake Worth Lagoon Ecosystem Management Area Team, and in conjunction with the South Florida Water Management District, other government agencies, municipalities, businesses and industries, non-profit-groups, and concerned citizens, the Lake Worth Lagoon Management Plan (LWLMP) was developed in 1998. Following SWIM guidelines, the LWLMP created a prioritized list of projects and action plans to meet specific goals for habitat restoration and water and sediment quality improvements. The LWLMP was updated in 2008 with a 5-year goal of managing muck sediments and restoring 141 acres of estuarine habitat. A second update to the LWLMP is

Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon, Palm Beach County, Florida

planned for 2013. As the second phase of the Snook Islands project, Grassy Flats is listed as a priority restoration project in the LWLMP (PBCERM 2008a) [Project #22, Pg. 4, www.pbcgov.com/erm/lakes/estuarine/lake-worth-lagoon/pdf/appendix-c.pdf].

As muck sediments have contributed to the loss of subtidal habitat, management of the existing muck sediments is necessary to provide for long-term improvements to the Lagoon (USACE & SFWMD 2005). Collaborative efforts are underway to reduce sediments entering the Lagoon through the C-51 Canal. Through the Loxahatchee River Watershed Restoration Project, which is one component of CERP, excess surface waters will be diverted to wetlands in the western C-51 basin, thereby reducing stormwater discharge and sediment loading into the Lagoon (PBCERM 2008a; USACE & SFWMD 2005). Additionally, the C-51 Canal Sediment Management Project, completed by Palm Beach County in partnership with the South Florida Water Management District and City of West Palm Beach in 2007, removed over 101,000 cubic yards of muck deposits from the C-51 Canal and created a sediment trap upstream of the S-155 water control structure. Recent surveys indicate that the trap has been effective at capturing sediments, thereby reducing the volume of sediment discharged into the Lagoon (PBCERM 2011d).

PROJECT LOCATION

The Grassy Flats Estuarine Restoration Project is situated in central Palm Beach County, Florida, between Southern Boulevard and Lake Avenue, in the Lake Worth Lagoon (Class III Waters) at 26°42'32.97" North Latitude, -80°2'58.60" West Longitude. Located approximately 0.65 mile south of the C-51 Canal, it is bordered by the Intracoastal Waterway on the west and by the Town of Palm Beach Par 3 Golf Course on the east (see attached map).

OBJECTIVES

The Grassy Flats project will directly support the habitat and water quality goals of the LWLMP [www.pbcgov.com/erm/lakes/estuarine/lake-worth-lagoon/pdf/LWLMP.pdf] by managing sediments in the Lagoon (Action Plan SE-3, pg. 80) and restoring habitat (Action Plans HE-1 (pg. 83; HE-2, pg. 85; and HE-4, pg. 90). The following project objectives will be achieved and verified during the timeframe of this grant, if awarded:

- **Objective 1:** *Restore 10.52 acres of regionally decreasing seagrass habitat (NWI code E1AB3L)* by capping approximately 30,000 cubic yards of muck with sediment appropriate for seagrass recruitment and raising the elevation to depths appropriate for seagrass growth.
- **Objective 2:** *Enhance 9.31 acres of regionally decreasing seagrass habitat (E1AB3L)* by capping adjacent muck sediments, reducing turbidity, improving water quality, and providing for an increase in density.
- **Objective 3:** *Restore 1.14 acres of nationally decreasing tidal marsh (E2EMIN), 0.33 acre of nationally decreasing mangrove habitat (E2FO3N), and 0.27 acre tidal flat (E2US2N)* by capping muck with appropriate sediment at the appropriate elevations and planting some areas with smooth cordgrass (*Spartina alterniflora*), some areas with red mangroves (*Rhizophora mangle*), and allowing other areas to be unvegetated for open foraging.

- **Objective 4: Restore 0.57 acre of regionally decreasing oyster reef habitat (E2RF2N)** through the placement of limerock to promote oyster recruitment.

EXPECTED RESULTS AND BENEFITS

Methods chosen to achieve the objectives of this project have been used by PBCERM to successfully restore over 115 acres of high-quality habitat within this segment of the Lagoon. The first phase of the *Snook Islands Natural Area* was completed in 2005 and restored 50 acres of seagrass, 11 acres of mangroves, 4 acres of tidal marsh, and 2 acres of oyster reef by filling a 23-foot deep dredged borrow hole and restoring the shoreline (2005) [www.pbcgov.com/erm/lakes/estuarine/snook/]. The *Ibis Isle Restoration Project*, completed in 2010, restored 3.3 acres of mangrove, 3.6 acres of tidal marsh, and 0.8 acre of oyster habitat by capping 1-7 foot thick muck sediments [www.pbcgov.com/erm/lakes/estuarine/ibis/].

Collectively, these restoration projects and others, which are similar in scope to the proposed Grassy Flats project, have lead to an increase in estuary habitats in the Lagoon. A 2007 mapping effort showed a 3% increase in seagrass coverage from 2001, and 14% increase in mangrove coverage since 1985 (PBCERM 2008b). Additionally, Snook Islands Natural Area, which is in close proximity to the proposed Grassy Flats project, had higher annual oyster recruitment than two of the Lagoon’s natural oyster reefs (Scarpa and Laramore 2010). An example of wildlife benefits from a PBCERM restoration project include a pair of nesting American Oystercatchers, *Haematopus palliatus*, on the oyster reef created at Snook Islands Natural Area. The pair, believed to be the southernmost nesting pair in the United States (Ricardo Zambrano, FWC, pers comm. March 2012), has had five successful fledglings since project completion (Dave Carson, PBCERM, pers comm. April 2012). American Oystercatchers are a Florida Species of Special Concern and there are estimated to be only about 1,000 individuals in the state (FWC 2012). Additional information about the aforementioned projects and others can be found at www.pbcgov.com/erm/lakes/estuarine/lake-worth-lagoon/.

Specific expected benefits of the Grassy Flats project include:

- **Conservation of Listed Species:** The National Marine Fisheries Service (NMFS) indicates that altered water quality and siltation are primary threats to the survival of the federally threatened Johnson’s seagrass (*Halophila johnsonii*) (NMFS 2002). The sediment stabilization and subsequent water quality enhancement provided by the Grassy Flats project is anticipated to benefit Johnson’s seagrass, which has been documented in the surrounding area. In all, the restoration project will restore and enhance critical habitat for 9 Federally listed species (Table 1). Florida’s Comprehensive Wildlife Conservation Strategy (Strategy), developed by FWC (2005), is the action plan for conserving the state’s wildlife and vital natural areas for future generations. The Strategy assessed 45 habitat types throughout Florida and identified nine marine/estuarine habitats in the highest threat category. Nine are designated as poor and declining throughout the state. Five of the nine, including submerged aquatic vegetation (SAV), mangrove swamps, tidal marsh, bivalve reefs, and tidal flats, are included in the Grassy Flats project and support 16 State listed species (Table 1).

Table 1: Threatened and Endangered Species to Benefit from Project

| Common name | Scientific Name | Status | Project Benefits |
|--------------------|--|--------|-----------------------|
| Atlantics sturgeon | <i>Acipenser oxyrinchus oxyrinchus</i> | FE | Minor nursery habitat |

Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon, Palm Beach County, Florida

| | | | |
|------------------------|-------------------------------|--------|--|
| Green sea turtle | <i>Chelonia mydas</i> | FE, SE | Foraging habitat for juvenile development |
| Johnson's seagrass | <i>Halophila johnsonii</i> | FT | Water quality |
| Loggerhead sea turtle | <i>Caretta caretta</i> | FT, ST | Foraging |
| Piping plover | <i>Charadrius melodus</i> | FT, ST | Foraging |
| Smalltooth sawfish | <i>Pristis pectinata</i> | FE | Nursery habitat |
| West Indian manatee | <i>Trichechus manatus</i> | FE, SE | Foraging |
| Wood stork | <i>Mycteria Americana</i> | FE, SE | Endangered |
| American oystercatcher | <i>Haematopus palliatus</i> | SSC | Foraging, nesting |
| Black skimmer | <i>Rynchops niger</i> | SSC | Foraging |
| Brown pelican | <i>Pelecanus occidentalis</i> | SSC | Foraging |
| Least turn | <i>Sterna antillarum</i> | ST | Foraging |
| Little blue heron | <i>Egretta caerulea</i> | SSC | Foraging |
| Reddish egret | <i>Egretta rufescens</i> | SSC | Foraging |
| Mangrove rivulus | <i>Rivulus marmoratus</i> | SSC | Nursery habitat, forage and substrate for early life stages and adult spawning |
| Roscate spoonbill | <i>Ajaia ajaia</i> | SSC | Foraging |
| Snowy egret | <i>Egretta thula</i> | SSC | Foraging |
| Tri-colored heron | <i>Egretta tricolor</i> | SSC | Foraging |
| White ibis | <i>Eudocimus albus</i> | SSC | Foraging |

*Note: FE=Federally endangered; FT=Federally threatened; SE=State endangered; ST=State threatened; SSC=Species of Special Concern.

- Restoration of Essential Fish Habitat:** This project has received endorsement from the Atlantic Coastal Fish Habitat Partnership (Attachment 1) as it will restore and improve 21.87 acres of essential fish habitat, including two sub-regional priority habitats (mangrove and seagrass) (ACFHP 2011; PBCERM 1990; FDEP 2005). Of the 195 fish species documented within the Lagoon (PBCERM 1990), 84 fish species are expected to directly benefit from this project.
- Benefits to Coastal Dependent and/or Migratory Birds:** Estuarine habitat in South Florida is listed by FWC (2005) as a Strategic Habitat Conservation Area for wading birds. Estuarine islands and wetlands provide critical nesting habitat for 31% of colonial waterbirds (Kushlan *et al.* 2002), and migratory bird species use wetlands and shorelines as stopovers during their migratory routes to and from the Caribbean and South America. This project will benefit 38 species of coastal-dependent and migratory birds in the Lagoon and supports the goals of the United States Shorebird Conservation Plan (USSCP), North American Waterbird Conservation Plan (NAWCP), North American Waterfowl Management Plan (NAWWMP), and the Partners in Flight Plan. Similar sites in PBC have documented increased use by wading birds post-restoration (Endries *et al.* 2009). Within the Ibis Isle Restoration area, PBCERM observed a 76% increase (25 to 44) in wading bird and shorebird species within ten months of project completion (Julie Mitchell, PBCERM, pers comm. March 2012).
- Climate Change Adaptation and Shoreline Resilience:** In 2007, FWC, a project partner, adopted a resolution which committed the agency to conserving Florida's fish and wildlife with regards to climate change. At a Climate Change Summit sponsored by FWC in 2008, it was acknowledged that marine and estuarine habitats are especially vulnerable to rising sea levels, stronger storms, increased temperatures, and changes in rainfall patterns. One of the

Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon, Palm Beach County, Florida

actions identified to combat climate change in marine and estuarine habitats was the reduction of environmental stressors to increase ecosystem resiliency (FWC 2009). The proposed Grassy Flats project caps muck which prevents resuspension of sediments, a significant environmental stressor. Additionally, the proposed habitats will greatly improve water quality. The project design will allow for the habitat types to fluctuate as sea levels rise and for a succession of natural habitat types in the project area, thus continuing to provide habitat in the face of rising water levels. The islands will decrease erosion and protect private shoreline property.

Tidal marshes, along with seagrasses and mangroves provide a sink for atmospheric carbon and are among the best systems for carbon sequestration. These estuarine habitats can sequester as much as 50 times the amount of carbon in hydrosols per hectare as tropical rainforests (Laffoley and Grimsditch 2009). Restoration of these estuarine aquatic habitats is consistent with recommendations in the IUCN (2009) Management of Natural Coastal Carbon Sinks action plan (Laffoley & Grimsditch 2009).

- ***Water Quality Improvements:*** This project will have a direct and immediate effect on the water quality of the Lagoon, the number one limiting factor to the regeneration of seagrass habitat. The proposed Grassy Flats project will cap 30,000 cubic yards of existing muck sediments in the Lagoon, preventing its re-suspension and improving water quality and light availability for seagrasses in the area. Once established, the proposed submerged and emergent vegetation and oysters are expected to provide further long-term water quality improvements by stabilizing and/or filtering sediments.
- ***Catalyst for Future Restoration:*** With 423 acres of the Lagoon's surface area containing muck deposits greater than 1 foot deep, this project is intended to be the impetus for additional projects to capture muck deposits elsewhere in the Lagoon (Fig. 18, pg. 40, www.pbcgov.com/erm/lakes/estuarine/lake-worth-lagoon/pdf/LWLMP.pdf). Experience and outcomes gained from this project will be applied to other areas within the Lagoon and Palm Beach County.
- ***Improved Wildlife-Oriented Recreational Opportunities:*** The proposed Grassy Flats project will become an eco-tourism destination for kayakers on the 8-mile Lake Worth Paddling Trail. Kayakers are able to launch from the Snook Islands Public Use Facility, located approximately one mile southwest of Grassy Flats, and from their kayaks view birds, manatees, and other wildlife utilizing County restoration sites. Increased paddling opportunities on the Lagoon will give users a greater appreciation of the value of the Lagoon and will build increased public support for improved management and restoration. (www.pbcgov.com/erm/downloads/pdf/brochures/paddlingtreasuresbrochure.pdf)

PROJECT APPROACH

Existing Conditions

The project area, a 12-acre depression, is approximately one foot deeper than the adjacent shelly sand area and contains an average of 1.5 feet of muck sediments (range of 0.5 to 2.3 feet) (PBCERM 2010a). Grain size analysis indicates that 6 of 8 samples within the project area contained fine sediments, averaging 71% fines, with a maximum of 92% where the deposits are

Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon, Palm Beach County, Florida

the thickest. The remaining 2 samples contained coarse sediments (7% and 17% fines) (PBCERM, 2010). Dense seagrass (*Halophila decipiens* and *Halophila johnsonii*) was observed directly west of and along the perimeter of the depression in predominately sandy sediment. Due to the influences of freshwater discharge, shallow depths, and predominately anoxic sediments, the benthic community in the project area can be characterized as low diversity, generally dominated by opportunistic filter feeding and deposit feeding mollusks (Deis et al. 1983; Rudolph 1989).

Construction Methods

The Grassy Flats project will be constructed utilizing shallow-water barges with barge mounted equipment to access the project site. Approximately 50,000 cubic yards of sand will be trucked to a staging area, where it will be transported by barge to the project site. Turbidity curtains will be deployed, and muck sediments will then be capped using a "sand cannon" and excavator. The "sand cannon," used successfully for the Ibis Isle Restoration Project, is a piece of equipment specifically designed to spray sand across the surface of the water allowing for an even layer of sand coverage with minimal muck displacement (link to YouTube Video available at www.pbcgov.com/erm/lakes/estuarine/ibis/). The thickness of the sand cap will vary (6 inches to 5 feet) depending on the existing depth and final elevation appropriate for each habitat (see attached project drawings). Limerock will be placed along the western edge of the islands using the excavator to create oyster habitat. Upon achieving final elevations, the islands will be planted with 25,000 plugs of cordgrass (*Spartina alterniflora*) and 2,900 red mangrove (*Rhizophora mangle*) seedlings.

As an alternative to capping muck sediments, dredging was considered. Removal of the muck is estimated to cost approximately \$20/cubic yard. Transportation to a staging area and hauling of the material to a landfill is estimated to cost \$5/ton. Disposal of the material at a landfill is estimated to cost approximately \$42/ton. Capping muck sediments is estimated to cost \$26/ton, which is a cost savings of \$16/ton, or \$1,000,000. In addition, the elevations proposed by the current design are consistent with the average depth of seagrasses in this segment of the Lagoon [Fig. 6, pg. 14, www.pbcgov.com/erm/lakes/estuarine/lake-worth-lagoon/pdf/LWLMP.pdf] and would allow seagrasses to more readily adapt to a rising sea level. Dredging, and a subsequent increase in sea level rise, would result in a depth not likely to support seagrasses.

Implementation of Project

The planning, design, and permitting phase is complete. The South Florida Water Management District issued Environmental Resource Permit (50-09957-P) on February 6, 2012 (Attachment 2). A draft of U.S. Army Corps of Engineers Permit SAJ-2011-01156 was issued on January 3, 2013 (Attachment 3). The final permit is expected by the end of February 2013. A tentative timeline for construction and monitoring can be found in Table 2.

Based on PBCERM's prior experience with the aforementioned restoration projects full success, as defined by the success metrics in the attached monitoring plan, is expected within five years of project completion. The scheduled 5 year monitoring and maintenance associated with this project will be managed by PBCERM in perpetuity. The project will occur on submerged lands owned entirely by the State of Florida (Letter of Consent to Use Sovereignty Submerged Lands was issued concurrently with State permit) and with natural resources thereon managed for the benefit of the public; therefore, long-term conservation of coastal wetland functions is ensured.

Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon, Palm Beach County, Florida

Table 2: Tentative Timeline for Project Completion

| | 2013 | | | | | | | | | | | | 2014 | | | | | |
|--------------------------------------|------|---|---|---|---|---|---|---|---|---|---|---|------|---|---|---|---|---|
| | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N |
| Development of Cooperative Agreement | X | X | X | | | | | | | | | | | | | | | |
| Contract development | | | | X | X | X | | | | | | | | | | | | |
| Mobilize equipment | | | | | | | X | | | | | | | | | | | |
| Place sand/rock | | | | | | | X | X | X | X | X | X | X | X | X | X | X | |
| Engineering surveys | | | | | | | X | | X | | X | | X | | X | | X | |
| Demobilize equipment | | | | | | | | | | | | | | | | | X | |
| Plant vegetation | | | | | | | | | | | | | | | | | X | X |

COASTAL WATERSHED MANAGEMENT

This project will restore and enhance important estuarine habitat, improve water quality, protect threatened and endangered species, and provide wildlife-oriented recreation. These efforts are consistent with the coastal ecosystem management plans identified below:

- Lake Worth Lagoon Management Plan
- U.S. Army Corps of Engineers and South Florida Water Management District Comprehensive Everglades Restoration Plan (CERP)/Loxahatchee River Watershed Restoration Project
- CERP/Restoration Coordination and Verification Program Management Plan
- Florida’s Surface Water Improvement and Management Plan
- Palm Beach County Comprehensive Plan
- U.S. Fish & Wildlife Service South Florida Ecosystem Multi-Species Recovery Plan
- National Oceanic & Atmospheric Administration/National Marine Fisheries Service’s Recovery Plan for Johnson’s Seagrass (*Halophila johnsonii*)
- Atlantic Coastal Fish Habitat Partnership Strategic Plan
- Draft Implementation Plan for the National Ocean Policy

In addition to supporting numerous conservation management plans, the project is located within 1.5 miles of existing and proposed restoration sites (Attachment 4).

PARTNERS IN CONSERVATION

The proposed project is a collaborative effort of many public and private partners, including the State of Florida, as the land owner, and the following Federal, State, and local government agencies and organizations:

U.S. Fish and Wildlife Service (USFWS)

Since 1990, the USFWS has been working with coastal States to acquire, restore, manage, and enhance coastal wetlands through the National Coastal Wetlands Conservation Grant Program (NCWCGP). This project will restore and enhance 22 acres of critical estuarine wetlands and support over 195 species of fish and 89 species of birds found within the Lagoon. As a result, the project was recently awarded \$777,142 in Federal funding from USFWS (Attachment 5).

Florida Department of Environmental Protection (FDEP)

Sedimentation and turbidity are among the list of land-based pollutants leading to the long-term decline of many coral species. One of the goals the FDEP Coral Reef Conservation Program is to initiate the implementation of management actions to reduce pollution from the highest

Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon, Palm Beach County, Florida

priority sources. This project will capture and contain approximately 30,000 cubic yards of muck sediments in the Lagoon, preventing their eventual discharge into the nearshore marine environment through nearby inlets, and provide valuable habit for reef fish. FDEP is committed to the project through the provision of \$110,000 in matching funds (Attachment 6).

Palm Beach County Department of Environmental Resources Management (PBCERM)

PBCERM is responsible for implementing the project. PBCERM's mission is "to establish, maintain, and implement programs for the protection, preservation, and enhancement of the land and water resources of Palm Beach County". PBCERM has over 20 years of experience implementing large-scale estuarine and marine projects and managing over 31,000 acres of PBC Natural Areas. Within the Lagoon, 238 acres of habitat have been restored, including 107 acres of mangroves, 68 acres of submerged aquatic vegetation, 39 acres of maritime hammock 14 acres of artificial reef, 6 acres of oysters, and 4 acres of salt marsh. PBCERM is committed through the provision of \$840,181 in matching funds (Attachment 7). Ms. Julie Mitchell (Attachment 8) and Ms. Julie Bishop (Attachment 9) will provide project management, oversight, and monitoring of this project.

Florida Fish & Wildlife Conservation Commission (FWC)

As one of its many activities, the FWC Division of Habitat and Species Conservation is tasked with aquatic habitat conservation and restoration for marine, estuarine, and freshwater systems. Specific objectives include (1) creating balanced aquatic ecosystems to support a multi-species environment to benefit Florida's native fish and wildlife; (2) monitoring and managing Florida's wetlands to restore and enhance aquatic habitats; and (3) establishing desirable native aquatic vegetation that protects shorelines from erosion. FWC collaborates with partners with similar objectives and responsibilities to develop an integrated strategy for habitat restoration which achieves results on a landscape scale. In partnership with PBCERM, FWC applied for and obtained funding for the project through NCWCGP. Ms. Erin McDevitt of the FWC Division of Habitat and Species Conservation will be the NCWCGP grant manager and provide contract oversight (Attachment 10). FWC is committed to this project through the provision of \$5,118 in matching funds (Attachment 11).

West Palm Beach Fishing Club (WPBFC)

The WPBFC has offered their support to the project and a commitment of 172 volunteer hours, valued at \$3,096, for planting of mangroves and post-construction monitoring (Independent Sector 2012) (Attachment 12).

Marine Industries Association of Palm Beach County (MIA)

MIA has offered its support of the project partnership through the commitment of 120 volunteer hours, valued at \$2,880, for planting of mangroves (Independent Sector 2012) (Attachment 13).

Lake Worth Lagoon Initiative (LWLI)

The LWLI is a multiagency and stakeholder group, which includes representatives from PBCERM, SFWMD, FDEP, FWC, and PBC League of Cities. The LWLI carries out action plans and projects outlined in the LWLMP, seeks state and federal funding, and selects proposed projects through a competitive process to receive Lake Worth Lagoon Partnership Grant (LWLPG) funds. This project is supported by the partners of the LWLI because it achieves the goals of the LWLMP.

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GRASSY FLATS ESTUARINE HABITAT RESTORATION PROJECT MONITORING & MAINTENANCE PLAN

PROJECT OVERVIEW

The Grassy Flats Estuarine Restoration Project is designed to contain existing muck sediments by capping with a thin layer of sand, minimizing their re-suspension and providing optimal conditions for 13.1 acres of diverse intertidal and subtidal habitat. Capping is also anticipated to enhance the 9.31 acres of seagrass directly adjacent to the project through water quality improvements. To ensure that the specific objectives are met and expected benefits are provided, PBCERM will perform monitoring and maintenance of the project area as described below.

METHODOLOGY

Based on the specific project objectives and expected benefits, structural parameters to be monitored include growth and recruitment of seagrass, emergent vegetation, and oysters recruitment. Bird utilization shall be monitored as a functional parameter. The methodology for each is described below and depicted on the attached drawing:

- **Seagrass:** During growing season (April-October), the extent of seagrass will be mapped using transects spaced at approximately 200 feet intervals. Biologists will snorkel/dive the length of each transect, noting the presence or absence of seagrass and any other resources. Seagrass beds will be noted as patchy or continuous, with a continuous bed defined as a distance of less than 20 feet between two seagrass observations. Biologists will also note any physical difference (e.g., substrate type, water depth, algae, etc.) between a bed and areas void of seagrass. The landward and seaward points of beds along a transect, and the beginning and end of any separate seagrass beds within that transect, will be identified using a laser and the handheld GPS unit. Quantitative monitoring of the area will include a 0.25 meter quadrat sample, placed at approximately 50 foot intervals along each transect, to determine the overall percent cover of all seagrass species present, based on Braun-Blanquet scale, and relative percent cover of each species present. Drift algae and macroalgae will be identified to species (where possible) and recorded within the quadrat.
- **Emergent Vegetation:** The extent of emergent vegetation, including planted and recruited species, on each island will be mapped during using GPS. Panoramic photos will be taken from designated locations. To obtain quantitative data, one north-south and one east-west transect will be established through the center of each island. A 1 meter quadrat will be placed at approximately 100 foot intervals along each transect to document percent cover and survival rate of species, overall health, and relative size distribution. Presence of exotic vegetation will also be noted during each monitoring event.
- **Oysters/hardbottom:** The extent of oysters will be mapped using GPS, and panoramic photos will be taken from designated locations. To obtain quantitative data, a 0.25 meter quadrat will be randomly thrown along the reef at approximately 100 foot intervals. Within each quadrat, the percent cover of oysters and other shellfish species will be noted. Relative size distribution will also be noted.
- **Bird utilization:** Dates and times of bird surveys will be selected to capture the greatest activity (i.e. early morning or late afternoon at low tide), and observations will be made from land or a kayak to minimize disturbance. Birds will be identified to species, where possible, and care will be taken not to count birds twice. In addition to species abundance, behavioral observations (e.g. foraging, flying, nesting, resting, and preening) will be made and noted. Understanding that birds may be less active

Grassy Flats Estuarine Restoration Project Monitoring & Maintenance Plan

and detectable during wet or windy weather, field conditions will also be noted. Photographs will be taken to document the tide and foraging birds, when possible.

- **Other wildlife/fish utilization:** This project is also expected to provide essential habitat for fish, manatees, and sea turtles. Direct and indirect observations of utilization by such species will be noted during the aforementioned surveys. In addition, fish habitat and nursery success will be established through anecdotal reports obtained from the West Palm Beach Fishing Club.

SUCCESS CRITERIA

- **Seagrass:** Persistence of a minimum of 18.84 acres of seagrass, at an average of 25% cover for three consecutive years.
- **Vegetation:** 80% coverage of mangroves and native marsh vegetation, as measured by canopy, by year five.
- **Oysters:** Density of 50 live oysters/m² by year five.
- **Bird utilization:** 30% increase in the bird species utilizing the project area by year 5.

MONITORING SCHEDULE

| | Date | Parameters |
|-------------------|---|--|
| Pre-construction | March 2013 | Bird/wildlife utilization |
| | July 2013 | Bird/wildlife utilization, seagrass |
| | October 2013 | Bird/wildlife utilization |
| Construction | Dec. 2013-Oct. 2014 | Water quality |
| Post-construction | December 2014 (time-zero) | Seagrass, vegetation, oysters, bird/wildlife utilization |
| | July 2015 - July 2019 (annual basis) | Seagrass, vegetation, oysters, bird/wildlife utilization |












MAINTENANCE

Exotic species (as listed by Florida Exotic Pest Plant Council) will be maintained as needed within the mitigation areas, so as to not exceed 5% coverage. Maintenance will be performed as needed to insure that this requirement is achieved. Exotic vegetation control includes both physical removal of exotics as well as herbicide treatments, with the former being the preferred method. Trash and unnatural debris will also be removed as needed.

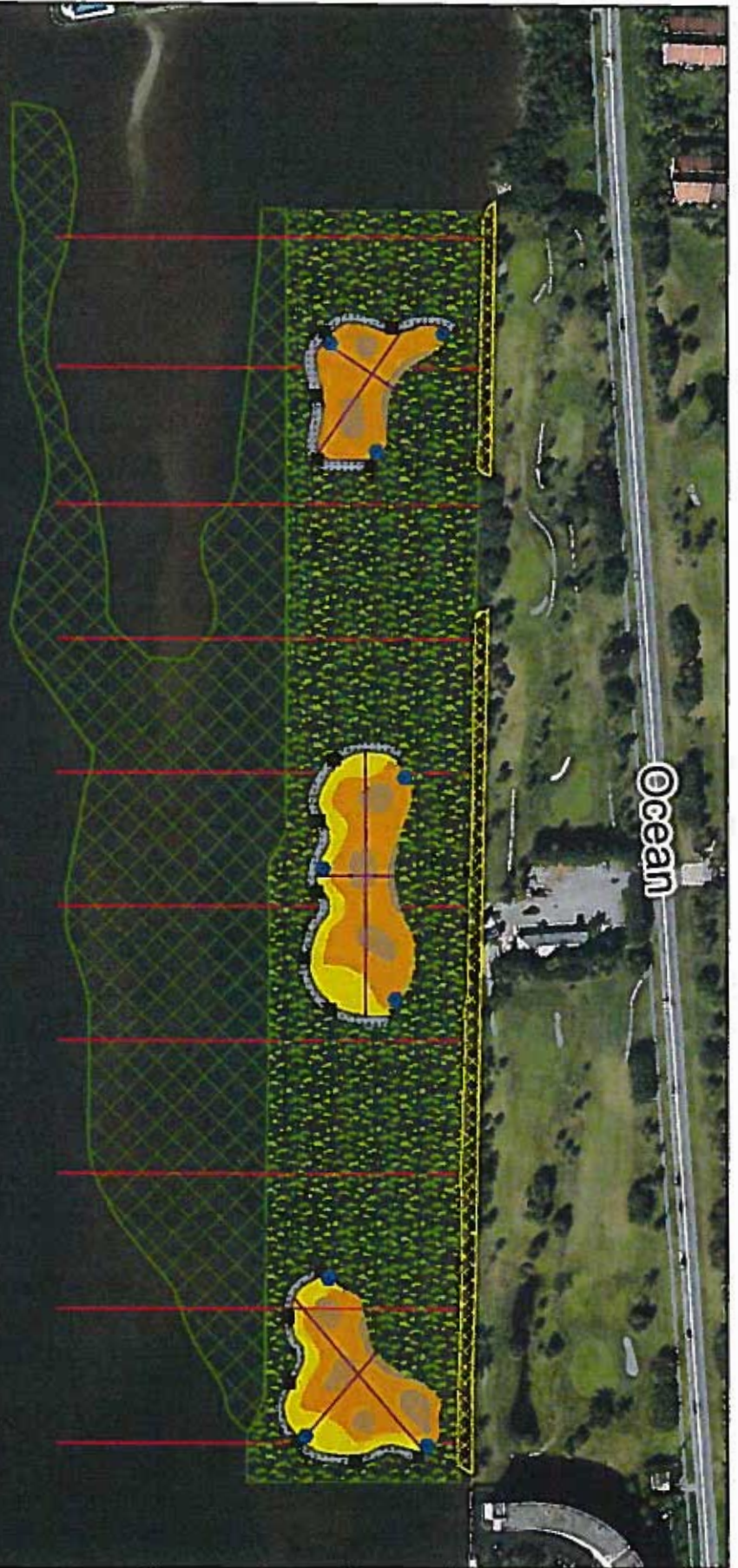
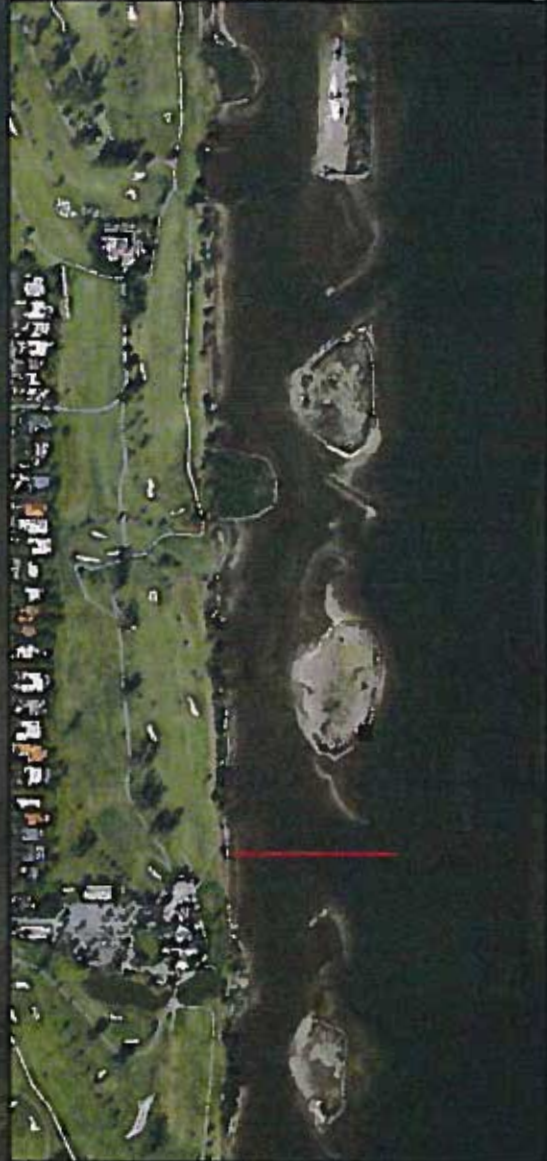
REPORTING

Monitoring reports will be submitted annually for five years. The initial report will include an as-built survey, list of planted species, summary of the quarterly data, and photos of the restoration area. Subsequent monitoring reports will include a summary of data collected, including maps and tables, photos, and an analysis on whether or not the project is trending towards success. In the event project is not trending towards success, the data will be compared to a nearby reference site (Snook Islands Natural Area) to determine if environmental conditions are responsible for the lack of success. If no changes are observed at the reference site, site-specific problems will be identified and adaptive management will be used resolve the issues. Project data will also be uploaded to the National Restoration Inventory (www.neri.noaa.gov), so that information on techniques and experience can be made available to others designing similar restoration projects.

Legend

-  Existing mangrove planter (0.8 ac)
-  Enhanced seagrass (9.12 acres)
-  Proposed seagrass habitat (9.53 ac)
-  Proposed cordgrass (1.46 ac)
-  Proposed mangrove (0.65 ac)
-  Proposed open area (0.51 ac)
-  Proposed oyster/artificial reef (0.93 ac)
-  Emergent vegetation transect
-  Seagrass transect
-  Oyster station
-  Photo station

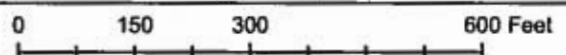
Snook Islands Natural Area Reference Site



Palm Beach County Department of
Environmental Resources Management
2300 North Jog Road, 4th Floor
West Palm Beach, Florida 33411-2741
(561) 233-2400

**Grassy Flats Estuarine Restoration Project
Monitoring Plan**

03-07-2012



Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon, Palm Beach County, Florida

PROJECT BUDGET

BUDGET TABLE

| | ERA | Other Federal | Non-Federal | Total |
|-----------------|-----------|---------------|-------------|-------------|
| Personnel | \$84,200 | \$0 | \$268,795 | \$352,995 |
| Fringe benefits | \$0 | \$0 | \$1,164 | \$1,164 |
| Travel | \$0 | \$0 | \$0 | \$0 |
| Equipment | \$0 | \$0 | \$0 | \$0 |
| Supplies | \$0 | \$0 | \$0 | \$0 |
| Contractual | \$757,800 | \$886,375 | \$661,208 | \$2,305,383 |
| Other | \$0 | \$0 | \$0 | \$0 |
| Indirect | \$0 | \$767 | \$0 | \$767 |
| Total | \$842,000 | \$887,142 | \$931,167 | \$2,660,309 |

BUDGET NARRATIVE

Personnel (Total Federal Share) – \$84,200

ERA Total: \$84,200: Although the project will be managed directly by PBCERM, 10% of the ERA request amount will be provided to USACE staff for additional oversight and monitoring compliance.

Personnel (Non-Federal Share) – \$268,795

PBCERM Total: \$258,865: Staff will provide a total of 3,098 hours of time associated with development of plans and specifications, contractor procurement, site preparation and pre-construction surveys, construction oversight, contract administration, planting of wetland vegetation, and post-construction surveys and monitoring. See Attachment 11 for detailed costs.

FWC Total: \$3,954: Staff is providing 160 hours of time associated with management of the NCWCGP grant.

WPBFC Total: \$3,096: Volunteers are providing 172 hours of time associated with planting wetland vegetation and post-construction fisheries monitoring.

MIA Total: \$2,880: Volunteers are providing 160 hours of time associated with planting wetland vegetation.

Fringe Benefits (Total Federal Share) – None

Fringe Benefits (Non-Federal Share) – \$1,164

FWC Total: \$1,164: An estimated fringe rate of 34.443% fringe and 17% leave has been applied to staff salary associated with the NCWCGP grant.

Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon, Palm Beach County, Florida

Travel (Total Federal Share) – None
Travel (Non-Federal Share) – None

Equipment (Total Federal Share) – None
Equipment (Non-Federal Share) – None

Supplies (Total Federal Share) – None
Supplies (Non-Federal Share) – None

Contractual (Total Federal Share) – \$1,729,142

ERA Total: \$757,800: Transportation and placement of sand to cap muck sediments and create estuarine habitat; and the purchase, transportation, and placement of limerock to create oyster/artificial reef habitat; and costs associated with mobilization/demobilization of equipment at the site.

NCWCGP Total: \$776,375: Transportation and placement of sand to cap muck sediments and create estuarine habitat; and purchase of and planting wetland vegetation; and costs associated with mobilization/demobilization of equipment at the site.

CRCP Total: \$110,000: Transportation and placement of sand to cap muck sediments and create estuarine habitat

Contractual (Non-Federal Share) - \$661,208

PBCERM Total: \$661,208: Purchase of sand to cap muck sediments; purchase and installation of navigational markers; and costs associated with mobilization/demobilization of equipment at the site.

Other (Total Federal Share) – None
Other (Non-Federal Share) – None

Indirect (Total Federal Share) – \$767

NCWCGP Total: \$767: Cost associated with FWC management of the grant.

Indirect (Non-Federal Share) – None

**Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon, Florida
Budget Details and Justification**

Detail of Project Costs

| Project Elements | Quantity | Units | Price/unit | Total |
|--|----------|------------|--------------|--------------------|
| Mobilization/demobilization* | 1 | | \$210,108.00 | \$210,108 |
| Purchase sand | 62,500 | Ton | \$9.00 | \$562,500 |
| Transport/place sand | 50,000 | Cubic yard | \$21.00 | \$1,050,000 |
| Purchase/transport/place limerock | 4,700 | Ton | \$85.00 | \$399,500 |
| Purchase/transport/place bedding stone | 600 | Ton | \$84.00 | \$50,400 |
| Purchase/plant mangroves | 29,00 | 1 gallon | \$2.00 | \$5,800 |
| Purchase/plant cordgrass | 25,000 | 4" Plug | \$0.95 | \$23,750 |
| Purchase/install signs | 5 | Each | \$100.00 | \$500 |
| Purchase/install sign pilings | 125 | LF | \$69.00 | \$8,625 |
| Engineering and permitting | | | | \$50,300 |
| Interim and post-construction surveys | | | | \$65,000 |
| Post-project monitoring | | | | \$23,216 |
| Project management | | | | \$120,525 |
| Grant management and indirect costs | | | | \$90,085 |
| TOTAL PROJECT COST | | | | \$2,660,309 |

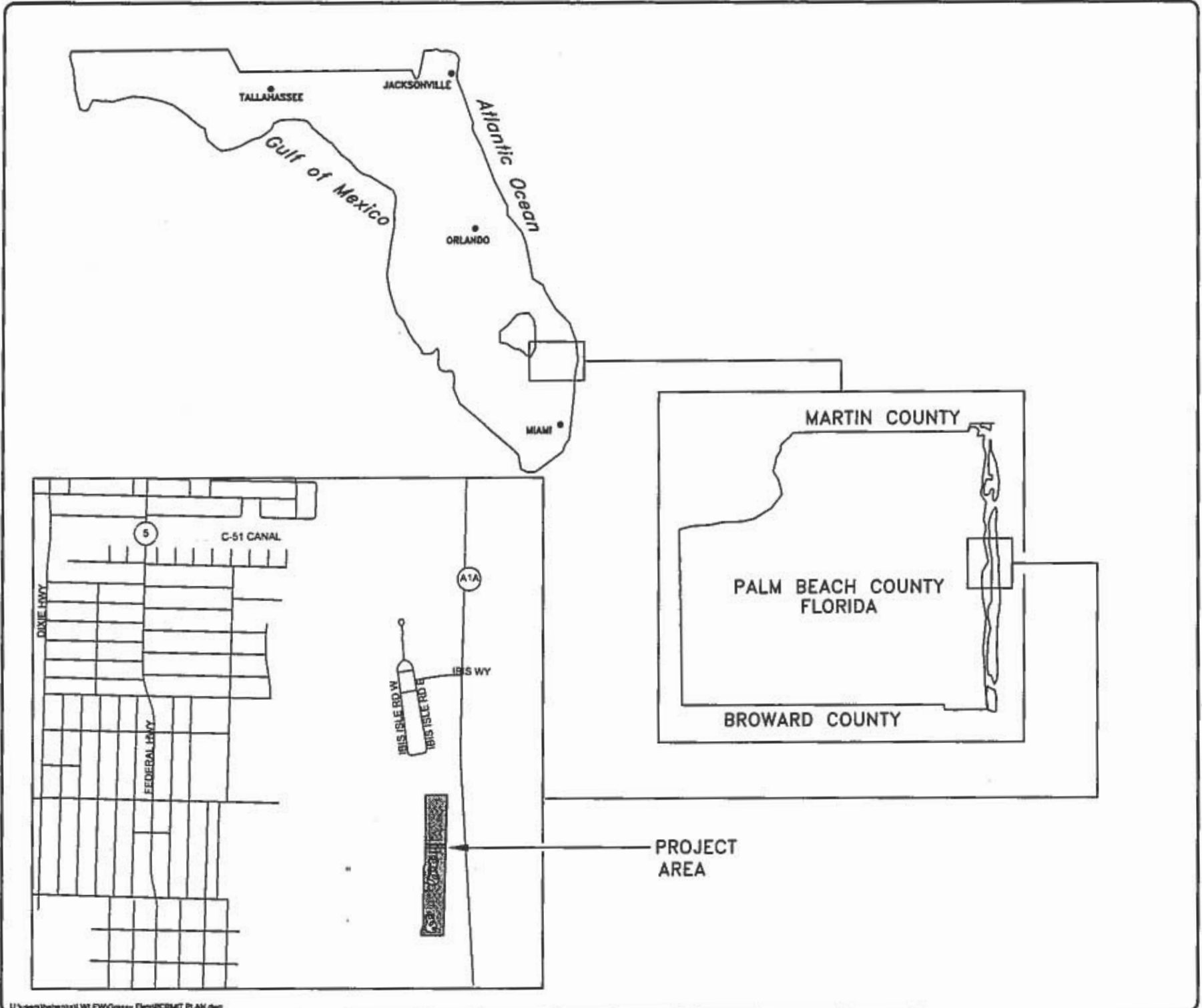
*approximately 10% of construction costs

Activities/Materials by Contributing Partners

| Grant Program | ERA | | NCWCGP | | | | CRCP | | | Total | |
|---------------------------------------|------------------|------------------|------------------|------------------|----------------|----------------|----------------|------------------|------------------|-----------------|--------------------|
| | Request | Match | Awarded | Match | | | Awarded | Match | Over-match | | |
| Activities/Materials | USACE | PBC | USFWS | PBC | FWC | MIA | WPBFC | FDEP/NOAA | PBC | PBC | |
| Engineering/Permitting | | | | \$50,300 | | | | | | | \$50,300 |
| Mobilization/Demobilization | \$20,316 | \$21,729 | \$100,209 | | | | | | \$51,072 | \$16,782 | \$210,108 |
| Purchase sand | | \$310,885 | | \$192,687 | | | | | \$58,928 | | \$562,500 |
| Transport/place sand | \$287,584 | | \$652,416 | | | | | \$110,000 | | | \$1,050,000 |
| Purchase/transport/place rock | \$449,900 | | | | | | | | | | \$449,900 |
| Purchase/plant mangroves | | | | \$40 | | \$2,880 | \$2,880 | | | | \$5,800 |
| Purchase/plant cordgrass | | | \$23,750 | | | | | | | | \$23,750 |
| Purchase/install signs | | \$9,125 | | | | | | | | | \$9,125 |
| Interim and post-construction surveys | | \$40,387 | | \$24,613 | | | | | | | \$65,000 |
| Post-project monitoring | | | | \$23,000 | | | \$216 | | | | \$23,216 |
| Project management | | \$71,259 | | \$49,266 | | | | | | | \$120,525 |
| Grant management | \$84,200 | | | | \$5,118 | | | | | | \$89,318 |
| Indirect costs for grant management | | | \$767 | | | | | | | | \$767 |
| TOTAL | \$842,000 | \$453,385 | \$777,142 | \$339,906 | \$5,118 | \$2,880 | \$3,096 | \$110,000 | \$110,000 | \$16,782 | \$2,660,309 |

| | |
|-------------------------------------|--------------------|
| Requested ERA amount | \$842,000 |
| Non-Federal Match | \$453,385 |
| ERA PROJECT COST | \$1,295,385 |
| Other Federal Funds | \$887,142 |
| Additional Non-Federal Contribution | \$477,782 |
| TOTAL PROJECT COST | \$2,660,309 |

| Grant Program/Partners | |
|--|--|
| ERA: Estuary Restoration Act | USFWS: U.S. Fish & Wildlife Service |
| NCWCGP: National Coastal Wetlands Conservation Grant Program | MIA: Marine Industries Association |
| CRCP: Coral Reef Conservation Program | WPBFC: West Palm Beach Fishing Club |
| PBC: Palm Beach County | FDEP: Florida Department of Environmental Protection |
| FWC: Florida Fish & Wildlife Conservation Commission | NOAA: National Oceanic & Atmospheric Administration |



U:\pdm\helnm\lwl\fw\Grassy Flats\PRINT PLAN.dwg

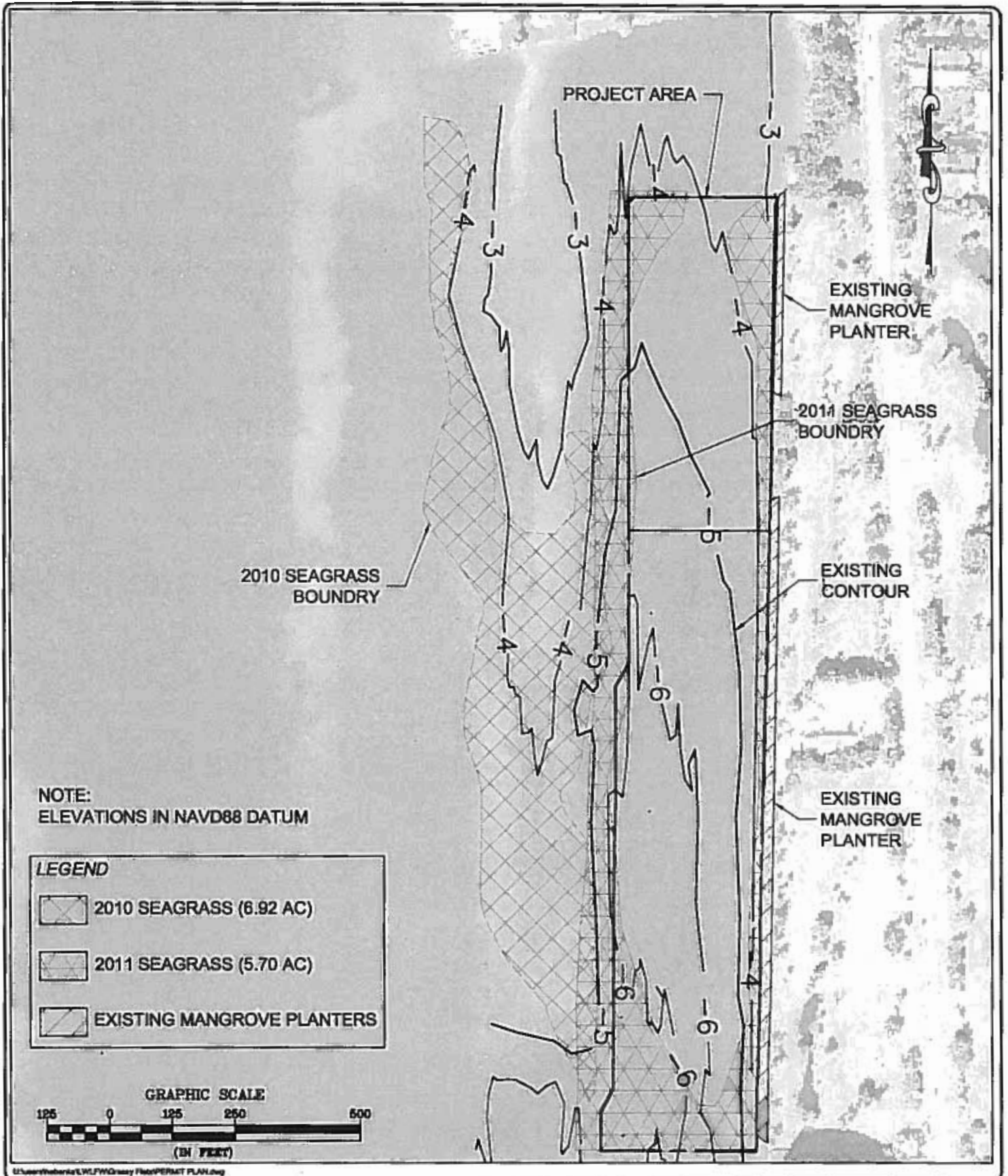
PALM BEACH COUNTY
 DEPARTMENT OF
 ENVIRONMENTAL RESOURCES MANAGEMENT
 2300 NORTH JOE ROAD, 4th FLOOR
 WEST PALM BEACH, FLORIDA 33411
 (561) 233-2400

| | |
|-------------|----------|
| Project No. | |
| Revision | |
| Date | 11/12/02 |
| Drawn | HANSON |
| Checked | |
| Approved | CT |
| Scale | AS NOTED |

SEAL




Project
GRASSY FLATS RESTORATION
 Location Map

Scale
 1" = 5'

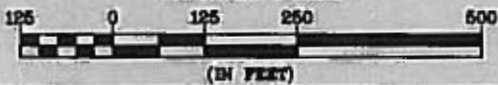


NOTE:
ELEVATIONS IN NAVD88 DATUM

LEGEND

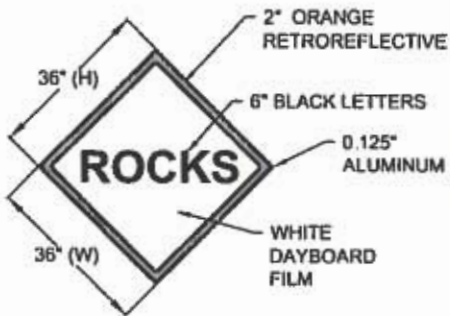
-  2010 SEAGRASS (6.92 AC)
-  2011 SEAGRASS (5.70 AC)
-  EXISTING MANGROVE PLANTERS

GRAPHIC SCALE



U:\saw\thaberk\W\LF\W\Grassy Flats\PERMKT PLAN.dwg

| | | | | | | | | | | | | | | | | | | |
|---|---|-------------|---|---------|----|---------|-----|---------|----|------|--|--|--|--|--|--|--|--|
|  | <p>GRASSY FLATS RESTORATION</p> <p>EXISTING RESOURCE & BATHMETRY</p> | <p>7/25</p> | <table border="1" style="font-size: 8px;"> <tr> <td>DATE</td> <td>BY</td> <td>CHKD BY</td> <td>NO.</td> <td>REVISED</td> <td>BY</td> <td>DATE</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> | DATE | BY | CHKD BY | NO. | REVISED | BY | DATE | | | | | | | | <p>PALM BEACH COUNTY DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT 2300 NORTH JOG ROAD, 4th FLOOR WEST PALM BEACH, FLORIDA 33411 (561) 233-2400</p> |
| DATE | BY | CHKD BY | NO. | REVISED | BY | DATE | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |



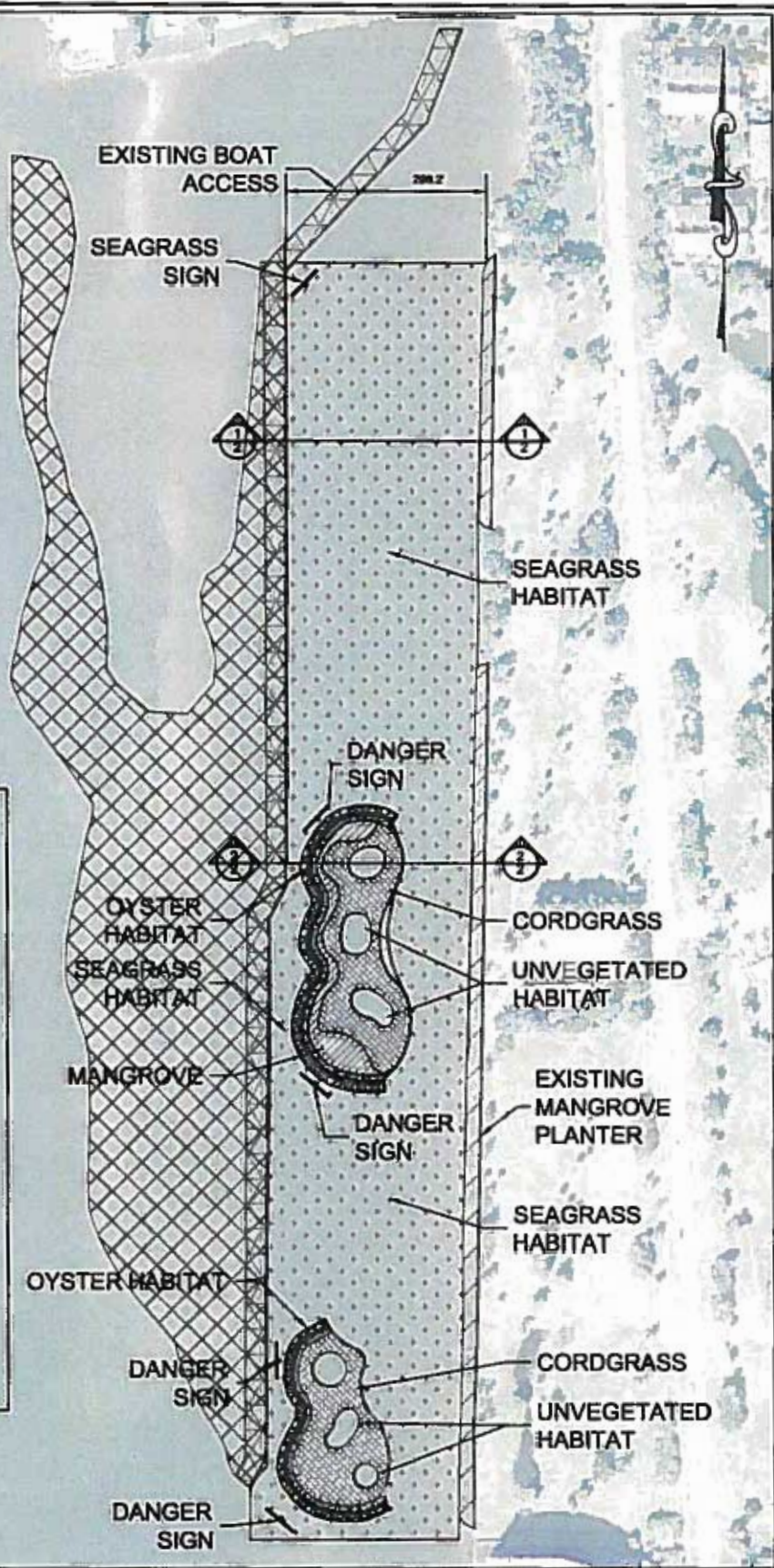
FOUR (4) SIGNS
"ROCKS"
N.T.S.



ONE (1) SIGN
"SEAGRASS"
N.T.S.

LEGEND










- 9.31 Acres enhanced subtidal vegetation (E1AB3L)
- 10.52 Acres restored subtidal vegetation (E1AB3L)
- 1.14 Acres restored intertidal emergent (E2EM1N)
- 0.33 Acre restored intertidal forested (E2F03N)
- 0.27 Acre restored intertidal unconsolidated sand (E2US2N)
- 0.57 Acre restored intertidal reef (E2RF2N)
- 0.80 Acre existing intertidal forested & reef (E2F03N, E2RF2N)
- Existing boat access
- Proposed navigational aids (5)

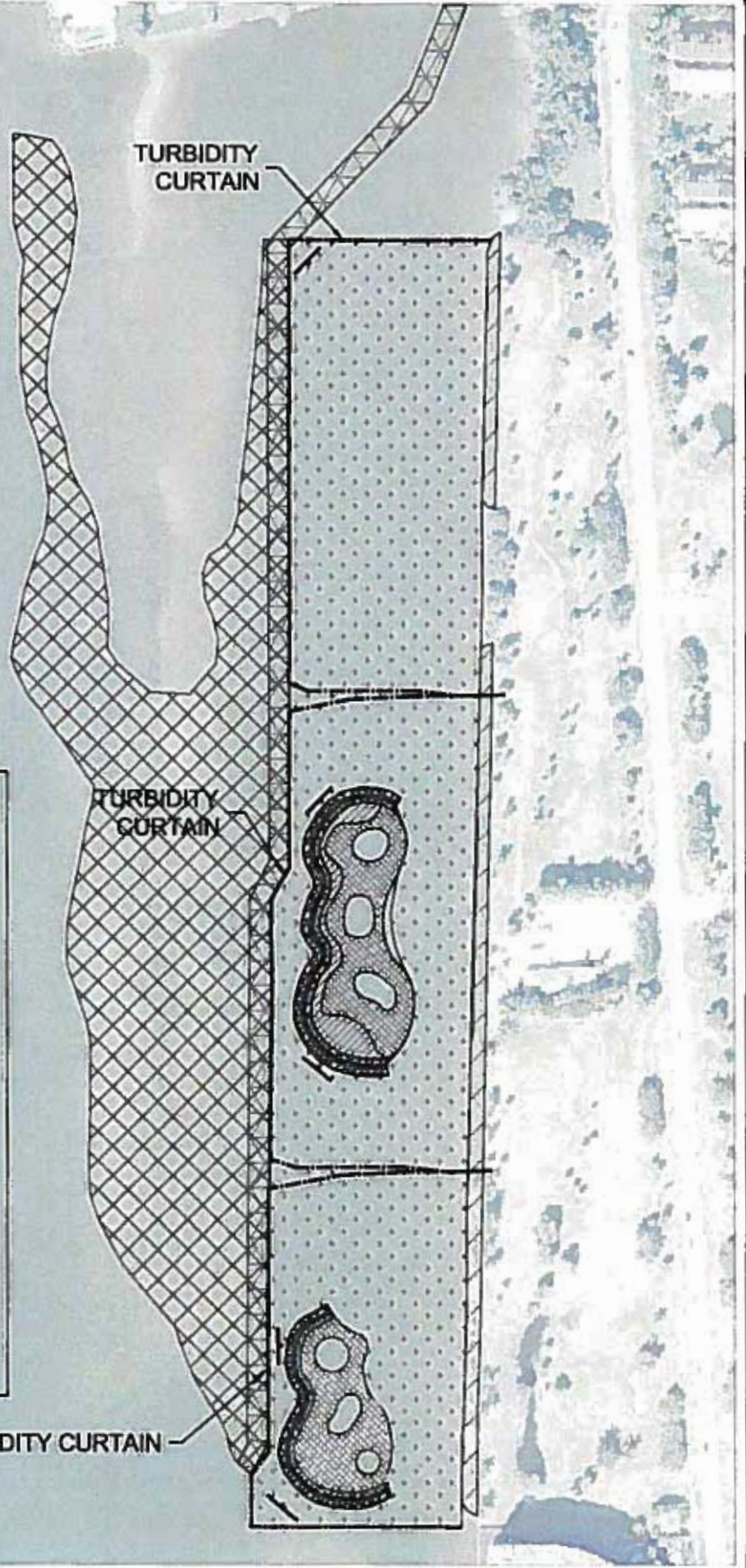




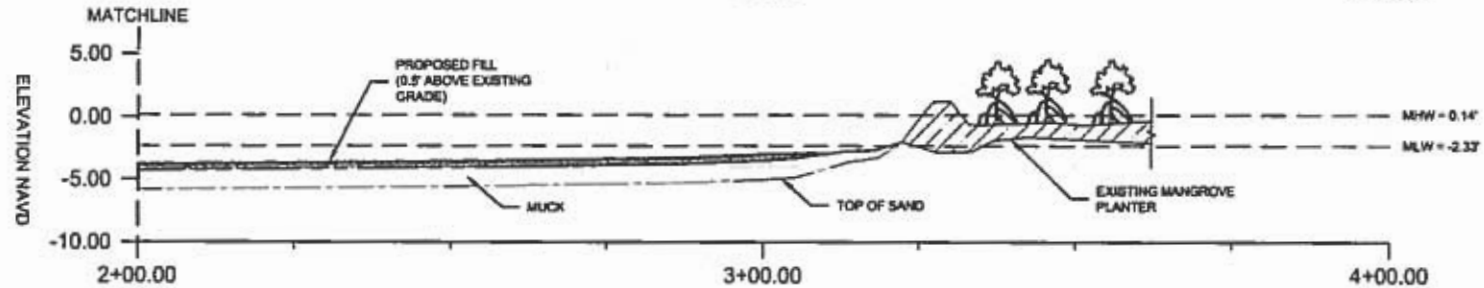
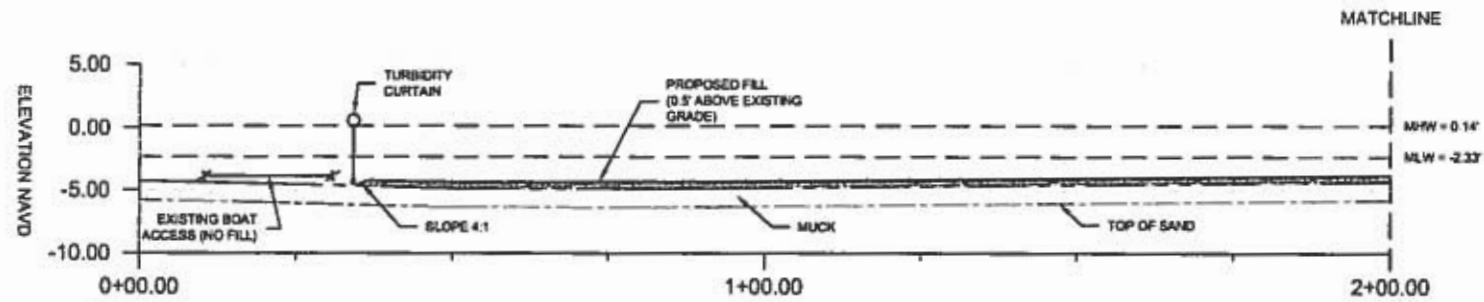
NOTE
TURBIDITY CURTAIN TO BE MOVED
CONSISTENTLY WITH WORK AREA.

LEGEND

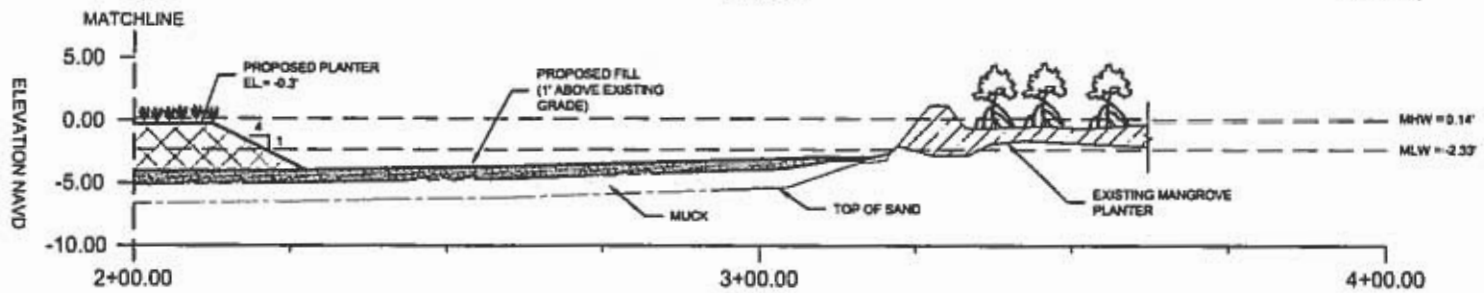
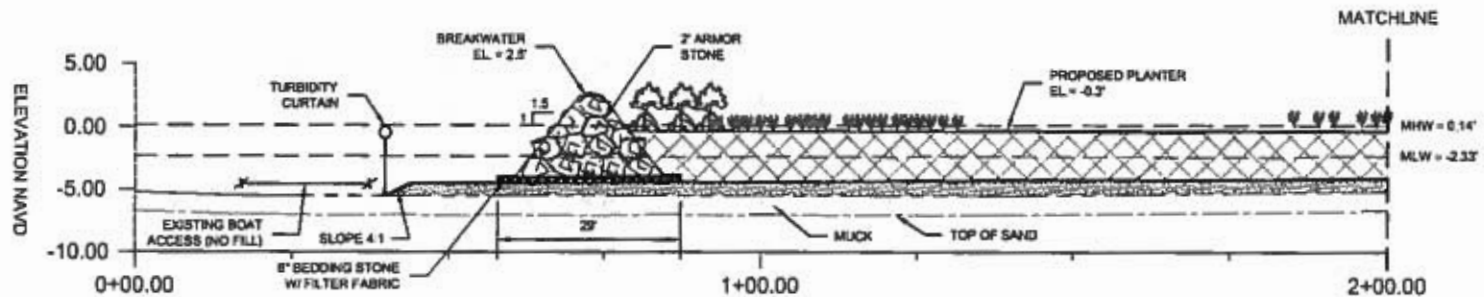
-  9.31 Acres enhanced subtidal vegetation (E1AB3L)
-  10.52 Acres restored subtidal vegetation (E1AB3L)
-  1.14 Acres restored intertidal emergent (E2EM1N)
-  0.33 Acre restored intertidal forested (E2F03N)
-  0.27 Acre restored intertidal unconsolidated sand (E2US2N)
-  0.57 Acre restored intertidal reef (E2RF2N)
-  0.80 Acre existing intertidal forested & reef (E2F03N, E2RF2N)
-  Existing boat access
-  Proposed navigational aids (5)



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1
5
TYPICAL SECTION
SCALE H = 1" = 30'
V = 1" = 15'



2
5
TYPICAL SECTION
SCALE H = 1" = 30'
V = 1" = 15'



| | |
|-----------|----------|
| Rev | AS NOTED |
| Approved | CS |
| Checked | ME |
| Drawn | ME |
| Date | 10/20/11 |
| Field No. | |

SEAL

GRASSY FLATS
RESTORATION
TYPICAL SECTION



Atlantic Coastal Fish Habitat Partnership

1050 N. Highland Street, Suite 200A-N
Arlington, VA 22201-2196
(703) 842-0740
www.atlanticfishhabitat.org

Julie Mitchell
Environmental Enhancement & Restoration Division
Palm Beach County Department of Environmental Resources Management
2300 N. Jog Road, 4th Floor
West Palm Beach, FL 33411-2743

Ms. Mitchell:

On behalf of the Atlantic Coastal Fish Habitat Partnership (ACFHP), thank you for submitting the Grassy Flats Estuarine Habitat Restoration Project for endorsement consideration. We are pleased that you have sought recognition from ACFHP for this project.

ACFHP works to address the numerous threats impacting Atlantic coastal fish habitats and applauds the search for tools, techniques and approaches to address these habitat threats. After reviewing your application materials, ACFHP has approved the project for endorsement, as it is described in the application and supporting documentation you provided.

ACFHP supports the project aims of conserving coastal habitats and water quality, however as noted in the disclaimer, the application of the techniques used, and effects of the efforts on identified habitats or analogous system are not endorsed beyond the scope of the current project, as it is defined. ACFHP expressly endorses projects as stand-alone efforts, only.

The Partnership requests that the Atlantic Coastal Fish Habitat Partnership endorsement logo (attached) be placed on the outreach materials as noted in the proposal and that the results of the project process and post-construction monitoring be shared. If you have any questions regarding the review of your application, please contact Emily Greene at egreene@asmfc.org.

ACFHP is made up of resource managers, scientists and professionals from 30 different state, federal, tribal and non-governmental entities working together to conserve habitat for Atlantic coastal, estuarine-dependent, and diadromous fishes. We commend your efforts in developing an innovative approach to fish habitat conservation and forging public-private partnerships across jurisdictions. Congratulations and we look forward to news as the project progresses!

Best Regards,

A handwritten signature in black ink, appearing to read "Chris Powell".

Chris Powell
Steering Committee Vice-Chair
Atlantic Coastal Fish Habitat Partnership



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

District Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406 (561) 686-8800 www.sfwmd.gov

ATTACHMENT 2

Regulation
Application No.: 120801-4

August 8, 2012

PALM BEACH COUNTY BOARD OF COUNTY COMMISSIONERS
DEPT OF ENVIRONMENTAL RESOURCES
2300 NORTH JOG ROAD 4TH FL
WEST PALM BEACH, FL 33411

Dear Permittee:

SUBJECT: PERMIT NO.: 50-09957-P
Project : GRASSY FLATS RESTORATION PROJECT
Location: Palm Beach County, S14/T44S/R43E

District staff has reviewed the information submitted August 1, 2012, for modifying the Grassy Flats Restoration project to eliminate the northern island and reduce the size of the southern island, as previously permitted, which will increase restored seagrass habitat acreage from 9.53 acres to 10.52 acres, reduce created mangrove habitat from 0.61 acre to 0.33 acre, reduce created salt marsh habitat from 1.5 acres to 1.14 acre, reduce tidal flat habitat from 0.51 acre to 0.27 acre, and reduce oyster/artificial reef habitat from 0.93 acre to 0.57 acre, in accordance with Exhibits 1, 2.0 and 2.1. In addition, Palm Beach County will ensure that the depth of the navigation channel will not be reduced as a result of construction of the project. Also, Palm Beach County will ensure that emergent areas will be limited only to the created islands.

Based on that information, District staff has determined that the proposed activities are in compliance with the original environmental resource permit and appropriate provisions of FAC Rule 40E-4.331(2)(b). Therefore, these changes have been recorded in our files.

Please understand that your permit remains subject to the General Conditions and all other Special Conditions not modified and as originally issued.

Should you have any questions concerning this matter, please contact this office.

Sincerely,

Handwritten signature of Anita R. Bain in cursive.

Anita R. Bain
Div Dir - Environmental Resource Permitting
Regulation Division

AB/ts

Exhibits

11:09 AM 8/8/12

DEPARTMENT OF THE ARMY PERMIT

Permittee: Palm Beach County
Department of Environmental Resource Management
Attn: Mr. Richard E. Walesky, Director
2300 North Jog Road, 4th Floor
West Palm Beach, Florida 33411

Permit No: SAJ-2011-01156(IP-AAZ)

Issuing Office: U.S. Army Engineer District, Jacksonville

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the U.S. Army Corps of Engineers (Corps) having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

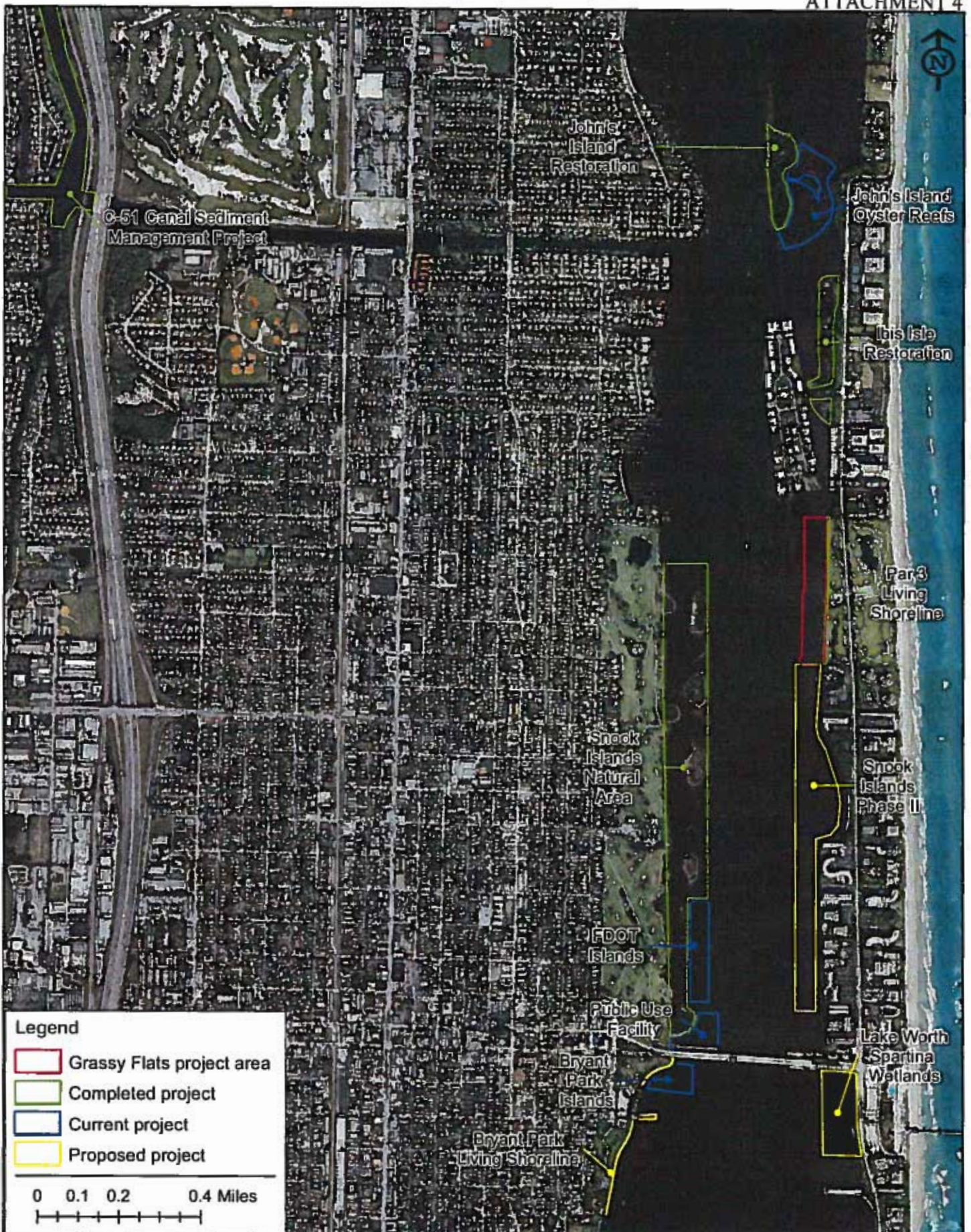
Project Description: The Grassy Flats Estuarine Habitat Restoration project would place approximately 71,000 cubic yards of sand and 4,300 cubic yards of 1-3 foot diameter limestone boulder riprap over 12.83 acres of submerged lands in Lake Worth Lagoon to cap the muck sediments. The Grassy Flats Estuarine Habitat Restoration site will consist of approximately 10.52 acres of seagrass habitat, 0.33 acre of red mangrove habitat, 1.14 acre of salt marsh (*Spartina*) habitat, 0.27 acre of tidal flat habitat, and 0.57 acre of oyster reef habitat with elevations between -4 feet and -5 feet North American Vertical Datum of 1988 (NAVD). The Grassy Flat restoration area is currently at a depth of approximately -6 feet NAVD.

The work described above is to be completed in accordance with the five (5) submitted drawings and five (5) attachments affixed at the end of this permit instrument.

Project Location: The project is located in navigable waters of the United States in Lake Worth Lagoon adjacent to 2345 South Ocean Boulevard, Town of Palm Beach (Section 14, Township 44 South, Range 43 East), in Palm Beach County, Florida.

Directions to site: From I-95 in Lake Worth, exit 10th Avenue and head east to US 1. Head south on US 1 and then east on Lake Avenue to South Ocean Boulevard. Head north on South Ocean Boulevard to the project site located in Lake Worth Lagoon, west of the Par 3 Golf Course.

Latitude & Longitude: Latitude 26.632° North
Longitude 80.040° West



Legend

- Grassy Flats project area
- Completed project
- Current project
- Proposed project

0 0.1 0.2 0.4 Miles



Proximity of the Grassy Flats Estuarine Restoration Project to Other Habitat Restoration Projects and Public Use Facilities



United States Department of the Interior

FISH AND WILDLIFE SERVICE
1875 Century Boulevard
Atlanta, Georgia 30345

FEB 1 2013

IN REPLY REFER TO
FWS/R4/WSFR

Mr. Nick Wiley, Executive Director
Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, Florida 32399-1600

Dear Mr. Wiley: *NICK*

Rowan W. Gould, Acting Director of the U. S. Fish and Wildlife Service, announced on January 16, 2013, the twenty-three National Coastal Wetlands Conservation Grant Proposals that were selected for funding. It is our pleasure to notify you that your National Coastal Wetlands Conservation Grant Proposal, "Grassy Flats Estuarine Habitat Restoration Project," is approved for Federal funding and is granted a Federal share of \$777,142. This is a twenty-two percent reduction from the \$1,000,000 in Federal Funding requested. This reduction is due to the possible sequestration of program funds as explained in the enclosed Director's memorandum. Should sequestration not take place, the remaining \$222,858 in Federal funding will be awarded.

We recommend that you proceed as though the current award of \$777,142 is the entire Federal share the project will receive. This will mean a reduction in the scope of the project, and that the State share of the project will be reduced from \$454,555 to \$353,254. Should sequestration not occur, the scope of the project would need to be increased back to the original level based the addition of the \$222,858 in Federal share, and the State share would need to be increased to \$454,555 as originally proposed. Mr. Kent Smith is the grant coordinator for this National Coastal Wetlands Conservation Grant project, and we have informally communicated the information contained above to him by electronic mail.

According to the program rules, funds that have been awarded will be held until December 31 of the following year. If a grant agreement obligating the funds has not been signed by the State and the Service within that timeframe, the funds will automatically be returned to the Program account in Washington. Therefore the Federal funds awarded for your proposal must be obligated into a grant before December 31, 2014, or they will revert to the U.S. Fish and Wildlife Service.

Please prepare and submit all the documents listed below for your project to carry out the restoration at Grassy Flats. You may submit your officially signed grant documents to us as Adobe pdf files. Electronic pdf files expedite the receipt and logging of your grant package. When you submit electronic grant documents to our

TAKE PRIDE
IN AMERICA 

R4federalassistance@fws.gov email address, please do not mail us the hardcopies of the documents.

1. Application for Federal Assistance (SF-424). Sign, date, and submit an updated SF-424. The SF-424 submitted with your proposal was only to determine eligibility of proposal. Any changes to the originally proposed scope of work, and additional project information, must be provided to us. Attach a Project Work Plan to the SF-424 that states the approach (who will do the work and what will be done), identifies the tract to be restored, and the project start date and ending date (completion date).

2. Budget Information (Form SF 424A).

3. To categorically exclude these activities under the National Environmental Policy Act (NEPA) we will need the following information:

Section 7 information with concurrence by appropriate Ecological Services Field Office.

A letter from the State Historic Preservation Office (SHPO) providing concurrence, or State Clearinghouse review.

"Special Conditions" will be attached to the Florida Fish and Wildlife Conservation Commission, grant agreement for land restoration under the National Coastal Wetlands Conservation Grant Program. One of the conditions will require deed restrictions and language on the recorded deed that will reference the National Coastal Wetlands Conservation Grant Funds. We can provide guidance on the language.

Please contact me at (404) 679-4154, or Scott White at (404) 679-7113, if you have any questions.

Sincerely yours,



Michael L. Piccirilli
Chief-Wildlife and Sport Fish Restoration Program

Enclosure

ATTACHMENT 6



Florida Department of Environmental Protection

Coral Reef Conservation Program
Biscayne Bay Environmental Center
1277 NE 79th St. Causeway
Miami, Florida 33138-4206

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

Ellen Cummings, EHRP Manager
U.S. Army Corps of Engineers Headquarters
441 G Street, NW
Washington, D.C. 20314

February 6, 2013

Dear Ellen Cummings,

The Florida Department of Environmental Protection's Coral Reef Conservation Program (FDEP CRCP) expresses their support for the proposal submitted by Palm Beach County's Department of Environmental Resources Management to the Estuary Habitat Restoration Program entitled Grassy Flats Estuarine Habitat Restoration Project.

Sedimentation and turbidity are among the list of pollutants leading to the long-term decline of many coral species and are present in the nearshore marine environment adjacent to Palm Beach County. The Grassy Flats Estuarine Habitat Restoration Project will reduce sediments and provide long-term water quality benefits to the Lake Worth Lagoon and the nearshore marine environment.

We are committed financially (\$110,000) and fully support the Grassy Flats Estuarine Habitat Restoration Project, which lends itself to a broader approach to watershed management that includes coral reef ecosystems, as well as implementing management strategies to reduce land-based sources of pollution (LBSP). The outcomes and results from this project will not only help to reduce threats to coral reef resources in southeast Florida, but also support FDEP CRCP's mission.

If you have any questions regarding our support of this project, please do not hesitate to contact me at 305-795-1208.

Sincerely,

A handwritten signature in black ink, appearing to read "Jamie Monty".

Jamie Monty
Manager
Florida Department of Environmental Protection Coral Reef Conservation Program



Department of Environmental
Resources Management
2300 North Jog Road, 4th Floor
West Palm Beach, FL 33411-2743
(561) 233-2400
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February 8, 2013

Ellen Cummings, EHRP Manager
U.S. Army Corps of Engineers Headquarters
441 G Street, NW
Washington, D.C. 20314

**SUBJECT: LETTER OF FINANCIAL COMMITMENT
GRASSY FLATS HABITAT RESTORATION PROJECT
LAKE WORTH LAGOON, FLORIDA**

Dear Ms. Cummings:

Please accept this letter as an indication of Palm Beach County's (County) financial commitment to the Estuary Habitat Restoration Program proposal and the estuarine habitat restoration proposed therein. For more than 20 years, the County has partnered with agencies and municipalities to restore over 238 acres of estuarine habitat throughout the Lake Worth Lagoon.

A collaborative effort among six partners, the Grassy Flats project will cap approximately 30,000 cubic yards of muck sediments at the main source of sedimentation in the Lagoon, providing for the enhancement and restoration of 22.4 acres of estuarine habitat, all of which are recognized as nationally and/or regionally decreasing wetlands. The County is committed through the provision of \$453,385 in matching funds to manage, construct and monitor the project. The County will provide all information necessary to fulfill accounting and audit needs for the project.

We thank you for the opportunity to partner on a project that will provide vital estuarine habitat and long-term water quality improvements, as well as countless opportunities to involve and educate the public on the importance of restoring the Lake Worth Lagoon and similar systems.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Robbins".

Robert Robbins, Director
Environmental Resources Management

RR:jm

JULIE A. MITCHELL

2300 N. Jog Rd., 4th Floor, West Palm Beach, FL 33411
 (561) 233-2437
 jmitchell@pbcgov.org

RELEVANT EDUCATION

- January 2007 NOVA SOUTHEASTERN UNIVERSITY, Dania Beach, FL
Master of Science Degree in Marine Biology and Coastal Zone Management.
- April 2000 FLORIDA STATE UNIVERSITY, Tallahassee, FL
Bachelor of Science Degree in Biology.

RELEVANT EMPLOYMENT

- July 2008-
 Present **PALM BEACH COUNTY ENVIRONMENTAL RESOURCES MANAGEMENT
 WEST PALM BEACH, FL**
Environmental Analyst for the Environmental Enhancement & Restoration Division
- Managing environmental restoration/enhancement projects, including permitting, developing plans and specifications, overseeing construction, and monitoring.
 - Preparing and administering grant applications, project agreements, and contracts.
 - Developing and implementing environmental monitoring programs and mapping of estuarine resources.
 - Analyzing data and preparing scientific and technical reports.
- July 2001-
 July 2008 **BROWARD COUNTY ENVIRONMENTAL PROTECTION DEPARTMENT
 PLANTATION, FL**
Natural Resource Specialist III for the Aquatic & Wetland Resources Section
- Supervised four staff, including delegating assignments, reviewing work, providing performance evaluations, and hiring as necessary.
 - Assisted in development of section's annual budget estimates.
 - Contributed to the development and implementation of the Broward County Boat Facility Siting Plan, a core element of the Broward County Manatee Protection Plan.
 - Reviewed biological portions of Environmental Impact Statements for projects within Broward County, including the Port Everglades Dredging and Expansion, Tractebel Calypso Natural Gas Pipeline, and Calypso Liquefied Natural Gas Deepwater Port.
 - Reviewed complex environmental resource permit applications, including field evaluations, for consistency with local, state, and federal laws and regulations.

RELEVANT RESTORATION PROJECTS**Grassy Flats Habitat Restoration Project, Town of Palm Beach, Palm Beach County, FL**

- Project Manager for \$2.7M project that will restore and enhance 22 acres of estuarine habitat
- Awarded \$778,142 in USFWS National Coastal Wetlands Conservation Grant funding
- Awarded \$110,000 in FDEP/NOAA Coral Reef Conservation Program grant funding

Lake Wyman Restoration Project, City of Boca Raton, Palm Beach County, FL

- Project Manager for \$2.9M project that will restore over 50 acres of coastal wetlands
- Awarded \$372,868 in Florida Inland Navigation District Waterway Assistance Program funding

Ibis Isle Restoration Project, Town of Palm Beach, Palm Beach County, FL

- Project Manager for \$1.2M project that restored 8.3 acres of estuarine habitat
- Awarded \$340,098 in Lake Worth Lagoon Partnership Grant funding

JULIE O. BISHOP

118 Ocean Dunes Circle, Jupiter, FL 33477
561-267-0392 • Beachrun262@gmail.com

PROFESSIONAL EXPERIENCE

Environmental Program Supervisor (2005 - Present)
Palm Beach County Department of Environmental Resources Management
Lake Worth Lagoon and Freshwater Section

Senior Manager responsible for implementing the Department's Estuarine & Freshwater Restoration Programs. Identifies, develops, permits and manages capital construction and mitigation projects. Establishes and executes long-term management, restoration and monitoring program goals. Administers the State-funded Lake Worth Lagoon Partnership Grant Program. Acquires grants and manages contracts and program budget >\$14 million. Develops agenda board items, interlocal agreements and contracts for the PBC Board of County Commissioners.

Key Accomplishments

- Developed the program and manages the staff of the Lake Worth Lagoon and Freshwater Section.
- Executes and manages multi-agency, multi-million dollar restoration and mitigation projects.
- Coordinates successfully with local, state and federal governmental agencies
- Initiated the Lake Worth Lagoon Initiative to organize multi-agency stakeholders to coordinate protection, restoration and funding efforts in the Lake Worth Lagoon.
- Manages the development and adoption of the Lake Worth Lagoon Management Plan
- Chair, Lake Worth Lagoon Initiative Habitat Working Group

Senior Environmental Analyst (2000-2005)
Environmental Analyst (1990-2000)
Palm Beach County Department of Environmental Resources Management

- Shoreline Protection Section
- Marine and Estuarine Restoration Section

Designed, permitted and managed construction of large-scale (>\$15 million) restoration projects in coastal, estuarine and freshwater systems. Responsibilities included coordination with local, state and federal agencies, acquisition of grant funds and project management.

Key Accomplishments

- Project Manager - Munyon Island Restoration, Peanut Island Restoration and Dredged Material Management Area construction with Florida Inland Navigation District and U.S. Army Corps of Engineers.
- Project Manager - C-51 Sediment Management Project (dredging & sediment trap construction) in partnership with the South Florida Water Management District
- Coordinated County's Artificial Reef Program and Artificial Reef and Estuarine Enhancement Committee.
- Managed Beach Restoration Projects - permitted and coordinated sand placement and breakwater alternatives.

Biological Scientist III
Florida Department of Natural Resources (1988-1990)

Managed the Aquatic Plant Program for the 14 county South Florida Region. Coordinated, permitted and regulated aquatic plant control and herbicides. Coordinated aquatic plant management plans for Lake Okeechobee and Kissimmee River systems.

PROFESSIONAL EXPERIENCE continued

Research Assistant (1985-1988)

Harbor Branch Oceanographic - Big Pine Key, Florida Keys

Marine research specializing in macroalgal response to nutrients in the nearshore waters of the Florida Keys. International and shipboard research included work in Jamaica, Bermuda, Bahamas and Belize.

Staff Biologist (1983-1985)

Mote Marine Laboratory - Sarasota, FL

Research and taxonomic identification of benthic invertebrates relative to anthropogenic effects.

EDUCATION

Bachelor of Science, Illinois State University

Alpha Lambda Delta and Phi Eta Sigma - Scholastic Honor Societies

Marine Biology Internship, Newfound Harbor Marine Institute - Big Pine Key, FL

PROFESSIONAL ORGANIZATIONS and COMMITTEES

Florida Association of Environmental Professionals, Treasure Coast Chapter, 2006 - Present
Director, 2007 Board of Directors

Palm Beach Harbor and Lake Worth Inlet Expansion, U.S. Army Corps of Engineers - Present
Feasibility and Value Engineering Team Member

Palm Beach County Hurricane & Emergency Management Team, North County EOA- 2009 - Present
Liaison Officer

Boy Scouts of America Troop 132, Committee Member & Environmental Merit Badge Counselor '06-Present

AWARDS

National Association of Counties - Achievement Award Winner - 1995 and 2006

Marine Industries Association of Palm Beach County - Marine Project of the Year Award - 2006

Florida Association of Environmental Professionals - Habitat Restoration Award 1997 and 2006

Golden Palm Award - Palm Beach County Administrator Award for Outstanding Service and Projects
1999, 2004 and 2010

REFERENCES

Available Upon Request

Erin Elizabeth McDevitt

8535 Northlake Blvd., West Palm Beach, Florida, 33412

erin.mcdevitt@myfwc.com

Relevant Education:

| | |
|--|--------------------------------------|
| Florida Institute of Technology Master of Science in Environmental Science | Melbourne, Florida February 2003 |
| Florida Atlantic University Bachelor of Science in Biology | Boca Raton, Florida December 1996 |

Relevant Employment:

| | |
|--|---|
| Florida Fish and Wildlife Conservation Commission South Region Marine Habitat Coordinator Supervisor: Kent Smith (850) 922-4330 | West Palm Beach, Florida 2005 to present |
|--|---|

Objective: Work within the Aquatic Habitat Conservation and Restoration Section to manage estuarine and marine habitat within the South Florida region. Coordinate with local, state, and federal agencies and stakeholder groups to manage estuarine and marine resources. Identify, develop and implement coordinated restoration projects for estuarine and marine resources, with particular emphasis on seagrass communities. Pursue grant funding for identified restoration and management projects where applicable. Develop and manage contracts and over see contractors to complete restoration and resource management projects.

| | |
|--|-----------------------------------|
| Florida Wildlife Research Institute (FWRI) Fisheries Biologist | Tequesta, Florida 1997 to 2005 |
|--|-----------------------------------|

Relevant Experience:

| | |
|--|------|
| <i>Dendrogyra cylindrus</i> Management Plan Develop a state management plan for state listed Pillar Coral. Lead | 2012 |
|--|------|

| | |
|---|------|
| <i>Development of a Johnson's Seagrass (Halophila Johnsonii) Restoration Plan</i> The NOAA-NMFS Johnson's Seagrass Recovery Plan (2002) identified recovery actions for federally threatened Johnson's seagrass. To effect these actions, a comprehensive restoration plan is being developed by FWC to provide guidance for resource managers and support for appropriate projects seeking funding. Co- Project Manager | 2011 |
|---|------|

Relevant Grants:

| | |
|--|-----------------------------|
| <i>Implementation of a Mooring Buoy Program at Breaker's Reef in Palm Beach County, FL.</i> FWC State Wildlife Grant Project Manager and Grant Manager | \$57,473.54 2009-2012 |
| <i>Harbor Branch Mangrove Marsh Restoration Project in St. Lucie County, FL.</i> USFWS National Coastal Wetlands Conservation Grant Program Grant Manager | \$1,433,604.00 2011-2013 |
| <i>Grassy Flats Estuarine Habitat Restoration Project in Palm Beach County, FL</i> USFWS National Coastal Wetlands Conservation Grant Program Grant Manager | \$1,130,396.00 2013-2014 |

Relevant Publications:

Collier, C. et al. 2008. The State of the Coral Reef Ecosystems of the United States and Pacific Freely Associated States: 2008. Chpt. 5: The State of Coral Reef Ecosystems of Southeast Florida. Pp 131-155. NOAA Technical Memorandum NOS NCCOS 73.



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MyFWC.com

February 5, 2013

Ms. Ellen Cummings
US Army Corps of Engineers
EHRP Manager
Ellen.M.Cummings@usace.army.mil

Dear Ms. Ellen Cummings:

Please accept this letter as confirmation that the Florida Fish and Wildlife Conservation Commission's (FWC) Aquatic Habitat Conservation and Restoration Section's Marine and Estuarine Sub-section is a partner to Palm Beach County Department of Environmental Resources Management (PBC ERM) on the estuarine habitat restoration project known as Grassy Flats.

The FWC, in partnership with PBC ERM, has been awarded a National Coastal Wetlands Conservation Grant from the U.S. Fish and Wildlife Service in the amount of \$777,142 for the Grassy Flats project. FWC has committed staff time to this grant in the amount of \$5,118.10 to this project. FWC's match and charges to the grant are based on 4-weeks salary of a FWC Biological Scientist III applied as follows: \$3,379.56 (\$1,689.78 bi-weekly x 2) + a fringe rate of 34.443% (\$1,164.02) + leave rate of 17% (\$574.52) = \$5,118.10. Fringe and leave rates are estimated and will ultimately be the current rates for appropriate fiscal years.

The mission of the Marine and Estuarine Sub-section is to "provide statewide management of marine and estuarine habitat by addressing coordinated conservation, protection and restoration needs, and will provide related information and services to the public". To achieve these objectives, FWC collaborates with partners with similar objectives and responsibilities to develop an integrated strategy for habitat restoration that achieves results on a landscape scale. The Grassy Flats project is a great example of such a joint venture.

Thank you for consideration of this proposal,

Sincerely,

A handwritten signature in blue ink, appearing to read "Stephen M. Shea".

Stephen M. Shea, Section Leader
Aquatic Habitat Conservation and Restoration

cc: Kent Smith

WEST PALM BEACH FISHING CLUB

• Established 1934 •



April 4, 2012

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 William P. Watson
 David Webb
 Robert L. Weigt

President:

Thomas L. Twyford, Jr.

Operations Manager:

Joella Callaway

Mr. Scott White
 United States Fish and Wildlife Service
 Division of Federal Assistance, Suite 210
 1875 Century Boulevard
 Atlanta, Georgia 30345

Dear Mr. White:

On behalf of the over 1,300 members of the West Palm Beach Fishing Club (WPBFC) I would like to offer our enthusiastic support of the Florida Fish & Wildlife Conservation Commission's (FWC) proposed Grassy Flats Restoration Project in the Lake Worth Lagoon. We applaud the FWC and Palm Beach County's (PBC) efforts to receive a U.S. Fish and Wildlife Service, National Coastal Wetlands Conservation Grant for this project. The WPBFC is thrilled to know that projects like this one are being initiated locally to improve water quality and estuarine resources. The WPBFC is especially pleased to see that additional partners are being sought for this project. Please know that the WPBFC is willing to serve as a project partner by providing volunteers who can assist with the planting phase of the project, as well as educational outreach and monitoring efforts. The WPBFC values its in-kind volunteer support at \$18 per man-hour. We can easily provide up to 20 volunteers for two separate (4 hour) work days for planting (160 hours = \$2,880 value) and two volunteers to assist with outreach and monitoring (12 hours = \$216 value), for a total in-kind value of \$3,096. We will require all volunteers to sign a 'time sheet' documenting their hours. The sheets are verified by our staff and are kept on file here at the Fishing Club. Copies of these sheets can be provided to the grant project manager upon project completion.

The WPBFC believes there is a real need for this type of environmental restoration work throughout the Lake Worth Lagoon. As anglers, we have witnessed first hand the positive results that occur when these enhancement projects begin to mature. Anecdotally, our members have reported seeing more bird and marine life, cleaner water and had better fishing experiences in general near PBC's previous restoration sites in the lagoon like Munyon Island, Snook Islands, Ibis Isle and John's Island.

The WPBFC is pleased to offer our support for the Grassy Flats project. Please do not hesitate to contact me if I can be of any further assistance.

Sincerely,

Tom Twyford, Jr.
 President



Scott White
United States Fish and Wildlife Service
Division of Federal Assistance, Suite 210
1875 Century Boulevard
Atlanta, Georgia 30345

Scott,

The Marine Industries Association of Palm Beach County is pleased to offer our fullest support of the application by the Fish and Wildlife Commission in partnership with Palm Beach County Environmental Resources Management of the United States Fish and Wildlife Service's National Coastal Wetland Conservation Grant Program for federal funding of the Grassy Flats project here in Palm Beach County.

We are proud to offer our partnership and participation to ERMPBC for the successful completion of this project and will commit both man hours through 20+ volunteers and executive level collaboration throughout the duration of the project. This should account for an estimated value of \$2,880 of in-kind contributions. (20 volunteers x 8 hours x \$18 per hour). Records documenting the hours worked will be signed by the volunteers and verified by our staff. These records will be kept on file and provided to the grant project manager upon project completion.

We recognize and support the numerous environmental benefits that will result from this project and do so under the understanding and assurance that the enhancements that are made result in no affect or diminishment of existing natural navigable channels that exist in this project area.

Please contact us with any questions at 561.863.0012.

Respectfully,

Mike Antheil
Executive Director
Marine Industries Association of Palm Beach County

CC: John Sprague, Director of Government Affairs, Marine Industries Association
Robert Robbins, Director -Palm Beach County Environmental Resources Management

Attachment B –Project Management Plan

**GRASSY FLATS
ESTUARINE HABITAT RESTORATION PROJECT**

PROJECT MANAGEMENT PLAN

Revised: April 21, 2014



**U. S. ARMY CORPS OF ENGINEERS
JACKSONVILLE DISTRICT**

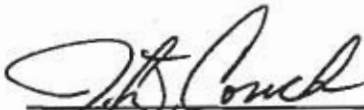


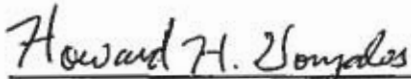
**PALM BEACH COUNTY
FLORIDA**

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**UPDATE APPROVAL WITH REVISED SCHEDULE AND COST ESTIMATE
BREAKDOWN BY TASKS INFORMATION PROVIDED BY THE NON-FEDERAL
SPONSOR**

 05 May 2014
Orlando Ramos-Gines, Senior Project Manager (sign and date)

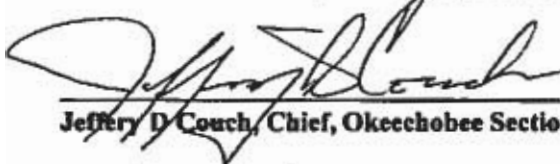
 5 MAY 2014
Jeffery D Couch, Chief, Okeechobee Section (sign and date)

 5 May 2014
Howard H. Gonzales, Chief, Ecosystems Branch (sign and date)

INITIAL APPROVAL

FOR THE U.S. ARMY CORPS OF ENGINEERS:

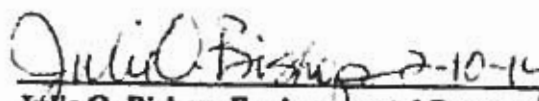
 12 Feb 14
Orlando Ramos-Gines, Senior Project Manager (sign and date)

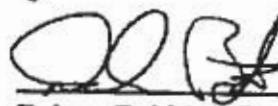
 12 FEB 14
Jeffery D. Couch, Chief, Okcechobee Section (sign and date)

 12 FEB 14
Howard H. Gouzales, Chief, Ecosystems Branch (sign and date)

FOR THE PALM BEACH COUNTY:

 2/7/2014
Julie A. Mitchell, Environmental Analyst (sign and date)

 2-10-14
Julie O. Bishop, Environmental Program Supervisor (sign and date)

 2-10-14
Robert Robbins, Department Director (sign and date)

**PROJECT MANAGEMENT PLAN
FOR THE
GRASSY FLATS ESTUARINE HABITAT RESTORATION PROJECT**

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1. **PROJECT NAME AND STATE:** Grassy Flats Estuarine Habitat Restoration Project, Florida.
2. **LOCATION:** Lake Worth Lagoon estuary in Palm Beach County, FL. Directly adjacent to the Palm Beach Par 3 Golf Course, approximately 3 miles south of Southern Boulevard and 1 mile north of Lake Avenue. 26°42'32.97" N. Latitude, -80°2'58.60" W. Longitude.
3. **AUTHORIZATION:** The Estuary Restoration Act of 2000, Title I of Public Law 106-457.
4. **CONGRESSIONAL INTEREST:** FL-022.
5. **RECIPIENT:** Palm Beach County Board of County Commissioners

6. **SUMMARIZED FINANCIAL DATA:**

| | <u>FY 2014 Estimate</u> |
|---|--------------------------------|
| Federal Cost (65% of total costs) | \$1,729,142.00 |
| Estimated Non-Federal Sponsor Cost (35% of total costs) | \$ 931,167.00 |
| Total Estimated Project Cost | \$2,660,309.00 |

7. **DESCRIPTION:** The 22-acre Grassy Flats project is a cooperative effort between the County, U.S. Fish & Wildlife Service, National Oceanic and Atmospheric Administration, Florida Fish and Wildlife Commission, Florida Department of Environmental Protection. The project will restore and enhance nearly 20 acres of critical shallow seagrass habitat through the capping of anoxic, fine-grained organic sediments (i.e., muck). Capping the muck will allow for the natural recruitment of seagrasses, including Johnson's seagrass (*Halophila johnsonii*), a federally threatened species, which is currently in the vicinity of the project area. The project will also result in two 1-acre intertidal islands consisting of mangrove, tidal marsh, tidal flat, and oyster habitats and is expected to support over 195 species of fish and 89 species of birds, including 9 federally listed species and 16 State listed species, found within the Lagoon. Other benefits of the project include substrate stabilization, water-quality improvements, increased shoreline protection, increased carbon sequestration, and improved environmental education and eco-tourism opportunities. Methods chosen to achieve this project have been used by the County and its partners to successfully restore over 85 acres of high-quality habitat within 1.5-miles of this project. Experience gained through the construction and monitoring of this project will be used to guide future investments and efforts in Lake Worth Lagoon restoration and management.

8. PROJECT AREAS AND PROJECT COMPONENTS:

Project Area: The Lake Worth Lagoon estuary in Palm Beach County runs approximately 20 miles parallel to the southeast coastline of Florida (Figure 1). The most significant impacts to the Lagoon are the loss of intertidal and subtidal estuarine habitats as a result of extensive dredging and filling of wetlands along the shoreline, dredging of canals and channels, and the construction of seawalls, bridges, causeways, docks, marinas, a port, and a power plant.

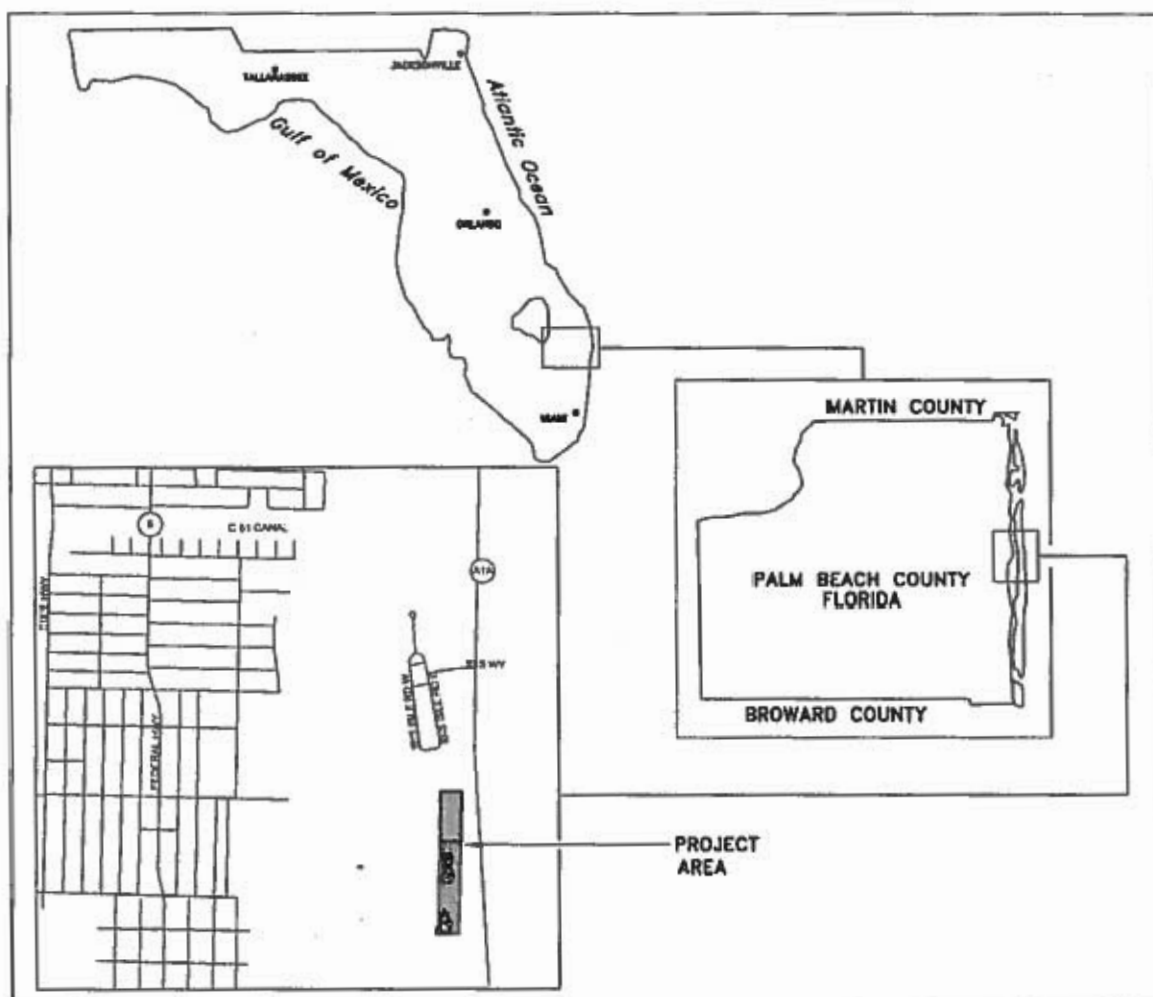


Figure 1. Project Location Map

The Lagoon has experienced a 40% decline in seagrass over the past 70 years, and the loss can be attributed, in part, to elevated concentrations of fine-grained silt and clay-enriched organic sediments (i.e. muck) in freshwater from the three major canals discharging to the Lagoon. The central portion of the Lagoon, where the proposed Grassy Flats project is located, contains the most significant muck deposits and less than 10% of the Lagoon's seagrass. An estimated 87% loss in mangrove wetlands occurred in the Lagoon between 1940 and 1975 as a result of shoreline development. Between 1944 and 1982, 51% of tidal

marsh wetlands were lost due to altered hydrology associated with development adjacent to the Lagoon. There has also been a 50-89% loss from historic levels of oysters, and recent monitoring events indicate that this loss may be due to a lack of suitable substrate for attachment.



**Figure 2. Aerial photograph of project area. November 5, 2011.
Looking east towards project area (delineated by red lines).**

The Grassy Flats Project area is a 12-acre depression, approximately one foot deeper than the adjacent shelly sand area, with an average of 1.5 feet of muck sediments. Grain size analysis indicates that 6 of 8 samples within the project area contained fine sediments, averaging 71% fines, with a maximum of 92% where the deposits are the thickest. Due to the influences of freshwater discharge, shallow depths, and predominately anoxic sediments, the benthic community in the project area can be characterized as low diversity, generally dominated by opportunistic filter feeding and deposit feeding mollusks. Although seagrass (*Halophila decipiens* and *Halophila johnsonii*) was observed directly west of and along the perimeter of the depression in predominately sandy sediment, the project area itself does not support seagrass.

Project Components: Approximately 50,000 cubic yards of sand will be uniformly spread over the 13 acres project area to cap approximately 30,000 cubic yards of muck sediments. The sand cap provides the appropriate substrate and elevation for 10.52 acres of seagrass growth and persistence. Capping will also enhance 9.31 acres of seagrass habitat immediately

adjacent to the project site by reducing turbidity and improving water quality. 1.74 acres of intertidal habitat will be restored by capping muck sediments and creating two islands at the appropriate elevations, and 1.14 acres will be planted with smooth cordgrass (*Spartina alterniflora*) to create tidal marsh, 0.33 acre will be planted with red mangroves (*Rhizophora mangle*), and 0.27 acre will be left unvegetated to create a tidal flat for bird foraging. Approximately 5,300 tons of limestone rock will be used to stabilize the islands and create 0.57 acre of oyster/artificial reef habitat.

- 9. PROJECT ACTIVITIES:** Planning of this project began in 2010. The project design is based on bathymetric and resource surveys and sediment analyses, as well as comments from the Town of Palm Beach and nearby residents. State and federal permits have been obtained, and pre-construction surveys have been completed.

The following tasks are necessary to complete this project:

Task 1: Transport and place sand to cap muck sediments. Approximately 50,000 cubic yards of sand will be barged to the site and placed to cap the muck sediments. The thickness of the sand cap will vary depending on the habitat and existing elevation (ranges from -4 feet NAVD at north end to -6 feet NAVD at south end). The design elevation for seagrass is -3.5 to -5 feet NAVD and for the mangrove, salt marsh and tidal flat islands is -0.3 feet NAVD.

Task 2: Purchase, transport and install rock to stabilize islands. Approximately 600 tons of bedding stone (diameter 6 inches) and 4,700 tons of armor stone (diameter 2 feet) will be used to stabilize the two islands. Bedding stone will be placed at elevation of -3.5 to -4 feet NAVD, and armor stone will be placed from -4 feet to +2.5 feet NAVD. Filter fabric will be used to prevent erosion of sand through the breakwater.

Task 3: Purchase and install vegetation. The islands will be planted with 25,000 4-inch plugs of smooth cordgrass (*Spartina alterniflora*) and 2,900 1-gallon red mangroves (*Rhizophora mangle*). Smooth cordgrass will be purchased and planted using an annual County contract. The mangroves will be collected and planted by members of the West Palm Beach Fishing Club and Marine Industries Association.

Task 4: Purchase, transport and install navigational signage. Five navigational signs will be purchased and placed along the western perimeter of the project to delineate the navigational channel. One "Caution: Shallow Seagrass" sign will be installed at the northwest corner of the project. The remaining four signs will read "Rocks" and be placed at the northwest and southwest corners of each island.

Task 5: Perform post-construction bathymetric and resources surveys. A bathymetric survey will be performed at the completion of the project to ensure that muck sediments were not displaced during construction. A resource survey will also be performed to demonstrate that adjacent seagrasses were not impacted during construction.

Task 6: Perform post-construction monitoring. The project will be monitored annually for five years post-construction.

- During growing season (April-October), the extent of seagrass will be mapped using transects spaced at approximately 200 feet intervals. Biologists will place a 0.25 meter quadrat at approximately 50 foot intervals along each transect to determine the percent cover of each seagrass species present, based on Braun-Blanquet scale. Presence or absence of seagrass and any other resources along the remainder of each transect will also be noted.
- To monitor emergent vegetation, two transects will be established on each island. A 1 meter quadrat will be placed at approximately 100 foot intervals along each transect to document percent cover and survival rate of species, overall health, and relative size distribution.
- A 0.25 meter quadrat will be randomly thrown along the reef at approximately 100 foot intervals to document percent cover of oysters and other shellfish species and relative size distribution.
- Bird surveys will be conducted to document species abundance and behavior (e.g. foraging, flying, nesting, resting, and preening).
- Direct and indirect observations of fish, manatees, and sea turtles will be noted during the aforementioned surveys. In addition, fish habitat and nursery success will be established through surveys conducted by Florida Atlantic University students and anecdotal reports obtained from the West Palm Beach Fishing Club.

See complete monitoring plan for further details, including transect and photo-station locations.

10. PROJECT METHODOLOGY: The project will be constructed utilizing shallow-water barges with barge mounted equipment to access the project site. Turbidity curtains will be deployed. A submerged berm will be constructed along the perimeter of the project area using an excavator to minimize displacement of muck sediments. After completion of the berm, the remaining project area will be capped using an excavator and “sand cannon”. The excavator would be used to create the islands, and the “sand cannon” for seagrass habitat. The “sand cannon,” used successfully for the Ibis Isle Restoration Project, is a piece of equipment specifically designed to broadcast sand across the surface of the water allowing for an even layer of coverage with minimal muck displacement (Figure 3).



Figure 3. "Sand cannon" in operation for the Ibis Isle Restoration Project (PBCERM)

The thickness of the sand cap will vary (6 inches to 5 feet) depending on the existing depth and final elevation appropriate for each habitat (see project design). Limerock will then be placed along the western edge of the islands to stabilize the islands. Upon achieving final elevations, the islands will be planted with 25,000 plugs of cordgrass (*Spartina alterniflora*) and 2,900 red mangrove (*Rhizophora mangle*) seedlings. Plants will be purchased from local nurseries to maintain the genetic integrity of the Lagoon.

- 11. PROJECT SCOPE:** The project scope consists of the restoration and enhancement of 22 acres of subtidal and intertidal estuarine habitat in central Lake Worth Lagoon. Design, engineering, permitting and pre-construction surveys have been completed. The remaining tasks involve construction and monitoring.

12. SCHEDULE: The anticipated project timeline is as follows:

| Task | Start | Finish |
|--|--------------|---------------|
| Task 1: Purchase, transport and place sand to cap muck sediments | May-14 | Dec-14 |
| Task 2: Purchase, mobilize/transport and install rock to stabilize islands | May-14 | Dec-14 |
| Task 3: Purchase and install vegetation | Sep-14 | Jan-15 |
| Task 4: Purchase, transport and install navigational signage. | Sep-14 | Jan-15 |
| Task 5: Perform post-construction bathymetric and resources surveys (seagrass, vegetation, oysters, bird utilization) (Year 1) | Jan-15 | Dec-15 |
| Task 6: Perform post-construction monitoring Year 2 through Year 5 (bird and fisheries utilization) | | |
| | Year – 2 | Jan-16 Dec-16 |
| | Year – 3 | Jan-17 Dec-17 |
| | Year – 4 | Jan-18 Dec-18 |
| | Year – 5 | Jan-19 Dec-19 |

Once the Cooperative Agreement is executed, the County will submit a quarterly project report and invoice covering the project activities and expenses occurring in the previous three months. The report and invoice will be submitted by the 30th day of the month following the close of the quarter.

Payments will be made to Palm Beach County within 30 days of receipt and review by USACE of each quarterly report and invoice. Payments will be made by Electronic Funds Transfer (EFT).

Work accomplished prior to approval of a monitoring plan may not be considered as part of the non-Federal share of the project costs. A site visit is planned prior to construction to ensure new construction is being performed.

- 13. BUDGET:** Approximately \$84,200 is available for the USACE administrative component of the project. The remainder of the project budget, \$757,800 in USACE funds, \$887,142 in other Federal funds and \$931,167 in non-Federal matching funds, is allocated to construction, project management, and post-construction surveys and monitoring. Changes to the budget and/or schedule, if any, will be added to this PMP by amendment and the revised budget(s) will be attached. The following table reflects cost estimates and expected USACE contribution by project tasks.

| Task | Start | Finish | Total Costs Estimate | Expected USACE Contribution / Reimbursable¹⁾ |
|--|--------------|---------------|-----------------------------|--|
| Task 1: Purchase, transport and place sand to cap muck sediments | May-14 | Dec-14 | \$1,612,500 | \$287,584 |
| Task 2: Purchase, mobilize/transport and install rock to stabilize islands | May-14 | Dec-14 | \$491,945 | \$470,216 |
| Task 3: Purchase and install vegetation | Sep-14 | Jan-15 | \$29,550 | 0 |
| Task 4: Purchase, transport and install navigational signage. | Sep-14 | Jan-15 | \$9,125 | 0 |
| Totals | | | \$2,143,120 | \$757,800 |

¹⁾ Excludes contributions by other federal agencies and funds to be used for USACE administrative purposes.

14. ENVIRONMENTAL COMPLIANCE:

The following environmental permits have been obtained for all project activities:

- South Florida Water Management District Environmental Resource Permit No. 50-09957-P
- U.S. Army Corps of Engineers Permit No. SAJ-2011-01156 (expires March 18, 2017 (can be re-verified if necessary)
- Florida Department of Environmental Protection Environmental Resource Permit 43-0260643-006 permit (expires Mar 3, 2019)

A permit for the navigational signage will be needed from the U.S. Coast Guard prior to installation. During construction, the project will be monitored by the County to ensure compliance with environmental permits, including adherence to water quality standard and standard manatee construction conditions.

**Attachment C – Standard Conditions for the Estuary Habitat Restoration Program
Cooperative Agreement**

**Estuary Habitat Restoration Program
Cooperative Agreement
Standard Conditions**

These conditions apply to cooperative agreements issued for projects implemented under the Estuary Restoration Act of 2000, Public Law 106-457, as amended (33 U.S.C. 2901).

1. AWARD PAYMENTS, ADMINISTRATION AND COST PRINCIPLES.

A. Payment of funds will be accomplished using Federal procedures for cooperative agreements. Eligible activities are limited to those described in approved cooperative agreement applications and work plans. Administration of the cooperative agreement applications and awards will be in accordance with this Cooperative Agreement; the Department of Defense Grant and Agreement Regulations (DoD 3210.6-R), Part 21, 32 CFR Part 21 (General Matters); and DoD3210.6-R, Part 22, 32 CFR Part 22 (Award and Administration) and OMB Circular A-133 (Audits of States, Local Governments, and Non-Profit Organizations). The regulations contained in 32 CFR Part 21, 32 CFR Part 22 and OMB Circular A-133 are incorporated as part of this Cooperative Agreement by reference, as applicable, and shall be effective on the earlier of (i) the award date of this Cooperative Agreement or (ii) the date on which the Recipient incurs costs to be assessed under this Cooperative Agreement.

B. Depending on the Recipient, administration of the cooperative agreement applications and awards will be in accordance with one or more of the following regulations, which are incorporated as part of this Cooperative Agreement by reference, as applicable, and are to be effective on the earlier of (i) the award date of this Cooperative Agreement or (ii) the date on which the Recipient incurs costs to be assessed under this Cooperative Agreement:

(1) DoD 3210.6-R Part 33, 32 CFR Part 33 (Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments);

(2) DoD3210.6-R, Part 32, 32 CFR Part 32 (Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations) implementing 2 CFR Part 215 (OMB Circular A-110);

(3) 2 CFR Part 225 (OMB Circular A-87) (Cost Principles for State, Local, and Indian Tribal Governments);

(4) 2 CFR Part 230 (OMB Circular A-122) (Cost Principles for Non-Profit Organizations), but see NOTE below; or

(5) 2 CFR Part 220 (OMB Circular A-21) (Cost Principles for Educational Institutions).

C. After a cooperative agreement is approved and funds are awarded, the Recipient, in accordance with 32 CFR Part 33 or 32 CFR Part 32, shall submit a request to the Government for advancement or reimbursement based on the schedule in the Project Management Plan (PMP) but no more than once monthly. The Government will process the request and transfer funds in accordance with 32 CFR Part 33 (State and Local Governments) or 32 CFR Part 32 (Institutions of Higher Education and Other Non-Profit Organizations) as appropriate. Within thirty (30) days after the end of the period as defined in the PMP, the Recipient shall submit to the Government a status report, including cost summaries, which directly relate allowable costs actually incurred by the Recipient under this Cooperative Agreement during the period for services. Allowable costs shall be determined in accordance with this Cooperative Agreement and the following regulations depending upon the Recipient:

(1) 33 CFR 33.22, 33 CFR 33.23, and 2 CFR Part 225, for cost principles applicable to State, Local, and Indian Tribal Governments);

(2) 32 CFR 32.27, 32 CFR 32.28 and 2 CFR Part 230, for cost principles applicable to non-profit organizations, but see NOTE below; or

(3) 32 CFR 32.27, 32 CFR 32.28 and 2 CFR Part 220 for cost principles applicable to educational institutions.

D. The Government shall reconcile continuing awards and close out completed awards in accordance with 32 CFR Part 33 or 32 CFR Part 32 as appropriate. Auditing of the Recipients program shall be accomplished in accordance with OMB Circular A-133.

NOTE: For those nonprofit organizations specifically exempted from the provisions 2 CFR 230.20(c) and 2 CFR Part 230 Appendix C, the Federal Acquisition Regulation (FAR) Subpart 31.2, Contracts With Commercial Organizations, 48 CFR Subpart 31.2, shall apply.

2. RECIPIENT RESPONSIBILITIES AND COST-SHARING

A. Definitions.

(1) The term "project" shall mean the scope of work as generally described in **Palm Beach County Board of Commissioners Proposal titled Grassy Flats Estuarine Habitat Restoration Project and dated February 8, 2013**, a copy of which is incorporated into the Cooperative Agreement as Attachment A thereto.

(2) The term "total project costs" shall mean the sum of all costs incurred by the Recipient and the Government in accordance with the terms of this Cooperative Agreement directly related to planning, design and construction including the required monitoring of the project performed over a five-year period subsequent to completion of the project construction/implementation; the value of in-kind contributions determined by the Government to be an appropriate contribution; and any planning costs incurred by the Government prior to the effective date of this Cooperative Agreement. The term does not include any costs or value for lands, easements, rights-of-way or relocations required for the project, including incidental acquisition costs; any costs that do not meet the allowability test of the applicable cost principles as described paragraph 2.E. below; or any costs for operation, maintenance, repair, rehabilitation, or replacement of the project. The total project cost is estimated to be **\$2,660,309**.

B. Using funds provided under this Cooperative Agreement, which shall not exceed **\$757,800 (Exclude \$84,200 for USACE use from the awarded \$842,000)**, as well as its own funds, the Recipient shall complete the project. In accordance with Article 18 of these Standard Conditions, the Government may inspect the project before, during, or after implementation.

C. The Government's share of the cost of the project shall be **\$757,800 (Exclude \$84,200 for USACE use from the awarded \$842,000)**, or 65 percent of total project costs (as defined in paragraph 2.A.(2), above), whichever is less.

D. The Recipient's share of the cost of the project shall be all costs of the project that exceed the Government's share of the cost of the project: plus provision of all lands, easements, and rights of way, including those necessary for relocations, the borrowing of material, and the disposal of dredged or

excavated material, and performance of all relocations that the Government determines to be required for the construction, operation, and maintenance of the project.

E. Cost-sharing amounts identified in the agreement documents must meet the allowability test of the appropriate cost principles identified in Paragraph 1 of these Standard Conditions, and governed by 32 CFR Part 33 or 32 CFR Part 32. If, during or at the end of the agreement period, total project costs exceed the amount of the Recipient's original proposal, the Recipient shall be responsible for the entire portion of total project costs not covered by the Federal award amount. If, during or at the end of the agreement period, total project costs of the project is less than the amount of the Recipient's original proposal, the amount of the reduction in cost may be used to reduce the non-Federal share, so long as the Federal share does not exceed 65 percent of total project costs. Excess Government funds shall be returned to the Government. In no event shall the Federal share of the total project cost exceed the lesser of 65 percent of total project costs or \$757,800 (Exclude \$84,200 for USACE use from the awarded \$842,000).

3. REVISION OF BUDGET/PROGRAM PLANS AND AMENDMENT OF THE COOPERATIVE AGREEMENT

A. The only method by which this Cooperative Agreement can be amended is by a formal, written amendment signed by the Grants Officer. No other communications, whether oral or in writing, are valid. However, prior written approval of the Grants Officer is not required for the following actions in accordance with the regulations identified in Paragraph 1.b. of these Standard Conditions:

- (1) Transferring amounts budgeted for indirect costs to absorb increases in direct costs, or vice versa;
- (2) Incurring pre-award costs ninety (90) calendar days prior to award, but see NOTE below;
- (3) Carrying forward un-obligated balances to subsequent funding periods, if applicable;
- (4) Transferring of funds among direct cost categories, functions and activities for awards except as provided in Paragraph b. below (although no federal appropriation or part thereof may be transferred to be used for purposes other than those consistent with the original intent of the appropriation).

NOTE: Incurring pre-award costs more than 90 calendar days prior to award would still require the prior approval of the Grants Officer. All pre-award costs are incurred at the Recipient's risk., Therefore, the Government is under no obligation to reimburse such costs if for any reason the Recipient does not receive an award or if the award is less than anticipated and inadequate to cover such costs. Pre-award costs, as incurred by the Recipient, must be necessary for the effective and economical conduct of the project, and the costs must be otherwise allowable in accordance with the appropriate cost principles.

B. Recipients shall request prior approval for all other plan changes in accordance with 32 CFR 33.30 or 32 CFR 32.25, including but not limited to the following approvals required by: 2 CFR Part 225, 2 CFR Part 230 or 2 CFR 220, as appropriate--

- (1) Any change in the scope or objectives of the Project;
- (2) Any request for additional funding;

- (3) A change in the program's director, the continuation of the work during a continuous period in excess of three (3) months without the participation of an approved program director, or a change in other key personnel;
- (4) The award of a subcontract or sub-grant to accomplish substantial programmatic work required in this Cooperative Agreement to be performed by the prime Recipient (exclusive of a subcontract or sub-grant for supplies, material, equipment or general support services);
- (5) Any expenditure for general-purpose equipment and specific purpose equipment costing \$5,000 or more, unless such expenditure is identified in the budget incorporated as part of the agreement;
- (6) Any change which would cause the estimated entire travel category to exceed 25% of the incorporated budget amount;
- (7) Any purchase of real property using funds provided under this Cooperative Agreement in which the Government has not concurred in accordance with Paragraph 17, below.

4. PROCUREMENT STANDARDS

The Recipient's systems for acquiring goods and services under awards shall comply with 32 CFR Section 33.36 if a State or Local Government, or 32 CFR Section 32.44 if an institution of higher education or other non-profit organization. The Recipient shall, if later requested, make available for the Government's pre-award review, procurement documents such as request for proposals or invitations for bids, independent cost estimations for bids, independent cost estimates, etc.

5. SUBAWARDS/FLOW-DOWN REQUIREMENTS

Any legal entity that receives an award from a DoD component shall apply the provisions of 32 CFR Part 33 or 32 CFR Part 32, as applicable, to sub-awards with institutions of higher education or other non-profit organizations. Thus, a governmental or non-profit organization, whose prime award from a DoD Component is subject to 32 CFR Part 33 or 32 CFR Part 32, respectively, must apply this part to sub-awards with institutions of higher education or other non-profit organizations. It should be noted that sub-awards are for the performance of substantive work under awards, and are distinct from contracts for procuring goods and services. It should be further noted that non-profit organizations that implement Federal programs for the States are also subject to State requirements.

6. TECHNICAL REPORTING REQUIREMENTS

Technical performance reports shall be submitted in accordance with 32 CFR 33.40 or 32 CFR 32.50 and 32.51, and the agreement schedule. Performance reports shall generally contain brief information on each of the following:

- (1) A summary of actual accomplishments along with a comparison with the goals and objectives established for the period;
- (2) Reasons why established goals were not met, if appropriate;
- (3) Other pertinent information including, when appropriate, analysis and explanation of cost overruns or high unit costs;
- (4) Identification of work planned during the coming reporting period; and
- (5) Changes in key personnel.

7. FINANCIAL REPORTING REQUIREMENTS

A. All financial reporting required by this Cooperative Agreement shall be prepared on a cash basis as required by 32 CFR 33.41 and 32 CFR 33.42 for a State or Local Government, or 32 CFR 32.52 and 32 CFR 32.53 for an institution of higher education or other non-profit organization, and the corresponding CFR Part 225, 2 CFR Part 230, or 2 CFR Part 220 as appropriate, and as detailed below. Recipients shall complete and submit the following reports, which can be downloaded from the Office of Management and Budget list found on http://www.whitehouse.gov/omb/grants_forms/.

- (1) Outlay Report and Request for Reimbursement for Construction Programs (SF 271), shall be submitted as scheduled in the PMP, within fifteen (15) calendar days following the end of each period; and
- (2) Financial Status Report (SF 425 and 425A if required) shall be submitted in lieu of a report for the final period of this project at completion of the agreement.

B. All reports listed above shall be submitted to the office performing administrative duties (see Paragraph 6 of this Cooperative Agreement), with a copy submitted to the Grant Officer's Technical Representative listed in Paragraph 8 of this Cooperative Agreement.

8. RECORDS

Retention and access requirements for records of this Cooperative Agreement shall be as specified in 32 CFR 33.42 for a State or Local Government or 32 CFR 32.53 for an institution of higher education or other non-profit organization.

9. TERMINATION AND ENFORCEMENT

This Cooperative Agreement may be terminated in accordance with 32 CFR 33.43 and 32 CFR 33.44 if the Recipient is a State or Local Government, or 32 CFR 32.61 and 32 CFR 32.62 if the Recipient is an institution of higher education or other non-profit organization. These regulations set forth uniform suspensions, termination and enforcement procedures. All matters relating to termination and enforcement shall conform to these regulations and documents.

10. DISPUTE RESOLUTION

A. This section applies to technical disputes. Financial disputes shall be handled by the Grant Officer Technical Representative in accordance with the process stipulated in 32 CFR Part 22.815.

B. The Project Managers shall be the primary points of contact to coordinate all activities under this Cooperative Agreement, including the resolution of disputes under this Cooperative Agreement. It is the intention of the parties that all disputes shall be resolved at the lowest possible level of authority as expeditiously as possible within the following framework. All time frames for resolving disputes below may be lengthened by mutual consent.

- (1) Should the Project Managers be unable to agree, the matter shall be referred in writing as soon as practicable, but in no event to exceed thirty (30) working days after the failure to agree, to the Commander, United States Army Corps of Engineers, **Jacksonville District** and the **Palm Beach County Mayor**, or their mutually agreed upon representatives designated in writing.
- (2) Should the Commander, **Jacksonville District** and the **Palm Beach County Mayor**, or their mutually agreed upon representatives designated in writing, be unable to agree within 90 working days, the matter shall be elevated to the Grant Officer who will issue a final decision in writing to the Recipient.
- (3) The final decision will permit the Recipient to appeal the decision within thirty (30) calendar days after receipt of such notification. Appeals will be resolved at the Headquarters, Department of Army level who may, at their option, resort to non-binding alternative disputes resolution. A decision by an authorized Headquarters, Department of Army official will be final and not subject to further administrative appeal.
- (4) If the Recipient refuses to participate in, or does not accept the results of the above procedures, they may bring such formal claims as are authorized by 28 U.S.C. 1491 or other applicable statutes.

11. FUNDING INCREMENTS AND/OR OPTIONS

The Recipient is advised that the Government's obligation to provide funding for funding increments and/or options included in this Cooperative Agreement is contingent upon (i) satisfactory performance and (ii) the availability of funds. Accordingly, no legal liability on the part of the grantor exists unless or until (i) funds are made available to the grantor and notice of such availability is confirmed in writing to the Recipient, and (ii) performance of the work is deemed satisfactory in the judgment of the Grant Officer's Technical Representative.

12. SITE VISITS

The Government, through authorized representatives, has the right, at all reasonable times, to make site visits to review project accomplishments and to provide such technical assistance as may be required. If any site visit is made by the Government on the premises of the Recipient, a sub-Recipient, or contractor, the Recipient shall provide, and shall require its sub-Recipients and contractors to provide, all reasonable facilities and assistance for the safety and convenience of the government representatives in the performance of their duties. All site visits and evaluations will be performed in such a manner as will not unduly interfere with or delay the work.

13. RECEIPT OF PERMITS AND CONSULTATIONS

The Recipient shall be responsible for the project's compliance with applicable Federal, state, and local laws, regulations, and policies, including obtaining all required permits. These include but are not limited to: Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d) and Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army"; and all applicable Federal labor standards requirements including, but not limited to, 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708 (revising, codifying and enacting without substantive change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 *et seq.*) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c).

If requested, verification of permits and regulatory compliance related to this project shall be presented to the Project Manager before project implementation.

14. USACE PARTICIPATION

USACE staff participation will be crucial to ensuring the development and implementation of the most beneficial habitat restoration project possible. USACE staff will provide hands-on assistance on technical issues for the project, monitor the progression of the restoration from planning through monitoring, including site visits, and may participate in public events related to the project. Additional details regarding USACE participation are contained in Attachment B.

15. ACKNOWLEDGEMENT OF CONTRIBUTORS

The Recipient must display, where appropriate and practical, publicly visible signs indicating that the project has received funding through the USACE Estuary Habitat Restoration Program. These signs also should identify other contributing partners. These contributions also should be acknowledged in all communications with the media and the public, as well as in any reports.

16. HOLD AND SAVE

The Recipient shall hold and save the Government free from all damages arising from design, construction, operation, maintenance, repair, rehabilitation, and replacement of the project, except for damages due to the fault or negligence of the Government or its contractors.

17. DETERMINATION OF LANDS, EASEMENTS, RIGHTS-OF-WAY, AND RELOCATIONS, AND COMPLIANCE WITH PUBLIC LAW 91-646, AS AMENDED

A. The Recipient shall provide the Government with general written descriptions of the lands, easements, and rights-of-way (including the acreage, interest, and duration thereof) that the Recipient deems to be required for the project. Upon review of this material and consultation with the Recipient the Government will document the lands, easements, and rights-of-way (including those required for relocations, the borrowing of material, and the disposal of dredged or excavated material) and the relocations that the Government determines to be required for construction, operation, and maintenance of the project. The Recipient shall acquire such lands, easements, and rights of way and perform or ensure performance of such relocations. The Recipient shall ensure that lands, easements, and rights-of-way that the Government determines to be required for the project and that were provided by the Recipient are retained by the Recipient, or in public ownership, for uses compatible with the authorized purposes of the project.

B. For the purposes of this Cooperative Agreement, the term "relocation" shall mean providing a functionally equivalent facility to the owner of a utility, cemetery, highway owned by a public entity, railroad, or public facility when such action is authorized in accordance with applicable principles of just compensation.

C. The Recipient shall comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended (42 U.S.C. 4601-4655), and the Uniform Regulations contained in 49 C.F.R. Part 24, in acquiring lands, easements, and rights-of-way required for construction, operation, and maintenance of the Project and shall inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.

18. COMPLETION OF PROJECT, OPERATION, MAINTENANCE, REPAIR, REHABILITATION, REPLACEMENT (OMRR&R), AND MONITORING

A. Upon completion of construction and final inspection by the Government, the Recipient shall provide for the long-term operation and maintenance of the project, and shall be responsible for all costs associated with operating, maintaining, replacing, repairing, and rehabilitating the entire project, or a completed portion thereof, at no cost to the Government. The Recipient shall conduct its operation, maintenance, repair, rehabilitation, and replacement responsibilities in a manner compatible with the project's authorized purposes and in accordance with specific directions prescribed by the Government, including in any interim or final OMRR&R Manual and any subsequent amendments thereto. In consultation with the Government the Recipient shall complete an OMRR&R manual and provide to the Government for review and approval, prior to the completion of construction and final inspection by the Government.

B. The Recipient shall perform, or ensure performance of, monitoring of the entire project, or a completed portion thereof. The Recipient shall conduct the monitoring in accordance with applicable laws and specific directions prescribed in accordance with the monitoring plan and any subsequent amendments. Completion and approval of a monitoring plan shall be required prior to the initiation of construction. The Recipient's costs of performing monitoring of the project for a five year period after completion of the project shall be included in total project costs. The Recipient shall provide the Government a brief report of the monitoring in each year monitoring occurs and a more substantive report of project success after the fifth and final year of monitoring. The Recipient shall perform, at no cost to the Government, any monitoring that the Government determines to be required for the project more than five years after its completion as well as any adaptive management that the Government determines to be required for the project in accordance with the content of the Project Management Plan (attachment B of this Cooperative Agreement).

C. The Recipient hereby gives the Government a right to enter, at reasonable times and in a reasonable manner, upon property that the Recipient now or hereafter owns or controls for access to the project for the purpose of inspection, if the Government determines an inspection to be necessary. If an inspection shows that the Recipient for any reason is failing to perform its obligations under this Cooperative Agreement, the Government shall send a written notice describing the non-performance to the Recipient.

19. HAZARDOUS SUBSTANCES

A. The Recipient shall perform, or ensure performance of, any investigations for hazardous substances that the Government or the Recipient determines to be necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601-9675) ("CERCLA"), that may exist in, on, or under lands, easements, and rights-of-way that the Government determines to be required for construction, operation, and

maintenance of the project. However, for lands, easements, and rights-of-way that the Government determines to be subject to the navigation servitude, only the Government shall perform such investigations unless the Government provides the Recipient with prior specific written direction, in which case the Recipient shall perform such investigations in accordance with such written direction.

B. The Recipient shall assume, as between the Government and the Recipient, complete financial responsibility for all necessary cleanup and response costs of any hazardous substances regulated under CERCLA that are located in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Paragraph 17 of these Standard Conditions, to be required for construction, operation, and maintenance of the project.

C. The Recipient agrees that, as between the Government and the Recipient, the Recipient shall be considered the operator of the project for purposes of CERCLA liability. To the maximum extent practicable, the Recipient shall operate, maintain, repair, rehabilitate, and replace the project in a manner that will not cause liability to arise under CERCLA.

20. OTHER RECIPIENT REQUIREMENTS.

A. In providing its required cost share, the Recipient shall not use Federal program funds unless the Federal agency providing such funds verifies in writing that expenditure of the funds for such purpose is expressly authorized by Federal law.

B. The Recipient shall not use any funds provided under this Cooperative Agreement for any activity that constitutes mitigation required under any Federal or State law for the adverse effects of an activity regulated or otherwise governed by Federal or State law, or that constitutes restoration for natural resources damages required under any Federal or State law.

C. The Recipient shall not use the project, and lands, easements, and rights-of-way required for the project, or any funds provided under this Cooperative Agreement, as a wetlands bank or mitigation credit for any other project.

D. The Recipient shall not issue the solicitation for the first construction contract for the Project or commence construction of the Project using its own forces until all applicable environmental laws and regulations have been complied with, including, but not limited to NEPA and Section 401 of the Federal Water Pollution Control Act (33 U.S.C. 1341).

Attachment D – Certifications and Representations

- D.1. SF 424 – Application for Federal Assistance
- D.2. SF 424 A&C – Budget Information Non-Construction and Construction Programs
- D.3. SF 424D – Assurances – Construction Programs
- D.4. Certifications regarding Lobbying; Debarment, Suspension and Other Responsibility Matters; and Drug-Free Workplace Requirements for Cooperative Agreements.
- D.5. Certificate of Authority

Application for Federal Assistance SF-424

Version 02

| | | | |
|---|--|---|---|
| *1. Type of Submission | | *2. Type of Application | *If Revision, select appropriate letter(s): |
| <input type="checkbox"/> Preapplication | | <input checked="" type="checkbox"/> New | |
| <input checked="" type="checkbox"/> Application | | <input type="checkbox"/> Continuation | * Other (Specify) |
| <input type="checkbox"/> Changed/Corrected Application | | <input type="checkbox"/> Revision | |
| *3. Date Received: | | 4. Application Identifier: | |
| 5a. Federal Entity Identifier: | | *5b. Federal Award Identifier: | |
| State Use Only: | | | |
| 6. Date Received by State: | | 7. State Application Identifier: | |
| 8. APPLICANT INFORMATION: | | | |
| * a. Legal Name: Palm Beach County Board of County Commissioners | | | |
| * b. Employer/Taxpayer Identification Number (EIN/TIN): 59-6000785 | | *c. Organizational DUNS: 0784704810000 | |
| d. Address: | | | |
| *Street1: 2300 North Jog Road, 4th Floor | | | |
| Street 2: | | | |
| *City: West Palm Beach | | | |
| County: Palm Beach | | | |
| *State: FL | | | |
| Province: | | | |
| Country: United States | | *Zip/ Postal Code: 33411-2743 | |
| e. Organizational Unit: | | | |
| Department Name: Environmental Resources Management | | Division Name: | |
| f. Name and contact information of person to be contacted on matters involving this application: | | | |
| Prefix: | | First Name: Julie | |
| Middle Name: | | | |
| *Last Name: Mitchell | | | |
| Suffix: | | | |
| Title: Environmental Analyst | | | |
| Organizational Affiliation: Palm Beach County Department of Environmental Resources Management | | | |
| *Telephone Number: (561) 233-2437 | | Fax Number: (561) 233-2414 | |
| *Email: jmitchell@pbcgov.org | | | |

Application for Federal Assistance SF-424

Version 02

| |
|---|
| 9. Type of Applicant 1: Select Applicant Type: B. County Government Type of Applicant 2: Select Applicant Type: - Select One - Type of Applicant 3: Select Applicant Type: - Select One - *Other (specify): |
| *10. Name of Federal Agency: Department of the Army - Corps of Engineers |
| 11. Catalog of Federal Domestic Assistance Number: 12.130 CFDA Title: Estuary Habitat Restoration Program |
| *12. Funding Opportunity Number: USACE-EHR-001 *Title: Estuary Habitat Restoration Program Project Solicitation |
| 13. Competition Identification Number: Title: |
| 14. Areas Affected by Project (Cities, Counties, States, etc.): Town of Palm Beach, Palm Beach, Florida |
| *15. Descriptive Title of Applicant's Project: Grassy Flats Estuarine Habitat Restoration Project |
| Attach supporting documents as specified in agency instructions. |

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

*a. Applicant **FL-022**

*b. Program/Project: **FL-022**

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

*a. Start Date: **5/20/2014**

*b. End Date: **12/31/2019**

18. Estimated Funding (\$):

| | | | |
|---------------|----------------|--------------------|----------------|
| *a. Federal | \$1,729,142.00 | *d. Local | \$0.00 |
| *b. Applicant | \$920,073.00 | *e. Other | \$5,976.00 |
| *c. State | \$5,118.00 | *f. Program Income | \$0.00 |
| *d. Local | | *g. TOTAL | \$2,660,309.00 |

*19. Is Application Subject to Review By State Under Executive Order 12372 Process?

- a. This application was made available to the State under the Executive Order 12372 Process for review on **02/08/2013**
 b. Program is subject to E.O. 12372 but has not been selected by the State for review.
 c. Program is not covered by E.O. 12372

*20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

- Yes No

21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

**I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: **Mr.** *First Name: **Robert**

Middle Name:

*Last Name: **Robbins**

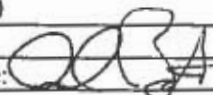
Suffix:

*Title: **Department Director**

*Telephone Number: **(561) 233-2400**

Fax Number: **(561) 233-2414**

*Email: **rrobbins@pbcgov.org**

*Signature of Authorized Representative: 

Date Signed: **2-11-14**

Application for Federal Assistance SF-424

Version 02

***Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

INSTRUCTIONS FOR THE SF-424

Public reporting burden for this collection of information is estimated to average 60 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0043), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

This is a standard form (including the continuation sheet) required for use as a cover sheet for submission of preapplications and applications and related information under discretionary programs. Some of the items are required and some are optional at the discretion of the applicant or the Federal agency (agency). Required items are identified with an asterisk on the form and are specified in the instructions below. In addition to the instructions provided below, applicants must consult agency instructions to determine specific requirements.

| Item | Entry: | Item | Entry: |
|--|---|---|--|
| 1. | Type of Submission: (Required): Select one type of submission in accordance with agency instructions. <ul style="list-style-type: none"> • Preapplication • Application • Changed/Corrected Application – If requested by the agency, check if this submission is to change or correct a previously submitted application. Unless requested by the agency, applicants may not use this to submit changes after the closing date. | 10. | Name Of Federal Agency: (Required) Enter the name of the Federal agency from which assistance is being requested with this application. |
| 2. | Type of Application: (Required) Select one type of application in accordance with agency instructions. <ul style="list-style-type: none"> • New – An application that is being submitted to an agency for the first time. • Continuation - An extension for an additional funding/budget period for a project with a projected completion date. This can include renewals. • Revision - Any change in the Federal Government's financial obligation or contingent liability from an existing obligation. If a revision, enter the appropriate letter(s). More than one may be selected. If "Other" is selected, please specify in text box provided. A. Increase Award B. Decrease Award C. Increase Duration D. Decrease Duration E. Other (specify) | 11. | Catalog Of Federal Domestic Assistance Number/Title: Enter the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested, as found in the program announcement, if applicable. |
| | | 12. | Funding Opportunity Number/Title: (Required) Enter the Funding Opportunity Number and title of the opportunity under which assistance is requested, as found in the program announcement. |
| | | 13. | Competition Identification Number/Title: Enter the Competition Identification Number and title of the competition under which assistance is requested, if applicable. |
| 3. | Date Received: Leave this field blank. This date will be assigned by the Federal agency. | 14. | Areas Affected By Project: List the areas or entities using the categories (e.g., cities, counties, states, etc.) specified in agency instructions. Use the continuation sheet to enter additional areas, if needed. |
| 4. | Applicant Identifier: Enter the entity identifier assigned by the Federal agency, if any, or applicant's control number, if applicable. | 15. | Descriptive Title of Applicant's Project: (Required) Enter a brief descriptive title of the project. If appropriate, attach a map showing project location (e.g., construction or real property projects). For preapplications, attach a summary description of the project. |
| 5a. | Federal Entity Identifier: Enter the number assigned to your organization by the Federal Agency, if any. | 16. | Congressional Districts Of: (Required) 16a. Enter the applicant's Congressional District, and 16b. Enter all District(s) affected by the program or project. Enter in the format: 2 characters State Abbreviation – 3 characters District Number, e.g., CA-005 for California 5 th district, CA-012 for California 12 th district, NC-103 for North Carolina's 103 rd district. <ul style="list-style-type: none"> • If all congressional districts in a state are affected, enter "all" for the district number, e.g., MD-all for all congressional districts in Maryland. • If nationwide, i.e. all districts within all states are affected, enter US-all. • If the program/project is outside the US, enter 00-000. |
| 5b. | Federal Award Identifier: For new applications leave blank. For a continuation or revision to an existing award, enter the previously assigned Federal award identifier number. If a changed/corrected application, enter the Federal Identifier in accordance with agency instructions. | | |
| 6. | Date Received by State: Leave this field blank. This date will be assigned by the State, if applicable. | | |
| 7. | State Application Identifier: Leave this field blank. This identifier will be assigned by the State, if applicable. | 17. | Proposed Project Start and End Dates: (Required) Enter the proposed start date and end date of the project. |
| 8. | Applicant Information: Enter the following in accordance with agency instructions: | 18. | Estimated Funding: (Required) Enter the amount requested or to be contributed during the first funding/budget period by each contributor. Value of in-kind contributions should be included on appropriate lines, as applicable. If the action will result in a dollar change to an existing award, indicate only the amount of the change. For decreases, enclose the amounts in parentheses. |
| | a. Legal Name: (Required) Enter the legal name of applicant that will undertake the assistance activity. This is the name that the organization has registered with the Central Contractor Registry. Information on registering with CCR may be obtained by visiting the Grants.gov website. | | |
| | b. Employer/Taxpayer Number (EIN/TIN): (Required) Enter the Employer or Taxpayer Identification Number (EIN or TIN) as assigned by the Internal Revenue Service. If your organization is not in the US, enter 44-4444444. | | |
| | c. Organizational DUNS: (Required) Enter the organization's DUNS or DUNS+4 number received from Dun and Bradstreet. Information on obtaining a DUNS number may be obtained by visiting the Grants.gov website. | | |
| | d. Address: Enter the complete address as follows: Street address (Line 1 required), City (Required), County, State (Required, if country is US), Province, Country (Required), Zip/Postal Code (Required, if country is US). | | |
| e. Organizational Unit: Enter the name of the primary organizational unit (and department or division, if applicable) that will undertake the | 19. | Is Application Subject to Review by State Under Executive Order 12372 Process? Applicants should contact the State Single Point of Contact (SPOC) for Federal Executive Order 12372 to determine whether the application is subject to the | |

| | | | | |
|---|---|---|---|---|
| | <p>assistance activity, if applicable.</p> <p>f. Name and contact information of person to be contacted on matters involving this application. Enter the name (First and last name required), organizational affiliation (if affiliated with an organization other than the applicant organization), telephone number (Required), fax number, and email address (Required) of the person to contact on matters related to this application.</p> | <p>State intergovernmental review process. Select the appropriate box. If "a." is selected, enter the date the application was submitted to the State</p> | | |
| | | <p>20. Is the Applicant Delinquent on any Federal Debt? (Required) Select the appropriate box. This question applies to the applicant organization, not the person who signs as the authorized representative. Categories of debt include delinquent audit disallowances, loans and taxes.</p> <p>If yes, include an explanation on the continuation sheet.</p> | | |
| <p>9.</p> | <p>Type of Applicant: (Required) Select up to three applicant type(s) in accordance with agency instructions.</p> <table border="0"> <tr> <td data-bbox="203 1048 535 1599"> <p>A. State Government B. County Government C. City or Township Government D. Special District Government E. Regional Organization F. U.S. Territory or Possession G. Independent School District H. Public/State Controlled Institution of Higher Education I. Indian/Native American Tribal Government (Federally Recognized) J. Indian/Native American Tribal Government (Other than Federally Recognized) K. Indian/Native American Tribally Designated Organization L. Public/Indian Housing Authority</p> </td> <td data-bbox="535 1048 868 1599"> <p>M. Nonprofit with 501C3 IRS Status (Other than Institution of Higher Education) N. Nonprofit without 501C3 IRS Status (Other than Institution of Higher Education) O. Private Institution of Higher Education P. Individual Q. For-Profit Organization (Other than Small Business) R. Small Business S. Hispanic-serving Institution T. Historically Black Colleges and Universities (HBCUs) U. Tribally Controlled Colleges and Universities (TCCUs) V. Alaska Native and Native Hawaiian Serving Institutions W. Non-domestic (non-US) Entity X. Other (specify)</p> </td> </tr> </table> | <p>A. State Government B. County Government C. City or Township Government D. Special District Government E. Regional Organization F. U.S. Territory or Possession G. Independent School District H. Public/State Controlled Institution of Higher Education I. Indian/Native American Tribal Government (Federally Recognized) J. Indian/Native American Tribal Government (Other than Federally Recognized) K. Indian/Native American Tribally Designated Organization L. Public/Indian Housing Authority</p> | <p>M. Nonprofit with 501C3 IRS Status (Other than Institution of Higher Education) N. Nonprofit without 501C3 IRS Status (Other than Institution of Higher Education) O. Private Institution of Higher Education P. Individual Q. For-Profit Organization (Other than Small Business) R. Small Business S. Hispanic-serving Institution T. Historically Black Colleges and Universities (HBCUs) U. Tribally Controlled Colleges and Universities (TCCUs) V. Alaska Native and Native Hawaiian Serving Institutions W. Non-domestic (non-US) Entity X. Other (specify)</p> | <p>21. Authorized Representative: (Required) To be signed and dated by the authorized representative of the applicant organization. Enter the name (First and last name required) title (Required), telephone number (Required), fax number, and email address (Required) of the person authorized to sign for the applicant.</p> <p>A copy of the governing body's authorization for you to sign this application as the official representative must be on file in the applicant's office. (Certain Federal agencies may require that this authorization be submitted as part of the application.)</p> |
| <p>A. State Government B. County Government C. City or Township Government D. Special District Government E. Regional Organization F. U.S. Territory or Possession G. Independent School District H. Public/State Controlled Institution of Higher Education I. Indian/Native American Tribal Government (Federally Recognized) J. Indian/Native American Tribal Government (Other than Federally Recognized) K. Indian/Native American Tribally Designated Organization L. Public/Indian Housing Authority</p> | <p>M. Nonprofit with 501C3 IRS Status (Other than Institution of Higher Education) N. Nonprofit without 501C3 IRS Status (Other than Institution of Higher Education) O. Private Institution of Higher Education P. Individual Q. For-Profit Organization (Other than Small Business) R. Small Business S. Hispanic-serving Institution T. Historically Black Colleges and Universities (HBCUs) U. Tribally Controlled Colleges and Universities (TCCUs) V. Alaska Native and Native Hawaiian Serving Institutions W. Non-domestic (non-US) Entity X. Other (specify)</p> | | | |

BUDGET INFORMATION - Non-Construction Programs

OMB Number 4040-0006
Expiration Date: 06/30/2014

SECTION A - BUDGET SUMMARY

| Grant Program Function or Activity (a) | Catalog of Federal Domestic Assistance Number (b) | Estimated Unobligated Funds | | New or Revised Budget | | |
|--|--|-----------------------------|--------------------|-----------------------|--------------------|-----------------|
| | | Federal (c) | Non-Federal (d) | Federal (e) | Non-Federal (f) | Total (g) |
| 1. Estuary Habitat Restoration Program Project | 12.130 | \$ | \$ | \$ 1,729,142.00 | \$ 931,167.00 | \$ 2,660,309.00 |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. Totals | | \$ | \$ | \$ 1,729,142.00 | \$ 931,167.00 | \$ 2,660,309.00 |

SECTION B - BUDGET CATEGORIES

| 6. Object Class Categories | GRANT PROGRAM, FUNCTION OR ACTIVITY | | | | Total (5) |
|--|---|-----|-----|-----|-----------------|
| | (1) | (2) | (3) | (4) | |
| | Estuary Habitat Restoration Program Project | | | | |
| a. Personnel | \$ 352,995.00 | \$ | \$ | \$ | \$ 352,995.00 |
| b. Fringe Benefits | 1,164.00 | | | | 1,164.00 |
| c. Travel | 0.00 | | | | |
| d. Equipment | 0.00 | | | | |
| e. Supplies | 0.00 | | | | |
| f. Contractual | 2,305,383.00 | | | | 2,305,383.00 |
| g. Construction | 0.00 | | | | |
| h. Other | 0.00 | | | | |
| i. Total Direct Charges (sum of 6a-6h) | 2,659,542.00 | | | | \$ 2,659,542.00 |
| j. Indirect Charges | 767.00 | | | | \$ 767.00 |
| k. TOTALS (sum of 6i and 6j) | \$ 2,660,309.00 | \$ | \$ | \$ | \$ 2,660,309.00 |
| 7. Program Income | \$ 0.00 | \$ | \$ | \$ | \$ |

| SECTION C - NON-FEDERAL RESOURCES | | | | | |
|---|--------------------------------|-----------------------|---|---------------|-------------|
| (a) Grant Program | (b) Applicant | (c) State | (d) Other Sources | (e) TOTALS | |
| 8. Estuary Habitat Restoration Program Project | \$ 920,073.00 | \$ 5,118.00 | \$ 5,976.00 | \$ 931,167.00 | |
| 9. | | | | | |
| 10. | | | | | |
| 11. | | | | | |
| 12. TOTAL (sum of lines 8-11) | \$ 920,073.00 | \$ 5,118.00 | \$ 5,976.00 | \$ 931,167.00 | |
| SECTION D - FORECASTED CASH NEEDS | | | | | |
| | Total for 1st Year | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
| 13. Federal | \$ 1,729,142.00 | \$ 887,142.00 | \$ 842,000.00 | | |
| 14. Non-Federal | \$ 931,167.00 | \$ 477,782.00 | \$ 453,385.00 | | |
| 15. TOTAL (sum of lines 13 and 14) | \$ 2,660,309.00 | \$ 1,364,924.00 | \$ 1,295,385.00 | | |
| SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT | | | | | |
| (a) Grant Program | FUTURE FUNDING PERIODS (YEARS) | | | | |
| | (b) First | (c) Second | (d) Third | (e) Fourth | |
| 16. Estuary Habitat Restoration Program Project | \$ | \$ | \$ | \$ | |
| 17. | | | | | |
| 18. | | | | | |
| 19. | | | | | |
| 20. TOTAL (sum of lines 16 - 19) | \$ | \$ | \$ | \$ | |
| SECTION F - OTHER BUDGET INFORMATION | | | | | |
| 21. Direct Charges: | | 22. Indirect Charges: | \$767 is associated with FWC mgmt. of USFWS grant | | |
| 23. Remarks: | | | | | |

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified

| COST CLASSIFICATION | a. Total Cost | b. Costs Not Allowable for Participation | c. Total Allowable Costs (Columns a-b) |
|---|--|--|--|
| 1. Administrative and legal expenses | \$ 210,610 .00 | \$.00 | \$ 210,610 .00 |
| 2. Land, structures, rights-of-way, appraisals, etc. | \$ 0 .00 | \$.00 | \$ 0 .00 |
| 3. Relocation expenses and payments | \$ 0 .00 | \$.00 | \$ 0 .00 |
| 4. Architectural and engineering fees | \$ 50,300 .00 | \$.00 | \$ 50,300 .00 |
| 5. Other architectural and engineering fees | \$ 65,000 .00 | \$.00 | \$ 65,000 .00 |
| 6. Project inspection fees | \$ 0 .00 | \$.00 | \$ 0 .00 |
| 7. Site work | \$ 0 .00 | \$.00 | \$ 0 .00 |
| 8. Demolition and removal | \$ 0 .00 | \$.00 | \$ 0 .00 |
| 9. Construction | \$ 2,305,383 .00 | \$.00 | \$ 2,305,383 .00 |
| 10. Equipment | \$ 0 .00 | \$.00 | \$ 0 .00 |
| 11. Miscellaneous | \$ 29,016 .00 | \$.00 | \$ 29,016 .00 |
| 12. SUBTOTAL (sum of lines 1-11) | \$ 2,660,309 .00 | \$ 0.00 | \$ 2,660,309 .00 |
| 13. Contingencies | \$ 0 .00 | \$.00 | \$ 0 .00 |
| 14. SUBTOTAL | \$ 2,660,309 .00 | \$ 0.00 | \$ 2,660,309 .00 |
| 15. Project (program) income | \$ 0 .00 | \$.00 | \$ 0 .00 |
| 16. TOTAL PROJECT COSTS (subtract #15 from #14) | \$ 2,660,309 .00 | \$ 0.00 | \$ 2,660,309 .00 |
| FEDERAL FUNDING | | | |
| 17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share. | Enter eligible costs from line 16c Multiply X <u>65.00</u> % | | \$ 1,729,201 .00 |

ASSURANCES - CONSTRUCTION PROGRAMS

OMB Number: 4040-0009
Expiration Date: 06/30/2014

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.


PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.
14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.
20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

| | |
|---|---------------------|
| SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL | TITLE |
|  | Department Director |
| APPLICANT ORGANIZATION | DATE SUBMITTED |
| Palm Beach County Department of Environmental Resources Mgmt | 11/09/2013 |

CERTIFICATIONS REGARDING LOBBYING; DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS; AND DRUG-FREE WORKPLACE REQUIREMENTS FOR COOPERATIVE AGREEMENTS

Applicants should refer to the regulations cited below to determine the certification which they are required to attest. Applicants should also review the instructions for certification included in the regulations before completing this form. Signature of this form provides for compliance with certification requirements under: 32 CFR Part 28, "New Restrictions on Lobbying"; 2 CFR Part 180, "OMB Guidelines on to Agencies on Government-wide Debarment and Suspension (Non-Procurement)", as implemented by the Department of Defense in 2 CFR part 1125; and 32 CFR Part 26, "Government-wide Requirements for Drug Free Workplace (Financial Assistance)". The certifications will be treated as a material representation of fact upon which reliance will be placed when determining award of the cooperative agreement.

1. LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

2. DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

(1) The applicant certifies, to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(ii) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace not later than five calendar days after such conviction;

(e) Notifying the agency, in writing, within ten calendar days after receiving notice under subparagraph (d)(ii) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose cooperative agreement activity the convicted employee was working, unless the Federal agency has designated a central point for receipt of such notices. Notice shall include the identification number(s) of the each affected cooperative agreement;

(f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(ii), with respect to any employee who is so convicted:

(i) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended, or

(ii) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e), and (f).

(2) The applicant may insert in the space provided below the site(s) for the performance of work done in connection with the specific cooperative agreement.

Place of performance:
2300 North Jog Road, 4th Floor
West Palm Beach, Florida 33411-2743

Check if there are workplaces on file that are not identified here.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above certifications.

Name of Applicant: Robert Robbins

Printed Name and Title of Authorized Representative

Name: Robert Robbins

Title: Director

Signature:  Date: 12/8/13

CERTIFICATE OF AUTHORITY

I, Denise Nieman, do hereby certify that I am the principal legal officer of Palm Beach County, acting by and through its Board of County Commissioners, Florida, that Palm Beach County Board of County Commissioners is a legally constituted public body with full authority and legal capability to perform the terms of the Cooperative Agreement between the Department of the Army and the Palm Beach County Board of County Commissioners in connection with the Grassy Flats Estuarine Restoration Habitat Project, and to pay damages, if necessary, in the event of the failure to perform in accordance with the terms of this Agreement and that the persons who have executed this Agreement on behalf of the Palm Beach County Board of County Commissioners have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this
_____ day of _____ 20__.

Denise Nieman
County Attorney
Palm Beach County, Florida

Attachment E – Monitoring Plan

**MONITORING PLAN
GRASSY FLATS
ESTUARINE HABITAT RESTORATION PROGRAM**

South Atlantic Division Approval Date: Pending

Last Revision Date: N/A



**U. S. ARMY CORPS OF ENGINEERS
JACKSONVILLE DISTRICT**



**PALM BEACH COUNTY
FLORIDA**

**MONITORING PLAN
GRASSY FLATS
ESTUARINE HABITAT RESTORATION PROGRAM**

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| 5.0 | Monitoring Parameters and Frequency | 3 |
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GRASSY FLATS ESTUARINE HABITAT RESTORATION PROJECT MONITORING PLAN

1.0 Project Overview

The Grassy Flats Estuarine Habitat Restoration Project is designed to contain existing muck sediments by capping with a thin layer of sand, minimizing their re-suspension and providing optimal conditions for 13.1 acres of diverse intertidal and subtidal habitat. Capping is also anticipated to enhance the 9.31 acres of seagrass directly adjacent to the project through water quality improvements. To ensure that the specific objectives are met and expected benefits are provided, PBCERM (Palm Beach County Environmental Resource Management) will perform monitoring and maintenance of the project area as described below.

2.0 Goals and Objectives

The goal of this project is to restore the ecological function of this area to a diverse intertidal and subtidal ecosystem, consisting of seagrass, mangrove, salt marsh and oyster habitats. The specific objectives of the project are to: (1) restore 10.52 acres of seagrass habitat; (2) enhance 9.31 acres of seagrass habitat; (3) restore 1.74 acres of intertidal habitat, consisting of 1.14 acres of tidal marsh, 0.33 acre of mangrove habitat and 0.27 acre of tidal flat; (4) restore 0.57 acre of oyster habitat; and (5) enhance foraging habitat for birds. The chosen method for achieving these objectives is to cap approximately 30,000 cubic yards of muck sediments with sand and limerock.

3.0 Success Criteria

Based on the specific project objectives and expected benefits, structural parameters to be monitored include growth and recruitment of seagrass and emergent vegetation. Oyster density/recruitment and bird utilization shall be monitored as functional parameters. Limited baseline data is available for this site as the current conditions do not consistently support the proposed communities. The following success criteria are based on data generated from similar nearby restoration projects:

- **Seagrass:** Persistence of a minimum of 18.84 acres of seagrass, at an average of 25% cover for three consecutive years (2006-2010 PBCERM monitoring of Snook Islands Natural Area).
- **Vegetation:** 80% coverage of mangroves and native marsh vegetation, as measured by canopy, by year five (2010-2011 PBCERM monitoring of Ibis Isle Restoration Project).
- **Oysters:** Density of 50 live mature oysters/m² by year five; average spat recruitment of 7 spat/shell (2008 Florida Atlantic University/Harbor Branch Oceanographic Institute monitoring at Snook Islands Natural Area).
- **Bird utilization:** 30% increase in bird species diversity utilizing restored habitat by year 5 (2010-2011 PBCERM monitoring of Ibis Isle Restoration Project).

4.0 Methodology

The methodology for each of the structure and functional parameters is described below and depicted on the drawing in appendix 1:

- **Seagrass:** Seagrass will be monitored annually during growing season (April-October). The extent of seagrass will be mapped using ten permanent transects spaced at approximately 200 feet intervals perpendicular to shore. Biologists will snorkel/dive the length of each transect, noting the presence or absence of seagrass and any other resources. Seagrass beds will be noted as patchy or continuous, with a continuous bed defined as a distance of less than 20 feet between two seagrass observations. Biologists will also note any physical difference (e.g., substrate type, water depth, algae, etc.) between a bed and areas void of seagrass. The landward and seaward points of beds along a transect, and the beginning and end of any separate seagrass beds within that transect, will be identified using a laser and the handheld GPS unit. Quantitative monitoring of the area will include a total of 200 0.25 meter² quadrats, spaced every 30 feet along each transect to determine the percent occurrence of each seagrass species present and average Braun Blanquet cover within the quadrat. Drift algae and macroalgae will be identified to species (where possible) and recorded within the quadrat. This method is consistent with the monitoring currently performed by PBCERM for other restoration projects.
- **Emergent Vegetation:** The extent of emergent vegetation, including planted and recruited species, on each island will be mapped bi-annually using GPS. Panoramic photos will be taken from designated locations. To obtain quantitative data, one north-south and one east-west permanent transect will be established through the center of each island. Permanent monitoring stations will be established at 100-foot intervals along each transect. Percent cover and survival rate of species, overall health, and relative size distribution will be documented at each station using a 1 meter² quadrat. Presence of exotic vegetation will also be noted during each monitoring event.
- **Oysters:** The extent of oysters will be mapped using GPS, and panoramic photos will be taken from designated locations. Quantitative data will be obtained in bi-annually by monitoring 10 permanent stations established on the perimeter of the islands. At each station, a 0.25-meter² quadrat will be used to document the number of live oysters, percent cover of oysters and other shellfish species, and average length. Spat recruitment will be monitored monthly (April-October) by counting the number of settled spat collected on strings of oyster shell deployed at one of the permanent monitoring stations.
- **Birds:** Bird utilization will be monitored on a quarterly basis. Dates and times of bird surveys will be selected to capture the greatest activity (i.e. early morning or late afternoon at low tide), and observations will be made from land or a kayak to minimize disturbance. Birds will be identified to species, where possible, and care will be taken not to count birds twice. In addition to species abundance, behavioral observations (e.g. foraging, flying, nesting, resting, and preening) will be made and noted. Understanding that birds may be less active and detectable during wet or windy weather, field conditions will also be noted. Photographs will be taken to document the tide and foraging birds, when possible.

5.0 Monitoring Parameters and Frequency

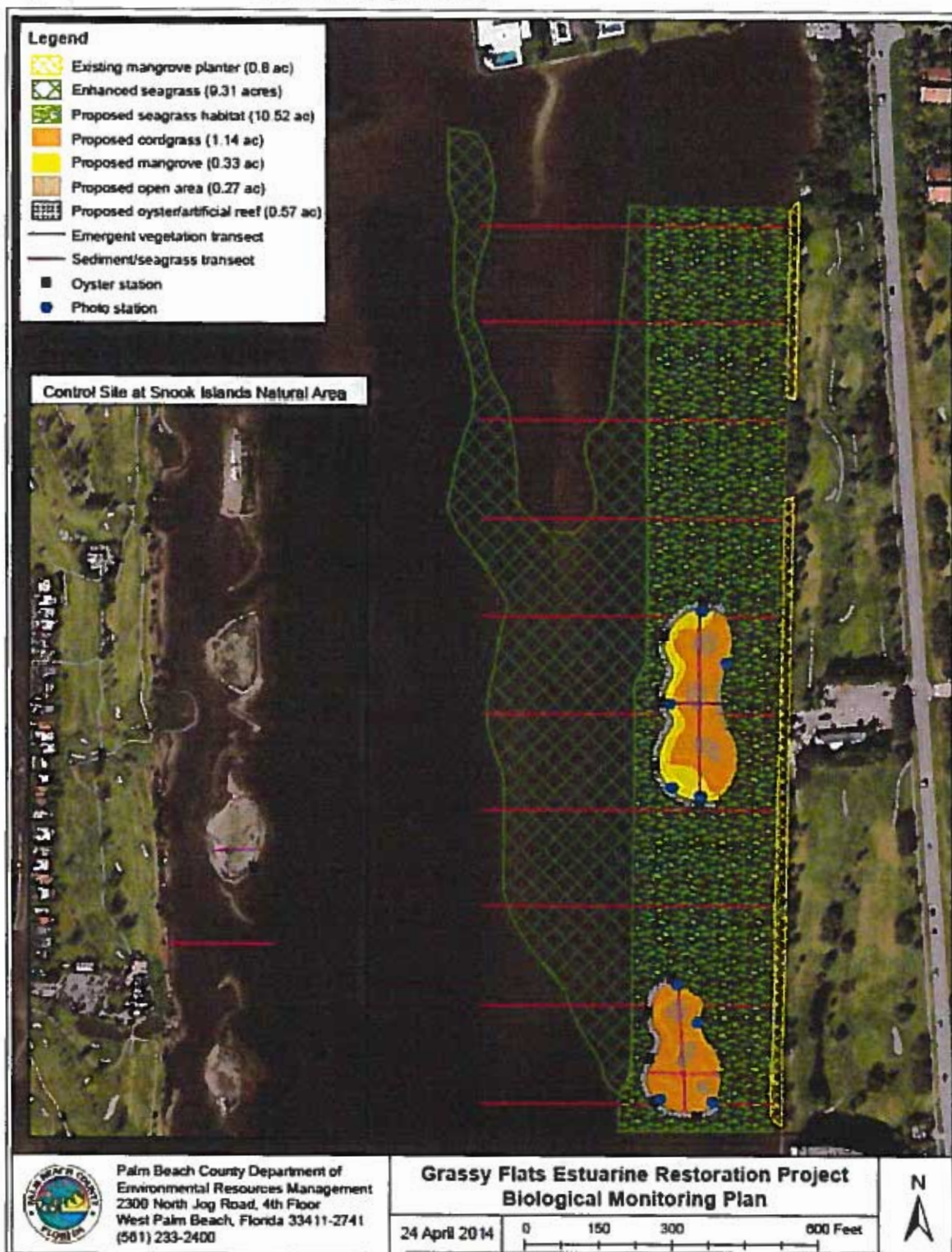
The following table shows the parameters and frequency of monitoring for this project.

| Parameters | Baseline (2013) | | | | Post-Construction (2015-2019) | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------|-----------------------|-----------------------|-----------------------|
| | Period 1 (Jan-Mar) | Period 2 (Apr-Jun) | Period 3 (Jul-Sep) | Period 4 (Oct-Dec) | Period 1 (Jan-Mar) | Period 2 (Apr-Jun) | Period 3 (Jul-Sep) | Period 4 (Oct-Dec) |
| Seagrass Composition/ Cover | | X | | | | X | | |
| Emergent Vegetation Composition/ Cover | | | | | | X | | X |
| Oyster Density/ Length | | | | | | X | | X |
| Oyster Spat Recruitment | | | | | | X | X | X |
| Bird Utilization | | X | X | X | X | X | X | X |

6.0 Reporting

Monitoring reports will be submitted annually for five years. The initial report will include an as-built survey, list of planted species, summary of the quarterly data, and photos of the restoration area. Subsequent monitoring reports will include a summary of data collected, including maps and tables, photos, and an analysis on whether or not the project is trending towards success. In the event project is not trending towards success, the data will be compared to a nearby control site (Snook Islands Natural Area) to determine if environmental conditions are responsible for the lack of success. If no changes are observed at the reference site, site-specific problems will be identified and adaptive management will be used to resolve the issues. Project data will also be uploaded to the National Restoration Inventory (www.neri.noaa.gov), so that information on techniques and experience can be made available to others designing similar restoration projects.

Appendix 1. Location of monitoring stations.



Attachment F – Operation and Maintenance Manual

**OPERATIONS AND MAINTENANCE MANUAL
GRASSY FLATS
ESTUARINE HABITAT RESTORATION PROJECT**

South Atlantic Division Approval Date: Pending

Last Revision Date: N/A



**U. S. ARMY CORPS OF ENGINEERS
JACKSONVILLE DISTRICT**



**PALM BEACH COUNTY
FLORIDA**

**OPERATIONS AND MAINTENANCE MANUAL
GRASSY FLATS
ESTUARY HABITAT RESTORATION PROJECT**

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1.0 Authorization

The Estuary Habitat Restoration Program (EHRP) is authorized by the Estuary Restoration Act of 2000, Title I of PL 106-457 of the Estuaries and Clean Waters Act of 2000, as amended, (33 U.S.C. 2901). It authorizes the Secretary of the Army to carry out estuary habitat restoration projects and establishes the Estuary Habitat Restoration Council (Council), comprised of the U.S. Army Corps of Engineers (USACE), Department of the Interior (acting through the U.S. Fish and Wildlife Service), National Oceanic and Atmospheric Administration, Environmental Protection Agency, and Department of Agriculture. The USACE or other agencies represented on the Council that have available funds may fund the projects Army approves. District offices, subject to HQ USACE and Major Subordinate Command (MSC) oversight, are responsible for carrying out approved projects funded by the Corps in cooperation with non-Federal interests.

2.0 Location

Lake Worth Lagoon estuary in Palm Beach County, FL. Directly adjacent to the Palm Beach Par 3 Golf Course, approximately 3 miles south of Southern Boulevard and 1 mile north of Lake Avenue. 26°42'32.97" N. Latitude, -80°2'58.60" W. Longitude.

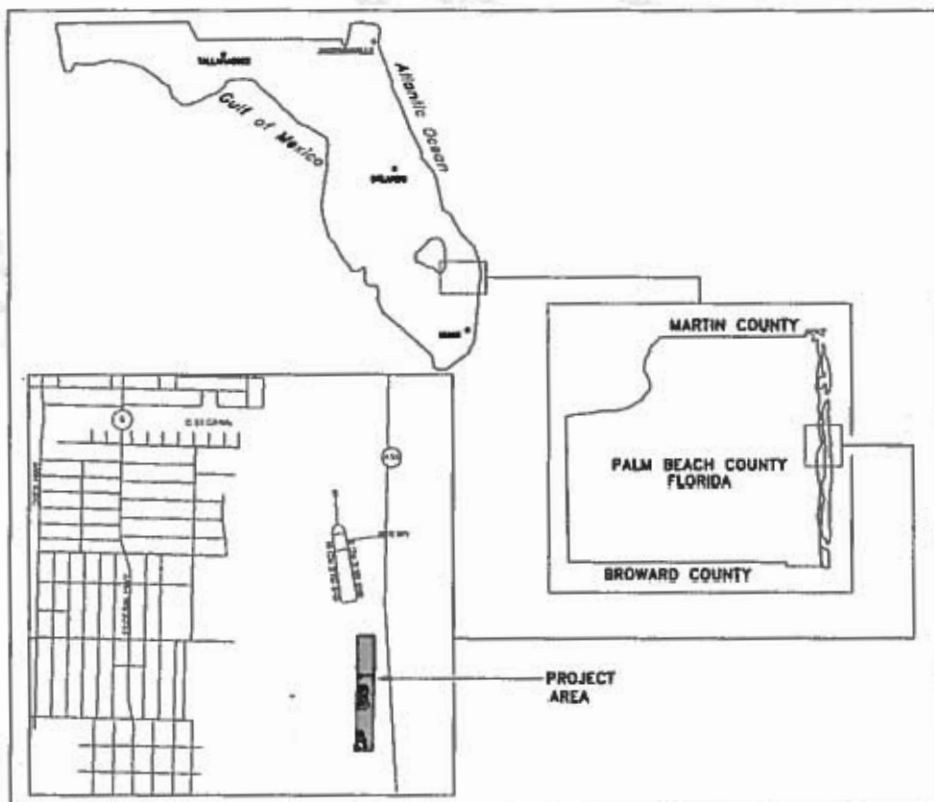


Figure 1. Project Location Map

3.0 Summary of Construction

Approximately 50,000 cubic yards of sand will be uniformly spread over the 13-acre project area to cap approximately 30,000 cubic yards of muck sediments. The sand cap provides the appropriate substrate and elevation for 10.52 acres of seagrass growth and persistence. Capping will also enhance 9.31 acres of seagrass habitat immediately adjacent to the project site by reducing turbidity and improving water quality. 1.74 acres of intertidal habitat will be restored by capping muck sediments and creating two islands at the appropriate elevations, and 1.14 acres will be planted with smooth cordgrass (*Spartina alterniflora*) to create tidal marsh, 0.33 acre will be planted with red mangroves (*Rhizophora mangle*), and 0.27 acre will be left unvegetated to create a tidal flat for bird foraging. Approximately 5,300 tons of limestone rock will be used to stabilize the islands and create 0.57 acre of oyster/artificial reef habitat.

4.0 Description of the Project

The 22-acre Grassy Flats project is a partnership between the County, U.S. Fish & Wildlife Service, National Oceanic and Atmospheric Administration, Florida Fish and Wildlife Commission, Florida Department of Environmental Protection, the West Palm Beach Fishing Club, and the Marine Industries Association of Palm Beach. The project will restore and enhance nearly 20 acres of critical shallow seagrass habitat through the capping of anoxic, fine-grained organic sediments (i.e., muck). Capping the muck will allow for the natural recruitment of seagrasses, including Johnson's seagrass (*Halophila johnsonii*), a federally threatened species, which is currently in the vicinity of the project area. The project will also result in two 1-acre intertidal islands consisting of mangrove, tidal marsh, tidal flat, and oyster habitats and is expected to support over 195 species of fish and 89 species of birds, including 9 federally listed species and 16 State listed species, found within the Lagoon. Other benefits of the project include substrate stabilization, water-quality improvements, increased shoreline protection, increased carbon sequestration, and improved environmental education and eco-tourism opportunities. Methods chosen to achieve this project have been used by the County and its partners to successfully restore over 85 acres of high-quality habitat within 1.5-miles of this project. Experience gained through the construction and monitoring of this project will be used to guide future investments and efforts in Lake Worth Lagoon restoration and management.

5.0 Requirement of Local Cooperation

The Federal share of any project funded under the Estuary Restoration Act, as amended, shall not exceed 65 percent of the total project cost, unless innovation is involved. The program manager will inform the Jacksonville District if the special cost sharing for innovation applies. Otherwise the maximum Federal share of 65 percent applies. Details of the cost sharing responsibilities are outlined in the CA between the USACE Jacksonville District and Palm Beach County of Florida. By the signed copy of the Cooperative Agreement between the United States and the Palm Beach County, dated _____ 2014, the County has assured the United States that all items of

local cooperation will be provided. Once the project is completed, any operations, maintenance, repair, replacement, and rehabilitation costs associated with the project is a 100% non-Federal responsibility.

6.0 Operations

Operation activities for this project involve ecological and performance monitoring to evaluate project success.

6.1 Ecological Monitoring

The project will be monitored annually for five years post-construction.

- During growing season (April-October), the extent of seagrass will be mapped using transects spaced at approximately 200 foot intervals. Biologists will place a 0.25 meter quadrat at approximately 50 foot intervals along each transect to determine the percent cover of each seagrass species present, based on Braun-Blanquet scale. Presence or absence of seagrass and any other resources along the remainder of each transect will also be noted.
- To monitor emergent vegetation, two transects will be established on each island. A 1 meter quadrat will be placed at approximately 100 foot intervals along each transect to document percent cover and survival rate of species, overall health, and relative size distribution.
- A 0.25 meter quadrat will be randomly thrown along the reef at approximately 100 foot intervals to document percent cover of oysters and other shellfish species and relative size distribution.
- Bird surveys will be conducted to document species abundance and behavior (e.g. foraging, flying, nesting, resting, and preening).
- Direct and indirect observations of fish, manatees, and sea turtles will be noted during the aforementioned surveys. In addition, fish habitat and nursery success will be established through surveys conducted by Florida Atlantic University students and anecdotal reports obtained from the West Palm Beach Fishing Club.

6.2 Performance Monitoring

Monitoring will include periodic inspection of the project components at the restoration sites. The inspection shall be pedestrian or boating surveys of the project site to be certain that:

- The oyster reefs and Living Shorelines are in good condition.
 - The restoration projects are stable and are functioning as designed.
- 1) The restoration sites will be inspected after significant weather events (Hurricanes, Nor' Easters) which could damage the project.
 - 2) Corps of Engineers personnel will inspect the restoration projects in the project areas annually.

7.0 Maintenance

Invasive/exotic vegetation (as listed by Florida Exotic Pest Plant Council) are not expected to be a problem as the project site does not include any uplands. Invasive/exotic species will be maintained as needed within the restored areas, so as to not exceed 5% coverage. Maintenance will be performed as needed to insure that this requirement is achieved. Invasive/exotic vegetation control includes both physical removal of exotics as well as herbicide treatments, with the former being the preferred method. Trash and unnatural debris will also be removed as needed. The Lake Worth Lagoon, where the project site is located, is classified as a Class III waterbody in which shellfish cannot be harvested.

The County is responsible for the long-term operation, maintenance, repair, rehabilitation and replacement of the project. Normally long term is defined as until a project is deauthorized, essentially in perpetuity. The nature of the O&M may vary through time depending upon whether the project is successful or allowed to evolve through time as conditions change. If the District and County determine that the project benefits will be realized in a shorter time frame, justification must be submitted to the Program Manager in the USACE South Atlantic Division office.

8.0 Reports

The County is responsible for the preparation and submission of any needed monitoring and maintenance reports.

Attachment G – Documentation of Required Real Estate

Ramos-Gines, Orlando SAJ

From: Bealyer, Hansler A SAJ
Sent: Tuesday, February 25, 2014 10:30 AM
To: Symanski, Susan E SAJ
Cc: Bealyer, Hansler A SAJ; Ormerod, Audrey C SAJ; Ramos-Gines, Orlando SAJ
Subject: Grassy Flats Estuarine Habitat Restoration Project

Susan:

A review of the Project Summary for the Grassy Flats Estuarine Habitat Restoration Project, Lake Worth Lagoon,

Florida identified a total project area of approximately 22.1 acres located in Palm Beach County, Florida.

The project area is comprised of state owned sovereign submerged lands. The Florida Department of Environmental

Protection will issue an Environmental Resource Permit (ERP) to the recipient which allows use of

sovereign submerged lands for the construction and post-construction monitoring of the project. No additional real estate interests will be required outside of the ERP. The estimated timeline for the project

from proposal submittal to completion of post-construction monitoring is February 2013 to July 2019.

Hansler

Hansler A. Bealyer
Chief, Acquisition Branch

Real Estate Division
U. S. Army Corps of Engineers
701 San Marco Blvd.
Jacksonville, Florida 32207
904-232-1178
fax 904-232-2490

2014-

BGEX - 380 -072814*1658

BGRV - 380 -072814*0605

BOARD OF COUNTY COMMISSIONERS
PALM BEACH COUNTY, FLORIDA

BUDGET AMENDMENT

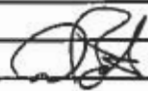
Fund 1225 Environmental Enhancement Non-Specific

| ACCOUNT NAME AND NUMBER | ORIGINAL BUDGET | CURRENT BUDGET | INCREASE | DECREASE | ADJUSTED BUDGET | ENCUMBERED / Expended | REMAINING BALANCE |
|---|------------------|------------------|----------------|----------|------------------|-----------------------|-------------------|
| <u>REVENUES</u> | | | | | | | |
| 380-3080 Grassy Flats 3138 - Fed Grant Indirect Phys Envir | 0 | 886,375 | 757,800 | | 1,644,175 | 110,000 | 1,534,175 |
| TOTAL RECEIPTS & BALANCES | 5,088,887 | 7,407,894 | 757,800 | 0 | 8,165,694 | | |
| <u>EXPENDITURES</u> | | | | | | | |
| 380-3080 Grassy Flats 3401- Other Contractual Services | 900,000 | 1,786,375 | 757,800 | 0 | 2,544,175 | 1,304,447 | 1,239,728 |
| TOTAL APPROPRIATIONS & EXPENDITURES | 5,088,887 | 7,407,894 | 757,800 | 0 | 8,165,694 | | |

Environmental Resources
Management

INITIATING DEPARTMENT/DIVISION
Administration/Budget Department Approval
OFMB Department - Posted

Signatures & Dates



BY BOARD OF COUNTY COMMISSIONERS
AT MEETING OF
August 19, 2014
Deputy Clerk to the
Board of County Commissioners

ATTACHMENT 2